Frequencies for wireless microphones

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

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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:

- Radio interface descriptions for PMSE:

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:
Retour address: 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

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

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](http://www.anatel.gov.br/institucional/contato)
- Further Information on the analogue transition period:

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:

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

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

Link to administrations homepage regarding Wireless Microphones

Wireless cameras, video links and microphones: http://mics.ficora.fi /

Radio microphone user - are your licence matters in order?


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 2/2015
- 1795 - 1800 MHz, 20mW (ERP), permit 21/2017
- 1880 – 1900 MHz, 250 mW (ERP), permit 25/2015, **DECT only**
- 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

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

- 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)

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

- 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](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](http://www.bundesnetzagentur.de/shortterm)

Note: information as of March 2018
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/Rigths_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

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

Note: the information as of April 10th, 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:

- 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

Further information

- Contact addresses:
  Web address with all relevant contact info: http://english.nmhh.hu/
  Direct mail to licensing: 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
  (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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1 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:

One can find specific form on the following link:

Fees for a license

Find some information by using this link:
Note: fees might vary depending the region

Mail contact address of Italian administrations

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
Latvia

According to the rules of the Cabinet of Ministers of the Republic of Latvia No. 1151 (interface RS PMSE.01 and table 8.10 and 8.14.2) the following frequency bands can be used for radio microphones:

**License exempt frequencies / no license required**

- 29.7 - 47 MHz, max. 10 mW ERP
- 863 - 865 MHz, max. 10 mW ERP
- 1795 - 1804.8 MHz, max. 50 mW e.i.r.p. for body-worn wireless microphones otherwise max. 20 mW e.i.r.p.
- 2400 - 2483.5 MHz, max. 10 mW e.i.r.p.
- 5725 - 5875 MHz, max. 25 mW e.i.r.p.
- 1880 – 1900 MHz, max. 250 mW e.i.r.p. (DECT only)

**Individual assignment / Licence required**

- 174 - 216 MHz, max. 50 mW ERP
- 470 - 786 MHz, max. 50 mW ERP
- 786 - 789 MHz, max. 12 mW ERP
- 823 - 826 MHz, max. 100 mW e.i.r.p. for body-worn wireless microphones otherwise max. 20 mW e.i.r.p.
- 826 - 832 MHz, max. 100 mW e.i.r.p.
- 1785.2 - 1795 MHz, max. 50 mW e.i.r.p. for body-worn wireless microphones otherwise max. 20 mW e.i.r.p.

**Fees**

In accordance with the Electronic Communications Law Section 50 it is permitted to utilise the radio frequency spectrum for radio equipment operations after the receipt of a radio frequency assignment use permit from the State stock company "Electronic Communications Office" or in accordance with a common radio frequency assignment use permit according to the procedures stipulated by the Cabinet.

Fees are imposed for each permit request consideration and in addition depend from the duration of the use according to rules of the Cabinet of Ministers of the Republic of Latvia No. 652:

1. Consideration of a request for short-time use of radio frequency spectrum
   - EUR 35.57 (single-payment);
2. Providing of EMC for low-power radio equipment on secondary service bases
   - EUR 7.87 per month or proportion to the duration of the use.

**Further information**

Requests for an individual license (frequency assignment usage permit) should be submitted to:

Electronic Communications Office
5 Eksporta Street,
Riga, LV-1010
Latvia
vases@vases.lv

Note: information as of November 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)

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 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](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](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](https://eng.nkom.no/technical/temporary-licenses/about-pmse/pmse)
- Online tool to find legal location specific whitespaces:  
  [https://finnsenderen.no/#!/ledige?type=mikrofon](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

- Change to radio microphone operating frequencies

- Radio Spectrum Management website
  https://www.rsm.govt.nz/

- Wireless Users New Zealand
  http://www.wunz.co.nz

Note: information as of March 2017
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

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:

<table>
<thead>
<tr>
<th>SAP/SAB -Annual fee</th>
<th>€ 2 250,00</th>
</tr>
</thead>
<tbody>
<tr>
<td>Audio links (per frequency)</td>
<td>€ 2 250,00</td>
</tr>
</tbody>
</table>

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 Devises / 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


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


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


Note: information as of April 2018
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 NFTA.
- 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:

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

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:

Local contact for information
AFIAL (Sound and Light Manufacturers and Importers Organization)
WEB: [http://www.afial.net](http://www.afial.net) / Mail: afial@afial.net

Wireless interfaces
Cuadro Nacional de Atribución de Frecuencias (CNAF):  
[http://www.minetad.gob.es/telecomunicaciones/espectro/Paginas/cnaf.aspx](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](http://www.rapa.or.kr/design/contents10.asp?code=1010&lang=eng&left=1&mncode=18)


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


**Information**

Trådlösa mikrofoner och hörselektinska hjälpmedel:

or

Wireless audio transmission:

Application form:
[https://www.pts.se/contentassets/e4dc23b3aab04da4aa072dfc91679482/ansbl-horselhjalpmedel-tradlosa-mikrofoner.pdf](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, RIR1009-10, Use only possible until 31.12.2018
- 701 - 726 MHz, 250 mW ERP, RIR1009-11, Use only in the channels indicated in RIR 1009-11
- 741 - 782 MHz, 250 mW ERP, RIR1009-11, Use only in the channels indicated in RIR 1009-11
- 823 - 826 MHz, 20 mW e.i.r.p., RIR1009-18
- 826 - 832 MHz, 100 mW e.i.r.p., for wireless microphones carried on the body
- 863 - 865 MHz, 10 mW ERP, RIR1009-05
- 1785 - 1800 MHz, 20 mW e.i.r.p., RIR1009-09
- 1800 - 1804.8 MHz, 20 mW e.i.r.p., RIR1009-09

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

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

*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*

*Contact address of UAE administration*
WEB: [http://www.tra.gov.ae/en/contact-us.aspx](http://www.tra.gov.ae/en/contact-us.aspx) / Email: 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 Note 1, Title 47 Vol. 1 Part 15.247ff.
- 1 920 - 1 930 MHz, 100µW 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 Note 1, Title 47 Vol. 1 Part 15.247ff.
- 5 725 - 5 850 MHz, 1W* peak Note 1, Title 47 Vol. 1 Part 15.247ff.

Note1: maximum power depends on emission characteristics.

Individual license (up to 10 years) Note 2

- 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. Note 3
- 6 875 - 6 900 MHz, up to 1 W (conducted), Title 47 Vol. 1 Part 74.861ff. Note 4
- 7 100 - 7 125 MHz, up to 1 W (conducted), Title 47 Vol. 1 Part 74.861ff. Note 4

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 AFRCC; https://www.aftrrc.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

Fees for wireless microphone systems

- $165 for 10-year term

Further information

- 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.\(^5\)

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.

\(^{\text{Note5}}:\) 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.

Information as of April 2018
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

<table>
<thead>
<tr>
<th>Radio Frequency Band, MHz</th>
<th>Radio Technology</th>
<th>Conditions for Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>30.01 - 47</td>
<td>Radio microphones</td>
<td>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.</td>
</tr>
<tr>
<td>66 - 74</td>
<td>Radio microphones</td>
<td>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.</td>
</tr>
<tr>
<td>87.5 - 92</td>
<td>Radio microphones</td>
<td>Frequency band is used for sound transmission in TV broadcasting with radiated power up to 10 mW.</td>
</tr>
<tr>
<td>100 - 108</td>
<td>Cordless audio devices</td>
<td>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.</td>
</tr>
<tr>
<td>174-216</td>
<td>Radio microphones</td>
<td>Frequency band is used for sound transmission in TV broadcasting with radiated power up to 10 mW.</td>
</tr>
<tr>
<td>470-862</td>
<td>Cordless audio devices</td>
<td>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.</td>
</tr>
</tbody>
</table>

### Payment

### Additional Information
Contacts:


Application forms to obtain the permissions for operation of REFs are available on: [http://www.ucrf.gov.ua/en/frequency-assignment/application-forms/](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)”: https://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: https://www.efis.dk/

A similar database “AFIS” is provided by the Asia-Pacific Telecommunity (APT): https://www.apt.int/AFIS / http://www.aptafis.org/


Note: information as of November 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 2nd 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: https://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.

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