Certificate of Approval
for

Mobile Station / User Equipment based on GSM/GPRS/EGPRS/CDMA/WCDMA /HSPA Technology

(DRAFT REQUIREMENTS)

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DRAFT For COMMENTS

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Technical Requirements for CoA for Mobile Station / User Equipment based on GSM/GPRS/EGPRS/CDMA/WCDMA /HSPA Technology

Chapter-1
CoA Procedure & Checklist

1. Introduction:

Certificate of approval is issued by TEC for the product for which the IR/GR/SD does not exist with TEC and is issued against applicant's own specification.

1.1 Eligibility for Certificate of Approval:

Any Indian manufacturer, Authorized trader/dealer of a foreign manufactured equipment licensed service operator or local office of a foreign telecom equipment manufacturer or Branch Office of a foreign manufactured product having permission from Reserve Bank of India (RBI) for import and sell of their Principals product is eligible for seeking approval .
Certificate of approval is an approval given to a Product notified by TEC against applicants own specifications. Certificate of Approval is being given based on test conducted by accredited labs. TEC shall take up of cases for Certificate of Approvals for Mobile Station / User Equipment based on GSM/GPRS/EGPRS/CDMA/WCDMA /HSPA Technology and bluetooth enabled wireless terminals as per the documents (mentioned below) to be made available by the vendors for certification purposes. No testing is carried out for these products. The Application in **FORM 'A'** along with the following documents is to be submitted:

i. Device to be offered to TEC shall have the valid Full Type approval by International Accredited labs and shall have to submit full test report and conformity report in English Language.
ii. Original or certified technical documents giving detailed description of the equipment and methods employed in the testing.
iii. Certificate of Conformity.
iv. A declaration from the manufacturer that the mobile equipment meets all the applicable recommendations of GSM /CDMA/WCDMA / HSPA standards.
v. A declaration from the manufacturer that the adequate security measures have been taken to protect the IMEI against duplication, unauthorized removal or change.
vi. Copy of GSM MOU Permanent Secretariat /CDG listing of internet updates in the website as applicable to GSM/CDMA/WCDMA/HSPA device.
vii. FIPB approval/Automatic Route clearance through Reserve Bank of India for importing /trading the product in India, if the manufacturer is from foreign origin.
viii. Trade authorization letter from the original manufacturer appointing him as trader for the product indicating the period of validity if fixed or open ended.
ix. An **Affidavit**, attested by Notary Public for each product/model.
x. Original Model to be submitted to TEC for verification of the model. The model number should be same as claimed by the applicant while applying & Type approval certificate should bear the same model number.
xi. TEC reserves the right to conduct further tests as and when COA has been granted.
xii. All Documents shall be in the English Language only.

xiii. Certificate of approval shall be issued to the Indian Representative of the Company (If Imported) and the COA shall enclose the annexure to the COA listing the standards against which the COA is approved.

Chapter-2
Technical Requirements

2.1 Scope:

This document defines the minimum technical requirements for Mobile / Fixed Terminals to be used in the Public Mobile Radio Communication System and services, having GSM/GPRS/EGPRS/CDMA/WCDMA /HSPA interface. Terminals may include handheld, portable and vehicle mounted equipment, and RF interface cards and modems.

2.2 Identification of Equipment

2.2.1 The Mobile Terminal shall be marked with the manufacturer's brand or identification mark, and the manufacturer's model or type reference. The markings required shall be legible, indelible and readily visible.

2.2.2 Each individual Mobile Terminal shall be allocated a unique 'International Mobile Station Equipment Identity (IMEI)'. Manufacturer shall ensure that adequate security measures have been taken to protect the IMEI against duplication, unauthorised removal or change.

2.3 Keypad

Any keypad used in the Mobile Terminal shall be alphanumeric and the relationships between the letters and digits shall comply with the ITU-T Recommendation E.161 (02/2001), sections 2.2, 3.1.1 and 3.6.

2.4 Safety and Health

The equipment supplier shall provide the SAR information in printed form or in other appropriate form such as in the user guide or as a leaflet or brochure in the equipment package. Furthermore, the supplier shall provide each unit of approved Terminal with advisory information pertaining to electrical safety and non-ionising radiation hazards and on the safe operation of the Mobile Terminal at potentially hazardous areas such as in moving vehicles, in aircrafts and at fuel depots, chemical plants and blasting sites. The terminal shall comply to SAR requirements of 2W/Kg localized for head & trunk in the frequency range of 10 Mhz to 10 Ghz as per DoT office memorandum No. 18-10/2008 –IP dated 25.6.2009.

2.5 Operating Frequency:

2.5.1 Mobile Terminals shall operate within the following frequency bands and channel spacing:

Type	Transmitter	Receiver Channel	Spacing
a. GSM (As per 3GPP TS 45.005)			
GSM900	880 – 915 MHz	925 – 960 MHz	200 kHz
DCS 1800	1710 – 1785 MHz	1805 – 1880 MHz	200 kHz

b. WCDMA (As per 3GPP 25.101)

W-CDMA FDD 3G Cellular Mobile Terminals shall operate within the following frequency bands and channel spacing:

Transmit	**Receive**	**Channel Spacing**
1920 – 1980 MHz	2110 – 2170 MHz	5 MHz

c. CDMA:

Transmit	**Receive**	**Channel Bandwidth**
824-844	869 – 889	1.25 Mhz

2.5.2 The precise operating frequency range of a Mobile Terminal shall follow that of the Network Operator from whom the service is obtained.

2.6 Conformity Assessment Requirements

a. GSM/ 2G modem: GSM Mobile Terminals/ 2G modem shall comply with one of the following standards:

S. No.	**International/National standard**	**Description**
1.	ETSI EN 300 607-1	European Digital Cellular Telecommunications System (Phase 2+) (GSM); Mobile Station (MS) Conformance Specification; Part 1: Conformance Specification (GSM 11.10-1).
2.	ETSI EN 301 419 -1	Digital cellular telecommunication system (phase2) – Attachment requirements for Global System for Mobile (GSM) communications: Mobile Stations in the GSM 900 &DCS 1800 bands.
3.	ETSI EN 301 511	Harmonised EN for Mobile Stations in the GSM 900 &1800 bands covering essential requirements under article 3.2 of R & TTE directive (1999/5/EC)/ National (if any).
4.	**EMC Requirements**	As per TEC requirements **EMI/TEL-001/01. Feb.09**

b. WCDMA Mobile Phone / 3G Modem

S. No.	**International/National standard**	**Description**
	RF Requirements:	
1	EN 301 908-01	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for IMT-2000 Third-Generation cellular networks; Part 1: Harmonized EN for IMT- 2000 Introduction and common requirements, covering essential requirements of article 3.2 of the R&TTE Directive
2	EN 301 908-02	Electromagnetic compatibility and Radio spectrum Matters (ERM); Base Stations (BS) and User Equipment (UE) for

		IMT-2000 Third-Generation cellular networks; Part 2: Harmonized EN for IMT- 2000, CDMA Direct Spread (UTRA FDD) (UE) covering essential requirements of article 3.2 of the R&TTE Directive
3	**EMC requirements:**	As per TEC requirements **EMI/TEL-001/01. Feb.09**

2.6.1 If the WCDMA FDD 3G Cellular Mobile Terminal also supports the GSM and WLAN modes of operation, suppliers shall demonstrate that the Mobile terminal has been tested and certified for conformity to the following standards:

S. No.	**International/National standard**	**Description**
1	ETSI EN 301 511	Global System for Mobile communications (GSM); Harmonized standard for mobile stations in the GSM 900 and DCS 1800 bands covering essential requirements under article 3.2 of the R&TTE directive (1999/5/EC).
2	ETSI EN 301 419-2	Digital cellular telecommunications system (Phase 2+); Attachment requirements for Global System for Mobile communications (GSM); High Speed Circuit Switched Data (HSCSD) Multislot Mobile Stations; Access.
3	ETSI EN 300 328-02	Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive.

c. CDMA Mobile Station:

i. CDMA 2000 Mobile Station:

S. No	**International/National standard**	**Description**
1.	TIA 98 F (3GPP2 C.S0011-C)	Minimum Performance Standards for cdma2000 Spread Spectrum Mobile Stations - Release C.
2.	TIA 1035 (3GPP2 C.S0043)	Signaling Conformance Test Specification for cdma2000 Spread Spectrum Systems
3.	TIA 1036 (3GPP2 C.S0044)	Interoperability Specification for cdma2000 Air Interface.
4.	TIA 1043 A (3GPP2 C.S0058 A)	Over the Air Interoperability Specification For cdma2000 Air Interface.
5.	TIA 1044 (3GPP2 C.S0060)	Signaling Conformance Test Specification for Over-the-Air Service Provisioning.

6.	TIA 1084 (3GPP2 C.S0073)	Signaling Conformance Test Specification for Mobile Station Equipment Identifier (MEID) for CDMA 2000 Spread Spectrum System.
7.	**EMC Requirements:**	As per TEC requirements **EMI/TEL-001/01. Feb.09**

ii. CDMA 2000 HRPD (1x EV-DO) Mobile Stations

S. No.	**International/National standard**	**Description**
1.	TIA 856 B (3GPP2 C.S 0024 B),	CDMA 2000 High Rate Packet Data Air Interface Specifications
2.	TIA 866 (3GPP2 C.S0033)	Minimum Performance Standards for cdma2000 High Rate Packet Data Access Terminal.
3.	TIA 919 (3GPP2 C.S0038)	Signalling Conformance specifications for High Rate Packet Data Air Interface.
4.	**EMC Requirements:**	As per TEC requirements **EMI/TEL-001/01. Feb.09**

2.6.2 Conformity assessment requirements for supplementary services established in the above standards under reference are applicable only when the equipment supports the relevant supplementary services.

2.7 Safety Requirements:

S. No.	**International/National standard**	**Description**
1	IEC 62133	Safety requirements for portable sealed secondary cells and for batteries made from them, for use in portable applications Safety requirements for portable sealed secondary cells and for batteries made from them, for use in portable applications
2.	EN 60950- 1	Safety of Information Technology Equipment.

2. 8 Safety & Health: SAR: As per TEC/ DoT guidelines/ IEC standard

1.	TEC/DoT requirements vide No. 18-10/2008 -IP	Adoption of International Commission on Non-ionising Radiation Protection (ICNIRP) guidelines in Telecom Sector in India (SAR Value: 2W/Kg localized for head & trunk (10 Mhz to 10 Ghz).
2.	IEC 62209-1	Human exposure to radio frequency fields from hand-held & body mounted wireless communication devices – Human models, instrumentation and procedures – Part-1; Procedure to determine the Specific Absorption Rate (SAR) for hand-held devices used in close proximity to the ear (frequency range of 300 Mhz to 3 Ghz).

3	TEC/GR/SAR/001/01.MAR.09	SAR measurement system

2.9 Support for SMS in regional languages: As per 3GPP TS 23.038 Release 8.

2.10 Support for Public utility / Emergency Services: The terminal shall support the public utility / emergency services viz. 100, 101, 102, 108 & 112 as per 3GPP TS 22.101.

Abbreviations

3GPP	**Third Generation Partnership Project**
CDMA	**Code Division Multiple Access**
EVDO	**Evolved Data Only**
EMC	**Electro Magnetic Compatibility**
GSM	**Global System for Mobile Communication**
HRPD	**High Rate Packet Data**
HSPA	**High Speed Packet Access**
SAR	**Specific Absorption Rate**
TEC	**Telecommunication Engineering Centre**
WCDMA	**Wideband Code Division Multiple Access Code Division Multiple Access**

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