TELECOMMUNICATION
STANDARDIZATION SECTOR

OF ITU

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# SPECIFICATIONS OF SIGNALLING SYSTEM No. 7

# SIGNALLING SYSTEM No. 7 - MTP LEVEL 3 TEST SPECIFICATION

ITU-T Recommendation Q.782

(Previously "CCITT Recommendation")

#### **FOREWORD**

The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of the International Telecommunication Union. The ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Conference (WTSC), which meets every four years, established the topics for study by the ITU-T Study Groups which, in their turn, produce Recommendations on these topics.

ITU-T Recommendation Q.782 was revised by the ITU-T Study Group XI (1988-1993) and was approved by the WTSC (Helsinki, March 1-12, 1993).

#### NOTES

As a consequence of a reform process within the International Telecommunication Union (ITU), the CCITT ceased to exist as of 28 February 1993. In its place, the ITU Telecommunication Standardization Sector (ITU-T) was created as of 1 March 1993. Similarly, in this reform process, the CCIR and the IFRB have been replaced by the Radiocommunication Sector.

In order not to delay publication of this Recommendation, no change has been made in the text to references containing the acronyms "CCITT, CCIR or IFRB" or their associated entities such as Plenary Assembly, Secretariat, etc. Future editions of this Recommendation will contain the proper terminology related to the new ITU structure.

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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# SIGNALLING SYSTEM No. 7 – MTP LEVEL 3 TEST SPECIFICATION

(Melbourne, 1988; modified at Helsinki, 1993)

#### 1 Introduction

This Recommendation contains a set of detailed tests of Signalling System No. 7 MTP level 3 protocol. These tests intend to validate the protocol specified in Q.704 and Q.707 Recommendations. The level 3 performance aspects specified in Recommendation Q.706 are also partly checked whenever possible. This Recommendation conforms to the Recommendation Q.780. However, in addition to the objectives and guidelines of the latter Recommendation, other general principles specific to level 3 tests are presented below.

#### **2** General principles of level 3 tests

#### 2.1 Presentation of test descriptions

Each test description mentions the type of SP involved in the test. Three cases are possible:

test applicable to an SP having no STP function:

test applicable to an SP having STP function:

test applicable to all types of SPs:
 ALL.

Each test description includes the environment in which the point under test must be inserted in order to pass the test. Four test configurations are necessary (named A, B, C and D); they are presented in clause 3.

Each test is precisely described. Nevertheless, some events not directly concerning the point under test, or without direct link with the test nature, are not explicitly described. This is, for example, the case of TFPs propagation when a point becomes isolated, or of the changeover procedure in a test concerning transfer allowed procedure.

In order to preserve the test description implementation independence, a certain flexibility has been left in the test descriptions. This is particularly the case when it is necessary to deactivate a link (where it is only mentioned "Deactivate" with no more precision). The operator will choose, according to the implementation particularities and the events expected in the test description, the appropriate deactivation means (MML, provoked failure, etc.).

In the test descriptions, the signalling links are identified as follows: "number of linkset" – "number of link in the linkset" (e.g. 1-1 means link 1 of the linkset 1). This identification is independent of SLC attributed to these links. When the number of the link is X, that means that the concerned message can use any link of the linkset. When the field "number of link in the linkset" is, for example, " $1, 2, \ldots$ ", that means that the traffic uses all indicated links. Finally, when the links are identified by the mention ALL, that means that the traffic will use all available links of the point.

The orders "Start traffic", "Wait" and "Stop traffic" apply to the test configuration. They are placed at the beginning of the line.

### 2.2 Presentation of the test list

These tests, as a whole, aim at a complete validation of the level 3 protocol without redundancies.

The test list is presented in clause 4. The national options and the various signalling link management "policies" are not included in this Recommendation.

The first set of tests in the list checks that, before some more precise tests, the point under test can perform the basic functions, i.e. can connect itself to the external environment and exchange signalling messages.

The second set basically validates the signalling message handling function of the point under test. A main point of this part concerns the validation of load sharing procedures. If an implementation does not use the load sharing between linksets, some tests would not be applicable, and other should be adapted.

The third and fourth sets check changeover and changeback procedures. They include tests like changeover and changeback to/from two linksets which will be performed only if the point under tests allows this possibility.

Rerouting procedures are checked using the tests in clauses 5 and 6.

Clause 7 concerns tests to check inhibition and uninhibition procedures. To limit the test numbers, it was not considered that the messages used in these procedures can be transferred via STPs.

Clause 8 concerns tests to check transfer controlled procedure and MTP user flow control for the international signalling network.

Clause 9 concerns tests to check signalling route management functions in a point having an STP function. To limit the test numbers and to avoid to complicate the test configuration, it was not considered that TFPs and TFAs can be transferred via STPs.

Clause 10 concerns tests for the point restart procedure.

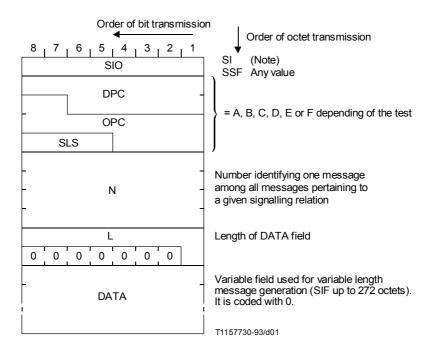
Clause 11 deals with STP traffic test.

Clause 12 checks the signalling link test procedure.

Finally, clause 13 contains solely validation tests and aims at checking the actions of the tested system on reception of invalid level 3 messages.

#### 2.3 Test traffic

Running the tests described in this Recommendation requires the exchange of traffic between the point under test and its environment. The traffic used is a test traffic especially generated for the test of the system. It uses variable length messages, structured as described below:



The mechanisms of generation and reception of this test traffic may be internal to the point under test or external (using a simulator for example). The tests presented here do not impose the choice of one of these mechanisms except for the tests of the STP function itself (tests 2.7, 8.2, 10 and 11) where the test traffic is necessarily generated outside the STP. The test traffic should be recorded and analysed subsequently for each described test.

NOTE – For compatibility testing (CPT), use SI value for MTP testing user part, for validation testing (VAT) value is to be chosen as required.

#### 3 Test configurations

#### 3.1 Definition

The set of tests described in this Recommendation assumes that the point under test is inserted in a test environment called "test configuration". A **test configuration** is defined as being:

- a) the set of points, real or simulated, linked between them by signalling linksets, real or simulated, and of which some are connected to the point under test by one or several signalling linksets;
- b) the set of routing rules applied in different points and also in point under test;
- c) the flows of test traffic generated and received by
- d) a set of generation and reception means (see 2.3);
- e) the means (program, operator interface, etc.) to run the described tests; notably the possibilities of storage and analysis of test traffic and level 3 messages and, in the case of validation tests, the possibility to send at any stage of a test, any messages (level 3 or test) valid or not.

#### 3.2 Presentation of test configurations

#### 3.2.1 General

The set of tests described in this Recommendation requires 4 different configurations named A, B, C and D. For each test, only the three first aspects of the above definition are precisely defined (set of points, set of routing rules and test traffic flows, see 3.1).

#### 3.2.2 Configuration A

This simple configuration is adapted to the validation of all procedures concerning only one or more signalling links belonging to one linkset. It is used for the tests

- of activation and deactivation of links;
- of changeover and changeback procedures;
- of inhibition and uninhibition of links;
- invalid messages.

Configuration A is shown in Figure 1.

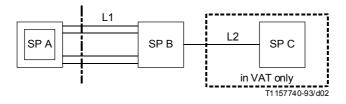


FIGURE 1/Q.782

Configuration A

Configuration A makes use of a point C in all validation tests in order to check the impact of the procedures on various traffic flows. Point C is not used in configuration A in the case of compatibility tests.

Linkset 1 has four signalling links in order to check, for example, changeover procedure to several links within a linkset (test 3.15).

In real networks, the procedures checked with this configuration act on the traffic carried in both directions of a link. Consequently, the flows of test traffic used are, regarding the routing label of messages:

- OPC = A, DPC = B and OPC = B, DPC = A
- OPC = A, DPC = C and OPC = C, DPC = A (in validation test only).

TABLE 1/Q.782

#### Routing rules in configuration A

>	A	В	С
A	_	L1	L1
В	L1	_	L2
С	L2	L2	-

#### 3.2.3 Configuration B

Configuration B is adapted to the validation of all procedures concerning several signalling linksets. It is used for the tests

- of signalling message handling;
- of changeover and changeback;
- of forced and controlled rerouting.

Configuration B is shown in Figure 2.

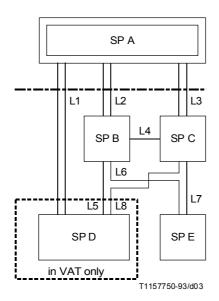


FIGURE 2/Q.782

Configuration B

In configuration B, Table 2, the point under test A is linked to the external world with 3 signalling linksets. This is the minimum required number of linksets in order to check

- load sharing between three linksets;
- changeover and changeback from/to two linksets (see 5.3.1/Q.704).

TABLE 2/Q.782

Routing rules in configuration B

>	A	В	С	D	Е
A	_	L2, L3	L3, L2	L1-L2-L3	L2-L3
В	L2, L4	_	L4	L5, L4	L6, L4
С	L3, L4	L4	_	L8, L4	L7, L4
D	L1, L5, L8	L5, L8	L8, L5	-	Any
Е	L7, L6	L6, L7	L7, L6	Any	-

Li, Lj Li normal linkset and Lj alternative linkset

Li-Li Load sharing between Li and Li

When the SP A is an SP having no STP function, this configuration is also the minimum to run the tests in a network situation where associated mode and quasi-associated mode are used (see 3.1.2/Q.701).

This configuration comprises point D in all validation tests in order to check the impact of the procedures on various traffic flows (relations A-D and A-E). The point D is not used in configuration B in case of compatibility tests.

In a real network, some procedures (changeover, changeback) checked with this configuration act on the traffic in both directions on the concerned linksets. Consequently, the test traffic flows used are, regarding the routing label of messages:

- OPC = A, DPC = E and OPC = E, DPC = A
- OPC = A, DPC = D and OPC = D, DPC = A (in validation test only).

#### 3.2.4 Configuration C

This configuration is adapted to the validation of some functions specific to an STP like

- message transfer function;
- sending of TFC;
- traffic test.

Configuration C is shown in Figure 3.

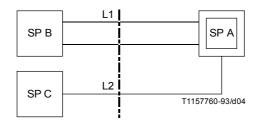


FIGURE 3/Q.782 Configuration C

In configuration C, Table 3, the point under test A carries the test traffic from B to C and from C to B. The linkset 1 has two links, this a minimum to create an overload situation to trigger the sending of TFC independently of the implementation of the flow control procedure.

TABLE 3/Q.782

Routing rules in configuration C

>	A	В	С
A	-	L1	L2
В	L1	-	L1
С	L2	L2	-

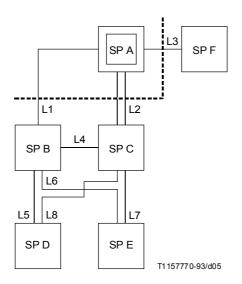
The tests performed with this configuration require that the traffic crosses the STP under test in both directions. Consequently the test traffic flows are, regarding the routing label of messages:

$$-$$
 OPC = B, DPC = C and OPC = C, DPC = B.

#### 3.2.5 Configuration D

This configuration is adapted to the validation of all procedures concerning exclusively the points having an STP function. It is used to check the signalling route management procedures.

Configuration D is shown in Figure 4.



NOTE - The SPs E, D and F have not STP function.

FIGURE 4/Q.782 Configuration D

Configuration D, Table 4, is used only to check the signalling route management: transfer prohibited and transfer allowed procedures. Consequently, all linksets of this configuration have only one signalling link.

#### TABLE 4/Q.782

#### Routing rules in configuration D

<u> </u>	A	В	С	D	Е	F
A	_	L1, L2	L2, L1	L1, L2	L1, L2	L3
В	L1, L4	-	L4	L5, L4	L6, L4	L1
С	L2, L4	L4	-	L8, L4	L7, L4	L2
D	Any			_	Ai	ny
Е	Any				-	Any
F	L3	L3	L3	L3	L3	-

The STP under test is linked to the external world with three linksets: one terminal linkset (to an SP without STP function) and two inter STP linksets. This structure is minimal to check the various aspects of the broadcasting of TFPs and TFAs:

- TFPs or TFAs concerning several destinations;
- TFPs or TFAs to several destinations.

This configuration includes points D and E. This is necessary in order to check the sending of TFP on an alternative linkset: in A the routing rules are such that the linksets 1 and 2 are used to reach D using normal/alternative routing and to reach E using load sharing routing (sending of TFP in the first case and not in the second).

The tests performed with this configuration, which check the signalling route procedures, require that the test traffic uses the concerned signalling routes. The test traffic flows used in this Recommendation are, regarding the routing label messages:

#### 4 Test list

All tests with the indication "\*" are validation and compatibility tests. The tests without asterisk are validation test only.

- 1 Signalling link management
- 1.1 First signalling link activation
- 1.2 Signalling linkset deactivation
- \* 1.3 Signalling linkset activation
  - 2 Signalling message handling
    - 2.1 Message received with an invalid SSF (discrimination function)
    - 2.2 Message received with an invalid DPC (discrimination function)
    - 2.3 Message received with an invalid SI (distribution function)
    - 2.4 Load sharing within a linkset
  - 2.4.1 All links available
    - 2.4.2 With one link unavailable
    - 2.5 Load sharing between linksets
- \* 2.5.1 Between two linksets
  - 2.5.2 Between three linksets
  - 2.5.3 Between three linksets and one route unavailable
  - 2.5.4 Between three linksets and one linkset unavailable

#### 2.6 Inaccessible destination

- 2.6.1 Due to a linkset failure
- 2.6.2 Due to a route failure
- 2.6.3 Due to a linkset and route failures

#### 2.7 Message transfer function

#### 3 Changeover

- 3.1 Changeover initiated at one side of a linkset (COO <-> COA)
- 3.2 Changeover initiated at the both ends at the same time (COO <-> COO)
- 3.3 Changeover on expiration of timer T2 (COO or ECO  $\rightarrow$  –)
- 3.4 Unreasonable FSN in COO/COA
- 3.5 Reception of a changeover acknowledgement without sending a changeover order (-<- COA or ECA)
- 3.6 Reception of an additional changeover order (- <- COO or ECO)
- 3.7 Emergency changeover at one side of a linkset (COO <-> ECA)
- 3.8 Emergency changeover at one side of a linkset (COO <-> ECO)
- 3.9 Emergency changeover at one side of a linkset (ECO <--> COA)
- 3.10 Emergency changeover at one side of a linkset (ECO <-> ECA)
- 3.11 Emergency changeover at one side of a linkset (ECO <-> COO)
- 3.12 Emergency changeover initiated at the both ends at the same time (ECO <-> ECO)
- 3.13 Reactivation of a link during a changeover procedure
- 3.14 Simultaneous changeover
- 3.15 Changeover to several alternative links within a linkset
- 3.16 Changeover to another linkset with the adjacent SP accessible
- 3.17 Changeover to another linkset with the adjacent SP inaccessible
  - 3.18 Changeover to two linksets
  - 3.19 Changeover due to various reasons
  - 3.20 Changeover as compatibility test
  - 3.21 Reception of a changeover order on an available link

### 4 Changeback

- 4.1 Changeback within a linkset
  - 4.2 Additional CBA
  - 4.3 Additional CBD
  - 4.4 No acknowledgement to first CBD
  - 4.5 No acknowledgement of repeat changeback declaration
  - 4.6 Simultaneous changeback
  - 4.7 Changeback from several alternative links within a linkset
- 4.8 Changeback from another linkset
- 4.9 Changeback from two linksets
- 4.10 Changeback due to various reasons
- 4.11 Time controlled diversion procedure
- \* 5 Forced rerouting
- 6 Controlled rerouting
  - 7 Management inhibiting
    - 7.1 Inhibition of a link
    - 7.1.1 Available link
- 7.1.2 Unavailable link
  - 7.2 Inhibition not permitted
- \* 7.2.1 Local reject on an available link
- 7.2.2 Local reject on an unavailable link
  - 7.2.3 Sending of LID
  - 7.2.4 Reception of LID

- 7.3 Expiration of T14
  - 7.3.1 On an available link
  - 7.3.2 On an unavailable link
- 7.4 Additional inhibition messages (LIA, LID, LIN)
- 7.5 Inhibition asked by the both ends
- 7.6 Manual uninhibition of a link
- 7.6.1 With changeback
  - 7.6.2 Without changeback
  - 7.7 Expiration of T12
- 7.8 Not possible uninhibition
  - 7.9 Automatic uninhibition of a link
  - 7.10 Forced uninhibition of a link
    - 7.10.1 Sending of LFU
    - 7.10.2 Reception of LFU
  - 7.11 Expiration of T13
  - 7.12 Additional uninhibition messages (LUA, LUN, LFU)
  - 7.13 Uninhibition at one side after test 7.5
  - 7.14 Automatic uninhibition after test 7.5
  - 7.15 Automatic uninhibition when two links are inhibited
  - 7.16 Reception of traffic on an inhibited link
  - 7.17 Management inhibiting test
    - 7.17.1 Normal procedure
      - 7.17.2 Reception of an LLT or LRT on an uninhibited link
      - 7.17.3 Reception of an LLT on a link locally inhibited
      - 7.17.4 Reception of an LRT on a link remotely inhibited
  - 8 Signalling traffic flow control
    - 8.1 Reception of a TFC
    - 8.2 Sending of TFCs
    - 8.3 Reception of an UPU
    - 8.4 Sending of an UPU
  - 9 Signalling route management
    - 9.1 Sending of a TFP on an alternative route
  - 9.1.1 Failure of normal linkset
- 9.1.2 On reception of a TFP
  - 9.2 Broadcast of TFPs
  - 9.2.1 On one linkset failure
  - 9.2.2 On multiple failures
    - 9.3 Reception of a message for an unaccessible destination
    - 9.4 Sending of a TFA on an alternative route
- \* 9.4.1 Recovery of normal linkset
- 9.4.2 On reception of a TFA

- 9.5 Broadcast of TFAs
- 9.5.1 On one linkset recovery
- 9.5.2 Various reasons
  - 9.6 Periodic sending of signalling-route-set-test messages
  - 9.7 Reception of signalling-route-set-test messages
  - 10 Signalling point restart
    - 10.1 Recovery of a linkset (SP A has not the STP function)
- 10.1.1 With use of point restart procedure
  - 10.1.2 Without use of point restart procedure
  - 10.2 Recovery of a linkset (SP A has the STP function)
    - 10.2.1 With use of point restart procedure
      - 10.2.2 Without use of point restart procedure
  - 10.3 An adjacent signalling point becomes accessible via another signalling point (SP A has not STP function)
  - 10.4 An adjacent signalling point becomes accessible via another signalling point (SP A has STP function)
- \* 10.5 Restart of an SP having no STP function
- \* 10.6 Restart of an SP having STP function
  - 10.7 Reception of an unexpected TRA
    - 10.7.1 In an SP having no STP function
    - 10.7.2 In an SP having STP function
  - 11 Traffic test
  - 12 Signalling link test
    - 12.1 After activation of a link
    - 12.2 No acknowledgement to first SLTM
    - 12.3 No acknowledgement to second SLTM
    - 12.4 Unreasonable field in an SLTA
    - 12.5 Reception of an SLTM in an attempt state
  - 12.6 Additional SLTA, SLTM
    - 13 Invalid messages
      - 13.1 Invalid H0.H1 in a signalling network management message
      - 13.2 Invalid changeover messages
      - 13.3 Invalid changeback messages
      - 13.4 Invalid changeback code
      - 13.5 Invalid inhibition messages
      - 13.6 Invalid transfer control messages
      - 13.7 Invalid signalling route management messages
      - 13.8 Invalid signalling-route-set-test messages
      - 13.9 Invalid traffic restart allowed message
      - 13.10 Invalid H0-H1 in a signalling network testing and maintenance message
      - 13.11 Invalid signalling link test messages
      - 13.12 Invalid user part unavailable messages

TEST NU	TEST NUMBER: 1.1 PAGE: 1 of 1					
REFEREN	ICE: Q.704 clause 3 Fig.	7, Fig. 36, Fig. 37, Fig. 38				
TITLE: S	signalling link management					
SUBTITL	E: First signalling link activation	n				
PURPOSE	E: To put into service a signallin	g linkset with 1 signalling link				
PRE-TES	Γ CONDITIONS: Signalling li	nks deactivated				
CC	ONFIGURATION: A	TYPE OF TEST: VAT,	СРТ	TYPE OF S	P: ALL	
MESSAG	E SEQUENCE:					
	SP A				SP B	
Link			Link			
Emi			1 – 1		:Activate	
1 – 1	:Activate					
		<	1 – 1	SLTM		
1 – 1		>				
1 – 1	SLTM	<>	1 – 1	SLTA		
:Start traf	fic	\	1 – 1	SLIA		
1 – 1	TRAFFIC	>				
		<	1 – 1	TRAFFIC		
:Wait						
:Stop traf	fic					
	a ch that out					
	DESCRIPTION					
1. 2.	Check that the signalling link becomes available.					
2.	Check the reception and sending of variable length messages on the activated linkset from/to the SP at the other end of this linkset (and, in case of VAT, from/to other SP crossing the SP at the other end of this linkset).					
3.	Check that, after the alignment, the level 2 does not send any message received before or during the deactivation.					
4.	Check that all messages are con	rectly received (no loss of messa	iges, no d	uplication and no misseque	ncing).	
5.	Stop traffic.					
6.	Repeat the test with different S	LC values.				

TEST NU	MBER: 1.2		PAGE: 1 of 1		
REFEREN	ICE: Q.704 clause 3 Fig.	7, Fig. 36, Fig. 37, Fig. 38			
TITLE: S	ignalling link management				
SUBTITL	E: Signalling linkset deactivati	ion			
PURPOSE	: To remove from service a sig	gnalling linkset with 1 signalling link			
PRE-TEST	CONDITIONS: One signall	ing link (1 – 1) activated			
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL		
MESSAGI	E SEQUENCE:				
	SP A		SP B		
Link		Link			
1 – 1		2			
TEST DESCRIPTION					
1.	Check that the signalling links	et becomes unavailable.			

TEST NUMBER: 1.3 PAGE: 1 of 1 REFERENCE: Q.704 clause 3, subclause 12.2.4.1 Fig. 7, Fig. 36, Fig. 37, Fig. 38 TITLE: Signalling link management SUBTITLE: Signalling linkset activation PURPOSE: To put into service a signalling linkset with 4 signalling links PRE-TEST CONDITIONS: Signalling links deactivated CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link 1 - 1:Activate 1 - 1:Activate 1 - 2:Activate :Activate 1 - 21 - 3:Activate 1 - 3:Activate 1 - 4:Activate 1 - 4:Activate

:Wait

:Stop traffic

:Start traffic 1-1

1 - 2

1 - 3

1 - 4

TRAFFIC

TRAFFIC

TRAFFIC

TRAFFIC

NOTE – This test describes the activation of a linkset. The signalling link activation order is given simultaneously to all signalling links of the signalling linkset (see 12.2.4.1/Q.704). However, depending on in which order the links are getting aligned, changeback procedures will be performed. This test does not describe the transitory states (changeback procedure is checked in other tests).

1 - 1

1 - 2

1 - 3

1 - 4

**TRAFFIC** 

**TRAFFIC** 

**TRAFFIC** 

**TRAFFIC** 

#### TEST DESCRIPTION

1. Check that the signalling links become available and start traffic between A and B (and A and C in VAT).

<-----

- 2. Check the reception and sending of variable length messages on the activated linkset from/to the SP at the other end of this linkset (and, in case of VAT, from/to other SP crossing the SP at the other end of this linkset).
- 3. Check that, after the alignment, the level 2 does not send any message received before or during the deactivation.
- 4. Check that all messages are correctly received (no loss of messages, no duplication and no missequencing).
- Stop traffic.

TEST NU	MBER: 2.1		PAGE: 1 of 1			
REFEREN	ICE: Q.704 clause 3 Fig. 24, subclause 2.4					
TITLE: S	signalling message handling					
SUBTITL	E: Message received with an invalid SSF (discrimina	tion function)				
PURPOSE	To check the response to a message with an invalid	SSF				
PRE-TEST	Γ CONDITIONS: Signalling linkset activated					
CC	ONFIGURATION: A TYPE OF	ΓEST: VAT	TYPE OF SP: ALL			
MESSAG	E SEQUENCE:					
	SP A		SP B			
Link		Link				
Emi	· <		:Invalid SLTM			
			(invalid SSF)			
	TEST DESCRIPTION					
1. 2.	Send an SLTM with an erroneous SSF.  Check that no response is received.					
2.	Check that no response is received.					

TEST NU	JMBER: 2.2	PAGE: 1 of 1			
REFEREN	NCE: Q.704 clause 2 Fig.	. 24, Fig. 26			
TITLE: S	Signalling message handling				
SUBTITL	E: Message received with an i	nvalid DPC			
PURPOSI	E: To check the response to a n	nessage with an invalid DPC			
PRE-TES	T CONDITIONS: Signalling	linkset activated			
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAG	E SEQUENCE:				
	SP A		SP B		
Link	r	Link			
Em	•	< 1 – 1	:Invalid ECO		
1 – 1	l TFP	> (only if the	(erroneous DPC) ne tested point A has an STP function)		
	•	(only if a	to tosted point 11 has an 511 famously		
TEST DESCRIPTION					
1.	Send a ECO message with an erroneous DPC.				
2.	Check that no response is received if the tested point has not STP function. If the tested point has the STP function, check that a TFP is received.				

	PAGE: 1 of 1					
REFERENCE: Q.704 subclause 2.4 Fig. 24, Fig. 25						
erroneous SI (distribution function)						
nessage received with an erroneous SI						
linkset activated						
TYPE OF TEST: VAT	TYPE OF SP: ALL					
	SP B					
Link						
< 1 – 1	:Invalid SLTM					
	(invalid SI)					
ST DESCRIPTION						
an invalid SI.						
eived.						
	rroneous SI (distribution function)  nessage received with an erroneous SI  linkset activated  TYPE OF TEST: VAT  Link					

TEST NUMBER: 2.4.2			PAGE: 1 of 1		
REFEREN	NCE: Q.704 Fig. 26; subc	clause 2.3 Q.705 subclaus	e 4.4		
TITLE: S	Signalling message handling				
SUBTITL	E: Load sharing within a links	et – One link unavailable			
PURPOSE	E: To check the load sharing w	ithin a linkset when one link is	unavailable		
PRE-TEST	Γ CONDITIONS: Signalling I	ink 1 – 3 deactivated			
CO	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	<u>.</u>		Link		
:Start traff	ĭc				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 4	TRAFFIC	>			
		<	1 – 4	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DESCRIPTION					
1.	Start the traffic to B and C for	all SLS, wait and stop.			
2.	-				

TEST NUMBER: 2.5.1				PAGE: 1 of 1		
REFEREN	NCE: Q.704 Fig. 26; subc	clause 2.3 Q.705 su	bclause 4.4			
TITLE: S	Signalling message handling					
SUBTITL	E: Load sharing between links	ets – Between two linkse	ets			
PURPOSE	E: To check the load sharing be	etween two linksets under	r normal condition	s		
PRE-TES	Γ CONDITIONS: All linksets	and routes available				
CO	ONFIGURATION: B	TYPE OF TEST	: VAT, CPT	TYPE (	OF SP: ALL	
MESSAG	E SEQUENCE:					
	SP A	SP B	SP C	5	SP E	
Link	:	Link	Link	Link		
:Start traff		Lilik	LIIIK	2		
3 – 1		·	> 7-1	>		
3 1			, -		TRAFFIC	
3 - 2					TRAFTIC	
3 – 2	110.11.110		, -		TRAFFIC	
2 – 1		> 6 – 1			TRATTE	
2 - 2	_	> 6-1				
:Wait	TIGHT IC	, 0 1		ŕ		
.stop tiui	:Stop traffic					
TEST DESCRIPTION						
1.	Start the traffic to E for all SL	S.				
2.	Stop the traffic and check that and DPC.		n transmitted on th	ne correct linkset in ac	cordance with the SLS	
3.	Check that there was no loss of	of messages, no duplication	on and no misseque	encing.		
			•	-		

TEST NUMBER: 2.5.2				PAGE: 1 of 1		
REFERE	NCE: Q.704 Fig. 26; sub	clause 2.3 Q.705 subclause 4.4				
TITLE: S	Signalling message handling					
SUBTITL	E: Load sharing between links	sets – Between three linksets				
PURPOSI	E: To check the load sharing b	etween three linksets under normal cond	ditio	ons		
PRE-TES	T CONDITIONS: All linksets	s and routes available				
CO	ONFIGURATION: B	TYPE OF TEST: VAT			TYPE OF SP	: ALL
MESSAG	E SEQUENCE:	,				
	SP A	SP B SP	C	:	SP D	
Link		***			Link	
:Start traff		Link Link			LIIIK	
1 – 1					>	
	<				1 – 1	TRAFFIC
1 – 2	2 TRAFFIC				>	
					· -	TRAFFIC
3 – 1		> 8-1				
3-2		> 8-1				
2-1		> 5-1 > 5-1				
2 – 2 :Wait	2 TRAFFIC	5-1			>	
:Stop traffic						
TEST DE	TEST DESCRIPTION					
1.	Start the traffic to D for all SI	LS.				
2.	2. Stop the traffic and check that the messages have been transmitted on the correct linkset and on the correct link in accordance with the SLS.					e correct link in
3.	Check that there was no loss	of messages, no duplication and no miss	sequ	ienci	ing.	

TEST NU	JMBER: 2.5.3			PAGE: 1 of 1		
REFEREN	NCE: Q.704 Fig. 26; sul	oclause 2.3 Q.705 subcl	lause 4.4			
TITLE: S	Signalling message handling					
SUBTITL	E: Load sharing between link	ssets – Between three linksets	s and one route	unavailable		
PURPOSE	E: To check the load sharing l	between three linksets when o	one route is una	vailable		
PRE-TES	Γ CONDITIONS: Linksets 4	and 8 unavailable (TFP, PC	= D from C to A	A)		
CC	ONFIGURATION: B	TYPE OF TEST	Γ: VAT	TYPE OF	F SP: ALL	
MESSAG	E SEQUENCE:					
	SP A	SP B	SP C	SP	D	
Link		Link	Link	Link		
:Start traff		LIIIK	LIIIK	Link		
1 – 1				>		
	<			1 – 1	TRAFFIC	
1 – 2						
2 1		> 5 – 1		· -	TRAFFIC	
2-1 $2-2$		> 5-1> > 5-1				
:Wait	Thum The	3 1				
:Stop traf	fic					
TEST DESCRIPTION						
		wait and ston				
2.	<ol> <li>Start the traffic for all SLS, wait and stop.</li> <li>Check that the traffic to D via C has been shared on the remaining linksets.</li> </ol>					

TEST NUMBER: 2.5.4				PAGE: 1 of 1		
REFERENCE: Q.704	Fig. 26; subclause 2	3 Q.705 sul	oclause 4.4			
TITLE: Signalling message	ge handling					
SUBTITLE: Load sharing	g between linksets – Bet	tween three links	ets and one linkse	t unavailable		
PURPOSE: To check the	load sharing between tw	wo linksets after	the unavailability	of the third linkset		
PRE-TEST CONDITION	S: Linkset 1 deactivate	ed				
CONFIGURATION	N: B	TYPE OF TE	ST: VAT	TYPE O	F SP: ALL	
MESSAGE SEQUENCE:	•			·		
SP A		SP B	SP C	SI	P D	
Link		T int	T int.	Link		
:Start traffic		Link	Link	Ellik		
3 – 1 TRAF	FIC	>	> 8 − 1 <b></b>	>		
3 – 2 TRAF	FIC	>	> 8 − 1 <b></b>	>		
2 – 1 TRAF	FIC>	5 – 1		>		
	<	2 – 1 <		5 – 1	TRAFFIC	
2 – 2 TRAF	FIC>	5 – 1		>		
	<	2-2 <		5 – 1	TRAFFIC	
:Wait						
:Stop traffic						
TEST DESCRIPTION						
1. Start the traffic	e for all SLS to D, wait a	and stop.				
2. Check that the	traffic has been shared	on the remaining	linksets.			

TEST NU	JMBER: 2.6.1		PAGE: 1 of 1
REFEREN	NCE: Q.704 Fig. 26		
TITLE: S	Signalling message handling		
SUBTITL	E: Inaccessible destination – I	Oue to a linkset failure	
PURPOSE	E: To check the signalling mes	sage handling when a destination becomes	inaccessible due to a linkset failure
PRE-TEST	Γ CONDITIONS: Signalling l	linkset with one link available	
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:		
	SP A		SP B
Link		Link	
:Start traff		Lilik	
.Start train		>	
1 1	TRATTE	< 1 – 1	TRAFFIC
1 – 1	:Deactivate		TRUMPIC
TEST DE	SCRIPTION		
1.	Start the traffic for all SLS to	B and C.	
2.	Deactivate the last link $1-1$ a	and check that the linkset becomes unavaila	ble.
3.	Check that the SPs B and C be	ecome inaccessible.	
4.	Check that all messages stored	d or received after the unavailability of the	inkset are discarded.

TEST NUMBER: 2.6.2			PAGE: 1 of 1	
REFERENCE: Q.7	704 Fig. 26			
TITLE: Signalling	message handling			
SUBTITLE: Inacc	essible destination – D	rue to a route failure		
PURPOSE: To che	eck the signalling mess	age handling when a destinati	on becomes	inaccessible on reception of a TFP
PRE-TEST COND	ITIONS: All links and	d routes available		
CONFIGUR	RATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL
MESSAGE SEQUI	ENCE:			
	SP A			SP B
Link			Link	
:Start traffic			Lilik	
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 – 2	TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 3	TRAFFIC	>		
		<	1 – 3	TRAFFIC
1 – 4	TRAFFIC	>		
		<	1 - 4	TRAFFIC
		<	1 – X	TFP, $PC = C$
TEST DESCRIPTI				
	e traffic to B and C for			
	hat the SP C becomes	(PC = C) from SP B to SP A	•	
4. Stop tra		inaccessible.		
		or received after the inaccess	ihility hove b	neen discarded
	Check that all messages stored or received after the inaccessibility have been discarded.  Check that traffic to B has not been disturbed.			

TEST NU	TEST NUMBER: 2.6.3			PAGE: 1 of 1		
REFERENCE: Q.704 Fig. 26						
TITLE: S	ignalling message handling					
SUBTITL	E: Inaccessible destination – D	ue to a linkset and a route f	ailure			
PURPOSE	To check the signalling mess failure	age handling when a destin	ation becomes i	naccessible due to a linsket and a route		
PRE-TEST	CONDITIONS: Linkset 4 ur	navailable				
CC	ONFIGURATION: B	TYPE OF TEST	: VAT	TYPE OF SP: ALL		
MESSAGI	E SEQUENCE:					
	SP A		SP B	SP C		
Link		Link		Link		
:Start traffi	ic					
1 - 1,	2 TRAFFIC	<		> SP D		
3 – 1	TRAFFIC			> To D and E		
3 – 2	TRAFFIC	<<		> To D and E		
2 – 1	TRAFFIC	>	To D and E	J-2 TRAFFIC (Holli L)		
2 - 2	_	>	To D and E			
		<		7-1 :Deactivate $3-X$ TFP, PC = E		
2 – 1	TRAFFIC	> <	To D and E 2 – 1 TRAFFI (from E)	С		
2 – 2	TRAFFIC	> <	To D and E  2 – 1 TRAFFI (from E)	C		
2 - 1	:Deactivate		( - )			
2 - 2	:Deactivate					
1 - 1,	2 TRAFFIC	<		> SP D		
:Wait						
:Stop traffi						
	he transitory states (signalling message handling.	network management proce	edures) are not	described in this test which checks only the		
TEST DE	SCRIPTION					
1.	Start the traffic to the SPs D ar	nd E for all SLS.				
2.	Initiate the sending of a TFP (the traffic to D is not disturbed		A, check that t	he traffic to E is routed via B and check that		
3.	Deactivate the linkset 2 and ch	eck that the destination E b	ecomes inacces	sible. Stop traffic.		
4.	Check that all messages stored or received during the inaccessibility have been discarded.					

TEST NU	JMBER: 2.7		PAGE: 1 of 1		
REFEREN	NCE: Q.704 clause 2 Fig.	26			
TITLE: S	Signalling message handling				
SUBTITL	E: Message transfer function				
PURPOSE	E: To test the transfer function	in an STP			
PRE-TES	T CONDITIONS: All links av	railable			
CC	ONFIGURATION: C	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL		
MESSAG	E SEQUENCE:				
	SP B	SP	A SP C		
Link		Link	Link		
:Start traf		Lilik	Lilik		
1 – 1,	2 TRAFFIC	> 2 – 1	>		
		< 1-1,2 <	TRAFFIC		
:Wait					
:Stop traf	fic				
NOTE – '	The traffic used in this test is in	conformance with the traffic model present	ted in Recommendation Q.706.		
TEGT DE					
	TEST DESCRIPTION				
1.	Start traffic between B and C in both directions via A.				
2.	Check that transfer function is	* *			
3.	Stop traffic and check that the information field of these mes	nere were no loss of messages, no duplicate sages has not been corrupted.	ation and no missequencing. Check that the		

TEST NUMBER: 3.1			PAGE: 1 of 1		
REFEREN	ICE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30			
TITLE: (	Changeover				
SUBTITL	E: Changeover initiated at one	side of a linkset (COO <> Co	OA)		
PURPOSE	E: To check the normal change	over procedure			
PRE-TES	Γ CONDITIONS: Linkset with	n two available links			
CO	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
			LIIIK		
:Start traff					
1 – 1	TRAFFIC	<>	1 1	TD A FFIC	
1 0	TDARFIC		1 – 1	TRAFFIC	
1 - 2	TRAFFIC	>		TD 4 FFF G	
		<	1 – 2	TRAFFIC	
1 – 1		ommand or failure)			
1 - 2	COO, SLC 1 – 1	>			
		<	1 - 2	COA, SLC 1-1	
1 - 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all t	he links.			
2.	Deactivate link $1-1$ , check th	at a COO is sent (from A) for	1 – 1 on 1 –	2 and respond with a COA within T2.	
3.	Check that the time between Recommendation Q.706).	n the deactivation and the s	ending of t	he COO is inside the specified value (see	
4.	Check that the traffic from link $1-1$ is changed over to $1-2$ and check that the traffic normally carried by $1-2$ is passed over to $1-2$ .				
5.	Stop traffic and check it has be	een received correctly (no lost	messages no	duplication and no missequencing).	
6.	Repeat the test by sending the the COO and the sending of the	e COO from B (instead of A). e COA is inside the specified	In addition, value (see Ro	check that the time between the reception of ecommendation Q.706).	

TEST NU	JMBER: 3.2			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30			
TITLE: (	Changeover				
SUBTITL	E: Changeover initiated at both	h ends at the same time (COO	<-> COO)		
PURPOSI	E: To check the changeover pro	ocedure when the changeover	s initiated at	the both ends simultaneously	
PRE-TES	T CONDITIONS: Linkset with	h two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	K		Link		
:Start traff	ñc .				
1 – 1	1 TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1-2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	l :Deactivate (MML c		. 2	THE IT TO	
1 – 1		>			
1 – 2	2 COO (SEC 1 – 1)	<	1 2	COO (SLC 1 1)	
			1 – 2	COO (SLC 1-1)	
1 – 2	2 COA (SLC 1 – 1)	>			
		<	1 – 2	COA (SLC 1 – 1)	
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait				(Helli I I)	
:Stop traf	fic				
_					
TEST DE	ESCRIPTION				
1.	Start the traffic to B and C on	all the links.			
2.	Deactivate the link $1 - 1$ , chec	k that the COOs and COAs fo	r 1 – 1 are re	ceived on link $1-2$ .	
3.	Check that the traffic from line	k 1 - 1 changed over to $1 - 2$	and stop traff	ic.	
4.	Repeat the test without sending	g of COA from SP B to SP A	٠.		

TEST NU	TEST NUMBER: 3.3			PAGE: 1 of 1	
REFEREN	ICE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30			
TITLE: (	Changeover				
SUBTITL	E: Changeover on expiration o	f timer T2 (COO or ECO -> -	-)		
PURPOSE	E: To check the changeover pro	ocedure when no COA is recei	ved in respor	ase of a COO previously sent	
PRE-TEST	Γ CONDITIONS: Linkset with	n two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML c	ommand or failure)			
1 – 2	COO, SLC 1 – 1	>			
	T2				
1 – 2	TRAFFIC	>			
	(from 1 - 1)				
337 °		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait :Stop traf	fic				
.Stop trui					
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all t	he links.			
2.	Deactivate link 1 – 1, check th	at a COO is received for 1 – 1	on link $1-2$	2.	
3.	After the expiration of T2, che	ck that the changeover proced	lure is perfori	med.	
4.	Check that the duration of T2	is inside the specified range.			
5.	Stop traffic and check that the should not perform retrieval.	re was no duplication and no	missequencii	ng, some messages may be lost as the system	
6.	Repeat the test but replacing COO by ECO.				

TEST NU	UMBER: 3.4	PAGE: 1 of 1					
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30							
TITLE: Changeover							
SUBTITLE: Unreasonable FSN in COO/COA							
PURPOSE: To check the changeover procedure on reception of a COO/COA containing an unreasonable FSN							
PRE-TEST CONDITIONS: Linkset with two available links							
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL			
MESSAG	E SEQUENCE:			'			
SP A SP B							
Link			Link				
:Start traff	ic						
1 – 1		>					
		<	1 – 1	TRAFFIC			
1 – 2	. TRAFFIC	>					
		<	1 – 2	TRAFFIC			
1 – 1	:Deactivate (MML c	command or failure)					
1 – 2 COO, SLC 1 – 1>							
	,	<	1 – 2	COA, SLC 1 – 1 (unreasonable FSN)			
1 – 2	TRAFFIC (from 1 – 1)	>		,			
	(======================================	<	1 – 2	TRAFFIC (from 1 – 1)			
:Wait							
:Stop traffic							
TEST DESCRIPTION							
1.	Start traffic to B and C on all the links.						
2.	Deactivate link 1 – 1, check that a COO is received for 1 – 1 on link 1 – 2 and respond within T2 with a COA						
2.	containing an unreasonable FSN.						
3.	Stop traffic, check that the changeover procedure has been performed.						
4.	Check that there was no duplication and no missequencing. Some messages may be lost as the system should not perform retrieval.						
5.	Check that an indication is given by the system.						
6.	Repeat the test with a COO sent from B (instead COA) containing an unreasonable FSN.						

TEST NU	JMBER: 3.5	PAGE: 1 of 1						
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30								
TITLE: Changeover								
SUBTITLE: Reception of a changeover acknowledgement without sending a changeover order (- <- COA or ECA)								
PURPOSE: To check the changeover procedure on reception of an unexpected changeover acknowledgement								
PRE-TEST CONDITIONS: Linkset with two available links								
CONFIGURATION: A		TYPE OF TEST: VAT		TYPE OF SP: ALL				
MESSAG	E SEQUENCE:			,				
SP A SP B								
Link			Link					
			LIIIK					
:Start traff		>						
1 – 1	TRAFFIC	<>		TD A FFIC				
1 – 2		>	1 – 1	TRAFFIC				
1 – 2	2 TRAFFIC	<	1-2	TD A FEIC				
		<		TRAFFIC				
1 1	TD A FFIC		1 – 2	COA, SLC 1 – 1				
1 – 1	TRAFFIC	<>	1 – 1	TD A FFIC				
1 2		>	1 – 1	TRAFFIC				
1 - 2	2 TRAFFIC		1 2	TD A FEIC				
·Woit		<	1 – 2	TRAFFIC				
:Wait								
:Stop traffic								
TEST DESCRIPTION								
1.	Start traffic to B and C on all the links.							
2.	Send a COA for $1-1$ on link $1-2$ , check that this message is ignored.							
3.	Stop traffic and check that it has been received correctly.							
4.	Repeat the test with an ECA instead of a COA.							

TEST NU	JMBER: 3.6		PAGE: 1 of 1				
REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30							
TITLE: Changeover							
SUBTITLE: Reception of an additional changeover order (- <- COO or ECO)							
PURPOSE: To check the action of the system when a changeover order relating to a particular link is received after completion of changeover							
PRE-TEST CONDITIONS: Linkset with only the link 1 – 2 available							
CONFIGURATION: A		TYPE OF TEST: VAT		TYPE OF SP: ALL			
MESSAG	E SEQUENCE:						
	SP A			SP B			
Link	E		Link				
:Start traff	ĭc						
1 - 2	2 TRAFFIC	>					
		<	1 – 2	TRAFFIC			
1 0		<	1 – 1	COO, SLC 1 – 1			
1-2 $1-2$	,	>					
1 – 2	RAFFIC	<	1 – 2	TRAFFIC			
:Wait							
:Stop traf	fic						
TEST DESCRIPTION							
1.	Start traffic to B and C on link 1 – 2.						
2.	Send a COO for $1-1$ on link $1-2$ and check that an ECA is received in T2.						
3.	Stop traffic and check that it has been received correctly.						
4.	Repeat the test with an ECO instead of a COO.						
1							

TEST NU	JMBER: 3.7			PAGE: 1 of 1
REFEREN	NCE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30		
TITLE: (	Changeover			
SUBTITL	E: Emergency changeover at o	ne side of a linkset (COO <>	ECA)	
PURPOSE	E: To check the emergency cha	ngeover procedure when a CO	O is acknow	rledged by an ECA
PRE-TES	Γ CONDITIONS: Linkset with	h two available links		
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:			
	SP A			SP B
Link	<u> </u>		Link	
:Start traff	ĭc			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 – 2	2 TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 1	:Deactivate (MML c	command or failure)		
1 - 2	2 COO, SLC 1 – 1	>		
		<	1 – 2	ECA, SLC 1 – 1
		<	1 – 2	TRAFFIC (from 1 – 1)
1 – 2	TRAFFIC (from 1 – 1)	>		
:Wait				
:Stop traf	fic			
TEST DI	ESCRIPTION			
1.	Start traffic to B and C on all l	inks.		
2.	Check the sending of a COO (	from A) for $1-1$ on $1-2$ and	check that a	n ECA is sent inside T2.
3.	Check that the traffic is change	ed over from $1-1$ to $1-2$ .		
4.	Stop traffic and check that it has been received correctly; no duplication and no missequencing. Some messages may be lost as the system should not perform retrieval.			
5.	Repeat the test by sending CO	O from B (instead of A).		

TEST NU	JMBER: 3.8			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30			
TITLE: (	Changeover				
SUBTITL	E: Emergency changeover at o	one side of a linkset (COO <->	ECO)		
PURPOSE	E: To check the emergency cha	ngeover procedure when a COO	O is acknow	rledged by an ECO	
PRE-TES	Γ CONDITIONS: Linkset with	h two available links			
CO	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	ζ.		Link		
:Start traff	ĩc				
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 – 1	:Deactivate (MML c	command or failure)			
1 – 2	2 COO, SLC 1 – 1	>			
		<	1 – 2	ECO, SLC 1 – 1	
1 – 2	2 COA, SLC 1 – 1	>			
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all l	inks.			
2.	Check the sending of a COO ( is received.	from A) for $1-1$ on $1-2$ and $0$	check that a	n ECO is sent (before T2 expires) and a COA	
3.	Check that the traffic is change	ed over from $1-1$ to $1-2$ .			
4.	Stop traffic and check that it I be lost as the system should no	nas been received correctly; no	duplication	n and no missequencing. Some messages may	
5.	Repeat the test but send COO	-			

TEST NU	UMBER: 3.9			PAGE: 1 of 1
REFEREN	NCE: Q.704 clause 5 Fig. 3	28, Fig. 29, Fig. 30		
TITLE: C	Changeover			
SUBTITL	E: Emergency changeover at or	ne side of a linkset (ECO <>	· COA)	
PURPOSE	E: To check the emergency char	ngeover procedure when an E	CO is acknow	wledged by a COA
PRE-TEST	Γ CONDITIONS: Linkset with	two available links		
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL
MESSAGI	E SEQUENCE:			
	SP A			SP B
Link			Link	
:Start traff	ic			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 – 2	. TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 1	:Deactivate (failure)			
1 – 2	ECO, SLC 1 – 1	>		
		<	1 - 2	COA, SLC 1 – 1
		<	1 - 2	TRAFFIC (from $1-1$ )
1 – 2	TRAFFIC (from 1 – 1)	>		
:Wait				
:Stop traf	fic			
TEST DE	ESCRIPTION			
1.	Start traffic to B and C on all li	nks.		
2.	Check that an ECO is received	for $1-1$ on $1-2$ and that a	COA is sent b	pefore T2 expires.
3.	Check that traffic is changed ov	ver from $1-1$ to $1-2$ .		
4.	Stop traffic and check that it h be lost as the system should no	as been received correctly; n t perform retrieval.	o duplication	and no missequencing, some messages may
5.	Repeat the test but send ECO fi	rom B (instead of A).		

TEST NU	MBER: 3.10			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig. 2	28, Fig. 29, Fig. 30			
TITLE: C	Changeover				
SUBTITL	E: Emergency changeover at on	e side of a linkset (ECO <>	ECA)		
PURPOSE	E: To check the emergency chan	geover procedure when an E	CO is acknow	wledged by an ECA	
PRE-TEST	Γ CONDITIONS: Linkset with	two available links			
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link	:		Link		
:Start traff	ic				
1 – 1	TRAFFIC	>			
		<	1 - 1	TRAFFIC	
1 – 2	2. TRAFFIC	>			
		<	1 - 2	TRAFFIC	
1 – 1	:Deactivate (failure)				
1 – 2	2 ECO, SLC 1-1	>			
		<	1 – 2	ECA, SLC 1 – 1	
		<	1 - 2	TRAFFIC (from $1-1$ )	
1 – 2	TRAFFIC (from 1 – 1)	>			
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all lin	nks.			
2.	Check that an ECO is received for $1 - 1$ on $1 - 2$ and that an ECA is sent before T2 expires.				
3.	Check that traffic is changed over from $1 - 1$ to $1 - 2$ .				
4.	Stop traffic and check that it has been received correctly; no duplication and no missequencing. Some messages may be lost as the system should not perform retrieval.				
5.	Repeat the test but send ECO fr	om B (instead of A).			

TEST NUMBER: 3.11 PAGE: 1 of 1			PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30		
TITLE: (	Changeover			
SUBTITL	E: Emergency changeover at or	ne side of a linkset (ECO <>	COO)	
PURPOSE	E: To check the emergency char	ngeover procedure when an Co	OO is receive	ed in response to an ECO
PRE-TEST	Γ CONDITIONS: Linkset with	two available links		
CC	ONFIGURATION: A	TYPE OF TEST:	VAT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:			
	SP A			SP B
Link	i e		Link	
:Start traff	ic			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 – 2	. TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 1	:Deactivate (failure)			
1 – 2		>		
		<	1 – 2	COO, SLC 1 – 1
1 – 2	2 ECA, SLC 1-1	>		
1 – 2	TRAFFIC	>		
	(from 1 – 1)		1 0	TDAFFIG (C
:Wait		<	1 – 2	TRAFFIC (from 1 – 1)
:Stop traf	fic			
_				
TEST DE	SCRIPTION			
1.	Start traffic to B and C on all li	nks.		
2.	Check that an ECO is received for $1-1$ on $1-2$ and that a COO is sent before T2 expires and acknowledged with an ECA.			
3.	Check that traffic is changed or	ver from $1-1$ to $1-2$ .		
4.	Stop traffic and check that it h be lost as the system should no	as been received correctly; no t perform retrieval.	o duplication	and no missequencing. Some messages may
5.	Repeat the test but sent ECO fr	rom B (instead of A).		

TEST NUMBER: 3.12 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Emergency changeover initiated at both ends at the same time (ECO <-> ECO) PURPOSE: To check the emergency changeover procedure when it is initiated at the both ends simultaneously PRE-TEST CONDITIONS: Linkset with two available links CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic 1 - 1TRAFFIC ----> <-----1 - 1**TRAFFIC** 1 - 2**TRAFFIC** 1 - 2TRAFFIC 1 - 1:Deactivate (failure) 1 - 2ECO, SLC 1-1----> <-----1 - 2ECO, SLC 1-11 - 2ECA, SLC 1-11 - 2ECA, SLC 1-1 1 - 2TRAFFIC (from 1 - 1)1 - 2TRAFFIC (from 1-1) :Wait :Stop traffic TEST DESCRIPTION Start traffic to B and C on all links. 1. 2. Check that an ECO is received for 1-1 on 1-2 and that an ECO is sent before T2 expires and acknowledged with ECA. 3. Check that traffic is changed over from 1 - 1 to 1 - 2. 4. Stop traffic and check that it has been received correctly; no duplication and no missequencing. Some messages may be lost as the system should not perform retrieval. Repeat the test without sending ECA from SP B to SP A. 5.

TEST NU	JMBER: 3.13		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30		
TITLE: (	Changeover			
SUBTITL	E: Reactivation of a link during	g a changeover procedure		
PURPOSE	E: To check the changeover pro	cedure when the link failure causing the ch	nangeover is removed during the procedure	
PRE-TES	Γ CONDITIONS: Linkset with	two available links		
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			
	SP A		SP B	
Link	-	Link		
:Start traff		Lilik		
.Start train		>		
1 1	INTITIE	< 1 – 1	TRAFFIC	
1 - 2	2 TRAFFIC	>		
		< 1 – 2	TRAFFIC	
1 – 1	:Deactivate (failure)			
1 – 1	:Activate (end of fail	ure)		
:Wait				
:Stop traf	fic			
NOTE – This test will be performed if applicable (some systems may terminate the changeover procedure, then perform the changeback).				
TEST DE	SCRIPTION			
1.	Start traffic to B and C on all l	inks.		
2.	Deactivate the link $1 - 1$ and re	eactivate this link immediately.		
3.	Stop traffic and check that the deactivation and the reactivation	ne changeover procedure has not been pon, a COO may be sent or not.	erformed. Depending the time between the	
4.	Check that the traffic used the	links $1-1$ and $1-2$ normally.		

TEST NUMBER: 3.14 PAGE: 1 of 1				PAGE: 1 of 1
REFEREN	NCE: Q.704 clause 5 Fig	. 28, Fig. 29, Fig. 30		
TITLE: C	Changeover			
SUBTITL	E: Simultaneous changeover			
PURPOSE	E: To check that the system can	n correctly handle simultaneous fa	ilures of	several links
PRE-TEST	Γ CONDITIONS: Linkset wit	h three available links		
CC	ONFIGURATION: A	TYPE OF TEST: VA	AT	TYPE OF SP: ALL
MESSAGI	E SEQUENCE:			
	SP A			SP B
Link			Link	
:Start traff	ic			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 - 2	TRAFFIC	>		
		<	1 - 2	TRAFFIC
1 - 3	TRAFFIC	>		
	2	<	1 – 3	TRAFFIC
1 - 1, 1 $1 - 3$		>		
1 - 3 $1 - 3$		>		
1-3	COD, SEC 1-2	<	1 – 3	COA, SLC 1 – 1
		<	1 – 3	COA, SLC 1 – 2
1 – 3	TRAFFIC	>	1 5	661, 526 1 2
-	(from $1 - 1$ and $1 - 2$ )			
	1-2)	<	1 – 3	TRAFFIC (from $1-1$ and $1-2$ )
:Wait				,
:Stop traf	fic			
TEST DE	SCRIPTION			
1.	Start traffic to B and C on all	links.		
2.	Deactivate the links $1-1$ and	1 – 2 simultaneously.		
3.	Check that COOs are received changed over from 1 – 1 and 1	d on $1-3$ for $1-1$ and $1-2$ , an $1-2$ to $1-3$ .	d respond	d with COAs inside T2s. Check that traffic is
4.	-		t message	es, no duplication and no missequencing).

TEST NUMBER: 3.15 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Changeover to several alternative links within a linkset PURPOSE: To check the changeover procedure when there are several alternative links PRE-TEST CONDITIONS: Linkset with all links available CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP B SP A Link Link :Start traffic 1 - 1TRAFFIC <-----1 - 1TRAFFIC 1 - 2TRAFFIC <-----1 - 2**TRAFFIC** ----> 1 - 3**TRAFFIC TRAFFIC** <-----1 - 3TRAFFIC 1 - 41 - 4**TRAFFIC** 1 - 1:Deactivate (MML command or failure) 1 - 2, 3 or 4 COO, SLC 1 – 1 < 1 – 2, 3 or 4 COA, SLC 1-11 - 2TRAFFIC (from 1 - 1)<-----1 - 2TRAFFIC (from 1-1) 1 - 3TRAFFIC (from 1 - 1)TRAFFIC (from 1-1) 1 - 4TRAFFIC (from 1 - 1)1 - 4TRAFFIC (from 1-1) :Wait :Stop traffic TEST DESCRIPTION 1. Start traffic to B and C on all links. Deactivate the link 1-1 and check that the changeover is performed to links 1-2, 1-3 and 1-4. 2. 3. Stop traffic and check that it has been shared on the alternative links according to the load sharing policy of this linkset. 4. Check that, for each destination and for each SLS, there was no lost messages, no duplication and no missequencing.

TEST NUMBER: 3.16 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Changeover to another linkset with adjacent SP accessible PURPOSE: To check that the system performs changeover to an alternative route when the last link of a linkset becomes unavailable PRE-TEST CONDITIONS: Linkset 1 and link 3 – 1 unavailable CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP B SP C SP • SP A Link Link Link Link :Start traffic 3 - 2TRAFFIC 7 - 1----> SP E <-----8 - 1SP D <-----7 - 13 - 2SP E 2 - 1, 2TRAFFIC 6 - 1----> SP E 5 - 1-----> SP D 2-1, 25 - 1SP D 3 - 2:Deactivate (MML command or failure) 2 - XCOO, SLC ----> 4 - 13 - 2<----- 4-1 COA, SLC 3-2 <-----2-X2 - 1, 2----> 6 - 1----> **TRAFFIC** SP E 5 - 1----> SP D (from 3 - 2)<-----2 – 1, 2 <-----5 - 1SP D 2 - 1, 26 - 1SP E <-----:Wait :Stop traffic TEST DESCRIPTION 1. Start traffic to E (and D in VAT). 2. Deactivate link 3 – 2 and check that a COO (for 3 – 2) is sent from A to C via B and that a COA (from 3 – 2) is sent from C to A via B within T2. Stop traffic and check that it has been shared on the alternative links 2-1 and 2-2 according to the load sharing 3. rules of linkset 2. 4. Check that, for each SLS, there was no lost messages, no duplication and no missequencing. 5. Repeat the test but replace COO with ECO (some messages may have been lost).

TEST NUMBER: 3.17 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Changeover to another linkset with adjacent SP inaccessible PURPOSE: To check that the system responds correctly when there is no path between the ends of an unavailable link PRE-TEST CONDITIONS: Linkset 4 unavailable CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP C SP A SP B SP E Link Link Link Link :Start traffic 2 - 1TRAFFIC -----> 6-1 -----> TRAFFIC -----> 6-1 -----> 2 - 2TRAFFIC -----> 7-1 ----> 3 - 1<----- 7-1 TRAFFIC -----> 7-1 ----> 3 - 2TRAFFIC **TRAFFIC** 2 - 1:Deactivate (MML command or failure) 2 - 2:Deactivate (MML command or failure) T1 -----> 7-1 -----> TRAFFIC 3 - 1(from 2 - 1, 2)<----- 7 - 1 TRAFFIC TRAFFIC -----> 7-1 -----> 3 - 2(from 2 - 1, 2)TRAFFIC :Wait :Stop traffic TEST DESCRIPTION 1. Start traffic to E on linkset 2 and 3. 2. Deactivate the linkset 2. 3. Check that traffic continues on linkset 3 at the expiration of T1. 4. Stop traffic and check that it has been shared on links 3-1 and 3-2 according to the load sharing rules of the linkset 3. 5. Check that the traffic has been received correctly. Some messages may have been lost but none should be missequenced or duplicated. Check that the duration of T1 is inside the specified range. 6.

TEST NUMBER: 3.18 PAGE: 1 of 1 REFERENCE: Q.704 clause 5 Fig. 28, Fig. 29, Fig. 30 TITLE: Changeover SUBTITLE: Changeover to two linksets PURPOSE: To check the changeover procedure when it is performed to several links pertaining to two linksets PRE-TEST CONDITIONS: Link 1 – 1 unavailable, all other available CONFIGURATION: B TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B SP C SP D Link Link Link Link :Start traffic 1 - 2TRAFFIC ----> <------ 1 – 2 **TRAFFIC** 1 - 2:Deactivate (MML command or failure) 2 - XCOO, 5 - 1SLC 1-2or 3 - X-----> 8 – 1 -----> <----- 2 - X <----- 5 - 1 COA, SLC 1-2TRAFFIC ----> 5-1 -----> 2 - 1(from 1 - 2)<----- 2 - X <----- 5 - 1 TRAFFIC (from 1-2)2 - 2TRAFFIC ----> 5-1 ----> (from 1-2)3 - 1TRAFFIC -----> 8-1 -----> (from 1-2)3 - 2TRAFFIC (from 1-2):Wait :Stop traffic TEST DESCRIPTION Start traffic to D. 1. Deactivate the link 1-2 and check that a COO for 1-2 is sent to D via B or C and that a COA is sent from D to A 2. via B or C inside T2. 3. Stop traffic and check that it has been shared on the alternative links 2-1, 2-2, 3-1 and 3-2 according to the load sharing rules in A. Check that, for each SLS, there were no lost messages, no duplication and no missequencing. 4. 5. Repeat the test but replace COO with ECO (some messages may have been lost).

TEST NU	MBER: 3.19		PAGE: 1 of 1	
REFEREN	NCE: Q.704 clause 5; subclause	3.2.2		
TITLE: (	Changeover			
SUBTITL	E: Changeover due to various	reasons		
PURPOSE	E: To check the interface L2-L3	3		
PRE-TEST	Γ CONDITIONS: Linkset with	n two available links		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			
	SP A		SP B	
Link		Link		
:Start traff	ic			
1 – 1	TRAFFIC	>		
		< 1-1	TRAFFIC	
1 – 2	2 TRAFFIC	>		
		< 1-2	TRAFFIC	
1 – 1	:Deactivation due to	various reasons (see Note)		
	CHANGEOVER			
1 – 2	TRAFFIC (from 1 – 1)	>		
		< 1 – 2	TRAFFIC (from 1 – 1)	
:Wait				
:Stop traf	fic			
NOTE – The object of this test is to check the interface L2-L3 by invoking a changeover by the different means listed in 3.2.2/Q.704. These reasons are: high error rate, expiration of timer T1, T2, T6 and T7 of L2, equipment failure, erroneous BSN or FIB, reception of SIOS, SIN, SIE, SIO and SIPO of L2, and management request. The goal of this test is not to check the changeover procedure itself, but only that the COO is generated for each of these reasons.				
TEST DESCRIPTION				
1.	Start traffic to B and C on all l	inks.		
2.	Invoke the deactivation of the	link $1 - 1$ (see Note above).		
3.	Check that traffic is changed of	ver from $1-1$ to $1-2$ .		
4.	Stop traffic and check that it h	·		
5.	Repeat the test for each reason			

TEST NU	UMBER: 3.20		PAGE: 1 of 1
REFEREN	NCE: Q.704 clause 5 Fig.	28, Fig. 29, Fig. 30	
TITLE: (	Changeover		
SUBTITL	E: Changeover as compatibility	test test	
PURPOSE	E: To check the changeover pro-	cedure as compatibility test	
PRE-TEST	Γ CONDITIONS: Linkset with	two available links	
CC	ONFIGURATION: A	TYPE OF TEST: CPT	TYPE OF SP: ALL
MESSAG	E SEQUENCE:		
	SP A		SP B
Link	:	Link	
:Start traff	ic		
1 – 1	TRAFFIC	>	
		< 1 – 1	TRAFFIC
1 – 2	TRAFFIC	>	
		< 1 – 2	TRAFFIC
1 – 1	:Deactivate (MML co	ommand or failure)	
	CHANGEOVER		
1 – 2	TRAFFIC (from 1 – 1)	>	
		< 1 – 2	TRAFFIC (from 1 – 1)
:Wait			
:Stop traf	fic		
NOTE – In a compatibility test it is impossible to describe precisely the exchanges of changeover messages because the description depends of the type of deactivation of the link and of the time necessary to detect the deactivation.			
TEST DESCRIPTION			
1.	Start traffic to B on links 1 – 1	and 1 – 2.	
2.	Deactivate link 1 – 1 and check	that the changeover is performed.	
3.	Check that the sequence of cha	ngeover messages conforms to one of the	descriptions 3.1 to 3.12. Stop traffic.
4.	Repeat the test by invoking the	different reasons listed in the Note in test	3.19.

TEST NU	JMBER: 3.21		PAGE: 1 of 1		
REFEREN	NCE: Q.704 clause 5 Fig. 2	28, Fig. 29, Fig. 30			
TITLE: (	Changeover				
SUBTITL	E: Reception of a changeover or	der on an available link			
PURPOSE	E: To check the changeover proc	edure on reception of a COO or ECO for	a link in servi	ce	
PRE-TEST	Γ CONDITIONS: Linkset with	two available links			
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
T : 1			r · 1		
Link			Link		
:Start traff					
1 – 1	TRAFFIC	>			
		<	1 – 1	TRAFFIC	
1 - 2	2 TRAFFIC	>			
		<	1 - 2	TRAFFIC	
		<	1 – 2	COO, SLC 1 – 1 (FSN corresponding to the last received message)	
1 – 2	COA, SLC 1 – 1	>			
1 – 2	TRAFFIC (from 1 – 1)	>			
		<	1 – 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all th	e links.			
2.	Send a COO from B to A for 1	-1 on link $1-2$ and check that the COA	is received.		
3.	Check that the link $1-1$ becomes unavailable.				
4.	Stop traffic and check that the c	hangeover procedure has been performed.			
5.	Check that there was no loss of	messages, no duplication and no misseque	encing.		
6.	Repeat the test but send an ECO (instead of a COO) and check that an ECA is received (instead of a COA). Some messages may be lost.				

TEST N	UMBER: 4.1		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 6, Fig. 2	28, Fig. 29, Fig. 31			
TITLE:	Changeback				
SUBTITI	LE: Changeback within a links	et			
PURPOS	E: To check that the changeba	ck procedure is correctly performed on rest	oration of a link i	n a linkset	
PRE-TES	ST CONDITIONS: Linkset wi	th one available link (end of test 3.1)			
C	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TY	TPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link :Start traf			Link		
1 – 2	2 TRAFFIC	> <	1 – 2	TRAFFIC	
1 – 1	:Activate (depending)	of the deactivation mean previously used)			
1 – 2	2 CBD, SLC 1 – 1	>			
1 – 1	1 TRAFFIC (from 1 – 2	·····	1 – X	CBA, SLC 1 – 1	
		<>	1 – 2	CBD, SLC 1 – 1	
1 – 2	2 TRAFFIC	<>	1 – 1	TRAFFIC (from 1 – 2)	
		<	1 – 2	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DESCRIPTION					
1.	Start traffic to B (and C in VAT) on link 1 – 2.				
2.	Activate the link 1 – 1 and check that it enters the correct in service state.				
3.	Check that a CBD for SLC 1 -	- 1 is received and that traffic for link $1 - 1$	is switched back	after a CBA is sent.	
4.	Stop traffic and check that it h	as been received correctly, no lost message	s, no duplication	and no missequencing.	
5.	Continue the test by activating	g the link $1-3$ , then $1-4$ .			
6.	As a compatibility test, repeat the test for several reasons chosen among those listed in test 4.10.				

TEST NU	JMBER: 4.2		PAGE: 1 of 1		
REFEREN	NCE: Q.704 clause 6, Fig. 2	28, Fig. 29, Fig. 31			
TITLE: (	Changeback				
SUBTITL	E: Additional CBA				
PURPOSE	E: To check the actions of the	system on reception of an additional CBA			
PRE-TES	Γ CONDITIONS: Linkset wi	th all links available			
СО	NFIGURATION: A	TYPE OF TEST: VAT	TY	PPE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link		
:Start traff	ĭc				
ALL	TRAFFIC	>			
		<	ALL	TRAFFIC	
		<	1 – X	CBA, SLC 1 – X	
ALL	TRAFFIC	>			
		<	ALL	TRAFFIC	
:Wait					
:Stop traff	ĭc				
TEST DE	ESCRIPTION				
1.	Start traffic to B and C on all	links.			
2.	Send an unexpected CBA to A and check that this message is discarded without action on the traffic.				
3.	Stop traffic.				

TEST N	UMBER: 4.3		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 6, Fig. 2	28, Fig. 29, Fig. 31		
TITLE:	Changeback			
SUBTITI	LE: Additional CBD			
PURPOS	E: To check the action of the s	ystem on reception of an additional CBD		
PRE-TES	T CONDITIONS: Linkset wi	th all links available		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	TPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link	Ε		Link	
:Start traf	fic			
ALL	TRAFFIC	>		
		<	ALL	TRAFFIC
1 – X	CBA, SLC 1 – X	<>	1 – X	CBD, SLC 1 – X
ALL	TRAFFIC	<>	ALL	TRAFFIC
:Wait				
:Stop traf	fic			
TEST DI	ESCRIPTION			
1.	Start traffic to B and C on all	links.		
2.	Send an unexpected CBD to A	and check that a CBA is send back in resp	onse without impa	act on the traffic.
3.	Stop traffic and check that it h	as been received correctly.		

TEST N	UMBER	: 4.4		PAGE: 1 of 1	
REFERE	NCE: Q	).704 clause 6, Fig. 2	8, Fig. 29, Fig. 31		
TITLE:	Changeb	oack			
SUBTITI	LE: No	acknowledgement to fir	rst CBD		
PURPOS	Е: Тос	heck that a second CBI	D is sent if the first is not acknowledged		
PRE-TES	ST CON	DITIONS: Linkset wi	th one available link		
CC	ONFIGU	RATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL
MESSAC	GE SEQ	UENCE:			
		SP A			SP B
Link	ζ			Link	
:Start traf	ffic				
1 - 2	2	TRAFFIC	> <	1 2	TRAFFIC
1 – 1	1	:Activate	<	1 – 2	TRAFFIC
1 - 2	2	CBD, SLC 1 – 1	>		
		T4			
1 - 2	2	CBD, SLC 1 – 1	>		
1 – 1	1	TRAFFIC (from 1 – 2	<>	1 – X	CBA, SLC 1 – 1
1 1	•	TRATTE (Holli 1 2	<	1 – 1	TRAFFIC (from 1 – 2, see Note)
1 - 2	2	TRAFFIC	>		see Note)
			<	1 – 2	TRAFFIC
:Wait :Stop traf	fic				
		erform a changeback or	not.		
TEST DI	TEST DESCRIPTION				
1.	Start tr	affic to B and C on link	1 – 2.		
2.	Activat	te link 1 – 1 and check	that a CBD is received (no CBA in respons	e).	
3.	Check	that after T4 a second C	CBD is received and CBA is sent in respons	se before T5 expi	res.
4.	Check	that the traffic is chang	ed back on link 1 – 1.		
5.	Stop tra	affic and check that the	re were no lost messages, no duplication an	nd no missequenc	ing.
6.	Check	that the duration of T4	is inside the specified range.		

TEST N	UMBER: 4.5		PAGE: 1 of 3	1
REFERE	NCE: Q.704 clause 6, Fig. 2	8, Fig. 29, Fig. 31		
TITLE:	Changeback			
SUBTITI	LE: No acknowledgement of re	peat changeback declaration		
PURPOS	E: To check that traffic is char	ged back after a repeat changeback declara	ntion is not ackno	owledged
PRE-TES	ST CONDITIONS: Linkset wi	th one available link		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	Т	TYPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link	ζ		Link	
:Start traf	ffic			
1 – 2	2 TRAFFIC	> <	1 2	TD A FEIG
1 – 1	1 :Activate	<u> </u>	1 – 2	TRAFFIC
1 - 2	2 CBD, SLC 1 – 1	>		
	$\frac{1}{2}$			
	½ T4			
	$\frac{1}{2}$			
1 - 2	2 CBD, SLC 1 – 1	>		
	$\frac{1}{2}$			
	½ T5			
	$\frac{1}{2}$			
1 – 1	1 TRAFFIC (from 1 – 2	)>		
		<	1 – 1	TRAFFIC (from $1-2$ , see Note)
1 – 2	2 TRAFFIC	>		see Note)
		<	1 – 2	TRAFFIC
:Wait	24			
:Stop traf				
NOTE –	B may perform a changeback or	not.		
TEST D	ESCRIPTION			
1.	Start traffic to B and C on link	1 – 2.		
2.	Check that a CBD is received	and not acknowledged.		
3.	Check that after T4, a CBD is repeated and not acknowledged by a CBA.			
4.	Check that after T5, the traffic	is changed back on link $1-1$ .		
5.	Stop traffic and check that the	re were no lost messages, no duplication ar	nd no missequenc	cing.
6.	Check that the duration of T5	is inside the specified range.		

TEST N	UMBER: 4.6		PAGE: 1 of 1		
REFERE	REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31				
TITLE:	Changeback				
SUBTITI	LE: Simultaneous changeback				
PURPOS	E: To check simultaneous cha	ngebacks of traffic onto two links			
PRE-TES	T CONDITIONS: Linkset w	ith one available link (end of test 3.14)			
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL			YPE OF SP: ALL		
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link	3		Link		
:Start traf	fic				
1 – 3	3 TRAFFIC	>			
		<	1 – 3	TRAFFIC	
1 – 1		g of the deactivation mean			
1 - 2	restriction Provided				
1 - 3	, -	>			
1 – 3	S CBD, SLC 1 – 2	>			
		<	1 - X	CBA, SLC 1 – 1	
		<	1 - X	CBA, SLC $1-2$	
1 – 1	TRAFFIC (from 1 – 3	3)>			
		<	1 – 1	TRAFFIC (from $1-3$ , see Notes)	
1 - 2	2 TRAFFIC (from 1 – 3	3)>			
		<	1 – 2	TRAFFIC (from $1-3$ , see Notes)	
1 - 3	3 TRAFFIC	>			
		<	1 - 3	TRAFFIC	
:Wait					
:Stop traf	fic				
NOTES					
1 B may	perform changebacks or not.				
2 Chang final situa		ormed in sequence. The traffic sequence pre	esented here, after	the changebacks, is the	
TEST D	ESCRIPTION				
1.	Start traffic to B and C on line	x 1 − 3.			
2.	Simultaneously activate links	1 - 1 and $1 - 2$ .			
3.	Check that CBDs are receive on links $1 - 1$ and $1 - 2$ .	d and CBAs are sent (within T4) for $1-1$	and $1-2$ and that	at the traffic is changed back	
4.	Stop traffic and check that the	ere were no lost messages, no duplication ar	nd no missequenc	ing.	

TEST NUMBER: 4.7 PAGE: 1 of 1 REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31 TITLE: Changeback SUBTITLE: Changeback from several alternative links within a linkset PURPOSE: To check the changeback procedure when it is performed to several links in a same linkset PRE-TEST CONDITIONS: Linkset with one unavailable link (end of test 3.15) CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic 1-2, 3, 4TRAFFIC 1-2, 3, 4TRAFFIC 1 - 1:Activate (depending of the deactivation mean previously used) 1 - 2CBD, SLC 1-1CBD, SLC 1-11 - 31 - 4CBD, SLC 1-1----> 1 - XCBA, SLC 1-11 - XCBA, SLC 1-1<-----1 - XCBA, SLC 1-11 - 1TRAFFIC (from 1 - 2, 3, 4)TRAFFIC (from 1-2, 1 - 13, 4, see Note) 1-2, 3, 4TRAFFIC 1-2, 3, 4TRAFFIC :Wait :Stop traffic NOTE - B may perform changebacks or not. TEST DESCRIPTION 1. Start traffic to B and C on links 1-2, 1-3 and 1-4. 2. Activate link 1-1 and check that a CBD is sent on links 1-2, 1-3 and 1-4. Check that each CBD contains a different changeback code. 3. Check that the traffic is changed back on link 1 - 1. 4. Stop traffic and check that there were no lost messages, no duplication and no missequencing.

TEST NUMBER: 4.8 PAGE: 1 of 1 REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31 TITLE: Changeback SUBTITLE: Changeback from another linkset PURPOSE: To check the changeback procedure when it is performed from another linkset PRE-TEST CONDITIONS: Linksets 1 and 3 unavailable (end of test 3.16) CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP C SP B SP • Link Link Link Link :Start traffic 2 - 1, 25 - 1----> TRAFFIC ----> SP D ----> 6 - 1SP E 2-1, 2 < ----5 - 1SP D <-----<-----2-1, 2 <-----6 - 1SP E 3 - 2:Activate (depending of the deactivation mean previously used) ----> 2 - 1CBD, SLC 3-24 – 1 -----> **---->** 4-1 **---->** 2 - 2CBD, SLC 3-2<----- 3 - 2 CBA, SLC 3 - 2 <------ 3 - 2 CBA, SLC 3 - 2 **CHANGEBACK** ----> 5 – 1 ----> 2 - 1, 2**TRAFFIC** SP D 6 - 1----> SP E 2-1, 2 <-----5 - 1SP D 3 - 2**TRAFFIC** -----> 8-1 ----> SP D (from 2 - X)7 – 1 -----> SP E :Wait :Stop traffic NOTES 1 It is possible that A and/or B prefers to perform a time controlled diversion procedure. 2 After activation of link 3 - 2, CBDs are sent from C to A via B and acknowledged by A. These messages are not presented to simplify the test description. TEST DESCRIPTION 1. Start traffic to E (and D in VAT). 2. Activate link 3-2 and check that CBDs are received and that CBAs are sent before T4 expires in A. 3. Check that the traffic is changed back on linkset 3 in accordance with the load sharing rules in A. 4. Stop traffic and check that there were no lost messages, no duplication and no missequencing.

TEST NUMBER: 4.9 PAGE: 1 of 1 REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31 TITLE: Changeback SUBTITLE: Changeback from two linksets PURPOSE: To check the changeback procedure when it is performed from two linksets PRE-TEST CONDITIONS: Linkset 1 unavailable (end of test 3.18) TYPE OF TEST: VAT TYPE OF SP: ALL CONFIGURATION: B MESSAGE SEQUENCE: SP A SP B SP C SP D Link Link Link Link :Start traffic 5-1 ----> 2 - 1**TRAFFIC** <-----2-1 <-----TRAFFIC 5-1 ----> ----> 2 - 2**TRAFFIC** 2 – 2 <-----**TRAFFIC** 5 - 13 - 1**TRAFFIC** -----> 8-1 ----> 8-1 ----> **TRAFFIC** 3 - 21 - 2:Activate (depending of the deactivation mean previously used) 5-1 ----> CBD, SLC 1-22 - 1----> 2 - 2CBD, SLC 1-25 – 1 -----> -----> 8-1 ----> 3 - 1CBD, SLC 1-2-----> 8-1 -----> 3 - 2CBD, SLC 1-2**CBAs** 2 – X <-----<-----5 - 1SLC 1 - 22 – X <-----<-----5 - 1SLC 1-22 – X <-----5 - 1SLC 1 - 22 – X <-----<-----5 - 1SLC 1-2(from linksets 2 and 3) -----> 1 - 2**TRAFFIC** 1 - 2**TRAFFIC** (from linksets 5, see Notes) 2 - 1, 2TRAFFIC ----> 5 – 1 -----> 3 - 1, 2-----> 8-1 -----> **TRAFFIC** :Wait :Stop traffic NOTES 1 D may perform changebacks or not. 2 It is possible that A and/or B prefers to perform a time controlled diversion procedure. TEST DESCRIPTION 1. Start traffic on linksets 2 and 3 to D. Activate the link 1 - 2 and check that CBDs are received and that CBAs are sent before T4 expires in A. Check that 2. each CBD has a different changeback code. 3. Check that the traffic is changed back to link 1-2 in accordance with the load sharing rules in A. Stop traffic and check that there were no lost messages, no duplication and no missequencing. 4.

TEST N	UMBER: 4.10		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 6, Fig. 2	28, Fig. 29, Fig. 31		
TITLE:	Changeback			
SUBTITI	E: Changeback due to variou	s reasons		
PURPOS	E: To check the interface L2-I	_3		
PRE-TES	T CONDITIONS: Linkset w	ith one available link (end of 3.19)		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link	ī		Link	
:Start traf	fic			
1 – 2	. TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 – 1	:Activation due to var	rious reasons (see Note)		
1 – 2	CBD, SLC 1 – 1	>		
1 – 1	TRAFFIC (from 1 – 2	<> 2)>	1 – 2	CBA, SLC 1 – 1
1 – X	CBA, SLC 1 – 1	<>	1 – 2	CBD, SLC 1 – 1
1 – 2		<>	1 – 1	TRAFFIC (from 1 – 2)
1 – 2	RAFIC	<	1 – 2	TRAFFIC
:Wait	fia			
-		ok the interface I 2-I 3 by provoking a chan	geback by differe	ent means listed in 3/O 704
NOTE – The object of this test is to check the interface L2-L3 by provoking a changeback by different means listed in 3/Q.704. These reasons are: initial alignment procedure completed with success, processor outage condition has ceased at the remote signalling terminal and management request.				
TEST DESCRIPTION				
1.	Start traffic to B and C on link 1 – 2.			
2.	Provoke the activation of the	link $1 - 1$ (see Note above).		
3.	Check that the traffic is change	ged back to 1 – 1.		
4.	Stop traffic and check that it h	nas been received correctly.		
5.	Repeat the test for each reason	n.		

TEST NUMBER: 4.11 PAGE: 1 of 1 REFERENCE: Q.704 clause 6, Fig. 28, Fig. 29, Fig. 31 TITLE: Changeback SUBTITLE: Time controlled diversion procedure PURPOSE: To check the correct operation of the time controlled diversion procedure PRE-TEST CONDITIONS: Linksets 1, 2 and 4 unavailable CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B SP C Link Link Link :Start traffic 3 - 1TRAFFIC (to D and E) **TRAFFIC** 3 - 1(from D and E) 3 - 2TRAFFIC (to D and E) TRAFFIC <-----3 - 2(from D and E) 2 - 1:Activate (depending of the deactivation mean previously used) ½ T21 ½ TRA ----> <----- 2 – 1 «TRA» TRAFFIC STOPPED 3 - 1, 21/2 ½ T3 2 - 1**TRAFFIC** (from 3 - 1, 2)<----- 2 – 1 TRAFFIC (from D, see Note) 2 - 1, 2TRAFFIC ----> TRAFFIC (from E) 3 - 1, 2:Wait :Stop traffic NOTE – B performs the point restart procedure and D on reception of a TFA for A reroutes its traffic to A. These procedures are not presented to simplify the test description. TEST DESCRIPTION Start traffic to E (and D in VAT) on linkset 3. 2. Check that T21 is started in A, and is stopped on reception of TRA from SP B (see Notes). 3. Check that traffic on linkset 3 ceased in A and that after expiration T3 traffic diverts to link 2-1 in accordance with 4. the load sharing rules in A. 5. Stop traffic and check that there were no lost messages, no duplication and no missequencing. Check that the duration of T3 is inside the specified range. 6. Repeat the test (in VAT) without sending TRA from B to A and check that the time controlled diversion is performed 7. when T21 expires.

TEST NU	JMBER: 5		PAGE: 1 of 1
REFERE	NCE: Q.704 clause 7, Fig. 2	29, Fig. 32	
TITLE:	Forced rerouting		
SUBTITL	Æ:		
PURPOSI	E: To check that the system ca	n perform forced rerouting	
PRE-TES	T CONDITIONS: Linksets 1	and 4 unavailable	
CC	ONFIGURATION: B	TYPE OF TEST: VAT, CPT	Γ TYPE OF SP: ALL
MESSAG	E SEQUENCE:		
	SP A	SP B	SP C
Link		Link	Link
:Start traf	fic		
2-1,	2 TRAFFIC	> to D and E < 2 – 1, 2 TRAFFIC (	(from D)
3 - 1,	2 TRAFFIC	>	to D and E
		6 – 1 :Desactivat < 2 – X TFP, PC =	
3 - 1, (to D	2 TRAFFIC and from 2 – 1, 2 to E)	>	
2-1,	2 TRAFFIC	> to D 2 – 1, 2 TRAFFIC (	3-1,2 TRAFFIC (from E) (from D)
:Wait :Stop traff	ñc		
TEST DE	ESCRIPTION		
1.	Start traffic on linksets 2 and 3	3 to E (and D in VAT).	
2.	Deactivate the linkset 6 and cl	neck the sending of a TFP concerning I	E from B to A.
3.	Stop traffic and check that th missequenced or duplicated.	e forced rerouting has been performed	d correctly, messages may have been lost but not
4.	Check that the traffic to D car no missequencing).	ried by the linksets 2 and 3 has not bee	en disturbed (no lost messages, no duplication and
5.	Check that an indication was g	given by the system.	

TEST N	UMBER: 6			PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 8, Fig. 2	29, Fig. 33			
TITLE:	Controlled rerouting				
SUBTITI	LE:				
PURPOS	E: To check that the system ca	an perform controlled rerou	uting		
PRE-TES	T CONDITIONS: Linksets 1	, 4 and 6 unavailable (end	of test 5)		
CC	ONFIGURATION: B	TYPE OF TEST:	VAT, CPT	TYI	PE OF SP: ALL
MESSAG	GE SEQUENCE:				
	SP A		SP B		SP C
Link	:	Link		Link	
:Start traf	fic				
3 – 1,	2 TRAFFIC			to D and E 3 – 1, 2	TRAFFIC (from E)
2-1,	2 TRAFFIC	> to D < 2 - 1, 2 6 - 1 < 2 - X		·	110 1110 (11011 2)
	T6				
2-1, (to D	2 TRAFFIC and from 3 – 1, 2 to E)	>			
3 – 1,	2 TRAFFIC	< 3 – 1, 2 		D) 3 – 1, 2	TRAFFIC (from E)
:Wait :Stop trafi	fic				
TEST DI	ESCRIPTION				
1.	Start traffic to E (and D in VA	AT).			
2.	Activate the linkset 6 and che-	ck the sending of a TFA co	oncerning E from l	B to A.	
3.	Stop traffic and check that messages, no duplication and	the controlled rerouting has no missequencing).	has been perform	ed correctly (for	all traffic flows, no lost
4.	Check that the duration of T6	is inside the specified rang	ge.		

TEST NU	UMBER: 7.1.1		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	E: Inhibition of a link – Avail	able link		
PURPOS	E: To check for the correct res	ponse when link inhibition is requested for	an available link	
PRE-TES	T CONDITIONS: Linkset wi	th two available links		
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	Т	YPE OF SP: ALL
MESSAG	GE SEQUENCE:			
	SP A			SP B
Link			Link	
:Start traf	fic			
1 – 1	TRAFFIC	> <	1 – 1	TRAFFIC
1 – 2	TRAFFIC	>		
1 – 1	:Request inhibition	<	1 – 2	TRAFFIC
1-X	LIN, SLC 1 – 1	<>	1 – X	LIA, SLC 1 – 1
	TIME CONTROL	LED CHANCEOVER (see Nets)		,
	TIME - CONTROL	LED CHANGEOVER (see Note)		
1 – 2	TRAFFIC (from 1 – 1	)>	1 – 2	TRAFFIC (from 1 – 1)
:Wait :Stop traf	e.			
•		er the inhibition of link 1 – 1 but it is not	described in this	test which checks only the
NOTE – A changeover is performed after the inhibition of link $1-1$ but it is not described in this test which checks only the inhibition procedure.				
TEST DI	TEST DESCRIPTION			
1.	Start traffic to B (and C in VA	T) on links $1-1$ and $1-2$ .		
2.	Initiate inhibition of link $1-1$	and check that LIN is received and an LIA	is received in A	within T14.
3.	Check that the traffic normally	y carried by link $1 - 1$ is transferred to link	1 - 2.	
4.	Check that the link $1-1$ enter	s in the "Local inhibiting" state.		
5.	Repeat test in the reverse direct	etion.		

TEST N	UMBER: 7.1.2		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Inhibition of a link – Unav	ailable link		
PURPOS	E: To check for the correct res	ponse when link inhibition is requested for	an unavailable link	
PRE-TES	T CONDITIONS: Linkset wi	th one available link		
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:			
	SP A		SP B	
Link			Link	
:Start traf	fic			
1 – 1	TRAFFIC	>		
		<	1 – 1 TRAFFIC	
1 - 2	:Request inhibition			
1 – 1	LIN, SLC 1 – 2	<>	1 – 1 LIA, SLC 1 – 2	
1 – 2	:Activate (depending	of the deactivation mean previously used)	,	
1 – 1	TRAFFIC	<>	1 – 1 TRAFFIC	
		<b>\</b>	i i ikuite	
:Wait :Stop traf	fic			
TEST DI	ESCRIPTION			
1.	Start traffic to B (and C in VA	T) on link 1 – 1.		
2.	Request inhibition of link 1 –	2, check the reception of LIN at B and send	LIA in response within T14.	
3.	Check that the inhibition was	performed.		
4.	Activate link 1 – 2 and check	that it stays in inhibited state.		
5.	Stop traffic and check that it was not disturbed.			
6.	Repeat test in reverse direction	n.		

TEST N	UMBER: 7.2.1		PAGE: 1 of 1
REFERE	NCE: Q.704 clause 10, Fig.	28	
TITLE:	Management inhibiting		
SUBTITI	LE: Inhibition not permitted –	Local reject on available link	
PURPOS	E: To check the inhibition pro-	cedure in case of local reject on an available	e link
PRE-TES	T CONDITIONS: Linkset wi	th one available link	
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL
MESSAC	GE SEQUENCE:		
	SP A		SP B
Link			Link
:Start traf	fic		
1 – 1	TRAFFIC	>	
1 – 1	:Request inhibition	<	1 – 1 TRAFFIC
1 – 1		>	
		<	1 – 1 TRAFFIC
:Wait :Stop traf	fic		
TEST DI	ESCRIPTION		
1.	Start traffic to B (and C in VA	T) on link $1-1$ .	
2.	Request inhibition of link 1 –	1 and check that this request is not permitte	d.
3.	Stop traffic and check that it h	as not been disturbed.	
4.	Repeat the test but modify pre	-test conditions as follows: link 1 – 1 availa	able and link $1-2$ inhibited by B.

TEST NUMBER: 7.2.2		PAGE: 1 of 1		
REFERENCE: Q.704 clause 10, Fig.	28			
TITLE: Management inhibiting				
SUBTITLE: Inhibition not permitted –	Local reject on unavailable link			
PURPOSE: To check the inhibition pro-	cedure in case of local reject on an unavaila	able link		
PRE-TEST CONDITIONS: All links u	navailable			
CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL				
MESSAGE SEQUENCE:				
SP A		SP B		
Link		Link		
1 1 D (1177)				
1-1 :Request inhibition				
TEST DESCRIPTION				
1. Request inhibition of link 1 –	1 and check that it is rejected.			

TEST N	UMBER: 7.2.3		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Inhibition not permitted –	Sending of LID		
PURPOS	E: To check the reject of an in	hibition asked on reception of an LIN		
PRE-TES	T CONDITIONS: Linkset wi	th one available link		
CO	ONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	
:Start traf	fic			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
		<	1 – 1	LIN, SLC 1 – 1
1 – 1	LID, SLC 1 – 1	>		
1 – 1	TRAFFIC	<>	1 – 1	TRAFFIC
:Wait				
:Stop traf	fic			
TEST D	ESCRIPTION			
1.	Start traffic to B and C on link	i 1 − 1.		
2.	Send an LIN, SLC 1 – 1 from	B to A and check the reception of an LID.		
3.	Check that the inhibition is no	t performed.		
4.	Stop traffic and check that it h	as not been disturbed.		

TEST N	TEST NUMBER: 7.2.4			PAGE: 1 of 1		
REFERE	REFERENCE: Q.704 clause 10, Fig. 28					
TITLE: Management inhibiting						
SUBTITLE: Inhibition not permitted – Reception of LID						
PURPOSE: To check the reject of an inhibition asked on sending of an LIN						
PRE-TEST CONDITIONS: Linkset with two available links						
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf	fic					
1 – 1, 2 TRAFFIC>						
		<	1 – 1, 2	TRAFFIC		
1 – 1	:Request inhibition					
1 – Σ	LIN, SLC 1 – 1	>				
		<	1 – X	LID, SLC 1 – 1		
1 – 1	, 2 TRAFFIC	<>	1 – 1, 2	TRAFFIC		
			,			
:Wait						
:Stop traf	fic					
TEST DESCRIPTION						
1.	Start traffic to B and C on links 1 – 1 and 1 – 2.					
2.	Request the inhibition of link 1 – 1 and check the reception of LIN and response with an LID before T14 expires in A.					
3.	Check that the inhibition is not performed.					
4.	Stop traffic and check that it was not disturbed.					

TEST NU	JMBER: 7.3.1	PAGE: 1 of 1				
REFERE	REFERENCE: Q.704 clause 10, Fig. 28					
TITLE: Management inhibiting						
SUBTITLE: Expiration of T14 – Available link						
PURPOS	E: To check that the inhibition	procedure asked for an available link is res	started when T14 expires			
PRE-TES	T CONDITIONS: Linkset wi	th two available links				
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL			
MESSAG	E SEQUENCE:					
	SP A		SP B			
Link			Link			
:Start traf	fic					
1 – 1	TRAFFIC	>				
1 – 2	TRAFFIC	<>	1 – 1 TRAFFIC			
	11111110	<	1 – 2 TRAFFIC			
1 – 1	1					
1 – X	LIN, SLC 1 – 1	>				
	T14					
1 – X	LIN, SLC 1 – 1	>				
	TIME CONTROLLE	CHANCEOVED (222 Note)	1-1 LIA, SLC $1-1$			
1 – 2		D CHANGEOVER (see Note)				
	. Transfer (nom i	<	1 – 2 TRAFFIC (from 1 -	- 1)		
:Wait						
:Stop traff	fic					
NOTE – A changeover is performed after the inhibition of link 1 – 1 but it is not described in this inhibition test.						
TEST DESCRIPTION						
1.	Start traffic to B and C on links $1-1$ and $1-2$ .					
2.	Request the inhibition of link $1-1$ , check that an LIN is received without response. Check that a new LIN is received after T14 expires and that an LIA is sent in response.					
3.	Check that the inhibition is performed. Stop traffic and check that it was not disturbed.					
4.	Repeat the test but without sending of an LIA. Check that after the second expiration of T14 the procedure is stopped.					
5.	Check that the duration of T14 is inside the specified range.					

TEST NUMBER: 7.3.2			PAGE: 1 of 1			
REFERENCE: Q.704 clause 10, Fig. 28						
TITLE: Management inhibiting						
SUBTITI	SUBTITLE: Expiration of T14 – Unavailable link					
PURPOS	SE: To check that the inhibition	procedure asked for an unavailable link is	restarted when T14 expires			
PRE-TES	ST CONDITIONS: Linkset wi	th one available link				
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL			
MESSAC	GE SEQUENCE:					
	SP A		SP B			
Linl	k		Link			
:Start traf	ffic					
1 – 1	1 TRAFFIC	>				
	<b>.</b>	<	1 – 1 TRAFFIC			
1 - 2 $1 - 2$	1	>				
1-	LIIV, SEC 1 – 2					
	T14					
1 – 1	1 LIN, SLC 1 – 2	>				
1 – 1	2 :Activate	<	1 – 1 LIA, SLC 1 – 2			
1 –		>				
		<	1 – 1 TRAFFIC			
:Wait	or.					
:Stop traf	me					
TEST DESCRIPTION						
1.	Start traffic to B and C on link 1 – 1.					
2.	Request inhibition of link $1-2$ , check that an LIN is received without response. Check that a new LIN is received after T14 expires and that an LIA is sent in response.					
3.	Check that the inhibition is performed.					
4.	Activate link 1 – 2 and check that it stays unavailable.					
5.	Stop traffic and check that it was not disturbed.					
6.	Repeat the test but without sending of an LIA. Check that after the second expiration of T14 the procedure is stopped.					

TEST N	UMBER: 7.4		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Additional inhibition mess	ages (LIA, LID, LIN)		
PURPOS	E: To check the action of the s	ystem on reception of an additional LIA, L	ID or LIN	
PRE-TES	ST CONDITIONS: End of test	7.1.1		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	Т	YPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link	S.		Link	
:Start traf	ffic			
1 – 2	2 TRAFFIC	>		
		<	1 - 2	TRAFFIC
		<	1 - 2	LIA, SLC 1 – 1
		<	1 - 2	LID, SLC 1 – 1
1 - 2	2 TRAFFIC	>		,
		<	1 - 2	TRAFFIC
		<	1 - 2	LIN, SLC 1 – 1
1 – 1	1 LIA, SLC 1 – 1	>		
1 - 2	2 TRAFFIC	>		
		<	1 – 2	TRAFFIC
:Wait				
:Stop traf	fic			
р ч.ш				
TEST D	ESCRIPTION			
1.	Start traffic to B and C on link 1 – 2.			
2.	Send an additional LIA and L	ID on link $1-2$ .		
3.	Check that these messages are	ignored without impact on the traffic.		
4.	Send an additional LIN on lini	k 1 – 2.		
5.	Check that an LIA is received in response without impact on the traffic and that the link $1-1$ enters in the "Local and remote inhibiting" state.			
6.	Stop traffic.			

TEST N	TEST NUMBER: 7.5			PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	LE: Inhibition asked by the bot	h ends of a link			
PURPOS	E: To check the action of the s	ystem on reception of an LIN after sending	of an LIN		
PRE-TES	T CONDITIONS: Linkset wi	th two available links			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL	
MESSAC	GE SEQUENCE:		1		
	SP A			SP B	
Link			Link	SF B	
:Start traf			2		
1 – 1,	2 TRAFFIC	> <	1 - 1, 2	TRAFFIC	
1 – 1	:Request inhibition		,		
1 – X	LIN, SLC 1 – 1	>			
	111 01 0 1 1	<	1 – X	LIN, SLC 1 – 1	
1 – 1	LIA, SLC 1 – 1	<>	1 – X	LIA, SLC 1 – 1	
	TIME-CONTROLLE	D CHANGEOVER (see Note)			
1 – 2	TRAFFIC (from 1 – 1	)>			
		<	1 - 2	TRAFFIC (from 1 – 1)	
:Wait					
:Stop traf	fic				
NOTE –	A changeover procedure is perfe	ormed but not described in this inhibition to	est.		
TEST D	ESCRIPTION				
1.	Start traffic to B and C on link 1 – 1 and 1 – 2.				
2.	Request inhibition of link 1 – 1. Check the reception of LIN and response with an LIN.				
3.	Check the reception of an LIA and send an LIA.				
4.	Check that the inhibition is correctly performed and that the link enters in the "Local and remote inhibiting" state.				
5.	Stop traffic and check that it v	vas not disturbed.			

TEST N	UMBER: 7.6.1		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	LE: Manual uninhibition of a l	ink – With changeback			
PURPOS	E: To check for correct restora	ation when link uninhibition is requested by	an operator		
PRE-TES	ST CONDITIONS: End of tes	t 7.1.1			
CO	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	TY	YPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link	-		Link	51 B	
:Start traf	ffic				
1 - 2	2 TRAFFIC	<>	1 – 2	TRAFFIC	
1 – 1	1 :Request uninhibition				
1 - 2	2 LUN, SLC 1 – 1	>			
		<	1 - 2	LUA, SLC 1 – 1	
CHANG	EBACK (see Note)	CHANGEBAG	CK (see Note)		
1 - 1	1 TRAFFIC (from $1-2$				
1 – 2	2 TRAFFIC	<>	1 – 1	TRAFFIC (from 1 – 2)	
1 – 2	Z TRAFFIC	<	1 - 2	TRAFFIC	
·Woit					
:Wait :Stop traf	fic				
-		formed often uninhibition of link 1 1 but	it is not describe	ed in this tost which shoots	
	A changeback procedure is per hibition procedure.	formed after uninhibition of link 1 – 1 but	it is not describe	ed in this test which checks	
TEST D	TEST DESCRIPTION				
1.	Start traffic to B and C on link 1 – 2.				
2.	Request uninhibition of link $1-1$ , check the reception of an LUN and response with an LUA inside T12.				
3.	Check that the uninhibition is performed and stop traffic.				
4.	Check that the traffic was shared on links $1-1$ and $1-2$ according to the load sharing rules.				
5.	Check that an uninhibition indication was given by the system.				
6.	When B has initiated inhibition (point 5, test 7.1.1), repeat test in reverse direction. Check that uninhibition is not possible when it is requested by an operation in A.				

TEST N	UMBER: 7.6.2		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Manual uninhibition of a l	ink – Without changeback		
PURPOS	E: To check manual uninhibiti	on procedure when the uninhibited link sta	ys unavailable	
PRE-TES	ST CONDITIONS: End of tes	at 7.1.2 without activation of link $1-2$ (link	1 − 2 deactivated	d and inhibited)
CC	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	T	YPE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	G. B
:Start traf	fic			
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
1 - 2	2 :Request uninhibition			
1 – 1	LUN, SLC 1 – 2	<>	1 – 1	LUA, SLC 1 – 2
1 – 1	TRAFFIC	>		·
		<	1 – 1	TRAFFIC
:Wait				
:Stop traf	fic			
TEST DI	ESCRIPTION			
1.	Start traffic B (and C in VAT) on link 1 – 1.			
2.	Request uninhibition of link $1-2$ and check that an LUN is received and that an LUA is sent in response inside T12.			
3.	Check that uninhibition is performed correctly and that link $1-2$ stays unavailable.			
4.	Stop traffic and check that it was not disturbed.			
5.	When B has initiated inhibition (point 6, test 7.1.2), repeat test in reverse direction. Check that uninhibition is not possible when it is requested by an operator in A.			

TEST N	UMBER: 7.7		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Expiration of T12			
PURPOS	E: To check uninhibition proce	edure on expiration of time T12		
PRE-TES	T CONDITIONS: End of test	7.1.1 (1 – 1 inhibited by A)		
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link	ζ		Link	
:Start traf	fic			
1 – 2	2 TRAFFIC	>		
1 – 2	I TRAFFIC	<	1 - 2	TRAFFIC
1 – 1	:Request uninhibition			
1 - 2	2 LUN, SLC 1 – 1	>		
	T12			
1 - 2	2 LUN, SLC 1 – 1	>		
1 – 2	LON, SLC 1 – 1	<	1 - 2	LUA, SLC 1 – 1
CHANGI	EBACK (see Note)	CHANGEBA	CK (see Note)	
1 – 1	1 TRAFFIC (from 1 – 2	)>		
1 – 2	2 TRAFFIC	<	1 – 1	TRAFFIC (from 1 – 2)
1 – 2	Z TRAFFIC	<>	1 – 2	TRAFFIC
:Wait				
:Stop traf		ormed but not described in this uninhibition	n test	
		ornica out not acsertoca in this annimotion	ı test.	
IESI DI	ESCRIPTION			
1.	Start traffic B and C on link 1			
2.	Request uninhibition of link 1 – 1 and check that an LUN is received.			
3.	-	T12, a new LUN is received and acknowled	dged by an LUA.	
4.	Check that uninhibition is per			1.1.1.1
5.	Stop traffic and check it was a disturbed.	shared on links 1 – 1 and 1 – 2 according v	with the load shari	ing rules and that it was not
6.	Repeat the test but without set and an indication is given to the	nding of an LUA. Check that after the second he management.	nd expiration of T	12 the procedure is stopped
7.	Check that the duration of T12	2 is inside the specified range.		

TEST NUMBER: 7.8		PAGE: 1 of 1	
REFERENCE: Q.704 clause 10, Fig	ş. 28		
TITLE: Management inhibiting			
SUBTITLE: Not possible uninhibition			
PURPOSE: To check the actions of the	e system when the uninhibition is not possible	le	
PRE-TEST CONDITIONS: Link 1 – 2	2 unavailable and inhibited and link 1 – 1 av	ailable	
CONFIGURATION: A	TYPE OF TEST: VAT, CPT	TYPE OF SP: ALL	
MESSAGE SEQUENCE:			
SP A		SP B	
Link		Link	
1 – 1 :Desactivate			
1 – X :Request uninhibition	1		
•			
TEST DESCRIPTION			
1. Deactivate link 1 – 1.			
2. Check that uninhibition is no	t performed.		

TEST N	UMBER: 7.9		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	LE: Automatic uninhibition of	a link			
PURPOS	E: To check that the system pe	erforms uninhibition procedure when a poin	t becomes unaccessible		
PRE-TES	ST CONDITIONS: End of test	t 7.1.1			
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:				
	SP A		SP B		
Link			Link		
:Start traf	ffic				
1 – 2	2 TRAFFIC	>			
		<	1 – 2 TRAFFIC		
1 - 2	2 :Deactivate (failure)				
1 – 1	1 LUN, SLC 1 – 1	<>	1 – 1 LUA, SLC 1 – 1		
	POINT RESTART F	PROCEDURE IS APPLIED IN A AND			
1 .					
1 – 1	1 TRAFFIC	<>	1 – 1 TRAFFIC		
:Wait					
:Stop traf	ffic				
	When link $1 - 1$ becomes average test to simplify the test description.		in A and B but it is not described in this		
TEST DESCRIPTION					
1.					
2.		sk that an LUN is received on link 1 – 1 and	response with an LUA within T12		
3.		formed and that the traffic is restarted on lin	•		
4.	Stop traffic, some messages h				
5.			second expiration of T12 the procedure is		
J.	stopped, an indication is given	to the OMAP and the link $1-1$ does not c	arry traffic.		

TEST N	UMBER: 7.10.1		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	LE: Forced uninhibition of a li	nk – Sending of an LFU			
PURPOS	E: To check forced uninhibition	on procedure when a point becomes unacces	sible		
PRE-TES	ST CONDITIONS: Link $1-1$	available, link 1 – 2 inhibited by B			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:				
	SP A		SP B		
Link	<u>.</u>		Link		
:Start traf	fic				
1 – 1	I TRAFFIC	<b></b> >			
		<	1 – 1 TRAFFIC		
1 – 1	Deactivate (failure)				
1 - 2	2 LFU, SLC 1 – 2	<>	1 – 2 LUN, SLC 1 – 2		
1 - 2	2 LUA, SLC 1 – 2	>	1 2 Eon, sec 1 2		
	POINT RESTART I	PROCEDURE IS APPLIED IN A AND	B (see Note)		
1 – 2	2 TRAFFIC	>			
		<	1 – 2 TRAFFIC		
:Wait					
:Stop traf	fic				
NOTE – When link $1-2$ becomes available, point restart procedure is applied in A and B but it is not described in this inhibition test to simplify the test description.					
TEST DI	ST DESCRIPTION				
1.	Start traffic to B and C on link 1 – 1.				
2.	Deactivate link 1 – 1 and check the reception of an LFU on link 1 – 2. Response by an LUN. Check that T13 is stopped and that an LUA is received.				
3.	Check that uninhibition is performed and that the traffic is restarted on link $1 - 2$ (see Note).				
4.	Stop traffic, some messages have been lost.				

TEST N	UMBER: 7.10.2		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	LE: Forced uninhibition of a li	nk – Reception of an LFU			
PURPOS	E: To check uninhibition proc	edure on reception of an LFU			
PRE-TES	ST CONDITIONS: Link 1 – 1	available, link 1 – 2 inhibited by A			
CO	ONFIGURATION: A	TYPE OF TEST: VAT	T	YPE OF SP: ALL	
MESSAC	GE SEQUENCE:		•		
	SP A			SP B	
Linl			Link	Si B	
:Start traf	ffic				
1 – 1	1 TRAFFIC	>			
1	i ik/uiic	<	1 – 1	TRAFFIC	
1 – 1	1 LUN, SLC 1 – 2	<>	1 – 2	LFU, SLC 1 – 2	
	EON, SECT 2	<	1 – 1	LUA, SLC 1 – 2	
	CHANGEBACK (see	e Note)			
1 – 1	1 TRAFFIC	>			
1 – 1	1 TRAFFIC	<>	1 – 1	TRAFFIC	
		<	1 – 2	TRAFFIC	
Wait					
:Wait :Stop traf	ffic				
_		not described in this uninhibition test.			
TEST D	TEST DESCRIPTION				
1.	Start traffic to B and C on link 1 – 1.				
2.	Send an LFU to A on link $1-2$ and check that an LUN is received within T13 and acknowledged by an LUA inside T12.				
3.	Check that the uninhibition is performed.				
4.	Stop traffic and check that it was carried on $1-1$ and $1-2$ .				

TEST N	UMBER: 7.11		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	LE: Expiration of T13				
PURPOS	E: To check uninhibition proc	edure when T13 expires			
PRE-TES	ST CONDITIONS: Link 1 – 1	available and link $1-2$ inhibited by B			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:				
	SP A		SP B		
Linl	ς.		Link		
:Start traf	fic				
1 – 1	TRAFFIC	>			
	D (1) (01)	<	1 – 1 TRAFFIC		
1 – 1	,	>			
1 - 2	2 LFU, SLC 1 – 2				
	T13				
1 – 2	2 LFU, SLC 1 – 2	>			
1 – 2	2 LUA, SLC 1 – 2	<>	1 – 2 LUN, SLC 1 – 2		
		ROCEDURE IS APPLIED IN A AND E	3 (see Note in 7.9)		
1 – 2		>	,		
		<	1 – 2 TRAFFIC		
:Wait					
:Stop traf	fic				
TEST DESCRIPTION					
TEST D					
1.	Start traffic to B and C on link 1 – 1.				
2.	Deactivate link $1-1$ and check the reception of an LFU. After T13 expires, check the reception of a second LFU and send an LUN. Check the reception of an LUA.				
3.	Check that uninhibition is per	formed correctly.			
4.	Stop traffic and check that it h	has been restarted on link $1-2$ . Some messa	nges have been lost.		
5.	Repeat the test but without set that an indication is given to t	ending an LUN. Check that after the second he OMAP and that the link $1-2$ carries train	d expiration of T13 the procedure is stopped, fic normally from A.		
6.	Check that the duration of T1	3 is inside the specified range.			

TEST N	UMBER: 7.12		PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Additional uninhibition me	essages (LUA, LUN, LFU)		
PURPOS	E: To check the actions of the	system on reception of an additional LUA,	, LUN or LFU	
PRE-TES	ST CONDITIONS: Linkset wi	ith two available links		
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL
MESSAC	GE SEQUENCE:		•	
	SP A			SP B
			T : 1	Si B
Linl	_		Link	
:Start traf	ffic			
1 – 1,	. 2 TRAFFIC	>		
1-1,	, 2 TRAFFIC	<	1 - 1, 2	TRAFFIC
		<	1 – 2	LUA, SLC 1 – 1
1 – 1,	, 2 TRAFFIC	>		
		<	1 - 1, 2	TRAFFIC
		<	1 – 2	LUN, SLC 1 – 1
1 – X	,	>		
1 – 1,	, 2 TRAFFIC	<>	1 - 1, 2	TRAFFIC
		<	1 – 1, 2	LFU, SLC 1 – 1
1 – X	LUN, SLC 1 – 1	>	1-2	LFO, SEC 1 - 1
	·			
:Wait				
:Stop traf	ffic			
TEST D	ESCRIPTION			
1.	Start traffic to B and C on linl	x 1 − 1 and 1 − 2.		
2.	Send an LUA (SLC $1-1$ ) on link $1-2$ .			
3.	Check that this message has been ignored without impact on the traffic.			
4.	Send an LUN (SLC $1-1$ ) on link $1-2$ .			
5.	Check that an LUA is received in response without impact on the traffic.			
6.	Send an LFU (SLC $1-1$ ) on link $1-2$ .			
7.	Check that an LUN is received in response without impact on the traffic.			
8.	Stop traffic.	-		
	_			

TEST NUMBER: 7.13		PAGE: 1 of 1			
REFERENCE: Q.704 clause 10, Fig	g. 28				
TITLE: Management inhibiting					
SUBTITLE: Uninhibition at one side	after test 7.5				
PURPOSE: To check uninhibition pro	cedure when the inhibition has been asked by	y the two ends of a link			
PRE-TEST CONDITIONS: End of te	st 7.5				
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL			
MESSAGE SEQUENCE:					
SP A		SP B			
Link		Link			
:Start traffic		Ellik			
1 – 2 TRAFFIC	<>	1 – 2 TRAFFIC			
1 – 1 :Request uninhibitio	n	r 2 marre			
1 – 2 LUN, SLC 1 – 1	<b></b> >				
1 2 2011, 520 1 1	<	1 – 2 LUA, SLC 1 – 1			
1 – 2 TRAFFIC	>				
	<	1 – 2 TRAFFIC			
:Wait					
:Stop traffic					
TEST DESCRIPTION					
	Start traffic to B and C on link 1 – 2.				
	Request uninhibition of link 1 – 1. Check that an LUN is received and response with an LUA within T12.				
	Check that the link stays inhibited (by B).  Stop traffic and check that it was not disturbed.				
5. Repeat test in reverse directi					
F					

TEST NUMBER: 7.14			PAGE: 1 of 1	
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE:	Management inhibiting			
SUBTITI	LE: Automatic uninhibition aft	er test 7.5		
PURPOS	E: To check automatic uninhib	pition of a link when the inhibition has been	initiated by the b	oth ends
PRE-TES	T CONDITIONS: End of test	t 7.5		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL
MESSAC	GE SEQUENCE:			
	SP A			SP B
Link			Link	Si B
:Start traf	fic			
1 – 2	2 TRAFFIC	>		
		<	1 – 2	TRAFFIC
1 - 2	2 :Deactivate (failure)			
1 – 1	LFU, SLC 1 – 1	>		LEIL CLC 1 1
		<	1 – 1 1 – 1	LFU, SLC 1 – 1 LUN, SLC 1 – 1
1 – 1	LUN, SLC 1 – 1	>		2011, 020 1
1 – 1	LUA, SLC 1 – 1	>		
		<	1 – 1	LUA, SLC 1 – 1
	POINT RESTART F	PROCEDURE IS APPLIED IN A AND	B (see Note in 7.	9)
1 – 1	TRAFFIC	>		
		<	1 – 1	TRAFFIC
:Wait				
:Stop traf	fic			
.otop uur				
TEST DI	ESCRIPTION			
1.	Start traffic to B and C on link	c 1 – 2.		
2.	Deactivate link 1 – 2 and chec	ck that forced uninhibition is requested by the	ne both ends which	h send LFU.
3.	Check that LUNs are sent by	both ends in response and that LUAs are sen	nt for acknowledg	ement.
4.	Check that the traffic is restar	ted on link $1-1$ and stop traffic.		

TEST N	UMBE	ER: 7.15		PAGE: 1 of 1	
REFERE	NCE:	Q.704 clause 10, Fig.	28		
TITLE:	Manag	gement inhibiting			
SUBTITI	LE: A	automatic uninhibition with	th two links inhibited		
PURPOS	SE: To	check the actions of the	system when two links are inhibited and when	hen the third (and	last) link is deactivated
PRE-TES	ST CO	ONDITIONS: Links 1 – 1	and $1-2$ inhibited (by A) and link $1-3$ a	vailable	
CO	ONFIG	GURATION: A	TYPE OF TEST: VAT	TY	PPE OF SP: ALL
MESSAC	GE SE	QUENCE:			
		SP A			SP B
Link	k			Link	
:Start traf	ffic				
1 – 3	3	TRAFFIC	>		
		-	<	1 - 3	TRAFFIC
1 – 3	3	:Deactivate (failure)			
1 – 2 and/o		LUN, SLC 1 – 1 LUN, SLC 1 – 2	>		
		(implementation depend	dent: at least one link must be uninhibited)		
			<	1 – X	LUA, SLC 1 – 1, and/or
			<	1 – X	LUA, SLC 1 – 2
		POINT RESTART PR	COCEDURE IS APPLIED IN A AND E	3 (see Note in 7.9	<b>)</b> )
1 – 1		TRAFFIC	>		mp i ppro
and/o 1 − 2		TRAFFIC	<>	1-1 and/or	TRAFFIC
	_		<	1 – 2	TRAFFIC
:Wait					
:Stop traf	ffic				
TEST D	ESCRI	IPTION			
1.	Deactivate link $1-3$ .				
2.	Check that at least one LUN is received and acknowledged with an LUA.				
3.	Chec	ck that the traffic is restart	red on linkset 1. Some messages have been	lost.	
4.	Stop	traffic.			

TEST NUMBER: 7.16		PAGE: 1 of 1		
REFERENCE: Q.704 clause 10, F	g. 28			
TITLE: Management inhibiting				
SUBTITLE: Reception of traffic on a	n inhibited link			
PURPOSE: To check the actions of the	ne system on reception of traffic on an inhibit	ed link		
PRE-TEST CONDITIONS: Link 1 -	1 inhibited by A, link 1 – 2 available			
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAGE SEQUENCE:		·		
SP A		SP B		
Link		Link		
:Start traffic				
1 – 2 TRAFFIC	>			
	<	1 – 2 TRAFFIC		
	<	1 – 1 TRAFFIC		
:Wait				
:Stop traffic				
TEST DESCRIPTION				
Start traffic on link 1 – 1.				
	the inhibited link $1-2$ . Check that the messa	ges received in A are normally treated.		
3. Stop traffic.		-		

TEST NUMBER: 7.17.1 PAGE: 1 of 3 REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Management inhibiting test – Normal procedure PURPOSE: To check that the system performs correctly the management inhibiting test PRE-TEST CONDITIONS: Link 1 – 1 inhibited by A, other links are available CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link 1 - XLLT, SLC 1 – 1 LRT, SLC 1-11 - XT22 T23 1 - XLLT, SLC 1 – 1 LRT, SLC 1-11 - XTEST DESCRIPTION Check that an LLT is periodically sent by A and check (in VAT) that the duration of timer T22 is inside the specified 1. Check that on the reception of an LRT, no action is taken in A. 2. 3. As compatibility test, check that an LRT is periodically sent from B to A.

PAGE: 2 of 3 TEST NUMBER: 7.17.1 (continued) REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Inhibiting test procedure – Normal procedure PURPOSE: See page 1 PRE-TEST CONDITIONS: Link 1-1 inhibited by B, other links are available CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP B SP A Link Link 1 - XLRT, SLC 1 – 1 LLT, SLC 1-11 - XT23 T22 1 - XLRT, SLC 1-1LLT, SLC 1-11 - XTEST DESCRIPTION Check that an LRT is periodically sent by A and, in VAT, check that the duration of the timer T23 is inside the 1. specified range. Check that, on the reception of an LLT, no action is taken in A. 2. 3. As compatibility test, check that an LLT is periodically sent from B to A.

TEST NUMBER: 7.17.1 (concluded) PAGE: 3 of 3 REFERENCE: Q.704 clause 10, Fig. 28 TITLE: Management inhibiting SUBTITLE: Inhibit test procedure – Normal procedure PURPOSE: See page 1 PRE-TEST CONDITIONS: Link 1 – 1 inhibited by A and B. The other links are available CONFIGURATION: A TYPE OF TEST: VAT, CPT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link LLT, SLC 1 – 1 1 - XLRT, SLC 1 – 1 <-----1 - X1 - XLRT SLC 1 – 1 T22 <-----1 - XLLT, SLC 1-1T23 T23 1 – X LLT, SLC 1-1T22 <-----1 - XLRT, SLC 1 - 1LRT, SLC 1 - 11 - X1 - XT22 LLT, SLC 1-1T23 T23 T22 TEST DESCRIPTION Check that the LLT and LRT messages are periodically sent from A to B and from B to A. 1.

EST NUMBER: 7.17.2		
Fig. 28		
- Reception of an LLT or LRT on an uninhibite	ed link	
the system on reception of an LLT or LRT on	an uninhibited link	
– 1 available		
TYPE OF TEST: VAT	TYPE OF SP: ALL	
	SP B	
	Link	
<	1 – 1 LLT, SLC 1 – 1	
<	1 – 1 LUN, SLC 1 – 1	
>		
<	1 – 1 LRT, SLC 1 – 1	
>		
<	1 – 1 LUA, SLC 1 – 1	
and check that an LUN is received. Answer w	un an LUA.	
A	<> <>	

TEST NU	JMBER: 7.17.3		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 10, Fig.	28			
TITLE:	Management inhibiting				
SUBTITI	E: Inhibit test procedure – Re	ception of an LLT on a link locally inhibite	ed		
PURPOS	E: To check the actions of the	system on reception of an LLT on a link lo	cally (not remotely	y) inhibited	
PRE-TES	T CONDITIONS: Link 1 – 1	inhibited in A, other links are available			
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TY	PE OF SP: ALL	
MESSAG	E SEQUENCE:				
	SP A			SP B	
Link			Link	5. 2	
		<	1 – X	LLT, SLC 1 – 1	
1 - X	Z LEILGICA A	>		221, 326 1	
$1 - \lambda$	LFU, SLC 1 – 1				
	T13				
	<u> </u>	<	1 – X	LUN, SLC 1 – 1	
1 – X	LUA, SLC 1 – 1	<			
TEST DI	ESCRIPTION				
1.	Send an LLT from B to A and	check that an LFU is received as described	l above.		

TEST NU	TEST NUMBER: 7.17.4 PAGE: 1 of 1			
REFERE	NCE: Q.704 clause 10, Fig.	28		
TITLE: 1	Management inhibiting			
SUBTITL	E: Inhibit test procedure – Re	ception of an LRT on a link remotely inhib	ited	
PURPOSI	E: To check the actions of the	system on reception of an LRT on a link re	motely inhibited	
PRE-TES	T CONDITIONS: Link 1 – 1	inhibited by B, other links are available		
CC	ONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL	
MESSAG	E SEQUENCE:			
	SP A		SP B	
Link			Link	
		<	1 – X LRT, SLC 1 – 1	
1 – X	LUN, SLC 1 – 1	>	2.0., 0.2.0	
1 – A	LUN, SEC 1 – 1			
	T12			
	<u> </u>	<	1 – X LUA, SLC 1 – 1	
TEST DE	ESCRIPTION			
1.	Send an LRT from B to A and	I check that an LUN is received as described	d above.	

TEST NUMBER: 8.1	ST NUMBER: 8.1 PAGE: 1 of 1			
REFERENCE: Q.704 clause 11, subc	lause 12.6, Fig. 46A			
TITLE: Signalling traffic flow control				
SUBTITLE: Reception of a TFC				
PURPOSE: To check the actions of the	system on reception of a TFC			
PRE-TEST CONDITIONS: One or me	ore link available			
CONFIGURATION: A	TYPE OF TEST: VAT	TYPE OF SP: ALL		
MESSAGE SEQUENCE:				
SP A		SP B		
Link		Link		
:Start traffic				
1 – 1 TRAFFIC	>			
	<	1 – 1 TRAFFIC		
	<	1-1 TFC, DPC = C		
:Wait				
:Stop traffic NOTE – This test requires further study				
TEST DESCRIPTION				
Start traffic to B and C.				
	d check that this message is received correct	ly.		

TEST NUMBER: 8.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 11, subclause 12.6, Fig. 46A TITLE: Signalling traffic flow control SUBTITLE: Sending of TFCs PURPOSE: To check the detection of a level 3 congestion PRE-TEST CONDITIONS: All links available CONFIGURATION: C TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP B SP A SP C Link Link Link :Start traffic (> n/2 E) -----> 2-1 ----- (n E) -----> 1 - 1TRAFFIC 1 – 1 <-----<-----2 - 1TRAFFIC (< n E) (> n/2 E) -----> 2 – 1 ---- (n E) -----> 1 - 2TRAFFIC <-----1-2 <-----2 - 1TRAFFIC ( $\leq$  n E) :Wait 1 - X TFC, DPC = C . One TFC each 8 messages sent to C . or one TFC each 256 octets sent to C <-----1 - X TFC, DPC = C 2-1 ----> TRAFFIC (< n E) ----> 1 - 11 – 1 <-----2 - 1TRAFFIC 2-1 ----> TRAFFIC (> n (< n E) -----> 2 - 1E) 1 – 2 <-----2 - 1TRAFFIC ( $\leq$  n E) :Wait :Stop traffic NOTE – n is the maximum load capacity of linkset 2. The traffic model used in this test is described in Table 2/Q.706. TEST DESCRIPTION 1. Start traffic to C with a load exceeding n/2 erlang on links 1-1 and 1-2 (n is the maximum load that the link 2 may carry without congestion). 2. Check that the signalling traffic flow control procedure is started in A. Check that a TFC message concerning C is received for each 8 messages received or each 256 octects received in B during the congestion. Reduce the load to 0.1 erlang or less on links 1-1 and 1-2. 3. 4. Check that the congestion disappears and that no TFC is received. 5. Stop traffic. Check that the traffic from C to B has not been disturbed.

TEST NUMBER: 8.3 PAGE: 1 of 1 REFERENCE: Q.704 subclause 11.2.7 TITLE: Signalling traffic flow control SUBTITLE: Reception of a UPU PURPOSE: To check the actions of the system on reception of a UPU PRE-TEST CONDITIONS: One link available CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: see Note MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic 1 - 1TRAFFIC (DPC = B, SI = X)1 - 1TRAFFIC (DPC = C, SI = X)1 - 1TRAFFIC (OPC = C, SI = X)1 - 1UPU (OPC = B, SI = X)1 - 1TRAFFIC (DPC = C, SI = X)1 - 1TRAFFIC (OPC = C, SI = X):Wait :Stop traffic NOTE - The impact of the reception of a UPU on the traffic from A to B requires further study. The SPs having user part(s) are concerned. TEST DESCRIPTION Start traffic to B and C with SI = X. 1. Send a UPU from B to C with SI = X with the cause "unknown". 2. 3. Check that the UPU message is received correctly without impact on the traffic from A to C. Wait and stop traffic. 4. 5. Repeat the test with a UPU with the cause "unequipped", and with the cause "unavailable".

TEST NUMBER: 8.4		PAGE: 1 of 1		
REFEREN	ICE: Q.704 subclause 11.2.7	1		
TITLE: S	ignalling traffic flow control			
SUBTITLE	E: Sending of a UPU			
PURPOSE	: To check the detection of a	n unavailability of a user part		
PRE-TEST	CONDITIONS: One link a	vailable		
CON	NFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: See Note
MESSAGE	E SEQUENCE:		•	
	SP A			SP B
Link			Link	
:Start traffi 1 – 1	TRAFFIC (to B and C, $SI = X$ )	> <	1-1	TRAFFIC
	:Deactivate user part		1 - 1	(from B and C, $SI = X$ )
	-	<	1 – 1	MESSAGE (from B to A, $SI = X$ )
1 – 1	(DPC = B, SI = X)	<>	1 – 1	MESSAGE
1 – 1	UPU (DPC = C, SI = X)	>		(from C to A, $SI = X$ )
1 – 1	UPU	<>	1 – 1	$\begin{array}{c} MESSAGE \\ (from B to A, SI = X) \end{array}$
1 1	(DPC = B, SI = X) :Reactivate user part		1 – 1	TRAFFIC
1 – 1	TRAFFIC (to B and C, SI = $X$ )	>		(from B and C to A, $SI = X$ )
:Wait :Stop traffic NOTE – T user part is	c The notion of unavailability of	f a user part is specific to the implementate he SPs having user part(s) are concerned.	tion, consequent	tly, the ability to deactivate a
TEST DES	SCRIPTION			
2. 3. 4.	with the cause "unavailable".	I = X.  e user part X in A and check that this mess e user part X in A and check that this mess	_	
5. 6.	Repeat point 3 and reactivate to Check that the messages sent to	the user part. from B and C are received correctly and the ed user part, and verify that a UPU is sent b		-

TEST NUMBER: 9.1.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Sending of a TFP on an alternative route – Failure of normal linkset PURPOSE: To check the sending of a TFP on the alternative route when the normal linkset becomes unavailable PRE-TEST CONDITIONS: All linksets available TYPE OF TEST: VAT, CPT CONFIGURATION: D TYPE OF SP: STP MESSAGE SEQUENCE: SP C SP A SP B SP Link Link Link Link :Start traffic 1 - 1TRAFFIC ----> 5-1 ----> SP D (from A and F) 6-1 ----> SP Е -----> 7-1 -----> **TRAFFIC** 2 - 1SP Е (from A and F) :Deactivate (MML command or failure) 1 - 12 - 1TFP, PC = BTFA, PC = B2 - 1(this TFA is sent via C) 2 - 1TFP, PC = D----> TFA. PC = D2 - 1(this TFA is sent via C) 2 - 1TRAFFIC **----->** 7 - 1 **----->** SP Ε (from 1 - 1)8-1 ----> SP D :Wait :Stop traffic NOTE – A changeover procedure is performed after deactivation of link 1-1 but is not described in this transfer prohibited test. TEST DESCRIPTION Start traffic to D and E on linkset 1 and 2 1. 2. Deactivate link 1 - 1 and check that TFPs concerning B and D are sent from A to C (alternative route to reach B and D). Check that no TFP concerning E is sent from A to C (load sharing between linksets 1 and 2 in A to reach E). Check that TFAs concerning B and D are sent from A to B (via C). 3. Check that time out T8 is started for each TFP sent. 4. Check that traffic to D and E is diverted to C. 5. Stop traffic and check that it was not disturbed.

TEST NUMBER: 9.1.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Sending of a TFP on an alternative route - On reception of a TFP PURPOSE: To check the sending of a TFP on the alternative route when the normal route becomes unavailable on reception of a TFP PRE-TEST CONDITIONS: Linkset 4 unavailable CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP B SP C SP • Link Link Link Link :Start traffic 1 - 1TRAFFIC ----> 5-1 ----> SP D (from A and F) 6-1 ----> SP Е -----> 7 - 1 ----> 2 - 1TRAFFIC SP Е (from A and F) 5 - 1:Deactivate See Note <----- 1 – 1 TFP. PC = D TFP, PC = D2 - 1----> 1 - 1TFA, PC = D----> ----> 6-1 ----> 1 - 1TRAFFIC SP Е (from A and F) -----> 8-1 ----> 2 - 1**TRAFFIC** SP D (from A and F, and from 1 - 1 to D) 7 – 1 ----> SP Е :Wait :Stop traffic NOTE - A forced rerouting is performed after the reception of TFP for D in A but it is not described in this transfer prohibited TEST DESCRIPTION 1. Start traffic to D and E. 2. Deactivate link 5 - 1 and check that a TFP concerning D is sent to A. 3. Check that a TFP concerning D is received from A and that traffic to D is diverted via C. Check that a TFA concerning D is sent from A to B. 4. Check that a time out T8 is started. Stop traffic and check that traffic to E has not been disturbed. Some messages to D may have been lost. 5.

TEST N	TEST NUMBER: 9.2.1			PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 13, Fig. 2					
TITLE:	Signalling route management					
SUBTITI	E: Broadcast of TFPs – On or	ne linkset failure				
PURPOS	E: To check the broadcast of T	TFPs when one point is inaccessible				
PRE-TES	T CONDITIONS: All linkset	s available				
CO	ONFIGURATION: D	TYPE OF TEST: VAT, CPT		TYPE OF SP: STP		
MESSAC	GE SEQUENCE:					
	SP A	SP B	SP C	SP F		
Link :Start traf		Link	Link	Link		
3 – 1	TRAFFIC (from A, D and E)			>		
3 – 1	:Deactivate	(MML command or failure)				
1 – 1		>				
2 – 1	TFP, $PC = F$	>				
:Wait						
:Stop traf	fic					
NOTE – '	The propagation of TFPs is not	presented to simplify the test description.				
TEST DES	TEST DESCRIPTION					
1.	Start traffic to F.					
2.	Deactivate link $1 - 1$ and chec	ck that a TFPs concerning F are broadcasted				
3.	Check that a timer T8 is started	ed.				
4.	Stop traffic.					

TEST NU	TEST NUMBER: 9.2.2 PAGE: 1					
REFERE	NCE: Q.704 clause 13, Fig. 2	9, Fig. 44				
TITLE: S	Signalling route management					
SUBTITL	.E: Broadcast of TFPs – On on	ne multiple failures				
PURPOSI	E: To check the broadcast of T	FPs when several point	are inaccessible (va	arious reasons)		
PRE-TES	T CONDITIONS: Linkset 1 u	ınavailable				
CC	ONFIGURATION: D	TYPE OF TES	ST: VAT, CPT	TYPE OF SP:	STP	
MESSAG	E SEQUENCE:					
SI	P A	SP B	SP C		SP	•
Link		Link	Link	Link		
:Start traff	fic					
2-1 :1 3-1 T 3-1 T 3-1 T 3-1 T :Wait	from A and F)  Deactivate (MML command or FP, PC = B			> > >	SP SP	E D F
	SCRIPTION Start of Paral F					
1. 2.	Start traffic to D and E.  Deactivate linkset 2 and check	that TEPs concerning	B C D and E ara b	roadcasted (to F)		
3.	Check that for each TFP sent a		D, C, D and E are or	toadeasted (to 1°).		
4.	Repeat test but with linkset 2 u		ondition and then d	eactivate linkset 1.		

PAGE: 2 of 2 TEST NUMBER: 9.2.2 (continued) REFERENCE: Q.704 clause 13, Fig. 29, Fig. 44 TITLE: Signalling route management SUBTITLE: Broadcast of TFPs - On multiple failures PURPOSE: See page 1 PRE-TEST CONDITIONS: Linksets 1 and 4 unavailable TYPE OF TEST: VAT, CPT CONFIGURATION: D TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP C SP D SP • Link Link Link Link :Start traffic 2 - 1TRAFFIC ----> 8-1 ----> 7 – 1 -----> (from A and F) SP E 8-1: Deactivate < TFP, PC = D TFP, PC = D -----> 3 - 1SP F 2 - 1TRAFFIC -----> 7 - 1 -----> SP E (from A and F) :Wait :Stop traffic TEST DESCRIPTION Start traffic to D and E. 1. Deactivate linkset 8 and check that a TFP (PC = D) is sent. Check that TFPs are broadcasted (here to F). 2. 3. Check that a time out T8 started. 4. Stop traffic and check that traffic to E has not been disturbed. 5. Repeat the test with linksets 2 and 4 unavailable as pre-test conditions and then deactivate linkset 5. Repeat the test with linksets 4 and 8 unavailable as pre-test conditions and then deactivate linkset 1. 6. Repeat the test with linksets 4 and 5 unavailable as pre-test conditions and then deactivate linkset 2.

TEST	TEST NUMBER: 9.3			PAGE: 1 of 2	
REFE	ERENCE: Q	0.704 clause 13, Fig.	29, Fig. 44		
TITL	E: Signallin	g route management			
SUBT	ΓΙΤLE: Rec	eption of a message fo	or an unaccessible destination		
PURI	POSE: To c	heck that a TFP is sen	t in response to a message received for an u	naccessible	destination
PRE-	TEST CON	DITIONS: Linksets	1, 4 and 8 unavailable		
	CONFIGU	RATION: D	TYPE OF TEST: VAT		TYPE OF SP: STP
MESS	SAGE SEQU	JENCE:			
		SP A			SP F
Lin	nk			Link	
					:Sent a message to D
			<	3 – 1	MESSAGE TO D
3 –	1 TFP,	PC = D	>		
		Т8			
			<	3 – 1	MESSAGE TO D
TEST DESCRIPTION					
1.		F a message with OPC	C = D to A.		
2.			in response. Check that a time out T8 is star	rted.	
3.			with OPC = D to A and check that no TFP is		

TEST NUMBER: 9.3	(continued)	PAGE: 2 of 2			
REFERENCE: Q.704	clause 13, Fig. 29, Fig. 44				
TITLE: Signalling rou	te management				
SUBTITLE: Reception	n of a message for an unaccessible	destination			
PURPOSE: See page 1					
PRE-TEST CONDITIO	ONS: Linksets 1 and 8 unavailable	e			
CONFIGURATI	ON: D TYPE	OF TEST: VAT	TYPE OF SP: STP		
MESSAGE SEQUENC	E:				
SP A	SP B	SP C	SP •		
Link	Link	Link	Link		
:Start traffic					
3-1 TRAFFIC (from A, D and E) 3-1 :Deactivate (MML command or failure) 2-1 TFP, PC = F  T8 4-1 2-1 MESSAGE TO F					
TEST DESCRIPTION					
1. Start traffic to F.					
	et 3 and check that TFPs are broad		Th.		
3. Within T8, send	one message with DPC = F from C	to A and check that no T	FP is sent in response.		

TEST NUMBER: 9.4.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45 TITLE: Signalling route management SUBTITLE: Sending of a TFA on an alternative route – Recovery of normal linkset PURPOSE: To check the sending of a TFA on an alternative route when the normal linkset becomes available PRE-TEST CONDITIONS: Linkset 1 unavailable (end of test 9.1.1) CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic -----> 8-1 -----> 2 - 1TRAFFIC SP D (from A and F) 7 – 1 -----> SP Е 1 - 1: Activate (depending of the activation mean previously used) TFA, PC = B2 - 1----> TFA, PC = D2 - 11 - 1TFP, PC = DTFP, PC = E----> 1 - 11 - 1**TRAFFIC** ----> 5-1 -----> SP D (from A and F and 6-1 ----> Е SP from 2-1) FRAFFIC **----->** 7-1 **----->** 2 - 1SP Е (from A and F) :Wait :Stop traffic NOTE – A changeback procedure is performed after activation of link 1 – 1 but it not described in this transfer allowed test. TEST DESCRIPTION Start traffic to D and E. 1. 2. Activate linkset 1 and check that traffic to D and E is diverted on linkset 1 and that a TFA concerning D is sent from A to C. Check that no TFA is sent concerning E (load sharing in A between linksets 1 and 2). 3. Stop traffic and check that it was rerouted correctly without loss of messages, duplication and misequencing.

TEST NUMBER: 9.4.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45 TITLE: Signalling route management SUBTITLE: Sending of a TFA on an alternative route – On reception of a TFA PURPOSE: To check that a TFA is sent on the alternative route when the normal route becomes available on reception of a PRE-TEST CONDITIONS: Linksets 4 and 5 unavailable (end of test 9.1.2) CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link :Start traffic 1 - 1TRAFFIC ----> 6-1 -----> SP E (from A and F) -----> 7 - 1 -----> 2 - 1TRAFFIC SP E (from A and F) 8-1 ----> SP D 5-1: Activate See Note <----- 1 – 1 TFA, PC = D 1 - 1TFP, PC = D----> 2 - 1TFA, PC = D----> ----> 5 - 1 -----> 1 - 1TRAFFIC SP D (from A and F, from 2 - 1 to D) 6-1 ----> SP Ε -----> 7 - 1 -----> 2 - 1TRAFFIC SP E (from A and F) :Wait :Stop traffic NOTE – A controlled rerouting is performed after the activation of linkset 5 it not described in this transfer allowed test. TEST DESCRIPTION 1. Start traffic to D and E. 2. Activate link 5 - 1 and check that a TFA concerning D is sent to A. 3. Check that the traffic to D via B and check that a TFA concerning D is sent from A to C. Stop traffic and check that traffic was not disturbed. 4.

TEST NUMBER: 9.5.1		PAGE: 1 of 1		
REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45				
TITLE: Signalling route management				
SUBTITLE: Broadcast of TFAs – On one linkset recovery				
PURPOSE: To check the broadcast of TFA when a destination becomes accessible				
PRE-TEST CONDITIONS: Linksets 3 unavailable (end of test 9.2.1)				
CONFIGURATION: D	TYPE OF TEST: VAT, CPT	TYPE OF SP: STP		
MESSAGE SEQUENCE:				
SP A	SP B SP	C SP •		
Link	Link Link	Link		
3 – 1 :Activate (see Note 1) 1 – 1 :TFA, PC = F> (see Note 2) TFA, PC = F> (see Note 2)				
:Start traffic  3 – 1 TRAFFIC (from A and F)		> SP F		
:Wait :Stop traffic				
NOTES				
1 After activation of the linkset 3, SPs A and F perform a point restart procedure which is not explicitly described in this test.				
2 The propagation of TFAs is not presented to simplify the test description.				
TEST DESCRIPTION				
1. Activate linkset 3.				
2. Check that TFAs concerning F are broadcasted.				
3. Start traffic to F and check that it is routed correctly; stop traffic.				

TEST NUMBER: 9.5.2		PAGE: 1 of 2	
REFERENCE: Q.704 clause 13, Fig. 29, Fig. 45			
TITLE: Signalling route management			
SUBTITLE: Broadcast of TFAs – Various reasons			
PURPOSE: To check the broadcast of TFA when several destinations become accessible in various network situations			
PRE-TEST CONDITIONS: Linksets 1 and 2 unavailable (end of test 9.2.2 page 1 of 2)			
CONFIGURATION: D	TYPE OF TEST: VAT, CPT	TYPE OF SP: STP	
MESSAGE SEQUENCE:			
SP A	SP B SP C	SP •	
Link	Link Link	Link	
3-1 TFA, PC = C 3-1 TFA, PC = D 3-1 TFA, PC = E 2-1 TFP, PC = B 2-1 TFP, PC = D 2-1 TFP, PC = E :Start traffic		SP F SP F SP F SP F SP F	
NOTE- After activation of the linkset 2, SPs A and C perform the point restart procedure which is not described in this test.			
TEST DESCRIPTION			
1. Activate linkset 2.			
2. Check that TFAs concerning B, C, D and E are broadcasted.			
3. Start traffic and check that it is routed correctly; stop traffic.			
4. Repeat test but activate linkset 1 instead of linkset 2.			

TEST N	NUMBER: 9.5.2 (continued) PAGE: 2 of 2					
REFERE	NCE: Q.704 clause 13, Fig.	29, Fig. 45		•		
TITLE:	Signalling route management					
SUBTITI	LE: Broadcast of TFAs – Vari	ous reasons				
PURPOS	E: See page 1 of 2					
PRE-TES	ST CONDITIONS: Linksets	1, 4 and 8 unavailabl	le (end of test 9.2.2 pag	e 2 of 2)		
CC	ONFIGURATION: D	TYPE OF	TEST: VAT, CPT	TY	PE OF SP: STP	
MESSAC	GE SEQUENCE:	1		1		
S	P A	SP B	SP	C	SP •	
Link	Link		Link		Link	
:Start traf	ffic					
	ΓRAFFIC(from A and F)	>	7 – 1	>	SP	Е
	<		8-1: Activate $2-1$ TFA, PC = D			
	111,16 B	>		>	SP	F
	TRAFFIC(from A and F)	>	7 – 1 8 – 1		SP SP	E D
:Wait :Stop traf	fic					
TEST D	ESCRIPTION					
1.	Start traffic to E.					
2.	Activate linkset 8 and chec concerning D.	ck that a TFA con	cerning D is sent fro	m C to A. Check	that A broadcasts	TFAs
3.	Check that the traffic to D is	restarted.				
4.	Repeat test with linksets 2, 4 1, 4 and 8 unavailable as pr conditions and activate linkset	e-test conditions an				

TEST NUMBER: 9.6 PAGE: 1 of 1 REFERENCE: Q.704 clause 13, Fig. 29, Fig. 46 TITLE: Signalling route management SUBTITLE: Periodic sending of Signalling-Route-Set-Test messages (SRST) PURPOSE: To check the periodic test of a unavailable signalling route is performed correctly PRE-TEST CONDITIONS: Linkset 2 unavailable CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL MESSAGE SEQUENCE: SP A SP B Link Link :Start traffic 1 - 1TRAFFIC <-----1 - 1TRAFFIC RST, PC = C1 - 1T10 1-1 RST, PC = C T10 2 - 1: Activate 1 - 1TFA, PC = CTRAFFIC 1 - 11 - 1TRAFFIC :Wait :Stop traffic TEST DESCRIPTION Start traffic to B. 1. 2. Check that at each expiration of T10, a signalling-Route-Set-Test message concerning C is received from A without Activate linkset 2 and check that a TFA is received and that T10 is stopped. 3. Check that traffic to C is restarted and stop traffic. 4. 5. Repeat the test but without sending of TFA after activation of linkset 2 and check that when a RST is received a TFA is sent in response. Check that T10 and signalling-route-set-test procedure are stopped. Check that the duration of T10 is inside the specified range. 6.

TEST N	ST NUMBER: 9.7 PAGE: 1 of 1								
REFERE	NCE: Q.704 claus	se 13, 1	Fig. 29, Fig. 4	46					
TITLE:	Signalling route man	nagem	ent						
SUBTITI	LE: Reception of a	Signal	ling-Route-Se	et-Test-Messag	e				
PURPOS	E: To check the act	tions o	of the system of	on reception of	an SRST				
PRE-TES	ST CONDITIONS:	Links	sets 2 and 3 ur	navailable					
CO	ONFIGURATION:	D		TYPE OF	ΓΕST: VAT			TYPE OF	SP: STP
MESSAC	GE SEQUENCE:		·						
		SP .	A			SP	В		SP F
Lin	k				Link			Link	
		<	<		1 – 1	RST	PC = F		
3 – 1	:Activate						T10		
1 – 1	TFA, PC = F			>	(Ignored)				
		<	<		1 – 1	RST	PC = F		
							T10		
1 – 1	TFA, PC = F			>			T10		
1 1	1111,10						+		
3 – 1	TRAFFIC (from A, D and E)						>		
:Wait									
:Stop traf	fic								
TEST D	ESCRIPTION								
1.	Send to A RST me	ssage	concerning F	and check that	no response is r	eceiv	red.		
2.	Activate linkset 3								
3.	Send a RST messa	ge con	ncerning F aft	er activation of	linkset 3 and ch	ieck t	hat a TFA is	received in	response.
4.	Repeat the test but	with 1	inksets 1 and	3 unavailable	as pre-test condit	tions	and RST me	ssage sent fr	om C.

TEST NUMBER: 10.1.1 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has not STP function) – With use of point restart procedure PURPOSE: To check that point restart procedure is performed correctly when the recovery of a linkset restores connexity between two adjacent SPs PRE-TEST CONDITIONS: Linksets 1, 2, 4 and 6 unavailable CONFIGURATION: B TYPE OF TEST: VAT, CPT TYPE OF SP: SP MESSAGE SEQUENCE: SP A SP B SP C SP? Link Link Link Link 3 - 1, 2TRAFFIC -----> 7 – 1 SP E 8 – 1 SP D <----- 3 – 1, 2 <-----SP E 7 - 18 - 1SP D 2 - 1:Activate 2 - 1Activation (link in service at level 2) T21 2 - 1TRA 2 - 1TFP (PC = C)<-----2 - 1TFP (PC = E)2 - 1<-----TRA 5 - 1SP D TFA (PC = A)TIME CONTROLLED DIVERSION IS APPLIED 2 - 1TRAFFIC ----> 5-1 ----> SP D (from 3 - 1, 2)**---->** 2-1 **----->** 5 - 1SP D -----> 7-1 -----> 3 - 1, 2TRAFFIC SP E 8-1 ----> SP D <----- 3 – 1, 2 <-----7 - 1SP E :wait :Stop traffic NOTE – The time controlled diversion procedure is applied in A and a controlled rerouting is performed in D. These procedures are not described in this point restart test. TEST DESCRIPTION 1. Start traffic to E (and D in VAT) 2. Activate link 2-1 and check that the timer T21 is started. Check that TFPs sent from B are received in A. Check that the timer T21 is stopped on reception of the TRA message received from B. 3. Check that the time controlled diversion procedure is performed at the end of T21. Check that the traffic to D is diverted to the link 2-1 in accordance with the load sharing rules in A. Check that the traffic to E is not diverted. Stop traffic and check that there were no lost messages, no duplication and no missequencing. 4. Repeat the test (in VAT) without sending of TRA and check that the duration of timer T21 is inside the specified 5. range.

TEST NUMBER: 10.1.2 PAGE: 1 of 1

REFERENCE: Q.704 clause 9

TITLE: Signalling point restart

SUBTITLE: Recovery of a linkset (SP A has not STP function) – With use of point restart procedure

PURPOSE: To check the actions of the system in case of restart of a linkset

PRE-TEST	CONDITIONS: L	inksets 1, 2 and 6 are unavai	lable		
CONF	FIGURATION: B	ТҮРЕ О	OF TEST: VAT	TYPE OF SP: SI	P
MESSAGE	SEQUENCE:				
SP	A	SP B	SP C	SP	
Link :Start traffic		Link	Link	Link	
3 – 1, 2	TRAFFIC		7-1 8-1		SP E SP D
			3 – 1, 2	5 – 1	SP D
2 – 1	:Activate		3-1,2 <	7 – 1	SP E
2 1		S ARE PERFORMED IN A	AND B (see Note)		
2 – 1	TRAFFIC	> 4-1	> 7 - 1>	•	SP E
2 – 1	TRAFFIC	> 5 – 1	>	•	SP D
3 - 1, 2	TRAFFIC		> 7 – 1	>	SP E
			8 – 1		SP D
					SP D
			> 3 – 1, 2>	> 7 – 1	SP E

:Wait

:Stop traffic

NOTE-After activation of link 2-1, changebacks are performed in A and B but they are not explicitly described in this point restart test.

#### TEST DESCRIPTION

- 1. Start traffic to E and D.
- 2. Activate link 2 –1. Check that the point restart procedure is not applied and that changebacks are performed.
- 3. Check that the traffic from A is diverted to the link 2-1 in accordance with the load sharing rules in A.
- 4. Check that the signalling route set test procedure is not applied after the activation of the link 2-1.
- 5. Stop traffic and check that were no lost messages, no duplication and no missequencing.

TEST NUMBER: 10.2.1 PAGE: 1 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has STP function) - With use of point restart procedure PURPOSE: To check that restart procedure is performed correctly when the recovery of a linkset restores connexity between two adjacent SPs PRE-TEST CONDITIONS: Linksets 1, 3, 4 and 6 are unavailable CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP? SP A SP B SP C Link Link Link Link :Start traffic 2 - 1TRAFFIC ----> 7 - 1 ----> SP E 8 – 1 -----> SP D ----- 2 – 1 <-----7 - 1SP E 8 - 1SP D 1 - 1:Activate 1 - 1Activation (link in service at level 2) T21 1 - 1**TFP** (PC = F) ----> 1 - 1TRA TFP (PC = C)1 - 11 - 1TFP (PC = E)SP D TRA 1 - 1TFA (PC = A)5 - 12 - 1TFA (PC = B) -----1 - 1TFP (PC = D)  $\longrightarrow$ TIME CONTROLLED DIVERSION IS APPLIED 2 - 1TRAFFFIC ----> 5 - 1 -----> SP D <----- 1 - 1 <-----5 - 1SP D <----- 2 – 1 <-----8 - 1SP D -----> 7-1 -----> 2 - 1TRAFFFIC SP E ----- 2 – 1 <-----SP E 7 - 1:Wait :Stop traffic TEST DESCRIPTION 1 Start traffic to D and E. 2. Activate link 1 – 1 and check that the timer T21 is started in A (and B in CPT). Check that TFPs are sent from B to A for E and C, and that a TFP is sent from A to B for F. 3. Check that timer T21 in SP A and timer T21 in SP B expire at about the same time. Check that a TFA is sent from A to C for B. Check that the controlled time diversion is applied in A. Check that the traffic to D is diverted on link 1-1. 4 5. Stop traffic and check that there were no lost messages, no duplication and no missequencing. Repeat the test (in VAT) without sending TRA from B to A and check that the duration of timer T21 is inside the 6. specified range.

TEST N	UMBER: 10.2.1 (	(continued)			PAGE: 2 of 2	
REFERE	ENCE: Q.704 cla	use 9				
TITLE:	Signalling point re	start				
SUBTITI	LE: Recovery of a	ı linkset (SP	A has STP function) –	With use of point res	start procedure	
PURPOS	SE: See page 1 of 2	2				
PRE-TES	ST CONDITIONS	: Linksets 3	, 4 and 6 are unavailabl	le (end of page 1)		
CO	ONFIGURATION:	D	TYPE OF	TEST: VAT	TYF	PE OF SP: STP
MESSAC	GE SEQUENCE:					
;	SP A		SP B	SP	C	SP?
Linl	k		Link	Link	I	Link
:	TTD 4 TTD G					an n
1 – 1	TRAFFIC		> 5 – 1 1 – 1 <			SP D - 1 SP D
			1 = 1			-1 SP D
2 – 1	TRAFFIC				_	SP E
		<		2 – 1 <	7	- 1 SP E
3 - 1	:Activate					
	Activation (link	service at lev	vel 2)			
	T21					T21 SP F
3 - 1	121	<			3	-1
	TRA					TRA SP F
2 – 1	TFA (PC = F)		>			
1 – 1	TFA (PC = F)		>			
	TD A FELC					SP D
1 – 1	TRAFFIC (from A and F)		····> 5-1 ·····		>	
	,	<	1 – 1 <		5	– 1 SP D
2 - 1	TRAFFIC			> 7 - 1	>	SP E
	(from A and F)			2 – 1      <	7	1 CD F
		<		Z-1 <	/	– 1 SP E
:Wait						
:Stop traf	ffic					
•						
TEST DE	ESCRIPTION					
1.	Start traffic.					
2.	Activate link 3 –	1 and check	that the timer T21 is sta	arted in A (and F in	CPT).	
3.	Check that timer to C for F and fro			F expire at about the	same time. Check	that a TFA is sent from A
ĺ						

TEST NUMBER: 10.2.2 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Recovery of a linkset (SP A has STP function) – Without use of point restart procedure PURPOSE: To check the actions of the system in case of restart of a linkset PRE-TEST CONDITIONS: Linkset 1 unavailable CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP B SP A SP C SP Link Link Link Link :Start traffic SP D 2 - 18-1 ----> **TRAFFIC** 7 – 1 ----> (from A and F) SP E 2 – 1 <-----7 - 1SP E <-----8 - 1SP D 1 - 1:Activate (see Note 1) CHANGEBACKS ARE PERFORMED IN A AND B (see Note 2) SP D 1 - 1**TRAFFIC** 5-1 ----> (from A and F, 6-1 <-----SP E from 2-1) 2 - 1TRAFFIC -----> 7-1 ----> SP E 2 – 1 <-----7 - 1SP E 8 - 1SP D <-----(see Note 1) :Wait :Stop traffic NOTES 1 Depending of the routing rules in D and E, the traffic to A and F may be carried either on linksets 5 or 8, or on linksets 6 or 7. 2 Changebacks are performed but they are not explicitly described in this point restart test. TEST DESCRIPTION 1. Start traffic to D and E. 2. Activate link 1 – 1. Check that point restart procedure is not applied in this case and that changebacks are performed. 3. Check that the traffic to D and E is diverted on link 1-1 in accordance with the load sharing rules in A. 4. Check that the signalling route set test procedure is not used. Stop traffic and check there were no lost messages, no duplication and no missequencing. 5.

TEST NUMBER: 10.3 PAGE: 2 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: An adjacent SP becomes accessible via another SP (SP A has not STP function) PURPOSE: To check the actions of the system when an adjacent SP becomes accessible via another SP PRE-TEST CONDITIONS: Linksets 1, 3, 4, 5 and 6 are unavailable CONFIGURATION: B TYPE OF TEST: VAT TYPE OF SP: SP MESSAGE SEQUENCE: SP A SP B SP C SP • Link Link Link Link 4 - 1: Activate <-----TFP (A) 4 - 1TFPs 4-1(D and E) T21 T21 4 - 1TRA TRA 4 – 1 -----> <----- 2 – X SP E TFAx 7 - 1TFAs (A,B) -----> (PCs = C, D and E)8 - 1TFAs (A,B) ----> SP D T21 (for D and C) (Broadcasting mode) T21 in D for A 2 - 1, 2TRAFFIC 4 - 17 - 1SP E <----- 2 – 1, 2 SP E <-----4 - 1<-----7 - 1TRAFFIC ----> 4-1 8 - 1----> SP D 2 - 1.2<-----4 - 1<-----SP D 8 - 1:Wait :Stop traffic TEST DESCRIPTION 1. Activate link 4 - 1. 2. Check that on the reception of TFAs the traffic is immediately restarted in A to E and that traffic to D is restarted after expiration of T21. 3. Stop traffic and check that there were no lost messages, no duplication and no missequencing.

TEST NUMBER: 10.4 PAGE: 1 of 1 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: An adjacent SP becomes accessible via another SP (SP A has STP function) PURPOSE: To check the actions of the system when an adjacent SP becomes accessible via another SP on reception of a TFA PRE-TEST CONDITIONS: Linksets 1, 3 and 4 are unavailable CONFIGURATION: D TYPE OF TEST: VAT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP D Link Link Link Link 2 - 1**TRAFFIC** ----> 7 – 1 -----> SP E (from A) 8-1 ----> SP D 2 – 1 <-----7 - 1SP E 8 - 1SP D 4 - 1 Activate 4 - 1 Activation (link in service at level 2) T21 TFP (PC = F)<----- 4 – 1 TRA TFP (PC = A)TFP (PC = F)4 – 1 ----> TRA 4 – 1 -----> TFA (PC = C) 4-1 -----<-----TFA (PC = C) 5-1 -----> SP D TFA (PC = C) 6-1 -----> SP E TFA (PC = A)5 – 1 -----> SP D TFA (PC = A) 6-1 -----SP E 7 - 1 TFA (PC = B) -----> SP E 8 - 1 TFA (PC = B) -----> SP D 2-1 TFA (PC = B) <----------TFP (PC = F)2 - 1<----- 4 – 1 -----:Wait :Stop traffic NOTE – preventive TFPs might be sent after the expiry of T21. TEST DESCRIPTION 1. Start traffic. 2. Activate link 4 - 1. 3. Check that, when the TFA is received for B, SF A is aware of that B is an adjacent point which restart, and consequently A sends a TFP concerning F on link 2 - 1 to B. 4. Stop traffic and check that there were no lost messages, no duplication and no missequencing.

TEST NU	TEST NUMBER: 10.5 PAGE: 1 of 2				
REFEREN	CE: Q.704 clause 9				
TITLE: S	gnalling point restart				
SUBTITLE	: Restart of an SP having no STP	function			
PURPOSE	To check the restart procedure in	an SP having no STI	function		
PRE-TEST	CONDITIONS: SP A unavailable	e			
CO	IFIGURATION: B	TYPE OF TEST:	VAT CPT	TYPE OI	F SP: SP
	SEQUENCE:  A SP Link		SP Link	C Link	SP ?
X – X	:Activate Activation (first link in ser T20  < TRA 2-1 < <	T21 TRA		T21 TRA 1-1	SP D
2-1 $3-1$	TRA>   TFA (PC = A) a	are broadcast			
			= A) are broadca	ast	
1 – 1	TRA		>		
1-1, 2	· ·			1 – 1, 2	SP D SP D
2-1,2 3-1,2	TRAFFIC>  TRAFFIC>	6-1> 8-1 7-1	> > >	7 – 1	SP D SP E SP E SP E SP E
:Wait :Stop traffi					
TEST DES	CRIPTION				
2. 3. 4. 5. 6. 7.	Activate SP A Check that when the first link is in s Check that when all (or sufficient stopped. Check that SP A broadcasts TRAs t Check that the traffic is carried as d Stop traffic. In VAT, repeat the test without sen	o B, C and D. escribed above.	and all TRAs and A, and check the	are received from B, C	inside the specified
1	n VAT, repeat the test without acrange.	tivating the link I –	1, and check tha	at the duration of 120 in	inside the specified

TEST N	UMBER: 10.5 (continued)	PAGE: 2 of 2	PAGE: 2 of 2			
REFERE	NCE: Q.704 clause 9			1		
TITLE:	Signalling point restart					
SUBTITI	LE: Restart of an SP having no	STP function				
PURPOS	E: To check the restart proced	ure in an SP having no S7	TP function			
PRE-TES	T CONDITIONS: SP A, link	sets 6 and 7 unavailable		_		
CC	ONFIGURATION: B	TYPE OF TE	EST: VAT		TYPE OF SP:	SP
MESSAC	GE SEQUENCE:					
S	SP A	SP B	SP	C		SP ?
Link		Link	Link	Li	nk	
when $2-1$ $3-1$ $1-1$ $1-1, 2$ $2-1, 2$ $3-1, 2$	TRA TRAFFIC TRAFFIC TRAFFIC	T21  2-1  2-1  TFP (PC = TRA    lilable   A) are broadcast  TFAs (PC	3 – 1	st> > > >	1,2	SP D SP D SP D SP D SP D SP E SP D SP E
:Wait	<		- 3 – 1, 2 <	7	<b>–</b> 1	SP E
:Stop traf						
	SCRIPTION  A stirrete S.P. A					
1. 2. 3. 4. 5.	Activate SP A. Check that when the first link Check that when all (or suff stopped. Check that SP A broadcasts T Check that the traffic is carrie	RAs to B, C and D.			om B, C and D	timer T20 is
5. 6. 7. 8.	Stop traffic.  Repeat the test without sending Repeat the test without activation.	g TRA from B to A, and				

TEST NUMBER: 10.6 PAGE: 1 of 2 REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Restart of an SP having the STP function PURPOSE: To check the restart procedure in an SP having STP function PRE-TEST CONDITIONS: SP A unavailable CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP ? Link Link Link Link :Activate X - XActivation (first link in service at level 2) SP F T18 T21 T21 <----- TFP (PC = F) 1-1<----- TRA 1-1 <----- TFP (PC = F) 2-1 <----- TRA 2-1 when all (or sufficient) links are available and when all (or sufficient) TRA have been received TFP (PC = D)  $\longrightarrow$ 1 - 11 - 1TFP (PC = E)  $\longrightarrow$ 2 - 1TFP (PC = D) -----> TFP (PC = E) -----> 2 - 1TRA -----> 1 - 1<----- TFP (PC = F) 1-1TFAs(A) are broadcast 2 - 1TRA -----> <------ TFP (PC = F) 2 – 1 TFAs (A) TFAs(A) are broadcast 3 - 1TRAFFIC ----> 5-1 ----> SP D (from A and F) SP D Via B or C to A and F <-----5 - 1 or 8 - 16-1 -----> SP E 2 - 1TRAFFIC ----------> 7 – 1 -----> SP E Via B or C to A and F <-----(from A and F) 6 - 1 or 7 - 1SP E :Wait :Stop traffic NOTE – Preventive TFPs are possibly sent after the expiry of T20. Preventive TFPs for the highest priority routes might not be TEST DESCRIPTION 1. Activate SP A. 2. Check that when the first link is in service at level 2, the timer T20 is started. Check that when all (or sufficient) links are activated, and all TRAs are received from B, C and D timer T18 is 3. 4. Check that SP A broadcasts TRAs to B, C and F. Check that the traffic is carried as described above. 5. 6 Stop traffic. 7 Repeat the test (in VAT) but send the traffic from F to D and E via A immediately after alignment of link 3 – 1 and check that this traffic is discarded until the end of T20.

PAGE: 2 of 2 TEST NUMBER: 10.6 (continued) REFERENCE: Q.704 clause 9 TITLE: Signalling point restart SUBTITLE: Restart of an SP having the STP function PURPOSE: To check the restart procedure in an SP having STP function PRE-TEST CONDITIONS: SP A unavailable and linkset 2 and 4 definitively unavailable CONFIGURATION: D TYPE OF TEST: VAT, CPT TYPE OF SP: STP MESSAGE SEQUENCE: SP A SP B SP C SP ? Link Link Link Link :Activate X - XActivation (first link in service at level 2) T18 T20 T21 SP F <----- TFP (PC = F) 1-1< TFP (PC = C) 1-1<----- TRA TRA 3-11 at the end of timer T18 TFP (PC = C)  $\longrightarrow$ 1 - 11 - 1TFP (PC = D)  $\longrightarrow$ 1 - 1TFP (PC = E) ----> 1 - 1TRA ----> <----- TFP (PC = F) 1-1TFAs (A) are broadcast TFP (PC = C)  $\longrightarrow$ 3 - 11 - 1TRAFFIC ----> 5-1 -----> SP D 6-1 ----> SP E (from A and F) to A and F <-----SP D to A and F <-----SP D :Wait :Stop traffic NOTE – Preventive TFPs may be sent after the expiry of T20. Preventive TFPs for the highest priority routes may not be sent. TEST DESCRIPTION 1. Activate SP A beginning by the activation of 3 - 1, activate link 1 - 1. 2. Stop traffic.

TEST N	UMBER: 10.7	.1		PAGE: 1 of 1
REFERE	ENCE: Q.704	clause 9		
TITLE:	Signalling poin	t restart		
SUBTITI	LE: Reception	of an unexp	ected TRA – In an SP having no STP function	
PURPOS	SE: To check th	ne system in	case of reception of an unexpected TRA	
PRE-TES	ST CONDITIO	NS: Links	et with one available link	
CO	ONFIGURATIO	ON: A	TYPE OF TEST: VAT	TYPE OF SP: SP
MESSAC	GE SEQUENCE	Ξ:		
	SP	A		SP B
Linl	k		Link	
1 – 1	TRAFFIC		> < 1 – 1 TRAF	FIC
			< 1 – 1 TRA	
1 – 1	T19	TRA	>	
			< 1 – 1 TRA	
:Wait		1		
:Stop traf	ffic			
TEST DE	ESCRIPTION			
1.	Start traffic to	B and C or	link 1 – 1.	
2.	Send a TRA f	rom B to A	and check that the timer T19 is started.	
3.	During T19 se	end a TRA f	from B to A and check that this message is igno	ored.
4.	Stop traffic ar	nd check tha	t it has not been disturbed.	

TEST NU	UMBER	: 10.7.2				PAGE: 1 of 1	
REFERE	NCE: (	).704 clause 9			•		
TITLE:	Signallir	ng point restart					
SUBTITL	LE: Rec	eption of an unexpected	d TRA – In an S	P having no STP fu	unction		
PURPOSI	E: See	test 10.7.1					
PRE-TES	T CON	DITIONS: Linkset 1,	4 and 8 available	e link			
CC	ONFIGU	RATION: D	TYPE	E OF TEST: VAT		TYPE OF	SP: STP
MESSAG	SE SEQU	JENCE:				•	
S	SP A		SP B		SP	C	SP ?
Link		Link	-	Link		Link	
2 – 1		FIC A and F)	>	7 – 1		->	SP E
	(HOIII A	<		2 – 1 <		<b></b> 7 – 1	SP E
2-1	T19	<pre> &lt;</pre>	> >	2-1 TRA			
		<		- 2-1 TRA			
2 – 1		FIC A and F) <					SP E SP E
:Wait :Stop traff	fic						
TEST DE	SCRIPT	TION					
1.		affic to E.					
2.	Send a then, cl	TRA from C to A and heck that a TRA is rece	d check that the ived from A.	timer T19 is starte	ed, and the	hat TFPs concerning B	and D are received,
3.	During	T19 send a TRA from	C to A and chec	k that this message	is ignore	ed.	
4.	Stop tr	affic and check that it h	as not been distu	ırbed.			

TEST N	UMBER: 11		PAGE: 1 of 1
REFERE	ENCE: Q.706		
TITLE:	Traffic test		
SUBTIT	LE:		
PURPOS	SE: To check the behaviour of an	STP in various traffic situations	
PRE-TE	ST CONDITIONS: All links ava	ailable	
C	ONFIGURATION: C	TYPE OF TEST: VAT	TYPE OF SP: STP
MESSA	GE SEQUENCE:		
	SP B	SP C	CD C
Link	Sr B	Link	SP C Link
:Start tra	ffic		
1 – 1	TRAFFIC	·····> 2-1 ·····	>
1 – 2	TRAFFIC	> 2-1	>
	<	1 – 1 <	2 – 1 TRAFFIC
	<	1 – 2	
:Wait			
:Stop tra	ffic		
TEST D	ESCRIPTION		
1.	Start traffic between B and C in	both directions via A using the traffic mo	odels presented in Recommendation Q.706.
2.	Check that the time to cross the	STP is better than 20 milliseconds.	
3.	Stop traffic and check that it wa	s not disturbed.	
4.	Repeat test but with a traffic mo	odel including 5% of messages with an SI	F = 272 octets.

TEST N	UMBER: 12.1		PAGE: 1 of 1		
REFERE	NCE: Q.707				
TITLE:	Signalling link test				
SUBTITI	LE: After activation of a link				
PURPOS	E: To check the signalling lin	k test procedure after activation of a signall	ing link		
PRE-TES	ST CONDITIONS: Signalling	g link 1 – 2 available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT, CPT	T	YPE OF SP: STP	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link	ζ		Link		
:Start traf	fic				
1 – 2	2 TRAFFIC	>			
1 – 1 1 – 1		<>	1 – 2	TRAFFIC	
		<	1 – 1	SLTA	
		<	1 – 1	SLTM	
1 – 1		>			
CHANG	-				
1 - 1,	2 TRAFFIC TRAFFIC	<>	1 - 1, 2	TRAFFIC	
	TRAFFIC	<u> </u>	1 - 1, 2	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DE	ESCRIPTION				
1.	Start traffic to B (and C in V.	AT).			
2.	Activate link 1 – 1 and check	that an SLTM is received from A.			
3.	Send an SLTM to A and chec	ck that an SLTA is received.			
4.	Check that the link 1 – 1 become	omes available and that changeback is perfo	ormed correctly.		
5.	Stop traffic.	,	,		
6.					

TEST N	UMBER: 12.2		PAGE: 1 of 1		
REFERE	NCE: Q.707				
TITLE:	Signalling link test				
SUBTITI	LE: No acknowledgement to fi	rst SLTM			
PURPOS	E: To check that a second SLT	M is sent if the first is not acknowledged			
PRE-TES	ST CONDITIONS: Signalling	link 1 – 2 available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link	K		Link		
:Start traf	ffic				
1 – 2	2 TRAFFIC	>	1.0	TD A DEVG	
1 – 1	1 :Activate	<	1 – 2	TRAFFIC	
1 – 1	1 SLTM	>			
	Т1				
1 – 1	L 1 SLTM	>			
		<	1 – 1 1 – 1	SLTA SLTM	
1 – 1	1 SLTA	>	1 – 1	SLIM	
CHANG					
1 – 1	,2 TRAFFIC	<>	1 – 1, 2	TRAFFIC	
:Wait					
:Stop traf	ffic				
TEST DE	ESCRIPTION				
1.	Start traffic to B and C.				
2.	Activate link 1 – 1 and check	that an SLTM is received and not acknowle	edged.		
3.	Check that when the time T specified range.	1 expires a new SLTM is sent. Check th	at the duration o	of this time is inside of the	
4.	Check that the link 1 − 1 beco	mes available and that the changeback is po	erformed correctly	<i>y</i> .	
5.	Stop traffic.				
6.	Repeat the test with link $1-1$ unavailable and inhibited (in this case changeback is not performed). Check that the link becomes available and stays inhibited.				

TEST N	TEST NUMBER: 12.3			PAGE: 1 of 1		
REFERE	NCE: Q.707					
TITLE:	Signalling link test					
SUBTITI	LE: No acknowledgement to so	econd SLTM				
PURPOS	E: To check that the link stays	unavailable when the second SLTM is not	acknowledged			
PRE-TES	ST CONDITIONS: Signalling	link 1 – 2 available				
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link	· C		Link			
:Start traf	ffic					
1 – 2	2 TRAFFIC	>				
1 – 1	1 :Activate	<	1 – 2	TRAFFIC		
1 – 1		>				
	T1					
1 – 1	⊥ 1 SLTM	>				
	T1					
1 – 2	⊥ 2 TRAFFIC	>				
		<	1 - 2	TRAFFIC		
:Wait						
:Stop traf	ffic					
TEST DE	ESCRIPTION					
1.	Start traffic to B and C.					
2.	Activate link 1 – 1 and check	that two SLTMs are received from A.				
3.	Check that after the second ex	epiration of T1, link 1 – 1 stays unavailable	and that the mana	agement system is informed.		
4.	Repeat the test with link $1-1$	unavailable and inhibited.				

TEST N	UMBER: 12.4		PAGE: 1 of 1		
REFERE	NCE: Q.707				
TITLE:	TITLE: Signalling link test				
SUBTITI	LE: Unreasonable field in an S	LTA			
PURPOS	E: To check the actions of the	system on reception of an SLTA with an u	nreasonable field		
PRE-TES	ST CONDITIONS: Signalling	link 1 – 2 available			
CO	ONFIGURATION: A	TYPE OF TEST: VAT	TY	YPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link	ς.		Link		
:Start traf	ffic				
1 – 2	2 TRAFFIC	>			
		<	1 – 2	TRAFFIC	
1 - 1 $1 - 1$	1	>			
	SETIVI	<	1 – 1	SLTA (erroneous test pattern)	
1 – 1	L I SLTM	>			
CHANGE	FRACK	<	1 – 1	SLTA	
1 – 1,		>			
		<	1 - 1, 2	TRAFFIC	
:Wait					
:Stop traf	fic				
TEST DE	ESCRIPTION				
1.	Start traffic to B and C.				
2.	Activate link 1 – 1 and check that an SLTM is received and acknowledged with an SLTA containing an erroneous test pattern.				
3.	Check that a second SLTM is sent from A and correctly acknowledged.				
4.	Check that link 1 – 1 becomes	s available and that changeback is performe	ed correctly.		
5.	Wait and stop traffic.				
6.	Repeat the test with a first SL	TA containing an erroneous SLC then OPC	<b>2</b> .		
7.	Repeat the test with the first and second erroneous SLTA and check that link $1-1$ stays unavailable and that management system is informed.				

TEST N	TEST NUMBER: 12.5			PAGE: 1 of 1		
REFERENCE: Q.707						
TITLE:	Signalli	ng lin	k test			
SUBTITI	LE: Re	ceptio	n of an SLTM in	an attempt state		
PURPOS	Е: То	check	the actions of the	system when an SLTM is received in an at	tempt state	
PRE-TES	ST CON	DITI	ONS: Signalling	link 1 – 2 available		
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL					PE OF SP: ALL	
MESSAC	GE SEQ	UENC	CE:			
		SP	A			SP B
Link	ζ				Link	
:Start traf	fic					
1 – 2	,		TRAFFIC	>		
1 – 2	2		TRAFFIC	<	1 - 2	TRAFFIC
1 – 1			:Activate	>		
1 – 1	L		SLTM	<	1 – 1	SLTM
1 – 1	[	T1	SLTA	>	1 – 1	SLIM
1 – 1	l		SLTM	>		
		T1		<	1 – 1	SLTM
1 – 1	[		SLTA	>		
CHANCE	D A CIV			<	1 – 1	SLTA
CHANGE 1 – 1,			TRAFFIC	>		
1 1,	-		114.11.11	<	1 – 1, 2	TRAFFIC
:Wait						
:Stop traf	fic					
TEST DE	ESCRIP	ΓΙΟN				
1.	Start t	raffic	to B and C.			
2.	Activa	ite linl	k 1 – 1 and check	that SLTM is received. Send an SLTM and	check that an SL	TA is received.
3.	On rec	eption	n of the second SI	TM, send an SLTM and check that an SLT	A is received. Se	nd an SLTA to A.
4.	Check	that c	changeback is perf	formed correctly, and stop traffic.		

TEST NUMBER	: 12.6		PAGE: 1 of 1		
REFERENCE: Q	2.707				
TITLE: Signallin	ng link test				
SUBTITLE: Add	litional SLTA and SLT	M			
PURPOSE: To cl	heck the actions of the	system on reception of additional SLTA an	d SLTM		
PRE-TEST CON	DITIONS: Signalling	link 1 – 2 available			
CONFIGU	RATION: A	TYPE OF TEST: VAT, CPT	TY	YPE OF SP: ALL	
MESSAGE SEQU	JENCE:				
	SP A			SP B	
Link			Link		
:Start traffic					
1 – 2	TRAFFIC	>		TD A DELG	
		<	1 – 2	TRAFFIC	
		<	1 – 2	SLTA	
1 2	CL TA	<	1 – 2	SLTM	
1 – 2	SLTA	>			
:Wait					
:Stop traffic	:Stop traffic				
TEST DESCRIPT	TION				
1. Start tra	affic to B (and C in VA	T).			
2. Check	that the reception of an	SLTA is ignored.			
3. Send ar	n SLTM to A and check	that an SLTA is received.			
4. Stop tra	affic and check that it w	vas not disturbed.			

TEST N	JMBER: 13.1		PAGE: 1 of 1			
REFERE	NCE: Q.704 Table 1					
TITLE:	Invalid messages					
SUBTITI	E: Invalid H0-H1 in a signa	lling network management message				
PURPOS	PURPOSE: To check the actions of the system when a signalling network management message is received with a non-existing H0-H1					
PRE-TES	PRE-TEST CONDITIONS: All links available					
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	E SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf	fic					
ALL	TRAFFIC	>				
		<	ALL	TRAFFIC		
		<	1 – X	SIGNALLING NETWORK MANAGEMENT MESSAGE (Invalid H0-H1)		
ALL	TRAFFIC	>				
		<	ALL	TRAFFIC		
:Wait :Stop traf	fic					
TEST DE	SCRIPTION					
1.	Start traffic to B and C on al	l links.				
2.	Send a signalling network m	anagement message with a non-existing H0-	H1.			
3.	_	iscarded without impact on the traffic.				
4.	Stop traffic.					

TEST NUMBER: 13.2			PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid changeover mess	ages			
PURPOS	E: To check the actions of th	e system on reception of changeover messag	ges with an	invalid SLC or OPC	
PRE-TES	ST CONDITIONS: Linkset	vith two available links			
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL	
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
1 – 1	TRAFFIC	>			
1-1	TRAFFIC	<	1 – 1	TRAFFIC	
1 - 2	2 TRAFFIC	>		CD + DDYG	
		<	1-2 1-2	TRAFFIC COO, SLC 1 – X	
		<u> </u>	1 – 2	(non-existing SLC)	
		<	1 – 2	COO, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	ECO, SLC 1 – X (non-existing SLC)	
		<	1 – 2	ECO, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	COA, SLC 1 – X (non-existing SLC)	
		<	1 – 2	COA, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	ECA, SLC 1 – X (non-existing SLC)	
		<	1 – 2	ECA, SLC 1 – 1 (non-existing OPC)	
1 – 1,	2 TRAFFIC	> <	1 1 2	TDAEEIC	
:Wait		<u> </u>	1 – 1, 2	TRAFFIC	
:Stop traf	fic				
TEST DE	ESCRIPTION				
1.	Start traffic to B and C on al	l links.			
2.	Send the invalid messages a	s described above and check that they are ign	nored.		
3.	Stop traffic and check that it	was not disturbed.			

TEST N	UMBER: 13.3		PAGE: 1 of 1		
REFERE	NCE: Q.704 clause 15				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid changeback messa	ges			
PURPOS	E: To check the actions of the	system on reception of changeback messag	es with an	invalid SLC or OPC	
PRE-TES	T CONDITIONS: Linkset wi	ith two available links			
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL					
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link			Link		
1 – 1	TRAFFIC	> <	1 – 1	TRAFFIC	
1 – 2	2 TRAFFIC	>	1 1	TRATTIC	
		<	1-2 $1-2$	TRAFFIC CBD, SLC 1 – X	
				(non-existing SLC)	
		<	1 – 2	CBD, SLC 1 – 1 (non-existing OPC)	
		<	1 – 2	CBA, SLC 1 – X (non-existing SLC)	
		<	1 – 2	CBA, SLC 1 – 1 (non-existing OPC)	
1 – 1,	2 TRAFFIC	<>	1 – 1, 2	TRAFFIC	
Wait		<b>~</b>	1-1, 2	TRAFFIC	
:Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C on all	links.			
2.	Send the invalid messages des	scribed above and check that they are ignore	ed.		
3.	Stop traffic and check that it v	was not disturbed.			

TEST NUMBER: 13.4			PAGE: 1 of 1		
REFERE	NCE: Q.704	clause 15			
TITLE:	Invalid messa	iges			
SUBTITI	LE: Invalid c	hangeback code			
PURPOS	E: To check	the actions of the	system on reception of an invalid changeba	ack code in a	changeback message
PRE-TES	T CONDITION	ONS: Linkset wi	th one link available		
CC	ONFIGURAT	ION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL
MESSAC	GE SEQUENC	CE:			
	SP	A			SP B
Link	ζ			Link	
:Start traf	fic				
1 – 2	? TR /	AFFIC	>		
			<	1 – 2	TRAFFIC
1 - 1 $1 - 2$		ivate (depending of D, SLC 1 – 1	of the deactivation mean previously used)		
		T4	<	1 – 2	CBA, SLC 1 – 1 (invalid changeback code ≠ CBD)
1 – 2	2 CBI	D, SLC 1 – 1	>		
		T5	<		
1 – 1		AFFIC m 1 – 2)	>		
		,	<	1 – 1	TRAFFIC (from 1 – 2 see Note)
1 - 2	2 TRA	AFFIC	<>	1 – 2	TRAFFIC
:Wait :Stop traf NOTE – I		n a changeback oi		1 – 2	IKAITIC
TEST DESCRIPTION					
1.		to B and C on link	x 1 − 2.		
2.			a CBD is received and acknowledged by a	CBA with ar	n invalid changeback code.
3.			eived after T4 expires and acknowledged		_
4.	Stop traffic and check that the invalid message has been discarded without impact on the traffic.				

TEST NUMBER: 13.5			PAGE: 1 of 3			
REFERE	NCE: Q.704 clause 15					
TITLE:	Invalid messages					
SUBTITI	E: Invalid inhibition message	rs .				
PURPOS	E: To check the actions of the	system on reception of an invalid inhibition	n message			
PRE-TES	PRE-TEST CONDITIONS: Linkset with two available links					
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL						
MESSAC	MESSAGE SEQUENCE:					
	SP A			SP B		
Link :Start traf			Link			
1 – 1	TRAFFIC	>				
1 – 2	2. TRAFFIC	>	1 – 1	TRAFFIC		
		<	1 – 2	TRAFFIC		
		<	1 – 2	LIN, SLC 1 – X (non-existing SLC)		
		<	1 – 2	LIN, SLC 1 – 2 (non-existing OPC)		
		<	1 – 2	LIA, SLC 1 – X (non-existing SLC)		
		<	1 – 2	LIA, SLC 1 – 1 (non-existing OPC)		
		<	1 – 2	LID, SLC 1 – X (non-existing SLC)		
		<	1 – 2	LID, SLC 1 – 1 (non-existing OPC)		
TEST DESCRIPTION						
1.	Start traffic to B and C.					
2.		scribed above and check that these are ignor	red.			
3.	Stop traffic and check that it v					

TEST NU	UMBER: 13.5 (continued)		PAGE: 1 of 3			
REFERE	NCE: Q.704 clause 15					
TITLE:	Invalid messages					
SUBTITI	SUBTITLE: Invalid inhibition messages					
PURPOS	E: As page 1					
PRE-TES	T CONDITIONS: Linkset w	ith two available links				
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAG	E SEQUENCE:					
	SP A			SP B		
Link			Link			
		<	1 – 2	LUN, SLC 1 – X (non-existing SLC)		
		<	1 – 2	LUN, SLC 1 – 1 (non-existing OPC)		
		<	1 – 2	LUA, SLC 1 – X (non-existing SLC)		
		<	1 – 2	LUA, SLC 1 – 1 (non-existing OPC)		
		<	1 – 2	LFU, SLC 1 – X (non-existing SLC)		
		<	1 – 2	LFU, SLC 1 – 1 (non-existing OPC)		
TEST DE	TEST DESCRIPTION					
1.	See page 1.					

TEST NUMBER: 13.5 (continued)		PAGE: 3 of 3		
REFERENCE: Q.704 clause 15				
TITLE: Invalid messages				
SUBTITLE: Invalid inhibition message	es			
PURPOSE: As page 1				
PRE-TEST CONDITIONS: Linkset w	rith two available links			
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL				
MESSAGE SEQUENCE:				
SP A			SP B	
Link		Link		
	<	1 – 2	LLT, SLC 1 – X (non-existing SLC)	
	<	1 – 2	LLT, SLC 1 – 1 (non-existing OPC)	
	<	1 – 2	LRT, SLC 1 – X (non-existing SLC)	
	<	1 – 2	LRT, SLC 1 – 1 (non-existing OPC)	
ALL TRAFFIC	>			
	<	ALL	TRAFFIC	
:Wait :Stop traffic				
.Stop dame				
TEST DESCRIPTION				
See page 1.				

TEST N	TEST NUMBER: 13.6			PAGE: 1 of 1		
REFERENCE: Q.704 clause 15						
TITLE:	Invalid messages					
SUBTITI	E: Invalid transfer control me	essages				
PURPOS	E: To check that there is no pro-	oblem on reception of a TFC with spare fie	ld or SLC	not coded 00		
PRE-TES	T CONDITIONS: Link 1 – 1	available				
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	E SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf		<b>&gt;</b>				
1 1	TRUTTE.	<	1 – 1	TRAFFIC		
		<	1 – 1	TFC, PC = C (spare field $\neq$ 0)		
		<	1 – 1	TFC, PC = C $(SLC \neq 0000)$		
		<	1 – 1	TFC, PC = X (non-existing PC)		
1 – 1	TRAFFIC	>				
		<	1 – 1	TRAFFIC		
:Wait :Stop traf	fic					
.Stop tran						
TEST DE	SCRIPTION					
1.	Start traffic to B and C.					
2.	Send a TFC with invalid spare	e field to A, then a TFC with an invalid SLC	C then a T	FC with a non-existing PC.		
3.	Check that these messages are	correctly received without disturbances du	e to these	incorrect values.		
4.	Stop traffic.					

TEST NUMBER: 13.7			PAGE: 1 of 1			
REFERENCE: Q.704 clause 15						
TITLE:	Invalid messages					
SUBTITI	LE: Invalid signalling route ma	anagement messages				
PURPOS	E: To check the actions of the	system on reception of invalid TFA or TFP	•			
PRE-TES	ST CONDITIONS: Link 1 – 1	available 2 – 1 available				
CO	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	MESSAGE SEQUENCE:					
	SP A			SP B		
Link :Start traf			Link			
.Start trai		>				
		<	1 – 1	TRAFFIC		
		<	1 – 1	TFP, $PC = X$ (non-existing PC)		
		<	1 – 1	TFA, $PC = X$ (non-existing $PC$ )		
		<	1 – 1	TFP, $PC = C$ (non-existing OPC)		
		<	1 – 1	TFP, $PC = C$ (spare bits 00)		
			2 - 1	:Deactivate		
		<	1 – 1	TFP, $PC = C$		
		<	1 – 1	TFA, PC = C (non-existing OPC)		
		<	1 – 1	TFA, $PC = C$ (spare bits 00)		
1 – 1	TRAFFIC	<>	1 – 1	TRAFFIC		
:Wait :Stop traffic						
TEST DE	ESCRIPTION					
1.	Start traffic to B and C.					
2.		valid values to A (as described above). Che	eck that the	ese messages are discarded without		
3.	Deactivate linkset 2 and check	that B becomes inaccessible.				
4.	Send TFAs concerning C wit without impact on the traffic.	h invalid values to A (as described above)	and check	that these messages are discarded		
5.	•	en by the system (except for SLC and spare	bits 0).			
6.	Stop traffic.					

TEST NUMBER: 13.8			PAGE: 1 of 1			
REFERENCE: Q.704 clause 15						
TITLE:	Invalid messages					
SUBTITI	LE: Invalid Signalling-Route-S	Set-Test messages				
PURPOS	E: To check the actions of the	system on reception of invalid RST messag	ges			
PRE-TES	ST CONDITIONS: Link 1 – 1					
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: STP		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf		>				
1 – 1	TRAFFIC	<	1 – 1	TRAFFIC		
		<	1 – 1	RST, PC = X		
		<	1 – 1	(non-existing PC) RST, PC = C (non-existing OPC)		
		<	1 – 1	(non-existing OPC) RST, PC = C (spare bits 00)		
1 1	TDAFFIC					
1 – 1	TRAFFIC	<>	1 – 1	TRAFFIC		
:Wait						
:Stop traf	fic					
TEST DESCRIPTION						
1.	Start traffic to B and C.					
2.	Send to A the invalid messages described above and check that these messages are discarded without impact on the traffic.					
3.	Stop traffic.					

TEST N	TEST NUMBER: 13.9			PAGE: 1 of 1		
REFERENCE: Q.704 clause 15						
TITLE:	Invalid messages					
SUBTITI	E: Invalid traffic restart allow	ved message				
PURPOS	E: To check the actions of the	system on reception of an invalid traffic res	start allow	ed message		
PRE-TES	T CONDITIONS: linkset wit	h two available links				
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf						
1 – 1,	2 TRAFFIC	<>	1 – 1, 2	TRAFFIC		
			1 - 1, 2 1 - 1	TRA (unknown OPC)		
1 - 1,	2 TRAFFIC	>		,		
		<	1 – 1, 2	TRAFFIC		
:Wait						
:Stop traf	fic					
TEST DESCRIPTION						
1.						
2.	Send the invalid message described above and check that this message is ignored.					
3.	Stop traffic and check that it was not disturbed.					
J.	and then that it					

TEST NUMBER: 13.10			PAGE: 1 of 1		
REFERENCE: Q.707					
TITLE: Invalid messages					
SUBTITLE: Invalid H0-H1 in a signall	ing network testing and maintenance messa	ge			
PURPOSE: To check the actions of the	system on reception of this invalid message	e			
PRE-TEST CONDITIONS: Link 1 – 1	available				
CONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAGE SEQUENCE:					
SP A			SP B		
Link :Start traffic		Link			
1-1 TRAFFIC	>				
	<	1 – 1	TRAFFIC		
	<	1 – 1	SIGNALLING NETWORK TESTING AND MAINTENANCE MESSAGE (Invalid H0-H1)		
1 – 1 TRAFFIC	>				
	<	1 – 1	TRAFFIC		
:Wait :Stop traffic					
TEST DESCRIPTION					
	Start traffic to B and C.				
	Send a signalling network testing and maintenance message with a non-existing H0-H1.				
	Check that this message is discarded without impact on the traffic.				
4. Stop traffic.					

TEST NUMBER: 13.11			PAGE: 1 of 1		
REFERE	NCE: Q.707				
TITLE:	Invalid messages				
SUBTITI	LE: Invalid signalling link test	messages			
PURPOS	E: To check the actions of the	system on reception of an invalid signalling	g link test	message	
PRE-TES	T CONDITIONS: Link 1 – 1	available			
CONFIGURATION: A TYPE OF TEST: VAT TYPE OF SP: ALL					
MESSAC	GE SEQUENCE:				
	SP A			SP B	
Link :Start traf			Link		
1 – 1		<> <> <> <> <> <>	1 – 1 1 – 1 1 – 1	TRAFFIC SLTM (invalid SLC) SLTA (invalid SLC) TRAFFIC	
:Wait :Stop traf	fic				
TEST DE	SCRIPTION				
1.	Start traffic to B and C.				
2.	Send the invalid SLTM and SLTA described above and check that they are discarded without impact on the traffic.				
3.	Stop traffic.				

TEST N	TEST NUMBER: 13.12			PAGE: 1 of 1		
REFERENCE: Q.704 clause 15						
TITLE:	Invalid messages					
SUBTITI	LE: Invalid user part unavailab	le messages				
PURPOS	E: To check the actions of the	system on reception of an invalid user part	unavailab	le message		
PRE-TES	ST CONDITIONS: Link 1 – 1	available				
CC	ONFIGURATION: A	TYPE OF TEST: VAT		TYPE OF SP: ALL		
MESSAC	GE SEQUENCE:					
	SP A			SP B		
Link			Link			
:Start traf		>				
		<	1 – 1	TRAFFIC		
		<	1 – 1	UPU (non-existing OPC)		
1 1	TDAFFIC	<	1 – 1	UPU (non-existing SI)		
1 – 1	TRAFFIC	>		TID A FIRM		
		<	1 – 1	TRAFFIC		
:Wait						
:Stop traf	fic					
TEST DESCRIPTION						
1.	Start traffic to B and C.					
2.	Send the invalid UPUs described above and check that these messages are ignored.					
3.	Stop traffic and check that it was not disturbed.					