DEVELOPMENT OF TECHNICAL CODES

The Communications and Multimedia Act 1998 ('the Act') provides for Technical Standards Forum designated under section 184 of the Act or the Malaysian Communications and Multimedia Commission ('the Commission') to prepare a technical code. The technical code prepared pursuant to section 185 of the Act shall consist of, at least, the requirement for network interoperability and the promotion of safety of network facilities.

Section 96 of the Act also provides for the Commission to determine a technical code in accordance with section 55 of the Act if the technical code is not developed under an applicable provision of the Act and it is unlikely to be developed by the Technical Standards Forum within a reasonable time.

In exercise of the power conferred by section 184 of the Act, the Commission has designated the Malaysian Technical Standards Forum Bhd ('MTSFB') as a Technical Standards Forum which is obligated, among others, to prepare the technical code under section 185 of the Act.

A technical code prepared in accordance with section 185 shall not be effective until it is registered by the Commission pursuant to section 95 of the Act.

For further information on the technical code, please contact:

Malaysian Communications and Multimedia Commission (MCMC)
MCMC Tower 1
Jalan Impact, Cyber 6,
63000 Cyberjaya
Selangor Darul Ehsan
MALAYSIA

Tel: +60 3 8688 8000
Fax: +60 3 8688 1000
http://www.mcmc.gov.my

OR

Malaysian Technical Standards Forum Bhd (MTSFB)
4805-2-2, Block 4805, Persiaran Flora
CBD Perdana 2
Cyber 12
63000, Cyberjaya
Selangor Darul Ehsan
MALAYSIA

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Fax: +60 3 8322 0115
http://www.mtsfb.org.my
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MCMC MTSFB TC T012:2015

Committee Representation

Wireless Terminal Working Group under the Malaysian Technical Standards Forum Bhd (MTSFB) which developed this Technical Code consists of representatives from the following organisations:

3M Malaysia
Apple Singapore
Intel Corporation
Lock Spectrum Consultancy
Maxis Communications Berhad
Motorola Solutions
REDtone International Bhd
Rohde & Schwarz Malaysia Sdn Bhd
Sapura Research Sdn Bhd
SIRIM QAS International Sdn Bhd
Supreme Landmobile & Wireless Corporation Sdn Bhd
Telekom Malaysia Berhad
Universiti Tenaga Nasional Berhad (UNITEN)
FOREWORD

This technical code for the Specification for Land Mobile Radio Equipment (‘this Technical Code’) was developed pursuant to section 185 of the Act 588 by the Malaysian Technical Standards Forum Bhd (‘MTSFB’) via its Wireless Terminal Working Group.

This Technical Code was developed for the purpose of certifying communications equipment under the Communications and Multimedia (Technical Standards) Regulations 2000.

This Technical Code is the first revision of SKMM WTS LMR Rev. 1.01:2007, Technical Specification for Land Mobile Radio Equipment.

Major modifications in this revision are as in Annex B.


This Technical Code shall continue to be valid and effective until reviewed or cancelled.
1. Scope

This Technical Code defines the minimum technical requirements for radio equipment to be used in Land Mobile Radio (LMR) services. LMR equipment shall operate in one of the authorised frequency bands and transmit within the corresponding output power levels given in Table 1.

LMR equipment includes base stations/repeater stations, mobile stations and handheld terminals, which are intended for voice and/or data communication. LMR equipment shall use constant envelope angle modulation with 12.5 kHz or 25 kHz channel spacing for analogue system.

NOTE. Constant envelope angle modulation is either phase modulation or frequency modulation.

The technologies for digital trunk radio defined in this specification are Integrated Digital Enhanced Network (iDEN), Terrestrial Trunked Radio (TETRA), APCO25 and Global Open Trunking Architecture (GoTa).

This Technical Code excludes the extreme test conditions.

2. Normative References

The following normative references are indispensable for the application of this Technical Code. For dated references, only the edition cited applies. For undated references, the latest edition of the normative references (including any amendments) applies.

See Annex A.

3. Abbreviations

For the purposes of this Technical Code, the following abbreviation applies.

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>Alternating Current</td>
</tr>
<tr>
<td>APCO25</td>
<td>The Association of Public-Safety Communications Officials International Inc, Project 25</td>
</tr>
<tr>
<td>DC</td>
<td>Direct Current</td>
</tr>
<tr>
<td>DSB</td>
<td>Double Sideband</td>
</tr>
<tr>
<td>EIRP</td>
<td>Effective Isotropic Radiated Power</td>
</tr>
<tr>
<td>EMC</td>
<td>Electromagnetic Compatibility</td>
</tr>
<tr>
<td>ERP</td>
<td>Effective Radiated Power</td>
</tr>
<tr>
<td>GoTa</td>
<td>Global Open Trunking Architecture</td>
</tr>
<tr>
<td>HF</td>
<td>High Frequency</td>
</tr>
<tr>
<td>iDEN</td>
<td>Integrated Digital Enhanced Network</td>
</tr>
<tr>
<td>LMR</td>
<td>Land Mobile Radio</td>
</tr>
<tr>
<td>RF</td>
<td>Radio Frequency</td>
</tr>
<tr>
<td>Rx</td>
<td>Receiver</td>
</tr>
</tbody>
</table>
4. Requirements

4.1 General requirements

4.1.1 Power supply

AC adaptor used for LMR equipment shall not affect the capability of the equipment to meet this specification. The operating voltage shall be $240\,\text{V} \pm 5\%$, $-10\%$ and frequency $50\,\text{Hz} \pm 1\%$ as according to MS 406 or $230\,\text{V} \pm 10\%$ and frequency $50\,\text{Hz} \pm 1\%$ as according to MS IEC 60038 whichever is current.

Adaptor must be pre-approved by the relevant regulatory body before it can be used with the equipment.

4.1.2 Power supply cord and mains plug

The equipment shall be fitted with a suitable and appropriate approved power supply cord and mains plug. Both are regulated products and must be pre-approved by the relevant regulatory body before it can be used with the equipment.

The power supply cord shall be certified in according to:

- a) MS 140; or
- b) BS 6500; or
- c) IEC 60227-5; or
- d) IEC 60245-4.

The main plug shall be certified in according to:

- a) 13 A fused plugs: MS 589: Part 1 or BS 1363: Part 1; or
- b) 2.5 A, 250 V, flat non-rewirable two-pole plugs: MS 1578 or BS EN 50075.
4.1.3 Design of equipment and marking

The LMR equipment shall not be constructed with any external or readily accessible control which permits the adjustment if its operation in a manner that is inconsistent with this specification.

The equipment shall be marked with the following information:

a) Supplier/manufacturer’s name or identification mark;

b) Supplier/manufacturer’s model or type reference; and

c) Other markings as required by the relevant standards.

The markings shall be legible, indelible and readily visible.

All markings and related documents shall be in Bahasa Melayu or English language.

4.1.4 Interoperability

The LMR equipment shall have the ability to exchange information and to use the information that has been exchanged between two or more systems or components.

The LMR equipment under GoTa technology shall comply with the interoperability requirements as defined in the following standards:

a) 3GPP2 A.S0011;

b) 3GPP2 A.S0012;

c) 3GPP2 A.S0013;

d) 3GPP2 A.S0014;

e) 3GPP2 A.S0015;

f) 3GPP2 A.S0016; and

g) 3GPP2 A.S0017.

4.2 Technical requirements

The equipment shall comply with the following requirements:

a) Radio Frequency (RF);

b) Electromagnetic Compatibility (EMC); and

c) Electrical safety and health.

4.2.1 Radio Frequency

The LMR equipment shall operate within the frequency bands, maximum transmitter output power, channel spacing and shall conform to the test references as specified in Table 1.

The LMR equipment designed for Analog Personal Mobile Radio and Family Band Services shall also conform to the test limits as specified in Table 2.
4.2.2 Electromagnetic Compatibility (EMC)

The equipment shall comply with the EMC requirements as specified in ETSI EN 301 489-1 or equivalent standards. The requirements shall cover radiated and conducted emissions.

4.2.3 Safety and health

4.2.3.1 Electrical safety and health

The equipment shall comply with the safety requirements specified in MS IEC 60950-1 or equivalent standards and full type test report shall be submitted.

4.2.3.2 Radiation hazards

The LMR equipment shall comply with occupational limits of the International Commission on Non-Ionizing Radiation Protection (ICNIRP) guidelines for limiting exposure to time varying Electromagnetic Field (EMF) in the frequency range up to 300 GHz.
MCMC MTSFB TC T012:2015

Table 1. Technical requirements for radio equipment to be used in land mobile radio services

<table>
<thead>
<tr>
<th>Type of services</th>
<th>Channel Spacing (kHz)</th>
<th>Operating frequency (MHz)</th>
<th>Max Transmitter Output Power</th>
<th>Test Reference</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>HF radio (voice)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Citizen Band Radio</td>
<td>6 (DSB) / 3 (SSB)</td>
<td>26.9650 - 27.4050 - Sx</td>
<td>4 (DSB) / 12 (SSB)</td>
<td>ETSI EN 300 433-1  ETSI EN 300 135-1</td>
<td>Refer to the 5th Schedule of Class Assignments</td>
</tr>
<tr>
<td>VHF radio (voice)</td>
<td>12.5/25</td>
<td>136.0000 – 174.0000</td>
<td>5</td>
<td>ETSI EN 300 086-1  ETSI EN 300 296-1</td>
<td>The maximum transmitter output power shall be within +/- 1.5 dB</td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Station/ Repeater</td>
<td></td>
<td></td>
<td>50</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UHF radio (voice)</td>
<td>12.5</td>
<td>446.006250 - 446.093750 - Sx</td>
<td>0.5</td>
<td>ETSI EN 300 296-1</td>
<td>Refer to the 5th Schedule of Class Assignments</td>
</tr>
<tr>
<td>Analog Personal Mobile Radio</td>
<td>12.5</td>
<td>446.103125 - 446.196875 - Sx</td>
<td>0.5</td>
<td>ETSI TR 102 433  ETSI EN 301 166</td>
<td></td>
</tr>
<tr>
<td>Digital Personal Mobile Radio</td>
<td>6.25</td>
<td>446.006250 - 446.093750 - Sx</td>
<td>0.5</td>
<td>ETSI EN 300 296-1</td>
<td></td>
</tr>
<tr>
<td>Citizen Band Radio</td>
<td>12.5</td>
<td>477.0125 - 477.4875 - Sx</td>
<td>5</td>
<td>ETSI EN 300 086-1  ETSI EN 300 296-1</td>
<td></td>
</tr>
<tr>
<td>Family Band</td>
<td>12.5</td>
<td>477.5250 - 477.9875 - Sx</td>
<td></td>
<td>0.5</td>
<td>ETSI EN 300 296-1</td>
</tr>
</tbody>
</table>
### Technical requirements for radio equipment to be used in land mobile radio services (continue)

<table>
<thead>
<tr>
<th>Type of services</th>
<th>Channel Spacing (kHz)</th>
<th>Operating frequency (MHz)</th>
<th>Max Transmitter Output Power (ERP) (W)</th>
<th>Test Reference</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>VHF radio (data)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hand held</td>
<td>12.5/25</td>
<td>136.0000 – 174.0000</td>
<td>5</td>
<td>ETSI EN 300 113-1</td>
<td>The maximum transmitter output power shall be within +/- 1.5 dB.</td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
<td>25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Base Station/Repeater</td>
<td></td>
<td></td>
<td>50</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| UHF radio (data) |                       |                           |                                        |                |         |
| Handheld         | 12.5/25               | 400.0000 – 527.0000       | 5                                      | ETSI EN 300 113-1 | The frequency and RF Output Power for radio access device is subject to Class Assignment. |
| Mobile           |                       |                           | 25                                     |                |         |
| Base Station/Repeater |               |                           | 50                                     |                | The fixed station is subject to Apparatus Assignment. |

Note: System such as radio telemetry or SCADA are considered in VHF or UHF data type of service.
Table 1. Technical requirements for radio equipment to be used in land mobile radio services (continue)

<table>
<thead>
<tr>
<th>Type of services</th>
<th>Channel Spacing (kHz)</th>
<th>Operating frequency (MHz)</th>
<th>Max Transmitter Output Power</th>
<th>Test Reference</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>ERP (W)</td>
<td>EIRP (W)</td>
<td></td>
</tr>
<tr>
<td>Trunk radio (digital)</td>
<td></td>
<td></td>
<td>5</td>
<td>25</td>
<td>TETRA :</td>
</tr>
<tr>
<td>Handheld</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1. Conformity assessment requirements</td>
</tr>
<tr>
<td>Mobile</td>
<td>6.25/12.50/25.00</td>
<td>380.0000 – 399.9000 MHz</td>
<td></td>
<td></td>
<td>a. ETSI EN 300 394-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>410.0000 – 430.0000 MHz</td>
<td></td>
<td></td>
<td>b. ETSI EN 300 396-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>25</td>
<td>-</td>
<td>c. ETSI EN 300 392-2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2. Test requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>a. ETSI EN 303 035-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>b. ETSI EN 303 035-2</td>
</tr>
<tr>
<td>Mobile</td>
<td>50</td>
<td></td>
<td></td>
<td></td>
<td>iDEN : FCC Part 90</td>
</tr>
<tr>
<td>Base Station/Repeater</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>GoTa: 3GPP2 C.S0010</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3GPP2 C.S0011</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>APCO25 : TIA/EIA-102</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(all series)</td>
</tr>
<tr>
<td>Marine radio</td>
<td>25</td>
<td>6.0250 – 162.9750 MHz – Dx/Sx</td>
<td></td>
<td>5</td>
<td>ETSI EN 300 086-1</td>
</tr>
<tr>
<td>Handheld</td>
<td></td>
<td></td>
<td></td>
<td>-</td>
<td>Only applicable to constant envelope angle</td>
</tr>
<tr>
<td>Mobile</td>
<td></td>
<td></td>
<td>25</td>
<td>-</td>
<td>modulation system</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ETSI EN 300 296-1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>ETSI EN 300 373-1</td>
</tr>
<tr>
<td>Base Station/Repeater</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HF</td>
<td></td>
<td>1.605 kHz – 27.500 MHz</td>
<td>400</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>


Table 2. Test Limits for LMR Equipment for Analog Personal Mobile Radio and Family Band Services

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Test limit</th>
<th>Test reference</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF power</td>
<td>± 1.5 dB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency error</td>
<td>± 5 ppm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spurious emission</td>
<td>0.25 µW (-36 dBm)</td>
<td>ETSI EN 300 296-1</td>
<td>Frequency range is based on the notification of issuance of class assignments under the provision of Communications and Multimedia Act 1998, section 169, P. U. (B) 416.</td>
</tr>
<tr>
<td></td>
<td>(for 30 MHz to 1000 MHz)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 µW(-30 dBm)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(for 1 GHz to 12.75 GHz)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frequency deviation</td>
<td>± 2.5 kHz</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Receiver sensitivity</td>
<td>31.5 dB relative to 1 µV/m</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spurious radiation</td>
<td>-57 dBm (30 MHz to 1000 MHz)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Annex A  
(Normative)

Normative References

BS 1363: Part 1  
13 A plugs, socket-outlets, adaptors and connection units - Part 1: Specification for rewirable and non-rewirable 13 A fused plugs

BS 6500  
Electric cables Flexible cords rated up to 300/500 V, for use with appliances and equipment intended for domestic, office and similar environments

Class Assignment  
Class Assignment confers rights on any person to use the frequency bands as listed under the class assignment

ETSI EN 300 373-1  
Electromagnetic compatibility and Radio spectrum Matters (ERM); Maritime mobile transmitters and receivers for use in the MF and HF bands; Part 1: Technical characteristics and methods of measurement

3GPP2 A.S0011  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 1 Overview

3GPP2 A.S0012  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 2 Transport

3GPP2 A.S0013  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 3 Features

3GPP2 A.S0014  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 4 (A1, A1p, A2, and A5 Interfaces)

3GPP2 A.S0015  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 5 (A3 and A7 Interfaces)

3GPP2 A.S0016  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 6 (A8 and A9 Interfaces)

3GPP2 A.S0017  
Interoperability Specification (IOS) for cdma2000 Access Network Interfaces - Part 7 (A10 and A11 Interfaces)

3GPP2 C.S0010  
Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Base Stations

3GPP2 C.S0011  
Recommended Minimum Performance Standards for cdma2000 Spread Spectrum Mobile Stations

BS EN 50075  
Specification for flat non-wirable two-pole plugs 2.5 A 250 V, with cord, for the connection of class II-equipment for household and similar purposes

ETSI EN 300 086-1  
Electromagnetic compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Radio equipment with an internal or external RF connector intended primarily for analogue speech; Part 1: Technical characteristics and methods of measurement
ETSI EN 300 113-1  Electromagnetic compatibility and Radio Spectrum Matters (ERM); Land mobile service; Radio equipment intended for the transmission of data (and/or speech) using constant or non-constant envelope modulation and having an antenna connector; Part 1: Technical characteristics and methods of measurement

ETSI EN 300 135-1  Electromagnetic compatibility and Radio Spectrum Matters (ERM); Angle-modulated Citizens Band radio equipment (CEPT PR 27 Radio Equipment); Part 1: Technical characteristics and methods of measurement

ETSI EN 300 296-1  Electromagnetic compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Radio equipment using integral antennas intended primarily for analogue speech; Part 1: Technical characteristics and methods of measurement

ETSI EN 300 392-2  Terrestrial Trunked Radio (TETRA); Voice plus data (V+D); Part 2: Air Interface (AI)

ETSI EN 300 394-1  Terrestrial Trunked Radio (TETRA); Conformance testing specification; Part 1: Radio

ETSI EN 300 396-2  Terrestrial Trunked Radio (TETRA); Technical requirements for Direct Mode Operation (DMO); Part 2: Radio aspects

ETSI EN 300 433-1  Electromagnetic compatibility and Radio Spectrum Matters (ERM); Land Mobile Service; Double Side Band (DSB) and/or Single Side Band (SSB) amplitude modulated citizen's band radio equipment; Part 1: Technical characteristics and methods of measurement

ETSI EN 301 166  Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Land mobile service; Technical characteristics and test conditions for radio equipment for analogue and/or digital communication (speech and/or data) and operating on narrowband channels and having an antenna connector

ETSI EN 301 489-1  Electromagnetic compatibility and Radio Spectrum Matters (ERM); Electromagnetic Compatibility (EMC) standard for radio equipment and services; Part 1: Common technical requirements

ETSI EN 303 035-1  Terrestrial Trunked Radio (TETRA); Harmonised EN for TETRA equipment covering essential requirements under article 3.2 of the R&TTE Directive; Part 1: Voice Plus Data (V+D)

ETSI EN 303 035-2  Terrestrial Trunked Radio (TETRA); Harmonised EN for TETRA equipment covering essential requirements under article 3.2 of the R&TTE Directive; Part 2: Direct Mode Operation (DMO)

ETSI TR 102 433  Electromagnetic compatibility and Radio Spectrum matters (ERM); Digital Private Mobile Radio (DPMR) using a channel spacing of 6.25 KHz and operating in specified vhf and uhf bands under general authorization without individual rights; system reference document

IEC 60227-5  Electric cables Flexible cords rated up to 300/500 V, for use with appliances and equipment intended for domestic, office and similar environments

IEC 60245-4  Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables
<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>MS 140</td>
<td>Specification for insulated flexible cords and cables</td>
</tr>
<tr>
<td>MS 406</td>
<td>Specification for voltages and frequency for alternating current transmission</td>
</tr>
<tr>
<td></td>
<td>and distribution system (Second revision)</td>
</tr>
<tr>
<td>MS 1578</td>
<td>Specification for flat non-rewirable two-pole plugs, 2.5 A, 250 V, with cord,</td>
</tr>
<tr>
<td></td>
<td>for the connection of class II-Equipment for household and similar purposes</td>
</tr>
<tr>
<td>MS 589</td>
<td>Specification for 13 A plugs, socket outlets, adaptors and connection units</td>
</tr>
<tr>
<td>Part 1</td>
<td>– Part 1: Specification for rewirable and non-rewirable 13 A fused plugs</td>
</tr>
<tr>
<td>MS IEC</td>
<td>IEC Standard Voltage</td>
</tr>
<tr>
<td>60038</td>
<td></td>
</tr>
<tr>
<td>MS IEC</td>
<td>Information Technology equipment - Safety</td>
</tr>
<tr>
<td>60950-1</td>
<td></td>
</tr>
</tbody>
</table>
Annex B
(Informative Reference)

Amendments

<table>
<thead>
<tr>
<th>Page</th>
<th>Clause</th>
<th>Items Amended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cover</td>
<td>-</td>
<td>The document has been rename and renumbered as ‘Specification For Land Mobile Radio Equipment and MCMC MTSFB TC T012:2015’. The document has adopted new cover page.</td>
</tr>
<tr>
<td>i</td>
<td>-</td>
<td>Explanatory note on the development of Technical Codes has been included.</td>
</tr>
<tr>
<td>1</td>
<td>1 (Scope)</td>
<td>The statement for the scope has been changed.</td>
</tr>
</tbody>
</table>
| 5 - 7 | 4.2.1 (Table 1) | 1. The following changes have been made to Table 1:  
  a) The frequency band of 26.9650 – 27.4050 MHz (Sx) for Citizen Band Radio is reclassified under HF radio (voice).  
  b) The frequency band for VHF Radio (voice) and VHF Radio (data) is amended to 136.0000 – 174.0000 MHz.  
  c) The frequency band for UHF Radio (voice) and UHF Radio (data) for handheld, mobile and base station/repeater is amended to 400.0000 – 527.0000 MHz.  
  d) The frequency bands for UHF Radio (voice) under the Class Assignment are updated to include analog and digital Personal Mobile Radio services.  
  e) The frequency bands for digital Trunk Radio are amended to 380.0000 – 399.9000 MHz and 410.0000 – 430.0000 MHz.  
  f) The frequency bands for analog Trunk Radio are removed. |
| 8 | 4.2.1 (Table 2) | The title of Table 2 is amended to include analog Personal Mobile Radio and Family Band services. |
| 9 | Annex A | The normative references have been updated |
MCMC MTSFB TC T012:2015

Acknowledgements

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