



ERC Recommendation

25-10

Frequency Ranges for the Use of Terrestrial Audio and Video Programme Making and Special Events (PMSE) applications

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INTRODUCTION

Terrestrial audio and video wireless links are used for a number of PMSE applications. The range of applications covered by PMSE spans from theatrical productions and corporate events to various levels of broadcasting contribution activities. PMSE includes services ancillary to programme making (SAP) and broadcasting (SAB) and the links of the narrower category known as Electronic News Gathering and Outside Broadcasting (ENG/OB). The definitions of various types of audio and video PMSE links, as used for the purpose of this Recommendation are given in the Annex 1. For a more detailed description of PMSE, please refer to ECC Report 204 [1].

It is important to note that a number of PMSE uses, in particular those of News Gathering, happen at unpredictable times and locations and necessitate a very rapid response time. In such cases, it is very important that the delay and the procedures for frequency co-ordination and licensing are limited to the minimum. On the other hand, some of the PMSE uses, such as Outside Broadcasting are normally planned in advance of an event. Frequency assignments for such events may take longer to coordinate, in particular when frequencies have to be “borrowed” from other users of radio spectrum because the spectrum demand exceeds the availability of spectrum allocated to PMSE. Additional information on PMSE licensing at special events and other regulatory aspects may be found in ECC Report 44 [2].

The use of PMSE equipment may not be fully harmonised across the CEPT countries due to divergent national frequency plans and differing PMSE requirements. This Recommendation therefore pursues the concept of tuning ranges, where the term “tuning range” for PMSE means a range of frequencies over which radio equipment is envisaged to be capable of operating; within this tuning range the use in any one country of radio equipment will be limited to the range of frequencies identified nationally (if any) within that country for PMSE, and will be operated in accordance with the related national regulatory conditions and requirements. Within each tuning range, CEPT countries may assign specific sub-bands or particular frequencies for PMSE links subject to availability, actual demand and sharing arrangements with primary services using those bands. Ideally, PMSE equipment should be capable of being operated within the whole tuning range and even beyond in order to provide flexibility for operation in different countries.

When considering the spectrum identified for use by PMSE on a tuning range basis, it can appear that there is a large amount of spectrum available. However, PMSE has always shared spectrum with a wide range of services and to manage use, individual licenses can be issued for a specific use on a specific date and at a specific location. The sharing conditions in a given country depend on the licence given to the new service. The available spectrum within the tuning ranges in any particular country is determined on a national basis; each tuning range may be wholly, partially or not available on a given day, in a given location, in a given country.

As described in ECC Report 204, PMSE applications are divided into three main categories:

- Audio PMSE applications; information is provided in Annex 1 of ECC Report 204;
- Video PMSE applications; information is provided in Annex 2 of ECC Report 204;
- Service links, with a few exceptions such as In Ear Monitors (IEM), wide band talkback and video assist are normally outside the PMSE spectrum allocations and use existing radio service spectrum such as Private Mobile Radio, Short Range Device (SRD) and even model control and similar spectrum. Additional information can be found in Annex 3 of ECC Report 204.

The operation of PMSE equipment in many CEPT member states requires appropriate authorisation of the frequencies to be used by that PMSE equipment. Approaches to the issuing of long term and short term licences differ greatly between the various CEPT member administrations. Contact information can be found for the various CEPT national frequency management administrations from this link (<https://www.cept.org/ecc/topics/programme-making-and-special-events-applications-pmse>).

This Recommendation is also electronically available in the EFIS database [link](#).

ERC RECOMMENDATION 25-10 ON FREQUENCY RANGES FOR THE USE OF TERRESTRIAL AUDIO AND VIDEO PMSE APPLICATIONS

“The European Conference of Postal and Telecommunications Administrations,

considering

- a. that there is increasing demand for audio and video PMSE applications at national and international events in CEPT member countries;
- b. that the spectrum use and future requirements for PMSE equipment is analysed in the ECC Report 204 [1];
- c. that ECC Report 204 contains reference information related to audio PMSE (Annex 1), video PMSE (Annex 2) and service links (Annex 3);
- d. that in many CEPT countries audio and video PMSE links have, for many years, successfully shared frequency bands with other civil and military radio applications;
- e. that broadcasters, programme makers and PMSE service providers increasingly need to operate across the national borders;
- f. that lack of harmonised frequency tuning ranges creates difficulties for broadcasters, programme makers and PMSE service providers when operating in other CEPT member countries;
- g. that the bands identified for PMSE use are predominantly shared with other services. The use of the band by these other services can reduce the amount of spectrum available for PMSE at a given location;
- h. that identification of harmonised frequency tuning ranges will facilitate the development of standardised equipment;
- i. that PMSE equipment that is capable of tuning across the frequency ranges identified in this Recommendation would provide operators with the greatest chance of meeting their requirements;
- j. that the typical application scenarios and technical characteristics of PMSE equipment are described in detail in ECC Report 219 (video PMSE) [3] and ERC Report 42 (audio PMSE) [4];
- k. that co-ordination is often required to ensure that there is no interference between PMSE and other systems and services;
- l. that administrations may decide to identify other frequency bands for PMSE use in addition to those identified in this Recommendation;
- m. that the size of the tuning range of the equipment is limited by the price and system performance;
- n. that advanced technology developments for PMSE equipment may increase the efficiency of spectrum use in some deployment scenarios;
- o. that some service links use frequency bands outside the scope of this Recommendation but form an integral part of PMSE use. Administrations may consider dealing with those applications in the same manner as recommended in recommends 4;
- p. that when selecting particular channels for PMSE links, care should be taken to limit the possibility of interference to passive services, which operate in the bands (see ITU RR No. 5.340) adjacent to the PMSE tuning ranges indicated in Annexes 2 and 3 of this Recommendation;
- q. that maintenance of Annexes 4 and 5 may be undertaken by the ECO based on information from administrations,

recommends

1. that for the purpose of this Recommendation the definitions of PMSE equipment are given in Annex 1;
2. that CEPT administrations should make available frequencies for audio and video PMSE applications from the tuning ranges identified in Annexes 2 and 3 respectively;

3. that CEPT administrations should make available in Annexes 4 and 5 information regarding availability and conditions with respect to the tuning ranges addressed in recommends 2;
4. that CEPT administrations should use simple and timely procedures for issuing appropriate licences allowing the use of frequencies by PMSE equipment;
5. that CEPT administrations should encourage manufacturers to develop PMSE equipment adapted to the tuning ranges identified in Annexes 2 and 3.”

ANNEX 1: DEFINITIONS OF PMSE APPLICATIONS

For the purposes of this Recommendation, the following definitions of PMSE applications are assumed:

Table 1: Definitions of PMSE applications

Category	Application	Definition
Audio PMSE	Radio microphone	Handheld or body worn microphone with integrated or body worn transmitter.
	In-ear monitor	Body-worn miniature receiver with earpieces for personal monitoring of single or dual channel sound track.
	Portable audio link	Body worn transmitter used with one or more microphones, with longer operating range capabilities than that of radio microphones.
	Mobile audio link	Audio transmission system employing radio transmitters mounted in/on motorcycles, pedal cycles, cars, racing cars, boats, etc. One or both link terminals may be used while moving.
	Temporary point-to-point audio link	Temporary link between two points (e.g. part of a link between an OB site and a studio), used for carrying broadcast quality audio or for carrying service (voice) signals. Link terminals are mounted e.g. on tripods, temporary platforms, purpose built vehicles or hydraulic hoists. Two-way links are often required.
Video PMSE	Cordless camera (CCL)	Handheld or otherwise mounted camera with integrated transmitter, power pack and antenna for carrying broadcast-quality video together with sound signals over short-ranges. This can be line of sight or non-line of sight depending on application and frequency band used.
	Portable video link (PVL)	Handheld camera with separate body-worn transmitter, power pack and antenna.
	Mobile air-to-ground video link (MAGL)	Video transmission system employing radio transmitters and receivers mounted on helicopters, airships or other aircraft (including repeaters and relays).
	Mobile vehicular video link (including ground-to-air) (MGAL)	Video transmission system employing radio transmitters mounted in/on motorcycles, racing motorbikes, pedal cycles, cars, racing cars or boats. One or both link terminals may be used while moving.
	Temporary point-to-point video links (TPL)	Temporary link between two points (e.g. part of a link between an OB site and a studio), used for carrying broadcast quality video/audio signals. Link terminals are mounted e.g. on tripods, temporary platforms, purpose built vehicles or hydraulic hoists. Two-way links are often required.
Service links	Talk-back	For communicating the instructions of the director instantly to all those concerned in making the programme; these include presenters, interviewers, cameramen, sound operators, lighting operators and engineers. A number of talk-back channels may be in simultaneous use to cover those different activities. Talk-back usually employs constant transmission.
	Telecommand/remote control	Radio links for the remote control of programme making equipment for example cameras, theatre scenery and for signalling.

For further information on PMSE applications see ECC Report 204 [1].

ANNEX 2: RECOMMENDED FREQUENCY RANGES FOR USE BY AUDIO PMSE APPLICATIONS

The bands identified for PMSE use are predominantly shared with other services. The use of the band by these other services can reduce the amount of spectrum available for PMSE at a given location. The extent of the reduction is dependent on local conditions and can be significant

Table 2: frequency ranges for use by audio PMSE applications

Type of link	Frequencies/Tuning ranges	Technical information	Background information
Radio microphones and In-ear monitors	A1: 29.7-47.0 MHz	See ERC/REC 70-03 [5] Annex 10	Non-professional PMSE use. Legacy systems still in use. No broadcast quality equipment available. Shared use. ETSI EN 300 422 [8]
Radio microphones and In-ear monitors	A2: 174-216 MHz (Radio microphones)	See ERC/REC 70-03 Annex 10	Shared use. EN 300 422
Radio microphones and In-ear monitors	A3: 470-694 MHz (Radio microphones)	See ERC/REC 70-03 Annex 10	Currently a core band for professional PMSE use. Changes to the band will limit its utility for PMSE. The extent of the impact is dependent on national decisions (see ECC/DEC (15)01 [7]). Shared use. EN 300 422
Radio microphones and In-ear monitors	A4: 694-790 MHz (Radio microphones)	CEPT Report 60 [6]	Currently a core band for professional PMSE use. Changes to the band will limit its utility for PMSE. The extent of the impact is dependent on national decisions (see ECC/DEC (15)01 [7]). Shared use. EN 300 422
Radio microphones and In-ear monitors	A5: 823-832 MHz	See ERC/REC 70-03 Annex 10 and EC Decision 2014/641/EU [9]	Risk of out of band emissions from adjacent mobile services means there is limited utility for broadcast quality audio Harmonised (within EU member states). EN 300 422
Radio microphones and In-ear monitors	A6: 863-865 MHz	See ERC/REC 70-03 Annex 10 and EC Decision 2013/752/EU [10].	Risk of out of band emissions from adjacent mobile services and other short range devices means there is very limited utility for broadcast quality audio. Shared use. Note 1. EN 300 422 and EN 301 357 [11]
Radio microphones and In-ear monitors	A7: 1350-1400 MHz	See ECC Report 245 [20] and ERC/REC 70-03 Annex 10	Newly recommended tuning range in 2016. Shared use EN 300 422
Radio microphones and In-ear monitors	A8: 1518-1525 MHz	ECC Report 253 [19] and and ERC/REC 70-03 Annex 10	Newly recommended tuning range in 2016. Shared use EN 300 422
Radio microphones and In-ear monitors	A9: 1785-1805 MHz	See ERC/REC 70-03 Annex 10 and EC Decision 2014/641/EU [9]	Harmonised (within EU member states). EN 300 422
Portable audio links, Mobile audio links and Temporary point-to-point audio links (Note 2), Talkback and Production communications (Note 3)	B1: 174-216 MHz (Audio links)	ERC Report 42 [4]	Shared use. EN 300 454 [13]

Type of link	Frequencies/Tuning ranges	Technical information	Background information
Portable audio links, Mobile audio links and Temporary point-to-point audio links (Note 2), Talkback and production communications (Note 3)	B2: 470-694 MHz (Audio links)	ERC Report 42	Shared use. EN 300 422 and EN 300 454
Portable audio links, Mobile audio links and Temporary point-to-point audio links (Note 2), Talkback and production communications (Note 3)	B3: 694-790 MHz (Audio links)	ERC Report 42; ERC Report 89 [12]	Changes to the band will limit its utility for PMSE. The extent of the impact is dependent on national decisions. Shared use. EN 300 422 and EN 300 454

Note 1: The band 863-865 MHz is available for radio microphones, however due note should be taken that it is used also for non-professional and consumer radio applications (cordless audio, etc.) .

Note 2: Depending on application scenario, channel width and required transmitter power, the portable, mobile and temporary point-to-point audio links may be accommodated either in the frequency bands 174-216 MHz/470-694/694-790 MHz identified for professional radio microphones (typically for low power/wideband applications) or in other VHF/UHF bands, including Private Mobile Radio (PMR) bands (typically for high power/narrowband applications).

Note 3: These applications are service links that operate in the audio PMSE bands.

ANNEX 3: RECOMMENDED FREQUENCY RANGES FOR USE BY VIDEO PMSE APPLICATIONS**Table 3: frequency ranges for use by video PMSE applications**

Frequenc ies	Technical information	Type of link (see Annex 1, Table 1)	Background information
C1: 2010-2025 MHz	2010-2500 MHz (Note 1); EC Decision (EU) 2016/339 [14] and ECC Report 219 [3]	Cordless Cameras; Portable video links; Mobile video links	Harmonised (within EU member states). Shared use. EN 302 064 [17]
C2: 2025-2110 MHz	2010-2500 MHz (Note 1); ECC Report 219	Cordless Cameras; Portable video links; Mobile video links	Shared use. EN 302 064
C3: 2200-2300 MHz	2010-2500 MHz (Note 1); ECC Report 219	Cordless Cameras; Portable video links; Mobile video links	Shared use. EN 302 064
C4: 2300-2400 MHz	2010-2500 MHz (Note 1); ECC Report 219	Cordless Cameras; Portable video links; Mobile video links	Shared use (see ECC Decision(14)02). EN 302 064
C5: 2400-2500 MHz	2010-2500 MHz (Note 1); ECC Report 219	Cordless Cameras; Portable video links; Mobile video links	Shared use (see EC Decision 2014/641/EU). EN 302 064
C6: 2700-2900 MHz	ECC Report 243 [15]; CEPT Report 61 [16]	Cordless Cameras; Portable video links; Mobile video links (Note 2)	Shared use. EN 302 064
C7: 7.0-8.5 GHz	ECC Report 219	Cordless Cameras; Portable video links; Mobile video links; Temporary point-to-point video link	Shared use. EN 302 064
C8: 10.0-10.68 GHz	(Note 3); ECC Report 219	Cordless Cameras; Portable video links; Temporary point-to-point video link	Shared use. EN 302 064
C9: 21.2-24.5 GHz		Cordless Cameras; Temporary point-to-point video link	Shared use. EN 302 064
C10: 47.2-50.2 GHz		Cordless Cameras	Shared use. EN 302 064

Note 1: Within the tuning range 2010-2500 MHz, the frequency band 2110-2200 MHz is not available for PMSE.

Note 2: The tuning range 2700-2900 MHz is not available for mobile air to ground video links,

Note 3: Within the tuning range 10-10.68 GHz, only occasional temporary point-to-point links should be allowed in the frequency band 10.6-10.68 GHz. Studies have concluded that even limited deployment of cordless cameras and portable video links in the band 10.6-10.68 GHz will result in interference to the EESS (passive) services using this band (see ECC Report 17 [18]).

It should also be noted that temporary point-to-point video links might be accommodated in the fixed service bands, following the same channel arrangements as the FS links.

ANNEX 4: NATIONAL CONDITIONS FOR AUDIO PMSE APPLICATIONS

This Annex 4 lists the national conditions for each of the tuning range mentioned in the Annex 2 for audio PMSE applications.

Table 4: National information regarding availability of identified tuning ranges for audio PMSE applications

Frequency Band	ALB	AND	AUT	AZE	BEL	BIH	BLR	BUL	CVA	CYP	CZE	D	DNK	E	EST	F	FIN	G	GEO	GRC	HNG	HOL	HRV	I	IRL	ISL	LIE	LTU	LUX	LVA	MCO	MDA	MKD	MLT	MNE	NOR	POL	POR	ROU	RUS	S	SMR	SRB	SUI	SVK	SVN	TUR	UKR		
A1: 29.7-47.0 MHz	Y	L	L	Y	Y	Y	L	Y	N	Y	L	L	L	L	L	L	L	N	L	Y	L	L	N	N	Y	L	L	L	L	Y	N	Y	L	L	L	L	L	L	N	Y	L	L	Y	L	L					
A2: 174-216 MHz (Radio microphones)	Y	L	Y	Y	Y	Y	N	Y		Y	Y	Y	N	L	Y	Y	Y	L	L	Y	Y	L	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L	L	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L		
A3: 470-694 MHz (Radio microphones)	Y	Y	Y	Y	Y	Y	L	Y		Y	Y	Y	L	Y	Y	Y	Y	Y	L	Y	L	Y	Y	Y	Y	Y	Y	L	Y	Y	Y	Y	Y	L	L	L	Y	Y	Y	L	Y	Y	Y	Y	Y	Y	Y	Y	L	
A4: 694-790 MHz (Radio microphones)	Y	L	Y	Y	L	Y	L	L		L	L	L	L	Y	N	Y	N	Y	Y	L	L	L	L	L	Y	N	N	L	L	Y	Y	Y	L	L	L	Y	Y	L	Y	L	L	L	L	N	Y	L	Y	L		
A5: 823-832 MHz	Y	Y	Y	Y	Y	Y	Y	Y		Y	L	Y	Y	Y	Y	Y	Y	Y	L	Y	Y	Y	Y	Y	Y	Y	Y	Y	L	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	L	Y	N	Y	Y	N	N	
A6: 863-865 MHz	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
A7: 1350-1400 MHz	Y		Y	Y		N	N	Y			N	Y	N	N	N	L	N	N	Y	N	N	Y			L	N	Y	Y	L	N	N	Y	Y	N	N	N	N	N	N					Y	N	Y	N			
A8: 1518-1525 MHz			Y	Y		N	N	Y			N	N	N	N	N	N	L	Y	Y	N	N	Y			N	N	N	Y		N	N		N		N	N	N	N	N					N	N	Y	Y			
A9: 1785-1805 MHz	Y	L	Y	Y	L	Y	N	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	L	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	L	N	L	Y	L	Y	Y	Y	L	N
B1: 174-216 MHz (Audio links)	Y	L	N	Y	Y	Y	N	Y		Y	Y	N	N	L	N	Y	N	L	L	Y	L	L	Y	Y	Y	L	N	Y	Y	Y	Y	Y	Y	Y	L	L	N	Y	Y	Y	N	Y	Y	Y	N	N	N	N	L	
B2: 470-694 MHz (Audio links)	Y	Y	N	Y	Y	Y	L	Y		Y	Y	Y	L	N	N	Y	N	Y	Y	L	Y	L	Y	Y	Y	N	Y	Y	L	Y	Y	Y	Y	Y	L	L	L	Y	Y	Y	N	Y	Y	Y	Y	N	N	N	N	L
B3: 694-790 MHz (Audio links)	Y	L	N	Y	L	N	L	L		L	Y	N	L	N	N	Y	N	Y	Y	L	Y	N	L	L	Y	N	N	L	L	L	Y	Y	L	L	L	Y	Y	L	Y	N	L	L	L	N	N	N	N	N	L	

Possible implementation status: Y = the whole band is available for PMSE N = the band is not available for PMSE L = Limited availability

Note: CEPT country codes can be found at <http://www.cept.org/cept/cept-country-codes>

Tables 5-A1 to 5-B3 below list the national conditions provided by administrations on specific frequency bands contained within Annex 2 of this Recommendation. These indicate national usage conditions for the tuning ranges which are implemented and reasons for the cases where administrations are not able to implement frequency allocations or where implementation is incomplete. For consistency, one of the following standard positions (Y, N, L) should be used for the implementation:

Table 5-A1: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A1

Frequency Band	Country	Implementation	Conditions/remarks
A1 29.7-47.0 MHz	AND	L*	
	AUT	L*	6 dedicated channels up to 120 kHz are available
	AZE	Y*	
	BIH	Y*	On tuning range. Radio microphones and ALD as per ERC/REC 70-03 Annex 10
	BLR	L	Limited to 33.175-40 MHz / 40.025-48.5 MHz
	BUL	Y	ERC/REC 70-03/Annex 10
	CZE	L	For PMSE (operation of the wireless microphones and of the aids for hearing impaired, coming under SRD category) may be used 27.5–27.915 MHz band and 36.4 - 38.5 MHz band. https://www.ctu.eu/sites/default/files/obsah/o-ctu/cze_rsup-p-26-09.2010-10_en.pdf
	D	L	Basic parameters: frequency ranges: 32.475-34.325 MHz and 36.610-38.125 MHz; channel raster: 50 kHz; max. radiated power: 10 mW e.r.p. Detailed information: www.bnetza.de/allgemeinzuteilungen ->"Mikrofone"->Vfg. 53/2015 For legacy equipment individual licensing with more permissive technical parameters may be possible. (detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL)
	DNK	L	Band 32-39.4 MHz only
	E	L	Radio microphones: Limited to 5 channels: 31.500, 31.750, 37.850, 38.300 and 38.550 MHz. Channel bandwidth: 25 kHz and max. power 50 mW e.r.p.
	EST	L	Only 37.6-38.6 MHz, max. 10 mW e.i.r.p., ch. BW 50 kHz. See Regulation of Ministry of Communication and Economical Affairs 07.10.2011 No 96. Usage of other parts of this band for PMR, control and governmental use.
	F	L	Secondary use. 150 kHz bandwidth centred on 31.6 MHz (also used in 25 kHz on the carriers 31.55, 31.60 and 31.65 MHz); 150 kHz bandwidth centred on 31.8 MHz; 75 kHz bandwidth centred on 38.9 MHz
	FIN	L	Only frequencies 31.100, 32.100, 32.900, 33.500, 36.700, 37.100 MHz, and range 42.400 - 43.600 MHz allowed with max. channel bandwidth 200 kHz and max. transmitting power 10 mW e.r.p. In the range 42.400 - 43.600 MHz shared use with other SRD applications according to FICORA Regulation 15. Usage in other bands includes PMR, control, alarm, telemetry, tele command, data transmission, and military use
	G	N	Band not available
	GEO	L*	
	GRC	Y!	10 mW Maximum e.r.p.
HNG	L	Radio microphones: 34.9-38.5 MHz band can be used on SRD basis; license exemption; max. 10 mW e.r.p.; max. 50 kHz channels. Detailed description in paragraph 11.11.2 of Annex 3 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1	
HOL	L	36.6- 38.8 MHz : 5x200 kHz channels, 10 mW e.r.p. (centre frequencies 36.7/37.1/37.9/38.3/38.7 MHz) 37.480-37.6 MHz; 50 kHz 10 mW e.r.p. License exempt	
HRV	N	Defence systems	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	I	N	Military application
	IRL	Y	Licence exempt operation is permitted for Radio Microphones and In-Ear Monitoring Systems, as per Annex 10 of ECC Decision 70-03. See ComReg document 02/71R, "Permitted Short Range Devices In Ireland", available at: https://www.comreg.ie/publication/permitted-short-range-devices-in-ireland-2/ . This document provides details on frequencies available for short range devices in Ireland. 29.7 - 47 MHz is covered under Table 8 of this document. All equipment operates on a non-interference, non-protected basis
	ISL	L*	
	LIE	L!	Available band: 31.4-39.6 MHz, limited to the following channels: A: 31.4-31.6 MHz; B: 32.4-32.6 MHz; C: 36.0-36.2 MHz; D: 36.6-36.8 MHz; E: 37.0-37.2 MHz; F: 37.2-37.4 MHz; G: 37.8-38.0 MHz; H: 38.4-38.6 MHz; I: 38.9-39.1 MHz; K: 39.4-39.6 MHz. Channelling less than 200 kHz and max. 100 mW e.r.p. For more information: https://www.aknet.li/api/rir/1009/01 . The national implementation is based on ERC/REC 70-03.
	LUX	L	Excluding the use of the band 34.995-35.225 MHz
	MLT	L	PMSE devices are allowed to operate within the frequency bands 29.7-34.9 MHz and 37.5-40.98 MHz. Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&i=1
	NOR	L	41-43.6 MHz available for PMSE; Maximum radiated power of 10 mW e.r.p. Amplitude modulation is not permitted. EN 300 422
	POL	Y	Band A, Annex 10, ERC/REC 70-03
	POR	N	Band not available
	ROU	L	Only sub-bands: 29.7-30.3 MHz; 30.5-32.15 MHz; 32.45- 33.1 MHz; 33.6-34.975 MHz; 37.5- 40.02 MHz; 40.66- 41.015 MHz; 44.5- 45.2 MHz are allowed
	RUS	L!	Bands 33.175-40 MHz and 40.025-47 MHz: radio microphones are on the secondary basis
	S	L	Limited to 41.0-43.6 MHz - Land Mobile
	SUI	L!	Available band: 31.4-39.6 MHz, limited to the following channels: A: 31.4-31.6 MHz; B: 32.4-32.6 MHz; C: 36.0-36.2 MHz; D: 36.6-36.8 MHz; E: 37.0-37.2 MHz; F: 37.2-37.4 MHz; G: 37.8-38.0 MHz; H: 38.4-38.6 MHz; I: 38.9-39.1 MHz; K: 39.4-39.6 MHz. Channelling less than 200 kHz and max. 100 mW e.r.p. For more information: http://www.ofcomnet.ch/api/rir/1009/01 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	SVK	L	The band 36.4-38.5 MHz is available for audio PMSE applications (Radio microphones only). Radio microphones may be used on the basis of the General Authorization No. VPR-02/2015: http://www.teleoff.gov.sk/data/files/43712.pdf . Power: 20 mW e.r.p. Maximum occupied bandwidth: 50 kHz; 75 kHz
	SVN	Y	Radio microphones, ERC/REC 70-03, EN 300 422
	TUR	L	Maximum 10 mW e.r.p., 50 kHz channel spacing with EN 300 422. The all rules are stated in By-law on Short Range Devices (https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fOrdinance%2fBY-LAW%20ON%20SHORT%20RANGE%20DEVICES.pdf). Some portions of this band are assigned nationwide
	UKR	L	In the band 30.01-47 MHz maximal transmitter power is 10 mW
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 5-A2: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A2

Frequency Band	Country	Implementation	Conditions/remarks
A2 174-216 MHz (Radio microphones)	AND	L*	
	AUT	Y*!	Max. 50 mW e.r.p. for body worn, otherwise max. 10 mW e.r.p., 200 kHz channels; only professional use
	AZE	Y*	
	BIH	Y*	
	BUL	Y	ERC/REC 70-03/Annex 10
	CZE	Y!	Conditions at https://www.ctu.eu/sites/default/files/obsah/cze_rsup-p-21-11-2016-11_eng.pdf The 174–216 MHz band may be used by radio microphones under conditions of a secondary service with the provision they shall not cause harmful interference to the reception of stations operated in the broadcasting service and shall not claim protection from harmful interference by these applications. See the General Authorisation: https://www.ctu.eu/sites/default/files/obsah/ctu/general-authorisation-no.vo-r/10/11.2016-13/obrazky/general-authorisation-no-vo-r10112016-13.pdf
	D	Y!	Basic parameters: frequency range: 174-230 MHz; max. radiated power: 50 mW e.r.p. Restrictions apply for the protection of primary users (i.a. DAB +). Detailed information: www.bnetza.de/allgemeinzuteilungen ->"Mikrofone"->Vfg. 59/2015
	DNK	N	Band not available
	E	L	Radio microphones: Limited to 5 channels:174.100 MHz, 174.300 MHz, 175.500 MHz, 176.300 MHz and 179.300 MHz. Channel bandwidth: 200 kHz. max. power 50 mW e.r.p. Mobile audio links in the frequency band 181-188 MHz
	EST	Y	Max. 50 mW e.r.p. See Regulation of Ministry of Communication and Economical Affairs 07.10.2011 No 96.
	F	Y	Secondary usage, e.r.p. max = 50 mW (17 dBm) ARCEP Decisions n° 2010-0849 and n° 2010-0850 regarding PMSE in 174-223 MHz band
	FIN	Y!	On a secondary basis, the band 174-230 MHz is available for radio microphones and equipment for in-ear-monitoring. Primary use is broadcasting. Licence-exempted from the beginning of 2017. e.r.p. = 50 mW, B = 200 kHz. Standard EN 300 422
	G	L*!	Technology and application neutral. Regarding wireless microphones, the following frequencies (MHz) are available under a shared licensing regime. UK-wide use (* denotes those frequencies unavailable in Northern Ireland), allocated to microphones only, 50 mW e.r.p. on designated channels only: 175.250*, 175.525*, 176.600*, 191.900, 192.800, 193.000, 199.700, 200.300, 200.600, 208.300, 208.600, 209.000, 209.200, 209.600, 209.800. The following frequencies (MHz) are available for wireless mics, talkback* and audio links** (maximum in-band e.r.p. is 50 mW for mics): 175.150 to 175.350; 175.425 to 175.625; 176.300 to 177.100; 181.69375 to 181.80625*; 184.500 to 185.100; 189.69375 to 189.80625*; 191.600 to 193.100**;
	GEO	L*	
	GRC	Y*!	License required for e.r.p. over 50mW
	HNG	Y	License exemption; conditions based on ERC/REC 70-03; max. 50 mW e.r.p. Detailed description in paragraph 11.11.2 of Annex 3 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1
	HOL	L	195-202 MHz, 50 mW license exempt, max. bandwidth 200 kHz.
	IRL	Y*	Licences may be granted for radio microphone/in-ear monitor use. Licences are issued on a temporary basis, with a maximum duration of 6 months. Typical e.r.p. levels do not generally exceed 50 mW, while the maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz
ISL	Y!	Secondary status	
LIE	Y	Available band: 174-223 MHz. Channelling on a tuning range basis and max. 50 mW e.r.p. For more information: https://www.aknet.li/api/rir/1009/02 . Available band for personal hearing aids: 174-223 MHz. For more information: https://www.aknet.li/api/rir/1009/12 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html	
LTU	Y	Light licensing (registration of radio equipment)	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	LVA	Y*	
	MCO	Y*	
	MLT	L*	Technical conditions in line with ERC/REC 70-03. Radio microphones are allowed to operate on the frequency ranges not being used for Terrestrial broadcasting services. Furthermore, licences issued within this band are of a temporary nature
	NOR	N	Band not available
	POL	Y	Band E, Annex 10, ERC/REC 70-03
	POR	Y*	Individual license required if e.r.p. > 50 mW. The upper limit is up to 223 MHz.
	RUS	Y!	Radio microphones are on the secondary basis
	SUI	Y	Available band: 174-223 MHz. Channelling on a tuning range basis and max. 50 mW e.r.p. For more information: http://www.ofcomnet.ch/api/rir/1009/02 . Available band for personal hearing aids: 174-223 MHz. For more information: http://www.ofcomnet.ch/api/rir/1009/12 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	SVK	Y*!	Conditions for the use of frequencies are stipulated case-by-case in the individual authorization. Frequencies from this frequency band may be used by radio microphones on the basis of the General Authorization No. VPR-02/2015: http://www.teleoff.gov.sk/data/files/43712.pdf Frequencies 174.3 kHz and 174.7 kHz, Power 50 mW e.r.p., Maximum occupied bandwidth 50 kHz; 75 kHz
	SVN	Y	Radio microphones, ERC/REC 70-03, EN 300 422
	TUR	Y	Maximum 50 mW e.r.p. The all rules are stated in By-law on Short Range Devices. https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fOrdinance%2fBY-LAW%20ON%20SHORT%20RANGE%20DEVICES.pdf
UKR	L	Under condition of not causing interference to other stations working in this band. In bands of 174.4-174.6 MHz and 174.9-175.1 MHz the maximal transmitter power is 10 mW	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 5-A3: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A3

Frequency Band	Country	Implementation	Conditions/remarks
A3 470-694 MHz (Radio microphones)	AND	Y*	
	AUT	Y*!	Only in TV white spaces on tuning range basis; 200 kHz channels and max. 50 mW e.r.p.
	AZE	Y*	
	BEL	Y	470-786 MHz possible
	BIH	Y*	
	BLR	L	Limited to 470-638 MHz (5 mW). Limited to 774-782 MHz
	BUL	Y	ERC/REC 70-03/Annex 10
	CYP	Y	470-786 MHz possible

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	CZE	Y	https://www.ctu.eu/sites/default/files/obsah/cze_rsus-p-10-08-2016-10_en.pdf
	D	Y*!	Basic parameters: max. channel bandwidth: 200 kHz; max. radiated power: 50 mW e.r.p. Restrictions apply for the protection of primary users (i.a. DVB-T); 608-614 MHz excluded (radio astronomy). Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	L!	Only in TV white spaces
	E	Y!	Radio microphones in the frequency band 470-694 MHz, only in the TV white spaces on tuning range basis and max. power 50 mW e.r.p.
	EST	Y!	Max. 50 mW e.r.p. See Regulation of Ministry of Communication and Economical Affairs 07.10.2011 No 96.
	F	Y	Secondary use, e.r.p. max = 50 mW (17 dBm) ARCEP Decision n° 2015-0830
	FIN	Y!	On a secondary basis, the band 470-694 MHz is available for radio microphones and equipment for in-ear-monitoring. Primary use is broadcasting. Licence-exempted from the beginning of 2017. e.ir.p. = 50 mW, B = 200 kHz. Standard EN 300 422
	G	Y*!	Technology and application neutral. Geographical restrictions apply to outdoor use. Band typically used for wireless microphones, in-ear-monitors (IEMs) and talkback. Maximum in-band e.r.p. is 50 mW for mics and IEM, and 5 W for talkback. 606-614 MHz (Ch. 38) is allocated for UK-wide use (shared basis between users) with maximum 50 mW e.r.p. for mics
	GRC	L*!	License required for e.r.p over 50mW. Geographical restrictions (depending on the allotment the band is available where spectrum is not used by broadcasting or security services). http://www.efis.dk/documents/51372
	HNG	Y	License exemption; conditions based on ERC/REC 70-03; max. 50 mW e.r.p. Detailed description in paragraph 11.11.2 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneral&root_rendeletelem_id=0&hatalyos=1&is_full=1
	HOL	L	470-556 MHz / 558-564 MHz / 566-572 MHz / 574-580 MHz / 582-588 MHz / 590-604 MHz / 614-694 MHz. These bands available, 50 mW e.r.p. license exempt. max. bandwidth 600 kHz 608-614 MHz individual license required, protection of Radio Astronomy site Westerbork VLBI
	HRV	Y	470-786 MHz possible
	I	Y	470-786 MHz possible
	IRL	Y*	Licences may be granted for radio microphone/in-ear monitor use. Licences are issued on a temporary basis, with a maximum duration of 6 months. Typical e.r.p. levels do not generally exceed 50 mW, while the maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz
	ISL	Y	Secondary status. Unused TV channels shall be used
	LIE	Y	Available band: 470-694 MHz. For more information: https://www.aknet.li/api/rir/1009/10 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	LTU	Y	Light licensing (registration of radio equipment)
	LVA	Y*	
	MCO	Y*	
	MLT	L	Radio microphones are allowed to operate on the frequency ranges not being used for Terrestrial broadcasting services. Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1
	NOR	L!	Available frequencies in 510-694 MHz according to specifications given in the internet service provided by the frequency authority. Maximum permitted radiated power is 50 mW e.r.p.
	POL	Y	Band F1, Annex 10, ERC/REC 70-03
	POR	Y*!	Individual license required if e.r.p. > 50 mW
	RUS	L!	Band 470-638 MHz: radio microphones are on the secondary basis

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	S	Y	470-786 MHz possible
	SMR	Y	470-786 MHz possible
	SRB	Y	470-786 MHz possible
	SUI	Y!	Available band: 470-694 MHz. The operation in the frequency band 608-614 MHz (within TV channel 38) is not permitted in the vicinity of CH-5722 Bleien. Channelling on a tuning range basis and max. 50 mW e.r.p. For more information: http://www.ofcomnet.ch/api/rir/1009/10 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	SVK	Y*	Conditions for the use of frequencies are stipulated case-by-case in the individual authorization
	SVN	Y	Radio microphones, ERC/REC 70-03, EN 300 422
	TUR	Y	Maximum 50 mW e.r.p. The all rules are stated in By-law on Short Range Devices. https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fOrdinance%2fBY-LAW%20ON%20SHORT%20RANGE%20DEVICES.pdf
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 5-A4: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A4

Frequency Band	Country	Implementation	Conditions/remarks
A4 694-790 MHz (Radio microphones)	AND	L*	
	AUT	Y	Currently: Only in TV white spaces on tuning range basis; 200 kHz channels and max. 50 mW e.r.p.; After mobile networks roll out: only in the FDD gap
	AZE	Y*	On a secondary basis
	BEL	L	470-786 MHz possible
	BIH	Y*	
	BLR	L	Limited to 470-638 MHz (5 mW). Limited to 774-782 MHz
	BUL	L	ERC/REC 70-03/Annex 10. Available for Radio microphones in band 470-694 MHz , 723-753 MHz and 778-789 MHz
	CYP	L	470-786 MHz possible
	CZE	L	The use of 786 - 862 MHz band by wireless microphones is time- and power-limited in accordance with the General Authorisation. https://www.ctu.eu/sites/default/files/obsah/cze_rsup-p-10-08-2016-10_en.pdf and https://www.ctu.eu/sites/default/files/obsah/ctu/general-authorisation-no-vo-r/10/11.2016-13/obrazky/general-authorisation-no-vo-r10112016-13.pdf
	D	L*!	Basic parameters: max. channel bandwidth: 200 kHz; max. radiated power: 50 mW e.r.p. Restrictions apply for the protection of primary users (i.e. MFCN, DVB-T); 703-733 MHz excluded (MFCN uplink); 758-788 MHz additional optional capacity. Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	L!	Only in TV white spaces
	E	Y!	Radio microphones in the frequency band 694-786 MHz, only in the TV white spaces on tuning range basis and max. power 50 mW e.r.p.
EST	N	Use of new technologies	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	F	Y!	Secondary usage until 01/07/19, e.i.r.p. max = 13 to 19 dBm/200 kHz. ARCEP Decision n° 2016-0272 (Its Annex includes the list of municipalities and the associated reassignment dates beyond which the PMSE usage will be restricted)
	FIN	N	Band not available from the beginning of year 2017 (designated to MFCN)
	G	Y*!	PMSE will cease to have access to this band after 1st May 2020. Technology and application neutral. Geographical restrictions apply to outdoor use. Band typically used for wireless microphones, in-ear-monitors (IEMs) and talkback only. Maximum in-band e.r.p. is 50 mW for mics and IEM, and 5 W for talkback. 606-614 MHz (Ch. 38) is allocated on a UK-wide use (shared basis between users) with maximum 50 mW e.r.p. for mics
	GRC	L*!	694-786 MHz : License required for e.r.p over 50mW. For 694-789 MHz: maximum e.r.p. 12mW. 789-790 MHz not available (used as guard band for Digital Dividend I). Geographical restrictions (depending on the allotment the band is available where spectrum is not used by broadcasting or security services). http://www.efis.dk/documents/51372
	HNG	L	License exemption; Conditions based on ERC/REC 70-03 Annex 10
	HOL	L	736-753 MHz, 50 mW e.r.p. license exempt, max. bandwidth 600 kHz.
	HRV	L	470-786 MHz possible
	I	L	470-786 MHz possible
	IRL	Y*	Licences may be granted for radio microphone/in-ear monitor use. Licences are issued on a temporary basis, with a maximum duration of 6 months. Typical e.r.p. levels do not generally exceed 50 mW, while the maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz
	ISL	N	Band not available after 2017 (will be used for MFCN). May be used for radio microphones until start of MFCN
	LIE	N	
	LTU	L	Light licensing (registration of radio equipment). Up to 789 MHz
	LVA	Y*	
	MCO	Y*	
	MLT	L	Radio microphones are allowed to operate on the frequency ranges not being used for Terrestrial broadcasting services. Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1
	NOR	Y!	Available frequencies in 694-790 MHz according to specifications given in the internet service provided by the frequency authority. Maximum permitted radiated power is 50 mW e.r.p. Will be used for mobile broadband, no later than 3 June 2021
	POL	Y	Band F1 and F2, Annex 10, ERC/REC 70-03
	POR	L*!	Individual license required if e.r.p. > 50 mW. The frequency range 750-758 MHz is not allowed due to the DTT SFN in channel 56
	RUS	L!	Band 710-726 MHz: radio microphones are on the secondary basis
	S	L	470-786 MHz possible
	SMR	L	470-786 MHz possible
	SRB	L	470-786 MHz possible
	SUI	N	
	SVK	Y*!	Conditions for the use of frequencies are stipulated case-by-case in the individual authorization

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	SVN	L	Radio microphones in 694-698 MHz and 736-738 MHz. ERC/REC 70-03, EN 300 422
	TUR	Y	Maximum 50 mW e.i.r.p. for 694-786 MHz frequency band and maximum 12 mW e.i.r.p. for 786-789 MHz frequency band. The use of these bands is allowed until 31/12/2018. The all rules are stated in By-law on Short Range Devices. https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fOrdinance%2fBY-LAW%20ON%20SHORT%20RANGE%20DEVICES.pdf
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 5-A5: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A5

Frequency Band	Country	Implementation	Conditions/remarks
A5 823-832 MHz	AUT	Y	823-826 MHz: max. 100 mW e.r.p. body worn otherwise max. 12 mW e.r.p.; 826-832 MHz: max. 100 mW e.r.p.
	AZE	Y*	On a secondary basis
	BIH	Y	On tuning range. Radio microphones and ALD as per ERC/REC 70-03 Annex 10
	BUL	Y	ERC/REC 70-03/Annex 10; EC Decision 2014/641/EU
	CZE	L	The 823-826 MHz is available for PMSE, but only for body-worn microphones https://www.ctu.eu/sites/default/files/obsah/cze_rs-up-10-08-2016-10_en.pdf and https://www.ctu.eu/sites/default/files/obsah/ctu/general-authorisation-no-vo-r/10/11.2016-13/obrazky/general-authorisation-no-vo-r10112016-13.pdf
	D	Y	Basic parameters: max. radiated power: 100 mW e.i.r.p. except 823-826 MHz: 82 mW e.i.r.p. for handheld devices. Detailed Information: *Mikrofone">www.bnetza.de/allgemeinzuteilungen->*Mikrofone ->Vfg. 2/2015
	DNK	Y	Special technical conditions for this band, which are available in the national Radio Interfaces
	E	Y	PMSE audio including radio microphones, until 100 mW e.r.p. restricted to body worn equipment, otherwise max. 20 mW e.r.p. , according ERC Rec.70-03 annex 10 and Decision 2014/641/EU
	EST	Y	823-826 MHz max. 20 mW e.i.r.p.(for body-worn max. 100 mW e.i.r.p.), ch. BW 200 kHz. 826-832 MHz max.100 mW e.i.r.p., ch. BW 200 kHz. See Regulation of Ministry of Communication and Economical Affairs 07.10.2011 No 96.
	F	Y	Secondary usage. ARCEP Decision n° 2015-0830 as specified in the Commission Implementing Decision 2014/641/EU on PMSE
	FIN	Y	According to FICORA Regulation 15: e.r.p. = 12 mW (for body-worn microphones e.r.p. = 60 mW). B = 200 kHz. Standard EN 300 422. No radio licence will be needed provided that the user can only choose between the 823–832 MHz and/or 863–865 MHz bands. The user must not have other frequencies available
	G	Y*	Technology and application neutral. See ERC/REC 70-03, Annex 10 and EC Decision 2014/641/EU. Subject to light licensing (general licence authorisation) regime
	GRC	Y!	823-826 MHz: maximum e.i.r.p 20 mW for portable devices & maximum e.i.r.p. 100 mW restricted to body worn equipment. 826- 832 MHz: maximum e.i.r.p 100 mW
	HNG	Y	Harmonised; License exemption. Detailed description in paragraph 10.1, 11.11.2 of Annex 3 and Annex 5 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1
HOL	Y!	823-826 MHz 20 mW e.i.r.p. handheld; 823-826 MHz 100 mW e.i.r.p. body worn; 826 - 832 MHz 100 mW e.i.r.p.	
IRL	Y*	Band available for PMSE at this present time. Licences may be granted for Audio Links. Licences are issued on a temporary basis, with a maximum duration of 6 months. Maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz	
ISL	Y	In accordance with ERC/REC 70-03 Annex 10	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	LIE	Y	Band 823-826 MHz: bandwidth of 200 kHz; max. 20 mW e.i.r.p. and max. 100 mW e.i.r.p. restricted to body worn microphones. For more information: https://www.aknet.li/api/RIR/1009/18 . Band 826-832 MHz; Channelling on a tuning range basis; bandwidth of 200 kHz and max. 100 mW e.i.r.p. For more information: https://www.aknet.li/api/rir/1009/13
	LTU	Y	Light licensing (registration of radio equipment)
	LVA	Y*	
	MLT	Y	Available as from January 2017. Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1
	NOR	Y!	823 to 826 MHz. Maximum permitted radiated power is 20 mW e.i.r.p. For use is limited to body worn microphone is maximum radiated power 100 mW e.i.r.p. 826 to 832 MHz. Maximum permitted radiated power is 100 mW e.i.r.p.
	POL	Y	COMMISSION IMPLEMENTING DECISION 2014/641/EU of 1 September 2014 on harmonised technical conditions of radio spectrum use by wireless audio programme making and special events equipment in the Union
	POR	Y	Use authorized under the technical conditions defined in Decision 2014/641/EU
	RUS	N	The band is not designated for this application
	S	L	Licence exemption 10 mW e.r.p. handheld equipment. Licence exemption 50 mW e.r.p. bodyworn equipment
	SUI	Y	Band 823-826 MHz: bandwidth of 200 kHz; max. 20 mW e.i.r.p. and max. 100 mW e.i.r.p. restricted to body worn microphones. For more information: http://www.ofcomnet.ch/api/RIR/1009/18 . Band 826-832 MHz; Channelling on a tuning range basis; bandwidth of 200 kHz and max. 100 mW e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/1009/13
	SVK	Y	Frequencies from this frequency band may be used by radio microphones on the basis of the General Authorization No. VPR-02/2015: http://www.teleoff.gov.sk/data/files/43712.pdf
	SVN	Y	Radio microphones: ERC/REC 70-03, EN 300 422, 2014/641/EU
TUR	N	Band not available. Planned for other services	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 5-A6: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A6

Frequency Band	Country	Implementation	Conditions/remarks
A6 863-865 MHz	AUT	Y	According to sub-class 48 (max. 10 mW e.r.p.)
	AZE	Y*	On a secondary basis
	BIH	Y*	On tuning range. Radio microphones and ALD as per ERC/REC 70-03 Annex 10
	BUL	Y	ERC/REC 70-03/Annex 10; EC Decision 2006/771/EC as amended
	CZE	Y	Band available for audio transmissions only https://www.ctu.eu/sites/default/files/obsah/cze_rsup-p-10-08-2016-10_en.pdf and https://www.ctu.eu/sites/default/files/obsah/ctu/general-authorisation-no-vo-r/10/11.2016-13/obrazky/general-authorisation-no-vo-r10112016-13.pdf
	D	Y	Basic parameters: max. channel bandwidth: 200 kHz, max. radiated power: 10 mW e.i.r.p. Detailed information: www.bnetza.de/allgemeinzuteilungen ->"Mikrofone"->Vfg. 2/2015
	E	Y	Radio microphones in the frequency band 863-865 MHz. 10 mW e.r.p. Recommendation 70-03 annex 10.
	EST	Y	Max. 10 mW e.i.r.p. See Regulation of Ministry of Communication and Economical Affairs 07.10.2011 No 96.

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	F	Y	Primary use in accordance with ARCEP Decision 2014-1263 regarding SRD usage
	FIN	Y	According to FICORA Regulation 15: e.r.p. = 12 mW (for body-worn microphones e.r.p. = 60 mW). B = 200 kHz. Standard EN 300 422. No radio licence will be needed provided that the user can only choose between the 823–832 MHz and/or 863–865 MHz bands. The user must not have other frequencies available
	G	Y	Technology and application neutral. In accordance with the Wireless Telegraphy (Exemption Regulations), the UK Interface Requirement IR2030 (Short Range Devices) and ERC/REC 70-03. Wireless microphones satisfying the exemption criteria may be used UK-wide
	GRC	Y!	10 mW Maximum e.r.p.
	HNG	Y	Harmonised; License exemption. Detailed description in paragraph 11.14.1 and 11.14.2 of Annex 3 and Annex 5 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1
	HOL	Y	10 mW e.r.p.
	IRL	Y	Licence exempt operation is permitted for Radio Microphones and In-Ear Monitoring Systems, as per Annex 10 of ERC/REC 70-03. See ComReg document 02/71R, "Permitted Short Range Devices In Ireland" at: https://www.comreg.ie/publication/permitted-short-range-devices-in-ireland-2/ . Channel spacing of 200 kHz and maximum permissible e.r.p. of 10 mW
	ISL	Y	In accordance with ERC/REC 70-03 Annex 10
	LIE	Y	Band 863-865 MHz: Max. 10 mW e.r.p. For more information: https://www.aknet.li/api/rir/1009/05 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	MLT	Y	Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1
	NOR	Y!	The frequency band 863-865 MHz is authorized for cordless audio equipment and audio equipment for multimedia streaming services. Maximum permitted radiated power is 10 mW e.r.p. Frequency band is authorized as described in EN 301 357
	POL	Y	Sub-class 48 of Class 1 according to the Commission Decision 2000/299/EC
	POR	Y	Use authorized under the technical conditions defined in Decision2013/752/EU
	RUS	Y	Wireless audio equipment on the secondary basis
	SUI	Y	Band 863-865 MHz: Max. 10 mW e.r.p. For more information: http://www.ofcomnet.ch/api/rir/1009/05 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	SVK	Y	Frequencies from this frequency band may be used by radio microphones on the basis of the General Authorization No. VPR-02/2015: http://www.teleoff.gov.sk/data/files/43712.pdf
	SVN	Y	Radio microphones, wireless audio and multimedia streaming applications: ERC/REC 70-03, EN 300 422, EN 301 357, 2014/641/EU
	TUR	Y	Maximum 10 mW e.r.p. with standards, EN 300 422 and EN 301 357. The all rules are stated in By-law on Short Range Devices. https://www.btk.gov.tr/File/?path=ROOT%2f1%2fDocuments%2fOrdinance%2fBY-LAW%20ON%20SHORT%20RANGE%20DEVICES.pdf
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 5-A7: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A7

Frequency Band	Country	Implementation	Conditions/remarks
A7 1350-1400 MHz	AUT	Y*	Sharing with the assigned FS links; max. 100mW e.i.r.p. body worn otherwise 20mW e.i.r.p.; 200 kHz channels; a licence is only granted for events
	AZE	Y*	On a secondary basis
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	BIH	N	Band not available: military use, radars and tactical radars
	BLR	N	
	BUL	Y	ERC/REC 70-03 Annex 10 EN 300 422
	CZE	N	The band is available for low capacity fixed links, radio astronomy and passive scientific applications. https://www.ctu.eu/sites/default/files/obsah/cze_rsud-p-20-01.2016-1_eng.pdf
	D	Y*!	Basic parameters: max. radiated power: 50 mW e.r.p. Restrictions apply for the protection of primary users (i.a. military applications). Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnòmL
	E	N	Band not available
	EST	N	Governmental use.
	F	L*!	Temporary licenses. Coordination required between assigning authorities (ARCEP, Aviation Civile and la Défense) in order to avoid harmful interference in 1350-1375 MHz
	FIN	N	Band not available: WiMAX and military use
	G	N	Band not available
	GEO	Y*	
	GRC	N	Band not available (used by security services)
	HNG	N	Band not available (Governmental use; lack of interest for PMSE use)
	HOL	Y*!	Individual license required.
	IRL	L*	The band 1370-1385 MHz is potentially available for audio PMSE licensing under ComReg's point-to-point licensing scheme, available online, at: https://www.comreg.ie/publication/guidelines-to-applicants-for-radio-links-licences/
	ISL	N	Band not available
	LIE	Y	
	LTU	Y*	As application of the mobile service
	LVA	N	Band identified for other systems
	MLT	N	Not available (no demand)
	NOR	N	Band not available
	POL	N	Band not available (military usage)
	POR	N	Band not available
	RUS	N	The band is not designated for this application
	SUI	Y	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	SVK	N	No demand for PMSE applications in frequency band 1350-1400 MHz
	SVN	Y	ERC/REC 70-03
	TUR	N	Band not available. Planned for other services

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 5-A8: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A8

Frequency Band	Country	Implementation	Conditions/remarks
A8 1518-1525 MHz	AUT	Y*	Max. 50 mW e.i.r.p.; 200 kHz channels; a licence is only granted for events
	AZE	Y*	On a secondary basis
	BIH	N	Band not available: military use
	BLR	N	
	BUL	Y	ERC/REC 70-03 Annex 10 EN 300 422
	CZE	N	Band not available. See https://www.ctu.eu/sites/default/files/obsah/cze_rsud-p-20-01.2016-1_eng.pdf
	D	N	Band not available
	E	N	Band not available
	EST	N	Governmental use, mobile-satellite use.
	F	N	Band not available: Mobile-satellite services usage (space-to-Earth) as described in the ECC(DEC/(04)09
	FIN	L*	1519.2 - 1524.8 MHz, Sound program transmission, Fixed radio links and mobile transmitters for one-way sound program transmission
	G	Y*!	Technology and application neutral but used typically for audio applications and audio links. Shared alongside mobile satellite systems (MSS) user terminals and satellite downlinks
	GRC	N	Band not available (used by security services)
	HNG	N	Band not available (New band in ERC/REC 25-10, under investigation)
	HOL	Y*!	Individual license required.
	IRL	N	Band not open for PMSE use (no current demand)
	ISL	N	Band not available
LIE	N	Band not available (Used by fixed service)	
LTU	Y*	As application of the mobile service	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	LVA	N	Band identified for other systems
	MLT	N	Not available (no demand)
	NOR	N	Band not available
	POL	N	Band not available (military usage)
	POR	N	Band not available
	RUS	N	The band is not designated for this application
	SUI	N	Band not available (Used by fixed service)
	SVK	N	No demand for PMSE applications in frequency band 1518-1525 MHz. Future allocation in the band 1518-1525 MHz for PMSE applications under consideration
	SVN	Y*	Conditions not yet defined
	TUR	Y*	Depend on the conditions in the application form

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 5-A9: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band A9

Frequency Band	Country	Implementation	Conditions/remarks
A9 1785-1805 MHz	AUT	Y	Max. 50 mW e.i.r.p. body worn otherwise 20 mW e.i.r.p.; 200 kHz channels; Licence exempt
	AZE	Y*	On a secondary basis
	BEL	L	1785-1800 MHz possible
	BIH	Y	On tuning range. Radio microphones and ALD as per ERC/REC 70-03 Annex 10
	BUL	Y	EC Decision 2014/641/EU
	CZE	Y	https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_12_06-2015-03_en.pdf
	D	Y	Basic parameters: max. radiated power: 82 mW EIRP. Detailed information: www.bnetza.de/allgemeinzuteilungen ->"Mikrofone"->Vfg. 3/2015
	E	Y	PMSE audio including radio microphones, in the band 1785-1805 MHz according ERC Rec.70-03 annex 10 and European Commission Decision 2014/641/EU
	EST	Y	1785-1804.8 MHz, max. 20 mW e.i.r.p. (for body-worn max. 100 mW e.i.r.p.). See Regulation of Ministry of Communication and Economical Affairs 07.10.2011 No 96.
	F	Y	Secondary usage, e.i.r.p. max = 20 up to 50 mW. ARCEP Decision n° 2015-0830
	FIN	Y	1785-1804.8 MHz; Maximum radiated power 20 mW e.i.r.p., for body-worn microphones max. 50 mW e.i.r.p. Standard EN 300 422-1. SRD Recommendation ERC/REC/70-03. European Commission Decision 2014/641/EU
G	Y*!	Technology and application neutral but typically used for wireless microphones. EC Decision 2014/641/EU. Maximum in-band e.r.p. is 50 mW for mics. Not available in Northern Ireland	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	GRC	Y	Maximum e.i.r.p. 20mW (50mW for body worn equipment)
	HNG	Y	Harmonised, license exemption. Detailed description in paragraph 10.2 of Annex 3 and in Annex 5 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1
	HOL	Y	50 mW e.i.r.p. body worn. 20 mW e.i.r.p. handheld.
	HRV	Y*	Individual licence required: 1795-1800 MHz
	IRL	Y	Licences may be granted for audio PMSE use. Licences are issued on a temporary basis, with a maximum duration of 6 months. Channel bandwidth is 200 kHz, and a maximum permissible e.r.p. as detailed below is applicable to the following sub-bands: 1785 – 1804.8 MHz : 50 mW; 1804.8 MHz – 1805 MHz: 1mW
	ISL	Y	In accordance with ERC/REC 70-03 Annex 10
	LIE	Y	Band 1785-1804.8 MHz: max. 20mW e.i.r.p. and max. 50mW e.i.r.p. for body worn or equipment with Spectrum Scanning Procedure (SSP) implemented. For more information: https://www.aknet.li/api/rir/1009/09 and https://www.aknet.li/api/rir/1013/18 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	LTU	Y	Light licensing (registration of radio equipment)
	LVA	Y*	
	MLT	Y	Please refer to 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1
	NOR	Y!	See table under §14 - https://lovdata.no/dokument/SF/forskrift/2012-01-19-77#KAPITTEL_5
	POL	Y	COMMISSION IMPLEMENTING DECISION 2014/641/EU of 1 September 2014 on harmonised technical conditions of radio spectrum use by wireless audio programme making and special events equipment in the Union
	POR	Y	Use authorized under the technical conditions defined in Decision 2014/641/EU
	ROU	L	Only 1785-1800 MHz
	RUS	N	The band is not designated for this application
	S	L	1785-1800 MHz possible
	SRB	L	1785-1800 MHz possible
	SUI	Y	Band 1785-1804.8 MHz: max. 20mW e.i.r.p. and max. 50mW e.i.r.p. for body worn or equipment with Spectrum Scanning Procedure (SSP) implemented. For more information: http://www.ofcomnet.ch/api/rir/1009/09 and http://www.ofcomnet.ch/api/rir/1013/18 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	SVK	Y*	Frequencies 1785-1805 MHz may be used by radio microphones on the basis of the General Authorization No. VPR-02/2015: http://www.teleoff.gov.sk/data/files/43712.pdf . Technical conditions for PMSE applications in this band are set out in accordance with Annex of the EC decision 2014/641/EU. If required bandwidth exceeds 200 kHz, the Regulatory Authority sets out respective restrictions in individual authorization
	SVN	Y	Decision 2014/641/EU, ETSI EN 300 422
	TUR	L*	Depend on the conditions in the application form. 1790-1800 MHz is assigned to another service nationwide

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 5-B1: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band B1

Frequency Band	Country	Implementation	Conditions/remarks
B1 174-216 MHz (Audio links)	AND	L*	
	AUT	N	Band 230-235 MHz assigned and used for audio links
	AZE	Y*	
	BIH	Y*	
	BUL	Y	
	CZE	Y	Provided that audio links are in line with ERC Recommendation 70-03. https://www.ctu.eu/sites/default/files/obsah/cze_rsulp-21-11-2016-11_eng.pdf
	D	N	Audio links may be operated in this band subject to the same conditions as wireless microphones (detailed information: www.bnetza.de/allgemeinzuteilungen ->"Mikrofone"->Vfg. 59/2015)
	DNK	N	Not available for audio links. Wireless hearing aids allowed
	E	L	Mobile audio links in the frequency band 181-188 MHz
	EST	N	Only radio microphone, see A2. Primary use is broadcasting.
	F	Y	Secondary usage, e.r.p. max = 50 mW (17 dBm) ARCEP Decisions n° 2010-0849 and n° 2010-0850 regarding PMSE in 174-223 MHz band
	FIN	N	Not available for audio links
	G	L*	Regarding wireless microphones, the following frequencies (MHz) are available under a shared licensing regime. UK-wide use (* denotes those frequencies unavailable in Northern Ireland), allocated to microphones only, 50 mW e.r.p. on designated channels only: 175.250*, 175.525*, 176.600*, 191.900, 192.800, 193.000, 199.700, 200.300, 200.600, 208.300, 208.600, 209.000, 209.200, 209.600, 209.800. The following frequencies (MHz) are available for wireless mics, talkback* and audio links** (maximum in-band e.r.p. is 50 mW for mics): 175.150 to 175.350; 175.425 to 175.625; 176.300 to 177.100; 181.69375 to 181.80625*; 184.500 to 185.100; 189.69375 to 189.80625*; 191.600 to 193.100**; 199.600 to 201.100; 207.600 to 210.100
	GEO	L*	
	GRC	Y*!	License required for e.r.p. over 50mW
	HNG	L*!	Links between site and studio: 190-216 MHz band; individual license; max. 10 W e.r.p.
	HOL	L*	Except for 195-202 MHz the band is available for audio links, individual license required.
	IRL	Y*	Licences may be granted for Audio Links. Licences are issued on a temporary basis, with a maximum duration of 6 months. Maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz
ISL	L*		
LIE	N	Band not available (T-DAB use)	
LTU	Y	Light licensing (registration of radio equipment). Up to 50 mW e.r.p.	
LVA	Y*		

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	MCO	Y*	
	MLT	L*	Technical conditions are established at the licence application stage. Licences issued within this band are of a temporary nature
	NOR	N	Band not available
	POL	Y	Band not available
	POR	Y*	Individual license required if e.r.p. > 50 mW
	RUS	N	The band is not designated for this application
	SRB	Y	
	SUI	N	Band not available (T-DAB use)
	SVK	N	Regulatory Authority does not consider authorising this frequency band to be used by audio links at this time
	SVN	N	Not available for audio links (allowed for radio microphones)
	TUR	N	Band not available. Audio links are not covered by By-law on Short Range Devices
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 5-B2: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band B2

Frequency Band	Country	Implementation	Conditions/remarks
B2 470-694 MHz (Audio links)	AND	Y*	
	AUT	N	Band 230-235 MHz assigned and used for audio links
	AZE	Y*	
	BIH	Y*	
	BUL	Y	
	CZE	Y	https://www.ctu.eu/sites/default/files/obsah/cze_rsup-p-10-08-2016-10_en.pdf
	D	Y*!	Basic parameters: max. channel bandwidth: 300 kHz, max. radiated power: 250 W e.r.p. Restrictions apply for the protection of primary users (i.a. DVB-T); 606-614 MHz excluded (radio astronomy). Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVn%20mL.pdf
	DNK	L!	Only in TV white spaces
	E	N	Band not available
	EST	N	Only radio microphone, see A3. Primary use is broadcasting.
	F	Y!	Secondary use, e.r.p. max = 1 W ARCEP Decision n° 2015-0830
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	FIN	N	Not available for audio links
	G	Y*!	Technology and application neutral. Geographical restrictions apply to outdoor use. Band typically used for wireless microphones, in-ear-monitors (IEMs) and talkback. Maximum in-band e.r.p. is 50 mW for mics and IEM, and 5 W for talkback. 606 - 614 MHz (Ch. 38) is allocated for UK-wide use (shared basis between users) with maximum 50 mW e.r.p. for mics
	GRC	L*!	License required for e.r.p over 50mW. Geographical restrictions (depending on the allotment the band is available where spectrum is not used by broadcasting or security services). http://www.efis.dk/documents/51372
	HNG	Y*!	Links between site and studio: individual license; max. 10 W e.r.p.
	HOL	L*	556 - 558 MHz / 564 - 566 MHz / 572 - 574 MHz / 580 - 582 MHz / 588 - 590 MHz / 596 - 598 MHz / 604 - 606 MHz available for audio links, individual license require.
	IRL	Y*	Licences may be granted for Audio Links. Licences are issued on a temporary basis, with a maximum duration of 6 months. Maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz
	ISL	N	Band not available
	LIE	Y*	Available band: 470-694 MHz. In-ear monitor systems. Channelling on a tuning range basis and max. 50 mW e.r.p. For more information: https://www.aknet.li/api/rir/1009/10 . In dedicated channels with licence up to 5 W for one-way wireless audio links: https://www.aknet.li/api/rir/1013/20 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	LTU	Y	Light licensing (registration of radio equipment). Up to 50 mW e.r.p.
	LVA	Y*	
	MCO	Y*	
	MLT	L	Audio links are allowed to operate on the frequency ranges not being used for Terrestrial broadcasting services. Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1
	NOR	L!	Available frequencies in 510-694 MHz according to specifications given in the internet service provided by the frequency authority. Maximum permitted radiated power is 50 mW e.r.p.
	POL	Y	Band F1, Annex 10, ERC/REC 70-03
	POR	Y*!	Individual license required if e.r.p. > 50 mW
	RUS	N	The band is not designated for this application
	SUI	Y*!	Available band: 470-694 MHz. In-ear monitor systems. The operation in the frequency band 608-614 MHz (within TV channel 38) is not permitted in the vicinity of CH-5722 Bleien. Channelling on a tuning range basis and max. 50 mW e.r.p. For more information: http://www.ofcomnet.ch/api/rir/1009/10 . In dedicated channels with licence up to 5 W for one-way wireless audio links: http://www.ofcomnet.ch/api/rir/1013/20 . The national implementation is based on ERC/REC 70-03. https://www.bakom.admin.ch/bakom/en/homepage/equipments-and-installations/particular-equipment/radio-microphones.html
	SVK	N	Regulatory Authority does not consider authorising this frequency band to be used by audio links at this time
	SVN	N	Not available for audio links (allowed for radio microphones)
	TUR	N	Band not available. Audio links are not covered by By-law on Short Range Devices

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 5-B3: additional information regarding the national conditions for the identified tuning ranges for audio PMSE applications - Band B3

Frequency Band	Country	Implementation	Conditions/remarks
B3 694-790 MHz (Audio links)	AND	L*	
	AUT	N	Band 230-235 MHz assigned and used for audio links
	AZE	Y*	On a secondary basis
	BIH	N*	SAP/SAB and ENG/OB application envisaged, but still existing analogue terrestrial TV BC
	BUL	L	ERC/REC 70-03/Annex 10. Available for Radio microphones in band 470-694 MHz , 723-753 MHz and 778-789 MHz
	CZE	Y	https://www.ctu.eu/sites/default/files/obsah/cze_rsup-p-10-08-2016-10_en.pdf
	D	N	Audio links may be operated in this band subject to individual licensing under the same conditions as wireless microphones (detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL)
	DNK	L!	Only in TV white spaces
	E	N	Band not available
	EST	N	Only radio microphone, see A4.
	F	Y!	Secondary usage until 01/07/19, e.i.r.p. max = 13 to 19 dBm/200 kHz. ARCEP Decision n° 2016-0272 (Its Annex includes the list of municipalities and the associated reassignment dates beyond which the PMSE usage will be restricted)
	FIN	N	Band not available from the beginning of year 2017 (designated to MFCN)
	G	Y*!	PMSE will cease to have access to this band after 1st May 2020. Technology and application neutral. Geographical restrictions apply to outdoor use. Band typically used for wireless microphones, in-ear-monitors (IEMs) and talkback only. Maximum in-band e.r.p. is 50 mW for mics and IEM, and 5 W for talkback. 606-614 MHz (Ch. 38) is allocated on a UK-wide use (shared basis between users) with maximum 50 mW e.r.p. for mics
	GEO	Y!	
	GRC	L*!	694-786 MHz: License required for e.r.p over 50mW. For 694-789 MHz: maximum e.r.p. 12mW. 789-790 MHz not available (used as guard band for Digital Dividend I). Geographical restrictions (depending on the allotment the band is available where spectrum is not used by broadcasting or security services). http://www.efis.dk/documents/51372
	HNG	Y*!	Links between site and studio: individual license; max. 10 W e.r.p.
	HOL	N	Not available for audio links
	IRL	Y*	Licences may be granted for Audio Links. Licences are issued on a temporary basis, with a maximum duration of 6 months. Maximum permissible e.r.p. is 1 W. Maximum channel bandwidth is 200 kHz
	ISL	N	Not available for audio links
	LIE	N	used by MFCN
LTU	L	Light licensing (registration of radio equipment). 694-786 MHz: Up to 50 mW e.r.p.; 786-789 MHz: up to 12 mW e.r.p.	
LVA	L*	Available in the 694-786 MHz band	
MCO	Y*		
MLT	L	Audio links are allowed to operate on the frequency ranges not being used for Terrestrial broadcasting services. Please refer to the 31st Schedule of subsidiary legislation S.L.399.40: http://www.justiceservices.gov.mt/DownloadDocument.aspx?app=lom&itemid=11475&l=1	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	NOR	Y!	Available frequencies in 694-790 MHz according to specifications given in the internet service provided by the frequency authority. Maximum permitted radiated power is 50 mW e.r.p. Will be used for mobile broadband, no later than 3 June 2021
	POL	Y	Band F1 and F2, Annex 10, ERC/REC 70-03
	POR	L*!	e.r.p. > 50 mW. The frequency range 750-758 MHz is not allowed due to the DTT SFN in channel 56.
	RUS	N	The band is not designated for this application
	SUI	N	used by MFCN
	SVK	N	Regulatory Authority does not consider authorising this frequency band to be used by audio links at this time
	SVN	N	Not available for audio links (allowed for radio microphones in specific sub-bands as described in the previous table)
	TUR	N	Band not available. Audio links are not covered by By-law on Short Range Devices

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Contact administration using details at <https://www.cept.org/ecc/topics/programme-making-and-special-events-applications-pmse> for further information

ANNEX 5: NATIONAL CONDITIONS FOR VIDEO PMSE APPLICATIONS

This Annex 5 lists the national conditions for each of the tuning range mentioned in the Annex 3 for video PMSE applications

Table 6: National information regarding availability and conditions of identified tuning ranges for video PMSE applications

Frequency Band	ALB	AND	AUT	AZE	BEL	BIH	BLR	BUL	CVA	CYP	CZE	D	DNK	E	EST	F	FIN	G	GEO	GRC	HNG	HOL	HRV	I	IRL	ISL	LIE	LTU	LUX	LVA	MCO	MDA	MKD	MLT	MNE	NOR	POL	POR	ROU	RUS	S	SMR	SRB	SUI	SVK	SVN	TUR	UKR
C1: 2010-2025 MHz	N	N	Y	Y	Y	N	N	Y		Y	Y	Y	Y	Y	Y	Y	Y	Y	L	N	N	Y	N	N	Y	Y	Y	Y	Y		N	N	Y	N	N	N	N	N	N	Y		N	Y	Y	Y	N	Y	
C2: 2025-2110 MHz	Y	Y	L	Y	Y	L	L	Y		Y	Y	N	Y	N	L	L	L	Y	L	L	N	L	N	L	Y	L	Y	Y	Y	N		Y	Y	Y	Y	Y	L	N	Y	N	Y		Y	Y	N	L	N	Y
C3: 2200-2300 MHz	L	Y	L	Y	Y	L	N	N		Y	Y	N	L	N	Y	L	L	Y	L	L	N	L	L	L	Y	L	L	Y	L	N		L	Y	Y	L	Y	L	Y	Y	N	L		L	Y	N	L	L	L
C4: 2300-2400 MHz	Y	Y	Y	Y	Y	Y	N	Y		Y	Y	L	N	N	L	L	Y	L	L	Y	N	Y	Y	Y	Y	L	Y	Y	Y	L		Y	Y	N	Y	Y	L	Y	Y	N	Y		Y	Y	Y	N	L	Y
C5: 2400-2500 MHz	Y	Y	Y	Y	Y	L	L	N		Y	N	Y	N	L	N	L	N	L	L	L	N	L	Y	Y	Y	L	N	Y	Y	N		Y	Y	N	Y	N	L	L	Y	N	L		Y	N	Y	Y	L	Y
C6: 2700-2900 MHz	N	N	N	Y	N	N	N	N		N	N	N	N	N	N	Y	L	N	L	N	N	N	N	N	N	N	N	N	N	N		N	N	N	N	N	N	N	N	N	Y		N	N	N	Y	N	N
C7: 7.0-8.5 GHz	N	N	L	Y	L	N	N	N		N	N	N	N	N	N	L	L	L	Y	L	N	L	N	L	L	L	N	Y	N	N		N	N	Y	L	L	L	N	N	L	L		N	N	L	L	L	L
C8: 10.0-10.68 GHz	Y	Y	L	Y	L	Y	N	L		Y	L	L	L	L	L	N	L	L	Y	Y	Y	N	N	Y	L	N	Y	Y	Y	L		Y	N	L	Y	Y	L	Y	Y	N	N		Y	Y	L	L	L	N
C9: 21.2-24.5 GHz	L	L	L	Y	L	L	N	L		L	L	L	L	L	L	N	L	L	Y	L	L	L	L	L	L	N	L	Y	L	L		L	L	L	L	L	L	N	L	N	N		L	L	N	L	L	L
C10: 47.2-50.2 GHz	Y	Y	Y	Y	N	Y	N	L		Y	N	N	L	N	L	N	Y	L	N	Y	Y	Y	Y	N	N	N	Y	Y	Y	L		Y	Y	Y	Y	L	Y	N	Y	N	N		Y	Y	N	L	Y	Y
Possible implementation status:	Y = the whole band is available for PMSE								N = the band is not available for PMSE								L = Limited availability																															

Note: CEPT country codes can be found at <http://www.cept.org/cept/cept-country-codes>

Tables 7-C1 to 7-C10 below list the national conditions provided by administrations on specific frequency bands contained within Annex 3 of this Recommendation. These indicate national usage conditions for the tuning ranges which are implemented and reasons for the cases where administrations are not able to implement frequency allocations or where implementation is incomplete. For consistency, one of the following standard positions (Y, N, L) should be used for the implementation:

Table 7-C1: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C1

Frequency Band	Country	Implementation	Conditions/remarks
C1 2010-2025 MHz	ALB	N	
Possible implementation status:	Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)		

Frequency Band	Country	Implementation	Conditions/remarks
	AND	N	
	AUT	Y*!	According to EC Decision 2016/339
	AZE	Y*	On a secondary basis
	BEL	Y*	
	BIH	N	Band not available: UMTS use
	BLR	N	
	BUL	Y	EC Decision 2016/339/EU
	CYP	Y*	
	CZE	Y	https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_06_09-2014-07_en_.pdf , new version is available only in czech https://www.ctu.cz/sites/default/files/obsah/ctu/vyzva-k-uplatneni-pripominek-k-navrhu-opatreni-obecne-povahy-casti-planu-vyuziti-radioveho-spektra-c.pv-p/6/xx.2017-yy-pro-kmitoctove-pasmo-1900-2200-mhz/obrazky/pv-p6-2017.pdf
	D	Y*!	Basic parameters: max. radiated power: cordless cameras: -7 dBW e.i.r.p.; portable video links: 16 dBW; mobile video links: 10 dBW. Restrictions apply for the protection of primary users (i.a. MFCN). Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	Y*	
	E	Y	PMSE video. According to Decision (EU) 2016/339
	EST	Y*	2016/339/EU; max. 10 dBW e.i.r.p. for mobile video links, max. 16 dBW e.i.r.p. for handheld video links, max. -7 dBW for cordless camera. See Regulation of Ministry of Communication and Economical Affairs 01.12.2009 No 118.
	F	Y*	Temporary licenses. Wireless camera e.i.r.p. max = -7 dBW Video link e.i.r.p. max = 10 to 16 dBW ARCEP Decision 2016-1130
	FIN	Y*	Cordless cameras. Standard EN 302064. European Commission Decision 2016/339/EU
	G	Y*!	EC Decision (EU) 2016/339 and ECC Report 219. Technology and application neutral but typically used for wireless camera/video links. Maximum in-band e.r.p. 20 dBW (13 dBW airborne) for wireless camera/video links. Cameras typically licensed at 100 mW e.r.p.
	GEO	L*	
	GRC	N	Currently not available. Under consideration for future use
	HNG	N	Will be implemented in 2017
	HOL	Y*	For ENG-OB only
	HRV	N	
	I	N	
	IRL	Y*	Maximum channel bandwidth of 10 MHz for non-HD applications. Maximum channel bandwidth for HD applications may be greater than 10 MHz, and could extend up to 20 MHz (taking into account the entire band 2010-2110 MHz). Centre frequencies: 2010 MHz, 2020 MHz. A maximum permissible e.r.p. as detailed below is applicable for the following systems: Wireless camera: 0.122W, Portable video link: 24.3W, Mobile video link: 6.1W
	ISL	Y*	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	LIE	Y*	Available band: 1980-2025 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/11
	LTU	Y*	
	LUX	Y*	
	LVA	Y*	
	MDA	N	
	MKD	N	
	MLT	Y*	Conditions as per EU Decision 2016/339
	MNE	N	
	POL	N	Currently not available. "COMMISSION IMPLEMENTING DECISION (EU) 2016/339 of 8 March 2016 on the harmonisation of the 2010-2025 MHz frequency band for portable or mobile wireless video links and cordless cameras used for programme making and special events" is under implementation
	POR	N	Generally not available. Available on a temporary basis only
	ROU	N	
	RUS	N	The band is not designated for this application
	S	Y*	
	SRB	N	
	SUI	Y*	Available band: 1980-2025 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/11
	SVK	Y*!	Conditions for the use of frequencies are stipulated in the individual authorization
	SVN	Y*!	EU DEC 2016/339
	TUR	N	EC Decision (EU) 2016/339 and ECC Report 219. Technology and application neutral but typically used for wireless camera/video links. Maximum in-band e.r.p. 20 dBW (13 dBW airborne) for wireless camera/video links. Cameras typically licensed at 100 mW e.r.p.
	UKR	Y*	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 7-C2: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C2

Frequency Band	Country	Implementation	Conditions/remarks
C2 2025-2110 MHz	ALB	Y*	
	AND	Y*	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	AUT	L*!	Max. 10MHz Channels; max. 20dBW eirp; 2070-2090 MHz: Restricted to Broadcasters only. 2090-2110 MHz: Restricted to fire brigades and private users
	AZE	Y*	On a secondary basis
	BEL	Y*	
	BIH	L	PBS old MW link systems for PMSE. Military use in 2025-2110 MHz
	BLR	L*	Temporary licenses for portable video links and mobile video links.
	BUL	Y	ECC Report 219. Available for Cordless Cameras, Portable video links and Mobile video links
	CYP	Y*	
	CZE	Y*	The band may be used in the coordination with the Ministry of Defence of the Czech Republic. https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_06_09-2014-07_en_.pdf , new version is available only in czech https://www.ctu.cz/sites/default/files/obsah/ctu/vyzva-k-uplatneni-pripominek-k-navrhu-opatreni-obecne-povahy-casti-planu-vyuziti-radioveho-spektra-c.pv-p/6/xx.2017-yy-pro-kmitoctove-pasmo-1900-2200-mhz/obrazky/pv-p6-2017.pdf
	D	N	Deviations from the specifications in the Frequency Plan (FreqP) could be permitted for a limited time in accordance with §58 TKG. This is provided that the frequency usages indicated in the Frequency Ordinance (FreqV) and the Frequency Plan are not adversely affected (for more details see: https://www.bundesnetzagentur.de/cin_1412/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Frequenzen/SpezielleAnwendungen/Kurzzeitteilungen/kurzzeitteilungen-node.html)
	DNK	Y*	
	E	N	Band not available
	EST	L*	2075.25-2110 MHz SAP/SAB. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35. Otherwise governmental use.
	F	L*!	Temporary licenses, e.i.r.p. max = 10 dBW. Use of 10 MHz bandwidth centered on 2055 MHz and 2095 MHz for ground-to-ground link and 10 MHz bandwidth centered on 2065 MHz and 2105 MHz for air-to-ground link. Coordination required between assigning authorities (la Défense and Space) regarding the use of the other available bands in order to avoid harmful interference. ARCEP Decision 2016-1130
	FIN	L*!	Cordless cameras, temporary use on a case- by-case basis. Standard EN 302064. Other use includes military use and space operation
	G	Y*!	Technology and application neutral but typically used for wireless cameras, typically licensed at 100 mW e.r.p.
	GEO	L*	
	GRC	L*!	Cordless Cameras. Portable/Mobile video links. 2087.5- 2108.5 MHz : not available (exclusive use by security services)
	HNG	N	Band not available (governmental use). However, the band may be used for short-term PMSE use if the user demand makes it necessary at certain occasions like main events. In this case the authority handles the requests on a case-by-case basis and if the frequency use can be authorised the users receive an individual license
	HOL	L*	2070-2110 MHz for ENG-OB only
	HRV	N	
	I	L*	2040-2110 MHz
	IRL	Y*!	Maximum Permissible e.r.p. of 1W. Maximum channel bandwidth of 10 MHz. Maximum channel bandwidth for HD applications may be greater than 10 MHz, and could extend up to 20 MHz (taking into account the entire band 2010 - 2110 MHz). Airborne use not permitted

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	ISL	L*	Band used for FX primary. Few video PMSE licensed today in this band in a specified area
	LIE	Y*	Available band: 2025-2110 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/11 .
	LTU	Y*	
	LUX	Y*	
	LVA	N	Band identified for other systems
	MDA	Y*	
	MKD	Y*	
	MLT	Y*	Technical conditions are established at the licence application stage
	MNE	Y*	
	NOR	Y*	
	POL	L*!	Granting a license in range 2070-2110 MHz requires military approval. The range 2025-2070 MHz is only in military usage
	POR	N	Generally not available. Available on a temporary basis only
	ROU	Y*	
	RUS	N	The band is not designated for this application
	S	Y*	
	SRB	Y*	
	SUI	Y*	Available band: 2025-2110 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/11 . In parts of the band coordination with military is required.
	SVK	N	Frequency band is used by others applications or services
	SVN	L*!	Available for PMSE: 2070-2110 MHz civil/military sharing. Not available: 2025-2070 MHz (military use)
	TUR	N	Band not available: planned for other services
UKR	Y*		

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 7-C3: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C3

Frequency Band	Country	Implementation	Conditions/remarks
C3 2200-2300 MHz	ALB	L*	2200-2290 MHz

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	AND	Y*	
	AUT	L*!	Different parts are restricted to different user groups as broadcaster and governmental use
	AZE	Y*	On a secondary basis
	BEL	Y*	
	BIH	L	Only parts are available. Military use in 2200-2245 MHz. 2245-2290 MHz PBS old MW link systems for PMSE, band not allocated to any similar application in 2290-2300 MHz
	BLR	N	
	BUL	N	ECC Report 219. Available for Cordless Cameras, Portable video links and Mobile video links
	CYP	Y*	
	CZE	Y	https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_06_09-2014-07_en_.pdf , new version is available only in czech https://www.ctu.cz/sites/default/files/obsah/ctu/vyzva-k-uplatneni-pripominek-k-navrhu-opatreni-obecne-povahy-casti-planu-vyuziti-radioveho-spektra-c.pv-p/6/xx.2017-yy-pro-kmitoctove-pasmo-1900-2200-mhz/obrazky/pv-p6-2017.pdf
	D	N	Deviations from the specifications in the Frequency Plan (FreqP) could be permitted for a limited time in accordance with §58 TKG. This is provided that the frequency usages indicated in the Frequency Ordinance (FreqV) and the Frequency Plan are not adversely affected (for more details see: https://www.bundesnetzagentur.de/chn_1412/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Frequenzen/SpezielleAnwendungen/Kurzzeituteilungen/kurzzeituteilungen-node.html)
	DNK	L*	2200-2290 MHz only
	E	N	Band not available
	EST	Y*	SAP/SAB. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35.
	F	L*!	Temporary licenses. Use of 10 MHz bandwidth centred on 2295 MHz for ground-to-ground link. Coordination required between assigning authorities (la Défense and Space) regarding the use of the other available bands in order to avoid harmful interference. ARCEP Decision 2016-1130
	FIN	L*!	Cordless cameras, temporary use on a case- by-case basis. Standard EN 302064. Other use includes military use
	G	Y*!	Technology and application neutral but typically used for wireless cameras, typically licensed at 100 mW e.r.p.
	GEO	L*	
	GRC	L*!	Cordless Cameras. Portable/Mobile video links. 2262.5-2283.5 MHz: not available (exclusive use by security services)
	HNG	N	Band not available (governmental use, lack of significant interest). However, the band may be used for short-term PMSE use if the user demand makes it necessary at certain occasions like main events. In this case the authority handles the requests on a case-by-case basis and if the frequency use can be authorised the users receive an individual license
	HOL	L*	2245-2300 MHz for ENG-OB only
	HRV	L*	2245-2300 MHz
	I	L*	2215-2300 MHz
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	IRL	Y*!	Centre Frequencies: 2205 MHz, 2215 MHz, 2225 MHz, 2235 MHz, 2245 MHz, 2255 MHz, 2265 MHz, 2275 MHz, 2285 MHz, 2295 MHz. Airborne use is only permitted at the following centre frequencies: 2285 MHz and 2295 MHz. Geographic limitations have been set where some centre frequencies are not available for licensing in certain listed geographic areas. Maximum permissible e.r.p.'s: Centre frequencies 2205–2275 MHz: 1W. Centre frequencies 2285–2295 MHz: 5W
	ISL	L*	Band used for FX primary. Few video PMSE licensed today in this band in a specified area
	LIE	L*	Available bands: 2170-2208 MHz and 2290-2400 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/11 . Other parts of the band not available.
	LTU	Y*	
	LUX	L*	2200-2290 MHz
	LVA	N	Band identified for other systems
	MDA	L*	2200-2290 MHz
	MKD	Y*	
	MLT	Y*	Technical conditions are established at the licence application stage
	MNE	L*	2200-2290 MHz
	NOR	Y*	
	POL	L*!	Granting a license in range 2250-2300 MHz requires military approval. The range 2250-2300 MHz is only in military usage
	POR	Y*	License always required
	ROU	Y*	
	RUS	N	The band is not designated for this application
	S	L*	2200-2290 MHz
	SRB	L*	2200-2290 MHz
	SUI	Y*	Available bands: 2170-2208 MHz and 2290-2400 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/11 . Other parts of the band not available (used by defence systems)
	SVK	N	Frequency band is used by others applications or services
	SVN	L*!	Available for PMSE: 2255-2290 MHz civil/military sharing, 2290-2300 MHz civil use. Not available: 2200-2255 MHz (military use)
	TUR	L*!	Depend on the conditions in the application form. 2200-2290 MHz not available: assigned to another service nationwide
	UKR	L*	2200-2290 MHz

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 7-C4: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C4

Frequency Band	Country	Implementation	Conditions/remarks
C4 2300-2400 MHz	ALB	Y*	
	AND	Y*	
	AUT	Y*!	Different parts are restricted to different user groups as broadcaster and governmental use
	AZE	Y*	On a secondary basis
	BEL	Y*	
	BIH	Y	SAP/SAB and ENG/OB as per ERC/REC 25-10, some MW links from PBS old system also exist
	BLR	N	
	CYP	Y*	
	CZE	Y*	https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_14_11-2010-15_eng_.pdf
	D	L*!	Basic parameters: frequency ranges: 2320-2350 MHz and 2384-2400 MHz; max. channel bandwidth: 20 MHz; max. transmission power: 20 W e.i.r.p.; max. radiated power: 500 W e.i.r.p. Restrictions may apply for the protection of primary users (i.a. military applications). Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	N	Band not available, subject to ECC/DEC/(14)02
	E	N	Band not available
	EST	L*	2390-2400 MHz SAP/SAB. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35.
	F	L*!	Temporary licenses. Use of 10 MHz bandwidth centered on 2305 MHz. Coordination required between assigning authorities (la Défense and Space) regarding the use of the other available bands in order to avoid harmful interference. ARCEP Decision 2016-1130
	FIN	Y*!	Cordless cameras and ENG-links 2290-2400 MHz. Channel spacing max. 20 MHz. In the frequency band 2290-2315 MHz the channels are assigned on a case-by-case basis. The frequency band 2315 - 2400 MHz is in common use for cordless cameras and ENG links subject to licence. Standard EN 300 638. Standard EN 300 744. ERC Recommendation ERC/REC 25-10
	G	L*!	Only 2390-2400 MHz available for PMSE. Technology and application neutral but typically used for wireless camera/video links. Maximum in-band e.r.p. 20 dBW (13 dBW airborne) for wireless camera/video links. Cameras typically licensed at 100 mW e.r.p.
	GEO	L*	
	GRC	Y*	Cordless Cameras. Portable/Mobile video links. Temporary point-to-point video link
	HNG	N	Band not available (governmental use, LSA use under investigation). However, the band may be used for short-term PMSE use if the user demand makes it necessary at certain occasions like main events. In this case the authority handles the requests on a case-by-case basis and if the frequency use can be authorised the users receive an individual license
	HOL	Y*	
HRV	Y*		
I	Y*		
IRL	Y*!	Centre Frequencies: 2305 MHz, 2315 MHz, 2325 MHz, 2335 MHz, 2345 MHz, 2355 MHz, 2365 MHz, 2375 MHz, 2385 MHz, 2395 MHz. Airborne use is only permitted at the following centre frequencies: 2335 MHz, 2355 MHz, 2365 MHz, 2375 MHz, 2385 MHz, 2395 MHz. Geographic limitations have been set where some centre frequencies are not available for licensing in certain listed geographic areas. Maximum permissible e.r.p.'s: Centre Frequencies 2305-2325 MHz: 100 mW. Centre Frequencies 2335-2395 MHz: 5W	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	ISL	L*	MFCN in near future is possible
	LIE	Y*	Available band: 2290-2400 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/11 .
	LTU	Y*	
	LUX	Y*	
	LVA	L*	Limited to 2370-2400 MHz
	MDA	Y*	
	MKD	Y*	
	MLT	N	Band not available for PMSE (earmarked for wireless broadband applications)
	MNE	Y*	
	NOR	Y*	2322-2400 MHz: used for video PMSE. 2300-2322 MHz: available but currently not used for video PMSE
	POL	L*!	The range 2350-2400 is available. Granting a license in range 2300-2350 MHz requires military approval. Availability for PMSE will depend on the result of the harmonization work carried out in the CEPT under the EC mandate
	POR	Y*	License always required
	ROU	Y*	
	RUS	N	The band is not designated for this application
	S	Y*	
	SRB	Y*	
	SUI	Y*!	Available band: 2290-2400 MHz. The use of these frequency bands for cordless cameras is on a short-term basis; OBW max. 20 MHz is possible and max. 4 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/11 . Geographical restriction due to defence use.
	SVK	Y*!	Conditions for the use of frequencies are stipulated in the individual authorization
	SVN	N	Not available. (Use of the frequencies for TRA-ECS is possible in accordance with the "Mandate to CEPT to develop harmonised technical conditions for the 2300-2400 MHz ('2.3 GHz') band for the provision of wireless broadband (WBB) electronic communications services"). Current primary use of frequency band 2300-2400 MHz (Land mobile, Fixed) is possible until 01. 01. 2018
	TUR	L*!	Depend on the conditions in the application form. Nationwide frequency assignments to other use in this band
	UKR	Y*	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 7-C5: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C5

Frequency Band	Country	Implementation	Conditions/remarks
C5 2400-2500 MHz	ALB	Y*	
	AND	Y*	
	AUT	Y	According to sub-class 21
	AZE	Y*	On a secondary basis
	BEL	Y*	
	BIH	L*	SAP/SAB licensed only in 2483.5-2500 MHz. Band 2400-2483.5 MHz used for Wideband data transmission and other SRD as per ERC/REC 70-03
	BLR	L*	Temporary licenses in the band 2400-2483.5 MHz for cordless cameras ?n a secondary basis. License-exempt in the band 2400-2483.5 MHz for non specific short range devices.
	CYP	Y*	
	CZE	N	Band not available. https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_14_11-2010-15_eng_.pdf
	D	Y*	Basic parameters: max. channel bandwidth: 20 MHz; max. transmission power: 20 W e.i.r.p.; max. radiated power: 500 W e.i.r.p. Restrictions apply for the protection of primary users. Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	N	Band not available
	E	L*	SAP/SAB and ENG/OB mobile video links in the frequency band 2400-2483.5 MHz
	EST	N	Governmental use, SRD; see Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35.
	F	L*!	Temporary licenses. Use of 10 MHz bandwidth centered on 2465 MHz and 2475 MHz for ground-to-ground and air-to ground links with geographical restrictions. Coordination required between assigning authorities (la Défense and Space) regarding the use of the other available bands in order to avoid harmful interference. ARCEP Decision 2016-1130
	FIN	N	Band not available. However, PMSE can be used accordingly: 2400.000-2483.500 MHz WAS/RLAN Equipment exempt from licensing. See FICORA Regulation 15. Effective radiated power max. 100 mW e.i.r.p. Standard EN 300 328-1. SRD Recommendation ERC/REC/70-03. European Commission Decision 2006/771/EC, the valid technical Annex is Decision 2013/752/EU. Band 2483.5-2500 MHz not available because of Mobile satellite use
	G	L*!	Technology and application neutral but typically used for wireless camera/video links. Maximum in-band e.r.p. 20 dBW (13 dBW airborne) for wireless camera/video links. Cameras typically licensed at 100 mW e.r.p.
	GEO	L*	
	GRC	L*	Availability for PMSE: 2483.5-2500 MHz only. Band 2400-2483.5 MHz not available (identified for SRDs)
	HNG	N	Band not available (WiFi based alternatives)
	HOL	L*	2400-2495 MHz for ENG-OB only. License exempt in the band 2400-2483.5 MHz for non specific short range devices
HRV	Y*		
I	Y*		
IRL	Y!	This is a licence exempt band - Video PMSE applications are permitted to operate in the 2.4 GHz band on a licence exempt basis, provided that their operation is restricted to certain power limits, and is on a non-interference, non-protected basis	
ISL	L	In accordance with ERC/REC 70-03 Annex 1	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	LIE	N	Band not available: Used by short range devices and MSS services (harmonised band for SRD).
	LTU	Y*	
	LUX	Y*	
	LVA	N	Band identified for other systems
	MDA	Y*	
	MKD	Y*	
	MLT	N	No demand
	MNE	Y*	
	NOR	N	Not available
	POL	L	In range 2400-2483.5 MHz apply subclass 21, 22 and 26 of Class 1 according to the Commission Decision 2000/299/EC. range 2483.5-2500 MHz is only in military usage
	POR	L*	License always required. Only the frequency band 2483.5-2500 MHz is available
	ROU	Y*	
	RUS	N	The band is not designated for this application
	S	L	2400-2483.5 GHz under general authorisations requirements
	SRB	Y*	
	SUI	N	Band not available: Used by short range devices and MSS services (harmonised band for SRD).
	SVK	Y*!	Conditions for the use of frequencies are stipulated in the individual authorization
	SVN	Y*	Possible interferences from license free applications
	TUR	L*!	Depend on the conditions in the application form
	UKR	Y*	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Table 7-C6: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C6

Frequency Band	Country	Implementation	Conditions/remarks
C6 2700-2900 MHz	ALB	N	
	AND	N	
Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)			

Frequency Band	Country	Implementation	Conditions/remarks
	AUT	N	Under consideration for future use
	AZE	Y*	On a secondary basis
	BEL	N	
	BIH	N	Not available: Aeronautical navigation as per ECC/REC/(02)09
	BLR	N	
	CYP	N	
	CZE	N	Not available. https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_07_06-2015-04_en.pdf
	D	N	Band not available
	DNK	N	Band not available
	E	N	Band not available
	EST	N	Aeronautical radionavigation, governmental use, ITU RR 4.10 safety aspects of radionavigation. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35.
	F	Y*!	Temporary licenses. ARCEP Decision 2016-1130 for ground-to-ground links. Coordination required between assigning authorities (ARCEP, Aviation Civile, la Défense, Météo and Radioastronomie) in order to avoid harmful interference
	FIN	L*!	Temporary use only on a case-by-case basis. Other use: Aeronautical radiolocation, radars, military use
	G	N	Not available
	GEO	L*	
	GRC	N	Band not available (used by civil Aviation Authority and security services)
	HNG	N	Band not available (Governmental use; airspace surveillance). Compatibility issues under investigation. However, the band may be used for short-term PMSE use if the user demand makes it necessary at certain occasions like main events. In this case the authority handles the requests on a case-by-case basis and if the frequency use can be authorised the users receive an individual license
	HOL	N	Band not available
	HRV	N	
	I	N	
	IRL	N	Band not available (no current demand expressed)
	ISL	N	Band not available
	LIE	N	Band not available: Used by primary radar.
	LUX	N	
	LVA	N	Band identified for other systems

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	MDA	N	
	MKD	N	
	MLT	N	Band not available (in use by other applications)
	MNE	N	
	NOR	N	Not available
	POL	N	Band not available (military usage)
	POR	N	Not available
	ROU	N	
	RUS	N	The band is not designated for this application
	S	Y*	
	SRB	N	
	SUI	N	Band not available: Used by primary radar and defence systems
	SVK	N	The Band 2700 - 2900 MHz is used for Primary Radars
	SVN	Y*!	ECC/REC/(02)09
	TUR	N	Band not available: planned for other services
UKR	N		

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 7-C7: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C7

Frequency Band	Country	Implementation	Conditions/remarks
C7 7.0-8.5 GHz	ALB	N	
	AND	N	
	AUT	L*!	Useable parts are: 7268-7282 MHz; 7568-7582 MHz; a licence is granted for events only and under the additional condition that FS is protected
	AZE	Y*	On a secondary basis
	BEL	L*	7000-7125 MHz, 7375-7484 MHz, 7596-7729 MHz, 7841-7900 MHz
	BIH	N	Not available: Fixed links as per ECC/REC/(02)06

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	BLR	N	
	CYP	N	
	CZE	N	Not available. https://www.ctu.eu/sites/default/files/obsah/o-ctu/cze_rsup-p-19-12.2005-47_en.pdf
	D	N	Band not available
	DNK	N	Not available. Band 7975-8025 MHz: exclusive military use (NJFA)
	E	N	Band not available
	EST	N	Fixed links, UWB, governmental use; see Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35.
	F	L*!	Temporary licenses. ARCEP Decision 2016-1130 : 10 MHz bandwidth centered on 7115 to 7245 MHz (20 MHz bandwidth could be also used)
	FIN	L*!	Video links: The frequencies 8225, 8255, 8285, and 8315 MHz are common channels throughout Finland. Receiving satellite earth station in the frequency band 7700–8500 MHz in Sodankylä
	G	L*!	Technology and application neutral but typically used for cameras and video links in: 7110-7250 MHz (some geographic restrictions apply); 7300-7425 MHz; and 8460-8500 MHz (some geographic restrictions apply)
	GRC	L*	Bands available for Temporary point-to-point video link : 6425-7110 MHz, 7125-7250 MHz, 7300-7425 MHz. Band 7900-8400 MHz not available (used by security services)
	HNG	N	Band not available. However, the band may be used for short-term PMSE use if the user demand makes it necessary at certain occasions like main events. In this case the authority handles the requests on a case-by-case basis and if the frequency use can be authorised the users receive an individual license
	HOL	L*	7140-7250 MHz for ENG-OB only
	HRV	N	
	I	L*	up to 7125 MHz
	IRL	L*	For wireless camera centre frequencies in the range 7130-7420 MHz: Max e.r.p.: 5W, Max channel bandwidth: 210 MHz. For wireless camera centre frequencies in the range 7135-7415 MHz: Max e.r.p.: 5W, Max channel bandwidth: 20 MHz
	ISL	L*	This band used for Fixed links. Not used for PMSE today. PMSE video links could be permitted
	LIE	N	Band not available: Used by fixed services.
	LTU	Y*	As application of the mobile service
	LUX	N	
	LVA	N	Band identified for other systems
	MDA	N	
	MKD	N	
	MLT	Y*	Technical conditions are established at the licence application stage
	MNE	L	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	NOR	L*	Available if used inside block allocation 7900-8500 MHz, ECC/REC/(02)06, Annex 2
	POL	L*!	Granting a license requires military approval. ranges 7250-7300, 7925-8025 MHz are only in military usage
	POR	N	Not available
	ROU	N	
	RUS	L*!	Band 7550-7750 MHz, and in the separate geographical region 8400-8500 MHz band. News gathering TV stations
	S	L*	7722-7900 MHz
	SRB	N	
	SUI	N	Band not available: Used by defence systems and fixed services
	SVK	L*!	For PMSE available only from 7138 MHz to 7195 MHz. Frequency band is used by others applications or services
	SVN	L*!	Sharing FS P-P with PMSE under consideration
	TUR	L*!	Depend on the conditions in the application form. 7125-7425 MHz and 7425-7900 MHz frequency bands have high fixed link usages. Besides that 7900-8400 MHz band is assigned to another service nationwide
UKR	L*	7-7.85 GHz and 8.025-8.5 GHz	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 7-C8: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C8

Frequency Band	Country	Implementation	Conditions/remarks
C8 10.0-10.68 GHz	ALB	Y*	
	AND	Y	
	AUT	L*	Only parts of the band available
	AZE	Y*	On a secondary basis
	BEL	L*	10.56-10.588 GHz
	BIH	Y*	Available for SAP/SAB and ENG/OB. Temporary agreement instead of full license
	BLR	N	
	BUL	L	ECC Report 219. Available for Cordless Cameras Portable video links. Temporary point-to-point video link in band 10.00-10.15 GHz
	CYP	Y*	
	CZE	L*	The sub bands 10.420–10.476 GHz and 10.588–10.644 GHz are designated for SAP/SAB links within the ENG/OB applications. https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_13_12-2012-16_en.pdf

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	D	L*!	Basic parameters: frequency range: 10.4-10.68 GHz; max. channel bandwidth: 56 MHz; max. radiated power: 10 kW e.i.r.p. For 10.6-10.68 GHz: power restrictions depending on elevation angle. Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	L*	10.15-10.45 GHz and 10.5-10.68 GHz only
	E	L*	SAP/SAB fixed/mobile video links in the frequency band 10-10.5 GHz
	EST	L*	10.3-10.45 GHz SAP/SAB links. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35.
	F	N	Not available (Radiolocation, Aeronautical and fixed service usages)
	FIN	L*	Unidirectional video links including ENG/OB radio links in the frequencies 10.015, 10.075, 10.135, and 10.427 GHz. The frequencies 10.045 GHz and 10.105 GHz are common channels throughout Finland
	G	L*!	10.300-10.360 GHz. Technology and application neutral but typically used for video links. Maximum in-band e.r.p. 40 dBW
	GRC	Y*!	10-10.6 GHz: Cordless cameras. 10.25-10.68 GHz Temporary point-to-point video link - maximum e.i.r.p. 40dBW and max power at the Antenna Input -3dBW
	HNG	Y*	Cordless cameras: Individual license; Max. antenna input power: -3 dBW. detailed description in paragraph 2.7 of Annex 3 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1
	HRV	N	
	I	Y*	
	IRL	L*	16 x 10 MHz bandwidth channels available in the range 10.3-10.5 GHz. Maximum permissible e.r.p.: 5W Airborne use is permitted
	ISL	N	Band not available
	LIE	Y*	Band 10.0-10.6 GHz for cordless cameras: channelling of 7 and 14 MHz and max. 4 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/12 . Band 10.0-10.68 GHz for Video links: channelling of 7 and 14 MHz; 10.0-10.6 GHz: max. 40 dBW e.i.r.p. and 10.6-10.68 GHz: max. -3 dBW. For more information: http://www.aknet.li/api/rir/0203/51
	LTU	Y*	
	LUX	Y*	
	LVA	L*	Limited to 10-10.15 GHz
	MDA	Y*	
	MKD	N	
	MLT	L*	PMSE devices are allowed to operate in the frequency bands: 10.3-10.45 GHz, 10.5-10.55 GHz. Technical conditions are established at the licence application stage
	MNE	Y*	
	NOR	Y*	Available if used inside block allocation
	POL	L*!	Granting a license requires military approval. Range 10.3-10.45 GHz is only in military usage
	POR	Y*	License always required

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	ROU	Y*	
	RUS	N	The band is not designated for this application
	S	N	
	SRB	Y*	
	SUI	Y*	Band 10.0-10.6 GHz for cordless cameras: channelling of 7 and 14 MHz and max. 4 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/12 . Band 10.0-10.68 GHz for Video links: channelling of 7 and 14 MHz; 10.0-10.6 GHz: max. 40 dBW e.i.r.p. and 10.6-10.68 GHz: max. -3 dBW. For more information: http://www.ofcomnet.ch/api/rir/0203/51
	SVK	L*!	For PMSE available only from 10300 MHz to 10500 MHz. Frequency band is used by others applications or services
	SVN	L*!	For temporary usage in non-assigned bands
	TUR	L*!	Depend on the conditions in the application form. 10-10.5 GHz is assigned nationwide and 10.5-10.68 GHz frequency band has high fixed link usages
	UKR	N	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 7-C9: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C9

Frequency Band	Country	Implementation	Conditions/remarks
C9 21.2-24.5 GHz	ALB	L*	21.2-21.4 GHz, 22-23.6 GHz and 24-24.5 GHz
	AND	L*	21.2-21.4 GHz and 22-23.6 GHz
	AUT	L*!	Partly restricted to ENG/OB and governmental use
	AZE	Y*	On a secondary basis
	BEL	L	21.2-23.6 GHz
	BIH	L*	SAP/SAB and ENG/OB as per ERC/REC 25-10 (21.20-21.40; 22-23.6; 24-24.05 etc)
	BLR	N	
	BUL	L	Available for Cordless Cameras and Temporary point-to-point video link in band 21.2-21.4 GHz
	CYP	L*	21.2-23.6 GHz and 24-24.5 GHz
	CZE	L*	PMSE may be used in the frequency band 22.592 - 22.704 MHz. https://www.ctu.eu/sites/default/files/obsah/o-ctu/rsup-p_16_11-2011-17_en.pdf
	D	L*	Basic parameters: frequency range: 21.203-21.679 GHz; max. channel bandwidth: 56 MHz; max. transmission power: 100 mW; max. radiated power: 1000 W. Detailed information: www.bnetza.de/DrahtloseMikrofone ->VVnömL
	DNK	L	21.2-21.4 GHz, 22.6-23 GHz, and 24.25-24.5 GHz only

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	E	L*	SAP/SAB and ENG/OB fixed/mobile video links in the frequency band 21.2-21.4 GHz
	EST	L*	21.2-21.4 GHz SAP/SAB links. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35. Otherwise fixed links.
	F	N	Not available (Fixed service and Radio astronomy usages)
	FIN	L*	21.2 - 21.4 GHz ENG/OB radio links and monitoring cameras
	G	L*!	24.25-24.50 GHz. Technology and application neutral but typically used for video links. Maximum in-band e.r.p. 40 dBW
	GRC	L*	21.2-21.4 GHz Cordless Cameras. 22.6-23.6 GHz and 24.25-24.5 GHz: Cordless Cameras and Temporary point-to-point video link
	HNG	L*	Cordless camera: 21.2-21.4 GHz, 22.6-23 GHz, 24.25-24.5 GHz; individual license; conditions based on ERC/REC 25-10. detailed description in paragraph 2.9 of Annex 3 of Decree No. 7/2015 (XI.13.)NMHH on the national frequency allocation and the rules of using frequency bands (Amended by Decree No. 2/2016 (II.26.)NMHH effective as of 5 March 2016) http://stir.nmhh.hu/?oldal=dokumentumGeneralo&root_rendeletelem_id=0&hatalyos=1&is_full=1
	HOL	L*	Only the bands 21.2-21.4 MHz and 22.6-23.15 GHz
	HRV	L*	21.2-21.4 GHz, 23.55-23.6 GHz, 24-24.5 GHz
	I	L*	21.2-21.4 GHz, 22.768–23.150 GHz,
	IRL	L*	The band 22.0-22.6 GHz and 23.0-23.6 GHz is potentially available for video PMSE licensing under ComReg's point-to-point licensing scheme, available at: https://www.comreg.ie/publication/guidelines-to-applicants-for-radio-links-licences/ . Of further note, 24.00-24.25 GHz is also available in Ireland on a licence exempt basis for non-specific purposes, with a maximum e.i.r.p. of 100 mW
	ISL	N	Band used for Fixed Service (no request for PMSE)
	LIE	L*	Band A: 21.20-21.40 GHz, Band B: 24.25-24.50 GHz, Band C: 21.40-22.00 GHz, Band D: 24.25-24.50 GHz. Available band A and B: Channelling of 7, 10, 14 and 20 MHz and Max. 20 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/14 . Available band C and D: max 100 kW e.i.r.p. http://www.aknet.li/api/rir/0203/52
	LTU	Y*	
	LUX	L*	21.2-21.4 GHz, 22-23.6 GHz and 24-24.5 GHz
	LVA	L*	
	MDA	L*	21.2-23.6 GHz and 24-24.5 GHz
	MKD	L*	21.2-21.4 GHz, 22-23.6 GHz and 24-24.5 GHz
	MLT	L*	PMSE devices are allowed to operate within the frequency band 21.2-21.4 GHz. Technical conditions are established at the licence application stage
	MNE	L*	21.2-21.4 GHz, 22-23.6 GHz and 24-24.5 GHz
	NOR	L*	Available if used inside block allocation 22.0-23.6 GHz; Recommendation T/R 13-02 Annex A
	POL	L*!	Granting a license requires military approval (concerning shared range)
	POR	N	Not available

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	ROU	L*	21.2-21.4 GHz, 22.6-23 GHz and 24-24.5 GHz
	RUS	N	The band is not designated for this application
	S	N	
	SRB	L*	21.2-21.4 GHz, 22-23.6 GHz and 24-24.5 GHz
	SUI	L*	Band A: 21.20-21.40 GHz, Band B: 24.25-24.50 GHz, Band C: 21.40-22.00 GHz, Band D: 24.25-24.50 GHz. Available band A and B: Channelling of 7, 10, 14 and 20 MHz and Max. 20 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/14 . Available band C and D: max 100 kW e.i.r.p. http://www.ofcomnet.ch/api/rir/0203/52
	SVK	N	No demand for PMSE applications in frequency band 21.2-24.5 GHz
	SVN	L*!	21.2-23.6 GHz and 24.05-24.5 GHz: Available for PMSE 23.6-24.05 GHz not available
	TUR	L*!	Depend on the conditions in the application form. 22-23.6 GHz frequency band has high fixed link usages
	UKR	L*	21.2-23.6 GHz

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Table 7-C10: additional information regarding the national conditions for the identified tuning ranges for video PMSE applications - Band C10

Frequency Band	Country	Implementation	Conditions/remarks
C10 47.2-50.2 GHz	ALB	Y*	
	AND	Y*	
	AUT	Y*!	A licence is only granted for events
	AZE	Y*	On a secondary basis
	BEL	N	
	BIH	Y	Tuning range
	BLR	N	
	BUL	L	Available for Cordless Cameras in band 47.20-48.50 GHz
	CYP	Y*	
	CZE	N	Not available. https://www.ctu.eu/sites/default/files/obsah/o-ctu/cze_rsup-p-25-07.2006-25_en.pdf
	D	N	Band not available
	E	N	Band not available

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Frequency Band	Country	Implementation	Conditions/remarks
	EST	L*	47.2-48.5 GHz SAP/SAB links. See Regulation of Ministry of Communication and Economical Affairs 21.05.2013 No 35. Otherwise fixed links and fixed satellite use.
	G	L*!	48.0-48.4 GHz. Technology and application neutral but typically used for video links. Maximum in-band e.i.r.p. 30 dBW
	GRC	Y*	Cordless cameras
	HRV	Y*	
	I	N	
	IRL	N	No current demand
	ISL	N	Band not used for PMSE
	LIE	Y*	Available band: 47.2-50.2 GHz. Channelling of 7, 10, 14, 20 MHz is possible and max. 20 W e.i.r.p. For more information: http://www.aknet.li/api/rir/0203/15
	LTU	Y*	
	LUX	Y*	
	LVA	L*	Limited to 47.2-48.5 GHz
	MDA	Y*	
	MKD	Y*	
	MLT	Y*	Technical conditions are established at the licence application stage
	MNE	Y*	
	NOR	L*	Available if used inside block allocation 48.5-50.2 GHz, CEPT ERC/REC 12-11 Annex 3. No block allocation yet
	POR	N	Not available
	ROU	Y*	
	S	N	
	SRB	Y*	
	SUI	Y*	Available band: 47.2-50.2 GHz. Channelling of 7, 10, 14, 20 MHz is possible and max. 20 W e.i.r.p. For more information: http://www.ofcomnet.ch/api/rir/0203/15
	SVK	N	No demand for PMSE applications in frequency band 47.2-50.2 GHz
	TUR	Y*	Depend on the conditions in the application form
	UKR	Y*	

Possible implementation status: Y = the whole band is available for PMSE L = Limited availability N = the band is not available for PMSE * - Individual licence may be required ! – restrictions apply (e.g. geographical restrictions)

Contact administration using details at <https://www.cept.org/ecc/topics/programme-making-and-special-events-applications-pmse> for further information

LIST OF REFERENCES

This annex contains the list of relevant reference documents.

- [1] ECC Report 204: Spectrum use and future requirements for PMSE
- [2] ECC Report 44: Guidance for radio usage at special events.
- [3] ECC Report 219: Characteristics of PMSE digital video links to be used in compatibility and sharing studies
- [4] ERC Report 42: Handbook on radio equipment and systems; radio microphones and simple wide band audio links
- [5] ERC Recommendation 70-03: Relating to the use of Short Range Devices (SRD)
- [6] CEPT Report 60: Report B from CEPT to the European Commission in response to the Mandate “to develop harmonised technical conditions for the 694 -790 MHz ('700 MHz') frequency band in the EU for the provision of wireless broadband and other uses in support of EU spectrum policy objectives”
- [7] ECC Decision (15)01: Harmonised technical conditions for mobile/fixed communications networks (MFCN) in the band 694-790 MHz including a paired frequency arrangement (Frequency Division Duplex 2x30 MHz) and an optional unpaired frequency arrangement (Supplemental Downlink)
- [8] ETSI EN 300 422: Wireless microphones in the 25 MHz to 3 GHz frequency range
- [9] EC Decision 2014/641/EU: Commission implementing Decision of 1 September 2014 on harmonised technical conditions of spectrum use by programme making and special events equipment in the Union
- [10] EC Decision 2013/752/EU: Commission implementing Decision of 11 December 2013 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2005/928/EC
- [11] ETSI EN 301 357: Cordless audio devices in the range 25 MHz to 2 000 MHz
- [12] ERC Report 89: Compatibility and sharing analysis between DVB-T and Talkback links in bands IV and V
- [13] ETSI EN 300 454: Wide band audio links
- [14] EC Decision (EU) 2016/339: Commission implementing Decision (EU) 2016/339 of 8 March 2016 on the harmonisation of the 2010-2025 MHz frequency band for portable or mobile wireless video links and cordless cameras used for programme making and special events
- [15] ECC Report 243: Wireless video links in the frequency bands 2700-2900 MHz and 2900-3400 MHz
- [16] CEPT Report 61: Report from CEPT to the European Commission in response to the Mandate. “Harmonised compatibility and sharing conditions for video PMSE in the 2.7-2.9 GHz frequency band, taking into account radar use”
- [17] ETSI EN 302 064: Wireless Video Links (WVL) operating in the 1,3 GHz to 50 GHz frequency band
- [18] ECC Report 17: Sharing between EESS (Passive) and video SAP/SAB links in the band 10.6-10.68 GHz
- [19] ECC Report 253 on audio PMSE at 1492-1518 MHz and 1518-1525 MHz
- [20] ECC Report 245 on compatibility studies between PMSE and other systems/services in the band 1350-1400 MHz