



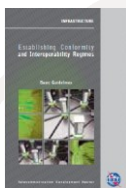
Conformance and Interoperability (C&I) Validation Workshop for EAC Region

Laico Regency Hotel, Nairobi, Kenya
21st – 23rd October 2015

ITU Guidelines for Establishing C&I Regimes

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C&I Guidelines



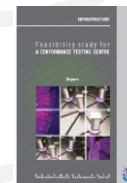
Establishing
Conformity
and Interoperability
Regimes – Basic
Guidelines



Guidelines for the
development,
implementation and
management of mutual
recognition
arrangements/agreements
(MRAs) on conformity
assessment

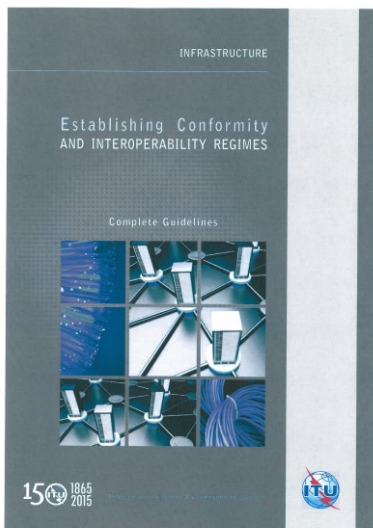


Guidelines for developing
countries on Establishing
Conformity assessment
Test Labs in Different
Regions



Feasibility Study for the
establishment of a
Conformance Testing
Centre

New ITU C&I Guidelines



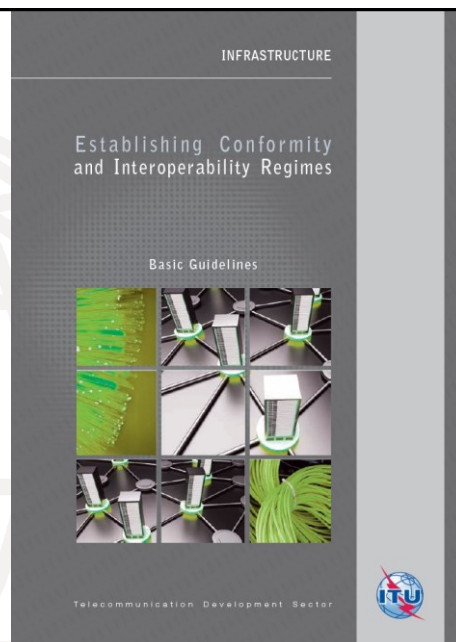
Establishing Conformity and Interoperability Regimes – Complete Guidelines (2015)

These Guidelines compiled from a careful collection of international best practices, address challenges faced by developing countries as they plan and review their own C&I regimes. Aspects covered by this publication include, inter alia, conformity assessment procedures; the right type of approval system, the legislation required to promote an orderly telecommunication service and marketplace; the calculation of fees, and the ideal enforcement and Surveillance; coordination across regulatory agencies; relevant international standards.

terms of reference available [here](#)

1. Establishing Conformity and Interoperability Regimes

Basic Guidelines



Guidelines [here](#)

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C&I Guidelines

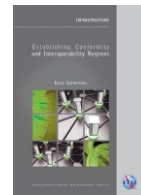


Guidelines for establishing Conformity and Interoperability Regimes for Developing Countries (2014)

Typical procedures used worldwide are going to be addressed. Any country may use as guidelines and tailoring/adapting such procedures to the existing national regulation and rules:

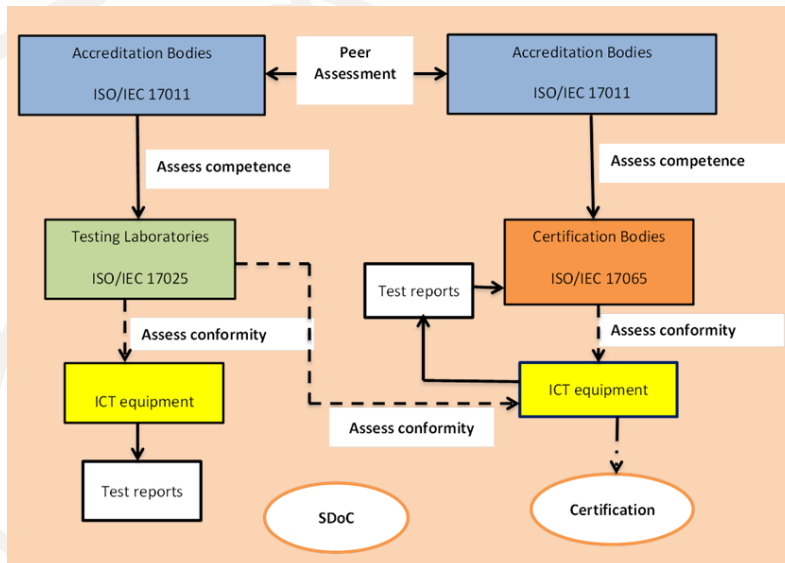
- A. Query for new products to be homologated (accepted)
- B. Import procedures for testing proposals
- C. Reference Standards for conformance testing
- D. Issuing and validating the Type Approval Certificate
- E. Homologation (acceptance)
- F. Suspension and Withdrawal of the Homologation Certificate
- G. Performing the Tests and Test Reports acceptance
- H. Conformance Assessment Management System
- I. Monitoring, Enforcement, Counterfeit, Sanctions and Post-Market Surveillance

Content



- **Introduction**
- **Definitions**
- **Development and review of regulatory framework and roadmap for the establishment of C&I regimes**
- **Definition and publication of ICT reference standards**
- **Accreditation, recognition and acceptance of laboratories and qualified professional**

Conformity Assessment Regimes



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ITU/IEC 17000 Series: Conformity Assessment



- 17000:2004- Vocabulary and general principles
- 17001:2005- Impartiality – Principles and requirements
- 17002:2004- Confidentiality – Principles and requirements
- 17003:2004- Complaints and appeals – Principles and requirements
- 17004:2005- Disclosure of Information – Principles and requirements
- 17005:2008- Use of Management systems – Principles and requirements
- 17007:2009- Guidelines for drafting normative documents suitable for use for conformity assessment
- 17011:2004- Requirements for accreditation bodies accrediting conformity assessment bodies
- 17020:2012- Requirements for the operation of various types of bodies performing inspection
- 17021:2011- Requirements for bodies providing audit and certification of management systems
- 17024:2012- General requirements for bodies operating certification of persons
- 17025:2005- General requirements for the competence of testing and calibration laboratories
- 17030:2003- General requirements for third-party marks of conformity
- 17040:2005- General requirements for peer assessment of conformity assessment bodies and accreditation bodies
- 17043:2005- General requirements for proficiency testing
- 17050-1:2007- Supplier's declaration of conformity – Part 1: General requirements
- 17050-2:2007- Supplier's declaration of conformity – Part 2: Supporting document
- 17065:2012- Requirements for bodies certifying products, processes and services
- 17067:2013- Fundamentals of product certification and guidelines for product certification schemes

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Definitions (1)



- ❑ Applicant - is the manufacturer or representative interested in selling the product in the concerned market (country/region).
- ❑ Certification - is the type approval process in which a Certification Body states, through the Certificate of Conformity, that a product fulfills the specified requirements.
- ❑ Certificate of Conformity - is a statement of conformity issued by a Certification Body.
- ❑ Declaration of Conformity - is a statement of conformity issued by a 1st party (vendor) or a 2nd party (buyer, e.g. telecom operator).



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Definitions (2)



- ❑ Conformity Assessment – demonstration that specified requirements related to a product, process, system, person or body are fulfilled.
- ❑ Homologation - official act issued by the Regulatory Authority that empowers the applicant to sell the ICT product in the concerned market.
- ❑ First party - supplier of a product (vendor).
- ❑ Second party - the purchaser of a product (telecom operator).
- ❑ Third party - a person or body that is independent of the organization that provides the product, and of the user interested in the product.



3rd - independent

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Definitions (3)



Supplier Declaration of Conformity (SDoC)

- Supplier Declaration of Conformity (SDoC) is the conformity assessment scheme used for low risk and mature products.
- Upon meeting a set of conditions, a supplier can self-declare that the equipment conforms to the appropriate requirements.
- There are four different schemes of SDoC (next slide)

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Definitions (4)



Supplier Declaration of Conformity (SDoC)

SDoC I

- testing of the equipment to be performed by an ISO/IEC 17025 compliant testing laboratory that is recognized by the regulator;
- test reports have to be kept for a prescribed period;
- supplier has to register the declaration with the regulator

SDoC II

- testing of the equipment to be performed by an ISO/IEC 17025 compliant testing laboratory that is recognized by the regulator;
- test reports have to be kept for a prescribed period;
- supplier does not have to register the declaration with the regulator

SDoC III

- testing of the equipment to be performed by a testing laboratory;
- test reports have to be kept for a prescribed period;
- supplier has to register the declaration with the regulator.

SDoC IV

- testing of the equipment to be performed by a testing laboratory;
- test reports have to be kept for a prescribed period.

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Regulatory framework and roadmap for establishing C&I regimes



- **A telecommunication act reflects the policy of the sovereign state in question and can include a clear statement of the underlying policy. This statement would cover such elements as:**
 - reliable and affordable telecommunication services of high quality;
 - highlighted role of telecommunications to enhance efficiency and competitiveness;
 - efficient and effective regulation where required;
 - responsiveness to the economic and social requirements of users of telecommunication services;
 - international telecommunication services and licenses;
- **Telecommunication apparatus and administration:**
 - application to apparatus subject to regulation;
 - government powers and exercise of powers;
 - certification and marking;
 - appeals and evidence;
 - regulations including fees and mandatory requirements.
- **Investigation and enforcement:**
 - administrative and monetary penalties;
 - inspection and market surveillance;
 - civil liability

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Conformance Assessment Procedures



Procedures for establishing a conformance assessment regime may include the following procedures:

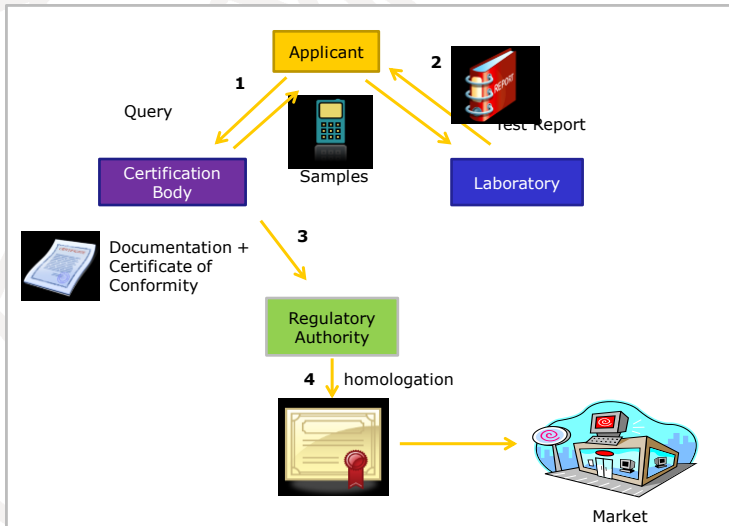
- A. **Query for new products to be homologated**
- B. **D. Import procedures for testing proposals**
- C. **Reference Standards for conformity assessment**
- D. **Test, Recognized Laboratories, Test Reports**
- E. **Issuing and/or validating a Certificate of Conformity**
- F. **Issue of the Homologation (or acceptance)**
- G. **Suspension and Withdrawal of the Homologation Certificate**
- H. **Monitoring, Enforcement, and Sanctions and Post-Market Surveillance**

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Regulatory Aspects Conformance assessment procedures



Example of interactions that may exist among the entities participating in a conformity assessment process that uses certification mechanism:



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Conformance Assessment Procedures



■ Fees

- Assessment and reassessment fee
- Technical expertise fee
- Listing fees
- Registration fees
- Payment of fees

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Definition and publication of ICT reference standards for conformity assessment of ICT equipment



- Sub-category of equipment has specific mandatory technical specifications as part of the regulatory requirements which must be met in order to be deployed in the marketplace
- These standards are developed primarily in accordance with decisions made and ratified in the International Telecommunication Union (ITU), International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) combined with regional, national and industry standards requirements and are therefore a complex and very complete set of requirements which are vitally important to an interference free and safe environment for ICT products:



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Definition and publication of ICT reference standards for conformity assessment of ICT equipment



- A number of regional standards bodies serving specific regional policies, regulations and requirements are heavily engaged in development and promulgation of the product standards and include the European Telecommunications Standards Institute, USA Telecommunications Industry Association, and various important forums and consortia such as 3GPP



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Definition and publication of ICT reference standards for conformity assessment of ICT equipment



The next table gives an example of international standards, regional standards and forum and consortia standards that may be used by some countries

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Category	Product	Standard	Technical Requirement
User equipment	Mobile	3GPP	Power; frequency stability, frequency in-band emission.
	Fix Telephone	CEI	Power; frequency stability, frequency in-band emission.
	PABX	<ul style="list-style-type: none"> Rec. UIT-T G.711. Rec. UIT-T Q.921. 	Protocols
	Charge and power adapter	Rec. UIT-T L.1000	Power, energy efficiency, eco-environment specifications
	Personal area communication	Allocation of national frequencies	Gain, transmission power, bandwidth, frequency stability.
	Residential optical unit	UIT-T G.984	Power; frequency stability, frequency in-band emission, SAR limits.
	UTP cable	ISO/CEI 11801	Return Loss, FEXT, NEXT, bandwidth
RTTE	Mobile - Broadband base station	ETSI	Gain, transmission power, bandwidth.
	Antenna	ETSI	Radiation Diagram, Gain, VSWR.
	Broadcast transmitter	ETSI	Gain, transmission power, frequency width.
	Earth station equipment / VSAT	ETSI	Gain, transmission power, bandwidth
Network equipment	Transmission equipment	Rec. UIT-T G.707	Protocols
	Network switches and routers.	MPLS - G.8121 Ethernet - G.8021 TVIP - H.62X	Protocols
	Cables	ISO/CEI 11801	Return Loss, FEXT, NEXT, bandwidth
	IPVT	Rec. UIT-T	See Standard
Electromagnetic Compatibility	All equipment	Rec. UIT-T K.48	Radiated spurious emission, conducted spurious emission, resistibility
Safety	All equipment	Rec. UIT-T K.21	Electrical chock protection, fire protection, overcurrent protection

List of ICT equipment requiring conformity assessment



■ Examples:

Equipment that must meet technical standards

Types of Equipments

Radio apparatus: A device or combination of devices intended for, or capable of being used for, radiocommunication

Interference-causing equipment: Any device, machinery or equipment, other than radio apparatus, that can cause interference to radiocommunication

Radio-sensitive equipment: Any device, machinery or equipment, other than radio apparatus, that can be adversely affected by radiocommunication emissions

- Broadcasting transmitters
- Portable radio transmitters
- Digital scanner receivers
- Remote car alarms and starters
- Garage door openers
- Wireless computer links
- Cellular phones
- Cordless phones
- Fax machines
- GSM telephones
- Mobile radios
- Modems
- Wireless remote devices
- PABXs (including small business systems and key systems)
- Pagers
- Radio receivers
- Radio transmitters
- Telephone instruments
- Telex equipment
- Other equipment emitting a radio signal
- Any customer premises equipment to be attached to any part of a licensed telecommunication network

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Definition and publication of ICT reference standards for conformity assessment of ICT equipment

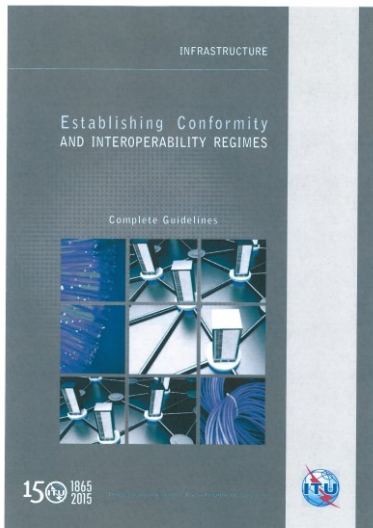


Other References:

- Table of ITU-T Recommendations and relevant parameters to be tested: <http://www.itu.int/md/T13-SG11-131107-TD-GEN-0300/en>
- ITU-R Recommendations ([link](#))
- USA: FCC Testing ([link](#))
- European Commission: Harmonised standards under Directive for R&TTE: http://ec.europa.eu/enterprise/sectors/rtte/documents/standards/index_en.htm
- Canada: Technical Requirements for Radio Systems: <http://www.ic.gc.ca/eic/site/icgc.nsf/eng/06957.html#q=srsp;>
- UAE: Technical Standards: http://www.tra.gov.ae/type_approval.php
- Brazil: Technical requirements for user's terminals: www.anatel.gov.br
- Mauritius: ICT Authority is the national regulator for the ICT sector and Postal Services: http://www.icta.mu/telecommunications/std_list.htm

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New ITU C&I Guidelines



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Revision of a Conformance Assessment Regime (Case study)

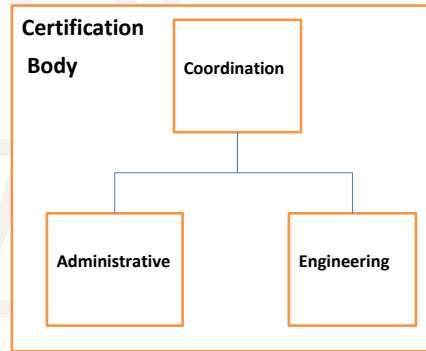
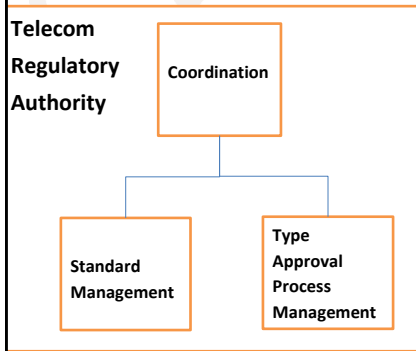


- Review of a Conformance Assessment Regimes. Some necessities of improvement:
 - Self-Declaration of Conformity acceptance;
 - Accountability of vendor's local representatives (manufacturer's representative);
 - Adapting existing equipment to new conformity assessment rules, standards, and procedures;
 - Revision of the Application Form to ensure, among other, product origin verification;
 - Renewal of certificates (procedures and fees);
 - Review of the fee structure.

Revision of a Conformance Assessment Regime (Case study)



Type Approval Division and Certification Body Structures



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Conformance Assessment Regime: Implementation Roadmap



Time	2014				2015			
	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q
Action								
Standard Adoption								
EMC	x	x	x	x				
Safety	x	x	x	x				
SAR		x	x	x	x			
Digital TV	x							
Radio (emissions limits compliance check; spectrum regulation)	x							
Interoperability					x	x	x	x
Conformity Assessment Mechanisms								
Check-list for Type Approval	x	x	x	x	x	x	x	
Fee general formula	x							
Marking experience	x							
Direct Assistance								
Assistance from ITU			x					
Fee personalized formula		x	x					
Type Approval Res. review	x	x	x					
Training								
C&I Procedures (Type Approval, Standards, etc.)			x					
C&I Domains (EMC, mobile, NGN, etc.)				x				
MRA			x					

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Thank you



C&I [Portal](#)

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