



MALTA COMMUNICATIONS AUTHORITY

## **Third Schedule to Decision No. MCA/D-22-4662**


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*Apparatus General Authorisation for Wireless Access Systems*

### **Publication Date**

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## Revision History of the Third Schedule

### Wireless access systems

Date	Comments
13/11/2023	Publication

**This Schedule shall be read and construed as one with  
Part I and Part II of Decision No. MCA/D/22-4662**

**Adopted pursuant to Article 30A of the  
Electronic Communications (Regulation) Act (Cap. 399)  
establishing the radiocommunications apparatus  
general authorisation**

## Article 1 – Applicability

This apparatus general authorisation applies to any person installing or using a wireless access system or any apparatus intended to be used as a component part of that system.

## Article 2 – Interpretation

In this Schedule unless the context otherwise requires:

- (1) “data network” means several networked short-range devices including the network access point as network components and the wireless connections between them;
- (2) “EN 301 893” means version 2.1.1 of the harmonised European standard for 5 GHz wireless access systems including radio local area network covering the essential requirements of Article 3.2 of Directive 2014/53/EU;
- (3) “indoor use” means the use of apparatus inside a closed space which will provide the necessary attenuation to facilitate sharing with other radiocommunication services as determined in the Annex to this Schedule;
- (4) “ITU-R M.1652” means the most recent version of Recommendation M.1652 of the ITU on dynamic frequency selection in wireless access systems including radio local area networks for the purpose of protecting the radiodetermination service in the 5 GHz band;
- (5) “low power indoor” or “LPI” means radiocommunications apparatus falling within WAS/RLAN limited for use at indoor locations only;
- (6) “mean equivalent isotropically radiated power (‘e.i.r.p.’)” means e.i.r.p. during the transmission bursts which corresponds to the highest power, if power control is implemented;
- (7) “narrowband apparatus” means radiocommunications apparatus that operate in channel bandwidths less than 20 MHz and which requires a frequency hopping mechanism based on at least 15 hop channels to operate at a value of in-band power spectral density (PSD) above 1 dBm/MHz;
- (8) “network access point” means a fixed terrestrial short-range device that acts as a connection point for the other short-range devices in the data network to service platforms located outside of the data network;
- (9) “UAS” means unmanned aircraft systems;
- (10) “very low power” or “VLP” means radiocommunications apparatus falling within WAS/RLAN which may be used at both indoor and outdoor locations;

- (11) "wideband data transmission system" means radiocommunications apparatus that use wideband modulation techniques to access the spectrum, including wireless access systems such as radio local area networks and wideband short-range devices in data networks;
- (12) "wireless access systems" includes a wireless data transmission system and WAS/RLAN; and
- (13) "wireless access systems including radio local area networks" or "WAS/RLAN" means broadband radio systems that allow wireless access for public and private applications regardless of the underlying network topology.

### **Article 3 – Minimum technical parameters**

- (1) The minimum technical parameters of wireless access systems shall be those specified in the Annex to this Schedule.
- (2) Any person enjoying this apparatus general authorisation may have in his possession or under his control a wireless access system with technical parameters different from those specified in the Annex to this Schedule:

Provided that in operating such wireless access systems that person shall ensure compliance with the technical parameters specified in the Annex to this Schedule.

## Annex to the Third Schedule Minimum Technical Parameters for Wireless Access Systems

**Table 1: Wireless Access Systems operating in the 800 / 900 MHz frequency band**

Frequency band	Type of radiocommunications system	Maximum transmit power limit	Additional parameters	Other usage restrictions
863-868 MHz	Wideband data transmission system	25 mW e.r.p.	Requirements on techniques to access spectrum and mitigate interference apply <sup>1</sup> .  Bandwidth: > 600 kHz and ≤ 1 MHz.  Duty cycle: ≤ 10% for network access points.  Duty cycle: ≤ 2.8% otherwise.	
917.4-919.4 MHz	Wideband data transmission system	25 mW e.r.p.	Requirements on techniques to access spectrum and mitigate interference apply <sup>1</sup> .  Bandwidth: > 600 kHz and ≤ 1 MHz.  Duty cycle: ≤ 10% for network access points.  Duty cycle: ≤ 2.8% in other cases.	All apparatus within the data network shall be under the control of network access points.  All nomadic and mobile apparatus within the data network shall be controlled by a master network access point.
<p><b>Notes:</b></p> <p><sup>1</sup> Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. If relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</p>				

**Table 2: Wireless Access Systems operating in the 2400-2483.5 MHz frequency band**

Parameter	Technical conditions
Frequency band	2400-2483.5 MHz
Type of radiocommunications system	Wideband data transmission system
Maximum transmit power limit for in-band emissions	100 mW e.i.r.p.
Maximum power density limit for in-band emissions	100 mW/100 kHz e.i.r.p. density applies when frequency hopping modulation is used. 10 mW/MHz e.i.r.p. density applies when other types of modulation are used.
Additional parameters	Requirements on techniques to access spectrum and mitigate interference apply <sup>1</sup> .
<p><b>Notes:</b></p> <p><sup>1</sup> Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. If relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</p>	

**Table 3: Wireless Access Systems operating in the 5150-5250 MHz frequency band**

Parameter	Technical conditions
Frequency band	5150-5250 MHz
Type of radiocommunications system / apparatus	WAS/RLAN
Permissible operation	Indoor use, including installations inside road vehicles, trains and aircraft, and limited outdoor use <sup>1</sup> . Use by UAS is limited to within the 5170-5250 MHz band.
Maximum mean e.i.r.p. for in-band emissions	<ul style="list-style-type: none"> <li>• 40 mW for installations inside road vehicles.</li> <li>• 40 mW for installations inside train carriages with an attenuation loss on average of less than 12 dB.</li> <li>• 200 mW for other installations.</li> </ul>
Maximum mean e.i.r.p. density for in-band emissions	10 mW/MHz in any 1 MHz band
Additional parameters	Requirements on techniques to access spectrum and mitigate interference apply <sup>2</sup> .
<p><b>Notes:</b></p> <p><sup>1</sup> If used outdoors, the apparatus or system, however so described, shall not be attached to a fixed outdoor antenna, fixed infrastructure or to the external body of road vehicles.</p> <p><sup>2</sup> Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. Where relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</p>	



**Table 4: Wireless Access Systems operating in the 5250-5350 MHz frequency band**

Parameter	Technical conditions
Frequency band	5250-5350 MHz
Type of radiocommunications system / apparatus	WAS/RLAN
Permissible operation	Indoor use, limited to inside buildings only <sup>1, 2</sup>
Maximum mean e.i.r.p. for in-band emissions	200 mW
Maximum mean e.i.r.p. density for in-band emissions	10 mW/MHz in any 1 MHz band
Mitigation techniques to be used	<p>Transmitter Power Control (TPC) and Dynamic Frequency Selection (DFS).</p> <p>Alternative mitigation techniques may be used if they ensure at least an equivalent performance and level of spectrum protection in order to comply with the corresponding essential requirements of Directive 2014/53/EU and respect the technical requirements of this Schedule.</p>
Transmitter Power Control (TPC)	<p>TPC shall provide on average, a mitigation factor of at least 3 dB on the maximum permitted output power of the system; or, if transmitter power control is not in use, then the maximum permitted mean e.i.r.p. and the corresponding mean e.i.r.p. density limit shall be reduced by 3 dB.</p>
Dynamic Frequency Selection (DFS)	<p>DFS is described in ITU-R M.1652 to ensure compatible operation with radiodetermination systems.</p> <p>The DFS mechanism shall also ensure that the probability of selecting a given channel will be the same for all available channels within the bands 5250-5350 MHz and 5470-5725 MHz. The intention is to provide, on average, a near-uniform spread of the loading of the spectrum.</p> <p>WAS/RLAN shall implement a DFS providing a mitigation against interference to radar at least as efficient as DFS described in EN 301 893. Settings (hardware and/or software) of WAS/RLAN related to DFS shall not be accessible to the user if changing those settings results in WAS/RLAN no longer being compliant with the DFS requirements. This includes:</p> <ul style="list-style-type: none"> <li>a) not allowing the user of the WAS/RLAN to change the country of operation and/or the operating frequency band if that results in the apparatus no longer being compliant with the DFS requirements; and</li> </ul>

Parameter	Technical conditions
	b) not accepting software and/or firmware which results in the WAS/RLAN no longer being compliant with the DFS requirements.
Additional parameters	Requirements on techniques to access spectrum and mitigate interference apply <sup>3</sup> .
<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1 Outdoor use and installations in road vehicles, trains and aircraft are not permitted.</li> <li>2 Operation of WAS/RLAN installations in large aircraft (excluding multi-engined helicopters) is permitted until 31 December 2028 with a maximum mean e.i.r.p. for in-band emissions of 100 mW. In line with the Commission Regulation (EU) No 1321/2014, a large aircraft means an aircraft, classified as an aeroplane with a maximum take-off mass of more than 5,700 kg, or a multi-engined helicopter. Multi-engined helicopters are excluded, however, from the scope of this note.</li> <li>3 Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. Where relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</li> </ol>	

**Table 5: Wireless Access Systems operating in the 5470-5725 MHz frequency band**

Parameter	Technical conditions
Frequency band	5470-5725 MHz
Type of radiocommunications system / apparatus	WAS/RLAN
Permissible operation	Indoor and outdoor use. Installations in road vehicles are permitted only for WAS/RLAN apparatus operating in slave mode controlled by a fixed WAS/RLAN apparatus with Dynamic Frequency Selection (DFS) functionality operating in master mode. <sup>1</sup> Installations in trains and aircraft are not permitted. <sup>2</sup> Installations for use by UAS are not permitted.
Maximum mean e.i.r.p. for in-band emissions	1 W
Maximum mean e.i.r.p. density for in-band emissions	50 mW/MHz in any 1 MHz band
Mitigation techniques to be used	Transmitter Power Control (TPC) and Dynamic Frequency Selection (DFS). Alternative mitigation techniques may be used if they ensure at least an equivalent performance and level of spectrum protection in order to comply with the corresponding essential requirements of Directive 2014/53/EU and respect the technical requirements of this Schedule.
Transmitter Power Control (TPC)	TPC shall provide on average, a mitigation factor of at least 3 dB on the maximum permitted output power of the system; or, if transmitter power control is not in use, then the maximum permitted mean e.i.r.p. and the corresponding mean e.i.r.p. density limit shall be reduced by 3 dB.
Dynamic Frequency Selection (DFS)	DFS is described in ITU-R M.1652 to ensure compatible operation with radiodetermination systems. The DFS mechanism shall also ensure that the probability of selecting a given channel will be the same for all available channels within the bands 5250-5350 MHz and 5470-5725 MHz. The intention is to provide, on average, a near-uniform spread of the loading of the spectrum. WAS/RLAN shall implement a DFS providing a mitigation against interference to radar at least as efficient as DFS described in EN 301 893. Settings (hardware and/or software) of WAS/RLAN related to DFS shall not be accessible to the user if changing those settings results in WAS/RLAN no longer being compliant with the DFS requirements. This includes:

Parameter	Technical conditions
	a) not allowing the user of the WAS/RLAN to change the country of operation and/or the operating frequency band if that results in the apparatus no longer being compliant with the DFS requirements; and b) not accepting software and/or firmware which results in the WAS/RLAN no longer being compliant with the DFS requirements.
Additional parameters	Requirements on techniques to access spectrum and mitigate interference apply. <sup>3</sup>
<p><b>Notes:</b></p> <ol style="list-style-type: none"> <li>1 The terms 'master' and 'slave' modes are defined in EN 301 893.</li> <li>2 Operation of WAS/RLAN installations in large aircraft (excluding multi-engined helicopters), except in the frequency band 5600-5650 MHz, is permitted until 31 December 2028 with a maximum mean e.i.r.p. for in-band emissions of 100 mW. In line with the Commission Regulation (EU) No 1321/2014, a large aircraft means an aircraft, classified as an aeroplane with a maximum take-off mass of more than 5,700 kg, or a multi-engined helicopter. Multi-engined helicopters are excluded, however, from the scope of this note.</li> <li>3 Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. Where relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</li> </ol>	

**Table 6: Wireless Access Systems operating in the 5945-6425 MHz frequency band for Low Power Indoor apparatus**

Parameter	Technical conditions
Frequency band	5945-6425 MHz
Type of radiocommunications system / apparatus	An LPI access point or bridge that is supplied with power from a wired connection has an integrated antenna and is not battery powered.  An LPI client device that is connected to an LPI access point or another LPI client device and may or may not be battery powered.
Permissible operation	Restricted to indoor use, including in aircraft and trains with metal-coated windows or similar structures made of material with comparable attenuation characteristics <sup>1</sup> .
Maximum mean e.i.r.p. for in-band emissions	23 dBm
Maximum mean e.i.r.p. density for in-band emissions	10 dBm/MHz
Maximum mean e.i.r.p. density for out-of-band emissions below 5935 MHz	-22 dBm/MHz
Additional parameters	Requirements on techniques to access spectrum and mitigate interference apply <sup>2</sup> .
<p><b>Notes:</b></p> <p>1 Outdoor use, including in road vehicles, is not permitted.</p> <p>2 Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. Where relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</p>	

**Table 7: Wireless Access Systems operating in the 5945-6425 MHz frequency band for Very Low Power apparatus**

Parameter	Technical conditions
Frequency band	5945-6425 MHz
Type of radiocommunications system / apparatus	VLP that is portable apparatus and may include narrowband apparatus.
Permissible operation	Indoors and outdoors but the use of installations for use by UAS is not permitted.
Maximum mean e.i.r.p. for in-band emissions	14 dBm
Maximum mean e.i.r.p. density for in-band emissions	1 dBm/MHz 10 dBm/MHz for narrowband apparatus
Maximum mean e.i.r.p. density for out-of-band emissions below 5935 MHz	-45 dBm/MHz until 31 December 2024 <sup>1</sup>
Additional parameters	Requirements on techniques to access spectrum and mitigate interference apply <sup>2</sup> .
<p><b>Notes:</b></p> <p>1 The appropriateness of this limit shall be subject to review until 31 December 2024. In the absence of justified evidence, a value of -37 dBm/MHz shall apply from 1 January 2025.</p> <p>2 Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. Where relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the <i>Official Journal of the European Union</i> in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</p>	

**Table 8: Wireless Access Systems operating in the 57-71 GHz frequency band**

Frequency band	Type of radiocommunications system / apparatus	Maximum transmit power / power density limit	Additional parameters	Other usage restrictions
57-71 GHz	Wideband data transmission system	40 dBm e.i.r.p. 23 dBm/MHz e.i.r.p. density.	Requirements on techniques to access spectrum and mitigate interference apply <sup>1</sup> .	Fixed outdoor installations are excluded.
57-71 GHz	Wideband data transmission system	40 dBm e.i.r.p. 23 dBm/MHz e.i.r.p density. Maximum transmit power of 27 dBm at the antenna port or ports.	Requirements on techniques to access spectrum and mitigate interference apply <sup>1</sup> .	
57-71 GHz	Wideband data transmission system	55 dBm e.i.r.p. 38 dBm/MHz e.i.r.p density. Transmit antenna gain $\geq 30$ dBi.	Requirements on techniques to access spectrum and mitigate interference apply <sup>1</sup> .	This set of usage conditions is only available to fixed outdoor installations.
<p><b>Notes:</b></p> <p><sup>1</sup> Techniques to access spectrum and mitigate interference that provide an appropriate level of performance to comply with the essential requirements of Directive 2014/53/EU of the European Parliament and of the Council shall be used. If relevant techniques are described in harmonised standards or parts thereof the references of which have been published in the Official Journal of the European Union in accordance with Directive 2014/53/EU, performance at least equivalent to the performance level associated with those techniques shall be ensured.</p>				