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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

E-health multimedia services and applications –
Interoperability compliance testing of personal health
systems (HRN, PAN, LAN, TAN and WAN)

**Conformance of ITU-T H.810 personal health
devices: PAN/LAN/TAN interface Part 6: Device
specializations: Manager**

Recommendation ITU-T H.846



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Recommendation ITU-T H.846

Conformance of ITU-T H.810 personal health devices: PAN/LAN/TAN interface Part 6: Device specializations: Manager

Summary

Recommendation ITU-T H.846 is a transposition of Continua Test Tool DG2013, Test Suite Structure & Test Purposes, PAN-LAN-TAN Interface; Part 6: Device Specializations. Manager (Version 1.6, 2014 01 24), that was developed by the Continua Health Alliance. A number of versions of this specification existed before transposition. The objective of this test specification is to provide a high probability of air interface interoperability between different devices.

This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

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Electronic attachment: This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

Introduction

This Recommendation is a transposition of Continua Test Tool DG2013, Test Suite Structure & Test Purposes, PAN-LAN-TAN Interface; Part 6: Device Specializations. Manager (Version 1.6, 2014-01-24), that was developed by the Continua Health Alliance. A number of versions of this specification existed before transposition and these can be found in the table below.

Version	Date	Revision history
1.4	2012-10-05	Initial release for Test Tool DG2011. It uses "TSS&TP_1.5_PAN-LAN_PART_6_v1.3.doc" as a baseline and it adds the following maintenance bugs fixes: <ul style="list-style-type: none">• TP/PLT/MAN/CLASS/AM/BV-032: Modified according to bug report 874• TP/PLT/MAN/CLASS/PF/BV-013: Modified according to bug report 875
1.5	2013-05-24	Initial release for Test Tool DG2012. It uses "TSS&TP_DG2011_PAN-LAN_PART_6_v1.4.doc" as a baseline and it adds new features included in [b-CDG 2012]: <ul style="list-style-type: none">• Add Glucose Meter new spec version• Add Body Composition Analyser Device Specialization• Add Basic Electrocardiograph Device Specialization
1.6	2014-01-24	Initial release for Test Tool DG2013. It uses "TSS&TP_DG2012_PAN-LAN_PART_6_v1.5.doc" as a baseline and it adds new features included in [b-CDG 2013]: <ul style="list-style-type: none">• Add Glucose Meter BLE• Add BLE SSP support• Add NFC new transport• Add INR Device Specialization

Recommendation ITU-T H.846

Conformance of ITU-T H.810 personal health devices: PAN/LAN/TAN interface Part 6: Device specializations: Manager

1 Scope

The scope of this Recommendation¹ is to provide a test suite structure and the test purposes (TSS & TP) for the PAN/LAN/TAN interface based on the requirements defined in the Continua Design Guidelines (CDG) [ITU-T H.810 (2015)]. The objective of this test specification is to provide a high probability of air interface interoperability between different devices.

TSS & TP for the PAN/LAN/TAN interface have been divided into 10 parts specified below. This Recommendation covers Part 6.

- **Part 1:** Optimized exchange protocol [ISO/IEEE 11073-20601A] Agent
- **Part 2:** Optimized exchange protocol [ISO/IEEE 11073-20601A] Manager
- **Part 3:** Continua design guidelines. Agent
- **Part 4:** Continua design guidelines. Manager
- **Part 5:** Device specializations. Agent. This document is divided into 14 subparts:
 - **Part 5A:** Weighing scales
 - **Part 5B:** Glucose meter
 - **Part 5C:** Pulse oximeter
 - **Part 5D:** Blood pressure monitor
 - **Part 5E:** Thermometer
 - **Part 5F:** Cardiovascular fitness and activity monitor
 - **Part 5G:** Strength fitness equipment
 - **Part 5H:** Independent living activity hub
 - **Part 5I:** Adherence monitor
 - **Part 5J:** Insulin pump (Future development)
 - **Part 5K:** Peak flow
 - **Part 5L:** Body composition analyser
 - **Part 5M:** Basic electrocardiograph
 - **Part 5N:** International normalized ratio monitor
- **Part 6: Device specializations. Manager**
- **Part 7:** Continua design guidelines. Agent BLE
- **Part 8:** Continua design guidelines. Manager BLE
- **Part 9:** Personal health devices transcoding white paper. Agent
- **Part 10:** Personal health devices transcoding white paper. Manager

¹ This Recommendation includes an electronic attachment with the protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

- [ITU-T H.810 (2016)] Recommendation ITU-T H.810 (2016), *Interoperability design guidelines for personal health systems*.
- [ITU-T H.810 (2015)] Recommendation ITU-T H.810 (2015), *Interoperability design guidelines for personal health systems*.
- [IEEE 11073-10406] IEEE 11073-10406-2011, *Health informatics – Personal health device communication – Part 10406: Device specialization – Basic electrocardiograph (ECG) (1- to 3-lead ECG)*.
- [IEEE 11073-10417] IEEE 11073-10417-2009, *Health informatics – Personal health device communication – Part 10417: Device specialization – Glucose meter*.
- [IEEE 11073-10418] IEEE 11073-10418-2011, *Health informatics – Personal health device communication – Part 10418: Device specialization – International Normalized Ratio (INR) monitor*.
- [IEEE 11073-10420] IEEE 11073-10420-2010, *Health informatics – Personal health device communication – Part 10420: Device specialization – Body composition analyzer*.
- [ISO/IEEE 11073-10424] ISO/IEEE 11073-10424:2016, *Health informatics – Personal health device communication – Part 10424: Device specialization – Sleep apnoea breathing therapy equipment (SABTE)*.
<http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=68906>
- NOTE – equivalent to IEEE 11073-10424-2014, *Health informatics – Personal health device communication – Part 10424: Device Specialization – Sleep Apnoea Breathing Therapy Equipment (SABTE)*,
<http://dx.doi.org/10.1109/IEEESTD.2014.6911927>
- [IEEE 11073-10441] IEEE 11073-10441-2008, *Health informatics – Personal Health Device Communication – Part 10441: Device Specialization – Cardiovascular Fitness and Activity Monitor*.
- [ISO/IEEE 11073-20601A] ISO/IEEE 11073-20601:2010, *Health informatics – Personal health device communication – Part 20601: Application profile – Optimized exchange protocol*, including ISO/IEEE 11073-20601:2010 Amd 1:2015.
<http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=54331>
with
<http://www.iso.org/iso/home/store/catalogue_tc/catalogue_detail.htm?csnumber=63972>
- [ISO/IEEE 11073-104xx] ISO/IEEE 11073-104xx (in force), *Health informatics – Personal health device communication – Device specialization*.
- NOTE – This is shorthand to refer to the collection of device specialization standards that utilize [ISO/IEEE 11073-20601A], where xx can be any number from 01 to 99, inclusive.

[ISO/IEEE 11073-10404]	ISO/IEEE 11073-10404:2010, <i>Health informatics – Personal health device communication – Part 10404: Device specialization – Pulse oximeter.</i>
[ISO/IEEE 11073-10407]	ISO/IEEE 11073-10407:2010, <i>Health informatics – Personal health device communication – Device specialization – Blood pressure monitor, version 1.0.</i>
[ISO/IEEE 11073-10408]	ISO/IEEE 11073-10408:2010, <i>Health informatics – Personal health device communication – Part 10408: Device specialization – Thermometer.</i>
[ISO/IEEE 11073-10415]	ISO/IEEE 11073-10415:2010, <i>Health informatics – Personal health device communication – Part 10415: Device specialization – Weighing scale.</i>
[ISO/IEEE 11073-10421]	ISO/IEEE 11073-10421:2012, <i>Health informatics – Personal health device communication – Part 10421: Device specialization – Peak expiratory flow monitor (peak flow).</i>
[ISO/IEEE 11073-10442]	ISO/IEEE 11073-10442:2012, <i>Health informatics – Personal health device communication – Part 10442: Device specialization – Strength fitness equipment.</i>
[ISO/IEEE 11073-10471]	ISO/IEEE 11073-10471:2010, <i>Health informatics – Personal health device communication – Part 10471: Device specialization – Independent living activity hub.</i>
[ISO/IEEE 11073-10472]	ISO/IEEE 11073-10472:2012, <i>Health informatics – Personal health device communication – Part 10472: Device specialization – Medication monitor.</i>

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 agent [ISO/IEEE 11073-20601A]: A node that collects and transmits personal health data to an associated manager.

3.1.2 manager [ISO/IEEE 11073-20601A]: A node receiving data from one or more agent systems. Some examples of managers include a cellular phone, health appliance, set top box, or a computer system.

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

ATS	Abstract Test Suite
BPM	Blood pressure monitor
CDG	Continua Design Guidelines
DUT	Device Under Test
GUI	Graphical User Interface

INR	International Normalized Ratio
IUT	Implementation Under Test
MAP	Mean arterial pressure
MDS	Medical Device System
NaN	Not a number
NFC	Near Field Communication
NRes	Not at this resolution
PAN	Personal Area Network
PCO	Point of Control and Observation
PCT	Protocol Conformance Testing
PHD	Personal Healthcare Device
PHDC	Personal Healthcare Device Class
PHM	Personal Health Manager
PICS	Protocol Implementation Conformance Statement
PIXIT	Protocol Implementation extra Information for Testing
SABTE	Sleep Apnoea Breathing Therapy Equipment
SDP	Service Discovery Protocol
SOAP	Simple Object Access Protocol
TCRL	Test Case Reference List
TCWG	Test and Certification Working Group
TP	Test Purpose
TSS	Test Suite Structure
UI	User interface
USB	Universal Serial Bus
WDM	Windows Driver Model

5 Conventions

The key words "SHALL", "SHALL NOT", "SHOULD", "SHOULD NOT", "MAY", "MAY NOT" in this Recommendation are to be interpreted as in [b-ETSI SR 001 262].

- SHALL is equivalent to "must" or "it is required to".
- SHALL NOT is equivalent to "must not" or "it is not allowed".
- SHOULD is equivalent to "it is recommended to".
- SHOULD NOT is equivalent to "it is not recommended to".
- MAY is equivalent to "is permitted".
- MAY NOT is equivalent to "it is not required that".

NOTE – The above-mentioned key words are capitalized for illustrative purposes only and they do not appear capitalized within this Recommendation.

Reference is made in the ITU-T H.800-series of Recommendations to different versions of the Continua Design Guidelines (CDG) by a specific designation. The list of terms that may be used in this Recommendation is provided in Table 1.

Table 1 – List of designations associated with the various versions of the CDG

CDG release	Transposed as	Version	Description	Designation
2016 plus errata	[ITU-T H.810 (2016)]	6.1	Release 2016 plus errata noting all ratified bugs [ITU-T H.810 (2016)].	–
2016	–	6.0	Release 2016 of the CDG including maintenance updates of the CDG 2015 and additional guidelines that cover new functionalities.	Iris
2015 plus errata	[ITU-T H.810 (2015)]	5.1	Release 2015 plus errata noting all ratified bugs [ITU-T H.810 (2015)].	–
2015	–	5.0	Release 2015 of the CDG including maintenance updates of the CDG 2013 and additional guidelines that cover new functionalities.	Genome
2013 plus errata	[ITU-T H.810 (2013)]	4.1	Release 2013 plus errata noting all ratified bugs [b-ITU-T H.810 (2013)].	–
2013	–	4.0	Release 2013 of the CDG including maintenance updates of the CDG 2012 and additional guidelines that cover new functionalities.	Endorphin
2012 plus errata	–	3.1	Release 2012 plus errata noting all ratified bugs [b-CDG 2012].	–
2012	–	3.0	Release 2012 of the CDG including maintenance updates of the CDG 2011 and additional guidelines that cover new functionalities.	Catalyst
2011 plus errata	–	2.1	CDG 2011 integrated with identified errata.	–
2011	–	2.0	Release 2011 of the CDG including maintenance updates of the CDG 2010 and additional guidelines that cover new functionalities [b-CDG 2011].	Adrenaline
2010 plus errata	–	1.6	CDG 2010 integrated with identified errata	–
2010	–	1.5	Release 2010 of the CDG with maintenance updates of the CDG Version 1 and additional guidelines that cover new functionalities [b-CDG 2010].	1.5
1.0	–	1.0	First released version of the CDG [b-CDG 1.0].	–

6 Test suite structure (TSS)

The test purposes (TPs) for the PAN/LAN/TAN interface have been divided into the main subgroups specified below. Annex A describes the TPs for subgroups 2.3.1, 2.3.2, 2.3.3, 2.3.4, 2.3.5, 2.3.6, 2.3.7, 2.3.8, 2.3.9, 2.3.11, 2.3.12, 2.3.13 and 2.3.14 (shown in bold).

- Group 1: Agent (AG)
 - Group 1.1: Transport (TR)
 - Subgroup 1.1.1: Design guidelines: Common (DGC)
 - Subgroup 1.1.2: USB design guidelines (UDG)
 - Subgroup 1.1.3: Bluetooth design guidelines (BDG)
 - Subgroup 1.1.4: Pulse oximeter design guidelines (PODG)
 - Subgroup 1.1.5: Cardiovascular design guidelines (CVDG)
 - Subgroup 1.1.6: Activity hub design guidelines (HUBDG)
 - Subgroup 1.1.7: ZigBee design guidelines (ZDG)
 - Subgroup 1.1.8: Glucose meter design guidelines (GLDG)
 - Subgroup 1.1.9: Bluetooth low energy design guidelines (BLEDG)
 - Subgroup 1.1.10: Basic electrocardiograph design guidelines (ECGDG)
 - Subgroup 1.1.11: NFC design guidelines (NDG)
 - Group 1.2: 20601: Optimized exchange protocol (OXP)
 - Subgroup 1.2.1: PHD domain information model (DIM)
 - Subgroup 1.2.2: PHD service model (SER)
 - Subgroup 1.2.3: PHD communication model (COM)
 - Group 1.3: Devices class specializations (CLASS)
 - Subgroup 1.3.1: Weighing scales (WEG)
 - Subgroup 1.3.2: Glucose meter (GL)
 - Subgroup 1.3.3: Pulse oximeter (PO)
 - Subgroup 1.3.4: Blood pressure monitor (BPM)
 - Subgroup 1.3.5: Thermometer (TH)
 - Subgroup 1.3.6: Cardiovascular (CV)
 - Subgroup 1.3.7: Strength (ST)
 - Subgroup 1.3.8: Activity hub (HUB)
 - Subgroup 1.3.9: Adherence monitor (AM)
 - Subgroup 1.3.10: Insulin pump (IP) (Future development)
 - Subgroup 1.3.11: Peak flow (PF)
 - Subgroup 1.3.12: Body composition analyzer (BCA)
 - Subgroup 1.3.13: Basic electrocardiograph (ECG)
 - Subgroup 1.3.14: International normalized ratio (INR)
 - Subgroup 1.3.15: Sleep apnoea breathing therapy equipment (SABTE)

- Group 1.4: Personal health device transcoding whitepaper (PHDTW)
 - Subgroup 1.4.1: Whitepaper general requirements (GEN)
 - Subgroup 1.4.2: Whitepaper thermometer requirements (TH)
 - Subgroup 1.4.3: Whitepaper blood pressure requirements (BPM)
 - Subgroup 1.4.4: Whitepaper heart rate requirements (HR)
 - Subgroup 1.4.5: Whitepaper glucose meter requirements (GL)
 - Subgroup 1.4.6: Whitepaper weight scale requirements (WS)
- Group 2: Manager (MAN)
 - Group 2.1: Transport (TR)
 - Subgroup 2.1.1: Design guidelines: Common (DGC)
 - Subgroup 2.1.2: USB design guidelines (UDG)
 - Subgroup 2.1.3: Bluetooth design guidelines (BDG)
 - Subgroup 2.1.4: Cardiovascular design guidelines (CVDG)
 - Subgroup 2.1.5: Activity hub design guidelines (HUBDG)
 - Subgroup 2.1.6: ZigBee design guidelines (ZDG)
 - Subgroup 2.1.7: Bluetooth low energy design guidelines (BLEDG)
 - Subgroup 2.1.8: NFC design guidelines (NDG)
 - Group 2.2: 20601: Optimized exchange protocol (OXP)
 - Subgroup 2.2.1: General (GEN)
 - Subgroup 2.2.2: PHD domain information model (DIM)
 - Subgroup 2.2.3: PHD service model (SER)
 - Subgroup 2.2.4: PHD communication model (COM)
 - Group 2.3: Devices class specializations (CLASS)
 - **Subgroup 2.3.1: Weighing scales (WEG)**
 - **Subgroup 2.3.2: Glucose meter (GL)**
 - **Subgroup 2.3.3: Pulse oximeter (PO)**
 - **Subgroup 2.3.4: Blood pressure monitor (BPM)**
 - **Subgroup 2.3.5: Thermometer (TH)**
 - **Subgroup 2.3.6: Cardiovascular (CV)**
 - **Subgroup 2.3.7: Strength (ST)**
 - **Subgroup 2.3.8: Activity hub (HUB)**
 - **Subgroup 2.3.9: Adherence monitor (AM)**
 - Subgroup 2.3.10: Insulin pump (IP) (Future development)
 - **Subgroup 2.3.11: Peak flow (PF)**
 - **Subgroup 2.3.12: Body composition analyser (BCA)**
 - **Subgroup 2.3.13: Basic electrocardiograph (ECG)**
 - **Subgroup 2.3.14: International normalized ratio (INR)**
 - **Subgroup 2.3.15: Sleep apnoea breathing therapy equipment (SABTE)**

- Group 2.4: Personal health device transcoding whitepaper (PHDTW)
 - Subgroup 2.4.1: Whitepaper general requirements (GEN)
 - Subgroup 2.4.2: Whitepaper thermometer requirements (TH)
 - Subgroup 2.4.3: Whitepaper blood pressure requirements (BPM)
 - Subgroup 2.4.4: Whitepaper heart rate requirements (HR)
 - Subgroup 2.4.5: Whitepaper glucose meter requirements (GL)
 - Subgroup 2.4.6: Whitepaper weight scale requirements (WS)

7 Electronic attachment

The protocol implementation conformance statements (PICS) and the protocol implementation extra information for testing (PIXIT) required for the implementation of Annex A can be downloaded from <http://handle.itu.int/11.1002/2000/12067>.

In the electronic attachment, letters "C" and "I" in the column labelled "Mandatory" are used to distinguish between "PICS" and "PIXIT" respectively during testing. If the cell is empty, the corresponding PICS is "independent". If the field contains a "C", the corresponding PICS is dependent on other PICS, and the logical expression is detailed in the "SCR_Expression" field. The static conformance review (SCR) is used in the test tool to assert whether the PICS selection is consistent.

Annex A

Test purposes

(This annex forms an integral part of this Recommendation.)

A.1 TP definition conventions

The test purposes (TPs) are defined according to the following rules:

- **TP Id:** This is a unique identifier (TP/<TT>/<DUT>/<GR>/<SGR>/<XX> – <NNN>). It is specified according to the naming convention defined below:
 - Each test purpose identifier is introduced by the prefix "TP".
 - <TT>: This is the test tool that will be used in the test case.
 - PAN: Personal area network (Bluetooth or USB)
 - LAN: Local area network (ZigBee)
 - PAN-LAN: Personal area network (Bluetooth or USB) – Local area network (ZigBee)
 - LP-PAN: Low power personal area network (Bluetooth low energy)
 - TAN: Touch area network (NFC)
 - PLT: Personal area network (Bluetooth or USB) – Local area network (ZigBee) – Touch area network (NFC)
 - <DUT>: This is the device under test.
 - AG: PAN/LAN Agent
 - MAN: PAN/LAN Manager
 - <GR>: This identifies a group of test cases.
 - <SGR>: This identifies a subgroup of test cases.
 - <XX>: This identifies the type of testing.
 - BV: Valid Behaviour Test
 - BI: Invalid Behaviour Test
 - <NNN>: This is a sequential number that identifies the test purpose.
- **TP label:** This is the TP's title.
- **Coverage:** This contains the specification reference and clause to be checked by the TP.
 - Spec: This indicates the earliest version of the specification from which the testable items to be checked by the TP were included.
 - Testable item: This contains testable items to be checked by the TP.
- **Test purpose:** This is a description of the requirements to be tested.
- **Applicability:** This contains the PICS items that define if the test case is applicable or not for a specific device. When a TP contains an "ALL" in this field it means that it applies to the device under test within that scope of the test (specialization, transport used, etc.).
- **Other PICS:** This contains additional PICS items (apart from the PICS specified in the Applicability row) which are used within the test case implementation and can modify the final verdict. When this row is empty, it means that only the PICS specified in the Applicability row are used within the test case implementation.
- **Initial condition:** This indicates the state to which the DUT needs to be moved at the beginning of TC execution.

- **Test procedure:** This describes the steps to be followed in order to execute the test case.
- **Pass/Fail criteria:** This provides criteria to decide whether the DUT passes or fails the test case.

A.2 Subgroup 2.3.1: Weighing scales (WEG)

TP Id		TP/PLT/MAN/CLASS/WEG/BV-001		
TP label		Association procedure Manager WEG		
Coverage	Spec	[ISO/IEEE 11073-10415]		
	Testable items	Weighing.Association 8;O	Weighing.Association 12;M	Weighing.Association 13;M
		Weighing.Association 14;M	Weighing.Association 15;M	Weighing.Association 16;M
		Weighing.Association 17;M	Weighing.Association 18;M	Weighing.Association 19;M
		Weighing.Association 20;M	Weighing.Association 21;M	Weighing.Association 22;M
		Weighing.Association 23;M		
Test purpose		<p>Check that:</p> <p>Association Response data exchange (data-proto-id, data- proto-info):</p> <p>[data-proto-info field parameters]The Manager may use this field (System-Id) to determine the identity of the weighing scale with which it is associating and, optionally, to implement a simple access restriction policy</p> <p>[AND]</p> <p>[association response]: The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601 .</p> <p>[AND]</p> <p>[association response]: In the DataProtoList structure element, the data protocol identifier shall be set to data-proto-id-20601 (i.e. , data-proto-id = 0x5079)</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager.</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The field functional-units shall have all bits reset except for those relating to a Test Association</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The system-id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p>		

	<p>[AND]</p> <p>[association response data-proto-info field parameters]: The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>[association response data-proto-info field parameters]: The fields data-req-init-*-count shall be 0</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '1000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16449 <input type="checkbox"/> data-req-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '0000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0; 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown,field-value=0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected–unsupported-assoc-version, field-value=0x00 0x08.

- c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))
- d. data-proto-id
 - field- type = DataProtold
 - field-length = 2 bytes
 - field-value=0x50 0x79 (20601)
- e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x80 0x00 0x00 0x00
- f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)
 - field-value= depends on the encoding rules supported/selected, but only one can be supported at a time
- g. nomenclature version
 - field- type = NomenclatureVersion
 - field-length = 4 bytes (BITS-32)
 - field-value= Bit 0 must be set (nom-version1)
- h. functional units
 - field-type = FunctionalUnits
 - field-length = 4 bytes (BITS-32)
 - field-value =
 - Bit 0 must be 0
 - Bits 1 and 2 may be set
 - The rest of the bits must not be set
- i. system type
 - field- type = SystemType
 - field-length = 4 bytes (BITS-32)
 - field-value = 0x80 0x00 0x00 0x00 (sys-type-manager)
- j. system-id
 - field- type = OCTET STRING
 - field-length = 8 bytes
 - field-value = (EUI-64 manufacturer and device)
- k. dev-config-id
 - field- type = ConfigId
 - field-length = 2 bytes
 - field-value = 0x00 0x00 (manager-config-response)
- l. data-req-mode-flags (DataReqModeCapab)
 - field- type = DataReqModeFlags
 - field-length = 2 bytes
 - field-value = 0x00 0x00
 - manager response to data-req-mode-flags is always 0.

	<ul style="list-style-type: none"> m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 b
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id		TP/PLT/MAN/CLASS/WEG/BV-002		
TP label		Configuration Event Report. Weighing Scale standard configuration		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4..</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x05 0xDC (Weighing Scales). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x05 0xDC 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. <p>c. Obj-Handle:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <p>d. Event-time:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX <p>e. Event-type:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	See bug http://continua.plugfests.com/show_bug.cgi?id=123

TP Id	TP/PLT/MAN/CLASS/WEG/BV-003		
TP label	Attribute-Value-Map. Order change.		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 22;M	
Test purpose	Check that: For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS. 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Body Weight Object) to reverse the values to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_SIMP. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date first followed by a weight value (in kilograms since it is the standard configuration unit code). 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS). The weight observation should be a reasonable kilogram weight observation. 12. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes. E.g. if there is a user interface (UI), verify that the measurement and date are displayed properly. • In steps 2, 6 and 12 verify that the manager under test uses kilograms as the unit-code for the measurement report (or reports the proper value after conversion to another unit code). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). • When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/WEG/BV-004		
TP label	Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 22;M	

Test purpose	Check that: For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS. Manager accepts the measurements (fixed format event report) and shows them correctly when the unit-code is changed.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024 AND C_MAN_WEG_001
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration. (Body Weight Numeric standard configuration Unit code attribute is set to MDC_DIM_KILO_G)
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Body Weight Object) to set the values to: MDC_ATTR_NU_VAL_OBS_SIMP, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use pounds MDC_DIM_LB (1760). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_SIMP attribute. 6. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). • In steps 4 and 6, verify that the manager under test uses pounds as the unit-code for the measurement reports.
Notes	

TP Id	TP/PLT/MAN/CLASS/WEG/BV-005		
TP label	Unit-Code. Change from default kilograms to pounds – fixed format observation		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 20;M	
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024 AND C_MAN_WEG_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Body Weight Object) to pounds nomenclature code MDC_DIM_LB (1760). 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report using a measurement in pounds followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a fixed event report with an observation in kilograms followed by date and time stamp. 10. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies pounds to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/WEG/BV-005_A		
TP label	Unit-Code. Do not change from default kilograms to pounds – fixed format observation		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 20;M	
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024 AND (NOT(C_MAN_WEG_001))		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Body Weight Object) to pounds nomenclature code MDC_DIM_LB (1760). 2. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or until TO cer-mds expires. 3. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in pounds followed by date and time stamp. 		

	<p>4. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or TO cer-mds expires.</p> <p>5. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. • In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. • In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data.
Notes	

TP Id	TP/PLT/MAN/CLASS/WEG/BV-006		
TP label	Unit-Code. Use default kilograms – variable format observation.		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 20;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report using a measurement in kilograms. 2. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id	TP/PLT/MAN/CLASS/WEG/BV-007		
TP label	Unit-Code. Change from default kilograms to pounds – variable format observation		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 20;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024 AND C_MAN_WEG_001		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to pounds MDC_DIM_LB (1760) for handle 1 (Body Weight Object) and a measurement in pounds 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in pounds (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a confirmed variable event report with an observation in kilograms followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to kilograms by the standard configuration). 10. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies pounds to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/WEG/BV-008		
TP label	Maximum APDU size: Weighing Scale		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The manager under test is in the operating state.		

Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 858 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(832 bytes)..... 00'O } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2646 (MDC_ATTR_NU_VAL_OBS_SIMP) attribute-value: 68 } } } </pre> <p>2. Check the response of the manager under test.</p> <p>3. The simulated agent sends a confirmed fixed format event report with one measurement.</p> <p>4. Check the response of the manager under test.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/WEG/BV-009		
TP label	Special values. Not a number – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 22; M	
Test purpose	<p>Check that:</p> <p>Manager receives a NaN value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight Object) containing an observation with the value for "not a number" (NaN, [exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/WEG/BV-010		
TP label		Special values. Not a number – variable format		
Coverage	Spec	[ISO/IEEE 11073-10415]		
	Testable items	WeightNumClass 27; C		
Test purpose		Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Weight Object) containing an observation with the value for NaN ([exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/WEG/BV-011		
TP label		Special values. Not at this resolution – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10415]		
	Testable items	WeightNumClass 22; M		
Test purpose		Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_024		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight Object) containing an observation with the value for "not at this resolution" (NRes, [exponent 0, mantissa $-(2^{**}23) = 0x00800000$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/WEG/BV-012		
TP label	Special values. Not at this resolution – variable format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 27; C	
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Weight Object) containing an observation with the value for NRes ([exponent 0, mantissa $-(2^{**}23) = 0x00800000$]) 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/WEG/BV-013		
TP label	Special values. Positive infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 22; M	
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 containing an observation with the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**23 -2) = 0x007FFFFE]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/WEG/BV-014		
TP label	Special values. Positive infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 27; C	
Test purpose	<p>Check that:</p> <p>Manager receives a + INFINITY value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Weight Object) containing an observation with the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**23 -2) = 0x007FFFFE]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/WEG/BV-015		
TP label	Special values. Negative infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 22; M	
Test purpose	<p>Check that:</p> <p>Manager receives a - INFINITY value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight Object) containing an observation with the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{23}-2) = 0x00800002$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/WEG/BV-016		
TP label	Special values. Negative infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 27; C	
Test purpose	<p>Check that:</p> <p>Manager receives a - INFINITY value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Weight Object) containing an observation with the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{23}-2) = 0x00800002$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/WEG/BV-017		
TP label	Special values. Reserved – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 22; M	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight Object) containing an observation with the value that is reserved (Reserved for future use, [exponent 0, mantissa $-(2^{23}-1) = 0x00800001$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/WEG/BV-018		
TP label	Special values. Reserved – variable format		
Coverage	Spec	[ISO/IEEE 11073-10415]	
	Testable items	WeightNumClass 27; C	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_024		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Weight Object) containing an observation with the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{23}-1) = 0x00800001$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

A.3 Subgroup 2.3.2: Glucose meter (GL)

TP Id	TP/PLT/MAN/CLASS/GL/BV-000
TP label	Association procedure Manager GL

Coverage	Spec	[IEEE 11073-10417]		
	Testable items	ManProcAs 1;M	ManProcAs 2;M	ManProcAs 3;M
		ManProcAs 4;M	ManProcAs 5;M	ManProcAs 6;M
		ManProcAs 7;M	ManProcAs 8;M	ManProcAs 9;M
		ManProcAs 10;M	ManProcAs 11;M	ManProcAs 12;M
Test purpose	<p>Check that:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601.</p> <p>[AND]</p> <p>The data-PROTO-INFO field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>The fields data-req-init-*count shall be 0</p>			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019			
Other PICS				
Initial condition	The manager is in the unassociated state.			

Test procedure

1. The simulated agent sends an association request to the manager under test, with the fields:
 - protocol-version = '10000000000000000000000000000000'B
 - encoding-rules= '1000000000000000'B
 - nomenclature-version = '10000000000000000000000000000000'B
 - functional-units = '00000000000000000000000000000000'B
 - system-type = '00000000100000000000000000000000'B
 - dev-config-id = 16440
 - data-rep-mode-capab =
 - data_req_mode_flags= '0000000000000001'B
 - data_req_init_agent_count = 1
 - data_req_init_manager_count =0
 - option-list.length=0
2. The manager under test sends an association response. The fields of interest are:
 - a. APDU Type
 - field-length = 2 bytes
 - field-value = 0xE3 0x00 (AareApdu)
 - b. Result
 - field- type = AssociateResult
 - field-length = 2 bytes
 - field-value = One of the following:
 - If association is accepted, field-value=0x00 0x00.
 - If association is rejected-permanent, field-value=0x00 0x01.
 - If association is rejected-transient, field-value=0x00 0x02.
 - If association is accepted-unknown-config, field-value=0x00 0x03.
 - If association is rejected-no-common-protocol, field-value=0x00 0x04.
 - If association is rejected-no-common-parameter, field-value=0x00 0x05.
 - If association is rejected-unknown = 0x00 0x06.
 - If association is rejected-unauthorized, field-value=0x00 0x07.
 - If association is rejected-unsupported-assoc-version, field-value=0x00 0x08.
 - c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))
 - d. data-proto-id
 - field- type = DataProtold
 - field-length = 2 bytes
 - field-value=0x50 0x79 (20601)
 - e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x80 0x00 0x00 0x00
 - f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one can be supported at a time g. nomenclature version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) h. functional units <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id		TP/PLT/MAN/CLASS/GL/BV-001		
TP label		Configuration Event Report. Glucose Meter standard configuration 1700		
Coverage	Spec	[[IEEE 11073-10417]		
	Testable items	ConfProc 4;M	MDSEvents 2;M	ObjAccServ 5;M
	Spec	[[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>The Manager shall respond to a configuration notification message using a "Remote Operation Response Confirmed Event Report" data message with an MDC_NOTI_CONFIG event using the ConfigReportRsp structure for the event-info field .</p> <p>[AND]</p> <p>A Manager shall support both single-person and multi-person event reports.</p> <p>[AND]</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>[AND]</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state. The simulated agent implements a glucose meter device specialization with standard configuration 1700.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x06 0xA4 (Glucose Meter – Std Config 1700). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x06 0xA4 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. 		

	<p>c. Obj-Handle:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <p>d. Event-time:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX <p>e. Event-type:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one Blood Glucose (Capillary Whole blood reference method) measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-001_A			
TP label	Configuration Event Report. Glucose Meter standard configuration 1701			
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	ConfProc 4;M	MDSEvents 2;M	ObjAccServ 5;M
	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		

Test purpose	<p>Check that:</p> <p>The Manager shall respond to a configuration notification message using a "Remote Operation Response Confirmed Event Report" data message with an MDC_NOTI_CONFIG event using the ConfigReportRsp structure for the event-info field .</p> <p>[AND]</p> <p>A Manager shall support both single-person and multi-person event reports.</p> <p>[AND]</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>[AND]</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019
Other PICS	
Initial condition	The simulated agent and the manager under test are in an unassociated state. The simulated agent implements a glucose meter device specialization with standard configuration 1701.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x06 0xA5 (Glucose Meter – Std Config 1701). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x06 0xA5 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX

	<p>e. Event-type:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one Blood Glucose (Undetermined plasma reference method) measurement and other fixed event report with Control Solution measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-002		
TP label	Maximum APDU size: Glucose Meter without PM-Store		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[IEEE 11073-10417]	
	Testable items	ComChar 2; M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The manager under test is in the operating state.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 5080 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(5056 bytes)..... 00'O } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 100 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a confirmed fixed format event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-002_A			
TP label	Maximum APDU size: Glucose Meter with PM-Store			
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	CommonCharac 4;M		
	Spec	[IEEE 11073-10417]		
	Testable items	ComChar 2; M		

Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_OXP_003
Other PICS	
Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count = 2 <input type="checkbox"/> Length = 64472 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'0 } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 80 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a confirmed fixed format event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id		TP/PLT/MAN/CLASS/GL/BV-003		
TP label		Blood Glucose Attribute-Value-Map. Order change		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	BloodGL 10;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS. 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Blood Glucose Object) to reverse the values to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date first followed by a blood glucose value (in mg/dL since it is the standard configuration unit code). 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS). The observation should be a reasonable mg/dL blood glucose observation. 12. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In steps 2, 6 and 12 verify that the manager under test uses mg/dL as the unit code for the measurement report (or reports the proper value after conversion to another unit code). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). 		

	<ul style="list-style-type: none"> When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-004		
TP label	Blood Glucose Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 10;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_GL_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration. (Blood Glucose Numeric standard configuration Unit code attribute is set to MDC_DIM_MILLI_G_PER_DL)		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Blood Glucose Object) to set the values to: MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. The simulated agent waits until it receives a confirmation. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use MDC_DIM_MILLI_MOLE_PER_L (4722). The simulated agent waits until it receives a confirmation. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_BASIC attribute. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). In steps 4 and 6, verify that the manager under test uses mmol/L as the unit code for the measurement reports. 		
Notes			

TP Id	TP/PLT/MAN/CLASS/GL/BV-005
TP label	Blood Glucose Unit-Code. Change from default mg/dL to mmol/L – fixed format observation

Coverage	Spec	[IEEE 11073-10417]		
	Testable items	BloodGL 8;M		
	Spec	[ITU-T H.810 (2015)]		
	Testable items	Communication 9; M		
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_GL_001			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Blood Glucose Object) to mmol/L nomenclature code MDC_DIM_MILLI_MOLE_PER_L (4722). 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report using a measurement in mmol/L followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a fixed event report with an observation in mg/dL followed by date and time stamp. 10. The simulated agent waits until it receives a confirmation. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies mmol/L to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies mg/dL to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 			
Notes				

TP Id		TP/PLT/MAN/CLASS/GL/BV-005_A		
TP label		Blood Glucose Unit-Code. Do not change from default mg/dL to mmol/L – fixed format observation		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	BloodGL 8;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019 AND (NOT(C_MAN_GL_001))		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Blood Glucose Object) to mmol/L nomenclature code MDC_DIM_MILLI_MOLE_PER_L (4722). 2. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or roj message or until TO cer-mds expires. 3. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in mmol/L followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or roj message or TO cer-mds expires. 5. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or roj message. • In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or roj message. • In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data. 		
Notes				

TP Id		TP/PLT/MAN/CLASS/GL/BV-006		
TP label		Blood Glucose Unit-Code. Use default mg/dL – variable format observation		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	BloodGL 8;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report using a measurement in mg/dL. 2. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies mg/dL to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-007		
TP label	Blood Glucose Unit-Code. Change from default mg/dL to mmol/L – variable format observation		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 8;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_GL_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to mmol/L MDC_DIM_MILLI_MOLE_PER_L (4722) for handle 1 (Blood Glucose Object) and a measurement in mmol/L. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in mmol/L (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. 		

	<ul style="list-style-type: none"> The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>9. The simulated agent sends a confirmed variable event report with an observation in mg/dL followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to mg/dL by the standard configuration).</p> <p>10. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies mmol/L to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). In step 10, verify that the manager under test is able to accept the data properly and applies mg/dL to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-008		
TP label	Special values. Not a number – fixed format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 10; M	
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Blood Glucose Object) containing an observation value with the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-009		
TP label	Special values. Not a number – variable format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 20; M	
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{**}11 - 1) = 0x07FF$]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/GL/BV-010		
TP label	Special values. Not at this resolution – fixed format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 10; M	
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**}11) = 0x0800$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-011		
TP label	Special values. Not at this resolution – variable format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 20; M	
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/GL/BV-012		
TP label	Special values. Positive infinity – fixed format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 10; M	
Test purpose	<p>Check that:</p> <p>Manager receives a + INFINITY value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**11} -2) = 0x07FE$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-013		
TP label	Special values. Positive infinity – variable format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 20; M	

Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**}11 -2) = 0x07FE$]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/GL/BV-014		
TP label	Special values. Negative infinity – fixed format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 10; M	
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**}11 -2) = 0x0802$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-015		
TP label	Special values. Negative infinity – variable format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 20; M	

Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for negative infinity ($-\text{INFINITY}$, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/GL/BV-016		
TP label	Special values. Reserved – fixed format (Std Config 1700)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 10; M	
Test purpose	Check that: Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-017
TP label	Special values. Reserved – variable format (Std Config 1700)

Coverage	Spec	[IEEE 11073-10417]	
	Testable items	BloodGL 20; M	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1700.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Blood Glucose Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-018		
TP label	Control Solution Attribute-Value-Map. Order change		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 8;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Control Solution confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 2 (Control Solution Object) to reverse the values to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date first followed by a control solution value (in mg/dL since it is the standard configuration unit code). 		

	<p>6. The simulated agent waits until it receives a confirmation.</p> <p>7. The simulated agent sends an association release request (normal).</p> <p>8. The simulated agent waits until there is an association release response.</p> <p>9. The simulated agent sends an association request using the same standard configuration that was used previously.</p> <p>10. If the manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. <p>11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS). The observation should be a reasonable mg/dL blood glucose observation.</p> <p>12. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In steps 2, 6 and 12 verify that the manager under test uses mg/dL as the unit code for the measurement report (or reports the proper value after conversion to another unit code). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). • When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-019		
TP label	Control Solution Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 8;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_GL_002		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (Control Solution Numeric standard configuration Unit code attribute is set to MDC_DIM_MILLI_G_PER_DL).		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 2 (Control Solution Object) to set the values to: MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use MDC_DIM_MILLI_MOLE_PER_L (4722). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_BASIC attribute. 6. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). • In steps 4 and 6, verify that the manager under test uses mmol/L as the unit code for the measurement reports.
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-020		
TP label	Control Solution Unit-Code. Change from default mg/dL to mmol/L – fixed format observation		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 6;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_GL_002		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 2 (Control Solution Object) to mmol/L nomenclature code MDC_DIM_MILLI_MOLE_PER_L (4722). 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report using a measurement in mmol/L followed by date and time stamp. 		

	<ol style="list-style-type: none"> 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a fixed event report with an observation in mg/dL followed by date and time stamp. 10. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies mmol/L to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies mg/dL to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id		TP/PLT/MAN/CLASS/GL/BV-021		
TP label		Control Solution Unit-Code. Do not change from default mg/dL to mmol/L – fixed format observation		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 6;M		
Test purpose		Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019 AND (NOT(C_MAN_GL_002))		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 2 (Control Solution Object) to mmol/L nomenclature code MDC_DIM_MILLI_MOLE_PER_L (4722). 2. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or until TO cer-mds expires. 3. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in mmol/L followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or TO cer-mds expires. 5. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data.
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-022		
TP label	Control Solution Unit-Code. Use default mg/dL – variable format observation		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 6;M	
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> Send a confirmed variable format event report using a measurement in mg/dL. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data properly and applies mg/dL to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id	TP/PLT/MAN/CLASS/GL/BV-023		
TP label	Control Solution Unit-Code. Change from default mg/dL to mmol/L – variable format observation		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 6;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	

Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MILLI_G_PER_DL</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019 AND C_MAN_GL_002
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to mmol/L MDC_DIM_MILLI_MOLE_PER_L (4722) for handle 2 (Control Solution Object) and a measurement in mmol/L. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in mmol/L (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a confirmed variable event report with an observation in mg/dL followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to mg/dL by the standard configuration). 10. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies mmol/L to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies mg/dL to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/GL/BV-024		
TP label	Special values. Not a number – fixed format (Std Config 1701)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 8; M	

Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Solution Object) containing an observation value with the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/GL/BV-025		
TP label	Special values. Not a number – variable format (Std Config 1701)		
Coverage	Spec	[IEEE 11073-10417]	
	Testable items	CtrlSol 12; M	
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Solution Object) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/GL/BV-026
TP label	Special values. Not at this resolution – fixed format (Std Config 1701)

Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 8; M		
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Solution Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id	TP/PLT/MAN/CLASS/GL/BV-027			
TP label	Special values. Not at this resolution – variable format (Std Config 1701)			
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 12; M		
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Solution Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id	TP/PLT/MAN/CLASS/GL/BV-028			
TP label	Special values. Positive infinity – fixed format (Std Config 1701)			

Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 8; M		
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Solution Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**11 -2) = 0x07FE]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id	TP/PLT/MAN/CLASS/GL/BV-029			
TP label	Special values. Positive infinity – variable format (Std Config 1701)			
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 12; M		
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_019			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Solution Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**11 -2) = 0x07FE]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id		TP/PLT/MAN/CLASS/GL/BV-030		
TP label		Special values. Negative infinity – fixed format (Std Config 1701)		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 8; M		
Test purpose		Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 1701.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Solution Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**11} - 2) = 0x0802$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/GL/BV-031		
TP label		Special values. Negative infinity – variable format (Std Config 1701)		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 12; M		
Test purpose		Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 1701.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Solution Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**11} - 2) = 0x0802$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/GL/BV-032		
TP label		Special values. Reserved – fixed format (Std Config 1701)		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 8; M		
Test purpose		Check that: Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 1701.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Solution Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/GL/BV-033		
TP label		Special values. Reserved – variable format (Std Config 1701)		
Coverage	Spec	[IEEE 11073-10417]		
	Testable items	CtrlSol 12; M		
Test purpose		Check that: Manager receives a Reserved for future use value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_019		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 1701.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Solution Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

A.4 Subgroup 2.3.3: Pulse oximeter (PO)

TP Id	TP/PLT/MAN/CLASS/PO/BV-003			
TP label	Association procedure Manager PO			
Coverage	Spec	[ISO/IEEE 11073-10404]		
	Testable items	PulseAssocResp 1;M	PulseAssocResp 2;M	PulseAssocResp 5;M
		PulseAssocResp 6;M	PulseAssocResp 7;M	PulseAssocResp 8;M
		PulseAssocResp 9;M	PulseAssocResp 10;M	PulseAssocResp 11;M
Test purpose	<p>Check that:</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601 (i.e. , data-protocol-id = 0x5079)</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the field functional-units shall have all bits reset except for those relating to a Test Association</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the system-id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the field dev-config-id shall be manager-config-response</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the field data-req-mode-capab-flags shall be 0</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the fields data-req-init-*.count shall be 0</p>			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026			

Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '10000000000000000000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16443 <input type="checkbox"/> data-rep-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '00000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareA pdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id)) d. data-proto-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value=0x50 0x79 (20601) e. protocol-version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = Protocol Version <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value=0x80 0x00 0x00 0x00

	<ul style="list-style-type: none"> f. encoding-rules <ul style="list-style-type: none"> <input type="checkbox"/> field-type = EncodingRules <input type="checkbox"/> field-length = 2 bytes (BITS-16) <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one can be supported at a time g. nomenclature version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) h. functional units <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id		TP/PLT/MAN/CLASS/PO/BV-004		
TP label		Configuration Event Report. Pulse Oximeter standard configuration 400		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x01 0x90 (PulseOximeter). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x01 0x90. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	See http://continua.plugfests.com/show_bug.cgi?id=123

TP Id	TP/PLT/MAN/CLASS/PO/BV-005		
TP label	Configuration Event Report. Pulse Oximeter standard configuration 401		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	ConfEventRep 18;M	
Test purpose	<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in an unassociated state.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x01 0x91 (PulseOximeter). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x01 0x91. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) 		

	<ul style="list-style-type: none"> b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length = 4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	See http://continua.plugfests.com/show_bug.cgi?id=123

TP Id		TP/PLT/MAN/CLASS/PO/BV-006		
TP label		Maximum APDU size: Pulse Oximeter		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	CommonCharac 4;M		
Test purpose		<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS				

Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 5080 <pre> ObservationScan ::= { obj-handle: 1 (SPO2) attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(5056 bytes)..... 00'O } } } ObservationScan ::= { obj-handle: 1 (SPO2) attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 98 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/PO/BV-007		
TP label	Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 11;M	
Test purpose	Check that: For [Standard-Configuration] [Attribute-Value-Map] attribute must be present and with value MDC_ATTR_NU_VAL_OBS_BASIC		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 0x190.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (SpO₂ Object) to set the values to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC. For handle 10 (Pulse Rate Object), set the attribute value map to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report with the new data layout. 4. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In step 4, verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past).
Notes	

TP Id	TP/PLT/MAN/CLASS/PO/BV-008		
TP label	Unit-Code. Use default % and beats per minute (beats/min) – variable format observation.		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO ₂ NumObjAttr 10;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] [Unit-Code] value is MDC_DIM_PERCENT</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only]</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 0x190.		
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report for handle 1 using a measurement in % and for handle 10 using a measurement in beats/min. 2. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies % and beats/min to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id		TP/PLT/MAN/CLASS/PO/BV-009		
TP label		Supplemental-Type: SpO ₂ — Standard configuration 0x191		
Coverage	Spec	[ISO/IEEE 11073-10404]		
	Testable items	SpO ₂ StandConf 1;C		
Test purpose		<p>Check that:</p> <p>For SpO₂ numeric Object the and for Dev-Configuration-Id to 0x191 the Supplemental-Types attribute shall contain a single entry in its SupplementalTypeList, and its value shall be MDC_MODALITY_SPOT.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 0x191.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report from handle 1 (SpO₂ Object) that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC. 2. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria		In step 2. Verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes and Supplemental-Type for Object with handle 1 is MDC_MODALITY_SPOT (e.g. if there is a UI, verify that the measurement and date are displayed properly).		
Notes				

TP Id		TP/PLT/MAN/CLASS/PO/BV-010		
TP label		Supplemental-Type: Pulse Rate— Standard configuration 0x191		
Coverage	Spec	[ISO/IEEE 11073-10404]		
	Testable items	PulseRateStandConf 1;C		
Test purpose		<p>Check that:</p> <p>For Pulse Rate numeric Object the and for Dev-Configuration-Id to 0x191 the Supplemental-Types attribute shall contain a single entry in its SupplementalTypeList, and its value shall be MDC_MODALITY_SPOT.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 0x191.		
Test procedure		<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed fixed format event report from handle 10 (Pulse Rate Object) that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC. 2. The simulated agent waits until it receives a confirmation. 		

Pass/Fail criteria	In step 2. Verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes and Supplemental-Type for Object with handle 10 is MDC_MODALITY_SPOT (e.g. if there is a UI, verify that the measurement and date are displayed properly).
Notes	

TP Id	TP/PLT/MAN/CLASS/PO/BV-011		
TP label	Special values. Not a number – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 11; M	PulseRateNumObjAttr 28; M
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for NaN ([exponent 0, mantissa +(2**11 -1) = 0x07FF]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PO/BV-012		
TP label	Special values. Not a number – variable format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 16; C	PulseRateNumObjAttr 33; C
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for NaN ([exponent 0, mantissa +(2**11 -1) = 0x07FF]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PO/BV-013		
TP label	Special values. Not at this resolution – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 11; M	PulseRateNumObjAttr 28; M
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for NRes ([exponent 0, mantissa -(2**11) = 0x0800]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PO/BV-014		
TP label	Special values. Not at this resolution – variable format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 16; C	PulseRateNumObjAttr 33; C
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PO/BV-015		
TP label	Special values. Positive infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 11; M	PulseRateNumObjAttr 28; M
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**11} - 2) = 0x07FE$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PO/BV-016		
TP label	Special values. Positive infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 16; C	PulseRateNumObjAttr 33; C
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**11 -2) = 0x07FE]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/PO/BV-017		
TP label		Special values. Negative infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10404]		
	Testable items	SpO2NumObjAttr 11; M	PulseRateNumObjAttr 28; M	
Test purpose		Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for negative infinity (-INFINITY, [exponent 0, mantissa -(2**11 -2) = 0x0802]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/PO/BV-018		
TP label		Special values. Negative infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10404]		
	Testable items	SpO2NumObjAttr 16; C	PulseRateNumObjAttr 33; C	
Test purpose		Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS				

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**}11 -2) = 0x0802$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PO/BV-019		
TP label	Special values. Reserved – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 11; M	PulseRateNumObjAttr 28; M
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{**}11 -1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PO/BV-020		
TP label	Special values. Reserved – variable format		
Coverage	Spec	[ISO/IEEE 11073-10404]	
	Testable items	SpO2NumObjAttr 16; C	PulseRateNumObjAttr 33; C
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_026		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (SpO₂ Object) and handle 10 (Pulse Rate Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

A.5 Subgroup 2.3.4: Blood pressure monitor (BPM)

TP Id		TP/PLT/MAN/CLASS/BPM/BV-000		
TP label		Association procedure Manager BPM		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	ConfProc_4;M	AsProc_14;M	AsProc_15;M
		AsProc_16;M	AsProc_17;M	AsProc_18;M
		AsProc_19;M	AsProc_20;M	AsProc_21;M
		AsProc_22;M	AsProc_23;M	AsProc_24;M
		AsProc_25;M		
Test purpose		<p>Check that:</p> <p>The Manager shall respond to a configuration notification message using a “Remote Operation Response Confirmed Event Report” data message with an MDC_NOTI_CONFIG event using the ConfigReportRsp structure for the event-info field (see Table 3).</p> <p>[AND]</p> <p>In the association response message sent by the Manager:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p>		

	<p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>The fields data-req-init-*-count shall be 0</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '10000000000000000000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16437 <input type="checkbox"/> data-rep-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '00000000000000000000000000000000'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count = 0 <input type="checkbox"/> option-list.length=0 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03.

	<ul style="list-style-type: none"> ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. <p>c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))</p> <p>d. data-proto-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value=0x50 0x79 (20601) <p>e. protocol-version</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = Protocol Version <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value=0x80 0x00 0x00 0x00 <p>f. encoding-rules</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-type = EncodingRules <input type="checkbox"/> field-length = 2 bytes (BITS-16) <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one can be supported at a time <p>g. nomenclature version</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) <p>h. functional units</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set <p>i. system type</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) <p>j. system-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) <p>k. dev-config-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response)
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	<ul style="list-style-type: none"> i. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id	TP/PLT/MAN/CLASS/BPM/BV-001		
TP label	Configuration Event Report. Blood Pressure Meter standard configuration		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	MDSEvents 8;M	
	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	ConfEventRep 18;M	
Test purpose	<p>Check that:</p> <p>A blood pressure monitor manager shall respond to an [MDS-Configuration-Event] using a [Confirmed] event report response.</p> <p>The Response shall include the event-reply-info [ConfigReportRsp]</p> <p>[AND]</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS			
Initial condition	The simulated agent and the manager under test are in an unassociated state.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x02 0xBC (Blood Pressure Meter). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> <ol style="list-style-type: none"> 3. The simulated agent sends a configuration event report with config-report-id set to 0x02 0xBC 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <ol style="list-style-type: none"> 5. The simulated agent sends a fixed event report with one measurement with: <ul style="list-style-type: none"> <input type="checkbox"/> event_type = MDC_NOTI_SCAN_REPORT_FIXED <input type="checkbox"/> event_info = ScanReportInfoFixed <ul style="list-style-type: none"> ▪ obs_scan_fixed: Sys-Diast-MAP 120-90-100 mmHg and pulse rate 60 beats/min
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	See bug http://continua.plugfests.com/show_bug.cgi?id=123

TP Id		TP/PLT/MAN/CLASS/BPM/BV-003		
TP label		Attribute-Value-Map. Order change.		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_23;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present. The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report with a report from handle 1 (Non-invasive blood pressure) that matches the Attribute-Value-Map order of MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, MDC_ATTR_TIME_STAMP_ABS and handle 2 (pulse) that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_TIME_STAMP_ABS 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 to reverse the values to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_CMPD_VAL_OBS_BASIC and to reverse handle 2 values to: MDC_ATTR_TIME_STAMP_ABS, MDC_ATTR_NU_VAL_OBS_BASIC. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with handle 1 values set to the date first followed by blood pressure values (in millimetres of mercury (MDC_DIM_MMHG) since it is the standard configuration unit code) and handle 2 values set to the date first followed by pulse rate (in beats per minute (MDC_DIM_BEAT_PER_MIN)). 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report for handles 1 and 2 following the standard configuration attribute-value-format (MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, MDC_ATTR_TIME_STAMP_ABS) and (MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_TIME_STAMP_ABS), respectively. 12. The simulated agent waits until it receives a confirmation. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). If the manager only displays the values from handle 1 (non-invasive blood pressure) that is fine since the specification implies that agents nor manager have to support (pulse) but the pulse object must be there in the standard configuration. In steps 2, 6 and 12 verify that the manager under test uses millimetres of mercury as the unit code for the measurement report (or reports the proper value after conversion to another unit code). In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past).
Notes	<p>This may require the simulated agent to provide a proper date-and-time attribute in the MDS object.</p> <p>When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.</p>

TP Id	TP/PLT/MAN/CLASS/BPM/BV-004		
TP label	Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_23;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present. The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020 AND C_MAN_BPM_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration. (Non-invasive blood pressure Compound Numeric standard configuration Unit code attribute is set to millimetres of mercury (MDC_DIM_MMHG)).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Non-invasive blood pressure) to set the values to: MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. For handle 2 (pulse), set the attribute value map to: MDC_ATTR_MSMT_STAT, MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. The simulated agent waits until it receives a confirmation. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute of handle 1, use MDC_DIM_KILO_PASCAL (3843), for handle 2, use MDC_DIM_BEAT_PER_MIN (2720). The simulated agent waits until it receives a confirmation. The simulated agent sends a confirmed variable event report with handle 1 reporting just a MDC_ATTR_NU_CMPD_VAL_OBS_BASIC attribute and handle 2 just a MDC_ATTR_NU_VAL_OBS_BASIC. The simulated agent waits until it receives a confirmation. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). In steps 4 and 6, verify that the manager under test uses kilopascals and beats per minute as the unit codes for the measurement reports.
Notes	

TP Id	TP/PLT/MAN/CLASS/BPM/BV-005		
TP label	Unit-Code. Change from default millimetres of mercury (mmHg) to kilopascals (kPa) – fixed format observation.		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_21;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MMHG</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020 AND C_MAN_BPM_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (non-invasive blood pressure) to kPa nomenclature code MDC_DIM_KILO_PASCAL (3843). NOTE – No need to change handle 2 (pulse), since the only option is beats per minute. The simulated agent waits until it receives a confirmation. Send a confirmed fixed format event report for handle 1 using a measurement in kPa (e.g., 16 kPa is 120 mmHg and 10 kPa is 80 mmHg) followed by date and time stamp and for handle 2 using a measurement in beats per minute followed by date and time stamp. The simulated agent waits until it receives a confirmation. The simulated agent sends an association release request (normal). The simulated agent waits until it receives an association release response. The simulated agent sends an association request using the same configuration that was used initially. If the manager under test responds with association request response with "accepted-unknown-config", then 		

	<ul style="list-style-type: none"> The simulated agent sends the confirmed configuration event report with the standard configuration. The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>9. The simulated agent sends a fixed event report for handle 1 using a measurement in mmHg followed by date and time stamp and for handle 2 using a measurement in beats per minute followed by date and time stamp.</p> <p>10. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies kPa and beats/min to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). In step 10, verify that the manager under test is able to accept the data properly and applies mmHg and beats/min to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BPM/BV-005_A		
TP label	Unit-Code. Do not change from default millimetres of mercury (mmHg) to kilopascals (kPa) – fixed format observation.		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_21;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MMHG</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020 AND (NOT(C_MAN_BPM_001))		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (non-invasive blood pressure) to kPa nomenclature code MDC_DIM_KILO_PASCAL (3843). NOTE – No need to change handle 2 (pulse), since the only option is beats per minute. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or roj message or until TO cer-mds expires. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report for handle 1 using a measurement in kPa (e.g., 16 kPa is 120 mmHg and 10 kPa is 80 mmHg) followed by date and time stamp and for handle 2 using a measurement in beats per minute followed by date and time stamp. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or roj message or TO cer-mds expires. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data.
Notes	

TP Id	TP/PLT/MAN/CLASS/BPM/BV-006		
TP label	Unit-Code. Use default millimetres of mercury (mmHg) and beats per minute (BPM) – variable format observation.		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_21;M	
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_MMHG		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> Send a confirmed variable format event report for handle 1 using a measurement in mmHg and for handle 2 using a measurement in beats/min. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data properly and applies mmHg and beats/min to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id	TP/PLT/MAN/CLASS/BPM/BV-007		
TP label	Unit-Code. Change from default millimetres of mercury (mmHg) to kilopascals (kPa) – variable format observation.		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_21;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	

Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MMHG</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020 AND C_MAN_BPM_001
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to kPa MDC_DIM_KILO_PASCAL (3843) for handle 1 (non-invasive blood pressure) and a measurement in kPa. For handle 2, set the unit code to beats per minute MDC_DIM_BEAT_PER_MIN (2720) and a beats/min measurement value. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in kPa and beats/min (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a confirmed variable event report for handle 1 with an observation in mmHg (i.e., do not send the unit-code attribute it should be set to mmHg by the standard configuration). For handle 2, use an observation of beats/min. 10. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies kPa and beats/min to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies mmHg and beats/min to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BPM/BV-008		
TP label	Metric-id-list. Standard configuration		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_17;M	

Test purpose	Check that: For [Standard-Configuration] the [Metric-Id-List] attribute shall be present. The value of the [Metric-Id-List] attribute shall be MDC_PRESS_BLD_NONINV_SYS, MDC_PRESS_BLD_NONINV_DIA, then MDC_PRESS_BLD_NONINV_MEAN.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (non-invasive blood pressure object) containing an observation with the compound field values (SFLOAT) set to (120.0, 80.0, 93.3) and for handle 2 containing an observation (SFLOAT) of 60.0. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and applies the data properly as systolic = 120.0, diastolic = 80.0, mean arterial pressure (MAP) = 93.3, and pulse = 60.0.
Notes	If there are no other tests for various different FLOAT and SFLOAT values, the values above at least help cover the negative exponent values (e.g. 120.0 is 0xF4B0 as the SFLOAT).

TP Id	TP/PLT/MAN/CLASS/BPM/BV-009		
TP label	Metric-id-list. Id order change – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_17;M	
Test purpose	Check that: For [Standard-Configuration] the [Metric-Id-List] attribute shall be present. The value of the [Metric-Id-List] attribute shall be MDC_PRESS_BLD_NONINV_SYS, MDC_PRESS_BLD_NONINV_DIA, then MDC_PRESS_BLD_NONINV_MEAN.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (non-invasive blood pressure object) setting MDC_ATTR_ID_PHYSIO_LIST to (MDC_PRESS_BLD_NONINV_MEAN, MDC_PRESS_BLD_NONINV_SYS, then MDC_PRESS_BLD_NONINV_DIA). 2. The simulated agent sends a confirmed fixed event report for handle 1 containing an observation with the compound field values (SFLOAT) set to (106.6, 140.0, 90.0) along with a known time stamp, and Pulse Rate of 60 beats/min along with a known time stamp. 3. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and time stamp and applies the data properly as systolic = 140.0, diastolic = 90.0, MAP = 106.6. 		
Notes			

TP Id		TP/PLT/MAN/CLASS/BPM/BV-010		
TP label		Metric-id-list. Id order change – variable format		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_17;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Metric-Id-List] attribute shall be present. The value of the [Metric-Id-List] attribute shall be MDC_PRESS_BLD_NONINV_SYS, MDC_PRESS_BLD_NONINV_DIA, then MDC_PRESS_BLD_NONINV_MEAN.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (non-invasive blood pressure object) setting MDC_ATTR_ID_PHYSIO_LIST to (MDC_PRESS_BLD_NONINV_DIA, MDC_PRESS_BLD_NONINV_MEAN, then MDC_PRESS_BLD_NONINV_SYS) in the first observation scan. In a second observation scan, for handle 1 set the compound field values (SFLOAT) to (74.0, 86.0, 110.0) along with a known time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and time stamp and applies the data properly as systolic = 110.0, diastolic = 74.0, MAP = 86.0. 		
Notes				

TP Id		TP/PLT/MAN/CLASS/BPM/BV-011		
TP label		Metric-id-list. Reduced ids – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_17;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Metric-Id-List] attribute shall be present. The value of the [Metric-Id-List] attribute shall be MDC_PRESS_BLD_NONINV_SYS, MDC_PRESS_BLD_NONINV_DIA, then MDC_PRESS_BLD_NONINV_MEAN.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (non-invasive blood pressure object) setting MDC_ATTR_METRIC_STRUCT_SMALL to {ms-struct-compound-fix, 2}, MDC_ATTR_ID_PHYSIO_LIST to (MDC_PRESS_BLD_NONINV_SYS, then MDC_PRESS_BLD_NONINV_DIA) and MDC_ATTR_ATTRIBUTE_VAL_MAP to {MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, 8, MDC_ATTR_TIME_STAMP_ABS, 8}. 		

	<ol style="list-style-type: none"> 2. The simulated agent sends a confirmed fixed event report for handle 1 containing an observation with the compound field values (SFLOAT) set to (135.5, 86.3) along with a known time stamp. 3. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and time stamp and applies the data properly as systolic = 135.5, diastolic = 86.3.
Notes	

TP Id	TP/PLT/MAN/CLASS/BPM/BV-012		
TP label	Metric-id-list. Reduced ids – variable format		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_17;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Metric-Id-List] attribute shall be present. The value of the [Metric-Id-List] attribute shall be MDC_PRESS_BLD_NONINV_SYS, MDC_PRESS_BLD_NONINV_DIA, then MDC_PRESS_BLD_NONINV_MEAN.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (non-invasive blood pressure object) setting MDC_ATTR_METRIC_STRUCT_SMALL to {ms-struct-compound-fix, 2} and MDC_ATTR_ID_PHYSIO_LIST to (MDC_PRESS_BLD_NONINV_DIA, then MDC_PRESS_BLD_NONINV_SYS). 2. The simulated agent waits until it receives a confirmation from the manager under test. 3. The simulated agent sends a confirmed variable event report for handle 1 containing an observation with the compound field values (SFLOAT) set to (150.0, 95.0) along with a known time stamp. 4. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and time stamp and applies the data properly as systolic = 150.0, diastolic = 95.0. 		
Notes			

TP Id	TP/PLT/MAN/CLASS/BPM/BV-013		
TP label	Maximum APDU size: Blood Pressure Meter		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	

Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020
Other PICS	
Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 856 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(824 bytes)..... 00'0 } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2677 (MDC_ATTR_NU_CMPD_VAL_OBS_BASIC) attribute-value: (130 / 85 / 100) } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/BPM/BV-014
TP label	Special values. Not a number – fixed format

Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_23; M	PulsRat_22; M
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/BPM/BV-015		
TP label	Special values. Not a number – variable format		
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_45; C	PulsRat_42; M
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BPM/BV-016		
TP label		Special values. Not at this resolution – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_23; M	PulsRat_22; M	
Test purpose		Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate) containing all observation values set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BPM/BV-017		
TP label		Special values. Not at this resolution – variable format		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_45; C	PulsRat_42; M	
Test purpose		Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BPM/BV-018	
TP label		Special values. Positive infinity – fixed format	
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_23; M	PulsRat_22; M
Test purpose		Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.	
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020	
Other PICS			
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.	
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{11}-2) = 0x07FE$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 	
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 	
Notes		This test case has been considered as an implicit test case.	

TP Id		TP/PLT/MAN/CLASS/BPM/BV-019	
TP label		Special values. Positive infinity – variable format	
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_45; C	PulsRat_42; M
Test purpose		Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.	
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020	
Other PICS			
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.	
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{11}-2) = 0x07FE$]). The simulated agent waits until it receives a confirmation from the manager under test. 	
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 	

Notes	This test case has been considered as an implicit test case.
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TP Id		TP/PLT/MAN/CLASS/BPM/BV-020	
TP label		Special values. Negative infinity – fixed format	
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_23; M	PulsRat_22; M
Test purpose		Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.	
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020	
Other PICS			
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.	
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 	
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 	
Notes		This test case has been considered as an implicit test case.	

TP Id		TP/PLT/MAN/CLASS/BPM/BV-021	
TP label		Special values. Negative infinity – variable format	
Coverage	Spec	[ISO/IEEE 11073-10407]	
	Testable items	SystDiast_45; C	PulsRat_42; M
Test purpose		Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.	
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020	
Other PICS			
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.	
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate) containing all observation values set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]). The simulated agent waits until it receives a confirmation from the manager under test. 	

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/BPM/BV-022		
TP label		Special values. Reserved – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_23; M	PulsRat_22; M	
Test purpose		<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate) containing all observation values set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BPM/BV-023		
TP label		Special values. Reserved – variable format		
Coverage	Spec	[ISO/IEEE 11073-10407]		
	Testable items	SystDiast_45; C	PulsRat_42; M	
Test purpose		<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_020		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Systolic/Diastolic/MAP Object) and handle 2 (Pulse Rate Object) containing all observation values set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

A.6 Subgroup 2.3.5: Thermometer (TH)

TP Id	TP/PLT/MAN/CLASS/TH/BV-003			
TP label	Association procedure Manager TH			
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	TH_CM_Assoc10 ;M	TH_CM_Assoc14 ;M	TH_CM_Assoc15 ;M
		TH_CM_Assoc16 ;M	TH_CM_Assoc17 ;M	TH_CM_Assoc18 ;M
		TH_CM_Assoc19 ;M	TH_CM_Assoc20 ;M	
Test purpose	<p>Check that:</p> <p>The Manager may use this field to determine the identity of the thermometer with which it is associating and, optionally, to implement a simple access restriction policy</p> <p>[AND]</p> <p>The data-proto-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The fields data-req-mode-capab, data-req-init-agent, data-req-init-manager-count shall be 0. If the agent supports only the thermometer specialization data-req-init-agent-count shall be 1.</p>			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025			
Other PICS				

Initial condition	The manager is in the unassociated state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '1000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16447 <input type="checkbox"/> data-rep-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '0000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id)) d. data-proto-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value=0x50 0x79 (20601) e. protocol-version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = Protocol Version <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value=0x80 0x00 0x00 0x00 f. encoding-rules <ul style="list-style-type: none"> <input type="checkbox"/> field-type = EncodingRules

	<ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes (BITS-16) <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one can be supported at a time g. nomenclature version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) h. functional units <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id		TP/PLT/MAN/CLASS/TH/BV-004		
TP label		Configuration Event Report. Thermometer standard configuration		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x03 0x20 (Thermometer). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x03 0x20. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-005		
TP label	Maximum APDU size: Thermometer		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next one apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS			
Initial condition	The manager under test is in the operating state.		
Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 856 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(832 bytes)..... 00'0 } } } </pre>		

	<pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 36 } } } </pre> <ol style="list-style-type: none"> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-006		
TP label	Attribute-Value-Map. Order change.		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp17;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS. 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Body Temperature Object) to reverse the values to: MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date first followed by a body temperature value (in Celsius degrees since it is the standard configuration unit code). 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 		

	<p>8. The simulated agent waits until there is an association release response.</p> <p>9. The simulated agent sends an association request using the same standard configuration that was used previously.</p> <p>10. If the manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. <p>11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS). The observation should be a reasonable Celsius degrees body temperature observation.</p> <p>12. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In steps 2, 6 and 12 verify that the manager under test uses Celsius degrees as the unit code for the measurement report (or reports the proper value after conversion to another unit code). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). • When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-007		
TP label	Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp17;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025 AND C_MAN_TH_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration. (Body Temperature Numeric standard configuration Unit code attribute is set to MDC_DIM_DEGC).		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Body Temperature Object) to set the values to: MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. 2. The simulated agent waits until it receives a confirmation. 		

	<ol style="list-style-type: none"> 3. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use MDC_DIM_FAHR (4416). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_BASIC attribute. 6. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). • In steps 4 and 6, verify that the manager under test uses Fahrenheit degrees as the unit code for the measurement reports.
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-008		
TP label	Unit-Code. Change from default Celsius degrees to Fahrenheit degrees – fixed format observation.		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp15;M	
	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_DEGC</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025 AND C_MAN_TH_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Body Temperature Object) to Fahrenheit nomenclature code MDC_DIM_FAHR (4416). 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report using a measurement in Fahrenheit degrees followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 		

	<p>7. The simulated agent sends an association request using the same configuration that was used initially.</p> <p>8. If the manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>9. The simulated agent sends a fixed event report with an observation in Celsius degrees followed by date and time stamp.</p> <p>10. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies Fahrenheit degrees to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies Celsius degrees to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-008_A		
TP label	Unit-Code. Do not change from default Celsius degrees to Fahrenheit degrees – fixed format observation.		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp15;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_DEGC</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025 AND (NOT(C_MAN_TH_001))		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Body Temperature Object) to Fahrenheit nomenclature code MDC_DIM_FAHR (4416). 2. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or until TO cer-mds expires. 3. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in Fahrenheit degrees followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or TO cer-mds expires. 5. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data.
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-009		
TP label	Unit-Code. Use default Celsius degrees – variable format observation.		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp15;M	Communication 9; M
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_DEGC		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> Send a confirmed variable format event report using a measurement in Celsius degrees. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data properly and applies Celsius degrees to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id	TP/PLT/MAN/CLASS/TH/BV-010		
TP label	Unit-Code. Change from default Celsius degrees to Fahrenheit degrees – variable format observation.		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp15;M	
Coverage	Spec	[ITU-T H.810 (2015)]	
	Testable items	Communication 9; M	

Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_DEGC</p> <p>[AND]</p> <p>Continua PAN client components that receive a report of a configuration change shall apply the change to future measurements only</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025 AND C_MAN_TH_001
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to Fahrenheit degrees MDC_DIM_FAHR (4416) for handle 1 (Body Temperature Object) and a measurement in Fahrenheit degrees. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in Fahrenheit degrees (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 9. The simulated agent sends a confirmed variable event report with an observation in Celsius degrees followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to Celsius degrees by the standard configuration). 10. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies Fahrenheit degrees to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies Celsius degrees to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/TH/BV-011		
TP label	Special values. Not a number – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp17; M	

Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Temperature Object) containing an observation value with the value for NaN ([exponent 0, mantissa $+(2^{**11} - 1) = 0x07FF$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/TH/BV-012		
TP label	Special values. Not a number – variable format		
Coverage	Spec	[ISO/IEEE 11073-10408]	
	Testable items	Num Objec Temp21; C	
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Temperature Object) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{**11} - 1) = 0x07FF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/TH/BV-013
TP label	Special values. Not at this resolution – fixed format

Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp17; M		
Test purpose		Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Temperature Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/TH/BV-014		
TP label		Special values. Not at this resolution – variable format		
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp21; C		
Test purpose		Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Temperature Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/ TH /BV-015		
TP label		Special values. Positive infinity – fixed format		

Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp17; M		
Test purpose		Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Temperature Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**11 -2) = 0x07FE]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/TH/BV-016		
TP label		Special values. Positive infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp21; C		
Test purpose		Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Temperature Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**11 -2) = 0x07FE]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/TH/BV-017		
TP label		Special values. Negative infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp17; M		
Test purpose		Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Temperature Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/TH/BV-018		
TP label		Special values. Negative infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp21; C		
Test Purpose		Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Temperature Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/TH/BV-019		
TP label		Special values. Reserved – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp17; M		
Test purpose		Check that: Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Body Temperature Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/TH/BV-020		
TP label		Special values. Reserved – variable format		
Coverage	Spec	[ISO/IEEE 11073-10408]		
	Testable items	Num Objec Temp21; C		
Test purpose		Check that: Manager receives a Reserved for future use value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_025		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Temperature Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		

Notes	This test case has been considered as an implicit test case.
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A.7 Subgroup 2.3.6: Cardiovascular (CV)

TP Id		TP/PLT/MAN/CLASS/CV/BV-002		
TP label		Association procedure Manager CV		
Coverage	Spec	[[IEEE 11073-10441]		
	Testable items	AssocResp1;M	AssocResp2;M	AssocResp3;M
		AssocResp4;M	AssocResp5;M	AssocResp6;M
		AssocResp7;M	AssocResp8;M	AssocResp9;M
		AssocResp10;M	AssocResp11;M	AssocResp12;M
Test purpose		<p>Check that:</p> <p>In the association response message sent by the Manager:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>The fields data-req-init-*-count shall be 0</p>		

Applicability	C_MAN_OXP_000 AND (C_MAN_OXP_023)
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<p>1. The simulated agent sends an association request to the manager under test, with the fields:</p> <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '10000000000000000000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16438 <input type="checkbox"/> data-rep-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '00000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 <p>2. The manager under test sends an association response. The fields of interest are:</p> <p>a. APDU Type</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) <p>b. Result</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. <p>c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))</p> <p>d. data-proto-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value=0x50 0x79 (20601) <p>e. protocol-version</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = Protocol Version <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value=0x80 0x00 0x00 0x00

	<ul style="list-style-type: none"> f. encoding-rules <ul style="list-style-type: none"> <input type="checkbox"/> field-type = EncodingRules <input type="checkbox"/> field-length = 2 bytes (BITS-16) <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one can be supported at a time g. nomenclature version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) h. functional units <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id		TP/PLT/MAN/CLASS/CV/BV-003		
TP label		Maximum APDU size: Cardiovascular		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	CommonCharac 4;M		
Test purpose		<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_023 AND NOT(C_MAN_CV_030)		
Other PICS				
Initial condition		The manager under test is in the operating state.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 64472 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'0 } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2633 (MDC_ATTR_ENUM_OBS_VAL_SIMP_OID) attribute-value: 1017 (MDC_HF_ACT_WALK) } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

A.8 Subgroup 2.3.7: Strength (ST)

TP Id	TP/PLT/MAN/CLASS/ST/BV-001			
TP label	Association procedure Manager ST			
Coverage	Spec	[ISO/IEEE 11073-10442]		
	Testable items	StrenAssocRes 1;M	StrenAssocRes 2;M	StrenAssocRes 3;M
		StrenAssocRes 4;M	StrenAssocRes 5;M	StrenAssocRes 6;M
		StrenAssocRes 7;M	StrenAssocRes 8;M	StrenAssocRes 9;M
		StrenAssocRes 10;M	StrenAssocRes 11;M	
Test purpose	<p>Check that:</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601 (i.e., data-protocol-id = 0x5079)</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure and the version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000).</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager.</p> <p>[AND]</p> <p>The Manager shall support at least the MDER encoding rules.</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure which shall contain the field functional-units. It shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure which shall contain the field system-type. It shall be set to sys-type-manager (i.e., system-type = 0x80000000).</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure which shall contain the System-Id field. It shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier.</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure which shall contain the following parameter values: The field dev-config-id shall be manager-config-response (0).</p> <p>[AND]</p>			

	<p>The data-proto-info field shall be filled in with a PhdAssociationInformation structure and the contain the field data-req-mode-capab. data-req-mode-capab Shall be 0.</p> <p>[AND]</p> <p>The data-proto-info field shall be filled in with a PhdAssociationInformation structure and shall contain the fields data-req-init-* count =0</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_022
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '1000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16445 <input type="checkbox"/> data-rep-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '0000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id)) d. data-proto-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value=0x50 0x79 (20601) e. protocol-version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = Protocol Version <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value=0x80 0x00 0x00 0x00 f. encoding-rules <ul style="list-style-type: none"> <input type="checkbox"/> field-type = EncodingRules <input type="checkbox"/> field-length = 2 bytes (BITS-16) <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one can be supported at a time g. nomenclature version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) h. functional units <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8
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	<input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id	TP/PLT/MAN/CLASS/ST/BV-002		
TP label	Maximum APDU size: Strength		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_022		
Other PICS			
Initial condition	The manager under test is in the operating state.		
Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 64472 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'O } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2633 (MDC_ATTR_ENUM_OBS_VAL_SIMP_OID) attribute-value: 284 (MDC_MUSC_HEAD_FACIAL) } } } </pre>		

	<p style="text-align: center;">}</p> <ol style="list-style-type: none"> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

A.9 Subgroup 2.3.8: Activity hub (HUB)

TP Id	TP/PLT/MAN/CLASS/HUB/BV-003			
TP label	Association procedure manager HUB			
Coverage	Spec	[ISO/IEEE 11073-10471]		
	Testable items	AssocResp1;M	AssocResp2;M	AssocResp3;M
		AssocResp4;M	AssocResp5;M	AssocResp6;M
		AssocResp7;M	AssocResp8;M	AssocResp9;M
		AssocResp10;M	AssocResp11;M	
Test purpose	<p>Check that:</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601</p> <p>[AND]</p> <p>The data-PROTO-INFO field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p>			

	<p>The field data-req-mode-capab shall be 0 [AND] The fields data-req-init-*-count shall be 0</p>
Applicability	C_MAN_OXP_000 AND (C_MAN_OXP_021)
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '10000000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '000000001000000000000000000000000000'B <input type="checkbox"/> dev-config-id = 16441 <input type="checkbox"/> data-req-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '00000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id)) d. data-proto-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value=0x50 0x79 (20601)

- e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x80 0x00 0x00 0x00
- f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)
 - field-value= depends on the encoding rules supported/selected, but only one can be supported at a time
- g. nomenclature version
 - field- type = NomenclatureVersion
 - field-length = 4 bytes (BITS-32)
 - field-value= Bit 0 must be set (nom-version1)
- h. functional units
 - field-type = FunctionalUnits
 - field-length = 4 bytes (BITS-32)
 - field-value =
 - Bit 0 must be 0
 - Bits 1 and 2 may be set
 - The rest of the bits must not be set
- i. system type
 - field- type = SystemType
 - field-length = 4 bytes (BITS-32)
 - field-value = 0x80 0x00 0x00 0x00 (sys-type-manager)
- j. system-id
 - field- type = OCTET STRING
 - field-length = 8 bytes
 - field-value = (EUI-64 manufacturer and device)
- k. dev-config-id
 - field- type = ConfigId
 - field-length = 2 bytes
 - field-value = 0x00 0x00 (manager-config-response)
- l. data-req-mode-flags (DataReqModeCapab)
 - field- type = DataReqModeFlags
 - field-length = 2 bytes
 - field-value = 0x00 0x00
 - manager response to data-req-mode-flags is always 0.
- m. data-req-init-agent-count (DataReqModeCapab)
 - field- type = INT-U8
 - field-length = = 1 byte
 - field-value = 0x00
- n. data-req-init-manager-count (DataReqModeCapab)
 - field- type = INT-U8
 - field-length = = 1 byte

	<input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id		TP/PLT/MAN/CLASS/HUB/BV-004		
TP label		Maximum APDU size: Activity Hub		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	CommonCharac 4;M		
Test purpose		<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_021		
Other PICS				
Initial condition		The manager under test is in the operating state.		
Test procedure		<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 5080 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(5054 bytes)..... 00'0 } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2661 (MDC_ATTR_ENUM_OBS_VAL_SIMP_BIT_STR) attribute-value: 0x80 0x00 0x00 0x00 } } } </pre>		

	<p style="text-align: center;">}</p> <ol style="list-style-type: none"> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

A.10 Subgroup 2.3.9: Adherence monitor (AM)

TP Id	TP/PLT/MAN/CLASS/AM/BV-000		
TP label	Configuration Event Report. Adherence Monitor standard configuration 7200		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	ConfEventRep 18;M	
Test purpose	<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in an unassociated state.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test with dev-config-id set to 0x1c 0x20 (MedicalMonitor). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x1c 0x20. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	The manager can request Get MDS while they are in the associated state.

TP Id		TP/PLT/MAN/CLASS/AM/BV-001		
TP label		Configuration Event Report. Adherence Monitor standard configuration 7201		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state.		

<p>Test procedure</p>	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x1c 0x21 (MedicalMonitor). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x1c 0x21. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdpu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> 5. The simulated agent sends a fixed event report with one measurement.
<p>Pass/Fail criteria</p>	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
<p>Notes</p>	<p>The manager can request Get MDS while they are in the associated state.</p>

TP Id		TP/PLT/MAN/CLASS/AM/BV-002		
TP label		Configuration Event Report. Adherence Monitor standard configuration 7202		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test with dev-config-id set to 0x1c 0x22 (MedicalMonitor). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x1c 0x22. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	The manager can request Get MDS while they are in the associated state.

TP Id	TP/PLT/MAN/CLASS/AM/BV-003		
TP label	Configuration Event Report. Adherence Monitor standard configuration 7203		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	ConfEventRep 18;M	
Test purpose	<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in an unassociated state.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x1c 0x23 (MedicalMonitor). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x1c 0x23. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdpu) 		

	<ul style="list-style-type: none"> b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	The manager can request Get MDS while they are in the associated state.

TP Id	TP/PLT/MAN/CLASS/AM/BV-004		
TP label	Maximum APDU size: Adherence Monitor		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
Test purpose	<p>Check that:</p> <p>If a manager receives an APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			

Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 984 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(960 bytes)..... 00'O } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 3 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/AM/BV-005		
TP label	Attribute-Value-Map. Order change. (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage12; M	
Test purpose	Check that: For [Standard-Configuration, Fixed Dosage Medication Object] the [Attribute-Value-Map] attribute shall be present and with value MDC_ATTR_TIME_STAMP_ABS , then MDC_ATTR_NU_VAL_OBS_BASIC		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC. 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Fixed Dosage Medication Object) to reverse the values to:, MDC_ATTR_NU_VAL_OBS_BASIC then MDC_ATTR_TIME_STAMP_ABS. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the measurement followed by the date (absolute-time-stamp). 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_TIME_STAMP_ABS, then MDC_ATTR_NU_VAL_OBS_BASIC). The observation should be a reasonable Fixed Dosage Medication observation. 12. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). • When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/AM/BV-006		
TP label	Attribute-Value-Map. Order change. (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	VarDosage12; M	UserFeedback12; M

Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, Variable Dosage Medication Object] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_TIME_STAMP_ABS MDC_ATTR_NU_VAL_OBS_SIMP</p> <p>[AND]</p> <p>For [Standard-Configuration, User Feedback Object] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_TIME_STAMP_ABS MDC_ATTR_NU_CMPD_VAL_OBS_BASIC</p> <p>[AND]</p> <p>For [Standard-Configuration, Status Reporter Object] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_TIME_STAMP_ABS MDC_ATTR_ENUM_OBS_VAL_BASIC_BIT_STR</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of: <ul style="list-style-type: none"> • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_BASIC for Variable Dosage Medication Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_CMPD_VAL_OBS_BASIC for User Feedback Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_ENUM_OBS_VAL_BASIC_BIT_STR for Status Reporter Object 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 2 (Variable Dosage Medication Object), of handle 4 (User Feedback object) and of handle 3 (Status Reporter Object) to reverse the values to: <ul style="list-style-type: none"> • MDC_ATTR_NU_VAL_OBS_BASIC then MDC_ATTR_TIME_STAMP_ABS for Variable Dosage Medication Object • MDC_ATTR_NU_CMPD_VAL_OBS_BASIC then MDC_ATTR_TIME_STAMP_ABS for User Feedback Object • MDC_ATTR_ENUM_OBS_VAL_BASIC_BIT_STR then MDC_ATTR_TIME_STAMP_ABS for Status Reporter Object 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date (absolute-time-stamp) by a measurement data for every object. 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration.

	<ul style="list-style-type: none"> The simulated agent waits until there is a confirmation to the configuration event report that was sent. <p>11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (Observed value defined for every object, then MDC_ATTR_TIME_STAMP_ABS). The observations should be reasonable Variable Dosage Medication, User Feedback and Status Reporter values.</p> <p>12. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In steps 2, 6 and 12 verify that the manager under test uses ml as the unit code for Variable Dosage Medication report (or reports the proper value after conversion to another unit code). In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/AM/BV-007		
TP label	Metric-id-list. Standard configuration		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	UserFeedback9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, User Feedback Object]. Metric-Id List attribute shall be present and with value {MDC_AI_MED_UF_LOCATION, MDC_AI_MED_UF_RESPONSE}</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure	<p>1. The simulated agent sends a confirmed variable event report for handle 4 (user feedback) containing an observation with the compound field values (SFLOAT) set to (1, 0), for handle 2 containing an observation (FLOAT) of 3 and for handle 3 containing an observation (Enum-Observed-Value-Basic-Bit-Str) with bit 0 set to 1 (<i>A medication dosage was not dispensed within the regimen allowed timing</i>).</p> <p>2. The simulated agent waits until it receives a confirmation from the manager under test.</p>		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data and applies the data properly as User Feedback: location = 1, response = 0, Variable Dosage Medication= 3 and Status Reporter informing that medication dosage was not dispensed within the regimen allowed timing (bit 0 set to 1). 		
Notes			

TP Id		TP/PLT/MAN/CLASS/AM/BV-008		
TP label		Metric-id-list. Id order change – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	UserFeedback9; M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration, User Feedback Object]. Metric-Id List attribute shall be present and with value {MDC_AI_MED_UF_LOCATION, MDC_AI_MED_UF_RESPONSE}</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 4 (user feedback) setting MDC_ATTR_ID_PHYSIO_LIST to (MDC_AI_MED_UF_RESPONSE, then MDC_AI_MED_UF_LOCATION). 2. The simulated agent sends a confirmed fixed event report for handle 4 containing a time-stamp and an observation with the compound field values (SFLOAT) set to (2, 3), for handle 2 containing a time-stamp and observation for Variable Dosage Medication of 3ml and for handle 3 containing a time-stamp and observation for Status reporter (Bit 0 set to 1). 3. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and time stamp and applies the data (for compound value) properly as Location = 3, Response = 2. 		
Notes				

TP Id		TP/PLT/MAN/CLASS/AM/BV-009		
TP label		Metric-id-list. Id order change – variable format		
Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	UserFeedback9; M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration, User Feedback Object]. Metric-Id List attribute shall be present and with value {MDC_AI_MED_UF_LOCATION, MDC_AI_MED_UF_RESPONSE}</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 4 (user feedback) setting MDC_ATTR_ID_PHYSIO_LIST to (MDC_AI_MED_UF_RESPONSE, then MDC_AI_MED_UF_LOCATION). In a second observation scan, for handle 4 set the compound field values (SFLOAT) to (4, 5) along with a known time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data and time stamp and applies the data properly as Location = 5, Response = 4.
Notes	

TP Id	TP/PLT/MAN/CLASS/AM/BV-010		
TP label	Metric-id-list. Reduced ids – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	UserFeedback9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, User Feedback Object]. Metric-Id List attribute shall be present and with value {MDC_AI_MED_UF_LOCATION, MDC_AI_MED_UF_RESPONSE}</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 4 (user feedback) setting MDC_ATTR_ID_PHYSIO_LIST to (MDC_AI_MED_UF_LOCATION) and MDC_ATTR_ATTRIBUTE_VAL_MAP to { MDC_ATTR_TIME_STAMP_ABS, 8, MDC_ATTR_NU_CMPD_VAL_OBS_BASIC, 6}. The simulated agent sends a confirmed fixed event report for handle 4 containing an observation with the compound field values (SFLOAT) set to (5) along with a known time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data and time stamp and applies the data properly location=5. 		
Notes			

TP Id	TP/PLT/MAN/CLASS/AM/BV-011		
TP label	Metric-id-list. Reduced ids – variable format		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	UserFeedback9; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, User Feedback Object]. Metric-Id List attribute shall be present and with value {MDC_AI_MED_UF_LOCATION, MDC_AI_MED_UF_RESPONSE}.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 4 (user feedback) setting MDC_ATTR_ID_PHYSIO_LIST to (MDC_AI_MED_UF_LOCATION). 2. The simulated agent waits until it receives a confirmation from the manager under test. 3. The simulated agent sends a confirmed variable event report for handle 4 containing an observation with the compound field values (SFLOAT) set to (3.0) along with a known time stamp. 4. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data and time stamp and applies the data properly as location = 3.0.
Notes	

TP Id	TP/PLT/MAN/CLASS/AM/BV-012		
TP label	Special values. Not a number – fixed format (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage12; M	
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Fixed Dosage Medication Object) containing an observation with the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-013		
TP label	Special values. Not a number – variable format(0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage22; C	
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Fixed Dosage Medication Object) containing an observation with the value for NaN ([exponent 0, mantissa +$(2^{11}-1) = 0x07FF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/AM/BV-014	
TP label		Special values. Not at this resolution – fixed format(0x1c20)	
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage12; M	
Test purpose		<p>Check that:</p> <p>Manager receives NRes value (fixed format event report) but it does not use this value.</p>	
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016	
Other PICS			
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).	
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Fixed Dosage Medication) containing an observation with the value for NRes ([exponent 0, mantissa – $(2^{11}) = 0x0800$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 	
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 	
Notes		This test case has been considered as an implicit test case.	

TP Id		TP/PLT/MAN/CLASS/AM/BV-015	
TP label		Special values. Not at this resolution – variable format (0x1c20)	
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage22; C	
Test purpose		<p>Check that:</p> <p>Manager receives NRes value (variable format event report) but it does not use this value.</p>	
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016	
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Fixed Dosage Medication) containing an observation with the value for NRes ([exponent 0, mantissa – (2**11) = 0x0800]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/AM/BV-016		
TP label	Special values. Positive infinity – fixed format (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage12; M	
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 containing an observation with the value for positive infinity (+INFINITY, [exponent 0, mantissa +(2**11 –2) = 0x07FE]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-017		
TP label	Special values. Positive infinity – variable format(0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage22; C	
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Fixed Dosage Medication) containing an observation with the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**}11 -2) = 0x07FE$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/AM/BV-018		
TP label	Special values. Negative infinity – fixed format (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage12; M	
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Fixed Dosage Medication) containing an observation with the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**}11 -2) = 0x0802$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-019		
TP label	Special values. Negative infinity – variable format (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage22; C	
Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Fixed Dosage Medication) containing an observation with the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/AM/BV-020		
TP label	Special values. Reserved – fixed format (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage12; M	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Fixed Dosage Medication) containing an observation with the value that is reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-021		
TP label	Special values. Reserved – variable format (0x1c20)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	FixedDosage22; C	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c20).
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Fixed Dosage Medication) containing an observation with the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/AM/BV-022		
TP label	Special values. Not a number – fixed format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	VarDosage12; M	UserFeedback12; M
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$] for Variable Dosage Medication, and [exponent 0, mantissa $+(2^{11}-1) = 0x07FF$] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-023		
TP label	Special values. Not a number – variable format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	VarDosage20; C	UserFeedback23; C

Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{**}23 - 1) = 0x007FFFFFF$] for Variable Dosage Medication and [exponent 0, mantissa $+(2^{**}11 - 1) = 0x07FFF$] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/AM/BV-024		
TP label	Special values. Not at this resolution – fixed format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	VarDosage12; M	UserFeedback12; M
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for NRes ([exponent 0, mantissa $+(2^{**}23) = 0x00800000$] for Variable Dosage Medication and [exponent 0, mantissa $-(2^{**}11) = 0x0800$] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-025
TP label	Special values. Not at this resolution – variable format (0x1c23)

Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	VarDosage20; C	UserFeedback23; C	
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).			
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for NRes ([exponent 0, mantissa $+2^{23}$] = 0x00800000] for Variable Dosage Medication and [exponent 0, mantissa $-(2^{11})$] = 0x0800] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id	TP/PLT/MAN/CLASS/AM/BV-026			
TP label	Special values. Positive infinity – fixed format (0x1c23)			
Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	VarDosage12; M	UserFeedback12; M	
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).			
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+2^{23} - 2$] = 0x007FFFFE] for Variable Dosage Medication and [exponent 0, mantissa $+2^{11} - 2$] = 0x07FE] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id		TP/PLT/MAN/CLASS/AM/BV-027		
TP label		Special values. Positive infinity – variable format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	VarDosage20; C	UserFeedback23; C	
Test purpose		Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**}23 - 2) = 0x007FFFFE$] for Variable Dosage Medication and [exponent 0, mantissa $+(2^{**}11 - 2) = 0x07FE$] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/AM/BV-028		
TP label		Special values. Negative infinity – fixed format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	VarDosage12; M	UserFeedback12; M	
Test purpose		Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for negative infinity (-INFINITY, [exponent 0, mantissa $-(2^{**}23 - 2) = 0x00800002$] for Variable Dosage Medication and [exponent 0, mantissa $-(2^{**}11 - 2) = 0x0802$] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/AM/BV-029		
TP label	Special values. Negative infinity – variable format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	VarDosage20; C	UserFeedback23; C
Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for negative infinity ($-\text{INFINITY}$, [exponent 0, mantissa $-(2^{**23} - 2) = 0x00800002$] for Variable Dosage Medication and [exponent 0, mantissa $-(2^{**11} - 2) = 0x0802$] for User Feedback). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-030		
TP label	Special values. Reserved – fixed format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]	
	Testable items	VarDosage12; M	UserFeedback12; M
Test purpose	Check that: Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{**}23 - 1) = 0x00800001$] for Variable Dosage Medication and [exponent 0, mantissa $-(2^{**}11 - 1) = 0x0801$] for User Feedback). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/AM/BV-031		
TP label		Special values. Reserved – variable format (0x1c23)		
Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	VarDosage20; C	UserFeedback23; C	
Test purpose		<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_016		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (0x1c23).		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Variable Dosage Medication) and handle 4 (User Feedback) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{**}23 - 1) = 0x00800001$] for Variable Dosage Medication and [exponent 0, mantissa $-(2^{**}11 - 1) = 0x0801$] for User Feedback). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/AM/BV-032
TP label	Association procedure Manager AM

Coverage	Spec	[ISO/IEEE 11073-10472]		
	Testable items	MM_AssocReq9; M	MM_AssocResp1; M	MM_AssocResp2; M
		MM_AssocResp3; M	MM_AssocResp4; M	MM_AssocResp5; M
		MM_AssocResp6; M	MM_AssocResp7; M	MM_AssocResp8; M
		MM_AssocResp9; M	MM_AssocResp10; M	MM_AssocResp11; M
MM_AssocResp12; M				
Test purpose	<p>Check that:</p> <p>In the association response message sent by the Manager:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>The fields data-req-init-*-count shall be 0</p>			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_016			
Other PICS				
Initial condition	The manager is in the unassociated state.			

<p>Test procedure</p>	<ol style="list-style-type: none"> 1. The simulated agent sends an association request to the manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '10000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '1000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16481 <input type="checkbox"/> data-rep-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '0000000000000001'B ▪ data_req_init_agent_count = 1 ▪ data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 2. The manager under test sends an association response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = One of the following: <ul style="list-style-type: none"> ▪ If association is accepted, field-value=0x00 0x00. ▪ If association is rejected-permanent, field-value=0x00 0x01. ▪ If association is rejected-transient, field-value=0x00 0x02. ▪ If association is accepted-unknown-config, field-value=0x00 0x03. ▪ If association is rejected-no-common-protocol, field-value=0x00 0x04. ▪ If association is rejected-no-common-parameter, field-value=0x00 0x05. ▪ If association is rejected-unknown = 0x00 0x06. ▪ If association is rejected-unauthorized, field-value=0x00 0x07. ▪ If association is rejected-unsupported-assoc-version, field-value=0x00 0x08. c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id)) d. data-proto-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataProtold <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value=0x50 0x79 (20601) e. protocol-version <ul style="list-style-type: none"> <input type="checkbox"/> field- type = Protocol Version <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value=0x80 0x00 0x00 0x00 f. encoding-rules <ul style="list-style-type: none"> <input type="checkbox"/> field-type = EncodingRules <input type="checkbox"/> field-length = 2 bytes (BITS-16) <input type="checkbox"/> field-value= depends on the encoding rules supported/selected, but only one
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	<p>can be supported at a time</p> <p>g. nomenclature version</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = NomenclatureVersion <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value= Bit 0 must be set (nom-version1) <p>h. functional units</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-type = FunctionalUnits <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = <ul style="list-style-type: none"> ▪ Bit 0 must be 0 ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set <p>i. system type</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) <p>j. system-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) <p>k. dev-config-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) <p>l. data-req-mode-flags (DataReqModeCapab)</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. <p>m. data-req-init-agent-count (DataReqModeCapab)</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 <p>n. data-req-init-manager-count (DataReqModeCapab)</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A]. data-req-init-agent-count verification has been updated according to IEEE PHD errata. See http://continua.plugfests.com/show_bug.cgi?id=786 for further details.

A.11 Subgroup 2.3.11: Peak flow (PF)

TP Id		TP/PLT/MAN/CLASS/PF/BV-000		
TP label		Configuration Event Report. Peak Flow standard configuration 2100		
Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x08 0x34 (Peak Flow) 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x08 0x34. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdpu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX 		

	<p>e. Event-type:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	The manager can request Get MDS while they are in the associated state.

TP Id	TP/PLT/MAN/CLASS/PF/BV-001		
TP label	Maximum APDU size: Peak Flow		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next one apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The manager under test is in the operating state.		
Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 1996 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(1970 bytes)..... 00'0 } } </pre>		

	<pre> } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2646 (MDC_ATTR_NU_VAL_OBS_SIMP) attribute-value: 500 } } } </pre> <p>2. Check the response of the manager under test.</p> <p>3. The simulated agent sends a Confirmed fixed event report with one measurement.</p> <p>4. Check the response of the manager under test.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/PF/BV-002		
TP label	Attribute-Value-Map. Order change. (0x0834)		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF12; M	PersBest12; M
		ReadStatus12; M	FEV1S12; M
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, PEF object] the [Attribute-Value-Map] attribute shall be present. The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS</p> <p>[AND]</p> <p>For [Standard-Configuration, Personal Best object] the [Attribute-Value-Map] attribute shall be present. The value of the [Attribute-Value-Map] attribute shall be value MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS</p> <p>[AND]</p> <p>For [Standard-Configuration, FEV1] the [Attribute-Value-Map] attribute shall be present. The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS</p> <p>[AND]</p> <p>For [Standard-Configuration, Reading status] the [Attribute-Value-Map] attribute shall be present. The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC_BIT_STRING, then MDC_ATTR_TIME_STAMP_ABS</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of: <ul style="list-style-type: none"> • MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS for PEF Object • MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS for Personal Best Object • MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS for FEV1 Object • MDC_ATTR_NU_VAL_OBS_BASIC_BIT_STRING then MDC_ATTR_TIME_STAMP_ABS for Reading status Object 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (PEF Object), of handle 2 (Personal Best object), of handle 3 (FEV1 Object) and of handle 5 (Reading status Object) to reverse the values to: <ul style="list-style-type: none"> • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_SIMP for PEF Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_SIMP for Personal Best Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_SIMP for FEV1 Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_BASIC_BIT_STRING for Reading status Object 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date (absolute-time-stamp) by a measurement data for every object. 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (Observed value defined for every object, then MDC_ATTR_TIME_STAMP_ABS). The observations should be reasonable PEF, Personal Best, FEV1 and Reading status values. 12. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In steps 2, 6 and 12 verify that the manager under test uses l/min as the unit code for PEF and Personal best report, and it uses l as the unit code for FEV1 report (or reports the proper value after conversion to another unit code). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past).

	<ul style="list-style-type: none"> When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/PF/BV-003		
TP label	Special values. Not a number – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF12; M	PersBest12; M
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1(PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PF/BV-004		
TP label	Special values. Not a number – variable format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF20; C	PersBest20; C
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1(PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$]). The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurements are displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PF/BV-005		
TP label	Special values. Not at this resolution – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF12; M	PersBest12; M
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1(PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for NRes ([exponent 0, mantissa +$(2^{*23}) = 0x00800000$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurements are displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PF/BV-006		
TP label	Special values. Not at this resolution – variable format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF20; C	PersBest20; C
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1(PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for NRes ([exponent 0, mantissa +$(2^{*23}) = 0x00800000$]). The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PF/BV-007		
TP label	Special values. Positive infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF12; M	PersBest12; M
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{23} - 2) = 0x007FFFFE$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PF/BV-008		
TP label	Special values. Positive infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF20; C	PersBest20; C
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{23} - 2) = 0x007FFFFE$]). The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PF/BV-009		
TP label	Special values. Negative infinity – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF12; M	PersBest12; M
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1(PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for negative infinity (-INFINITY, [exponent 0, mantissa $-(2^{23} - 2) = 0x00800002$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PF/BV-010		
TP label	Special values. Negative infinity – variable format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF20; C	PersBest20; C
Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1(PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for negative infinity (-INFINITY, [exponent 0, mantissa $-(2^{23} - 2) = 0x00800002$]). The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PF/BV-011		
TP label	Special values. Reserved – fixed format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF12; M	PersBest12; M
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{23} - 1) = 0x00800001$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/PF/BV-012		
TP label	Special values. Reserved – variable format		
Coverage	Spec	[ISO/IEEE 11073-10421]	
	Testable items	PEF20; C	PersBest20; C
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_018		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration (0x0834).		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (PEF), handle 2 (Personal Best) and handle 3 (FEV1) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{23} - 1) = 0x00800001$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/PF/BV-013			
TP label	Association procedure Manager PF			
Coverage	Spec	[ISO/IEEE 11073-10421]		
	Testable items	PF_AssocResp1; M	PF_AssocResp2; M	PF_AssocResp3; M
		PF_AssocResp4; M	PF_AssocResp5; M	PF_AssocResp6; M
		PF_AssocResp7; M	PF_AssocResp8; M	PF_AssocResp9; M
		PF_AssocResp10; M	PF_AssocResp11; M	PF_AssocResp12; M
Test purpose	<p>Check that:</p> <p>In the association response message sent by the Manager:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-proto-id-20601</p> <p>[AND]</p> <p>The data-proto-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p>			

- field-length = 2 bytes
- field-value=0x50 0x79 (20601)
- e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x80 0x00 0x00 0x00
- f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)
 - field-value= depends on the encoding rules supported/selected, but only one can be supported at a time
- g. nomenclature version
 - field- type = NomenclatureVersion
 - field-length = 4 bytes (BITS-32)
 - field-value= Bit 0 must be set (nom-version1)
- h. functional units
 - field-type = FunctionalUnits
 - field-length = 4 bytes (BITS-32)
 - field-value =
 - Bit 0 must be 0
 - Bits 1 and 2 may be set
 - The rest of the bits must not be set
- i. system type
 - field- type = SystemType
 - field-length = 4 bytes (BITS-32)
 - field-value = 0x80 0x00 0x00 0x00 (sys-type-manager)
- j. system-id
 - field- type = OCTET STRING
 - field-length = 8 bytes
 - field-value = (EUI-64 manufacturer and device)
- k. dev-config-id
 - field- type = ConfigId
 - field-length = 2 bytes
 - field-value = 0x00 0x00 (manager-config-response)
- l. data-req-mode-flags (DataReqModeCapab)
 - field- type = DataReqModeFlags
 - field-length = 2 bytes
 - field-value = 0x00 0x00
 - manager response to data-req-mode-flags is always 0.
- m. data-req-init-agent-count (DataReqModeCapab)
 - field- type = INT-U8
 - field-length = = 1 byte
 - field-value = 0x00

	<ul style="list-style-type: none"> n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A]. data-req-init-agent-count verification has been updated according to IEEE PHD errata. See http://continua.plugfests.com/show_bug.cgi?id=787 for further details.

A.12 Subgroup 2.3.12: Body composition analyser (BCA)

TP Id	TP/PLT/MAN/CLASS/BCA/BV-000		
TP label	Configuration Event Report. Body Composition Analyser standard configuration 2000		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	ConfEventRep 18;M	
Test purpose	<p>Check that:</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS			
Initial condition	The simulated agent and the manager under test are in an unassociated state.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x07D0 (BCA). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x07D0. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value = it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	The manager can request Get MDS while they are in the associated state.

TP Id	TP/PLT/MAN/CLASS/BCA/BV-001		
TP label	Maximum APDU size: Body Composition Analyser		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4; M	
	Spec	[IEEE 11073-10420]	
	Testable items	CommChar1; M	
Test purpose	<p>Check that:</p> <p>If a manager receives an APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next one apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS			

Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 7696 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(7670 bytes)..... 00'O } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 70 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-002		
TP label	Attribute-Value-Map. Order change		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	WeightNumClass 21; M	BodyHeight22; M
Test purpose	Check that: For [Standard-Configuration, Body Weight] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS [AND]		

	<p>For [Standard-Configuration, Body Height] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS.</p> <p>[AND]</p> <p>For [Standard-Configuration, Body Fat object] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of: <ul style="list-style-type: none"> • MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS for Body Weight Object • MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS for Body Height Object • MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_ABS for Body Fat Object 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Body Weight Object), of handle 2 (Body Height object) and of handle 3 (Body Fat Object) to reverse the values to: <ul style="list-style-type: none"> • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_SIMP for Body Weight Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_SIMP for Body Height Object • MDC_ATTR_TIME_STAMP_ABS then MDC_ATTR_NU_VAL_OBS_SIMP for Body Fat Object 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date (absolute-time-stamp) by a measurement data for every object. 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (Observed value defined for every object, then MDC_ATTR_TIME_STAMP_ABS). The observations should be reasonable Body Weight, Body Height and Body Fat. 12. The simulated agent waits until it receives a confirmation.

Pass/Fail criteria	<ul style="list-style-type: none"> In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In steps 2, 6 and 12 verify that the manager under test uses kg as the unit code for Body Weight, it uses cm as the unit code for Body Height, and it uses % as the unit code for Body Fat report (or reports the proper value after conversion to another unit code). In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-003		
TP label	Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	WeightNumClass 21;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, Body Weight] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_NU_VAL_OBS_SIMP, then MDC_ATTR_TIME_STAMP_ABS</p> <p>Manager accepts the measurements (fixed format event report) and shows them correctly when the unit-code is changed.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration. (Body Weight Numeric standard configuration Unit code attribute is set to MDC_DIM_KILO_G)		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Body Weight Object) to set the values to: MDC_ATTR_NU_VAL_OBS_SIMP, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_ABS. The simulated agent waits until it receives a confirmation. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use pounds MDC_DIM_LB (1760). The simulated agent waits until it receives a confirmation. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_SIMP attribute. The simulated agent waits until it receives a confirmation. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). In steps 4 and 6, verify that the manager under test uses pounds as the unit code for the measurement reports.
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-004		
TP label	Unit-Code Body Weight. Change from default kilograms to pounds – fixed format observation.		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	WeightNumClass 19; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_001		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Body Weight Object) to pounds nomenclature code MDC_DIM_LB (1760). The simulated agent waits until it receives a confirmation. Send a confirmed fixed format event report using a measurement in pounds followed by date and time stamp. The simulated agent waits until it receives a confirmation. The simulated agent sends an association release request (normal). The simulated agent waits until it receives an association release response. The simulated agent sends an association request using the same configuration that was used initially. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> The simulated agent sends the confirmed configuration event report with the standard configuration. The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. The simulated agent sends a fixed event report with an observation in kilograms followed by date and time stamp. The simulated agent waits until it receives a confirmation. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies pounds to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). In step 10, verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-005		
TP label	Unit-Code Body Weight. Do not change from default kilograms to pounds – fixed format observation		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	WeightNumClass 19; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND (NOT(C_MAN_BCA_001))		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 1 (Body Weight Object) to pounds nomenclature code MDC_DIM_LB (1760). The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or until TO cer-mds expires. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in pounds followed by date and time stamp. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or TO cer-mds expires. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed. 		
Pass/Fail criteria	<ul style="list-style-type: none"> In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data. 		
Notes			

TP Id		TP/PLT/MAN/CLASS/BCA/BV-006		
TP label		Unit-Code Body Weight. Use default kilograms – variable format observation		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 19; M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. Send a confirmed variable format event report using a measurement in kilograms. 2. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes				

TP Id		TP/PLT/MAN/CLASS/BCA/BV-007		
TP label		Unit-Code Body Weight. Change from default kilograms to pounds – variable format observation		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 19; M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_KILO_G</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_001		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to pounds MDC_DIM_LB (1760) for handle 1 (Body Weight Object) and a measurement in pounds. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in pounds (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 		

	<p>7. The simulated agent sends an association request using the same configuration that was used initially.</p> <p>8. If the manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>9. The simulated agent sends a confirmed variable event report with an observation in kilograms followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to kilograms by the standard configuration).</p> <p>10. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies pounds to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-008		
TP label	Unit-Code Body Height. Change from default centimetres to inches – fixed format observation		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	BodyHeight20; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_CENTI_M.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_002		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 2 (Body Height Object) to inches nomenclature code MDC_DIM_INCH (1376). 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report using a measurement in inches followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 6. The simulated agent waits until it receives an association release response. 7. The simulated agent sends an association request using the same configuration that was used initially. 8. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. 		

	<ul style="list-style-type: none"> The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>9. The simulated agent sends a fixed event report with an observation in centimetres followed by date and time stamp.</p> <p>10. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies inches to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). In step 10, verify that the manager under test is able to accept the data properly and applies centimetres to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-009		
TP label	Unit-Code Body Height. Do not change from default centimetres to inches – fixed format observation		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	BodyHeight20; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_CENTI_M</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND (NOT(C_MAN_BCA_002))		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 2 (Body Height Object) to inches nomenclature code MDC_DIM_INCH (1376). The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or until TO cer-mds expires. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in inches followed by date and time stamp. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or TO cer-mds expires. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed. 		
Pass/Fail criteria	<ul style="list-style-type: none"> In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data. 		
Notes			

TP Id		TP/PLT/MAN/CLASS/BCA/BV-010		
TP label		Unit-Code Body Height. Use default centimetres – variable format observation		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	BodyHeight20; M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_CENTI_M</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. Send a confirmed variable format event report using a measurement in centimetres. 2. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies centimetres to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes				

TP Id		TP/PLT/MAN/CLASS/BCA/BV-011		
TP label		Unit-Code Body Height. Change from default centimetres to inches – variable format observation		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	BodyHeight20; M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_CENTI_M</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_002		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to inches MDC_DIM_INCH (1376) for handle 2 (Body Height Object) and a measurement in inches. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in inches (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends an association release request (normal). 		

	<p>6. The simulated agent waits until it receives an association release response.</p> <p>7. The simulated agent sends an association request using the same configuration that was used initially.</p> <p>8. If the manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>9. The simulated agent sends a confirmed variable event report with an observation in centimetres followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to kilograms by the standard configuration).</p> <p>10. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies inches to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 10, verify that the manager under test is able to accept the data properly and applies centimetres to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-012		
TP label	Unit-Code Body Fat. Change from default % to kilograms/pounds – fixed format observation		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	BodyFat21; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_PERCENT</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_003		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 3 (Body fat Object) to kilograms nomenclature code MDC_DIM_KILO_G (1731). 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report using a measurement in kilograms followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 3 (Body fat Object) to pounds nomenclature code MDC_DIM_LB (1760). 6. The simulated agent waits until it receives a confirmation. 7. Send a confirmed fixed format event report using a measurement in kilograms followed by date and time stamp. 8. The simulated agent waits until it receives a confirmation. 		

	<p>9. The simulated agent sends an association release request (normal).</p> <p>10. The simulated agent waits until it receives an association release response.</p> <p>11. The simulated agent sends an association request using the same configuration that was used initially.</p> <p>12. If the manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. <p>13. The simulated agent sends a fixed event report with an observation in % followed by date and time stamp.</p> <p>14. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies kilograms to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 8, verify that the manager under test is able to accept the data properly and applies pounds to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 14, verify that the manager under test is able to accept the data properly and applies % to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-013		
TP label	Unit-Code Body Fat. Do not change from default % to kilograms/pounds – fixed format observation		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	BodyFat21; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_PERCENT</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND (NOT(C_MAN_BCA_003))		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Unit-Code of handle 3 (Body Fat Object) to kilograms nomenclature code MDC_DIM_KILO_G (1731). 2. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or until TO cer-mds expires. 3. If the manager has sent a confirmation in step 2, send a confirmed fixed format event report using a measurement in inches followed by date and time stamp. 4. The simulated agent waits until it receives a confirmation, roer message, abrt message, release association or rorj message or TO cer-mds expires. 5. If the manager has sent a confirmation in step 4, ask to the operator if the measurements have been properly received and displayed.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. • In step 4, verify that manager sends a confirmation, or TOcer-mds expires, or manager sends a roer message, abrt message, release association or rorj message. • In step 5, verify that measurements do not appear, or if they do appear, they are somehow designated as 'unsupported' data.
Notes	

TP Id	TP/PLT/MAN/CLASS/BCA/BV-014		
TP label	Unit-Code Body Fat. Use default % – variable format observation		
Coverage	Spec	[IEEE 11073-10420]	
	Testable items	BodyFat21; M	
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_PERCENT		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report using a measurement in centimetres. 2. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies centimetres to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id	TP/PLT/MAN/CLASS/BCA/BV-015
TP label	Unit-Code Body Fat. Change from default % to kilograms/pounds – variable format observation

Coverage	Spec	[IEEE 11073-10420]	
	Testable items	BodyFat21; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_PERCENT</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_027 AND C_MAN_BCA_003		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report to set the unit code to kilograms MDC_DIM_KILO_G (1731) for handle 3 (Body Fat Object) and a measurement in kilograms. 2. The simulated agent waits until it receives a confirmation. 3. Send a second confirmed variable format event report with just a measurement in kilograms (i.e., do not transmit the unit-code attribute in the event report). 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed variable format event report to set the unit code to pounds MDC_DIM_LB (1760) for handle 3 (Body Fat Object) and a measurement in pounds. 6. The simulated agent waits until it receives a confirmation. 7. Send a second confirmed variable format event report with just a measurement in pounds (i.e., do not transmit the unit-code attribute in the event report). 8. The simulated agent waits until it receives a confirmation. 9. The simulated agent sends an association release request (normal). 10. The simulated agent waits until it receives an association release response. 11. The simulated agent sends an association request using the same configuration that was used initially. 12. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until it receives a confirmation from the confirmed configuration event report just sent. 13. The simulated agent sends a confirmed variable event report with an observation in % followed by date and time stamp (i.e., do not send the unit-code attribute it should be set to kilograms by the standard configuration). 14. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2 and 4, verify that the manager under test is able to accept the data properly and applies kilograms to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In steps 6 and 8, verify that the manager under test is able to accept the data properly and applies pounds to the observations (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). • In step 14, verify that the manager under test is able to accept the data properly and applies centimetres to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id		TP/PLT/MAN/CLASS/BCA/BV-016		
TP label		Special values. Not a number – fixed format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 21; M	BodyHeight22; M	BodyFat23; M
Test purpose		Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for NaN ([exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-017		
TP label		Special values. Not a number – variable format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 26; M	BodyHeight38; M	BodyFat39; M
Test purpose		Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for NaN ([exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFFFF$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-018		
TP label		Special values. Not at this resolution – fixed format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 21; M	BodyHeight22; M	BodyFat23; M
Test purpose		Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for NRes ([exponent 0, mantissa $+(2^{**}23) = 0x00800000$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-019		
TP label		Special values. Not at this resolution – variable format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 26; M	BodyHeight38; M	BodyFat39; M
Test purpose		Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for NRes ([exponent 0, mantissa $+(2^{**}23) = 0x00800000$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-020		
TP label		Special values. Positive infinity – fixed format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 21; M	BodyHeight22; M	BodyFat23; M
Test purpose		Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for positive infinity (+INFINITY, [exponent 0, mantissa +$(2^{23}-2) = 0x007FFFFE$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-021		
TP label		Special values. Positive infinity – variable format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 26; M	BodyHeight38; M	BodyFat39; M
Test purpose		Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for positive infinity (+INFINITY, [exponent 0, mantissa +$(2^{23}-2) = 0x007FFFFE$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		

Notes	This test case has been considered as an implicit test case.
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TP Id		TP/PLT/MAN/CLASS/BCA/BV-022		
TP label		Special values. Negative infinity – fixed format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 21; M	BodyHeight22; M	BodyFat23; M
Test purpose		Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{23}-2) = 0x00800002$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-023		
TP label		Special values. Negative infinity – variable format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 26; M	BodyHeight38; M	BodyFat39; M
Test purpose		Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{23}-2) = 0x00800002$]). The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/BCA/BV-024		
TP label		Special values. Reserved – fixed format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 21; M	BodyHeight22; M	BodyFat23; M
Test purpose		<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure		<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value that is reserved (Reserved for future use, [exponent 0, mantissa $-(2^{23}-1) = 0x00800001$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/BCA/BV-025		
TP label		Special values. Reserved – variable format		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	WeightNumClass 26; M	BodyHeight38; M	BodyFat39; M
Test purpose		<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_027		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Body Weight), handle 2 (Body Height) and handle 3 (Body Fat) containing an observation with the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{23}-1) = 0x00800001$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id		TP/PLT/MAN/CLASS/BCA/BV-026		
TP label		Association procedure Manager BCA		
Coverage	Spec	[IEEE 11073-10420]		
	Testable items	ManProcAsResp1; M	ManProcAsResp2; M	ManProcAsResp3; M
		ManProcAsResp4; M	ManProcAsResp5; M	ManProcAsResp6; M
		ManProcAsResp7; M	ManProcAsResp8; M	ManProcAsResp9; M
		ManProcAsResp10; M	ManProcAsResp11; M	ManProcAsResp12; M
		ManProcAsResp13; C		
Test purpose		<p>Check that:</p> <p>In the association response message sent by the Manager:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version1 (i.e., protocol-version = 0x80000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p>		

- d. data-proto-id
 - field- type = DataProtold
 - field-length = 2 bytes
 - field-value=0x50 0x79 (20601)
- e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x80 0x00
- f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)
 - field-value= depends on the encoding rules supported/selected, but only one can be supported at a time
- g. nomenclature version
 - field- type = NomenclatureVersion
 - field-length = 4 bytes (BITS-32)
 - field-value= Bit 0 must be set (nom-version1)
- h. functional units
 - field-type = FunctionalUnits
 - field-length = 4 bytes (BITS-32)
 - field-value =
 - Bit 0 must be 0
 - Bits 1 and 2 may be set
 - The rest of the bits must not be set
- i. system type
 - field- type = SystemType
 - field-length = 4 bytes (BITS-32)
 - field-value = 0x80 0x00 (sys-type-manager)
- j. system-id
 - field- type = OCTET STRING
 - field-length = 8 bytes
 - field-value = (EUI-64 manufacturer and device)
- k. dev-config-id
 - field- type = ConfigId
 - field-length = 2 bytes
 - field-value = 0x00 (manager-config-response)
- l. data-req-mode-flags (DataReqModeCapab)
 - field- type = DataReqModeFlags
 - field-length = 2 bytes
 - field-value = 0x00
 - manager response to data-req-mode-flags is always 0.
- m. data-req-init-agent-count (DataReqModeCapab)
 - field- type = INT-U8
 - field-length = = 1 byte

	<input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

A.13 Subgroup 2.3.13: Basic electrocardiograph (ECG)

TP Id	TP/PLT/MAN/CLASS/ECG/BV-000		
TP label	Configuration Event Report. Basic ECG specialization/Heart Rate profile standard configuration 600		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	ConfEventRep 18;M	
Test purpose	Check that: A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4. Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in an unassociated state.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x0258 (HR). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) If the result of the association response was "accepted-unknown-config" 3. The simulated agent sends a configuration event report with config-report-id set to 0x0258. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes 		

	<ul style="list-style-type: none"> <input type="checkbox"/> field-value = it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	The manager can request Get MDS while they are in the associated state.

TP Id	TP/PLT/MAN/CLASS/ECG/BV-001		
TP label	Maximum APDU size: Basic ECG specialization/Heart Rate profile without PM-Store		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[IEEE 11073-10406]	
	Testable items	CommChar1; M	
Test purpose	<p>Check that:</p> <p>If a manager receives an APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			

Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 1248 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(1224 bytes)..... 00'O } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (2646 (MDC_ATTR_NU_VAL_OBS_BASIC)) attribute-value: 79 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed fixed event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/ECG/BV-002		
TP label	Maximum APDU size: Basic ECG specialization/ Simple ECG profile without PM-Store		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[IEEE 11073-10406]	
	Testable items	CommChar1; M	

Test purpose	<p>Check that:</p> <p>If a manager receives an APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_030
Other PICS	
Initial condition	The manager under test is in the operating state.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 7136 <pre> ObservationScan ::= { obj-handle: 9 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(7112 bytes)..... 00'0 } } } ObservationScan ::= { obj-handle: 9 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2454 (MDC_ATTR_UNIT_CODE) attribute-value: 2194 (MDC_DIM_MILLI_VOLT) } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed variable event report with one attribute update. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/ECG/BV-003
TP label	Maximum APDU size: Basic ECG Specialization/Heart Rate profile with PM-Store

Coverage	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	CommonCharac 4;M		
	Spec	[IEEE 11073-10406]		
	Testable items	CommChar1; M		
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_003 AND C_MAN_OXP_029			
Other PICS				
Initial condition	The manager under test is in the operating state.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> <input type="checkbox"/> Count = 2 <input type="checkbox"/> Length = 64472 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'0 } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 79 } } } </pre> 2. Check the response of the manager under test. 3. The simulated agent sends a confirmed fixed format event report with one measurement. 4. Check the response of the manager under test. 			

Pass/Fail criteria	<ul style="list-style-type: none"> In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/ECG/BV-004		
TP label	Maximum APDU size: Basic ECG/Simple ECG profile with PM-Store		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[IEEE 11073-10406]	
	Testable items	CommChar1; M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_003 AND C_MAN_OXP_030		
Other PICS			
Initial condition	The manager under test is in the operating state.		
Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count = 2 <input type="checkbox"/> Length = 64472 <pre> ObservationScan ::= { obj-handle: 9 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'0 } } } ObservationScan ::= { obj-handle: 9 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2454 (MDC_ATTR_UNIT_CODE) attribute-value: 2194 (MDC_DIM_MILLI_VOLT) } } } </pre>		

	<pre> } } </pre> <ol style="list-style-type: none"> 2. Check the response of the manager under test. 3. The simulated agent sends a Confirmed variable event report with one attribute update. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/ECG/BV-005		
TP label	Basic ECG Specialization/Heart Rate profile. Attribute-Value-Map. Order change		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate22; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_REL</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of: <ul style="list-style-type: none"> – MDC_ATTR_NU_VAL_OBS_BASIC then MDC_ATTR_TIME_STAMP_REL for Heart Rate Object 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Heart Rate Object) to reverse the values to: <ul style="list-style-type: none"> – MDC_ATTR_TIME_STAMP_REL then MDC_ATTR_NU_VAL_OBS_BASIC for Heart Rate Object 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date (relative-time-stamp) by a measurement data for Heart Rate Object. 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the 		

	<p>standard configuration.</p> <ul style="list-style-type: none"> The simulated agent waits until there is a confirmation to the configuration event report that was sent. <p>11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_BASIC then MDC_ATTR_TIME_STAMP_REL). The observations should be reasonable Heart Rate.</p> <p>12. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In steps 2, 6 and 12 verify that the manager under test uses beats/min as the unit code for Heart Rate (or reports the proper value after conversion to another unit code). In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/ECG/BV-006		
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Not a number – fixed format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate22; M	
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 1 (Heart Rate Object) containing an observation value with the value for NaN ([exponent 0, mantissa $+(2^{11} - 1) = 0x07FF$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/ECG/BV-007
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Not a number – variable format (Std Config 600)

Coverage	Spec	[IEEE 11073-10406]		
	Testable items	HeartRate44; M		
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Heart Rate Object) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 			
Notes	This test case has been considered as an implicit test case.			

TP Id	TP/PLT/MAN/CLASS/ECG/BV-008			
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Not at this resolution – fixed format (Std Config 600)			
Coverage	Spec	[IEEE 11073-10406]		
	Testable items	HeartRate22; M		
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Heart Rate Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{11}) = 0x0800$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

TP Id		TP/PLT/MAN/CLASS/ECG/BV-009		
TP label		Basic ECG Specialization/Heart Rate profile. Special values. Not at this resolution – variable format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]		
	Testable items	HeartRate44; M		
Test purpose		Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 600.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Heart Rate Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/ECG/BV-010		
TP label		Basic ECG Specialization/Heart Rate profile. Special values. Positive infinity – fixed format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]		
	Testable items	HeartRate22; M		
Test purpose		Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration 600.		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Heart Rate Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**11} -2) = 0x07FE$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		

Notes	This test case has been considered as an implicit test case.		
TP Id	TP/PLT/MAN/CLASS/ECG/BV-011		
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Positive infinity – variable format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate44; M	
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Heart Rate Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**}11 -2) = 0x07FE$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/ECG/BV-012		
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Negative infinity – fixed format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate22; M	
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Heart Rate Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**}11 -2) = 0x0802$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		

Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/ECG/BV-013		
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Negative infinity – variable format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate44; M	
Test purpose	<p>Check that:</p> <p>Manager receives a - INFINITY value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 1 (Heart Rate Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**11} - 2) = 0x0802$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/ECG/BV-014		
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Reserved – fixed format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate22; M	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 600.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (Heart Rate Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/ECG/BV-015		
TP label	Basic ECG Specialization/Heart Rate profile. Special values. Reserved – variable format (Std Config 600)		
Coverage	Spec	[IEEE 11073-10406]	
	Testable items	HeartRate44; M	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_029		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1701.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (Heart Rate Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/ECG/BV-016			
TP label	Association procedure Manager ECG			
Coverage	Spec	[IEEE 11073-10406]		
	Testable items	ManProcAsResp1; M	ManProcAsResp2; M	ManProcAsResp3; M
		ManProcAsResp4; M	ManProcAsResp6; M	ManProcAsResp7; M
		ManProcAsResp8; M	ManProcAsResp9; M	ManProcAsResp10; M
		ManProcAsResp11; M	ManProcAsResp12; M	ManProcAsResp13; M
		ManProcAsResp14; C		

Test purpose	<p>Check that:</p> <p>In the association response message sent by the Manager:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version2 (i.e., protocol-version = 0x40000000)</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>5.1.12 The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>The fields data-req-init-*-count shall be 0</p>
Applicability	C_MAN_OXP_000 AND (C_MAN_OXP_029 OR C_MAN_OXP_030)
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<p>1. The simulated agent sends an association request to the manager under test, with the fields:</p> <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '01000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '1000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16481 <input type="checkbox"/> data-req-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '00000000000000001'B

- data_req_init_agent_count = 1
 - data_req_init_manager_count = 0
 - option-list.length=0
2. The manager under test sends an association response. The fields of interest are:
- a. APDU Type
 - field-length = 2 bytes
 - field-value = 0xE3 0x00 (AareApdu)
 - b. Result
 - field- type = AssociateResult
 - field-length = 2 bytes
 - field-value = One of the following:
 - If association is accepted, field-value=0x00 0x00.
 - If association is rejected-permanent, field-value=0x00 0x01.
 - If association is rejected-transient, field-value=0x00 0x02.
 - If association is accepted-unknown-config, field-value=0x00 0x03.
 - If association is rejected-no-common-protocol, field-value=0x00 0x04.
 - If association is rejected-no-common-parameter, field-value=0x00 0x05.
 - If association is rejected-unknown = 0x00 0x06.
 - If association is rejected-unauthorized, field-value=0x00 0x07.
 - If association is rejected-unsupported-assoc-version, field-value=0x00 0x08.
 - c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))
 - d. data-proto-id
 - field- type = DataProtold
 - field-length = 2 bytes
 - field-value=0x50 0x79 (20601)
 - e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x40 0x00 0x00 0x00
 - f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)
 - field-value= depends on the encoding rules supported/selected, but only one can be supported at a time
 - g. nomenclature version
 - field- type = NomenclatureVersion
 - field-length = 4 bytes (BITS-32)
 - field-value= Bit 0 must be set (nom-version1)
 - h. functional units
 - field-type = FunctionalUnits
 - field-length = 4 bytes (BITS-32)
 - field-value =
 - Bit 0 must be 0

	<ul style="list-style-type: none"> ▪ Bits 1 and 2 may be set ▪ The rest of the bits must not be set <p>i. system type</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) <p>j. system-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) <p>k. dev-config-id</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) <p>l. data-req-mode-flags (DataReqModeCapab)</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. <p>m. data-req-init-agent-count (DataReqModeCapab)</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 <p>n. data-req-init-manager-count (DataReqModeCapab)</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

A.14 Subgroup 2.3.14: International normalized ratio (INR)

TP Id		TP/PLT/MAN/CLASS/INR/BV-000		
TP label		Association procedure Manager INR		
Coverage	Spec	[IEEE 11073-10418]		
	Testable items	ManProcAs 1;M	ManProcAs 2;M	ManProcAs 3;M
		ManProcAs 4;M	ManProcAs 5;M	ManProcAs 6;M
		ManProcAs 7;M	ManProcAs 8;M	ManProcAs 9;M
		ManProcAs 10;M	ManProcAs 11;M	ManProcAs 12;M

Test purpose	<p>Check that:</p> <p>The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601.</p> <p>[AND]</p> <p>In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601.</p> <p>[AND]</p> <p>The data-protocol-info field shall be filled in with a PhdAssociationInformation structure</p> <p>[AND]</p> <p>The version of the data exchange protocol shall be set to protocol-version 2</p> <p>[AND]</p> <p>The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules</p> <p>[AND]</p> <p>The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND]</p> <p>The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND]</p> <p>The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND]</p> <p>The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND]</p> <p>The field dev-config-id shall be manager-config-response (0)</p> <p>[AND]</p> <p>5.1.13 The field data-req-mode-capab shall be 0</p> <p>[AND]</p> <p>5.1.14 If the agent supports only the INR specialization, data-req-init-agent-count shall be set to 0 and data-req-init-manager-count shall be set to 0.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The manager is in the unassociated state.
Test procedure	<p>1. The simulated agent sends an association request to the manager under test, with the fields:</p> <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '01000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '10000000000000000000000000000000'B <input type="checkbox"/> nomenclature-version = '1000'B <input type="checkbox"/> functional-units = '00'B <input type="checkbox"/> system-type = '000000001000'B <input type="checkbox"/> dev-config-id = 16440 <input type="checkbox"/> data-req-mode-capab = <ul style="list-style-type: none"> ▪ data_req_mode_flags= '00'B ▪ data_req_init_agent_count = 1

- data_req_init_manager_count =0
- option-list.length=0
- 2. The manager under test sends an association response. The fields of interest are:
 - a. APDU Type
 - field-length = 2 bytes
 - field-value = 0xE3 0x00 (AareApdu)
 - b. Result
 - field- type = AssociateResult
 - field-length = 2 bytes
 - field-value = One of the following:
 - If association is accepted, field-value=0x00 0x00.
 - If association is rejected-permanent, field-value=0x00 0x01.
 - If association is rejected-transient, field-value=0x00 0x02.
 - If association is accepted-unknown-config, field-value=0x00 0x03.
 - If association is rejected-no-common-protocol, field-value=0x00 0x04.
 - If association is rejected-no-common-parameter, field-value=0x00 0x05.
 - If association is rejected-unknown = 0x00 0x06.
 - If association is rejected-unauthorized, field-value=0x00 0x07.
 - If association is rejected-unsupported-assoc-version, field-value=0x00 0x08.
 - c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))
 - d. data-proto-id
 - field- type = DataProtold
 - field-length = 2 bytes
 - field-value=0x50 0x79 (20601)
 - e. protocol-version
 - field- type = Protocol Version
 - field-length = 4 bytes (BITS-32)
 - field-value=0x80 0x00 0x00 0x00
 - f. encoding-rules
 - field-type = EncodingRules
 - field-length = 2 bytes (BITS-16)
 - field-value= depends on the encoding rules supported/selected, but only one can be supported at a time
 - g. nomenclature version
 - field- type = NomenclatureVersion
 - field-length = 4 bytes (BITS-32)
 - field-value= Bit 0 must be set (nom-version1)
 - h. functional units
 - field-type = FunctionalUnits
 - field-length = 4 bytes (BITS-32)
 - field-value =
 - Bit 0 must be 0
 - Bits 1 and 2 may be set

	<ul style="list-style-type: none"> ▪ The rest of the bits must not be set <ul style="list-style-type: none"> i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field-value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0x00 0x00 <input type="checkbox"/> manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 byte <input type="checkbox"/> field-value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	Value for protocol-version has been modified according to [ISO/IEEE 11073-20601A].

TP Id	TP/PLT/MAN/CLASS/INR/BV-001			
TP label	Configuration Event Report. INR monitor standard configuration 1800			
Coverage	Spec	[IEEE 11073-10418]		
	Testable items	ConfProc 4;M	MDSEvents 2;M	ObjAccServ 5;M
	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		

Test purpose	<p>Check that:</p> <p>The Manager shall respond to a configuration notification message using a "Remote Operation Response Confirmed Event Report" data message with an MDC_NOTI_CONFIG event using the ConfigReportRsp structure for the event-info field .</p> <p>[AND]</p> <p>A Manager shall support both single-person and multi-person event reports.</p> <p>[AND]</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>[AND]</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in an unassociated state. The simulated agent implements an INR monitor device specialization with standard configuration 1800.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x07 0x08 (INR monitor – Std Config 1800) 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x07 0x08. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value= it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX

	<p>e. Event-type:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicate:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> <p>5. The simulated agent sends a fixed event report with one INR measurement.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
Notes	

TP Id		TP/PLT/MAN/CLASS/INR/BV-002		
TP label		Configuration Event Report. Glucose Meter standard configuration 1801		
Coverage	Spec	[IEEE 11073-10418]		
	Testable items	ConfProc 4;M	MDSEvents 2;M	ObjAccServ 5;M
	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		
Test purpose		<p>Check that:</p> <p>The Manager shall respond to a configuration notification message using a "Remote Operation Response Confirmed Event Report" data message with an MDC_NOTI_CONFIG event using the ConfigReportRsp structure for the event-info field .</p> <p>[AND]</p> <p>A Manager shall support both single-person and multi-person event reports.</p> <p>[AND]</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>[AND]</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS				
Initial condition		The simulated agent and the manager under test are in an unassociated state. The simulated agent implements an INR monitor device specialization with standard configuration 1801.		

<p>Test procedure</p>	<ol style="list-style-type: none"> 1. The simulated agent test sends an association request to the manager under test with dev-config-id set to 0x07 0x09 (INR monitor – Std Config 1801). 2. The manager under test responds with an association response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unknown-config) <p>If the result of the association response was "accepted-unknown-config"</p> 3. The simulated agent sends a configuration event report with config-report-id set to 0x06 0xA5. 4. The manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstAdpu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = it must be the same as the invoke-id of the simulated agent's message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 d. Event-time: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX e. Event-type: <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG f. The following six bytes indicate: <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same as config-report-id of the simulated agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until the operating state is reached in both cases.</p> 5. The simulated agent sends a fixed event report with one INR measurement and other fixed event report with Control Solution measurement.
<p>Pass/Fail criteria</p>	<ul style="list-style-type: none"> • The manager under test must respond either to the association request with an "accepted" message or to the Configuration Event Report with an "accepted-config". • The measurement is correctly presented.
<p>Notes</p>	

TP Id	TP/PLT/MAN/CLASS/INR/BV-003		
TP label	Maximum APDU size: INR monitor without PM-Store		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[IEEE 11073-10418]	
	Testable items	ComChar 2; M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The manager under test is in the operating state.		
Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count =2 <input type="checkbox"/> Length = 856 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(832 bytes)..... 00'0 } } } ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 1 } } } </pre> <p>2. Check the response of the manager under test.</p>		

	<p>3. The simulated agent sends a confirmed fixed format event report with one measurement.</p> <p>4. Check the response of the manager under test.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/INR/BV-004		
TP label	Maximum APDU size: INR monitor with PM-Store		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[IEEE 11073-10418]	
	Testable items	ComChar 2; M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067 AND C_MAN_OXP_003		
Other PICS			
Initial condition	The manager under test is in the operating state.		
Test procedure	<p>1. The simulated agent sends a Confirmed variable event report:</p> <p>a. ScanReportInfoVar. obs_scan_var:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Count = 2 <input type="checkbox"/> Length = 64472 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'0 } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { </pre>		

	<pre> attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 1 } } } </pre> <ol style="list-style-type: none"> 2. Check the response of the manager under test. 3. The simulated agent sends a confirmed fixed format event report with one measurement. 4. Check the response of the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the manager under test must respond with a "rors-cmip-confirmed-event-report". • In step 4 the manager under test must respond with a "rors-cmip-confirmed-event-report".
Notes	

TP Id	TP/PLT/MAN/CLASS/INR/BV-005		
TP label	INR Attribute-Value-Map. Order change		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10; M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_BO. 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (INR Object) to reverse the values to: MDC_ATTR_TIME_STAMP_BO, then MDC_ATTR_NU_VAL_OBS_BASIC. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date first followed by an INR value. 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. 		

	<ul style="list-style-type: none"> The simulated agent waits until there is a confirmation to the configuration event report that was sent. <p>11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_BO). The observation should be a reasonable INR observation.</p> <p>12. The simulated agent waits until it receives a confirmation.</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In steps 2, 6 and 12 verify that the manager under test uses INR unit as the unit code for the measurement report (or reports the proper value after conversion to another unit code). In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/INR/BV-006		
TP label	INR Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration. (INR Numeric standard configuration Unit code attribute is set to MDC_DIM_INR)		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (INR Object) to set the values to: MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_BO. The simulated agent waits until it receives a confirmation. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use MDC_DIM_INR (6608). The simulated agent waits until it receives a confirmation. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_BASIC attribute. The simulated agent waits until it receives a confirmation. 		

Pass/Fail criteria	<ul style="list-style-type: none"> In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). In steps 4 and 6, verify that the manager under test uses INR unit as the unit code for the measurement reports.
Notes	

TP Id	TP/PLT/MAN/CLASS/INR/BV-007		
TP label	INR Unit-Code. Use default INR units – variable format observation		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 8;M	
Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_INR		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> Send a confirmed variable format event report using a measurement in INR unit. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data properly and applies INR unit to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units). 		
Notes			

TP Id	TP/PLT/MAN/CLASS/INR/BV-008		
TP label	Special values. Not a number – fixed format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10; M	
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.		

Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (INR Object) containing an observation value with the value for NaN ([exponent 0, mantissa $+(2^{**11} - 1) = 0x07FF$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-009		
TP label	Special values. Not a number – variable format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 20; R	
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (INR Object) containing an observation value set to the value for NaN ([exponent 0, mantissa $+(2^{**11} - 1) = 0x07FF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-010		
TP label	Special values. Not at this resolution – fixed format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10; M	
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (INR Object) containing an observation value set to the value for NRes ([exponent 0, mantissa – (2**11) = 0x0800]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-011		
TP label	Special values. Not at this resolution – variable format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 20; R	
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (INR Object) containing an observation value set to the value for NRes ([exponent 0, mantissa – (2**11) = 0x0800]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-012		
TP label	Special values. Positive infinity – fixed format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10; M	
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (INR Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**11} - 2) = 0x07FE$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-013		
TP label	Special values. Positive infinity – variable format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 20; R	
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (INR Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**11} - 2) = 0x07FE$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-014		
TP label	Special values. Negative infinity – fixed format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10; M	
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			

Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (INR Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**11} - 2) = 0x0802$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-015		
TP label	Special values. Negative infinity – variable format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 20; R	
Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (INR Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{**11} - 2) = 0x0802$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-016		
TP label	Special values. Reserved – fixed format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 10; M	
Test purpose	Check that: Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		

Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 1 (INR Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11} - 1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-017		
TP label	Special values. Reserved – variable format (Std Config 1800)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	INR 20; R	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1800.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 1 (INR Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11} - 1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-018		
TP label	Control Calibration Attribute-Value-Map. Order change		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 7;M	

Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a Control Solution confirmed fixed format event report that matches the Attribute-Value-Map order of MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_BO. 2. The simulated agent waits until it receives a confirmation. 3. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 2 (Control Calibration Object) to reverse the values to: MDC_ATTR_TIME_STAMP_BO, then MDC_ATTR_NU_VAL_OBS_BASIC. 4. The simulated agent waits until it receives a confirmation. 5. Send a confirmed fixed format event report with the date first followed by a control calibration value (in INR units since it is the standard configuration unit code). 6. The simulated agent waits until it receives a confirmation. 7. The simulated agent sends an association release request (normal). 8. The simulated agent waits until there is an association release response. 9. The simulated agent sends an association request using the same standard configuration that was used previously. 10. If the manager under test responds with association request response with "accepted-unknown-config", then <ul style="list-style-type: none"> • The simulated agent sends the confirmed configuration event report with the standard configuration. • The simulated agent waits until there is a confirmation to the configuration event report that was sent. 11. The simulated agent sends a fixed event report following the standard configuration attribute-value-format (MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_BO). The observation should be a reasonable INR units INR observation. 12. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • In steps 2, 6 and 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In steps 2, 6 and 12 verify that the manager under test uses INR units as the unit code for the measurement report (or reports the proper value after conversion to another unit code). • In steps 2, 6 and 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). • When automated, it is necessary to be careful about sending these messages back to back since the ability to look at things like an UI may require that there be pauses for operator verification.
Notes	

TP Id		TP/PLT/MAN/CLASS/INR/BV-019		
TP label		Control Calibration Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[IEEE 11073-10418]		
	Testable items	CtrlCal 7;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO</p>		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS				
Initial condition		The simulated agent and the manager under test are in the operating state using the standard configuration (Control Calibration Numeric standard configuration Unit code attribute is set to MDC_DIM_INR).		
Test procedure		<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 2 (Control Calibration Object) to set the values to: MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_BO. 2. The simulated agent waits until it receives a confirmation. 3. Send a confirmed fixed format event report with the new data layout. For the unit-code attribute, use MDC_DIM_INR (6608). 4. The simulated agent waits until it receives a confirmation. 5. The simulated agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_BASIC attribute. 6. The simulated agent waits until it receives a confirmation. 		
Pass/Fail criteria		<ul style="list-style-type: none"> • In step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement and date are displayed properly). • In step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI, verify that the measurement is displayed properly). • In steps 4 and 6, verify that the manager under test uses INR units as the unit code for the measurement reports. 		
Notes				

TP Id		TP/PLT/MAN/CLASS/INR/BV-020		
TP label		Control Calibration Unit-Code. Use default INR units – variable format observation		
Coverage	Spec	[IEEE 11073-10418]		
	Testable items	CtrlCal 6;M		
Test purpose		<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_INR</p>		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Send a confirmed variable format event report using a measurement in INR units. 2. The simulated agent waits until it receives a confirmation.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data properly and applies INR units to the observation (e.g. if there is a UI, verify that the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/INR/BV-021		
TP label	Special values. Not a number – fixed format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 7; M	
Test purpose	<p>Check that:</p> <p>Manager receives a NaN value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Calibration Object) containing an observation value with the value for NaN ([exponent 0, mantissa $+(2^{11}-1) = 0x07FF$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-022		
TP label	Special values. Not at this resolution – fixed format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 7; M	
Test purpose	<p>Check that:</p> <p>Manager receives NRes value (fixed format event report) but it does not use this value.</p>		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 2 (Control Calibration Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $-(2^{**11}) = 0x0800$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-023		
TP label	Special values. Positive infinity – fixed format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 7; M	
Test purpose	Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed fixed event report for handle 2 (Control Calibration Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**11} - 2) = 0x07FE$]) and a time stamp. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-024		
TP label	Special values. Negative infinity – fixed format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 7; M	
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		

Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Calibration Object) containing an observation value set to the value for negative infinity (–INFINITY, [exponent 0, mantissa $-(2^{11}-2) = 0x0802$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-025		
TP label	Special values. Reserved – fixed format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 7; M	
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed fixed event report for handle 2 (Control Calibration Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]) and a time stamp. 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-026		
TP label	Special values. Not a number – variable format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 13; R	

Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Calibration Object) containing an observation value set to the value for NaN ([exponent 0, mantissa $+ (2^{11} - 1) = 0x07FF$]). 2. The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-027		
TP label	Special values. Not at this resolution – variable format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 13; R	
Test purpose	Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.		
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Calibration Object) containing an observation value set to the value for NRes ([exponent 0, mantissa $- (2^{11}) = 0x0800$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-028		
TP label	Special values. Positive infinity – variable format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 13; R	

Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067
Other PICS	
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 2 (Control Calibration Object) containing an observation value set to the value for positive infinity (+INFINITY, [exponent 0, mantissa $+(2^{**}11 -2) = 0x07FE$]). The simulated agent waits until it receives a confirmation from the manager under test.
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/INR/BV-029		
TP label	Special values. Negative infinity – variable format (Std Config 1801)		
Coverage	Spec	[IEEE 11073-10418]	
	Testable items	CtrlCal 13; R	
Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067		
Other PICS			
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.		
Test procedure	<ol style="list-style-type: none"> The simulated agent sends a confirmed variable event report for handle 2 (Control Calibration Object) containing an observation value set to the value for negative infinity (-INFINITY, [exponent 0, mantissa $-(2^{**}11 -2) = 0x0802$]). The simulated agent waits until it receives a confirmation from the manager under test. 		
Pass/Fail criteria	<ul style="list-style-type: none"> Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/INR/BV-030
TP label	Special values. Reserved – variable format (Std Config 1801)

Coverage	Spec	[IEEE 11073-10418]		
	Testable items	CtrlCal 13; R		
Test purpose	Check that: Manager receives a Reserved for future use value (variable format event report) but it does not use this value.			
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_067			
Other PICS				
Initial condition	The simulated agent and the manager under test are in the operating state using the standard configuration 1801.			
Test procedure	<ol style="list-style-type: none"> 1. The simulated agent sends a confirmed variable event report for handle 2 (Control Calibration Object) containing an observation value set to the value for reserved (Reserved for future use, [exponent 0, mantissa $-(2^{11}-1) = 0x0801$]). 2. The simulated agent waits until it receives a confirmation from the manager under test. 			
Pass/Fail criteria	<ul style="list-style-type: none"> • Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI, verify that the measurement is displayed in some form that indicates it is not a measurement). 			
Notes	This test case has been considered as an implicit test case.			

A.15 Subgroup 2.3.15: Sleep Apnoea Breathing Therapy Equipment (SABTE)

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-000			
TP label	Association procedure Manager SABTE			
Coverage	Spec	[ISO/IEEE 11073-10424]		
	Testable items	ManProcAs 1;M	ManProcAs 2;M	ManProcAs 3;M
		ManProcAs 4;M	ManProcAs 5;M	ManProcAs 6;M
		ManProcAs 7;M	ManProcAs 8;M	ManProcAs 9;M
		ManProcAs 10;M	ManProcAs 11;M	ManProcAs 12;M
Test purpose	Check that: The result field shall be set to an appropriate response from those defined in ISO/IEEE P11073-20601. [AND] In the DataProtoList structure element, the data protocol identifier shall be set to data-protocol-id-20601. [AND] The data-protocol-info field shall be filled in with a PhdAssociationInformation structure [AND] The version of the data exchange protocol shall be set to protocol-version 2 [AND] The Manager shall respond with a single selected encoding rule that is supported by both Agent and Manager. The Manager shall support at least the MDER encoding rules			

	<p>[AND] The version of the nomenclature used shall be set to nom-version1 (i.e., nomenclature-version = 0x80000000)</p> <p>[AND] The field functional-units shall have all bits reset except for those relating to a Test Association.</p> <p>[AND] The field system-type shall be set to sys-type-manager (i.e., system-type = 0x80000000)</p> <p>[AND] The System-Id field shall contain the unique system id of the Manager device, which shall be a valid EUI-64 type identifier</p> <p>[AND] The field dev-config-id shall be manager-config-response (0)</p> <p>[AND] 5.1.15 The field data-req-mode-capab shall be 0</p> <p>[AND] 5..116 If the agent supports only the SABTE specialization, data-req-init-agent-count shall be set to 0 and data-req-init-manager-count shall be set to 0.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069
Other PICS	
Initial condition	Manager is in Unassociated State
Test procedure	<ol style="list-style-type: none"> 1. Simulated agent sends an Association Request to the Manager under test, with the fields: <ul style="list-style-type: none"> <input type="checkbox"/> protocol-version = '01000000000000000000000000000000'B <input type="checkbox"/> encoding-rules= '1000000000000000'B <input type="checkbox"/> nomenclature-version = '10000000000000000000000000000000'B <input type="checkbox"/> functional-units = '00000000000000000000000000000000'B <input type="checkbox"/> system-type = '00000000100000000000000000000000'B <input type="checkbox"/> dev-config-id = 16440 <input type="checkbox"/> data-req-mode-capab = <ul style="list-style-type: none"> o data_req_mode_flags= '0000000000000001'B o data_req_init_agent_count = 1 o data_req_init_manager_count =0 <input type="checkbox"/> option-list.length=0 2. Manager under test sends an Association Response. The fields of interest are: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value = 0xE3 0x00 (AareApdu) b. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = AssociateResult <input type="checkbox"/> field-length = 2 bytes

- field-value = One of the following:
 - If association is accepted , field- value=0x00 0x00.
 - If association is rejected-permanent , field- value=0x00 0x01.
 - If association is rejected-transient , field- value=0x00 0x02.
 - If association is accepted-unknown-config , field- value=0x00 0x03.
 - If association is rejected-no-common-protocol, field- value=0x00 0x04.
 - If association is rejected -no-common-parameter, field- value=0x00 0x05.
 - If association is rejected –unknown = 0x00 0x06.
 - If association is rejected -unauthorized, field- value=0x00 0x07.
 - If association is rejected –unsupported-assoc-version , field- value=0x00 0x08.

c. selected-data-proto (DataProto: sequence of data-proto-id (DataProtold) and data-proto-info(defined by data-proto-id))

d. data-proto-id

- field- type = DataProtold
- field-length = 2 bytes
- field-value=0x50 0x79 (20601)

e. protocol-version

- field- type = Protocol Version
- field-length = 4 bytes (BITS-32)
- field-value=0x80 0x00 0x00 0x00

f. encoding-rules

- field-type = EncodingRules
- field-length = 2 bytes (BITS-16)
- field-value= depends on the encoding rules supported/selected, but only one can be supported at a time

g. nomenclature version

- field- type = NomenclatureVersion
- field-length = 4 bytes (BITS-32)
- field-value= Bit 0 must be set (nom-version1)

h. functional units

- field-type = FunctionalUnits
- field-length = 4 bytes (BITS-32)
- field-value =
 - Bit 0 must be 0
 - Bits 1 and 2 may be set
 - The rest of the bits must not be set

	<ul style="list-style-type: none"> i. system type <ul style="list-style-type: none"> <input type="checkbox"/> field- type = SystemType <input type="checkbox"/> field-length = 4 bytes (BITS-32) <input type="checkbox"/> field-value = 0x80 0x00 0x00 0x00 (sys-type-manager) j. system-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = OCTET STRING <input type="checkbox"/> field-length = 8 bytes <input type="checkbox"/> field- value = (EUI-64 manufacturer and device) k. dev-config-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = ConfigId <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field- value = 0x00 0x00 (manager-config-response) l. data-req-mode-flags (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = DataReqModeFlags <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field- value = 0x00 0x00 <input type="checkbox"/> Manager response to data-req-mode-flags is always 0. m. data-req-init-agent-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 bytes <input type="checkbox"/> field- value = 0x00 n. data-req-init-manager-count (DataReqModeCapab) <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U8 <input type="checkbox"/> field-length = = 1 bytes <input type="checkbox"/> field- value = 0x00
Pass/Fail criteria	All checked values are as specified in the test procedure.
Notes	[AT4wireless] Value for protocol-version has been modified according to 20601A.

TP Id		TP/PLT/MAN/CLASS/SABTE/BV-001		
TP label		Configuration Event Report. SABTE standard configuration 2400		
Coverage	Spec	[ISO/IEEE 11073-10424]		
	Testable items	ConfProc 4;M	MDSEvents 2;M	ObjAccServ 5;M
	Spec	[ISO/IEEE 11073-20601A]		
	Testable items	ConfEventRep 18;M		

Test purpose	<p>Check that:</p> <p>The Manager shall respond to a configuration notification message using a “Remote Operation Response Confirmed Event Report” data message with an MDC_NOTI_CONFIG event using the ConfigReportRsp structure for the event-info field .</p> <p>[AND]</p> <p>A Manager shall support both single-person and multi-person event reports.</p> <p>[AND]</p> <p>A Manager that supports one (or more) of the ISO/IEEE 11073-104zz device specialization standards shall be able to accept all the standard device configurations specified for the profiles listed in conformance Table 23 under Gen-4.</p> <p>[AND]</p> <p>Alternatively, the manager may request the agent to send the standard configuration in order to enter the configuring state and check attributes from the MDS object prior to final acceptance (or rejection) of the agent.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069
Other PICS	
Initial condition	Simulated Agent and Manager under test are in Unassociated state. Simulated Agent implements a SABTE device specialization with Standard Configuration 2400
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent test sends an Association Request to the Manager under test with dev-config-id set to 0x09 0x60 (SABTE – Std Config 2400) 2. Manager under test responds an Association Response, the field of interest is: <ol style="list-style-type: none"> a. Result <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00 (accepted) or 0x00 0x03 (accepted-unkown-config) <p>IF the result of the Association Response was “accepted-unkown-config”</p> 3. Simulated Agent sends a configuration event report with config-report-id set to 0x07 0x08 4. Manager under test must respond with: <ol style="list-style-type: none"> a. APDU Type <ul style="list-style-type: none"> <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value =0xE7 0x00 (PrstApdu) b. Invoke-id <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U16 <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field- value= it must be the same that the invoke-id of the simulated Agent’s message. c. Obj-Handle: <ul style="list-style-type: none"> <input type="checkbox"/> field- type = HANDLE <input type="checkbox"/> field-length =2 bytes <input type="checkbox"/> field-value = 0x00 0x00

	<p>d. Event-time:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field- type = INT-U32 <input type="checkbox"/> field-length =4 bytes <input type="checkbox"/> field-value: 0xXX 0xXX <p>e. Event-type:</p> <ul style="list-style-type: none"> <input type="checkbox"/> field-length = 2 bytes <input type="checkbox"/> field-value= MDC_NOTI_CONFIG <p>f. The following six bytes indicates:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Event-replay-info.length (2 bytes) <input type="checkbox"/> ConfigReportRsp.config-report-id: it must be the same that config-report-id of the simulated Agent's message <input type="checkbox"/> ConfigReportRsp.config-result: One of: <ul style="list-style-type: none"> ▪ accepted-config: 0x00 0x00 <p>Wait until operating state is reached in both cases</p> <p>5. Simulated Agent sends a fixed event report with one SABTE measurement</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • The Manager under test must respond either to the Association Request with an “accepted” message or to the Configuration Event Report with an “accepted-config” • The measurement is correctly presented
Notes	

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-002		
TP label	Maximum APDU size: SABTE		
Coverage	Spec	[ISO/IEEE 11073-20601A]	
	Testable items	CommonCharac 4;M	
	Spec	[ISO/IEEE 11073-10424]	
	Testable items	ComChar 2; M	
Test purpose	<p>Check that:</p> <p>If a manager receives APDU that is larger than the manager's receive buffer, it shall reply with an error (roer) code of protocol-violation.</p> <p>The manager's receive buffer shall be at least as large as the largest buffer specified in the specializations the manager supports. The buffer size limitations in this bullet and the next on apply to all APDUs regardless of whether a standard or extended configuration is being used.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Manager under test is in Operating state		

Test procedure	<ol style="list-style-type: none"> 1. Simulated agent sends a Confirmed variable event report: <ol style="list-style-type: none"> a. ScanReportInfoVar. obs_scan_var: <ul style="list-style-type: none"> ☐ Count =2 ☐ Length = 64472 <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 61441 attribute-value: '00.....(64448 bytes)..... 00'O } } } </pre> <pre> ObservationScan ::= { obj-handle: 1 attributes: AttributeList ::= { AVA-Type ::= { attribute-id: 2636 (MDC_ATTR_NU_VAL_OBS_BASIC) attribute-value: 1 } } } </pre> 2. Check the response of the Manager under test 3. Simulated agent sends a confirmed fixed format event report with one measurement. 4. Check the response of the Manager under test
Pass/Fail criteria	<ul style="list-style-type: none"> • In step 2 the Manager under test must respond with a “rors-cmip-confirmed-event-report” • In step 4 the Manager under test must respond with a “rors-cmip-confirmed-event-report”
Notes	

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-003		
TP label	Attribute-Value-Map. Order change		
Coverage	Spec	[[ISO/IEEE 11073-10424]	
	Testable items	DPU 10; M	DFG 10; M
		TherMode 8; M	DevMode 8; M

Test purpose	<p>Check that:</p> <p>For [Standard-Configuration, Duration of Patient Use] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_NU_VAL_OBS_BASIC, then MDC_ATTR_TIME_STAMP_BO</p> <p>[AND]</p> <p>For [Standard-Configuration, Duration of Flow Generation] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_BO.</p> <p>[AND]</p> <p>For [Standard-Configuration, Device Mode Set] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_ENUM_OBS_VAL_SIMP_OID then MDC_ATTR_TIME_STAMP_BO.</p> <p>[AND]</p> <p>For [Standard-Configuration, Therapy Mode Set] the [Attribute-Value-Map] attribute shall be present and its value shall be MDC_ATTR_ENUM_OBS_VAL_SIMP_OID then MDC_ATTR_TIME_STAMP_BO.</p>
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069
Other PICS	
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration.
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed fixed format event report with that matches the Attribute-Value-Map order of: <ol style="list-style-type: none"> a. MDC_ATTR_NU_VAL_OBS_BASIC then MDC_ATTR_TIME_STAMP_BO for Duration of Patient Use Object b. MDC_ATTR_NU_VAL_OBS_SIMP then MDC_ATTR_TIME_STAMP_BO for Duration of Flow Generation Object c. MDC_ATTR_ENUM_OBS_VAL_SIMP_OID, then MDC_ATTR_TIME_STAMP_BO for Device Mode Set d. MDC_ATTR_ENUM_OBS_VAL_SIMP_OID, then MDC_ATTR_TIME_STAMP_BO for Therapy Mode Set. 2. Simulated Agent waits until it receives a confirmation 3. Simulated Agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Duration of Patient Use) Object) handle 2 (Duration of Flow Generation Object), handle 3 (Device Mode Set Object) and handle 4 (Therapy Mode Set Object) to reverse the values to: <ol style="list-style-type: none"> a. MDC_ATTR_TIME_STAMP_BO, then MDC_ATTR_NU_VAL_OBS_BASIC for Duration of Patient Use Object. b. MDC_ATTR_TIME_STAMP_BO, then MDC_ATTR_NU_VAL_OBS_SIMP for Duration of Flow Generation Object. c. MDC_ATTR_TIME_STAMP_BO, then MDC_ATTR_ENUM_OBS_VAL_SIMP_OID for Device Mode Set Object. d. MDC_ATTR_TIME_STAMP_BO, then MDC_ATTR_ENUM_OBS_VAL_SIMP_OID for Therapy Mode Set Object. 4. Simulated Agent waits until it receives a confirmation 5. Send a confirmed fixed format event report with the date first followed by a value for every object. 6. Simulated Agent waits until it receives a confirmation 7. Simulated Agent sends an Association Release Request (normal) 8. Simulated Agent waits until there is a Association Release Response 9. Simulated Agent sends an Association Request using the same standard configuration that was used previously

	<p>10. If the Manager under test responds with association request response with "accepted-unknown-config", then</p> <ul style="list-style-type: none"> • Simulated Agent sends the confirmed configuration event report with the standard configuration • Simulated Agent waits until there is a confirmation to the configuration event report that was sent. <p>11. Simulated Agent sends a fixed event report following the standard configuration attribute-value-format (Observed value defined for every object, then MDC_ATTR_TIME_STAMP_BO). The observation should be reasonable Duration of Patient Use, Duration of Flow Generation, Device Mode Set and Therapy Mode Set observations.</p> <p>12. Simulated Agent waits until it receives a confirmation</p>
Pass/Fail criteria	<ul style="list-style-type: none"> • In Step 2, 6 & 12 verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI verify the measurement and date are displayed properly). • In Step 2, 6 & 12 verify the manager under test uses minutes as the unit-code for Duration of Patient Use and Duration of Flow Generation measurement reports (or reports the proper value after convert to another unit-code) • In Step 2, 6 & 12 verify that if the manager utilizes a date / time stamp, then the manager uses a time stamp derived from the observation's time stamp (i.e. the actual observation may have occurred sometime in the past). • When automated, need to be careful about just sending these messages back to back since the ability to look at things like a UI may need there to be pauses for operator verification.
Notes	

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-004		
TP label	Attribute-Value-Map. Adding additional attributes to the Attribute-Value-Map		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 10;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Attribute-Value-Map] attribute shall be present</p> <p>The value of the [Attribute-Value-Map] attribute shall be MDC_ATTR_NU_VAL_OBS_BASIC MDC_ATTR_TIME_STAMP_BO</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration. (Duration of Patient Use Numeric standard configuration Unit code attribute is set to MDC_DIM_MIN)		
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed variable event report to change the Attribute-Value-Map configuration of handle 1 (Duration of Patient Use Object) to set the values to: MDC_ATTR_NU_VAL_OBS_BASIC, MDC_ATTR_UNIT_CODE, then MDC_ATTR_TIME_STAMP_BO. 2. Simulated Agent waits until it receives a confirmation 3. Send a confirmed fixed format event report with the new data layout. For unit-code Attribute, use MDC_DIM_MIN (2208). 4. Simulated Agent waits until it receives a confirmation 		

	<p>5. Simulated Agent sends a confirmed variable event report with just MDC_ATTR_NU_VAL_OBS_BASIC Attribute.</p> <p>6. Simulated Agent waits until it receives a confirmation</p>
Pass/Fail criteria	<ul style="list-style-type: none"> In Step 4, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI verify the measurement and date are displayed properly). In Step 6, verify that the manager under test is able to accept the data properly and applies the correct bytes to the correct attributes (e.g. if there is a UI verify the measurement is displayed properly) In Step 4 & 6, verify the manager under test uses Duration of Patient Use unit as the unit-code for the measurement reports
Notes	

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-005		
TP label	Unit-Code Duration of Patient Use. Use default minutes - variable format observation		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 8;M	
Test purpose	<p>Check that:</p> <p>For [Standard-Configuration] the [Unit-Code] attribute shall be present</p> <p>The value of the [Unit-Code] attribute shall be MDC_DIM_MIN</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial Condition	Simulated Agent and Manager under test are in Operating State using the standard configuration.		
Test procedure	<ol style="list-style-type: none"> Send a confirmed variable format event report using a measurement in minutes Simulated Agent waits until it receives a confirmation 		
Pass/Fail criteria	Verify that the manager under test is able to accept the data properly and applies minutes to the observation (e.g. if there is a UI verify the measurement and date are displayed properly even if they are converted to a different set of units).		
Notes			

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-006		
TP label	Unit-Code Duration of Flow Generation. Use default minutes - variable format observation		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DFG 8;M	

Test purpose	Check that: For [Standard-Configuration] the [Unit-Code] attribute shall be present The value of the [Unit-Code] attribute shall be MDC_DIM_MIN
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069
Other PICS	
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration.
Test procedure	1. Send a confirmed variable format event report using a measurement in minutes 2. Simulated Agent waits until it receives a confirmation
Pass/Fail criteria	Verify that the manager under test is able to accept the data properly and applies minutes to the observation (e.g. if there is a UI verify the measurement and date are displayed properly even if they are converted to a different set of units).
Notes	

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-007		
TP label	Special values. Not a number - fixed format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 10; M	DFG 10; M
Test purpose	Check that: Manager receives a NaN value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure	1. Simulated Agent sends a confirmed fixed event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value with the value for not a number (NaN (not a number) [exponent 0, mantissa $+(2^{11}-1) = 0x07FF$ for Duration of Patient Use], [exponent 0, mantissa $+(2^{23}-1) = 0x007FFFF$ for Duration of Flow Generation]) and a time stamp 2. Simulated Agent waits until it receives a confirmation from the Manager under test		
Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-008
TP label	Special values. Not a number – variable format (Std Config 2400)

Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 12; M	DFG 12; M
Test purpose	Check that: Manager receives a NaN value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed variable event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value with the value for not a number (NaN (not a number) [exponent 0, mantissa $+(2^{11}-1) = 0x07FF$ for Duration of Patient Use], [exponent 0, mantissa $+(2^{23}-1) = 0x007FFFFF$ for Duration of Flow Generation]) and a time stamp 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		
Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement such as "—" or blanking the display area).		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-009		
TP label	Special values. Not at this resolution - fixed format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 10; R	DFG 10; R
Test purpose	Check that: Manager receives NRes value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed fixed event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for not at this resolution (NRes (not at this resolution) [exponent 0, mantissa $-(2^{11}) = 0x0800$ for Duration of Patient Use], [exponent 0, mantissa $-(2^{23}) = 0x00800000$ for Duration of Flow Generation]) 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		
Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).		
Notes	This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/SABTE/BV-010		
TP label		Special values. Not at this resolution - variable format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]		
	Testable items	DPU 12; R	DFG 12; R	
Test purpose		Check that: Manager receives NRes value (variable format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS				
Initial condition		Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure		<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed variable event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for not at this resolution (NRes (not at this resolution) [exponent 0, mantissa $-(2^{**11}) = 0x0800$ for Duration of Patient Use], [exponent 0, mantissa $-(2^{**23}) = 0x00800000$ for Duration of Flow Generation]) 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		
Pass/Fail criteria		Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).		
Notes		This test case has been considered as an implicit test case.		

TP Id		TP/PLT/MAN/CLASS/SABTE/BV-011		
TP label		Special values. Positive infinity - fixed format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]		
	Testable items	DPU 10; M	DFG 10; M	
Test purpose		Check that: Manager receives a + INFINITY value (fixed format event report) but it does not use this value.		
Applicability		C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS				
Initial condition		Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure		<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed fixed event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for positive infinity (+ INFINITY [exponent 0, mantissa $+(2^{**11} - 2) = 0x07FE$ for Duration of Patient Use], [exponent 0, mantissa $+(2^{**23} - 2) = 0x007FFFFE$ for Duration of Flow Generation]) and a time stamp 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		

Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-012		
TP label	Special values. Positive infinity - variable format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 12; R	DFG 12; R
Test purpose	Check that: Manager receives a + INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed variable event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for positive infinity (+ INFINITY [exponent 0, mantissa $+(2^{*11} - 2) = 0x07FE$ for Duration of Patient Use], [exponent 0, mantissa $+(2^{*23} - 2) = 0x007FFFE$ for Duration of Flow Generation]) 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		
Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-013		
TP label	Special values. Negative infinity - fixed format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 10; M	DFG 10; M
Test purpose	Check that: Manager receives a - INFINITY value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		

Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed fixed event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for negative infinity (– INFINITY [exponent 0, mantissa $-(2^{**11} -2) = 0x0802$ for Duration of Patient Use], [exponent 0, mantissa $-(2^{**23} -2) = 0x00800002$ for Duration of Flow Generation]) and a time stamp 2. Simulated Agent waits until it receives a confirmation from the Manager under test
Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-014		
TP label	Special values. Negative infinity - variable format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 12; R	DFG 12; R
Test purpose	Check that: Manager receives a - INFINITY value (variable format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.		
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed variable event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for negative infinity (– INFINITY [exponent 0, mantissa $-(2^{**11} -2) = 0x0802$ for Duration of Patient Use], [exponent 0, mantissa $-(2^{**23} -2) = 0x00800002$ for Duration of Flow Generation]) 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		
Pass/Fail criteria	Verify that the manager under test is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).		
Notes	This test case has been considered as an implicit test case.		

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-015		
TP label	Special values. Reserved - fixed format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 10; M	DFG 10; M
Test purpose	Check that: Manager receives a Reserved for future use value (fixed format event report) but it does not use this value.		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		

Other PICS	
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 2400.
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed fixed event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for reserved (Reserved for future use [exponent 0, mantissa – $(2^{**11} - 1) = 0x0801$ for Duration of Patient Use], [exponent 0, mantissa – $(2^{**23} - 1) = 0x00800001$ for Duration of Flow Generation]) and a time stamp 2. Simulated Agent waits until it receives a confirmation from the Manager under test
Pass/Fail criteria	Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).
Notes	This test case has been considered as an implicit test case.

TP Id	TP/PLT/MAN/CLASS/SABTE/BV-016		
TP label	Special values. Reserved - variable format (Std Config 2400)		
Coverage	Spec	[ISO/IEEE 11073-10424]	
	Testable items	DPU 12; R	DFG 12; R
Test purpose	<p>Check that:</p> <p>Manager receives a Reserved for future use value (variable format event report) but it does not use this value.</p>		
Applicability	C_MAN_OXP_000 AND C_MAN_OXP_069		
Other PICS			
Initial condition	Simulated Agent and Manager under test are in Operating State using the standard configuration 1800.		
Test procedure	<ol style="list-style-type: none"> 1. Simulated Agent sends a confirmed variable event report for handle 1 (Duration of Patient Use Object) and handle 2 (Duration of Flow Generation Object) containing an observation value set to the value for reserved (Reserved for future use [exponent 0, mantissa – $(2^{**11} - 1) = 0x0801$ for Duration of Patient Use], [exponent 0, mantissa – $(2^{**23} - 1) = 0x00800001$ for Duration of Flow Generation]) 2. Simulated Agent waits until it receives a confirmation from the Manager under test 		
Pass/Fail criteria	Verify that the manager under test either reports an error or is able to accept the data, but does not use the values as if they were an actual measurement (e.g. if there is a UI verify the measurement is displayed in some form that indicates it is not a measurement).		
Notes	This test case has been considered as an implicit test case.		

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