



**MCMC SRSP FS 71.0
26 DECEMBER 2023**

Standard Radio System Plan

**REQUIREMENTS FOR
FIXED WIRELESS SYSTEMS
OPERATING IN THE FREQUENCY BANDS OF
71.0 GHz TO 76.0 GHz
AND
81.0 GHz TO 86.0 GHz**

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1. FOREWORD

- 1.1 This Standard Radio System Plan (“**SRSP**”) is prepared by the Malaysian Communications and Multimedia Commission (“**MCMC**”) pursuant to the Communications and Multimedia Act 1998 (“**Act**”) and the Spectrum Plan (“**Spectrum Plan**”) to provide information on the minimum technical and regulatory requirements for the efficient use of the **71.0 GHz to 76.0 GHz and 81.0 GHz to 86.0 GHz** frequency bands.
- 1.2 This SRSP does not attempt to establish any detailed equipment standards.
- 1.3 In the event there are any inconsistencies between this SRSP and the Act or any subsidiary legislations made under the Act, the Act or the subsidiary legislation shall prevail.

2. ABBREVIATIONS

AA	Apparatus Assignment
CA	Class Assignment
EESS	Earth Exploration Satellite Service
EIRP	Equivalent Isotropic Radiated Power
FACSMAB	Frequency Assignment Committee of Singapore, Malaysia and Brunei Darussalam
FS	Fixed Service
FSS	Fixed Satellite Service
FWS	Fixed Wireless System
GB	Guard Band
GHz	Gigahertz
HDTV	High-Definition Television
ITU	International Telecommunication Union
ITU-R	ITU Radiocommunication Sector
JCC	Joint Committee on Communications between the Republic of Indonesia and Malaysia
JTC	Joint Technical Committee on Coordination and Assignment of Frequencies along Malaysia – Thailand Common Border
MHz	Megahertz
MS	Mobile Service
NFP(I)	Network Facilities Provider (Individual)
RF	Radio Frequency
RR	Radio Regulations

SA Spectrum Assignment

SRSP Standard Radio System Plan

TRILATERAL Trilateral Coordination Meeting between the Republic of
Indonesia, Malaysia and Singapore

3. INTENT

- 3.1 This SRSP is intended to ensure efficient provision of FWS in Malaysia with minimal service disruption and RF interference among the service providers.
- 3.2 This SRSP provides the minimum requirements for the utilisation of FWS in the frequency band of **71.0 GHz to 76.0 GHz and 81.0 GHz to 86.0 GHz** (“**said Band**”) for broadband applications and other high-speed networks.
- 3.3 FWS indicated in this SRSP is intended only for radio-relay system to cater for large data capacity transport, e.g. uncompressed HDTV signal transmission, mobile network applications, etc.
- 3.4 The propagation characteristics in the said Band are ideally suited for use of short- range high-capacity digital radio links in high density networks.

4. GENERAL

- 4.1 Technical characteristics of the FWS equipment shall conform to all applicable Malaysian standards and international standards including the ITU and its RR as agreed and adopted by Malaysia.
- 4.2 Although the system shall conform to the requirements of this SRSP, MCMC may require that modifications be made to the system whenever interference is caused or is likely to be caused to or from other radio stations or systems of services as listed in the Spectrum Plan.
- 4.3 For avoidance of doubt, MCMC shall not be responsible for any costs incurred as a result of the system modifications made pursuant to subsection 4.2 above. The cost of modification shall be fully borne by the assignment holder.

- 4.4 All FWS communications equipment installations shall comply with the safety rules and other requirements as specified in the applicable standards.
- 4.5 The communications equipment used shall be certified under the Communications and Multimedia (Technical Standards) Regulations 2000.
- 4.6 The allocation, requirements and information in respect of the said Band as provided in this SRSP are subject to further review by MCMC from time to time to reflect new developments in the communications and multimedia industry.

5. CHANNEL ARRANGEMENT

- 5.1 The allocation of services within the said Band is described in the Spectrum Plan.
- 5.2 The RF channel arrangement of this SRSP is based on the RF channel arrangement in the **Recommendation ITU-R F.2006**. Assignment holders are encouraged to refer to the latest version of the recommendation document(s) published on the ITU-R website.
- 5.3 **APPENDIX A** and **APPENDIX B** of this SRSP indicate the frequency block arrangement and channels arrangements respectively in the said Band.

6. REQUIREMENTS FOR USAGE OF SPECTRUM

- 6.1 This SRSP covers the minimum key characteristics considered necessary in order to make use of the said Band.

- 6.2 The said Band are not limited in their use for direct radio connection between a radio fixed station and subscribers in a point-to-point configuration. It may also be used for backhaul links from a base station to an exchange.
- 6.3 The maximum EIRP from the antenna shall not exceed **+55dBW** per RF channel.
- 6.4 It should be noted that the EESS is allocated in the 86.0 GHz to 92.0 GHz frequency band. The assignment holders shall take all reasonable steps to ensure that unwanted emissions of FS stations in the frequency band from 81 GHz to 86 GHz do not exceed the recommended maximum levels indicated in **ITU-R Resolution 750**.
- 6.5 Protection channel may be permitted for multi-channel systems provided that it is duly approved by MCMC with the issuance of an AA.
- 6.6 Special care shall be taken by FWS service providers during the network planning stage and installation of their communications equipment to avoid any interference to and from other primary services. The FWS service providers shall take full advantage of interference mitigation techniques such as antenna discrimination, antenna tilting, antenna polarisation, frequency discrimination, shielding/blocking (introduction of diffraction loss), site selection, and/or power control to facilitate coordination of the relevant systems.
- 6.7 In the event that the FWS causes interference to other primary services, and the affected party files a written report to MCMC for a resolution, MCMC will decide the necessary modifications to resolve the interference dispute. MCMC will be guided by the interference resolution process as shown in **APPENDIX C** of this SRSP.

7. PRINCIPLES OF ASSIGNMENT

7.1 Authorisation of the use of the said Band for FWS station shall be by way of an AA

7.2 The eligibility criteria of applicants for submission of AA applications are as follows:

7.2.1 NFP(I) licence holder, which owns or provides radiocommunications transmitters and links; or

7.2.2 Private network facility (Government and private corporations or companies) for private use only.

7.3 For use by private network facility other than offshore, the applicant shall provide proof that the existing NFP(I) licence holders are not able to provide FWS station to the said applicant.

7.4 Applicants are required to submit:

7.4.1 AA application for the apparatus by using the prescribed AA form in accordance with the Act, relevant subsidiary legislations including the Communications and Multimedia (Spectrum) Regulations 2000 ("**Spectrum Regulations**"), the Spectrum Plan and any relevant instruments issued by MCMC including any amendments made to the same; and

7.4.2 any other documents and/or information that may be requested by MCMC.

7.5 The AA shall be subject to all conditions as specified in regulations 9, 10 and 22 of the Spectrum Regulations and any further assignment conditions that may be imposed by MCMC from time to time.

- 7.6 The issuance of an AA will be subject to technical analysis and evaluation conducted by MCMC. If necessary, operator-to-operator coordination at defined geographic boundaries may be required to reduce possibility of interference.
- 7.7 An applicant is encouraged to conduct frequency coordination among existing assignment holder of FWS stations in the same frequency band prior to the submission of the AA application.
- 7.8 The AA shall be assigned based on a first-come first-serve basis.

8. COORDINATION REQUIREMENT

- 8.1 The use of the said Band shall require coordination with the neighbouring countries within the following coordination zones and shall be subject to the following agreed operational limit:

Border Agreement	Maximum EIRP	Coordination Distance
FACSMAB	-	2 km
JTC	-	5 km
JCC	< +55 dBW	2 km (Zone 1) ¹
		2 km (Zone 2) ²
		NA (Zone 3) ³
TRILATERAL	-	2 km

Table 1: Coordination zone and band plan for neighbouring countries

¹ Zone 1: Kalimantan – East Malaysia

² Zone 2: Riau Islands – South Johor - Singapore

³ Zone 3: East Sumatera – West Peninsular Malaysia

- 8.2 In the event there is no agreement on coordination zone, a zone within 50 km from the border of the neighbouring countries will be used.
- 8.3 It shall be noted that the above coordination zones and parameters are continuously being reviewed with Malaysia's neighbouring countries and may be updated from time to time.
- 8.4 Issuance of an AA is also subject to successful coordination among assigned stations and with the above neighbouring countries, where applicable.
- 8.5 The technical mitigation guide as mentioned in paragraphs 6.6 to 6.7 above shall be applied if operator-to-operator coordination is required.
- 8.6 In the event of any interference, the affected assignment holder shall carry out an operator-to-operator coordination. In the event that the interference remained unresolved after 24 hours, the affected parties may escalate the matter to MCMC for a resolution. MCMC will decide on the necessary modifications and schedule of modifications to resolve the interference dispute. MCMC will be guided by the interference resolution process as shown in **APPENDIX C** of this SRSP.

9. IMPLEMENTATION

- 9.1 This SRSP shall be effective on its date of issuance of this document.
- 9.2 Any FWS installed or purchased prior to the effective date of this SRSP may be allowed to operate, subject to the issuance of an AA by MCMC.

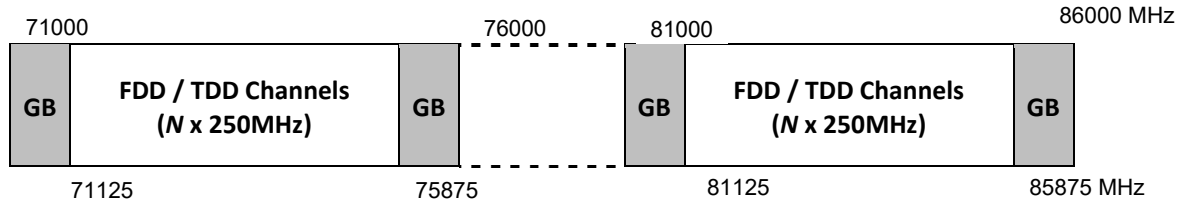
10. REVOCATION

- 10.1 The MCMC SRSP-548 FS dated 26 December 2013 is hereby revoked.

11. REFERENCES

- i. **Spectrum Plan.**
- ii. **Recommendation ITU-R F.2006** Radio-frequency channel and block arrangements for fixed wireless systems operating in the 71-76 GHz and 81-86 GHz bands.
- iii. **Recommendation ITU-R F.746** Radio-frequency arrangements for fixed service systems.
- iv. **Recommendation ITU-R SM.1540** Unwanted emissions in the out-of-band domain falling into adjacent allocated bands.
- v. **ITU Radio Regulations Article 21** Terrestrial and space services sharing frequency bands above 1 GHz.
- vi. **ITU-R Resolution 750** Compatibility between the Earth exploration-satellite service (passive) and relevant active services.

APPENDIX A: FREQUENCY BLOCK ARRANGEMENT



APPENDIX B: CHANNEL ARRANGEMENT

Table 2: Channeling arrangement for 71 GHz to 76 GHz and 81 GHz to 86 GHz

CHANNEL BANDWIDTH (MHz)	CH NO.	Fc=LOWER (MHz)	CH NO.	Fc=UPPER (MHz)	DUPLEX SCHEME
250	1	71250	1'	81250	FDD/TDD
	2	71500	2'	81500	FDD/TDD
	3	71750	3'	81750	FDD/TDD
	4	72000	4'	82000	FDD/TDD
	5	72250	5'	82250	FDD/TDD
	6	72500	6'	82500	FDD/TDD
	7	72750	7'	82750	FDD/TDD
	8	73000	8'	83000	FDD/TDD
	9	73250	9'	83250	FDD/TDD
	10	73500	10'	83500	FDD/TDD
	11	73750	11'	83750	FDD/TDD
	12	74000	12'	84000	FDD/TDD
	13	74250	13'	84250	FDD/TDD
	14	74500	14'	84500	FDD/TDD
	15	74750	15'	84750	FDD/TDD
	16	75000	16'	85000	FDD/TDD
	17	75250	17'	85250	FDD/TDD
	18	75500	18'	85500	FDD/TDD
	19	75750	19'	85750	FDD/TDD
500	1	71375	1'	81375	FDD/TDD
	2	71875	2'	81875	FDD/TDD
	3	72375	3'	82375	FDD/TDD
	4	72875	4'	82875	FDD/TDD
	5	73375	5'	83375	FDD/TDD
	6	73875	6'	83875	FDD/TDD
	7	74375	7'	84375	FDD/TDD
	8	74875	8'	84875	FDD/TDD
	9	75375	9'	85375	FDD/TDD

750	1	71500	1'	81500	FDD/TDD
	2	72250	2'	82250	FDD/TDD
	3	73000	3'	83000	FDD/TDD
	4	74000	4'	84000	FDD/TDD
	5	74750	5'	84750	FDD/TDD
	6	75500	6'	85500	FDD/TDD
1000	1	71625	1'	81625	FDD/TDD
	2	72625	2'	82625	FDD/TDD
	3	74125	3'	84125	FDD/TDD
	4	75125	4'	85125	FDD/TDD
1250	1	71750	1'	81750	FDD/TDD
	2	73000	2'	83000	FDD/TDD
	3	74250	3'	84250	FDD/TDD
1500	1	71875	1'	81875	FDD/TDD
	2	74375	2'	84375	FDD/TDD
1750	1	72000	1'	82000	FDD/TDD
	2	74500	2'	84500	FDD/TDD
2000	1	72125	1'	82125	FDD/TDD
	2	74625	2'	84625	FDD/TDD
2250	1	72250	1'	82250	FDD/TDD
	2	74750	2'	84750	FDD/TDD
2500	1	72375	1'	82375	FDD/TDD
2750	1	72500	1'	82500	FDD/TDD
3000	1	72625	1'	82625	FDD/TDD
3250	1	72750	1'	82750	FDD/TDD
3500	1	72875	1'	82875	FDD/TDD
3750	1	73000	1'	83000	FDD/TDD
4000	1	73125	1'	83125	FDD/TDD
4250	1	73250	1'	83250	FDD/TDD
4500	1	73375	1'	83375	FDD/TDD

APPENDIX C: INTERFERENCE RESOLUTION PROCESS

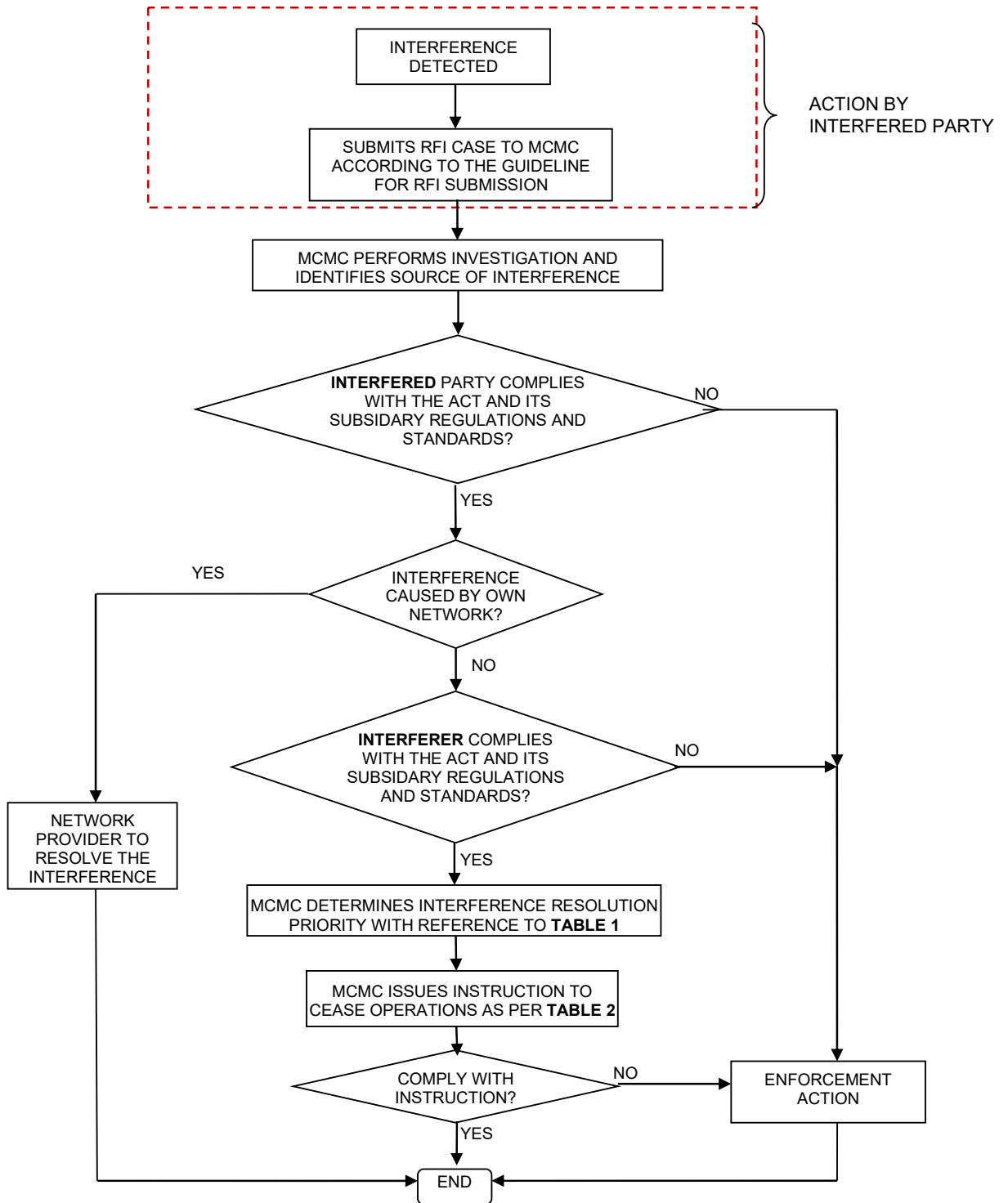


TABLE 1: INTERFERENCE RESOLUTION PRIORITY

	Resolution Type of Priority	Description
1	Service Priority	Primary services have priority over secondary services. Among co- primary or co-secondary services, the stated priority is accorded as provided in the Spectrum Plan.
2	Assignment Type Priority	SA and AA have equal priority but are of higher priority than 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"> i. safety or radionavigation service; and ii. based on the date of the AA - Priority is given to the earliest/first installation.

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 the Spectrum Regulations.	To cease* operation immediately within 24 hours or earlier as specified in the notice issued by MCMC.
2	Major	Electromagnetic interference rendering any apparatus or service unsuitable for its purpose or which degrades or obstructs, or repeatedly interrupts any other radiocommunications service operating, in accordance with the Spectrum Regulations.	To cease* operation within 3 days or earlier as specified in the notice issued by MCMC 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 MCMC if interference cannot be resolved.

*Note:

Resumption of operation of the apparatus is not allowed unless the assignment holder submits an interference resolution or a mitigation plan and has completed the implementation of the mitigation plan to remove/avoid the interference to the satisfaction of MCMC.