



# Frequencies for wireless microphones

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***This is how it works in Austria, Australia, Belgium, Brazil, Denmark, Finland, France, Germany, Greece, Italy, Japan, Norway, The Netherlands, New Zealand, Norway, Portugal, Romania, Slovenia, Spain, South Korea, Sweden, Switzerland, USA, UAE, Ukraine and UK***

- June 2018 -

Stephen Buckland, Begoña Cordero, Aljo van Dijken, João Duque, Matthias Fehr, Miguel Henriques, Norbert Hilbich, Bryan Lee, Alan March, Anna Nydegger, Markku Laasonen, Bruno Marx, Andrea Molinari, Stella Morabito, Jonas Naesby, Edgar Reihl, Pia Seeger, Pascal Soulé, Ivica Stevanovic, Markus Wahrlich and some more..

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# Australia

## *Current status*

Wireless audio devices operate under a “Class Licence”, meaning that no special approvals or licence is required to operate equipment that meets the following frequency and power specs.

- Use of free frequencies (no approval needed) from 174 - 230 MHz, max. e.i.r.p. 3 mW
- Use of free frequencies (no approval needed) between 520 - 694 MHz, max e.i.r.p. 100mW
- Use of free frequencies (no approval needed) between 1785 - 1800 MHz, max e.i.r.p. 100mW

Operation on the frequencies shown above is as a secondary service, sharing with DTV transmission, on the basis that you do not operate outdoors on the same frequency as a DTV service licenced in the location, and that you operate on a “no interference – no protection” basis.

Application can be made to operate outdoors on the same frequency as a DTV service licenced in the location for special events.

Note that DTV channels are allocated on a “Block Planning” approach in Australia, with 6 consecutive channels, each 7 MHz wide, allocated to each DTV market. This means that in any location there will be at least one complete block of 42 MHz fully occupied by DTV transmission. In some locations more than 1 Block is in use – refer to [www.frequencyfinder.com.au](http://www.frequencyfinder.com.au) for up to date information about VHF & UHF DTV frequency allocation in any area of Australia

**Approval can be requested to operate on higher power levels within these bands for defined “Special Events”**

Note: information as of February 2017

# Austria

## *Individual assignment / License required*

- 174 - 216 MHz, 50 mW ERP, FSB-LT015
- 230 - 250 MHz, 50 mW ERP, FSB-LT001
- 470 - 694 MHz, 50 mW ERP, FSB-LT009 (currently under revision)
- 694 - 703 MHz, 12 mW ERP, FSB-LT016 (currently under revision)
- 733 - 758 MHz, 12 mW ERP, FSB-LT016 (currently under revision)
- 788 - 790 MHz, 12 mW ERP, FSB-LT016 (currently under revision)
- 823 - 826 MHz, 20 mW e.i.r.p. or 100 mW e.i.r.p. for body-worn wireless microphones, FSB-LT017
- 826 - 832 MHz, 100 mW e.i.r.p., FSB-LT018
- 1350 - 1400 MHz, 20 mW e.i.r.p. or 50 mW e.i.r.p. for body-worn wireless microphones, FSB-LT019 (currently in preparation)
- 1518 - 1525 MHz, 20 mW e.i.r.p. or 50 mW e.i.r.p. for body-worn wireless microphones. FSB-LT021 (currently in preparation)

For all frequency ranges above an application is mandatory with a maximum period of frequency assignment of 10 years.

## *Expiring allotment*

- 1427 - 1518 MHz, 20 mW e.i.r.p. or 50 mW e.i.r.p. for body-worn wireless microphones  
Note: PMSE usage expires at the end of 2019

## *No individual license required / License exempt frequencies (General license)*

- 863 - 865 MHz, max. 10 mW ERP, SUB-Class 48
- 1785 - 1804.8 MHz, 20 mW e.i.r.p. or 50 mW e.i.r.p. for body-worn wireless, FSB-LT004

## *Fees*

Fees of € 53 per transmitter will be levied.

<http://www.bmvit.gv.at/telekommunikation/recht/aut/verordnungen/tkgv.html>

## *Further information*

- Contact addresses of the four responsible Local Telecommunication Offices:  
<https://www.bmvit.gv.at/ofb/organisation/nachgeordnet/fmb/index.html>
- Downloadable application form for “PMSE-Funkanlagen” is available on the website of bmvit:  
<https://www.bmvit.gv.at/ofb/formulare/downloads/pmse.pdf>
- 
- Radio interface descriptions for PMSE:  
<https://www.bmvit.gv.at/ofb/marktueberwachung/fsb/funkschnittstellen/fsblt.pdf>

Note: information as of April 2018

# Belgium

## *No individual license required / License exempt frequencies*

- 202 - 209 MHz, Radio microphones, max 50 mW ERP
- 518 - 526 MHz, Radio microphones, max 50 mW ERP
- 534 - 542 MHz, Radio microphones, max 50 mW ERP, except province of Hainaut

### Additional information:

- Since 1st Jan 2017 the operation of devices in 694 - 790 MHz isn't allowed any more.
- From 1st Jan 2020 there will be no longer license granted for 694 - 790 MHz.

- 823 - 826 MHz, Radio microphones,  
20 mW e.i.r.p for hand-held and 100 mW e.i.r.p. for body worn
- 826 - 832 MHz, Radio microphones, 100mW e.i.r.p.
- 863 - 865 MHz, Radio microphones, 10 mW ERP
- 1785 - 1805 MHz, Radio microphones,  
20 mW e.i.r.p. for hand-held and 50mW e.i.r.p. for body-worn

## *Individual assignment / License required*

- 174 - 216 MHz, In-ear monitor systems and Radio microphones, max 50 mW ERP
- 470 - 790 MHz, In-ear monitor systems and Radio microphones, max 50 mW ERP
- 1492 – 1518 MHz, max 50 mW, indoor use only

### *How to get a short- or long-term license for?*

The form you can download from:

<http://www.bipt.be/en/consumers/radio/radio-networks> (French or Dutch)

Retour address: [radiovergunningen@bipt.be](mailto:radiovergunningen@bipt.be) / fax : +32 2 226 87 97

### *Fees*

Price for one unit with 50 mW = €33,88 for one year

For temporary use minimum period is one month: price is 33,88/12

### *Link to Belgian administrations homepage where PMSE user can apply for a license*

<http://www.bipt.be/en/consumers/radio/radio-networks/mobile-networks/application-form-to-obtain-a-license-for-the-use-of-private-radio-communications-stations>

### *More information is at*

Belgisch Instituut voor postdiensten en telecommunicatie

Dienst Radiovergunningen

Ellipse Building – Gebouw C

Koning Albert II-laan 35

1030 BRUSSEL

Note: information as of June 2018

# Brazil

(Preliminary information)

Any equipment used in Brasil has to be tested and labeled by Anatel. Therefore, no further authorization is needed.

## *No individual license required / License exempt frequencies*

- 54 - 72 MHz, 50 mW \*1
- 76 - 88 MHz, 50 mW \*1
- 174 - 216 MHz, 50 mW \*2
- 470 - 608 MHz, 250 mW \*3
- 614 - 698 MHz \*3
- 698 - 806 MHz, \*3, \*5
- 902 - 907,5 MHz \*3
- 915 - 927,75 MHz \*3
- 1910 - 1920 MHz, DECT \*4
- 2400 - 2495 MHz \*4
- 5150 – 5350 MHz \*4
- 5470 – 5725 MHz \*4
- 5725 – 5850 MHz \*4

### Notes:

\*1 Emission-Limit: 100 microvolt/metre, 3m distance of measurement

\*2 Emission-Limit: 150 microvolt/metre, 3m distance of measurement

\*3 Emission-Limit: 200 microvolt/metre, 3m distance of measurement

\*4 Emission-Limit: 500 microvolt/metre, 3m distance of measurement

\*5 This is valid before the transition to digital television. In cities, where the transition has not been concluded yet, the tuning range from 698 – 806 MHz can still be used. Currently we estimate latest in 2023 the new regulation is valid in all cities.

## *Further information*

- Contact addresses of the responsible Local Telecommunication Offices:  
<http://www.anatel.gov.br/institucional/contato>
- Plan of Allocation of Frequency Bands (available only in Portuguese):  
<http://www.anatel.gov.br/institucional/>
- Temporary Use of Radio Frequencies (licensing):  
<http://www.anatel.gov.br/grandeseventos/en/component/content/article?layout=edit&id=92>
- Approves the Regulations on the Authorization for the Temporary Use of Radiofrequencies (Resolution nº 635 of May 9th, 2014):  
<http://www.anatel.gov.br/legislacao/en/resolutions/767-resolution-635>
- Update 2017 (Resolution nº 680, June 27th, 2017)  
<http://www.anatel.gov.br/legislacao/en/resolucoes/2017/936-resolucao-680>
- Further Information on the analogue transition period:
  - [https://www.itu.int/dms\\_pub/itu-d/opb/stg/D-STG-SG01.08.1-1-2017-PDF-E.pdf](https://www.itu.int/dms_pub/itu-d/opb/stg/D-STG-SG01.08.1-1-2017-PDF-E.pdf)
  - <https://techinbrazil.com/transition-to-digital-tv-in-brazil>

Note: information as of April 2018

# Denmark

## *No individual license required / License exempt frequencies*

In the Danish frequency plan some frequency bands have been allocated to be used for wireless microphones. In all of those bands the frequencies can be used without a licence (licence exemption).

- 138.2 - 142.070 MHz, 50 mW ERP, 200 kHz - Only some frequencies are allowed
- 470 - 790 MHz, 50 mW ERP, 200 kHz - White spaces only  
Note: the 700 MHz use is noted to be changed from 2020
- 823 - 832 MHz, 100 mW e.i.r.p. 200 kHz - Handheld only 20mW in 823-826 MHz
- 863 - 865 MHz, 10 mW ERP, 200 kHz
- 1785 – 1804,8 MHz, 50 mW e.i.r.p., 200 kHz - Handheld only 20mW

## *Link to administrations homepage regarding Wireless Microphones*

<https://ens.dk/ansvarsomraader/frekvenser/traadloese-mikrofoner-og-kystradio>

## *Danish radio interface (No 00 025) for audio PMSE*

<https://www.retsinformation.dk/pdfPrint.aspx?id=184975&exp=1>

## *Further Information*

Online tool to find legal location specific whitespaces

<https://frekvens.erhvervsstyrelsen.dk/>

Note: information as of March 2017 is still valid

## Finland

### *License exempt frequencies / No individual license required*

- 174 - 230 MHz
- 470 - 694 MHz
- 823 - 832 MHz
- 863 - 865 MHz
- 1785 - 1804.8 MHz

To get further information see FICORAs regulation on collective frequencies for license-exempt radio transmitters, PMSE are in section 19:

<https://www.viestintavirasto.fi/en/steeringandsupervision/actsregulationsdecisions/regulations/regulation15regulationoncollectivefrequenciesforlicence-exempradiotransmittersandontheiruse2011337fin.html>

### *Mandatory application / Applying for a short-term licence*

- The radio microphones will be licence-exempted if they operate on the allowed frequencies and accordance with the standard. In cases where parameters of use such like maximum ERP or bandwidth deviates from those exempted from licence. FICORA grants a radio licence if necessary to the radio microphone. The radio licences are applied from FICORA with the application form and FICORA assigns parameters and the frequencies to be used in the radio licence.  
<https://www.viestintavirasto.fi/attachments/lomakkeet/SHORTUSe.pdf>
- The conditions for licence exempt from FICORA Regulation 15  
[https://www.viestintavirasto.fi/attachments/maaraykset/Regulation\\_15AK.pdf](https://www.viestintavirasto.fi/attachments/maaraykset/Regulation_15AK.pdf)

### *Fees*

- The frequency fee of a licence bases on the number of equipment and frequencies used. The frequency fee of a short-term licence is at least one fourth of an annual frequency fee but no less than EUR 18.
- Typical fees (for using a bandwidth of 200 kHz):
  - 18 EUR for a single microphone up to 12 months
  - 29 EUR for 10 microphones up to 3 months
  - 71 EUR for 30 microphones up to 3 months
- Detailed information about frequency fees at  
<https://www.viestintavirasto.fi/en/spectrum/radiolicences/frequencyfees.html>

### *Link to administrations homepage regarding Wireless Microphones*

Wireless cameras, video links and microphones: <http://mics.ficora.fi/>  
<https://www.viestintavirasto.fi/en/spectrum/radiolicences/wirelesscamerasandmicrophones.html>

### *Radio microphone user - are your licence matters in order?*

<https://www.viestintavirasto.fi/en/ficora/news/2015/radiomicrophoneuser-areyourlicencemattersinorder.html>

Note: information as of April 2018



# France

## *License exempt frequencies / No license required*

The access to spectrum for PMSE (wireless microphones, In-Ear monitor systems, talk-back applications) is subject to a licence-exempt regime, authorized by the national regulatory authority ARCEP (Autorité de régulation des communications électroniques et des postes).

Such use is allowed in the following bands and is restricted to professional users.

- 174 - 223 MHz, max. 50mW ERP
- 470 - 694 MHz, max. 50 mW ERP
- 694 - 789 MHz, max. 50 mW ERP (until the 1st of July 2019)  
Note: ARCEP Decision n° 2016-0272 clarifies the transitional use within the band 694-790 MHz by PMSE equipment until 1 July 2019. It contains the list of cities and the associated dates of reallocations beyond which the PMSE use will be restricted.
- 786 - 789 MHz, max. 12 mW ERP
- 823 - 826 MHz, max. 20 mW e.i.r.p. or  
max. 100 mW e.i.r.p. for body-worn wireless microphones
- 826 - 832 MHz, max. 100 mW e.i.r.p.
- 1785 - 1800 MHz, max. 50mW e.i.r.p. for body-worn wireless microphones  
otherwise max. 20mW e.i.r.p.

### *Question*

What the effect of change in 800 and 700 MHz?

See: <http://www.arcep.fr/index.php?id=10887&L=1>

### *Further Information*

Link to France administrations homepage (in English) where PMSE user can apply for a license, see: <http://www.arcep.fr/index.php?id=10887&L=1>

Link to France administrations homepage (in French) where PMSE user can apply for a license, see: <http://www.arcep.fr/?id=10887>

Downloadable application form on the website of ARCEP, 'Formulaire de demande d'autorisation temporaire d'utilisation de fréquences':

<http://www.arcep.fr/fileadmin/reprise/dossiers/licences/EN-17-54.xlsx>

Note: information as of April 2018

# Germany

## *Generally assigned frequencies / No individual license required (see VVnömL for details)*

- 32.475 - 34.325 and 36.610 - 38.125 MHz, 10 mW (ERP), permit 53/2015
- 174 - 230 MHz, 50 mW (ERP), permit 59/2015
- 823 - 832 MHz, 82/100mW (e.i.r.p.), permit 2/2015
- 863 - 865 MHz, 10mW (ERP), permit 21/2017
- 1785 - 1805 MHz, 82mW (e.i.r.p.), permit 3/2015
- 1795 - 1800 MHz, 20mW (ERP), permit 21/2017
- 1880 – 1900 MHz, 250 mW (ERP), permit 25/2015, **DECT only**

## *Individual assignment up to 10 years / Individual license required (see VVnömL for details)*

- Single frequencies in 34.25 to 38.05 MHz, see VVnömL
- 470 - 608 MHz, 50 mW (ERP)
- 614 - 703 MHz, 50 mW (ERP)
- 733 - 823 MHz, 50 mW (ERP);  
758-788 and 791-821 additional optional capacity, see VVnömL
- 1350 - 1400 MHz, 50 mW (e.i.r.p.), indoor only
- 1452 - 1492 MHz, 50 mW (e.i.r.p.), additional optional capacity, see VVnömL
- 1492 - 1518 MHz, 50 mW (e.i.r.p.), indoor only
- 1518 - 1525 MHz, 50 mW (e.i.r.p.), indoor only

## *Fees for a “PA system” (wireless microphone systems) – long term frequency assignment up to 10 years*

- Non recurrent fee is € 130.00 per application. This amount includes one-time administration costs regardless of the number of wireless microphones and the number of frequencies that are used in the system (wireless station).
- An additional frequency use and EMC contribution (TKG & EMVG) is currently around € 10.00 to 15.00 per transmitter per year, depending on the actual costs of the year.
- Changes of non-technical parameters of an existing license are currently € 60.00, changes of technical parameters of an existing license are currently € 130.00.
- Fees for a “PA system” (wireless microphone systems) - **short term frequency assignment** - see the link below.
- Get possibly updates here:  
[https://www.bundesnetzagentur.de/DE/Sachgebiete/Telekommunikation/Unternehmen\\_Institutionen/Frequenzen/Grundlagen/GebuehrenundBeitraege/gebuehrenundbeitraege-node.html](https://www.bundesnetzagentur.de/DE/Sachgebiete/Telekommunikation/Unternehmen_Institutionen/Frequenzen/Grundlagen/GebuehrenundBeitraege/gebuehrenundbeitraege-node.html)

## *Administrative provisions relating to frequency assignments in the private land mobile radio (VVnömL)*

[www.bundesnetzagentur.de/drahtlosemikrofone](http://www.bundesnetzagentur.de/drahtlosemikrofone) (in German language only)

### *General licenses (Allgemeinzuteilung)*

<http://www.bundesnetzagentur.de/allgemeinzuteilungen> (in German language only)

### *PMSE Programme Making and Special Events (Drahtlose Mikrofone)*

[www.bundesnetzagentur.de/drahtlosemikrofone](http://www.bundesnetzagentur.de/drahtlosemikrofone) (in German language only)

### *Short-term frequency assignment*

<http://www.bundesnetzagentur.de/shortterm>

# Greece

## *Individual license required*

- 174 - 216 MHz, BW=50 kHz, max. >50 mW ERP, Wireless Microphones
- 470 - 786 MHz, max. >50 mW ERP, Wireless Microphones

## *No individual license required / License exempt frequencies*

- 29.70 - 47.05 MHz, maximum transmitted power up to 10mW ERP, Wireless Microphones
- 174 - 216 MHz, maximum transmitted power up to 50 mW ERP, Wireless Microphones
- 470 - 786 MHz, maximum transmitted power up to 50mW ERP, Wireless Microphones
- 786 - 789 MHz, BW=200kHz, up to 12mW ERP, Wireless Microphones
- 823 - 826 MHz, BW=200kHz, up to 20mW e.i.r.p restricted to mobile devices or up to 100mW e.i.r.p restricted to body worn microphones
- 826 - 832 MHz, BW=200kHz, up to 100mW e.i.r.p, Wireless Microphones
- 863 - 865 MHz, up to 10 mW ERP, Wireless Microphones
- 1785 - 1804.8 MHz, up to 20 mW e.i.r.p. restricted to mobile devices or up to 50 mW restricted to body worn microphones

## *Fees*

General Notes and Information for PMSE licensing can be found here:

[http://www.eett.gr/opencms/export/sites/default/EETT\\_EN/Electronic\\_Communications/Radio\\_Communications/Rights\\_Of\\_Use/guidelines.pdf](http://www.eett.gr/opencms/export/sites/default/EETT_EN/Electronic_Communications/Radio_Communications/Rights_Of_Use/guidelines.pdf)

The general rule for the fees is the following: The cost for any temporary license issued for a maximum period of 2 months is 300 Euros per frequency per area of use except for SNG, which is 1000 Euros per station.

## *Further information*

Contact address of the responsible Local Telecommunication Offices: [info@eett.gr](mailto:info@eett.gr)

Downloadable application form on the website of add your relevant organization web space.

The form can be found here

[http://www.eett.gr/opencms/opencms/EETT\\_EN/Electronic\\_Communications/Radio\\_Communications/Rights\\_Of\\_Use/temporary.html](http://www.eett.gr/opencms/opencms/EETT_EN/Electronic_Communications/Radio_Communications/Rights_Of_Use/temporary.html)

...by clicking on SAP/SAB and ENG/OB Temporary License Application Form.

Note: the information as of April 10<sup>th</sup>, 2017 are still valid

# Hungary

## *No individual license required / License exempt frequencies*

In the following bands license exemption applies for frequency usages employing transmit parameters that match license exemption criteria (check the spectrum information system for details) otherwise a license has to be asked for and the requested transmission parameters will be subject of thorough investigation (for possible interference), based on which a temporary license might be issued<sup>1</sup>:

- 174 - 216 MHz, max. 50 mW ERP
- 470 - 694 MHz, max. 50 mW ERP
- 694 - 703 MHz, 733 -758 MHz, 50 mW ERP
- 786 -789 MHz, 12 mW ERP
- 823 - 826 MHz, max. 20 mW e.i.r.p. or max. 100 mW e.i.r.p. for body-worn wireless microphones
- 826 - 832 MHz, max. 100 mW e.i.r.p.
- 863 - 865 MHz, max. 10 mW ERP
- 1492 - 1518 MHz, 50 mW e.i.r.p.
- 1785-1805 MHz, max. 50 mW e.i.r.p. for body-worn wireless microphones otherwise max. 20 mW e.i.r.p.

### *Fees*

Fees of HUF 4000 per transmitter will be levied (fee of temporary license for shorter than 1 month of operation).

The relevant rules can be found in the Decree NMHH 1/2011 (III. 31.):

[http://njt.hu/cgi\\_bin/njt\\_doc.cgi?docid=136918.319220](http://njt.hu/cgi_bin/njt_doc.cgi?docid=136918.319220)

### *Further information*

- Contact addresses:  
Web address with all relevant contact info: <http://english.nmhh.hu/>  
Direct mail to licensing: [feo@nmhh.hu](mailto:feo@nmhh.hu)
- Downloadable application form on the website of the National Media and Infocommunications Authority of Hungary:  
[http://english.nmhh.hu/dokumentum/173145/temporary\\_licence\\_application\\_hng.xlsx](http://english.nmhh.hu/dokumentum/173145/temporary_licence_application_hng.xlsx)  
(this refers to the form for the temporary licensing of PMSE use)

### *Note*

Please always check before use the valid frequency usage regulation at the Authority's spectrum information system at:

<http://stir.nmhh.hu/?lang=2>

Note: information as of March 2017

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<sup>1</sup> in fortunate cases when the tuning range of an equipment falls outside the listed frequency ranges but harmful interference will probably not be caused (based on the interference check of the Authority) a license might also be issued. In such cases please request information from our licensing department.

# Italy

## *No individual license required / License exempt frequencies*

- 823 - 832 MHz, Radio microphones, max 10 mW ERP
- 863 – 865 MHz, Radio microphones, max 10 mW ERP
- 174 - 230 MHz, Radio microphones, max 50 mW ERP
- 470 - 786 MHz, Radio microphones, max 50mW ERP
- 786 - 790 MHz, Radio microphones, max 12mW ERP
- 1785 - 1805 MHz, Radio microphones, max 20 mW e.i.r.p. or  
max 50 mW e.i.r.p. for body-worn

## *Individual assignment / individual license required /*

- 174 - 230 MHz, Radio microphones, > 50mW ERP
- 470 - 786 MHz, Radio microphones, > 50mW ERP

## *How to get a short- or long-term license?*

Link for the temporary frequency request:

<http://www.sviluppoeconomico.gov.it/index.php/en/documents/2034593-temporary-frequencies-use>

One can find specific form on the following link:

<http://www.sviluppoeconomico.gov.it/images/stories/documenti/richiesta%20autorizzazione%20temporanea%20GB.pdf>

## *Fees for a license*

Find some information by using this link:

[http://www.sviluppoeconomico.gov.it/images/stories/moduli/frequenze/GUIDELINES-FOR-TEMPORARY\\_FREQUENCIES%20USE%2026\\_5\\_2017.pdf](http://www.sviluppoeconomico.gov.it/images/stories/moduli/frequenze/GUIDELINES-FOR-TEMPORARY_FREQUENCIES%20USE%2026_5_2017.pdf)

Note: fees might vary depending the region

## *Mail contact address of Italian administrations*

[frq.temp@mise.gov.it](mailto:frq.temp@mise.gov.it)

Note: information as of March 2018

# Japan

## *License exempt frequencies / no individual license required*

- 74.58-74.76 MHz, Radio Microphones (Unlicensed low-power)
- 322.025-322.150, 322.250-322.400 MHz, Radio Microphones (Unlicensed low-power)
- 806.125-809.750 MHz, Radio Microphones (Unlicensed low-power)

## *Individual assignment / individual licence required*

- 470-710 MHz, Radio microphones
- 710-714 MHz, Radio microphones
- 770-806 MHz, Radio microphones; Note: the use for broadcast auxiliary services and radio microphones is allowed only until 31 March 2019.
- 1240-1260 MHz, Radio microphones

## *Fees*

Spectrum user fees per year for individual licensees

Fees of 600 or 800 YEN per transmitter will be levied. To be revised in October 1, 2018

<http://www.tele.soumu.go.jp/e/sys/fees/index.htm>

## *Further information*

- Contact addresses of the responsible Local Telecommunication Offices:  
<http://www.tele.soumu.go.jp/e/index.htm>
- Downloadable application form:  
<http://www.tele.soumu.go.jp/e/index.htm>

Note: information as of April 2018

# The Netherlands

## *No individual license required / License exempt frequencies*

Regulations for license free use of frequencies (\*see below), subcategory 8 refers to radio transmission equipment intended for low power wireless audio connections (PMSE). The use of free frequencies (no approval needed) is permitted among others in these tuning ranges:

- 195 - 202 MHz, ≤ ERP 50mW
- 470 - 556 MHz, ≤ ERP 50mW
- 558 - 564 MHz, ≤ ERP 50mW
- 566 - 572 MHz, ≤ ERP 50mW
- 574 - 580 MHz, ≤ ERP 50mW
- 582 - 588 MHz, ≤ ERP 50mW
- 590 - 596 MHz, ≤ ERP 50mW
- 598 - 604 MHz, ≤ ERP 50mW
- 614 - 791 MHz, ≤ ERP 50mW
- 823 - 826 MHz, hand-held ≤ e.i.r.p. 20mW, body-worn ≤ e.i.r.p. 100mW
- 826 - 832 MHz, ≤ e.i.r.p 100mW
- 863 - 865 MHz ≤ ERP 10mW
- 1785 - 1805 MHz, portable ≤ e.i.r.p. 20mW, body-worn ≤ e.i.r.p. 50mW

## *Individual license required*

- 1375 - 1400 MHz, can be licenced in case of an event and just for short duration.

(\*) Regeling gebruik van frequentieruimte zonder vergunning en zonder meldingsplicht 2015 (Dutch)  
<http://wetten.overheid.nl/BWBR0036378/2016-12-28>

## *Further Information*

Nationaal Frequentieplan 2014:

<http://wetten.overheid.nl/BWBR0035791/2017-02-01> (Dutch)

Programme Making and Special Events (Dutch)

<https://www.agentschaptelecom.nl/onderwerpen/draadloze-apparatuur-uitzendingen-en-evenementen/audio--en-videoverbindingen>

Application-form-events:

<https://www.agentschaptelecom.nl/radiocommunications-agency/licensing-during-events> (English)

Note: information as of April 2018

# Norway

## *No individual license required / License exempt frequencies*

In the Norwegian frequency plan some frequency bands have been allocated to be used for wireless microphones. In all of those bands the frequencies can be used without a licence (licence exemption).

- 41 - 43.6 MHz, 10 mW ERP
- 510 - 790 MHz, 50 mW ERP                      White spaces only
- 823 - 832 MHz, 100 mW e.i.r.p.                Handheld only 20mW in 823-826 MHz
- 863 - 865 MHz, 10 mW ERP
- 1492 - 1518 MHz, 50 mW e.i.r.p.              Only indoor use
- 1785 - 1804.8 MHz, 50 mW e.i.r.p.         Handheld only 20mW

### *How to get a short- or long-term license?*

Links for the temporary frequency request:

- Audio PMSE:  
<https://eng.nkom.no/technical/temporary-licenses/wireless-microphones/wireless-microphones>
- Video PMSE:  
<https://eng.nkom.no/technical/temporary-licenses/mobile-videolink/wireless-cameras-mobile-video-links>

### *Further Information*

- About PMSE:  
<https://eng.nkom.no/technical/temporary-licenses/about-pmse/pmse>
- Online tool to find legal location specific whitespaces:  
<https://finnsenderen.no/#/ledige?type=mikrofon>

Note: information as of April 2018



# New Zealand

## *No individual license required / License exempt frequencies*

Wireless audio devices are permitted to operate in New Zealand between the frequencies of 510 MHz and 606 MHz and between 622 MHz and 698 MHz, under class licence provisions which limit maximum e.i.r.p. to 250 mW and can operate on blocks used by DTV on the “no interference – no protection” basis.

At the time of writing no DTV channels are planned to operate between 622 MHz and 698 MHz from March 11th, 2015, however the lower block between 526 MHz to 606 MHz is used for DTV throughout most of the country. TV Channels in New Zealand are 8 MHz wide, and in some places frequencies of operation start at 510 MHz.

Operation under the General User Licence is as a secondary service, sharing with DTV transmission, on the basis that you do not operate on the same frequency as a DTV service licenced in the location, and that you operate on a “no interference - no protection” basis.

From 11 March 2015, radio microphones (and other wireless audio devices such as in-earpieces) are no longer permitted to operate in the 698-806 MHz frequency range (the 700 MHz band).

Note 1: 502 MHz to 510 MHz may also be used with the maximum power limit of -10 dBW e.i.r.p. which is equivalent to around 100 mW.

Operation under the class licence means there is no need to apply for a licence to operate equipment that complies, and there are no fees or charges applicable.

## *Further Information*

Further information can be found here:

- UHF radio microphone devices  
<https://www.rsm.govt.nz/licensing/types-of-licences/general-user-spectrum-licence/uhf-radio-microphone-devices>
- Change to radio microphone operating frequencies  
<https://www.rsm.govt.nz/cms/policy-and-planning/projects/radio-microphone-changes>
- Radio Spectrum Management website  
<https://www.rsm.govt.nz/>
- Wireless Users New Zealand  
<http://www.wunz.co.nz>

# Portugal

## *No individual license required / License exempt frequencies*

- 174 – 223 MHz, Radio microphones and in-ear monitor systems, ≤ 50 mW e.r.p.
- 470 – 786 MHz, Radio microphones and in-ear monitor systems, ≤ 50 mW e.r.p.
- 786 – 789 MHz, Radio microphones and in-ear monitor systems, ≤ 12 mW e.r.p.
- 823 – 826 MHz, Radio microphones, ≤ 20 mW e.i.r.p.
- 823 - 832 MHz, Radio microphones (body- worn audio PMSE equipment), ≤ 100 mW e.i.r.p.
- 863 - 865 MHz, Radio microphones, ≤ 10 mW e.r.p.
- 1785 – 1795 MHz, Radio microphones, ≤ 20 mW e.i.r.p.
- 1785 – 1795 MHz, Radio microphones (body- worn audio PMSE equipment), ≤ 50 mW e.i.r.p.
- 1795 – 1800 MHz, Radio microphones, ≤ 20 mW e.i.r.p.
- 1795 – 1800 MHz, Radio microphones (body- worn audio PMSE equipment), ≤ 50 mW e.i.r.p.
- 1800 – 1804.8 MHz, Radio microphones, ≤ 20 mW e.i.r.p.
- 1800 – 1804.8 MHz, Radio microphones (body- worn audio PMSE equipment), ≤ 50 mW e.i.r.p.

## *Individual assignment / License required*

- 174 - 230 MHz, if ERP > 50 mW
- 470 - 750 MHz, if ERP > 50 mW, In-ear monitor systems and Radio microphones
- 758 - 786 MHz, if ERP > 50 mW, In-ear monitor systems and Radio microphones

## *Additional information available at*

<https://www.anacom.pt/render.jsp?contentId=1364270&languageId=1>

## *How to get a short- or long-term license?*

Any request for license should be addressed to ANACOM using our virtual desk, available at: [https://www.anacom.pt/bvirtual/bvru/index.do?do=/acesso\\_direto.do&languageId=1](https://www.anacom.pt/bvirtual/bvru/index.do?do=/acesso_direto.do&languageId=1)

## *Fees for a short-term license*

For temporary licences, the value of the usage fees to be collected is reached by using the following formula: Applicable annual fee x (no. of days of licence validity / 360 days). For occasional audio links, the applicable annual fee is as follows:

SAP/SAB -Annual fee	
Audio links (per frequency)	€ 2 250,00

We would also like to point out that minimum and urgency (when applicable) fees will be applied. See below:

- **Minimum Fee:** The value of 50 euros is the minimum value of spectrum fee applicable to stations or networks of each Radiocommunications Service/Application to be used for temporary events.
- **Urgency Fee:** If the application for temporary licensing is not submitted to ANACOM up to ten days prior to the date on which it is proposed the radio licence should come into force, the applicable fee will be increased by 50% of its value, with a minimum of 75 euros.

*Link to Table of Frequency Allocation (eQNAF), which is electronic format (Source of implementation)*

PT: <https://www.anacom.pt/render.jsp?categoryId=348130>

EN: <https://www.anacom.pt/render.jsp?categoryId=343582&languageId=1>

More information is at: [Station license exemptions](#)

Note: information as of Mai 2018

# Romania

## *No individual license required / License exempt frequencies*

In the Romanian frequency plan some frequency bands have been allocated to be used for wireless microphones. In all those bands the frequencies can be used without a license (license exemption).

### *Short Range Devices / Radio microphones*

- 29.7 - 30.3 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 30.5 - 32.15 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 32.45 - 33.1 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 33.6 - 34.975 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 37.5 - 40.02 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 40.66 - 41.015 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 44.5 - 45.2 MHz, 10 mW ERP, 50 kHz - on a tuning range basis
- 174 - 216 MHz, 50 mW ERP - in accordance with Annex 10 of ERC/REC 70-03; On a tuning range basis; Geographical restrictions for the sharing usage with the TV Broadcasting; It is needed to contact the National Spectrum Management Authority (ANCOM)
- 470 - 862 MHz, 50 mW ERP - in accordance with Annex 10 of ERC/REC 70-03; On a tuning range basis; Geographical restrictions for the sharing usage with the TV Broadcasting; It is needed to contact the National Spectrum Management Authority
- 1785 - 1800 MHz, 20 mW EIRP (50 mW EIRP restricted to body worn equipment)

### *Wireless audio / multimedia applications*

- 87.5 - 108 MHz, 50 nW ERP, 200 kHz - when audio signals are not present, apparatus must employ a transmission time out of facility. Pilot tones that ensure continuity of transmission are not permitted
- 863 - 865 MHz, 10 mW ERP
- 864.8 - 865 MHz, 10 mW ERP
- 1795 - 1800 MHz, 20 mW EIRP

### *Temporary Spectrum Licences and Fees*

See: [http://www.ancom.org.ro/en/temporary-spectrum-licences\\_4689](http://www.ancom.org.ro/en/temporary-spectrum-licences_4689)

To get an idea of the amount of these tariffs, for example, for a frequency in Bucharest, for up to 30 days, the price shall not exceed 50 euros.

### *Further information*

Contact addresses of the four responsible Local Telecommunication Offices:

<http://www.ancom.org.ro/en/harta-locatii>

Note: see on the map the addresses for the Bucharest, Iasi, Timisoara and Cluj Regional Headquarters

Downloadable application form on the website of add ANCOMs web space:

[http://www.ancom.org.ro/en/temporary-spectrum-licences\\_4689](http://www.ancom.org.ro/en/temporary-spectrum-licences_4689)

Interface Regulations:

<http://www.ancom.org.ro/en/interface-regulations-2723>

Further information can be found here - Romanian Regulation:

[http://www.ancom.org.ro/en/romanian-regulation\\_2719](http://www.ancom.org.ro/en/romanian-regulation_2719)

# Slovenia

## *No individual license required / Individual license exempt frequencies*

(General authorisation according to Art. 31 of our Electronic communication act)

- 29.7 - 47 MHz, Radio microphones, 10 mW ERP - bandwidth max. 50 kHz
- 174 - 216 MHz, Radio microphones, 50 mW ERP
- 470 - 786 MHz, 50 mW ERP, In-ear monitor systems and Radio microphones.  
Note: it is still whole stated frequency band (non-interference basis principle, see NTFA).
- 786 - 789 MHz, 12 mW ERP, In-ear monitor systems and Radio microphones
- 733 - 758 MHz Radio microphones, 20mW,  
Note: According to the ERC/REC 70-03 is 50 mW which is specified in our NTFA
- 823 - 826 MHz, Radio microphones, 20mW  
body worn restricted to 100mW ERP - bandwidth max. 200 kHz
- 826 - 832 MHz, Radio Microphones, 100mW e.i.r.p. - bandwidth max. 200 kHz
- 863 - 865 MHz, Radio microphones, 10 mW ERP
- 1350 - 1400 MHz, Radio microphones, 20 mW  
body worn restricted to 50 mW e.i.r.p.
- 1492 - 1518 MHz, Radio microphones, 50 mW e.i.r.p.
- 1795 - 1805 MHz, Radio microphones, 20 mW  
body worn restricted to 50 mW e.i.r.p.

Also all other bands, stated in document have technical limitations written in ERC/REC 70-03, 2014/641/EU - Commission implementing decision of EU on PMSE and subclasses SC86 and SC48 for continuous transmissions. Note: 1518 - 1525 MHz for Radio microphones is in consideration for a next version of our NTFA.

All above radio equipment is allowed to operate on license - exempt and non-interference basis.

Point to point analogue audio links are used in 1518 MHz - 1530 MHz frequency band and they should comply with EN 302 217 EU harmonized standard. For this audio analogue links, our agency is issuing licences (max bandwidth is 500 kHz).

### *Further information*

One can get additional information regarding other usage of radio spectrum in Slovenia at:

[http://www.akos-rs.si/files/Zakonodaja/podzakonski\\_akti/NURF-4.SVN-UK.pdf](http://www.akos-rs.si/files/Zakonodaja/podzakonski_akti/NURF-4.SVN-UK.pdf)

National Table of Frequency Allocations - NTFA / NURF-4:

[http://www.akos-rs.si/files/Zakonodaja/podzakonski\\_akti/NURF-4.SVN-UK.pdf](http://www.akos-rs.si/files/Zakonodaja/podzakonski_akti/NURF-4.SVN-UK.pdf)

Note: information as of March 2018

# Spain

## *No individual license required / License exempt frequencies*

- 30 MHz band, 50 mW ERP, 25 kHz, see [IR-98](#)
- 174.100 / 179.300, 50 mW ERP, see [IR-99](#)
- 188.100 / 194.500, 50 mW ERP, see [IR-99](#)
- 470 - 786 MHz, up to 50 mW ERP, 200 kHz, see [IR-216](#)

### Note:

- Secondary use. There should not be any interference to other emissions from the same band.
- For use in public spaces, multimedia productions, artistic and sport events, of temporary character.
- Compatible with TV service in the zone of use.

- 823 - 832 MHz, 20mW EIRP hand-held, 100mW EIRP body-worn, 200 kHz, see [IR-210](#)
- 863 - 865 MHz, 10mW ERP, 200 kHz, see [IR-100](#)
- 1785 – 1805 MHz, 20mW hand-held and 50 mW EIRP body-worn, see [IR-101](#)

## *Fees*

No fees are required

## *Further information*

- 30 MHz band, 50 mW ERP, 25 kHz, see IR-98
- UN36: 470 - 786 MHz
- UN118: 863 - 865 MHz
- UN119: 1785 - 1805 MHz
- UN48: 1785 – 1805 MHz
- UN-95, UN-106 and UN-127: 174.1 - 194.5 MHz
- UN151: 823 - 832 MHz

Contact addresses for responsible Local Telecommunication Offices

\* Local Telecommunication Offices list:

<http://www.minetad.gob.es/telecomunicaciones/es-ES/Jefaturas/Paginas/Jefaturas-Provinciales.aspx>

Local contact for information

AFIAL (Sound and Light Manufacturers and Importers Organization)

WEB : <http://www.afial.net> / Mail: [afial@afial.net](mailto:afial@afial.net)

Wireless interfaces

Cuadro Nacional de Atribución de Frecuencias (CNAF) :

<http://www.minetad.gob.es/telecomunicaciones/espectro/Paginas/cnaf.aspx>

Note: information as of April 2018

# South Korea

## *Individual licence required / Mandatory application*

- 470 - 698 MHz, max. 50mW ERP – Broadcast
- 470 - 698MHz, max. 30mW ERP – Non-Broadcast market (Authorized sites)

## *No individual license required / License exempt frequencies*

- 72.610 - 73.910MHz, 10mW ERP
- 74.000 - 74.800MHz, 10mW ERP
- 75.620 - 75.790MHz, 10mW ERP
- 173.020 - 173.280MHz, 10mW ERP
- 217.250 - 220.110MHz, 10mW ERP
- 223.000 - 225.000MHz, 10mW ERP
- 925 - 937.5 MHz, 10mW, ERP
- 2400 - 2483.5 MHz, 10mW ERP

## *Fees*

One-time fee for 5 years: about 12 € (converted).

In addition, per link and year: about 10 € (converted)

## *Further information*

Contact addresses of the four responsible Local Telecommunication Offices

(Korea Radio Promotion Association): [www.rapa.or.kr](http://www.rapa.or.kr) /

<http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18>

Ministry of Science and ICT:

<http://www.msip.go.kr> / <http://english.msit.go.kr/english/main/main.do>

Note: information as of April 2018

# Sweden

## *Individual licence required - Generally approved*

- 174 - 240 MHz, 50mW ERP
- 470 - 694 MHz, 50mW, ERP
- 1785 - 1800 MHz, 20mW ERP, Handheld TX, 50mW ERP, Body Worn TX

## *No individual license required / License exempt frequencies*

- 41 - 43.6 MHz, 10mW
- 823 - 826 MHz, 10mW ERP, Handheld TX, 50mW ERP, Body worn TX
- 826 - 832 MHz, 50mW ERP
- 863 - 865 MHz, 10mW ERP

## *Fees per year*

- 230 SEK per transmitter
- Max 2300 SEK per system

See also:

<http://www.pts.se/globalassets/startpage/dokument/legala-dokument/foreskrifter/avgifter/ptsfs-2017-5.pdf>

## *Information*

Trådlösa mikrofoner och hörseltekniska hjälpmedel:

<http://www.pts.se/sv/bransch/radio/radiotillstand/tradlosa-mikrofoner-och-horseltekniska-hjalpmedel/>

or

Wireless audio transmission:

<http://www.pts.se/en/english-b/radio/application/wireless-audio-transmission/>

Application form:

<https://www.pts.se/contentassets/e4dc23b3aab04da4aa072dfc91679482/ansbl-horselhjalpmedel-tradlosa-mikrofoner.pdf>

Note: information as of April 2018



# Switzerland

## *No individual license required / License exempt frequencies*

The table below indicates the authorized power and the technical regulations for each frequency band in which wireless microphones and In-Ear monitor systems can be operated

- 31.4 - 39.6 MHz, 100 mW ERP, Use only in the channels indicated in RIR 1009-01
- 174 - 223 MHz, 50 mW ERP, RIR1009-02
- 470 - 694 MHz, 50 mW ERP, RIR1009-10
- 694 - 733 MHz, 50 mW ERP, RIR1009-10, Use only possible until 31.12.2018
- 738 - 786 MHz, 50 mW ERP, RIR1009-10, Use only possible until 31.12.2018
- 477 - 694 MHz, 250 mW ERP, RIR1009-11, Use only in the channels indicated in RIR 1009-11
- 701 - 726 MHz, 250 mW ERP, RIR1009-11, Use only in the channels indicated in RIR 1009-11  
Use only possible until 31.12.2018
- 741 - 782 MHz, 250 mW ERP, RIR1009-11, Use only in the channels indicated in RIR 1009-11  
Use only possible until 31.12.2018
- 823 - 826 MHz, 20 mW e.i.r.p., RIR1009-18  
100 mW e.i.r.p., for wireless microphones carried on the body
- 826 - 832 MHz, 100 mW e.i.r.p., RIR1009-13
- 863 - 865 MHz, 10 mW ERP, RIR1009-05
- 1785 - 1800 MHz, 20 mW e.i.r.p., RIR1009-09  
50 mW e.i.r.p. for wireless microphones carried on the body  
or with built-in Spectrum Scanning Procedure (SSP)
- 1800 - 1804.8 MHz, 20 mW e.i.r.p., RIR1009-09  
50 mW e.i.r.p. for wireless microphones carried on the body  
or with built-in Spectrum Scanning Procedure (SSP)

### Notes:

- The use of radio microphones in the bands 789 - 823 MHz and 832 - 862 MHz is forbidden.
- As of 01.01.2018 the use of radio microphones in the bands 733 - 738 MHz and 786 - 789 MHz is forbidden.
- As of 01.01.2019 the use of radio microphones in the bands 694 - 823 MHz is forbidden.
- As of 01.01.2019 in the former TV band only the bands 470 - 694 MHz, 823 - 826 MHz and 826 - 832 MHz will be available.
- Wireless microphones can also operate in some other frequency bands. For example, in the frequency ranges intended for non-specific short-distance radio applications or in the frequency range for DECT (Digital Enhanced Cordless Telecommunications) at 1880 MHz. The technical interface requirements RIR1008 define the frequency ranges and radio parameters for non-specific applications, the RIR0503-01 for DECT in the 1880 MHz frequency range.

### *Frequency coordination for licence exempted PMSE users*

Licence exempted PMSE users can register equipment on a voluntary basis to the database provided by a third party in order to coordinate frequency use at events: [PMSE Database](#)

### *Other equipment may only be used with a valid radiocommunication license*

[Link to the application forms](#)

### *Further Information*

[Radio microphones \(E\)](#) / [Drahtlose Mikrofone \(D\)](#) / [Microphones sans fil \(F\)](#) / [Microfoni senza filo \(I\)](#)

Note: information as of April 2018

## United Arab Emirates

The table below indicates the authorized power and the technical regulations for each frequency band in which Audio PMSE can be operated:

Frequency Range [MHz]	Intended Use	Usage conditions	Authorization method	Notes
66.0 - 74.8	Radio microphones	Maximum 10 mW e.r.p.	Authorization	Above 73 MHz indoor only
138 - 156	Talkback	Maximum 1 W e.r.p.	Authorization	Based on sharing with PMR
174 - 230	Radio microphones	Maximum 100 mW e.r.p.	Authorization	Based on tuning range. Exact available channels for each location will be updated on the TRA Web.
406.1 - 450	Talkback	Maximum 1 W e.r.p.	Authorization	Based on sharing with PMR
470 - 694	Radio microphones, Talkback and IEM	Maximum 100 mW e.r.p.	Authorization	Based on tuning range. Exact available channels for each location will be updated on the TRA Web.
823 - 826	Radio microphones and IEM	Maximum 20 mW e.i.r.p.	Short Range Device (Class Authorization)	
826 - 832	Radio microphones and IEM	Maximum 100 mW e.i.r.p.	Short Range Device (Class Authorization)	
863 - 870	Radio microphones and IEM	Maximum 50 mW e.i.r.p.	Short Range Device (Class Authorization)	
1675 - 1710	Radio microphones and IEM	As authorized	Authorization	
1785 - 1804.8	Radio microphones and IEM	Maximum 20 mW e.i.r.p. (handheld) and 50 mW e.i.r.p. (body worn)	Short Range Device (Class Authorization)	
1880 - 1900	Radio microphones	Maximum 250 mW e.i.r.p.	Short Range Device (Class Authorization)	Using DECT technology only
2400 - 2483.5	Radio microphones	Maximum 10 mW e.i.r.p.	Short Range Device (Class Authorization)	Shared with SRD including wireless video
5150 - 5875	Indoor conference systems	160 mW	Short Range Device (Class Authorization)	Shared with SRD

### How to get a short- or long-term license?

One can find online application on the following link: [www.tra.gov.ae](http://www.tra.gov.ae)

### Fees for a license

Find information about the UAE Spectrum Regulations for SAB/SAP (PMSE) by using this link: <http://www.tra.gov.ae/en/services-and-activities/frequency-spectrum-management/services/issue-frequency-spectrum-authorizations-for-programme-making-and-special-events-pmse.aspx>

### Contact address of UAE administration

WEB: <http://www.tra.gov.ae/en/contact-us.aspx> / Email : [info@tra.gov.ae](mailto:info@tra.gov.ae)

Note: information as of April 2017

# United States of America

## *No individual license required / License exempt frequencies*

- 54 - 72 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 15.236ff.
- 76 - 88 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 15.236ff.
- 174 - 216 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 15.236ff.
- 470 - 608 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 15.236ff.
- 614 – 616 & 657-663 MHz, 20 mW (EIRP), Title 47 Vol. 1 Part 15.236ff (when these frequencies become available or following the conclusion of the Incentive Auction transition).
- 902 - 928 MHz, 1W peak<sup>Note1</sup>, Title 47 Vol. 1 Part 15.247ff.
- 1 920 - 1 930 MHz, 100 $\mu$ W multiplied by the square root of the emission BW in Hz, Title 47 Vol. 1 Part 15.301ff.
- 2 400 - 2 483.5 MHz, 1W peak<sup>Note1</sup>, Title 47 Vol. 1 Part 15.247ff.
- 5 725 - 5 850 MHz, 1W\* peak<sup>Note1</sup>, Title 47 Vol. 1 Part 15.247ff.

Note1: maximum power depends on emission characteristics.

## *Individual license (up to 10 years)* <sup>Note2</sup>

- 54 - 72 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 74.861ff.
- 76 - 88 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 74.861ff.
- 174 - 216 MHz, 50 mW (EIRP), Title 47 Vol. 1 Part 74.861ff.
- 470 - 608 MHz, 250 mW (conducted), Title 47 Vol. 1 Part 74.861ff.
- 653 - 657 MHz, 20 mW (EIRP), Title 47 Vol. 1 Part 74.861ff (when these frequencies become available or following the conclusion of the Incentive Auction transition).
- 941.5 - 952.0, 952.85 - 956.25, 956.45 - 959.85 MHz, 1 W (conducted), Title 47 Vol. 1 Part 74.801ff.
- 1 435 - 1 525 MHz, 250 mW (conducted), Title 47 Vol. 1 Part 74.861ff. <sup>Note3</sup>
- 6 875 - 6 900 MHz, up to 1 W (conducted), Title 47 Vol. 1 Part 74.861ff. <sup>Note4</sup>
- 7 100 - 7 125 MHz, up to 1 W (conducted), Title 47 Vol. 1 Part 74.861ff. <sup>Note4</sup>

Note2: the license term can vary but will be for up to 10 years, see <https://www.law.cornell.edu/cfr/text/47/74.15>

Note3: requires FCC license and advance frequency coordination with AFTRCC; <https://www.aftrcc.org/>

Note4: FCC had discussed limiting the power to 250 mW but it appears they settled on 1 Watt for this band, see: [https://apps.fcc.gov/edocs\\_public/attachmatch/FCC-15-100A1.pdf](https://apps.fcc.gov/edocs_public/attachmatch/FCC-15-100A1.pdf)

## *Fees for wireless microphone systems*

- \$165 for 10-year term

## *Further information*

- FCC ULS: <http://wireless.fcc.gov/uls/index.htm?job=home>
- See: <https://magazine.local695.com/fcc-licensing/how-to-get-license>
- Downloadable application form: <https://transition.fcc.gov/Forms/Form601/601.pdf>

### *Licensed and Unlicensed Operation Permitted*

It is permissible to operate wireless microphones and in ear monitoring systems on either a licensed or unlicensed basis in several bands. In the television broadcasting bands, a power limit of 50 mW applies for unlicensed operation; licensed microphones and in ear monitor transmitters may operate with up to 250 mW in the UHF television band.

Wireless microphones may operate on locally unused television channels within the VHF and UHF television broadcasting bands between 54-72, 76-88, 174-216, and 470-698 MHz <sup>Note5</sup>.

Locally unused television channels may be determined by consulting one of the wireless microphone manufacturers' online frequency finders, or the web site of one of the FCC approved database operators.

Licensed users may register TV channels they intend to use with one of the FCC approved database operators to receive interference protection from White Space Devices operating in the TV bands. Unlicensed users will no longer be able to register with a database. The FCC made this change when they expanded licensing eligibility.

In addition to the television bands, wireless microphones can also operate in one of the three license-exempt (ISM) bands at 902 - 928 MHz, 2 400 - 2 483.5 MHz or 5 725 - 5 850 MHz as well as the UPCS (DECT) band at 1 920 - 1 930 MHz. Microphones operating in these bands have different technical requirements than those for use in the television bands. They are shared with other devices and may be congested at certain times and places.

The Incentive Auction of UHF (600 MHz) television band frequencies has ended and the transition period has begun, during which some broadcasters will go off the air. Others will be sharing channels or moving to new channels below 608 MHz (including VHF). Wireless carriers may begin testing and operation in locations where their new spectrum becomes available. The transition phase will end on July 13, 2020 at which time wireless microphones and in ear monitors must stop operating in the 600 MHz band except in designated sub bands. The bands that will continue to be available for wireless microphone use include a 2 MHz guard band from 614 - 616 MHz, plus a 10 MHz portion of the duplex gap from 653 - 663 MHz. The lower 4 MHz of the duplex gap will be exclusively for licensed wireless microphones, and the upper 6 MHz will be shared between wireless microphones and White Space Devices on a co-equal basis. Unlicensed operation will be permitted in 614 - 616 MHz and 657 - 663 MHz, and licensed operation will be permitted in 653 - 657 MHz. The spectrum below Channel 37 will continue to be used for television broadcasting. During the transition period, wireless microphone users are advised to check with one of the TV Bands databases to determine the available channels at the location where they plan to operate.

Additional spectrum for licensed users will be available in the 941.5 - 952, 952.85 - 956.25, 956.45 - 959.85, 1 435 - 1 525, 6 875 - 6 900, and 7 100 - 7 125 MHz ranges. Technical standards for these bands have now been finalized. Users must check with a local frequency coordinator before operation begins. There are special conditions for operation in the 1 435 - 1 525 MHz band. Access protocols are currently being worked on with AFTRCC, the coordinator for that band.

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Note5: after the current transition phase ends, the UHF television band will be limited to 470-608 MHz. Wireless microphones will be permitted in the lower guard band at 612-614 MHz and in the duplex gap band from 653-663 MHz.

# United Kingdom

## *Preliminary remark*

'Site' License required and issued where frequencies are not used for broadcasting or aeronautical services at a given geographical location – access could be for a limited period or on a long-term basis.

- 470 - 606 MHz, max. 50 mW ERP
- 614 - 790 MHz
- 960 – 1164 MHz – three 'sub-bands'
- 961 to 1015 MHz
- 1045 to 1075 MHz
- 1105 to 1154 MHz
- 1518-1525 MHz, max. 50 mW ERP

## *'Shared' License required – annual renewal*

- 606 - 614 MHz, max. 50 mW ERP
- 823 – 832 MHz, max. 50 mW ERP
- 1785 - 1800 MHz, max 50 mW ERP

## *No individual license required / License exempt frequencies*

- 863 - 865 MHz, max. 10 mW ERP
- 173.8 - 175 MHz max 50 mW ERP
- 2.4 - 2.485 GHz, 10 mW EIRP

## *Additional Information*

Contacts:

Ofcom have taken the responsibility for licensing PMSE operation back 'in-house'. For details of how to licence; <http://licensing.ofcom.org.uk/radiocommunication-licences/pmse/>

Video PMSE:

<https://www.ofcom.org.uk/manage-your-licence/radiocommunication-licences/pmse/pmse-technical-info/video-links>

Note: information as of April 2018

# Ukraine

## *Individual assignment / Individual license required*

### **Bands allowed for cordless audio devices and radio microphones in Ukraine**

<b>Radio Frequency Band, MHz</b>	<b>Radio Technology</b>	<b>Conditions for Usage</b>
30.01 - 47	Radio microphones	Radio microphones are permit- and fee-exempt, if operate in the frequency band of 30.01-33 MHz with the maximum radiated power up to 10 mW and upon availability of a non-directional integral/constructive antenna. Otherwise, operation of radio microphones is carried out on a permit-to-operate basis.
66 - 74 87.5 - 92 100 - 108	Radio microphones	Radio microphones are permit- and fee-exempt, if operate with the maximum radiated power up to 10 mW and upon availability of a non-directional integral/constructive antenna. Operation of radio microphone is carried out on the condition that it does not create interference to the other devices operating within the same frequency bands.
89.9 – 90.2	Cordless audio devices	Frequency band is used for sound transmission in TV broadcasting with radiated power up to 10 mW.
174-216 470-862	Radio microphones	Radio microphones are permit- and fee-exempt, if operate in the frequency bands of 174.4 – 174.6 MHz and 174.9 – 175.1 MHz with the maximum radiated power up to 10 mW and upon availability of a non-directional integral/constructive antenna. Otherwise, operation of radio microphones is carried out on a permit-to-operate basis. Operation of radio microphone is carried out on the condition that it does not create interference to the other devices operating within the same frequency bands.
863 - 865	Cordless audio devices	For voice transmission only. Algorithm of device shall ensure absence of emission when it is out of operation. Cordless audio devices are permit- and fee-exempt, if the maximum radiated power is up to 10 mW and upon availability of a non-directional integral / constructive antenna. Operation of device is carried out on the condition that it does not create interference to the other devices operating within the same frequency bands.

### **Payment**

Issuance of permissions for operation of radio electronic facilities (REFs) is performed on a fee paid basis. Information on the payment conditions is available on:

<http://www.ucrf.gov.ua/en/tariffs-on-the-ucrf-works-services-connected-with-usage-of-radio-frequency-resource-of-ukraine-and-measurements-of-telecommunication-networks-parameters/>

### **Additional Information**

Contacts:

National Commission for the State Regulation of Communications and Information:

<http://www.nkrzi.gov.ua/index.php?r=site/index&pg=1&id=0&language=en>

Ukrainian State Centre of Radio Frequencies:

<http://www.ucrf.gov.ua/en/>

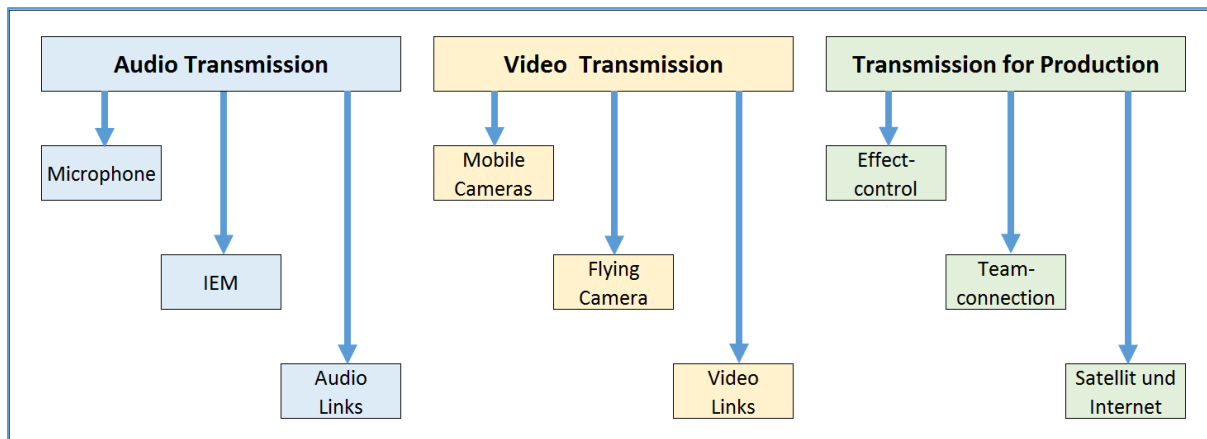
Application forms to obtain the permissions for operation of REFs are available on:

<http://www.ucrf.gov.ua/en/frequency-assignment/application-forms/>

Note: information as of March 2017

## Further information

This document is mainly focussing on audio PMSE. However, there are several PMSE in daily use:



Therefore, CEPT/ECO informs on a special homepage about “Programme making and special events applications (PMSE)”: <http://www.cept.org/ecc/topics/programme-making-and-special-events-applications-pmse>

PMSE contact points and regulatory processes in CEPT administrations:

<https://www.cept.org/ecc/topics/programme-making-and-special-events-applications-pmse#Contact>

In addition, CEPT/ECO provides a frequency database, called “EFIS”. This tool will be updated to improve its usability: <http://www.efis.dk/>

A similar database “AFIS” is provided by the Asia-Pacific Telecommunity (APT):

<http://www.apt.int/AFIS> / <http://www.aptafis.org/>

APWPT summarizes some PMSE information here:

<http://www.apwpt.org/terminologies-j--p/pmse/index.html>

Note: information as of Mai 2018

## APWPT - What is our focus?

Secure in long-term production frequencies and the required spectrum quality.

## APWPT - What happens now?

In many countries, a decision regarding the 2<sup>nd</sup> digital dividend has yet to be made.

-> We want to work actively alongside this development

In countries where a decision has been made, we are working for a quick implementation.

→ We are working for planning security.

→ In many countries and committees, we are supporting a discussion of the facts.

The entire industry must now adjust to a new situation and, if need be, invest in suitable tools and methods.

## APWPT - Activities?

- Inform decision makers on political and regulatory level on PMSE application and spectrum needs.
- Inform PMSE user on the status and trends in the spectrum discussion.
- Secure PMSE protection against interferers in international organisations on standardisation, e.g. EFSC, ETSI, ECC/CEPT and ITU-R.

## Membership in APWPT?

Information on a membership in APWPT:

<http://www.apwpt.org/downloads/brief-background-information-on-a-membership-i.pdf>

## APWPT – How get further information?

There is more information in the Internet at [www.apwpt.org](http://www.apwpt.org).

Association of Professional Wireless Production Technologies e. V.

Post Box 68

D-91081 Baiersdorf

Germany

Phone +49 (0) 9191 9790554

E-Mail [office@apwpt.org](mailto:office@apwpt.org)

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