



GUIDELINES ON THE USE OF RADIO SPECTRUM FOR TV WHITE SPACE

Notice:

The information contained in the Guidelines on the Use of Radio Spectrum for TV White Space ("**Guidelines**") is intended solely for guidance and serves an administrative purpose. For this reason, these Guidelines should not be relied on as legal advice or regarded as a substitute for legal advice in individual cases. Parties should still refer to the legislative provisions contained in the laws. The information contained in these Guidelines will be updated from time to time either via an addendum or revised guidelines.

©2025 by MCMC. All rights reserved.

The information contained in these Guidelines is protected by copyright. Unless otherwise stated, it may be reproduced for non-commercial use provided the same is accurately reproduced and not used in a misleading context. Where any part of the information in these Guidelines is reproduced, the Malaysian Communications and Multimedia Commission ("**MCMC**") must be clearly identified as the source of the information, and the copyright status must be acknowledged.

No part of these Guidelines may be reproduced, stored in a retrieval system, or transmitted in any form or by any means, including electronic, photocopying or recording, without any prior written permission from MCMC.

The permission to reproduce any part of these Guidelines does not extend to information or materials for which the copyright is owned by another person, organisation, and/or third party. In such cases, separate authorisation or permission must be obtained directly from the respective copyright holder.

Published by:

Malaysian Communications and Multimedia Commission

Suruhanjaya Komunikasi dan Multimedia Malaysia

MCMC HQ Tower 1

Jalan Impact, Cyber 6

63000 Cyberjaya

Selangor Darul Ehsan

Malaysia

Tel : +603 8688 8000

Fax : +603 8688 1000

Email : spd.fbs@mcmc.gov.my

Website : www.mcmc.gov.my

TABLE OF CONTENTS

	Page
1.0 ABBREVIATIONS	4
2.0 INTENT	5
3.0 BACKGROUND	6
4.0 TECHNICAL REQUIREMENTS	7
5.0 PRINCIPLES OF ASSIGNMENT FOR TVWS	9
6.0 AA APPLICATION	13
7.0 CERTIFICATION OF TVWS COMMUNICATIONS EQUIPMENT IN MALAYSIA	14
8.0 ENQUIRY	15
9.0 REVISION	15
ANNEXURE 1	16
ANNEXURE 2	17
ANNEXURE 3	18
ANNEXURE 4	20

1.0 ABBREVIATIONS

AA	Apparatus Assignment
CA	Class Assignment
CPE	Customer Premises Equipment
EIRP	Effective Isotropically Radiated Power
FACSMAB	Frequency Assignment Committee of Singapore, Malaysia and Brunei Darussalam
ITU	International Telecommunication Union
ITU-R	ITU Radiocommunication Sector
JCC	Joint Committee on Communications between Indonesia and Malaysia
JTC	Joint Technical Committee on Coordination and Assignment of Frequencies along the Malaysia-Thailand Common Border
MCMC	Malaysian Communications and Multimedia Commission
MHz	Megahertz
SA	Spectrum Assignment
Trilateral	Trilateral Coordination Meeting between the Republic of Indonesia, Malaysia and Singapore
TV	Television
TVWS	TV White Space
UHF	Ultra High Frequency

2.0 INTENT

- 2.1 These Guidelines are prepared by MCMC to provide guidance on the use of radio spectrum and certified communications equipment with respect to the operation of TVWS technology in Malaysia.
- 2.2 These Guidelines will serve as a reference for the use of radio spectrum, technical parameters, relevant regulatory procedures, and information related to communications for TVWS operation.
- 2.3 The communications requirements set forth in these Guidelines shall be applicable to all types and functions of the TVWS, which is intended to be used for any operation or purpose.
- 2.4 These Guidelines shall be read together with the Communications and Multimedia Act 1998 ("**Act**") and the relevant subsidiary legislations thereunder and other guidelines issued by MCMC.
- 2.5 For the avoidance of doubt, the relevant regulations under the Act applicable for the use of TVWS within MCMC's purview are summarised in **Annexure 1** of these Guidelines.
- 2.6 Prior to submitting an AA application for the operation of TVWS, applicants are required to obtain the appropriate licence as stipulated under the Act. Detailed procedures for licensing requirements can be found in the Licensing Guidebook¹.

¹ https://mcmc.gov.my/skmmgovmy/media/General/pdf2/Suruhanjaya-Komunikasi-dan-Multimedia-Malaysia_Licensing-Guidelines.pdf

- 2.7 Compliance with these Guidelines does not itself confer immunity from any legal obligations required under the laws.
- 2.8 In the event of any inconsistencies between these Guidelines and the Act or any subsidiary legislations made under the Act, the Act or the said subsidiary legislation shall prevail.

3.0 BACKGROUND

- 3.1 TVWS refers to the unused radio spectrum within the UHF frequency band allocated for terrestrial TV broadcasting, specifically in the 470 MHz to 694 MHz frequency band ("**Frequency Band**"). The availability of the Frequency Band for TVWS purposes may vary from one location to another, depending on the extent of the Frequency Band that is already utilised by the incumbent TV broadcasting services.
- 3.2 In Malaysia, the Frequency Band is primarily allocated for terrestrial TV broadcasting nationwide and is given priority over other services. Other applications, such as wireless microphone devices, are also permitted to operate in the Frequency Band on a non-interference and non-protection basis². The allocation of spectrum and services within the Frequency Band is detailed in the Spectrum Plan³.

² Non-interference and non-protected basis means that no harmful interference may be caused to any radiocommunication service and that no claim may be made for the protection of these devices against harmful interference originating from other radiocommunication services and/or applications.

³ Spectrum Plan is a document developed by MCMC pursuant to section 172 of the Act. It contains information on frequency allocation for various wireless services in Malaysia, international allocation of spectrum as agreed by the ITU for all three ITU regions, procedures for assignment and reassignment of spectrum and general information on spectrum usage in Malaysia (<https://www.mcmc.gov.my/en/spectrum/spectrum-management>).

4.0 TECHNICAL REQUIREMENTS

a) General

4.1 In accordance with Section 157 of the Act, no person shall intentionally use any part of the spectrum to provide a network service unless:

4.1.1 the person holds an SA issued under the Act;

4.1.2 the person holds an AA issued under the Act; or

4.1.3 the use of the spectrum is subject to a CA issued by MCMC under the Act.

4.2 The use of the spectrum shall comply with the relevant requirements as specified under the Act, the Communications and Multimedia (Spectrum) Regulations 2000⁴ ("**Spectrum Regulations**") and the Spectrum Plan.

⁴ <https://www.mcmc.gov.my/en/legal/acts>

b) Radio Spectrum Requirements

4.3 **Table 1** below outlines the radio spectrum requirements for TVWS operation:

Frequency Band (MHz)	TVWS Components	Device Type	Maximum EIRP ⁵	Type of Assignment
470.0 – 606.0	Base Station	Fixed	16 Watts	AA
	CPE	Fixed	4 Watts	
		Mobile		

Table 1: Frequency band and type of assignment for TVWS

4.4 A detailed channelling plan for TVWS in the frequency band of 470.0 MHz to 606.0 MHz ("**TVWS Frequency Band**") is shown in **Annexure 2**.

4.5 The option to use either a single 8 MHz bandwidth channel or multiple channels may be considered by MCMC, subject to the availability of the TVWS Frequency Band. The availability of contiguous channels is not guaranteed.

c) Operational Requirement

4.6 As the TVWS Frequency Band is primarily allocated for terrestrial TV broadcasting, it is given priority over TVWS operations to ensure protection of incumbent services.

⁵ The allowable EIRP is subject to the outcome of a technical analysis.

- 4.7 The use of TVWS Frequency Band is permitted only for ground-based applications/operations within specified areas. The use of TVWS Frequency Band on aircraft or airborne objects is strictly not permitted.
- 4.8 The TVWS equipment shall be tuneable to the TVWS Frequency Band and use of the TVWS Frequency Band is subject to the issuance of AA in accordance with the Act, the Spectrum Regulations and the Spectrum Plan.

5.0 PRINCIPLES OF ASSIGNMENT FOR TVWS

- 5.1 The persons who are eligible to apply for AA(s) in the TVWS Frequency Band are:
 - 5.1.1 A company incorporated in Malaysia in accordance with the relevant laws of Malaysia, or a public authority or agency of the Government of Malaysia or of any State; or
 - 5.1.2 A valid licence holder subject to applicable licensing requirements under the Act.
- 5.2 The use of TVWS Frequency Band for TVWS communications equipment shall be subject to the relevant legislations and procedures applicable for AA, including the payment of fee(s). The AA fees comprise of fixed fees and variable fees as prescribed in the First Schedule of the Spectrum Regulations.

- 5.3 For guidance in submitting an AA application, **Table 2** below outlines each of the TVWS components:

TVWS Components	Type of Assignment	Nature of Service	Type of AA Form
Base Station and CPE	AA	Fixed	Fixed Service
		Mobile	Mobile Service

Table 2: Types of AA applications for TVWS components

- 5.4 MCMC may request additional information and/or documents from the applicant to evaluate the AA application in the TVWS Frequency Band and/or for any other reasons deemed necessary by MCMC with respect to the operations of TVWS.
- 5.5 MCMC reserves the right to decide on a suitable frequency and other technical parameters for the transmission. The issuance of the AA for the TVWS is subject to the availability of frequency in the proposed area and the outcome of technical analysis.
- 5.6 The issuance of AA for the TVWS shall be subject, but not limited to, the following:
- 5.6.1 Technical analysis and evaluation conducted by MCMC;
 - 5.6.2 Complete submission of document and compliance with all requirements and conditions set forth by MCMC;

- 5.6.3 Border coordination procedures and agreements reached by border coordination committees, namely FACSMAB, JTC, JCC and Trilateral for the use of radio spectrum by TVWS within coordination zones;
 - 5.6.4 Full payment of the AA application fees and AA fees as stipulated in the Spectrum Regulations. The AA fees comprise fixed fees and variable fees as prescribed in the Spectrum Regulations; and
 - 5.6.5 Certification of the communications equipment in accordance with the Communications and Multimedia (Technical Standards) Regulations 2000 ("**Technical Standards Regulations**").
- 5.7 The AA for TVWS shall be subject to all conditions specified in regulations 10 and 22 of the Spectrum Regulations. In addition, MCMC may impose any other conditions in accordance with regulation 9 of the Spectrum Regulations from time to time. Failure to comply with these conditions may result in suspension or cancellation of the AA, in accordance with regulation 12 of the Spectrum Regulations.
- 5.8 The use of assigned TVWS Frequency Band shall not impose any constraints on, nor claim any protection from, or rights in relation to the usage of the Frequency Band which have been allocated for terrestrial TV broadcasting, and any future requirements by MCMC and the Government of Malaysia.

- 5.9 The use of assigned TVWS Frequency Band is on a 'non-interference basis' to terrestrial TV broadcasting services, whereby in the event of interference, the TVWS AA holder shall apply the appropriate mitigation techniques to resolve the interference.
- 5.10 The TVWS AA holder shall remain liable for any breaches of its legal and regulatory obligations under the Act, the relevant subsidiary legislations made thereunder including the Spectrum Regulations, the Spectrum Plan, and any relevant instruments, including any amendments made thereto.
- 5.11 MCMC reserves the right to review the use of the spectrum at any time. Any cost incurred as a result of the said review shall be fully borne by the TVWS AA holder.
- 5.12 MCMC shall not be responsible for any service disruption to any parties if the use of the radio spectrum is affected as a result of the review of the use of spectrum by MCMC or cessation of transmission.
- 5.13 The TVWS AA holder shall indemnify MCMC against any action, claim or demand for loss or damage arising out of the usage of the AA.

6.0 AA APPLICATION

- 6.1 For the purpose of application of AA, the process and requirements as specified in the Guidelines for Apparatus Assignment ("**Guidelines for AA**") are applicable. Information on AA applications and the Guidelines for AA is available at the following link:

<https://www.mcmc.gov.my/en/spectrum/assignment-of-spectrum/apparatus-assignment>.

- 6.2 All relevant procedures pertaining to AA applications, including payment for AA fees shall be in order prior to the issuance of the AA certificate.

- 6.3 In addition to the documents required under the Guidelines for AA, the applicant shall also submit the documents as specified in **Annexure 3** of these Guidelines for the application of the AA. These documents shall be submitted to MCMC in the following methods:

- a) Electronic copy submission via email:

aa.application@mcmc.gov.my; or

- b) Submission of a hard copy of the AA application at the Commission's headquarters at the following address:

Head

Spectrum Planning and Assignment Division

Malaysian Communications and Multimedia Commission

Suruhanjaya Komunikasi dan Multimedia Malaysia

MCMC HQ Tower 1,

Jalan Impact, Cyber 6

63000 Cyberjaya

Selangor Darul Ehsan

Malaysia

- 6.4 For any enquiries pertaining to AA, please email aa.application@mcmc.gov.my.

7.0 CERTIFICATION OF TVWS COMMUNICATIONS EQUIPMENT IN MALAYSIA

- 7.1 TVWS communications equipment shall be certified in accordance with the Technical Standards Regulations.
- 7.2 TVWS communications equipment shall comply with the relevant technical codes registered under the Act. The list of technical codes is published in the following link:
<https://www.mcmc.gov.my/en/legal/registers/cma-registers>.

- 7.3 TVWS communications equipment may be certified under the provision of compliance approval (also known as type approval) for commercial use, issued by a registered certifying agency. Alternatively, special approval may be granted by MCMC or a registered certifying agency⁶ for own use, trials, experiments, or demonstrations.
- 7.4 Further information on the requirements for the certification of the communications equipment may be found in the following link:
<https://www.mcmc.gov.my/en/communications-equipment/certification-of-communications-equipment>.
- 7.5 The certification of TVWS communications equipment does not grant the right to operate the communications equipment. The use of TVWS communications equipment shall be accompanied by a valid AA.

8.0 ENQUIRY

- 8.1 For any enquiries related to these Guidelines, please contact MCMC via email at spd.fbs@mcmc.gov.my.

9.0 REVISION

- 9.1 These Guidelines may be revised, varied, or revoked from time to time at the discretion of MCMC, as it deems necessary.

⁶ SIRIM QAS International Sdn Bhd is the registered certifying agency with MCMC

ANNEXURE 1**REGULATIONS APPLICABLE FOR THE USE OF TVWS**

The relevant regulations under the Act that are applicable for the use of TVWS are shown in **Table 3** below:

Subject Matters relating to TVWS that are within MCMC's Purview	Legislation
i. The use of radio spectrum for TVWS operations.	i. Communications and Multimedia (Spectrum) Regulations 2000.
ii. Certification of TVWS communications equipment.	ii. Communications and Multimedia (Technical Standards) Regulations 2000.
iii. Provision of communications facilities and services.	iii. Communications and Multimedia (Licensing) Regulations 2000.

Table 3: Legislation applicable for the use of TVWS

ANNEXURE 2**CHANNELLING PLAN FOR TVWS FREQUENCY BAND**

Channel Number	Channel Boundaries (MHz)		Centre Frequency (MHz)
21	470	478	474
22	478	486	482
23	486	494	490
24	494	502	498
25	502	510	506
26	510	518	514
27	518	526	522
28	526	534	530
29	534	542	538
30	542	550	546
31	550	558	554
32	558	566	562
33	566	574	570
34	574	582	578
35	582	590	586
36	590	598	594
37	598	606	602

Table 4: Channelling plan with centre frequency for TVWS

ANNEXURE 3**REQUIRED DOCUMENTS FOR APPLICATION OF AA**

No.	Required Documents
1.	AA Application Form ⁷ (per application) – Please refer to Table 2 of these Guidelines for type of AA application form for TVWS components
2.	AA Application Fee as prescribed in the Second Schedule of the Spectrum Regulations (RM60 per application) ⁸ <i>*Not applicable for application from the Federal Government</i>
3.	Application letter with company's letterhead (describe the purpose of application)
4.	A certified true copy of the valid relevant licence(s) that comply with the licensing requirements under the Act (if applicable)
5.	Details and radius of the intended operation area (plotting in the map)
6.	Details of the network plan, network topology/configuration and operation of the deployment
7.	Technical specifications of radiocommunication equipment and antenna, and technical characteristics of base stations and CPE i.e.: Antenna gain, antenna height above ground, polarization, pattern and configuration
8.	The most recent digital Certified True Copy (CTC) of incorporation of company registration under the Companies Act 2016 <i>* Not applicable for applications from Federal and State Governments</i>

⁷ The AA application form can be downloaded from MCMC website.

⁸ The payment can be made in the form of cheque, money order or postal order payable to **SURUHANJAYA KOMUNIKASI DAN MULTIMEDIA MALAYSIA.**

No.	Required Documents
9.	CTC of Certificate of Conformity (CoC) on type approval by SIRIM QAS International Sdn Bhd ⁹
10.	A copy of identification card or passport of applicant ¹⁰

Table 5: Required documents for application of AA

⁹ For communications equipment under special approval, please provide a CTC of the special approval or a copy of acknowledgement receipt confirming the submission of the special approval application to MCMC to SIRIM QAS International Sdn Bhd.

¹⁰ The person who is authorised to sign the AA form.

ANNEXURE 4

REFERENCE

1. [ITU Radio Regulations](#)
2. [Spectrum Plan](#)
3. [Class Assignment](#)
4. Report ITU-R SM.2405: Spectrum management principles, challenges and issues related to dynamic access to frequency bands by means of radio systems employing cognitive capabilities.
(<https://www.itu.int/pub/R-REP-SM.2405>)
5. ETSI EN 301 598: TV White Space Devices (TVWSD); Wireless Access Systems operating in the 470 MHz to 694 MHz TV broadcast band; Harmonised Standard for access to radio spectrum.