

Standard Radio System Plan

**REQUIREMENTS FOR MOBILE CELLULAR  
SYSTEMS AND INTERNATIONAL MOBILE  
TELECOMMUNICATIONS (IMT) SYSTEMS  
OPERATING IN THE FREQUENCY BANDS  
1710 MHz TO 1785 MHz AND  
1805 MHz TO 1880 MHz**



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## **1.0 GLOSSARY**

- 1.1 The terms used in this document may be found in the document SRSP Glossary which can be downloaded from the Commission's website.  
(<http://www.skmm.gov.my/skmmgovmy/files/attachments/SRSPGlossary.pdf>)

# REQUIREMENTS FOR MOBILE CELLULAR SYSTEMS AND INTERNATIONAL MOBILE TELECOMMUNICATIONS (IMT) SYSTEMS OPERATING IN 1710 MHz TO 1785 MHz PAIRED WITH 1805 MHz TO 1880 MHz

## 2.0 INTENT

- 2.1 This Standard Radio System Plan (SRSP) states the requirements for the utilization of the frequency bands between 1710 MHz to 1785 MHz paired with 1805 MHz to 1880 MHz ('the said band') for mobile cellular systems and International Mobile Telecommunications (IMT) systems in Malaysia.
- 2.2 This plan is intended to ensure efficient provision of mobile services in Malaysia with minimal service disruption and radio frequency interference among service operators.
- 2.3 The term IMT is the root name which encompasses both IMT-2000 and IMT-Advanced collectively.
- 2.4 IMT-2000 systems are third generation mobile systems which provide access to a wide range of telecommunication services, supported by the fixed telecommunication networks (e.g. PSTN / ISDN / IP), and other services which are specific to mobile users.
- 2.5 IMT-Advanced systems are mobile systems that include capabilities of IMT-2000 and go beyond those of IMT-2000. Such systems provide access to a wide range of telecommunications services including advanced mobile services supported by mobile and fixed network.
- 2.6 The usage of the said band is intended for providing wireless broadband connectivity to subscribers and can include applications such as voice, video, images, interactive multimedia, high-speed data and mobile TV.
- 2.7 In general, a SRSP is a document designed to provide information on the minimum requirements in the use of a frequency band as described in the Spectrum Plan (see **Appendix A**). It provides information on technical characteristics of radio systems, frequency channelling, coordination initiatives in order to maximise the utilisation of the band and minimise interference. It is also intended to regulate the usage of spectrum and does not attempt to establish any detailed equipment standards.

## 3.0 GENERAL

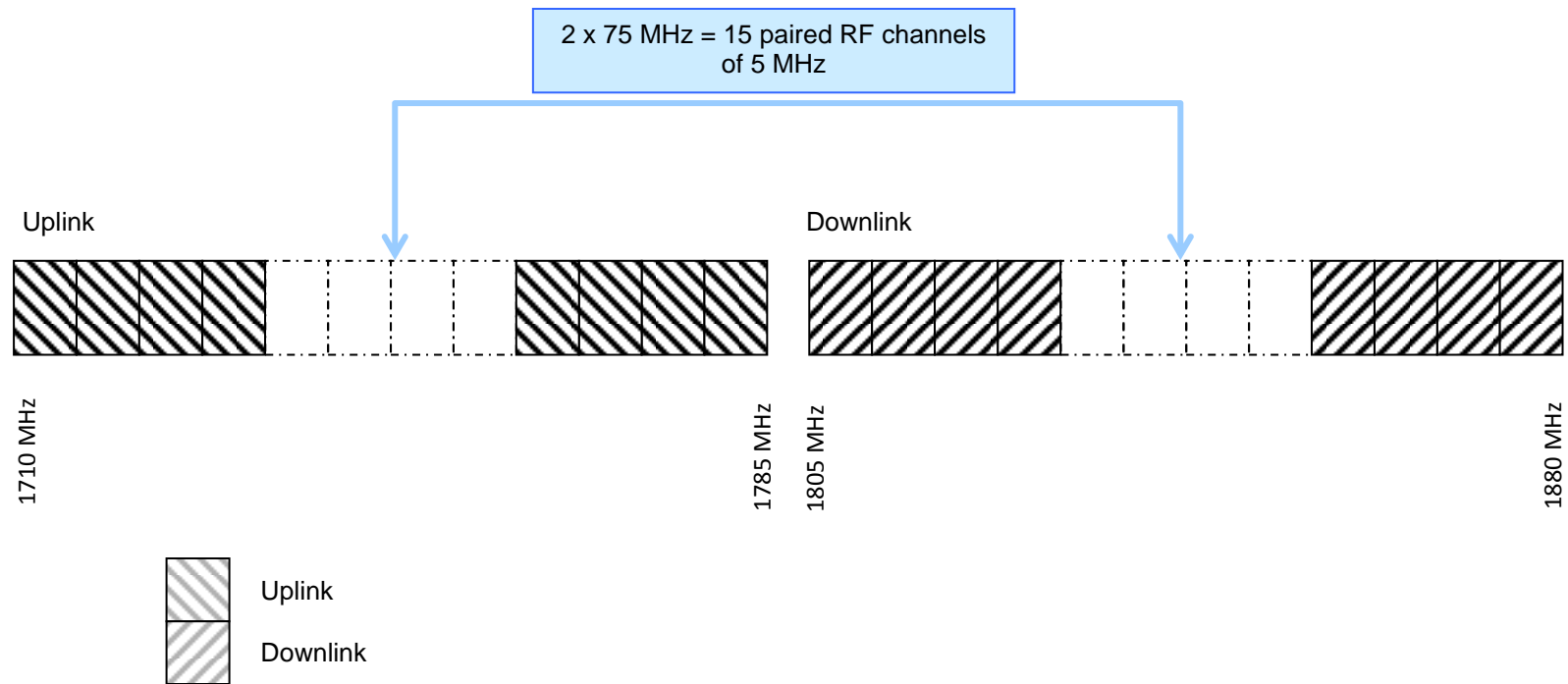
- 3.1 Technical characteristics of equipment used in mobile cellular systems and IMT systems shall conform to all applicable Malaysian standards, international standards, International Telecommunications Union (ITU) and its radio regulations as agreed and adopted by Malaysia.
- 3.2 The installation of all mobile cellular systems and IMT systems shall comply with safety rules as specified in the applicable standards
- 3.3 The allocation of this frequency band and the information in this SRSP are subject to review from time to time to reflect new developments in the communications and multimedia industry.

- 3.4 The current mobile cellular system being deployed in the said band is based on GSM technology.
- 3.5 The said band is becoming more popular for the deployment of the IMT technologies.
- 3.6 The new developments of usage of mobile phones on board vessels as well as mobile communication services on aircraft (MCA) have been introduced over the past few years in the said band. These usage has also made huge developments and improvements in order for it be deployed ubiquitously.
- 3.7 The said band may be used in a manner whereby different technologies can co-exist within the same band thus allowing maximum utilization of the spectrum subject to the requirements set in this document.

## **4.0 CHANNELLING PLAN**

- 4.1 This SRSP defines the frequency band 1710 to 1785 MHz paired with 1805 to 1880 MHz for mobile cellular systems and IMT systems in Malaysia.
- 4.2 The spectrum allocation identified for mobile cellular systems and IMT systems as described in the Spectrum Plan can be referred to in **Appendix A**.
- 4.3 The channelling plan for IMT systems is based on the radio frequency arrangement of ITU-R Recommendation **ITU-R M.1036**.
- 4.4 For the deployment of mobile cellular system utilizing GSM technology where each RF channel may require 200 kHz or multiples of 200 kHz of bandwidth and 95 MHz duplex spacing, the channelling plan for the cellular mobile radio system are based on the band plan in **Appendix B**.
- 4.5 For the deployment of IMT systems where each RF channel may require 5 MHz or multiples of 5 MHz of bandwidth, and a 95 MHz duplex spacing, the channelling plan for the IMT systems may be based on the band plan as in **Figure 1**.
- 4.6 In the event of co-existence between GSM with IMT systems based on IMT technologies, assignment holders who intend to deploy IMT systems shall have the flexibility in deciding the centre frequency and the channel bandwidth of the IMT systems subject to implementation methods defined in **Appendix C**.
- 4.7 The band plan in **Figure 1** is to be referred as a guide for full deployment of IMT systems. Assignment holders shall be allowed the flexibility to implement GSM system and/or IMT system and bandwidth usage within its allocated band subject to implementation methods defined in **Appendix C** and other policies determined by the Commission.
- 4.8 Assignment holders having contiguous blocks of 5 MHz shall have the flexibility of combining the carriers to support higher channel bandwidth for IMT technologies that support larger bandwidth. The implementation methods are subject to future mitigation techniques deployed.

**Figure 1:** Radio frequency band plan of cellular mobile radio systems operating in frequency band 1710 MHz to 1880MHz for IMT systems.



## 5.0 REQUIREMENTS FOR USAGE OF SPECTRUM

- 5.1 This SRSP covers the minimum key characteristics considered necessary in order to optimise the use of the available frequencies.
- 5.2 The said band is not limited in its use for direct radio connection between a radio base station and subscribers in a point-to-point or point-to-multipoint configuration.
- 5.3 Maximum radiated power and unwanted emission for GSM system:
  - 5.3.1 GSM base station in-block transmissions should not exceed +61dBm EIRP; and
  - 5.3.2 GSM mobile station transmission should not exceed 31 dBm EIRP.
- 5.4 Maximum radiated power and unwanted emission for IMT system:
  - 5.4.1 IMT Base Station in-block transmissions should not exceed +61 dBm/5MHz EIRP;
  - 5.4.2 On a case to case basis, higher EIRP value may be permitted if acceptable technical justification is provided; and
  - 5.4.3 IMT mobile station transmissions should not exceed +31 dBm/5MHz total radiated power for mobile/nomadic terminal station and not exceed +35 dBm/5MHz EIRP for fixed terminal stations. Subscriber terminal station should comply with the technical specification set under “*Technical Specification For Broadband Wireless Access (BWA) Equipment*” and Class Assignment (‘CA’).
- 5.5 In some cases, a radio system conforming to the requirements of this SRSP may require modifications if harmful interference is caused to other radio communication stations or systems.
- 5.6 The allocation of spectrum and shared services within these bands are found in the Spectrum Plan and an extract of it is shown in **Appendix A**.
- 5.7 It should be further noted that the operation of the IMT system in the said band is allowed without causing any interference to other adjacent services and its coexistence and the mitigation of interference may require adopting a number of engineering solutions based on industry best practise guidelines and recommendations described in this document.
- 5.8 For IMT mobile stations, the unwanted emissions in out-of-band and spurious domain outside an assignment holder’s assigned frequency blocks shall comply with ITU-R Recommendation M.1581.
- 5.9 When an unwanted emission outside of an assigned frequency block causes major interference, the Commission may, at its discretion, impose greater attenuation than specified in this section.

## 6.0 PRINCIPLES OF ASSIGNMENT

- 6.1 Authorisations to use the said band for the mobile cellular base station apparatus, IMT base station apparatus and the mobile stations are as follows:
  - 6.1.1 Apparatus Assignment ('AA') for mobile cellular base station apparatus and IMT base station apparatus; and
  - 6.1.2 Class Assignment ('CA') for mobile station. The applicants are required to comply with any notification of CA issued pursuant to Section 169 of the Communications and Multimedia Act 1998 ('the Act') which confers rights on any person to use any frequency band for the specified devices.
- 6.2 Eligible persons who may apply for the AA are the holders of the Network Facilities Provider Individual ('NFP(I)') licence which provides radiocommunication transmitters and links.
- 6.3 Applicants are required to:
  - 6.3.1 Submit AA application for the apparatus on the prescribed AA forms in accordance with the Act, the Communications and Multimedia (Spectrum) Regulations 2000 ('the Regulations') and any relevant instrument issued by the Commission from time to time; and
  - 6.3.2 Submit any other documents and/or information that may be requested by the Commission.
- 6.4 In facilitating the planning and efficiency in spectrum management, upon successful application, the applicants may be allocated with specific spectrum block/s. Such arrangements are only for administrative or spectrum management purposes in order to facilitate the applicants in their rollout planning. Spectrum in any areas not utilised or underutilised, may be opened to other NFP(I) licensees.
- 6.5 The maximum validity period of an AA for all systems in these bands is five (5) years and the AA holder may make fresh application for the AA not less than 60 days before expiry.
- 6.6 Issuance of an AA is also subject to successful co-ordination with Malaysia's neighbouring country(ies) for stations that are to be located along the border areas.
- 6.7 The conditions that may be imposed by the Commission are the standard conditions for an AA as specified in the Regulations and any additional conditions as may be imposed by the Commission for the allocation and assignment of the said band.
- 6.8 Applications for AA for trials shall comply with the applicable trial guidelines, the new channelling plan as in **Figure 1** and any conditions as may be specified by the Commission.



## 7.0 IMPLEMENTATION

- 7.1 This SRSP shall be effective on the date of issuance of this document.
- 7.2 It has been proven from various reports that coexistence among the different technologies is viable. In order to mitigate the interference issues, the implementation of each of the technologies shall be in accordance with the specifications in the accompanied appendices of this SRSP.
- 7.3 IMT based technologies can be introduced in the said band after the effective date of the SRSP subject to implementation methods defined in **Appendix C**.
- 7.4 IMT technologies shall be allowed to operate without causing any interference to all existing sites and subject to any other conditions specified by the Commission. The existing sites shall be defined as sites having valid AAs and already operating within the approved bands and technologies. Noting that the deployment of new mobile cellular base station sites is an on-going process such as annual capacity enhancement sites and new coverage deployment sites, those sites under development are taken into consideration in the coordination process. Coordination among operators may be required as recommended in Section 8 in order to minimize interference.
- 7.5 On board vessels systems must ensure that the mobile phones do not attempt to register with ground base stations while the system is operating at a distance from shore that prevents a reliable connection and therefore could cause interference in terrestrial networks. The said system shall not operate when the vessel is less than 2 nautical miles from the baseline (refer to **Appendix C**).
- 7.6 During the operation of MCA that is authorised on an aircraft, mobile terminals must be prevented from registering with mobile networks on the ground and MCA is only allowed to operate at the minimum height of 6000 m above the ground (refer to Section 3 of **Appendix C**).

## 8.0 COORDINATION REQUIREMENT

- 8.1 The use of this frequency band shall require coordination with the neighbouring countries within the coordination zones. The coordination zones are based on agreement reached at border committees namely FACSMAB, JTC and JCC<sup>1</sup>. However, only JTC has defined a coordination perimeter (coordination zone) of 8 km for this band.
- 8.2 When there is no agreed coordination zones, zone within 50 km from our neighbouring countries will be used.
- 8.3 Noting that these coordination distances are continuously being reviewed by the border committees, the coordination distances may be updated from time to time. As such, the Commission reserves the right to reassign the affected frequency channels at border coordination areas.
- 8.4 For communication on board vessels, there is a need for a harmonized approach to the free circulation and use of the system and mobile phones to ensure the provision of an uninterrupted service whilst the vessel crosses the borders of various countries and to reduce the regulatory requirements placed on administrations, mobile telephone network operators and vessel operators.
- 8.5 Technical analysis will be carried out by the Commission before an AA is issued. Operator-to-operator coordination may be required to avoid interference.
- 8.6 In the event of any interference, the Commission will require affected users to carry out an operator-to-operator coordination. In the event that the interference remained unresolved after 24 hours by the operators, the affected parties may escalate the matter to the Commission for a resolution. The Commission will decide the necessary modifications and schedule of modifications to resolve the dispute. The Commission will be guided by the interference resolution process as shown in **Appendix D**.
- 8.7 Assignment holders are expected to take full advantage of interference mitigation techniques such as antenna discrimination, tilt, polarization, frequency discrimination, shielding/blocking (introduce diffraction loss), site selection, and/or power control to facilitate the coordination of systems.

## 9.0 REVOCATION

- 9.1 Not applicable

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<sup>1</sup> FACSMAB - Frequency Assignment Committee Singapore, Malaysia and Brunei Darussalam  
JTC - Joint Technical Committee on Coordination and Assignment of Frequencies along Malaysia - Thailand Common Border  
JCC - Joint Committee on Communications between Indonesia and Malaysia

## 10.0 REFERENCES

- [1] Recommendation ITU-R M.1036 – Frequency arrangements for implementation of the terrestrial component of International Mobile Telecommunications (IMT) in the bands identified for IMT in the Radio Regulations (RR)
- [2] Recommendation ITU-R M.1457 - Detailed specifications of the terrestrial radio interfaces of International Mobile Telecommunications-2000 (IMT-2000)
- [3] Recommendation ITU-R M.1580 – Generic unwanted emission characteristics of base stations using the terrestrial radio interfaces of IMT 2000
- [4] Recommendation ITU-R M.1581 – Generic unwanted emission characteristics of mobile stations using the terrestrial radio interfaces of IMT 2000
- [5] 3GPP Technical Specification 25.104 Base Station (BS) radio transmission and reception (FDD)
- [6] 3GPP Technical Specification 36.104 Evolved Universal Terrestrial Radio Access (E-UTRA): Base Station (BS) radio transmission and reception
- [7] ECC Report 82 Compatibility Study for UMTS Operating Within the GSM 900 and GSM 1800 Frequency Bands
- [8] CEPT Report 40 Compatibility study for LTE and WiMAX operating within the bands 880-915 MHz / 925-960 MHz and 1710-1785 MHz / 1805-1880 MHz (900/1800 MHz bands)
- [9] CEPT Report 28 Mobile Communication Services on Vessels (MCV)
- [10] CEPT Report 16 Mobile Communication Services on board aircraft (MCA)
- [11] The Spectrum Plan

Issued by:



**Suruhanjaya Komunikasi dan Multimedia Malaysia**

Malaysian Communications and Multimedia Commission

## APPENDIX A: EXTRACT OF MALAYSIAN SPECTRUM PLAN

(This Appendix forms an integral part of the SRSP document)

| Frequency Band (MHz) | ITU Allocations   |          |          | Malaysian Allocations   |
|----------------------|---|----------|----------|---|
|                      | Region 1  | Region 2 | Region 3 |   |
| 1 710 – 1 930        | FIXED<br><br>MOBILE 5.384A 5.388A 5.388B<br><br>5.149 5.341 5.385 5.386 5.387 5.388 |          |          | FIXED<br><br>MOBILE 5.384A 5.388A<br>MLA53 MLA89 MLA91<br>MLA92<br><br>5.149 5.341 5.385 5.388<br>MLA3 MLA44 MLA81<br>MLA90 |

**5.149** In making assignments to stations of other services to which the bands:

|                                 |                                   |                    |
|---------------------------------|-----------------------------------|--------------------|
| 13 360-13 410 kHz,              | 4 950-4 990 MHz,                  | 102-109.5 GHz,     |
| 25 550-25 670 kHz,              | 4 990-5 000 MHz,                  | 111.8-114.25 GHz,  |
| 37.5-38.25 MHz,                 | 6 650-6 675.2 MHz,                | 128.33-128.59 GHz, |
| 73-74.6 MHz in Regions 1 and 3, | 10.6-10.68 GHz,                   | 129.23-129.49 GHz, |
| 150.05-153 MHz in Region 1,     | 14.47-14.5 GHz,                   | 130-134 GHz,       |
| 322-328.6 MHz,                  | 22.01-22.21 GHz,                  | 136-148.5 GHz,     |
| 406.1-410 MHz,                  | 22.21-22.5 GHz,                   | 151.5-158.5 GHz,   |
| 608-614 MHz in Regions 1 and 3, | 22.81-22.86 GHz,                  | 168.59-168.93 GHz, |
| 1 330-1 400 MHz,                | 23.07-23.12 GHz,                  | 171.11-171.45 GHz, |
| 1 610.6-1 613.8 MHz,            | 31.2-31.3 GHz,                    | 172.31-172.65 GHz, |
| 1 660-1 670 MHz,                | 31.5-31.8 GHz in Regions 1 and 3, | 173.52-173.85 GHz, |
| 1 718.8-1 722.2 MHz,            | 36.43-36.5 GHz,                   | 195.75-196.15 GHz, |
| 2 655-2 690 MHz,                | 42.5-43.5 GHz,                    | 209-226 GHz,       |
| 3 260-3 267 MHz,                | 48.94-49.04 GHz,                  | 241-250 GHz,       |
| 3 332-3 339 MHz,                | 76-86 GHz,                        | 252-275 GHz        |
| 3 345.8-3 352.5 MHz,            | 92-94 GHz,                        |                    |
| 4 825-4 835 MHz,                | 94.1-100 GHz,                     |                    |

are allocated, administrations are urged to take all practicable steps to protect the radio astronomy service from harmful interference. Emissions from spaceborne or airborne stations can be particularly serious sources of interference to the radio astronomy service (see Nos. **4.5** and **4.6** and Article **29**). (WRC-07)

**5.341** In the bands 1 400-1 727 MHz, 101-120 GHz and 197-220 GHz, passive research is being conducted by some countries in a programme for the search for intentional emissions of extraterrestrial origin.

**5.384A** The bands, or portions of the bands, 1 710-1 885 MHz, 2 300-2 400 MHz and 2 500-2 690 MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev.WRC-07). This identification does not preclude the use of these bands by any application of the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-07)

**5.385** *Additional allocation:* the band 1 718.8-1 722.2 MHz is also allocated to the radio astronomy service on a secondary basis for spectral line observations. (WRC-2000)

**5.386** *Additional allocation:* the band 1 750-1 850 MHz is also allocated to the space operation (Earth-to-space) and space research (Earth-to-space) services in Region 2, in Australia, Guam, India, Indonesia and Japan on a primary basis, subject to agreement obtained under No. 9.21, having particular regard to troposcatter systems. (WRC-03)

**5.387** *Additional allocation:* in Belarus, Georgia, Kazakhstan, Mongolia, Kyrgyzstan, Slovakia, Romania, Tajikistan and Turkmenistan, the band 1 770-1 790 MHz is also allocated to the meteorological-satellite service on a primary basis, subject to agreement obtained under No. 9.21. (WRC-07)

**5.388** The bands 1 885-2 025 MHz and 2 110-2 200 MHz are intended for use, on a worldwide basis, by administrations wishing to implement International Mobile Telecommunications-2000 (IMT-2000). Such use does not preclude the use of these bands by other services to which they are allocated. The bands should be made available for IMT-2000 in accordance with Resolution 212 (Rev.WRC-97)\*. (See also Resolution 223 (WRC-2000)\*.) (WRC-2000)

**5.388A** In Regions 1 and 3, the bands 1 885-1 980 MHz, 2 010-2 025 MHz and 2 110-2 170 MHz and, in Region 2, the bands 1 885-1 980 MHz and 2 110-2 160 MHz may be used by high altitude platform stations as base stations to provide International Mobile Telecommunications-2000 (IMT-2000), in accordance with Resolution 221 (Rev.WRC-03)\*. Their use by IMT-2000 applications using high altitude platform stations as base stations does not preclude the use of these bands by any station in the services to which they are allocated and does not establish priority in the Radio Regulations. (WRC-03)

**5.388B** In Algeria, Saudi Arabia, Bahrain, Benin, Burkina Faso, Cameroon, Comoros, Côte d'Ivoire, China, Cuba, Djibouti, Egypt, United Arab Emirates, Eritrea, Ethiopia, Gabon, Ghana, India, Iran (Islamic Republic of), Israel, the Libyan Arab Jamahiriya, Jordan, Kenya, Kuwait, Mali, Morocco, Mauritania, Nigeria, Oman, Uganda, Qatar, the Syrian Arab Republic, Senegal, Singapore, Sudan, Tanzania, Chad, Togo, Tunisia, Yemen, Zambia and Zimbabwe, for the purpose of protecting fixed and mobile services, including IMT-2000 mobile stations, in their territories from co-channel interference, a high altitude platform station (HAPS) operating as an IMT-2000 base station in neighbouring countries, in the bands referred to in No. 5.388A, shall not exceed a co-channel power flux-density of  $-127 \text{ dB(W/(m}^2 \cdot \text{MHz))}$  at the Earth's surface outside a country's borders unless explicit agreement of the affected administration is provided at the time of the notification of HAPS. (WRC-03)

**MLA3** Notification of Issuance of Class Assignment.

**MLA 44** Frequency Spectrum 806 MHz to 960 MHz, 1710 MHz to 1885 MHz, 2504 MHz to 2688 MHz planned for IMT 2000 extension band.

**MLA53** Standard Radio System Plan 524M: Requirements for International Mobile Telecommunications-2000 (IMT-2000) Services Operating in the Frequency Bands 1885 MHz to 2025 MHz and 2110 MHz to 2200 MHz.

**MLA81** Standard Radio System Plan 544: Requirements for Broadband Wireless Access (BWA) Systems Operating in the Frequency Band from 1790 MHz to 1800 MHz.

**MLA89** Technical Specification for Broadband Wireless Access (SKMM WTS BWA)

**MLA90** Technical Specification for Cordless Telephone Systems (SKMM WTS CTS)

**MLA91** Technical Specification for GSM Mobile Terminals (SKMM WTS GSM-MT)

**MLA92** Technical Specification for IMT-2000 Third-Generation (3G) Cellular Mobile Terminals (SKMM WTS IMT-MT)

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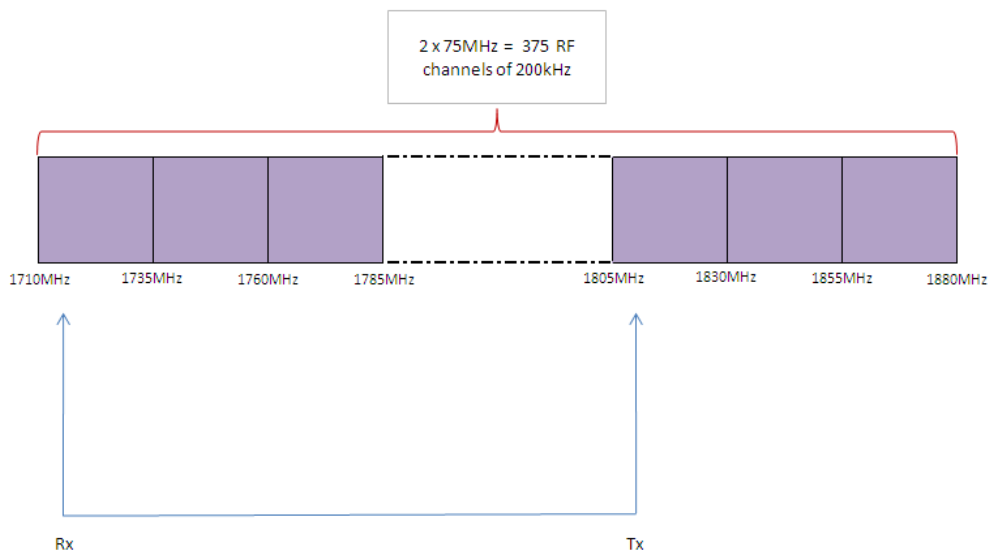
\* This Resolution was revised by WRC-07.

## APPENDIX B: CHANNELING PLAN OF CURRENT 1800 MHZ GSM SYSTEM

(This Appendix forms an integral part of the SRSP document)

- B.1 Within 1710 – 1785 MHz and 1805 – 1880 MHz band, the channelling plan are developed based on a 200 kHz channel raster corresponding to the GSM channel bandwidth, and provides for up to 375 FDD channels. The mobile station's transmit frequency is always 95 MHz lower than the base station's transmit frequency (95 MHz duplex spacing):

**Figure B.1:** Channel arrangement for GSM systems operating in frequency band 1710 to 1785 MHz and 1805 to 1880 MHz



### GSM:

Frequency range: 1710-1785MHz/1805-1880MHz

Start frequency for uplink carrier:  $F_u = 1710.2 \text{ MHz} + (\text{ARFCN} - 512) * 0.2 \text{ MHz}$

Start frequency for downlink carrier:  $F_d = F_u(\text{ARFCN}) + 95 \text{ MHz}$

| Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) |
|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|
| 512        | 1710.20                              | 1805.20                               | 543        | 1716.40                              | 1811.40                               | 574        | 1722.60                              | 1817.60                               |
| 513        | 1710.40                              | 1805.40                               | 544        | 1716.60                              | 1811.60                               | 575        | 1722.80                              | 1817.80                               |
| 514        | 1710.60                              | 1805.60                               | 545        | 1716.80                              | 1811.80                               | 576        | 1723.00                              | 1818.00                               |
| 515        | 1710.80                              | 1805.80                               | 546        | 1717.00                              | 1812.00                               | 577        | 1723.20                              | 1818.20                               |
| 516        | 1711.00                              | 1806.00                               | 547        | 1717.20                              | 1812.20                               | 578        | 1723.40                              | 1818.40                               |
| 517        | 1711.20                              | 1806.20                               | 548        | 1717.40                              | 1812.40                               | 579        | 1723.60                              | 1818.60                               |
| 518        | 1711.40                              | 1806.40                               | 549        | 1717.60                              | 1812.60                               | 580        | 1723.80                              | 1818.80                               |
| 519        | 1711.60                              | 1806.60                               | 550        | 1717.80                              | 1812.80                               | 581        | 1724.00                              | 1819.00                               |
| 520        | 1711.80                              | 1806.80                               | 551        | 1718.00                              | 1813.00                               | 582        | 1724.20                              | 1819.20                               |
| 521        | 1712.00                              | 1807.00                               | 552        | 1718.20                              | 1813.20                               | 583        | 1724.40                              | 1819.40                               |
| 522        | 1712.20                              | 1807.20                               | 553        | 1718.40                              | 1813.40                               | 584        | 1724.60                              | 1819.60                               |
| 523        | 1712.40                              | 1807.40                               | 554        | 1718.60                              | 1813.60                               | 585        | 1724.80                              | 1819.80                               |
| 524        | 1712.60                              | 1807.60                               | 555        | 1718.80                              | 1813.80                               | 586        | 1725.00                              | 1820.00                               |
| 525        | 1712.80                              | 1807.80                               | 556        | 1719.00                              | 1814.00                               | 587        | 1725.20                              | 1820.20                               |
| 526        | 1713.00                              | 1808.00                               | 557        | 1719.20                              | 1814.20                               | 588        | 1725.40                              | 1820.40                               |
| 527        | 1713.20                              | 1808.20                               | 558        | 1719.40                              | 1814.40                               | 589        | 1725.60                              | 1820.60                               |
| 528        | 1713.40                              | 1808.40                               | 559        | 1719.60                              | 1814.60                               | 590        | 1725.80                              | 1820.80                               |
| 529        | 1713.60                              | 1808.60                               | 560        | 1719.80                              | 1814.80                               | 591        | 1726.00                              | 1821.00                               |
| 530        | 1713.80                              | 1808.80                               | 561        | 1720.00                              | 1815.00                               | 592        | 1726.20                              | 1821.20                               |
| 531        | 1714.00                              | 1809.00                               | 562        | 1720.20                              | 1815.20                               | 593        | 1726.40                              | 1821.40                               |
| 532        | 1714.20                              | 1809.20                               | 563        | 1720.40                              | 1815.40                               | 594        | 1726.60                              | 1821.60                               |
| 533        | 1714.40                              | 1809.40                               | 564        | 1720.60                              | 1815.60                               | 595        | 1726.80                              | 1821.80                               |
| 534        | 1714.60                              | 1809.60                               | 565        | 1720.80                              | 1815.80                               | 596        | 1727.00                              | 1822.00                               |
| 535        | 1714.80                              | 1809.80                               | 566        | 1721.00                              | 1816.00                               | 597        | 1727.20                              | 1822.20                               |
| 536        | 1715.00                              | 1810.00                               | 567        | 1721.20                              | 1816.20                               | 598        | 1727.40                              | 1822.40                               |
| 537        | 1715.20                              | 1810.20                               | 568        | 1721.40                              | 1816.40                               | 599        | 1727.60                              | 1822.60                               |
| 538        | 1715.40                              | 1810.40                               | 569        | 1721.60                              | 1816.60                               | 600        | 1727.80                              | 1822.80                               |
| 539        | 1715.60                              | 1810.60                               | 570        | 1721.80                              | 1816.80                               | 601        | 1728.00                              | 1823.00                               |
| 540        | 1715.80                              | 1810.80                               | 571        | 1722.00                              | 1817.00                               | 602        | 1728.20                              | 1823.20                               |
| 541        | 1716.00                              | 1811.00                               | 572        | 1722.20                              | 1817.20                               | 603        | 1728.40                              | 1823.40                               |
| 542        | 1716.20                              | 1811.20                               | 573        | 1722.40                              | 1817.40                               | 604        | 1728.60                              | 1823.60                               |

| Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) |
|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|
| 605        | 1728.80                              | 1823.80                               | 636        | 1735.00                              | 1830.00                               | 667        | 1741.20                              | 1836.20                               |
| 606        | 1729.00                              | 1824.00                               | 637        | 1735.20                              | 1830.20                               | 668        | 1741.40                              | 1836.40                               |
| 607        | 1729.20                              | 1824.20                               | 638        | 1735.40                              | 1830.40                               | 669        | 1741.60                              | 1836.60                               |
| 608        | 1729.40                              | 1824.40                               | 639        | 1735.60                              | 1830.60                               | 670        | 1741.80                              | 1836.80                               |
| 609        | 1729.60                              | 1824.60                               | 640        | 1735.80                              | 1830.80                               | 671        | 1742.00                              | 1837.00                               |
| 610        | 1729.80                              | 1824.80                               | 641        | 1736.00                              | 1831.00                               | 672        | 1742.20                              | 1837.20                               |
| 611        | 1730.00                              | 1825.00                               | 642        | 1736.20                              | 1831.20                               | 673        | 1742.40                              | 1837.40                               |
| 612        | 1730.20                              | 1825.20                               | 643        | 1736.40                              | 1831.40                               | 674        | 1742.60                              | 1837.60                               |
| 613        | 1730.40                              | 1825.40                               | 644        | 1736.60                              | 1831.60                               | 675        | 1742.80                              | 1837.80                               |
| 614        | 1730.60                              | 1825.60                               | 645        | 1736.80                              | 1831.80                               | 676        | 1743.00                              | 1838.00                               |
| 615        | 1730.80                              | 1825.80                               | 646        | 1737.00                              | 1832.00                               | 677        | 1743.20                              | 1838.20                               |
| 616        | 1731.00                              | 1826.00                               | 647        | 1737.20                              | 1832.20                               | 678        | 1743.40                              | 1838.40                               |
| 617        | 1731.20                              | 1826.20                               | 648        | 1737.40                              | 1832.40                               | 679        | 1743.60                              | 1838.60                               |
| 618        | 1731.40                              | 1826.40                               | 649        | 1737.60                              | 1832.60                               | 680        | 1743.80                              | 1838.80                               |
| 619        | 1731.60                              | 1826.60                               | 650        | 1737.80                              | 1832.80                               | 681        | 1744.00                              | 1839.00                               |
| 620        | 1731.80                              | 1826.80                               | 651        | 1738.00                              | 1833.00                               | 682        | 1744.20                              | 1839.20                               |
| 621        | 1732.00                              | 1827.00                               | 652        | 1738.20                              | 1833.20                               | 683        | 1744.40                              | 1839.40                               |
| 622        | 1732.20                              | 1827.20                               | 653        | 1738.40                              | 1833.40                               | 684        | 1744.60                              | 1839.60                               |
| 623        | 1732.40                              | 1827.40                               | 654        | 1738.60                              | 1833.60                               | 685        | 1744.80                              | 1839.80                               |
| 624        | 1732.60                              | 1827.60                               | 655        | 1738.80                              | 1833.80                               | 686        | 1745.00                              | 1840.00                               |
| 625        | 1732.80                              | 1827.80                               | 656        | 1739.00                              | 1834.00                               | 687        | 1745.20                              | 1840.20                               |
| 626        | 1733.00                              | 1828.00                               | 657        | 1739.20                              | 1834.20                               | 688        | 1745.40                              | 1840.40                               |
| 627        | 1733.20                              | 1828.20                               | 658        | 1739.40                              | 1834.40                               | 689        | 1745.60                              | 1840.60                               |
| 628        | 1733.40                              | 1828.40                               | 659        | 1739.60                              | 1834.60                               | 690        | 1745.80                              | 1840.80                               |
| 629        | 1733.60                              | 1828.60                               | 660        | 1739.80                              | 1834.80                               | 691        | 1746.00                              | 1841.00                               |
| 630        | 1733.80                              | 1828.80                               | 661        | 1740.00                              | 1835.00                               | 692        | 1746.20                              | 1841.20                               |
| 631        | 1734.00                              | 1829.00                               | 662        | 1740.20                              | 1835.20                               | 693        | 1746.40                              | 1841.40                               |
| 632        | 1734.20                              | 1829.20                               | 663        | 1740.40                              | 1835.40                               | 694        | 1746.60                              | 1841.60                               |
| 633        | 1734.40                              | 1829.40                               | 664        | 1740.60                              | 1835.60                               | 695        | 1746.80                              | 1841.80                               |
| 634        | 1734.60                              | 1829.60                               | 665        | 1740.80                              | 1835.80                               | 696        | 1747.00                              | 1842.00                               |
| 635        | 1734.80                              | 1829.80                               | 666        | 1741.00                              | 1836.00                               | 697        | 1747.20                              | 1842.20                               |



| Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) |
|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|
| 698        | 1747.40                              | 1842.40                               | 729        | 1753.60                              | 1848.60                               | 760        | 1759.80                              | 1854.80                               |
| 699        | 1747.60                              | 1842.60                               | 730        | 1753.80                              | 1848.80                               | 761        | 1760.00                              | 1855.00                               |
| 700        | 1747.80                              | 1842.80                               | 731        | 1754.00                              | 1849.00                               | 762        | 1760.20                              | 1855.20                               |
| 701        | 1748.00                              | 1843.00                               | 732        | 1754.20                              | 1849.20                               | 763        | 1760.40                              | 1855.40                               |
| 702        | 1748.20                              | 1843.20                               | 733        | 1754.40                              | 1849.40                               | 764        | 1760.60                              | 1855.60                               |
| 703        | 1748.40                              | 1843.40                               | 734        | 1754.60                              | 1849.60                               | 765        | 1760.80                              | 1855.80                               |
| 704        | 1748.60                              | 1843.60                               | 735        | 1754.80                              | 1849.80                               | 766        | 1761.00                              | 1856.00                               |
| 705        | 1748.80                              | 1843.80                               | 736        | 1755.00                              | 1850.00                               | 767        | 1761.20                              | 1856.20                               |
| 706        | 1749.00                              | 1844.00                               | 737        | 1755.20                              | 1850.20                               | 768        | 1761.40                              | 1856.40                               |
| 707        | 1749.20                              | 1844.20                               | 738        | 1755.40                              | 1850.40                               | 769        | 1761.60                              | 1856.60                               |
| 708        | 1749.40                              | 1844.40                               | 739        | 1755.60                              | 1850.60                               | 770        | 1761.80                              | 1856.80                               |
| 709        | 1749.60                              | 1844.60                               | 740        | 1755.80                              | 1850.80                               | 771        | 1762.00                              | 1857.00                               |
| 710        | 1749.80                              | 1844.80                               | 741        | 1756.00                              | 1851.00                               | 772        | 1762.20                              | 1857.20                               |
| 711        | 1750.00                              | 1845.00                               | 742        | 1756.20                              | 1851.20                               | 773        | 1762.40                              | 1857.40                               |
| 712        | 1750.20                              | 1845.20                               | 743        | 1756.40                              | 1851.40                               | 774        | 1762.60                              | 1857.60                               |
| 713        | 1750.40                              | 1845.40                               | 744        | 1756.60                              | 1851.60                               | 775        | 1762.80                              | 1857.80                               |
| 714        | 1750.60                              | 1845.60                               | 745        | 1756.80                              | 1851.80                               | 776        | 1763.00                              | 1858.00                               |
| 715        | 1750.80                              | 1845.80                               | 746        | 1757.00                              | 1852.00                               | 777        | 1763.20                              | 1858.20                               |
| 716        | 1751.00                              | 1846.00                               | 747        | 1757.20                              | 1852.20                               | 778        | 1763.40                              | 1858.40                               |
| 717        | 1751.20                              | 1846.20                               | 748        | 1757.40                              | 1852.40                               | 779        | 1763.60                              | 1858.60                               |
| 718        | 1751.40                              | 1846.40                               | 749        | 1757.60                              | 1852.60                               | 780        | 1763.80                              | 1858.80                               |
| 719        | 1751.60                              | 1846.60                               | 750        | 1757.80                              | 1852.80                               | 781        | 1764.00                              | 1859.00                               |
| 720        | 1751.80                              | 1846.80                               | 751        | 1758.00                              | 1853.00                               | 782        | 1764.20                              | 1859.20                               |
| 721        | 1752.00                              | 1847.00                               | 752        | 1758.20                              | 1853.20                               | 783        | 1764.40                              | 1859.40                               |
| 722        | 1752.20                              | 1847.20                               | 753        | 1758.40                              | 1853.40                               | 784        | 1764.60                              | 1859.60                               |
| 723        | 1752.40                              | 1847.40                               | 754        | 1758.60                              | 1853.60                               | 785        | 1764.80                              | 1859.80                               |
| 724        | 1752.60                              | 1847.60                               | 755        | 1758.80                              | 1853.80                               | 786        | 1765.00                              | 1860.00                               |
| 725        | 1752.80                              | 1847.80                               | 756        | 1759.00                              | 1854.00                               | 787        | 1765.20                              | 1860.20                               |
| 726        | 1753.00                              | 1848.00                               | 757        | 1759.20                              | 1854.20                               | 788        | 1765.40                              | 1860.40                               |
| 727        | 1753.20                              | 1848.20                               | 758        | 1759.40                              | 1854.40                               | 789        | 1765.60                              | 1860.60                               |
| 728        | 1753.40                              | 1848.40                               | 759        | 1759.60                              | 1854.60                               | 790        | 1765.80                              | 1860.80                               |

| Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) |
|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|
| 791        | 1766.00                              | 1861.00                               | 822        | 1772.20                              | 1867.20                               | 853        | 1778.40                              | 1873.40                               |
| 792        | 1766.20                              | 1861.20                               | 823        | 1772.40                              | 1867.40                               | 854        | 1778.60                              | 1873.60                               |
| 793        | 1766.40                              | 1861.40                               | 824        | 1772.60                              | 1867.60                               | 855        | 1778.80                              | 1873.80                               |
| 794        | 1766.60                              | 1861.60                               | 825        | 1772.80                              | 1867.80                               | 856        | 1779.00                              | 1874.00                               |
| 795        | 1766.80                              | 1861.80                               | 826        | 1773.00                              | 1868.00                               | 857        | 1779.20                              | 1874.20                               |
| 796        | 1767.00                              | 1862.00                               | 827        | 1773.20                              | 1868.20                               | 858        | 1779.40                              | 1874.40                               |
| 797        | 1767.20                              | 1862.20                               | 828        | 1773.40                              | 1868.40                               | 859        | 1779.60                              | 1874.60                               |
| 798        | 1767.40                              | 1862.40                               | 829        | 1773.60                              | 1868.60                               | 860        | 1779.80                              | 1874.80                               |
| 799        | 1767.60                              | 1862.60                               | 830        | 1773.80                              | 1868.80                               | 861        | 1780.00                              | 1875.00                               |
| 800        | 1767.80                              | 1862.80                               | 831        | 1774.00                              | 1869.00                               | 862        | 1780.20                              | 1875.20                               |
| 801        | 1768.00                              | 1863.00                               | 832        | 1774.20                              | 1869.20                               | 863        | 1780.40                              | 1875.40                               |
| 802        | 1768.20                              | 1863.20                               | 833        | 1774.40                              | 1869.40                               | 864        | 1780.60                              | 1875.60                               |
| 803        | 1768.40                              | 1863.40                               | 834        | 1774.60                              | 1869.60                               | 865        | 1780.80                              | 1875.80                               |
| 804        | 1768.60                              | 1863.60                               | 835        | 1774.80                              | 1869.80                               | 866        | 1781.00                              | 1876.00                               |
| 805        | 1768.80                              | 1863.80                               | 836        | 1775.00                              | 1870.00                               | 867        | 1781.20                              | 1876.20                               |
| 806        | 1769.00                              | 1864.00                               | 837        | 1775.20                              | 1870.20                               | 868        | 1781.40                              | 1876.40                               |
| 807        | 1769.20                              | 1864.20                               | 838        | 1775.40                              | 1870.40                               | 869        | 1781.60                              | 1876.60                               |
| 808        | 1769.40                              | 1864.40                               | 839        | 1775.60                              | 1870.60                               | 870        | 1781.80                              | 1876.80                               |
| 809        | 1769.60                              | 1864.60                               | 840        | 1775.80                              | 1870.80                               | 871        | 1782.00                              | 1877.00                               |
| 810        | 1769.80                              | 1864.80                               | 841        | 1776.00                              | 1871.00                               | 872        | 1782.20                              | 1877.20                               |
| 811        | 1770.00                              | 1865.00                               | 842        | 1776.20                              | 1871.20                               | 873        | 1782.40                              | 1877.40                               |
| 812        | 1770.20                              | 1865.20                               | 843        | 1776.40                              | 1871.40                               | 874        | 1782.60                              | 1877.60                               |
| 813        | 1770.40                              | 1865.40                               | 844        | 1776.60                              | 1871.60                               | 875        | 1782.80                              | 1877.80                               |
| 814        | 1770.60                              | 1865.60                               | 845        | 1776.80                              | 1871.80                               | 876        | 1783.00                              | 1878.00                               |
| 815        | 1770.80                              | 1865.80                               | 846        | 1777.00                              | 1872.00                               | 877        | 1783.20                              | 1878.20                               |
| 816        | 1771.00                              | 1866.00                               | 847        | 1777.20                              | 1872.20                               | 878        | 1783.40                              | 1878.40                               |
| 817        | 1771.20                              | 1866.20                               | 848        | 1777.40                              | 1872.40                               | 879        | 1783.60                              | 1878.60                               |
| 818        | 1771.40                              | 1866.40                               | 849        | 1777.60                              | 1872.60                               | 880        | 1783.80                              | 1878.80                               |
| 819        | 1771.60                              | 1866.60                               | 850        | 1777.80                              | 1872.80                               | 881        | 1784.00                              | 1879.00                               |
| 820        | 1771.80                              | 1866.80                               | 851        | 1778.00                              | 1873.00                               | 882        | 1784.20                              | 1879.20                               |
| 821        | 1772.00                              | 1867.00                               | 852        | 1778.20                              | 1873.20                               | 883        | 1784.40                              | 1879.40                               |

| Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) | Channel No | Base Station Receive Frequency (MHz) | Base Station Transmit Frequency (MHz) |
|------------|--------------------------------------|---------------------------------------|------------|--------------------------------------|---------------------------------------|
| 884        | 1784.60                              | 1879.60                               | 885        | 1784.80                              | 1879.80                               |

## APPENDIX C: COEXISTENCE REQUIREMENT BETWEEN DIFFERENT SYSTEMS

(This Appendix forms an integral part of the SRSP document)

### Section 1: Coexistence Requirements between Different Systems

C.1 Table C.1 below defines the parameters for coexistence requirement between various technologies within the bands 1710 to 1785 MHz and 1805 to 1880 MHz.

Table C.1: Technical Requirements for Coexistence between Different Systems

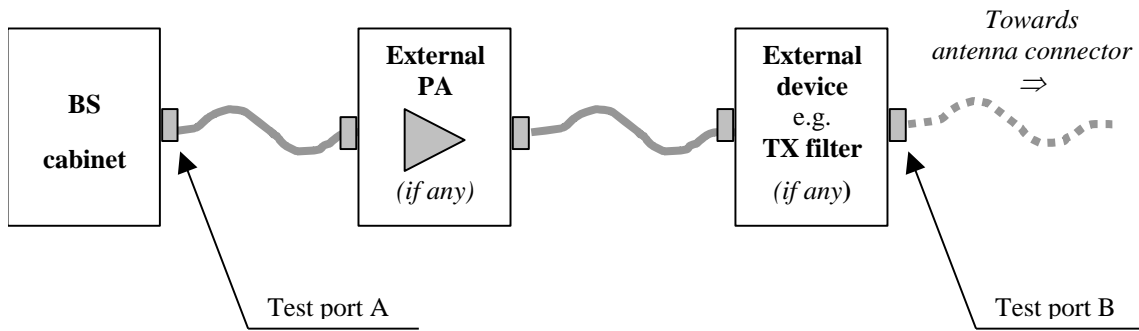
| System A      | System B                     | Technical Requirements  |
|---------------|------------------------------|---|
| WCDMA         | GSM                          | System A shall provide a minimum separation of 200 kHz between its channel edge and the nearest System B's channel edge. The separation may be reduced if both systems are coordinated.   |
| LTE           | GSM                          | System A shall provide a minimum separation of 200 kHz between its channel edge and the nearest System B's channel edge. The separation may be reduced if both systems are coordinated.   |
| WCDMA         | WCDMA                        | No frequency separation is required between System A's channel edge and the System B's channel edge.  |
| WCDMA         | LTE                          | No frequency separation is required between System A's channel edge and the System B's channel edge.  |
| LTE DL        | LTE DL                       | No frequency separation is required between System A's channel edge and the System B's channel edge.  |
| BWA System ** | GSM<br>UL/WCDMA<br>UL/LTE UL | System A to ensure that the unwanted emission (spurious emission and out-of-band emission) shall be equal or below -126 dBm/100 kHz anywhere outside 1785 MHz to 1805 MHz measured at a separation distance of 20m (refer to MCMC SRSP – 544 BWA) |

\*\* Current BWA system in the band 1790-1800 MHz is used for iBurst technology.

- (1) Coordinated – Both systems are located at the same physical site.
- (2) Un-coordinated – No site sharing. The two systems are located on different physical sites.

C.2 The specification defines the measurement points to be at the BS antenna connector (test port A). If any external apparatus such as a TX amplifier, a filter or the combination of such devices is used, measurement points shall be at the far end antenna connector (test port B). These ports' location are shown in Figure 6.1 of 3GPP TS25.104 and extracted into Figure C.1 below.

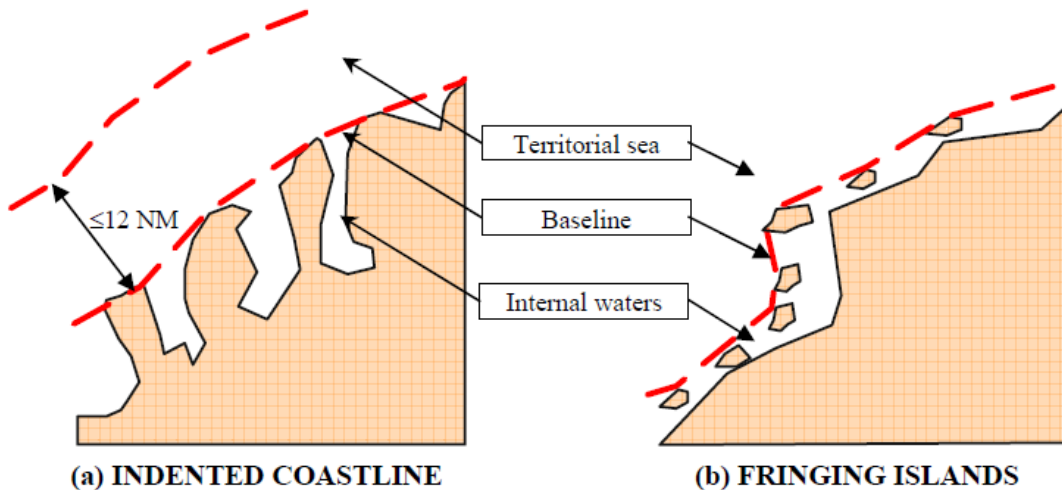
Figure C.1: Reference Points for Measurements of Unwanted Emissions from System A



Section 2: Coexistence Requirements for Mobile Onboard Vessel

C.3 The technical aspects of operation mobile communications onboard vessels in the territorial sea as defined in the UN Convention on the Law of the Sea (UNCLOS, 1982), excluding internal waters, harbours and ports. The territorial sea is understood as being on the waterway side of the geographical baseline as illustrated below in Figure C.2.

Figure C.2: Illustration of baseline between internal waters and territorial sea (NM – nautical miles)



**Note: 1 nautical mile = 1.852 kilometers**

C.4 GSM access onboard a vessel is to be provided by one or more pico-cell BTS (v-BS) which operates on the 1800 MHz band. From the baseline the v-MS receiver sensitivity and the disconnection threshold has to follow the specifications as listed below.

The CEPT Report 028 establishes different interference scenarios and considers the results of minimal coupling loss (MCL) and Spectrum Engineering Advanced Monte-Carlo Analysis Tool (SEAMCAT) simulations for these various scenarios. The results show compatibility between mobile communication services on vessels (MCV)

operating in territorial seas and land-based systems can be achieved provided the following conditions are met:

- 1) The System shall not be used closer than 2 NM from the baseline;
- 2) Only indoor v-BS antenna(s) shall be used;
- 3) DTX1 has to be activated on the MCV uplink;
- 4) The timing advance2 value of v-BS must be set to minimum;
- 5) All v-MS shall be controlled to use the minimum output power (5 dBm in 900 MHz and 0 dBm in 1800 MHz bands);
- 6) Within 2-3 NM from the baseline the v-MS receiver sensitivity and the disconnection threshold (ACCMIN3 & min RXLEV4 level) shall be  $\geq 70$  dBm/200 kHz;
- 7) Within 3-12 NM from the baseline the v-MS receiver sensitivity and the disconnection threshold (ACCMIN & min RXLEV level) shall be  $\geq 75$  dBm/200 kHz;
- 8) The v-BS emissions measured anywhere external to the vessel (i.e. at ship perimeter or on its open deck areas) shall not exceed -80 dBm/200 kHz (referenced to a 0 dBi measurement antenna gain);

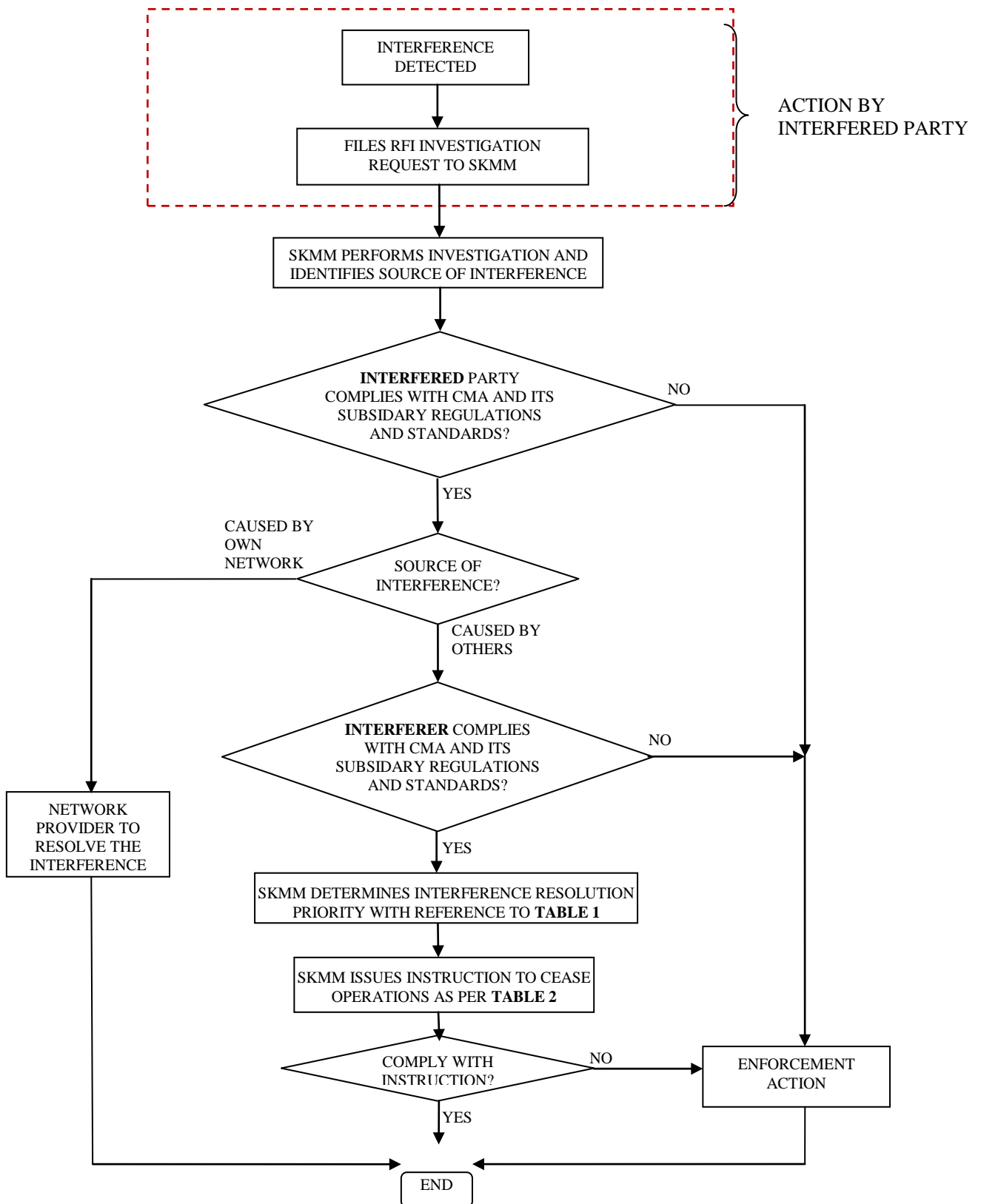
### Section 3: Coexistence Requirements for Mobile Communication Services Onboard Aircraft (MCA)

C.5 To avoid harmful interference to ground-based networks, the E.I.R.P densities given in Table C.2 should not be exceeded. These limits are defined as levels outside the aircraft in order to meet this objective, despite the variation in aircraft attenuation due to the factors described above.

Table C.2: Technical Requirements for MCA

| Minimum operational height above ground (m) | Maximum permitted e.i.r.p. density produced by ac-MS, defined outside the aircraft (dBm/200 kHz) | Maximum permitted e.i.r.p. density produced by NCU/aircraft-BTS, defined outside the aircraft |                |               |               |                |
|---|--|---|----------------|---------------|---------------|----------------|
|   |  | Ac-BTS  | NCU            |               |               |                |
|   |  | 1800 MHz  | 450 MHz        | 900 MHz*      | 1800 MHz*     | 2GHz           |
|   |  | (dBm/200 kHz)   | (dBm/1250 kHz) | (dBm/200 kHz) | (dBm/200 kHz) | (dBm/3840 kHz) |
| 3000  | -3.3   | -13.0   | -17.0          | -19.0         | -13.0         | 1.0            |
| 4000  | -1.1   | -10.5   | -14.5          | -16.5         | -10.5         | 3.5            |
| 5000  | 0.5  | -8.5  | -12.6          | -14.5         | -8.5          | 5.4            |
| 6000  | 1.8  | -6.9  | -11.0          | -12.9         | -6.9          | 7.0            |
| 7000  | 2.9  | -5.6  | -9.6           | -11.6         | -5.6          | 8.3            |
| 8000  | 3.8  | -4.4  | -8.5           | -10.5         | -4.4          | 9.5            |

## APPENDIX D: INTERFERENCE RESOLUTION PROCESS



**TABLE 1: INTERFERENCE RESOLUTION PRIORITY**

|   | Resolution Type of Priority | Description   |
|---|-----------------------------|---|
| 1 | Service Priority            | Primary has priority over secondary services. Among co- primary or co-secondary services, the stated priority is accorded as in the Spectrum Plan   |
| 2 | Assignment Type Priority    | Spectrum Assignment (SA) and Apparatus Assignment (AA) have equal priority but are of higher priority than Class Assignment (CA)  |
| 3 | Service Type Priority       | In the event where service priority and assignment type priority are equal for affected parties, the following list will determine the priority level for the interference case (the earlier in the list is given higher priority): <ul style="list-style-type: none"> <li>i. Safety or Radionavigation service;</li> <li>ii. Based on the Date of Apparatus Assignment - Priority is given to the earliest/first installation</li> </ul> |

**TABLE 2: INTERFERENCE RESOLUTION TIMELINE TO PARTIES**

|   | Types of interference | Description   | Resolution Timeline   |
|---|-----------------------|---|---|
| 1 | Harmful               | Interference which endangers or seriously degrades, obstructs or repeatedly interrupts the functioning of a radionavigation service or one or more safety services operating in accordance with CMA (Spectrum) Regulations 2000 | To cease* operation immediately within 24 hours or earlier as specified in the notice issued by the Commission                      |
| 2 | Major                 | Electromagnetic interference rendering any apparatus or services unsuitable for their intended purpose.<br><br>For this purpose interference to public correspondence service is considered under this category                 | To cease* operation within 3 days or earlier as specified in notice issued by the Commission if interference cannot be resolved.    |
| 3 | Minor                 | Electromagnetic interference which does not affect the overall operation of any radiocommunications transmission.   | To cease* operation within 7 days or earlier as specified in the notice issued by the Commission if interference cannot be resolved |

\*Note:

Resumption of operation of the apparatus is not allowed unless the assignment holder submit interference resolution or mitigation plan and complete implementation of the mitigation plan to the satisfaction of the Commission to remove/ avoid the interference.