Conformity and Interoperability regimes of Telecommunication/ICT equipment in [India]

Homologation of telecommunication equipment experience in India

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Agenda

- Legal Framework of the C&I Regime for telecommunication/ICT equipment in the country (1 slide)
  - Laws, Rules and Regulations, etc.
- Common problems faced due the lack of conformity and interoperability in your country (1 slide)
  - Brief description
- Conformity assessment processes in place (if any) (2 slides max.)
- ICT Reference standards (1 slide)
- Institutions responsible for C&I activities (2 slides max.)
  - Institutions: ministry, regulator, certification and Accreditation Bodies, Laboratories
  - Responsibilities: who certifies, accept certificates, enforce the law, control borders, executes market-surveillance, etc.
- Vision of the future (1 slide)
  - Harmonization of C&I procedures, Capacity building needs, regional collaboration/integration, etc.

Legal Framework of the C&I Regime for Telecommunication/ICT equipment in the country

- Under the Indian Telegraph Rules, 1951, PART XI : Testing & Certification of Telegraph, an Original Equipment Manufacturer (OEM)/ importer/ dealer who wishes to sell, import, let for hire, or possess any telecom equipment, shall first obtain Interface Approval/ Compliance Certificate from Telecom Engineering Centre (TEC) and mark or affix the equipment with appropriate Interface Approval/ Compliance label, among others for the following:
  - To ensure that any telecom equipment does not degrade performance of existing network when connected.
  - To ensure safety of the end–users.
  - To protect users and general public from harmful radio frequency emissions.
  - To ensure that telecom equipment complies with the relevant national and international regulatory standards and requirements.
  - To ensure security of the state.

Legal Framework of the C&I Regime for Telecommunication/ICT equipment in the country

- While granting licenses, Government has mandated that licensee(Telecom Service Provider) shall induct only those network elements into his telecom network, which have been got tested as per relevant contemporary Indian or International Security Standards from any agency or labs of those standards.

Common problems faced due the lack of conformity and interoperability in your country

- Interface approval alone cannot be construed as a guarantee of the proper functioning, performance, or quality of the equipment.

- With No checks for conformance to standards and No mandatory certification before induction in telecom network; Products may not conform to all the desired specifications, May not interwork properly, May cause harm to other equipment or user.

- Secondly their have been concerns related to Network Security compromising national security in absence of indigenous security certifications. Therefore Telecom Commission has recognised the need for All telecom equipment to be tested and certified before induction in Indian telecom network and that mandatory testing and certification shall be got done only from authorised and certified agencies or labs in India w.r.t. user and network security and integrity. However Changes in Telegraph Rules and Licenses may be required to implement this.

Institutions responsible for C&I activities

- In India, Telecom Engineering Center (TEC) under Ministry of Communications, is the institution responsible for C&I activities.

- The functions of TEC are
  - Formulate technical requirements for all telecom equipment and networks, to ensure seamless functioning and inter-operability in Indian telecom network
  - Formulate standards to limit harmful electromagnetic interference to ensure proper functioning of equipment, as well as to ensure safety for human beings
  - Test and certify equipment, interfaces, and networks
  - Monitor, for compliance to the laid-down norms and standards on need basis

Conformity assessment processes in place : Specifications

GENERIC REQUIREMENT (GR)

Generic Requirement of a telecom equipment issued by TEC implies a set of requirements **pertaining to performance, features, quality etc.** besides Interface Requirement (IR) of the equipment.

INTERFACE REQUIREMENT (IR)

Interface Requirement of telecom equipment implies a minimum set of requirements issued by TEC **primarily in respect of inter-operability, safety and security** that the equipment should conform to in order to connect and operate in the Indian Telecom Network.

SERVICE REQUIREMENT (SR)

Service Requirements (SR) **detail the services and network related requirements** for specific applications, which **should be met by service providers in accordance with the requirements specified by licensing authority**

Conformity assessment processes in place : Testing & Certification

TEC Tests and Certifies telecom products for

1. Connectivity
   - Interface Approval

2. Equipment
   - Type Approval
   - Certificate of Approval

Conformity assessment processes in place : Certification

TYPE APPROVAL

Type Approval is a process of testing and certification of telecom product, in accordance with Test Schedule & Test Procedure (TSTP) of TEC, for conformance with the Generic Requirement (GR) of the product issued by TEC.

INTERFACE APPROVAL

Interface Approval is a process of testing and certification of telecom equipment, in accordance with Test Schedule & Test Procedure (TSTP) issued by TEC, for conformance with the Interface Requirement (IR).

CERTIFICATE OF APPROVAL

Certificate of approval is issued by TEC for the product for which the IR/GR does not exist with TEC and is issued against applicant's own specification and in particular cases viz. GSM Phones, 3G Modems, Bluetooth Enabled wireless terminals against approved Standards of Standard Body.

Conformity assessment processes in place : MRA

- TEC would recognize, as per International best practices, other test labs in India and abroad for the purpose of speedy and efficient testing and certification process. (MRA)

- Under the MRA, the Govt. of India , has declared its Telecommunication Engineering Centre (TEC) as the Designating Authority (DA).
  - TEC as DA will designate Conformity Assessment Bodies (CABs) & Certification Bodies (CBs) located in India to perform testing and certification of telecom products
  - TEC as DA will also recognise Foreign CABs & CBs located in the territory of MRA partner to perform testing and certification of telecom products to India's requirements.

ICT Reference standards

- A test laboratory will be at first accredited and then designated as CAB or CB to carry out testing and certification with respect to one or more of the applicable DoT's Technical Regulations/ technical specifications / standards for telephony and/ or radio communication equipment.

- CABs shall be accredited by NABL (National Accreditation Board for Testing & Calibration Laboratories) in accordance with ISO/IEC 17025:2005 and

- CBs shall be accredited by NABCB (National Accreditation Board for Certification Bodies) in accordance with ISO/IEC guide 65:1996.

Future Vision

- Regional collaboration :
  - Govt of India and Republic of Singapore have entered into Comprehensive Economic Cooperation Agreement (CECA), as per which both the countries have agreed on “Mutual Recognition Agreement”**(MRA)** in Telecom Sector.

- Attempts are being made to broad base the MRAs by having MRAs with other countries

- Test labs for SAR, LTE, IPv6 have been set up

- Work is in process for setting up a Telecom testing and security certification Center (TTSC), to enable Telecom Service Providers get their equipments tested. Standards, test procedures and test tools for the same are being developed in a pilot lab.