NATIONAL FREQUENCY ALLOCATION PLAN

2008 Edition

INDEX

INTRODUCTION

Under the terms of Article 3 of Law no 5/2004 of 10 February - Law of Electronic Communications (LCE), which defines the legal regime applicable to electronic communications networks and services and to associated resources and services, as well as the powers and responsibilities of ICP-ANACOM in this field, the following definitions are used:

> "*Electronic communications network*, transmission systems and, where applicable, switching or routing equipment and other resources making it possible to send signals by cable, radio, optical or other electromagnetic means, including satellite networks, fixed (circuit-switched or packet switched, including the Internet) and land mobile networks, power line systems, when used to transmit signals, networks used for audio and television broadcasting, and cable television networks, irrespective of the type of information conveyed."
>
> "*Electronic communications service*, the service normally provided for a price, which includes or is fully made up of sending signals through electronic communications networks, including telecommunications services and transmission services on networks used for broadcasting, without prejudice to the exclusion referred to in paragraph b) of section 1 of article 2 of Law no 5/2004 of 10 February."

In accordance with Article 15 of the Law of Electronic Communications, ICP-ANACOM is charged, with regard to the management of the spectrum, with planning the use of frequencies in accordance with the following criteria:

a) availability of radio spectrum;
b) guarantee of effective competition in the relevant markets;
c) effective and efficient use of frequencies.

ICP-ANACOM is likewise responsible for allocating and assigning frequencies according to objective, transparent, non-discriminatory and proportionate criteria. ICP-ANACOM shall further promote the harmonized use of frequencies in the European Union in order to ensure their effective and efficient use, pursuant to Decision no 676/2002/EC of the Parliament and of the Council of 7 March 2002, concerning a regulatory framework for radio spectrum policy in the European Community (Radio Spectrum Decision).

Meanwhile, in accordance with Article 16 of the LEC, ICP-ANACOM is charged with publishing, on an annual basis, the NFAP - National Frequency Allocation Plan (*Quadro Nacional de Atribuição de Frequências)*, which shall consist of:

a) the frequency bands and number of channels already allocated to companies providing publicly available electronic communications networks and services, including the revision date of each allocation;

b) the reserved frequency bands and those to be made available in the following year, within the scope of (publicly available or not) electronic communications networks and services, specifying the cases where frequency usage rights are required, and the corresponding allocation procedure;

c) the frequencies whose usage rights may be transferred, under the terms of article 37 of the Law of Electronic Communications.

Frequencies allocated to the Armed Forces and to security forces and services are not included in this publication.

The NFAP further contains the appropriate radio spectrum subdivisions, listings for each frequency band of all radiocommunications services applicable to Portugal, according to the Radiocommunications Regulation (RR) of the International Telecommunication Union - Radiocommunication Sector (ITU-R). This information is presented in the "Frequency Allocation Table". This Table likewise reflects the main national applications, without prejudice to future decisions which may be taken by determination of the Board of Directors of ICP-ANACOM.

The Radio Regulation, which is a document published by ITU-R, resulting from agreements signed by the Member States in the context of international conferences, is binding upon the countries belonging to this organization. The “Frequency Allocation Table " is effectively derived from this treaty, specifically Article 5 thereof, which identifies the spectrum allocated to a wide range of radio services for each one of the ITU's three administrative regions of the world.

“Table of Frequency Allocation Table" of Article 5, and all other articles, appendices, Resolutions and Recommendations, may only be modified at the World Radiocommunication Conferences (WRCs), held every 3 or 4 years. Besides the reviewing the RR, the WRCs establish regulatory and technical guidelines for the use of the radio spectrum and for satellite communications. The results of the most recent WRC, held in Geneva, from 22 October to 16 November 2007, can be consulted at

http://www.anacom.pt/render.jsp?categoryId=117299&languageId=1. In the meantime, preparation work will soon begin for the next WRC, scheduled for 2011.

The uses of the spectrum are based on the publication of the frequency band uses and reservations established for each year by the NFAP, in respect of electronic communication services and networks whether publicly available or not.

Undertakings intending to provide publicly available electronic communications networks and services which entail use of the spectrum are bound to previously submit a short description of the network or service they intend to commence to ICP- ANACOM and to give an estimate of the intended date of commencement, without prejudice to other details which may be required by the regulator. The procedures for commencing the provision of electronic communication networks or services can be consulted on ICP-ANACOM's website (http://www.anacom.pt/render.jsp?categoryId=113659&languageId=1).

The provision of non-publically available electronic communication networks or services, operating in bands of radio frequencies subject to licensing, is only dependent on the corresponding network or station licensing application, pursuant to Decree-Law no 151-A/2000 of 20 July.

Where frequency uses are for own use and exempt from radio licensing, no prior ICP-ANACOM action is required for spectrum use. The NFAP includes indication of such uses that are exempt from radio licensing.

The NFAP further specifies the cases where frequency usage rights are required, and the corresponding allocation procedure, which may be by full accessibility mode or may involve selection by competition or comparison, including auction or tender. The respective processes follow specific procedures, as set out by articles 31 and 35 of the Law of Electronic Communications.

The usage rights set out in the NFAP are transferable in accordance with the regime set forth in article 37 of the LEC. Additionally, ANACOM intends to define a general policy, in respect of the transmission of frequency usage rights, with the establishment of rules and relevant conditions.

Under the terms of article 31 of the Law of Electronic Communications, notwithstanding the terms of the NFAP, ICP-ANACOM may proceed to release decisions limiting the allocation of usage rights, which decisions shall have due grounds and shall take into consideration the need to maximise benefits for users and to facilitate the development of competition.

In summary, it is the remit of ICP-ANACOM to carry out the planning of frequencies, which planning shall have a basis that includes the availability of the radio spectrum and the effective and efficient use of frequencies.

As can be seen in the section of the NFAP that presents the reservation of frequency bands established for each year, the process of allocating available spectrum is, as a rule, that of full accessibility. Note should be taken of the availability of spectrum in full accessibility, for example in Fixed Service applications. This permits users of the spectrum swifter access, maximising benefits for consumers, promoting competition and the development of the market.

It should also be noted that, as required by the LEC, the present version of the NFAP identifies the frequencies available in 2008/2009 for the operation of electronic communications networks and services (annex 3 to the present publication), especially the existence of the available spectrum for:

- BWA (4 blocks of 2x28 MHz) in the 3400-3800 MHz band, which will be subject to auction;
- FWA, with geographical limitations, in the 24.5-26.5 GHz band (full accessibility);
- Publicly available land mobile service (1 carrier of 2x1.25 MHz on a national basis) in the 450-470 MHz band, to be assigned subsequent to public tender;
- Land Mobile Service in the GSM extension band (50 channels of 200 kHz to 900 MHz) and 150 channels of 200 kHz also in the 1800 MHz band;
- Mobile Communications onboard Aircraft (MCA - the 1800 MHz band) and on board trains (GSM-R - the 900 MHz band).
- Fixed service, point-point and point-multipoint links, in various frequency bands;
- Analogue and digital radio and television broadcasting;
- Fixed satellite, mobile satellite and satellite broadcasting services.

Also in relation to the available spectrum, or spectrum that is expected to become available over the medium term, there are two additional notes:

- It was considered necessary to discuss the framework for the 2.6 GHz band (2500-2690 MHz); this band is the subject of a public consultation being held to compile the views of various market participants on the future framework that will define the method of allocation and use of this band;

- Analogue television broadcasting transmissions have been scheduled to cease by 2012, in particular in the UHF range (470-862 MHz) and it is expected that there will be broad debate on the future use of the spectrum that results from the switch-off (digital dividend).

Note should also be made of the intention to initiate a multidisciplinary discussion on secondary spectrum trading, with the aim of moving forward in finding mechanisms which provide for flexible and efficient management and use of the radio spectrum.

As noted, the allocation and assignment of frequencies is governed by objective, transparent, non-discriminatory and proportionate criteria. The harmonisation of spectrum usage at a European / worldwide level is a further factor in spectrum planning, which is reflected in the information contained in the NFAP. In this context emphasis should be given to the extreme importance that the NFAP has for the management and planning of the radio spectrum insofar as it brings together part of the elements required for the full compliance of these activities, as for the market, providing in a transparent form to all stakeholders, the information needed for the development of their activity.

Following amendments made by the WRC to the RR, and as a result of the analysis and background of market developments and trends at a national and European level, amendments to the NFAP are proposed through this document. Taking into account that the adoption of the NFAP constitutes a measure with significant impact on the relevant market, it is annually submitted to the general consultation procedure as set out in article 8 of the Law of Electronic Communications. Subsequently, a new edition of the NFAP is published, in order that the edition in force remains updated. Nevertheless, in exceptional circumstances and where there is due cause, there may be a need to make alterations to items contained in the NFAP.

As a fundamental instrument in the management of the spectrum, stability is enshrined in the NFAP by the Law, in order to guarantee security to market players, together with the capacity to adapt.

In the meantime, it is necessary to ensure a balance between the stability that is the aim of the NFAP and the alterations that are necessary to ensure that it continues to appropriately reflect the objectives as set out by Law, in particular the need to promote harmonisation of frequency use (paragraph 4 of article 15 of the Law of Electronic Communications) and the guarantee of conditions for effective competition in the relevant markets, as well as the effective and efficient use of frequencies (see points b) and c) of paragraph 2 of article 15 of the Law of Electronic Communications).

In summary, the NFAP has been updated to reflect current usage (dated November 2008) and the availability of the spectrum for 2008/2009 as follows:

a) Update of the Allocation Table (**Annex 1**), to reflect the results of the World Radiocommunication Conference WRC-07;

b) Update of the uses of the frequency bands with reference to November 2008 (**Annex 2**);

c) Provision, among others, of spectrum for MCA, GSM-R, Fixed Service - FH (opening of new channels at 56 MHz in the 7 and 13 GHz bands), P-P links in the 74-76 / 84-86 GHz bands (fixed service), OE and EXP-S (**Annex 3**);

d) Update of equipment exempt from licensing (**Annex 4**):

- Inclusion of detection, tracking and data acquisition systems in the 169.4-169.475 MHz band;
- Inclusion of medical applications in the 401-402 MHz, 405-406 MHz, 30-37.5 MHz and 12.5-20 MHz bands;
- Inclusion of a set of bands restricted to exempt equipment operating on a "non-interference and non-protection" basis;

e) A separate annex was introduced for "UWB devices", comprising "generic" UWB equipment (moved from Annex 4) and specific UWB equipment added for GPR / WPR and BM (**Annex 5**);

f) Several further updates have been made (e.g., references to Decisions / Recommendations of the EC and CEPT, editorial lapses, etc.).

If the information contained in this publication raises any queries, requests for clarification should be sent to the following email address: **esclarecimentos.gnaf@anacom.pt**.

The NFAP has six parts:

- The first part (Annex 1), the "Frequency Allocation Table", contains a detailed view of the radio spectrum subdivisions indicating, for each frequency band, all radiocommunication services therein, according to allocations applying to Portugal made in the RR of the ITU-R, and the services and systems used and planned.
- The second part (Annex 2), "Publication of Frequency Band Uses", sets out the frequency bands and number of channels used in the operation of publicly available electronic communications networks and services, up to 30 November 2008.
- The third part (Annex 3), "Reserved Frequency bands", sets out the frequency bands reserved and to be made available in 2008/2009, for the operation of electronic communications networks and services that are (i) publicly available and (ii) not publicly available.
- The fourth part of the NFAP (Annex 4), "Uses Exempt from Radio Licensing", sets out uses of the spectrum that are exempt from radio licensing, divided into (i) Exempt from network licensing and (ii) Exempt from station licensing.
- The fifth part of the NFAP (Annex 5), "Equipment / Systems employing ultra-wideband (UWB) technology", details "generic" UWB devices and the "specific" UWB equipment.
- The sixth part of the NFAP (Annex 6), " Appendices", includes a set of additional items (e.g., definitions, acronyms, relevant documents, figures).

Annex 1

FREQUENCY ALLOCATION TABLE

1.1 FREQUENCY ALLOCATION TABLE

The "Frequency Allocation Table" has the following structure:

Column 1: FREQUENCY BANDS

Indicates the frequency band referred to in each line of the table.

Column 2: RR ALLOCATIONS (article 5) APPLYING TO PORTUGAL

Contains for each frequency band:

- Allocations of RR's article 5 applying to Portugal;
- Notes of article 5 of the RR applying to Portugal.

Allocation highlighted with capital letters are those allocated on a primary basis; allocations in lowercase letters are those made on a secondary basis.

The RR footnotes of (5.xx) given in front of a particular services refer solely to that service; when the notes are isolated in the cell, they do not refer to any of the specified services.

Column 3: PRINCIPAL NATIONAL APPLICATIONS

Principal authorized services / systems in Portugal (highlighted in ***'bold'*** if any use is being made). When a technology is cited, this refers solely to the current use of the band, and does limit the band to any specific technology.

Column 4: NOTES

Planning used;
Relevant national and international standards;
Restrictions on band usage;
Other relevant information.

The definitions of the services presented, the acronyms used and the relevant referenced documents are listed in Annex 5.

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
Below 9	(Not allocated) 5.53, 5.54		
9 - 14	RADIONAVIGATION	**SRD – Inductive systems (9-70 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
14 - 19.95	FIXED MARITIME MOBILE 5.57 5.56	**SRD – Inductive systems (9-70 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12 Restricted band
19.95 - 20.05	STANDARD FREQUENCY AND TIME SIGNAL (20 kHz)	**SRD – Inductive systems (9-70 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12 Restricted band
20.05 - 70	FIXED MARITIME MOBILE 5.57 5.56	**SRD – Inductive systems (9-70 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
70 - 72	RADIONAVIGATION 5.60	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
72 - 84	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.60 5.56	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
84 - 86	RADIONAVIGATION 5.60	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
86 - 90	FIXED MARITIME MOBILE 5.57 RADIONAVIGATION 5.56	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
90 - 110	RADIONAVIGATION 5.62 Fixed 5.64	**LORAN-C (RV) System (100 kHz)** **SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
110 - 112	FIXED MARITIME MOBILE RADIONAVIGATION 5.64	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
112 - 115	RADIONAVIGATION 5.60	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
115 - 117.6	RADIONAVIGATION 5.60 Fixed Maritime mobile 5.64	**SRD – Inductive systems (70-119 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
117.6 - 126	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	**SRD – Inductive systems (70-119 kHz; 119-135 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
126 - 129	RADIONAVIGATION 5.60	**SRD – Inductive systems (119-135 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
129 - 130	FIXED MARITIME MOBILE RADIONAVIGATION 5.60 5.64	**SRD – Inductive systems (119-135 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12
130 - 135.7	FIXED MARITIME MOBILE 5.64	**SRD – Inductive systems (119-135 kHz)** **SRD- Wireless systems for medical applications (9-135 kHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
135.7 - 137.8	FIXED MARITIME MOBILE Amateur 5.67A 5.64, 5.67B	**Amateur (AM)** **SRD – Inductive systems (135-140 kHz)**	ERC/REC 62-01 New planned regulation ERC/REC 70-03 Annex 9
137.8 – 148.5	FIXED MARITIME MOBILE 5.64	**SRD – Inductive systems (135-140 kHz; 140-148.5 kHz)**	ERC/REC 70-03 Annex 9 Restricted band (137.8-148.5 kHz)
148.5 - 255	BROADCASTING	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
255 - 283.5	BROADCASTING AERONAUTICAL RADIONAVIGATION	**NDB – Radio beacons (RVA)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ICAO – Annex 10 ERC/REC 70-03 Annex 9
283.5 - 315	AERONAUTICAL RADIONAVIGATION MARITIME RADIONAVIGATION (Radio beacons) 5.73 5.74	**NDB – Radio beacons (RVA)** **DIFFERENTIAL GPS System (RV) (285-325 kHz)** **NDB – Radio beacons (RVM)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ICAO – Annex 10 GE-85 (Radio beacons) ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
315 - 325	AERONAUTICAL RADIONAVIGATION Maritime Radionavigation (Radio beacons) 5.73	**NDB – Radio beacons (RVA)** **DIFFERENTIAL GPS System (RV) (285-325 kHz)** **SRD- Wireless systems for medical applications (315-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ICAO – Annex 10 ERC/REC 70-03 Annex 12 ERC/REC 70-03 Annex 9
325 - 405	AERONAUTICAL RADIONAVIGATION	**NDB and LOCATOR - Radio beacons (RVA)** **SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD – Wireless systems for medical applications (315-600 kHz)**	ICAO – Annex 10 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
405 - 415	RADIONAVIGATION 5.76	**SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD- Wireless systems for medical applications (315-600 kHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
415 - 435	MARITIME MOBILE 5.79 AERONAUTICAL RADIONAVIGATION	**Maritime mobile (MM)** **NDB and LOCATOR - Radio beacons (RVA)** **SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD- Wireless systems for medical applications (315-600 kHz)**	GE-85 ICAO – Annex 10 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
435 - 495	MARITIME MOBILE 5.79, 5.79A Aeronautical Navigation 5.82	**Maritime mobile (MM)** **NAVTEX – International System (MM) (490 kHz)** **SRD- Detection, tracking and data acquisition systems (457 kHz)** **SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD- Wireless systems for medical applications (315-600 kHz)**	GE-85 RR Ap. 15 RR Resolution339 (Rev. WRC-07) ERC/REC 70-03 Annex 2 ECC/DEC/(04)01 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band
495 - 505	MOBILE 5.79B 5.82B	**Mobile (MOB)** **SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD- Wireless systems for medical applications (315-600 kHz)**	 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
505 - 526.5	MARITIME MOBILE 5.79, 5.79A, 5.84 AERONAUTICAL RADIONAVIGATION	**Maritime mobile (MM)** **NAVTEX – International System (MM) (518 kHz)** **NDB – Radio beacons (RVA) (510-526.5 kHz)** **SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD- Wireless systems for medical applications (315-600 kHz)**	GE-85 RR Ap. 15 RR Resolution339 (Rev. WRC-07) ICAO – Annex 10 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
526.5 - 1606.5	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Inductive systems: RFID (400-600 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)** **SRD- Wireless systems for medical applications (315-600 kHz)**	GE-75 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
1606.5 - 1625	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	**Maritime mobile (MM)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	GE-85 ERC/REC 70-03 Annex 9 Restricted band
1625 - 1635	RADIOLOCATION		

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1635 - 1800	FIXED MARITIME MOBILE 5.90 LAND MOBILE 5.92	**Maritime mobile (MM)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	GE-85 ERC/REC 70-03 Annex 9 Restricted band (1715-1800 kHz)
1800 - 1810	RADIOLOCATION	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
1810 - 1850	AMATEUR 5.100	**Amateur (AM) (1830-1850 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	New planned regulation ERC/REC 70-03 Annex 9
1850 - 2000	FIXED MOBILE except aeronautical mobile 5.92, 5.103	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2000 - 2025	FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2025 - 2045	FIXED MOBILE except aeronautical mobile (R) Meteorological aids 5.104 5.92, 5.103	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2045 - 2160	FIXED MARITIME MOBILE LAND MOBILE 5.92	**Maritime mobile (MM)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	GE-85 ERC/REC 70-03 Annex 9 Restricted band (2140-2160 kHz)
2160 - 2170	RADIOLOCATION	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
2170 - 2173.5	MARITIME MOBILE	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
2173.5 - 2190.5	MOBILE (distress and calling) 5.108, 5.109, 5.110, 5.111	**Mobile (distress and calling)** **Maritime mobile (MM)** **Distress and calling - telephony(2182 kHz)** **DSC (2187.5 kHz)** **NBDP (2174.5 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 15 RR Resolution354 (Rev. WRC-07) RR Resolution331 (Rev. WRC-07) ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2190.5 - 2194	MARITIME MOBILE	**Maritime mobile (MM)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
2194 - 2300	FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2300 - 2498	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.103	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2498 - 2501	STANDARD FREQUENCY AND TIME SIGNAL (2500 kHz)	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
2501 - 2502	STANDARD FREQUENCY AND TIME SIGNAL Space research	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2502 - 2625	FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2625 - 2650	MARITIME MOBILE MARITIME RADIONAVIGATION 5.92	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2650 - 2850	FIXED MOBILE except aeronautical mobile (R) 5.92, 5.103	**Fixed (FIX)** **Maritime mobile (MOB)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
2850 - 3025	AERONAUTICAL MOBILE (R) 5.111, 5.115	**Aeronautical mobile (MAR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap.27 ERC/REC 70-03 Annex 9
3025 - 3155	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
3155 - 3200	FIXED MOBILE except aeronautical mobile (R) 5.116	**Fixed (FIX)** **Mobile (MOB)** **SRD – Inductive systems (3155-3400 kHz; 148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
3200 - 3230	FIXED MOBILE except aeronautical mobile (R) BROADCASTING 5.113 5.116	**Fixed (FIX)** **Mobile (MOB)** **SRD – Inductive systems (3155-3400 kHz; 148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
3230 - 3400	FIXED MOBILE except aeronautical mobile BROADCASTING 5.113 5.116	**Fixed (FIX)** **Mobile (MOB)** **SRD – Inductive systems (3155-3400 kHz; 148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band (3375-3400 kHz)
3400 - 3500	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
3500 - 3800	AMATEUR FIXED MOBILE except aeronautical mobile 5.92	**Amateur (AM)** **Fixed (FIX)** **Mobile (MOB)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
3800 - 3900	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**Fixed (FIX)** **Aeronautical mobile (MAOR)** **Land Mobile (MT)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
3900 - 3950	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band
3950 - 4000	FIXED BROADCASTING	**Fixed (FIX)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
4000 - 4063	FIXED MARITIME MOBILE 5.127	**Fixed (FIX)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
4063 - 4438	MARITIME MOBILE 5.79A, 5.109, 5.110, 5.130, 5.131, 5.132	**Maritime mobile (MM)** **Distress and security traffic - telephony (4125 kHz)** **NBDP (4177.5 kHz)** **DSC (4207.5 kHz)** **NAVTEX – International System (MM) (4209.5 kHz)** **SRD – Railway applications (4234 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 15 RR Ap. 17 RR Ap. 25 RR Art. 52 RR Resolution339 (Rev. WRC-07) ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 Restricted band (4152-4172 kHz; 4221-4351 kHz)
4438 - 4650	FIXED MOBILE except aeronautical mobile (R)	**Fixed (FIX)** **Mobile (MOB)** **SRD – Railway applications (4516 kHz)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 Restricted band
4650 - 4700	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
4700 - 4750	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
4750 - 4850	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE BROADCASTING 5.113	**Fixed (FIX)** **Aeronautical mobile (MAOR)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
4850 - 4995	FIXED LAND MOBILE BROADCASTING 5.113	**Fixed (FIX)** **Land Mobile (MT)** **SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
4995 - 5003	STANDARD FREQUENCY AND TIME SIGNAL (5000 kHz)	**SRD – Inductive systems (148.5 kHz–5 MHz)**	ERC/REC 70-03 Annex 9
5003 - 5005	STANDARD FREQUENCY AND TIME SIGNAL Space research	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
5005 - 5060	FIXED BROADCASTING 5.113	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
5060 - 5250	FIXED Mobile except aeronautical mobile	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5250 - 5450	FIXED MOBILE except aeronautical mobile	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
5450 - 5480	FIXED AERONAUTICAL MOBILE (OR) LAND MOBILE	**Fixed (FIX)** **Aeronautical mobile (MAOR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band
5480 - 5680	AERONAUTICAL MOBILE (R) 5.111, 5.115	**Aeronautical mobile (MAR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
5680 - 5730	AERONAUTICAL MOBILE (OR) 5.111, 5.115	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band
5730 - 5900	FIXED LAND MOBILE	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
5900 - 5950	BROADCASTING 5.134 5.136	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
5950 - 6200	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Inductive systems (5-30 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
6200 - 6525	MARITIME MOBILE 5.109, 5.110, 5.130, 5.132 5.137	**Maritime mobile (MM)** Distress and security traffic - telephony (6215 kHz) NBDP (6268 kHz) DSC (6312 kHz) NBDP - MSI (6314 kHz) **SRD – Inductive systems (5-30 MHz)**	RR Ap. 15 RR Ap. 17 RR Ap. 25 RR Art. 52 ERC/REC 70-03 Annex 9 Restricted band (6233-6261 kHz; 6332.5-6501 kHz)
6525 - 6685	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
6685 - 6765	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
6765 - 7000	FIXED MOBILE except aeronautical mobile (R) Land Mobile 5.138, 5.138A	**Fixed (FIX)** **Land Mobile (MT)** Adaptive systems (6765-6795 MHz) **ISM – Industrial, scientific and medical applications (6765-6795 kHz)** **SRD - Non-specific applications (6765-6795 kHz)** **SRD - Inductive systems (6765-6795 kHz; 5-30 MHz)**	 From 29/3/2009 Until 29/3/2009 RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Restricted band (6795-7000 kHz)
7000 - 7100	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS) **SRD – Inductive systems (5-30 MHz)**	 New planned regulation ERC/REC 70-03 Annex 9
7100 - 7200	BROADCASTING 5.141C AMATEUR	**Sound broadcasting (RAD)** **Amateur (AM)** **SRD – Inductive systems (5-30 MHz)**	To be abandoned on 29/3/2009 ECC/REC/(05)05,until 29/3/2009 New planned regulation ERC/REC 70-03 Annex 9
7200 - 7300	BROADCASTING	**Sound broadcasting (RAD)** **SRD – Inductive systems (5-30 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
7300 - 7350	BROADCASTING 5.134 FIXED 5.143 Land Mobile 5.143	Sound broadcasting (RAD) **Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
7350 - 7450	BROADCASTING FIXED 5.143B Land Mobile 5.143B	Sound broadcasting (RAD) **Fixed (FIX)** **SRD- Inductive systems (7400-8800 kHz; 5-30 MHz)**	RR Art. 12 (with use only from 29/3/2009) Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9
7450 - 8100	FIXED 5.143E MOBILE except aeronautical mobile (R) Land Mobile 5.143E	**Fixed (FIX)** **SRD- Inductive systems (7400-8800 kHz; 5–30 MHz)**	To be abandoned on 29/3/2009 To be abandoned on 29/3/2009 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Restricted band (7757-8100 kHz)
8100 - 8195	FIXED MARITIME MOBILE	**Fixed (FIX)** **Maritime mobile (MM)** **SRD- Inductive systems (7400-8800 kHz; 5-30 MHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
8195 - 8815	MARITIME MOBILE 5.109, 5.110, 5.132, 5.145 5.111	**Maritime mobile (MM)** **Distress and security traffic - telephony (8291 kHz)** **NBDP (8376.5 kHz)** **DSC (8414.5 kHz)** **NBDP – MSI (8416.5 kHz)** **SRD- Inductive systems (7400-8800 kHz; 5-30 MHz)**	RR Ap. 15 RR Ap. 17 RR Ap. 25 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 Restricted band (8300-8340 kHz; 8438-8707 kHz)
8815 - 8965	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
8965 - 9040	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 Restricted band
9040 - 9400	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
9400 - 9500	BROADCASTING 5.134 5.146	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
9500 - 9900	BROADCASTING 5.147	**Sound Broadcasting (RAD)** **SRD – Inductive systems (5-30 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
9900 - 9995	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
9995 - 10003	STANDARD FREQUENCY AND TIME SIGNAL (10000 kHz) 5.111	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
10003 - 10005	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
10005 - 10100	AERONAUTICAL MOBILE (R) 5.111	**Aeronautical mobile (MAR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
10100 - 10150	FIXED Amateur	**Fixed (FIX)** **Amateur (AM) (10100-10108 kHz, 10117-10120 kHz, 10133-10150 kHz)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
10150 - 11175	FIXED Mobile except aeronautical mobile (R)	**Fixed (FIX)** **SRD – Inductive systems (10200-11000 kHz; 5-30 MHz)** **SRD – Railway applications (11.1-16.0 MHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 4 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
11175 - 11275	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 Restricted band
11275 - 11400	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9
11400 - 11600	FIXED	**Fixed (FIX)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 Restricted band
11600 - 11650	BROADCASTING 5.134 5.146	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9
11650 - 12050	BROADCASTING 5.147	**Sound Broadcasting (RAD)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
12050 - 12100	BROADCASTING 5.134 5.146	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9
12100 - 12230	FIXED	**Fixed (FIX)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 Restricted band
12230 - 13200	MARITIME MOBILE 5.109, 5.110, 5.132, 5.145	**Maritime mobile (MM)** **Distress and security traffic – telephony (12290 kHz)** **NBDP (12520 kHz)** **DSC (12577 kHz)** **NBDP – MSI (12579 kHz)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 15 RR Ap. 17 RR Ap. 25 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (12368-12420 kHz; 12658.5-13077 kHz)

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
13200 - 13260	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band
13260 - 13360	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
13360 - 13410	FIXED RADIO ASTRONOMY 5.149	**Fixed (FIX)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
13410 - 13570	FIXED Mobile except aeronautical mobile (R) 5.150	**Fixed (FIX)** **Mobile (MOB)** **ISM – Industrial, scientific and medical applications (13553-13567 kHz)** **SRD - Non-specific applications (13553-13567 kHz)** **SRD - Inductive systems (13553-13567 kHz; 5-30 MHz)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 12 Restricted band (13410-13450 kHz; 13495-13515 kHz)
13570 - 13600	BROADCASTING 5.134 5.151	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
13600 - 13800	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
13800 - 13870	BROADCASTING 5.134 5.151	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
13870 - 14000	FIXED Mobile except aeronautical mobile (R)	**Fixed (FIX)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (13870-13914 kHz)
14000 - 14250	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS) **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	New planned regulation ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
14250 - 14350	AMATEUR	**Amateur (AM)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
14350 - 14990	FIXED Mobile except aeronautical mobile (R)	**Fixed (FIX)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (14604-14670 kHz)
14990 - 15005	STANDARD FREQUENCY AND TIME SIGNAL (15000 kHz) 5.111	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
15005 - 15010	STANDARD FREQUENCY AND TIME SIGNAL Space research	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
15010 - 15100	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
15100 - 15600	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
15600 - 15800	BROADCASTING 5.134 5.146	**SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
15800 - 16360	FIXED	**Fixed (FIX)** **SRD – Railway applications (11.1-16.0 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (16180-16231 kHz)

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
16360 - 17410	MARITIME MOBILE 5.109, 5.110, 5.132, 5.145	**Maritime mobile (MM)** **Distress and security traffic - telephony (16420 kHz)** **NBDP (16695 kHz)** **DSC (16804.5 kHz)** **NBDP – MSI (16806.5 kHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 15 RR Ap. 17 RR Ap. 25 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (16549-16617 kHz; 16904.5-17242 kHz)
17410 - 17480	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (17410-17452 kHz)
17480 - 17550	BROADCASTING 5.134 5.146	**SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
17550 - 17900	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
17900 - 17970	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
17970 - 18030	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 26 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band
18030 - 18052	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
18052 - 18068	FIXED Space research	**SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
18068 - 18168	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS) **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	New planned regulation ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
18168 - 18780	FIXED Mobile except aeronautical mobile	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (18249-18373 kHz)
18780 - 18900	MARITIME MOBILE	**Maritime mobile (MM)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 17 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (18846-18870 kHz)
18900 - 19020	BROADCASTING 5.134 5.146	**SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
19020 - 19680	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (19020-19120 kHz)

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
19680 - 19800	MARITIME MOBILE 5.132	**Maritime mobile (MM)** **NBDP – MSI (19680.5 kHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	RR Ap. 17 RR Ap. 15 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12 Restricted band (19705-19755 kHz)
19800 - 19990	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	 ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
19990 - 19995	STANDARD FREQUENCY AND TIME SIGNAL Space research 5.111	**SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
19995 - 20010	STANDARD FREQUENCY AND TIME SIGNAL (20000 kHz) 5.111	**SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (12.5-20.0 MHz)**	ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12
20010 - 21000	FIXED Mobile	**Fixed (FIX)** **Mobile (MOB)** **SRD – Inductive systems (5-30 MHz)**	 ERC/REC 70-03 Annex 9 Restricted band (20442-20680 kHz)

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
21000 - 21450	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS) **SRD – Inductive systems (5-30 MHz)**	New planned regulation ERC/REC 70-03 Annex 9
21450 - 21850	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Inductive systems (5-30 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 9
21850 - 21870	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
21870 - 21924	FIXED 5.155B	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
21924 - 22000	AERONAUTICAL MOBILE (R)	**Aeronautical mobile (MAR)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 27 ERC/REC 70-03 Annex 9
22000 - 22855	MARITIME MOBILE 5.132	**Maritime mobile (MM)** **NBDP – MSI (22376 kHz)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 17 RR Ap. 25 RR Ap. 15 ERC/REC 70-03 Annex 9 Restricted band (22180-22240 kHz; 22445.5-22696 kHz)
22855 - 23000	FIXED	**Fixed (FIX)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band (22900-23000 kHz)
23000 - 23200	FIXED Mobile except aeronautical mobile (R)	**Fixed (FIX)** **Mobile (MOB)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
23200 - 23350	FIXED 5.156A AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (MAOR)** **SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9 Restricted band
23350 - 24000	FIXED MOBILE except aeronautical mobile 5.157	**Fixed (FIX)** Adaptive systems **SRD – Inductive systems (5-30 MHz)**	RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 ERC/REC 70-03 Annex 9
24000 - 24890	FIXED LAND MOBILE	**Fixed (FIX)** Adaptive systems (24000-24125 kHz; 24325-24890 kHz) **SRD – Inductive systems (5-30 MHz)**	RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 ERC/REC 70-03 Annex 9 Restricted band (24125-24325 kHz)
24890 - 24990	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS) **SRD – Inductive systems (5-30 MHz)**	New planned regulation ERC/REC 70-03 Annex 9
24990 - 25005	STANDARD FREQUENCY AND TIME SIGNAL (25000 kHz)	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9
25005 - 25010	STANDARD FREQUENCY AND TIME SIGNAL Space research	**SRD – Inductive systems (5-30 MHz)**	ERC/REC 70-03 Annex 9

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
25010 - 25070	FIXED MOBILE except aeronautical mobile	 Adaptive systems **SRD – Inductive systems (5-30 MHz)**	 RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 ERC/REC 70-03 Annex 9
25070 - 25210	MARITIME MOBILE	**Maritime mobile (MM)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 17 RR Ap. 25 ERC/REC 70-03 Annex 9 Restricted band (25121-25161.25 kHz)
25210 - 25550	FIXED MOBILE except aeronautical mobile	Fixed (FIX) Adaptive systems **SRD – Inductive systems (5-30 MHz)**	 RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 ERC/REC 70-03 Annex 9
25550 - 25670	RADIO ASTRONOMY 5.149	 **SRD – Inductive systems (5-30 MHz)**	 ERC/REC 70-03 Annex 9
25670 - 26100	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Inductive systems (5-30 MHz)**	RR Art. 12 ERC/REC 70-03 Annex 9
26100 - 26175	MARITIME MOBILE 5.132	**Maritime mobile (MM)** **NBDP – MSI (26100.5 kHz)** **SRD – Inductive systems (5-30 MHz)**	RR Ap. 17 RR Ap. 15 ERC/REC 70-03 Annex 9 Restricted band (26122.5-26145 kHz)

FREQUENCY BAND (kHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
26175 - 27500	FIXED MOBILE except aeronautical mobile 5.150	**Fixed (FIX)** **Mobile (MOB)** Adaptive systems (26175-26870 kHz; 26957-27500 kHz) **SCPP – Local Radio Paging (MOB) (27155 kHz; 27165 kHz; 27175 kHz; 27185 kHz; 27225 kHz)** **ISM – Industrial, scientific and medical applications (26957-27283 kHz)** **SRD - Non-specific applications (26957-27283 kHz)** **SRD- Railway applications (27095 kHz)** **SRD-Model control (26995 kHz 27045 kHz; 27095 kHz; 27145 kHz; 27195 kHz)** **SRD - Inductive systems (26957-27283 kHz; 5-30 MHz)** **CB (26.960-27.410 MHz)**	RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 Local paging Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/DEC/(01)02 ERC/REC 70-03 Annex 4 ERC/REC 70-03 Annex 8 ERC/DEC/(01)10 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 9 ERC/DEC/(01)16 CEPT Rec. T/R 20-09 Restricted band (26870-26957 kHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
27.5 - 28	METEOROLOGICAL AIDS FIXED MOBILE	Adaptive systems (27.5-27.85 MHz) **CT0 – Cordless telephones (27, 5375-27, 8375 MHz) (MOB)** **SRD – Inductive systems (5-30 MHz)**	RR Resolution729 (Rev. WRC-07) Rec. ITU-R F.1110 ERC/REC 70-03 Annex 9 Restricted band (27.85-28 MHz)
28 - 29.7	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS) **SRD – Inductive systems (5-30 MHz)**	New planned regulation ERC/REC 70-03 Annex 9
29.7 - 30.005	FIXED MOBILE	**SMT – Private mobile radio (MOB)** **Short range and narrowband equipment for telecommand, telemetry, telealarm and data transmission, for use outside ISM bands (29.980 MHz; 29.990 MHz; 30.000 MHz)** **SRD – Inductive systems (5-30 MHz)** **SRD- Wireless systems for medical applications (30-37.5 MHz)**	40 MHz plan ERC/REC 70-03 Annex 9 ERC/REC 70-03 Annex 12

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
30.005-30.01	SPACE OPERATIONS (satellite identification) FIXED MOBILE SPACE RESEARCH	**SMT – Private mobile radio (MOB)** **SRD- Wireless systems for medical applications (30-37.5 MHz)**	40 MHz plan ERC/REC 70-03 Annex 12
30.01 - 37.5	FIXED MOBILE	**SMT – Private mobile radio (MOB)** **CT0 – Cordless telephones (36.9875-37, 2875 MHz) (MOB)** **SRD – Telecommand for flying models (34.995-35.225 MHz)** **SRD – Telecommand, telemetry, telealarm and data transmission systems (30.100 MHz)** **SRD- Wireless systems for medical applications (30-37.5 MHz)**	40 MHz plan ERC/REC 70-03 Annex 8 ERC/DEC/(01)11 ERC/REC 70-03 Annex 12 Restricted band (30.0375-33.0875 MHz; 35.8625-36.9625 MHz; 37.3125-39.7625 MHz)
37.5 - 38.25	FIXED MOBILE Radio astronomy 5.149	**SMT – Private mobile radio (MOB)**	40 MHz plan Restricted band
38.25 - 39.986	FIXED MOBILE	**SMT – Private mobile radio (MOB)**	40 MHz plan Restricted band (37.3125-39.7625 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
39.986 - 40.02	FIXED MOBILE Space research	**SMT – Private mobile radio (MOB)**	40 MHz plan
40.02 - 40.98	FIXED MOBILE 5.150	**SMT – Private mobile radio (MOB)** **SCPP – Local Radio Paging (MOB) (40.680 MHz)** **ISM – Industrial, scientific and medical applications (40.66-40.7 MHz)** **SRD – Non-specific applications (40.66-40.7 MHz)** **SRD – Model control (40.665 MHz, 40.675 MHz, 40.685 MHz, 40.695 MHz)**	40 MHz plan *Local paging* Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/DEC/(01)03 ERC/REC 70-03 Annex 8 ERC/DEC/(01)12
40.98 - 41.015	FIXED MOBILE Space research	**SMT – Private mobile radio (MOB)**	Restricted band
41.015 - 44	FIXED MOBILE	**SMT – Private mobile radio (MOB)**	Restricted band
44 - 47	FIXED MOBILE Radiolocation 5.162A	**SMT – Private mobile radio (MOB)**	Use limited to the 46-68 MHz band and only for wind profile radars Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
47 - 68	BROADCASTING Radiolocation 5.162A	**Analogue television broadcasting (RAD)** **Amateur (AM) (50-50.5 MHz)**	Band I (47-68 MHz) (channels 2 to 4) ST-61 Use of the 46-68 MHz band by the Radiolocation Service is limited to wind profile radars New planned regulation Restricted band (47.25-49.5 MHz; 50.5-51 MHz; 54-68 MHz)
68 - 74.8	FIXED MOBILE except aeronautical mobile 5.149	**SMT – Private mobile radio (MOB)** **Amateur (AM) (70.1625-70.2125 MHz; 70.2375-70.2875 MHz)**	80 MHz Plan New planned regulation Restricted band (68.8875-69.8625 MHz; 73.3-74.1 MHz)
74.8 - 75.2	AERONAUTICAL RADIONAVIGATION 5.180	**Aeronautical radionavigation aids - ILS system marker beacons (RVA)**	ICAO – Annex 10
75.2 - 87.5	FIXED MOBILE except aeronautical mobile	**SMT – Private mobile radio (MOB)**	80 MHz Plan Restricted band (75.2125-77.65 MHz; 79.4125-80.3875 MHz; 83.8250-84.6250 MHz; 85.7375-87.4875 MHz)
87.5 - 108	BROADCASTING	**Sound Broadcasting (RAD)** **SRD – Wireless audio systems**	Band II – FM GE-84 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 13
108 - 117.975	AERONAUTICAL RADIONAVIGATION 5.197A	**Aeronautical radionavigation aids - VOR and ILS systems localize (RVA)**	ICAO – Annex 10

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
117.975 - 137	AERONAUTICAL MOBILE (R) 5.111, 5.200, 5.203	**Aeronautical mobile (MAR)** **Emergency (121.5 MHz and 123.1 MHz)**	ICAO – Annex 10
137 - 137.025	SPACE OPERATIONS (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A, 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208	**Mobile-satellite (MV-S) (137-138 MHz)**	
137.025 - 137.175	SPACE OPERATIONS (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 5.208A, 5.209 Mobile except aeronautical mobile (R) 5.208	**Mobile-satellite (MV-S) (137-138 MHz)**	

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
137.175 - 137.825	SPACE OPERATIONS (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A, 5.209 SPACE RESEARCH (space-to-Earth) Fixed Mobile except aeronautical mobile (R) 5.208	**Mobile-satellite (MV-S) (137-138 MHz)**	
137.825 - 138	SPACE OPERATIONS (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) SPACE RESEARCH (space-to-Earth) Fixed Mobile-satellite (space-to-Earth) 5.208A, 5.209 Mobile except aeronautical mobile (R) 5.208	**Mobile-satellite (MV-S) (137-138 MHz)**	
138 - 143.6	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (OR) (MAOR)** **SRD – Non-specific applications (138.20-138.45 MHz)**	Restricted band
143.6 - 143.65	AERONAUTICAL MOBILE (OR) SPACE RESEARCH (space-to-Earth)	**Aeronautical mobile (OR) (MAOR)**	Restricted band
143.65 - 144	AERONAUTICAL MOBILE (OR)	**Aeronautical mobile (OR) (MAOR)**	Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
144 - 146	AMATEUR AMATEUR-SATELLITE	**Amateur (AM) (144-145.8 MHz)** **Amateur-satellite (AMS) (145.8-146 MHz)**	
146 - 148	FIXED MOBILE except aeronautical mobile (R)	**Fixed (FIX)** **Mobile (MOB)**	Restricted band (146.0125-148.400 MHz)
148 - 149.9	FIXED MOBILE except aeronautical mobile (R) MOBILE-SATELLITE (Earth-to-space) 5.209 SPACE OPERATIONS (Earth-to-space) 5.218 5.219, 5.221	**SMT – Private mobile radio (MOB)** **Mobile-satellite (MV-S)**	160 MHz Plan Restricted band (146.0125-148.400 MHz; 149.0125-149.8875 MHz)
149.9 - 150.05	MOBILE-SATELLITE (Earth-to-space) 5.209, 5.224A RADIONAVIGATION-SATELLITE 5.224B 5.220, 5.222, 5.223	**Mobile-satellite (MV-S)**	
150.05 - 153	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	**SMT – Private mobile radio (MOB)** **SRD – Telecommand, telemetry, telealarm and data transmission systems (150.9375 MHz; 150.9500 MHz)**	160 MHz Plan Restricted band (150.5375-150.8875; 151.2-151.9875 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
153 - 154	FIXED MOBILE except aeronautical mobile (R) Meteorological aids	**SMT – Private mobile radio (MOB)**	160 MHz Plan Restricted band (153.6125-154.4875 MHz)
154 - 156, 4875	FIXED MOBILE except aeronautical mobile (R) 5.226	**SMT – Private mobile radio (MOB)** **SMM – Maritime mobile service networks (156-156.4875MHz) (MOB)** **Shore-to-ship communications for differential GPS (MOB); frequencies: 156.075 MHz (ship station) and 160.675 MHz (shore station)** **SRD – Telecommand, telemetry, telealarm and data transmission systems (155.5375 MHz; 155.5500 MHz)**	160 MHz Plan RR Ap. 18 National planning RR Ap. 18 - Channel 61 Restricted band (153.6125-154.4875 MHz; 155.1375-155.4875 MHz; 155.8-155.9875 MHz)
156.4875 - 156.5625	MARITIME MOBILE (distress and calling via DSC) 5.111, 5.226, 5.227	**Maritime mobile (MM)** **DSC – distress, safety and calling (156.525 MHz)**	RR Ap. 18 - Channel 70
156.5625 - 156.7625	FIXED MOBILE except aeronautical mobile (R) 5.226	**Maritime Mobile (MM)** **SMM - Maritime mobile networks (156.5625-156.7625 MHz) (MOB)**	RR Ap. 18 National planning

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
156.7625 - 156.8375	MARITIME MOBILE (distress and calling) 5.111, 5.226	**Maritime mobile (MM)** **Distress, safety and calling - telephony (156.800 MHz)**	RR Ap. 15 RR Ap. 18 - Channel 16
156.8375 - 174	FIXED MOBILE except aeronautical mobile (R) 5.226, 5.227A	**SMT – Private mobile radio (MOB)** **SCPP – Local Radio Paging (MOB) (169.175 MHz)** **AIS system receiver stations (MOB) (161.975 MHz; 162.025 MHz)** **SMM – Maritime mobile service networks (MOB) (156.8375-158.0125 MHz) (160.6125-162.6125)** **SRD – Alarms (169.4750 -169.4875 MHz; 169.5875-169.6000 MHz)** **SRD – Radio microphones and hearing aid equipment (169.4-174.0 MHz; 173.965-174.015 MHz)** **SRD- Detection, tracking and data acquisition systems (169.4 – 169.475 MHz)**	160 MHz Plan *Local paging* RR Ap. 18. Channel AIS1 (161.975 MHz) Channel AIS2 (162.025 MHz) RR Ap. 18 National planning Decision 2005/928/EC of 20 December Decision 2005/673/EC of 13 August ERC/REC 70-03 Annex 7 ERC/REC 70-03 Annex 10 ERC/REC 70-03 Annex 2
174 - 223	BROADCASTING	**Analogue television broadcasting (RAD)** **T-DAB – Sound Broadcasting (RAD) (219-230 MHz)** **SAP/SAB Applications** **SRD – Radio microphones and hearing aid equipment (173.965-174.015 MHz; 174-216 MHz)**	Band III (174-216 MHz) (channels 5 to 10) GE-06 Wi95CO07 Agreement ERC/REC 70-03 Annex 10

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
223 - 230	BROADCASTING Fixed Mobile	**T-DAB – Sound Broadcasting (RAD) (219-230 MHz)**	Wi95CO07 Agreement Restricted band (225-230 MHz)
230 - 235	FIXED MOBILE		Restricted band
235 - 267	FIXED MOBILE 5.111, 5.254, 5.256		Restricted band
267 - 272	FIXED MOBILE Space operations (space-to-Earth) 5.254, 5.257		Restricted band
272 - 273	SPACE OPERATIONS (space-to-Earth) FIXED MOBILE 5.254		Restricted band
273 - 312	FIXED MOBILE 5.254		Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
312 - 315	FIXED MOBILE Mobile-satellite (Earth-to-space) 5.254, 5.255		Restricted band
315 - 322	FIXED MOBILE 5.254		Restricted band
322 - 328.6	FIXED MOBILE RADIO ASTRONOMY 5.149		Restricted band
328.6 - 335.4	AERONAUTICAL RADIONAVIGATION 5.258	**Aeronautical radionavigation aid - ILS system glide path (RVA)**	ICAO – Annex 10
335.4 - 387	FIXED MOBILE 5.254	**SIRESP (380-385 MHz)**	Certain channels in the 383-385 MHz extension sub-band are used by SIRESP ERC/DEC/(01)19 (DMO) Restricted band
387 - 390	FIXED MOBILE Mobile-satellite (space-to-Earth) 5.208A, 5.254, 5.255		Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
390 - 399.9	FIXED MOBILE 5.254	**SIRESP (390-395 MHz)**	Certain channels in the 393-395 MHz extension sub-band are used by SIRESP ERC/DEC/(01)19 (DMO) Restricted band
399.9 - 400.05	MOBILE-SATELLITE (Earth-to-space) 5.209, 5.224A RADIONAVIGATION-SATELLITE 5.222, 5.224B, 5.260 5.220		
400.05 - 400.15	STANDARD FREQUENCY AND TIME SIGNAL BY SATELLITE (400.1 MHz) 5.261		
400.15 - 401	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.208A, 5.209 SPACE RESEARCH (space-to-Earth) 5.263 Space operations (space-to-Earth) 5.264		

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
401 - 402	METEOROLOGICAL AIDS SPACE OPERATIONS (space-to-Earth) EARTH EXPLORATION SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	**SRD- Wireless systems for medical applications (401-402 MHz)**	ERC/REC 70-03 Annex 12
402 - 403	METEOROLOGICAL AIDS EARTH EXPLORATION SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) Fixed Mobile except aeronautical mobile	**SRD- Wireless systems for medical applications (402-405 MHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12 ERC/DEC/(01)17
403 - 406	METEOROLOGICAL AIDS Fixed Mobile except aeronautical mobile	**Radio probes (METAX)** **SRD- Wireless systems for medical applications (402-405 MHz; 405-406 MHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 12 ERC/DEC/(01)17
406 - 406.1	MOBILE-SATELLITE (Earth-to-space) 5.266, 5.267	**COSPAS – SARSAT (MV-S) radio beacons**	RR Ap.13

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
406.1 - 410	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149	**Simple channel links (FIX)**	Simple channel links plan: simplex links Restricted band (408.7875-409.9875 MHz)
410 - 420	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-space) 5.268	**Simple channel links (FIX)** **TETRA** (412.000-412.600 MHz and 413.000-417.575 MHz)	Simple channel links plan: duplex links ERC/DEC/(96)04 Restricted band (417.5875-418.5875 MHz)
420 - 430	FIXED MOBILE except aeronautical mobile Radiolocation	**Simple channel links (FIX)** **TETRA** (422.000-422.600 MHz and 423.000-427.575 MHz)	Simple channel links plan: duplex links ERC/DEC/(96)04 Restricted band (427.5875-428.5875 MHz)
430 – 432	AMATEUR RADIOLOCATION	**Amateur (AM)**	
432 - 438	AMATEUR Amateur-satellite 5.282 RADIOLOCATION Earth exploration-satellite (active) 5.279A 5.138, 5.280	**Amateur (AM) (432-435 MHz)** Amateur-satellite (AMS) (435-438 MHz) **ISM – Industrial, scientific and medical applications (433.05-434.79 MHz)** **SRD – Non-specific applications (433.05-434.79 MHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ECC/DEC/(04)02

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
438 - 440	AMATEUR RADIOLOCATION	**Amateur (AM)**	
440 - 450	FIXED MOBILE except aeronautical mobile Radiolocation 5.286	**SMT – Private mobile radio (MOB)** **Analogue PMR446 (446-446.1 MHz)** Digital PMR446 (446.1-446.2 MHz) TETRA (DMO channels in the 445.2 – 445.3 MHz band) Talk-Back (445.150; 448.300-448.475MHz)	440-450 MHz Plan ERC/DEC/(98)25 ECC/DEC/(05)12
450 - 455	FIXED MOBILE 5.209, 5.286, 5.286A, 5.286B, 5.286C	**SMT – Private mobile radio (MOB)** **SMRP – Mobile trunking service (MOB) (certain frequencies assigned in the 450.0125-451.4625 MHz sub-band)** **CDMA-PAMR (453-457.45 MHz)** TETRA	450 MHz Plan MPT 1327 ECC/DEC/(04)06 ERC/DEC/(96)04 Some channels in 450-470 MHz band
455 - 456	FIXED MOBILE 5.209, 5.286A, 5.286B, 5.286C	SMTP – Public Land Mobile Service (455.80625-457.45 MHz) **CDMA-PAMR (453-457.45 MHz)**	ECC/DEC/(04)06

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
456 - 459	FIXED MOBILE 5.287	**SMT – Private mobile radio (MOB)** SMTP – Public Land Mobile Service (455.80625-457.45 MHz) **Maritime on board communications (457.5375 MHz; 457.550 MHz; 457.5625 MHz; 457.575 MHz) (MOB)** **CDMA-PAMR (453-457.45 MHz)** TETRA **SRD – Telecommand, telemetry, telealarm and data transmission systems (458.1125 MHz; 458.1250 MHz; 458.1375 MHz; 458.1500 MHz)**	450 MHz Plan ECC/DEC/(04)06 ERC/DEC/(96)04 Some channels in 450-470 MHz band Restricted band (458.2125-459.3625 MHz)
459 - 460	FIXED MOBILE 5.209, 5.286A, 5.286B, 5.286C	**SMT – Private mobile radio (MOB)** **SCPP – Local paging (MOB) (459.650 MHz)** TETRA	450 MHz Plan *Local paging* ERC/DEC/(96)04 Some channels in 450-470 MHz band Restricted band (458.2125-459.3625 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
460 - 470	FIXED		
	MOBILE	**SMT – Private mobile radio (MOB)**	450 MHz Plan
		SMT – Public Land Mobile Service (465.80625-467.45 MHz)	MPT 1327
		SMRP – Mobile trunking service (MOB) (certain frequencies assigned in the 460.0125 – 461.4625 MHz)	
		SCPP – Local paging (MOB) (468.1125 MHz; 468.1250 MHz; 469.275 MHz)	*Local paging*
		ECAR – Coverage equipment in restricted area (468.1375 MHz; 468.15 MHz)	
		Maritime on board communications (467.5375 MHz; 467.550 MHz; 467.5625 MHz; 467.575 MHz) (MOB)	
		CDMA-PAMR (463–467.45 MHz)	ECC/DEC/(04)06
		TETRA	ERC/DEC/(96)04 Some channels in 450-470 MHz band
	Meteorological - satellite (space-to-Earth)		
	5.287, 5.289		
			Restricted band (468.2125-469.2125 MHz; 469.3625-469.5875 MHz)
470 - 790	BROADCASTING	**Analogue television broadcasting (RAD)**	GE-06 Bands IV (470-582 MHz) and V (582-822 MHz) (channels 21 to 64)
		DVB-T – Digital television broadcasting (470-582 MHz and 582-862 MHz) (RAD)	Band V (certain channels between 47 and 69)
		SAP/SAB Applications	Broadcasting aids
		SRD - Radio microphones and hearing aid equipment (470-862 MHz)	ERC/REC 70-03 Annex 10
	Land Mobile (5.296)		
	5.149, 5.306, 5.311, 5.311A		

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
790 - 862	FIXED BROADCASTING MOBILE except aeronautical mobile 5.316, 5.317A	 **Analogue television broadcasting (RAD)** DVB-T – Digital television broadcasting (582-862 MHz) (RAD) **SAP/SAB Applications** **SRD - Radio microphones and hearing aid equipment (470-862 MHz)**	 GE-06 Band V (582-822 MHz) (channels 35 to 64) Band V (certain channels between 47 and 69) ERC/REC 70-03 Annex 10
862 - 890	FIXED MOBILE except aeronautical mobile 5.317A	 GSM-R – (876 -880 MHz) **SRD – Non-specific applications (863-870 MHz)** **SRD – Alarms (868.6-868.7 MHz), (869.25-869.4 MHz), (869.65-869.7 MHz)** **SRD – Social alarms (869.2-869.25 MHz)** **SRD – Radio microphones and hearing aid equipment (863-865 MHz)** **SRD – Wireless audio applications (863-865 MHz)** **SRD – RFID (865-868 MHz)**	 ERC/DEC/(97)02: GSM extension band (880-890/925-935 MHz) Decision 1999/569/EC of 28 July1999 ECC/DEC/(02)05 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 7 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 7 ERC/REC 70-03 Annex 10 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 13 Decision 2006/804/EC of 23 November ERC/REC 70-03 Annex 11 Restricted band (873-876 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
890 - 942	FIXED MOBILE except aeronautical mobile 5.317 A Radiolocation	**GSM – Pan European digital public cellular land mobile communications (MOB) (890-914 MHz/ 935-959 MHz)** GSM-R – (921 -925 MHz)	ERC/DEC/(97)02: GSM extension band (880-890/925-935 MHz) Directive 87/372/EEC ERC/DEC/(94)01 ECC/REC/(05)08 Decision 1999/569/EC of 28 July1999 ECC/DEC/(02)05 Restricted band (918-921 MHz)
942 - 960	FIXED MOBILE except aeronautical mobile 5.317A	**GSM – Pan European digital public cellular land mobile communications (MOB) (890-914 MHz/ 935-959 MHz**	Directive 87/372/EEC ERC/DEC/(94)01 ECC/REC/(05)08
960 – 1164	AERONAUTICAL RADIONAVIGATION 5.328 AERONAUTICAL MOBILE (R) 5.327A	**Navigation, safety and flight systems – DME, TACAN, SSR (RVA)**	
1164 – 1215	AERONAUTICAL RADIONAVIGATION 5.328 RADIONAVIGATION-SATELLITE (space-to-Earth) (space-to-space) 5.328B 5.328A		
1215 - 1240	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 5.329, 5.329A (space-to-space) 5.328B SPACE RESEARCH (active) RADIONAVIGATION (5.331) 5.332	**GPS – Global Positioning System (RVA-S)**	

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1240 – 1300	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION-SATELLITE (space-to-Earth) 5.329, 5.329A, (space-to-space) 5.328B SPACE RESEARCH (active) Amateur Amateur-satellite 5.282, (Earth-to-space) RADIONAVIGATION (5.331) 5.332, 5.335A	**Amateur (AM)** Amateur-satellite (AMS) (1260-1270 MHz)	New planned regulation
1300 - 1350	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.149, 5.337A	**Radars (RVA; RLC)**	
1350 – 1400	FIXED MOBILE RADIOLOCATION 5.149, 5.338A, 5.339	**Fixed links (FIX)**	1500 MHz band CEPT Rec. T/R 13-01 Annex A (1350-1375 MHz) and Annex B (1375-1400 MHz)
1400 - 1427	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	USE OF THIS BAND IS STRICTLY FORBIDDEN	

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1427 - 1429	SPACE OPERATIONS (Earth-to-space) FIXED MOBILE except aeronautical mobile 5.338A, 5.341	**Fixed links (FIX)**	1500 MHz band CEPT Rec. T/R 13-01 Annex B (1427-1452 MHz)
1429 - 1452	FIXED MOBILE except aeronautical mobile 5.338A, 5.341	**Fixed links (FIX)**	1500 MHz band CEPT Rec. T/R 13-01 Annex B (1427-1452 MHz)
1452 - 1492	FIXED MOBILE except aeronautical mobile BROADCASTING 5.345, 5.347 SATELLITE BROADCASTING 5.345, 5.347, 5.347A 5.338A, 5.341	T-DAB – Sound Broadcasting (RAD) (1452-1479.5 MHz) S-DAB: Satellite - Sound Broadcasting (RAD-S)(1479.5-1492 MHz)	MA02revCO07 Agreement ECC/DEC/(03)02
1492 - 1518	FIXED MOBILE except aeronautical mobile 5.341	**Fixed links (FIX)** **STL – Studio transmitter links (FIX) (1517-1525 MHz)**	1500 MHz Band CEPT Rec. T/R 13-01 Annex A (1492-1517 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1518 - 1525	FIXED MOBILE except aeronautical mobile MOBILE-SATELLITE (space-to-Earth) 5.348, 5.348C 5.341	**STL – Studio transmitter links (FIX) (1517-1525 MHz)**	
1525 - 1530	SPACE OPERATIONS (space-to-Earth) FIXED MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A Earth exploration satellite Mobile except aeronautical mobile 5.341, 5.351, 5.354	**Mobile-satellite (1525-1544 MHz); GMPCS (1525-1544 MHz)**	
1530 - 1533	SPACE OPERATIONS (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A, 5.353A Earth exploration satellite Fixed Mobile except aeronautical mobile 5.341, 5.347A, 5.351, 5.354	**Mobile-satellite (1525-1544 MHz); GMPCS (1525-1544 MHz)**	
1533 - 1535	SPACE OPERATIONS (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A, 5.353A Earth exploration satellite Fixed Mobile except aeronautical mobile 5.341, 5.351, 5.354, 5.347A	**Mobile-satellite (1525-1544 MHz); GMPCS (1525-1544 MHz)**	

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1535 - 1544	MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A 5.341, 5.351, 5.353A, 5.354	**Mobile-satellite (1525-1544 MHz); GMPCS (1525-1544 MHz)**	
1544 - 1545	MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A 5.341, 5.354, 5.356	**Distress and safety satellite systems, including GMDSS (MV-S)**	Band limited to distress and safety systems
1545 - 1559	MOBILE-SATELLITE (space-to-Earth) 5.347A, 5.351A 5.341, 5.351, 5.354, 5.357, 5.357A	**Maritime mobile-satellite (MM-S); GMPCS** **Distress and safety satellite systems, including GMDSS (MV-S)**	Band limited to distress and safety systems
1559 - 1610	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) 5.329A, (space-to-space) 5.328B 5.341	**GPS – Global Positioning System (RVA-S)**	
1610 - 1610.6	MOBILE-SATELLITE (Earth-to-space) 5.351A AERONAUTICAL RADIONAVIGATION 5.341, 5.364, 5.366, 5.367, 5.368, 5.371, 5.372	GMPCS (1610-1626.5 MHz)	ERC/DEC/(97)03
1610.6 - 1613.8	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY AERONAUTICAL RADIONAVIGATION 5.149, 5.341, 5.364, 5.366, 5.367, 5.368, 5.371, 5.372	GMPCS (1610-1626.5 MHz)	ERC/DEC/(97)03 Important band to the radio astronomy service in Europe

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1613.8 - 1626.5	MOBILE-SATELLITE (Earth-to-space) 5.347A, 5.351A AERONAUTICAL RADIONAVIGATION Mobile-satellite (space-to-Earth) 5.341, 5.364, 5.365, 5.366, 5.367, 5.368, 5.371	GMPCS (1610-1626.5 MHz) **IRIDUM terminals (1621.35-1626.5 MHz)**	ERC/DEC/(97)03
1626.5 - 1631.5	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.351, 5.353A, 5.354	**Maritime mobile-satellite (MM-S); GMPCS (1626.5-1645.5 MHz)**	
1631.5 - 1636.5	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.351, 5.353A, 5.354, 5.374	**Maritime mobile-satellite (MM-S); GMPCS (1626.5-1645.5 MHz)**	
1636.5 - 1645.5	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.351, 5.353A, 5.354	**Land Mobile- satellite (MT-S); GMPCS (1626.5-1645.5 MHz)**	
1645.5 - 1646.5	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.354, 5.375	**Distress and safety satellite systems, including GMDSS (MV-S)**	Band limited to distress and safety systems
1646.5 - 1656.5	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.351, 5.354, 5.357A, 5.376	**Mobile-satellite (MV-S); GMPCS (1646.5-1660.5 MHz)**	
1656.5 - 1660	MOBILE-SATELLITE (Earth-to-space) 5.351A 5.341, 5.351, 5.354, 5.374	**Mobile-satellite (MV-S); GMPCS (1646.5-1660.5 MHz)**	
1660 - 1660.5	MOBILE-SATELLITE (Earth-to-space) 5.351A RADIO ASTRONOMY 5.149, 5.341, 5.351, 5.354, 5.376A	**Mobile-satellite (MV-S); GMPCS (1646.5-1660.5 MHz)**	Important band to the radio astronomy service in Europe

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1660.5 – 1668	RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.341, 5.379A		Important band to the radio astronomy service in Europe
1668 – 1668.4	MOBILE-SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.379C RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149, 5.341, 5.379A, 5.379D		Important band to the radio astronomy service in Europe
1668.4 - 1670	METEOROLOGICAL AIDS FIXED MOBILE-SATELLITE (Earth-to-space) 5.348C, 5.379B, 5.379C MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149, 5.341, 5.379D, 5.379E		Important band to the radio astronomy service in Europe
1670 - 1675	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE 5.380 MOBILE-SATELLITE (Earth-to-space) 5.348C, 5.379B 5.341, 5.379D, 5.379E, 5.380A		ECC/DEC/(02)07 (for harmonized use of the 1670-1675 MHz and 1800-1805 MHz bands)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1675 - 1690	METEOROLOGICAL AIDS FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.341		Restricted band
1690 - 1700	METEOROLOGICAL AIDS METEOROLOGICAL-SATELLITE (space-to-Earth) Fixed Mobile except aeronautical mobile 5.289, 5.341		
1700 - 1710	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.289, 5.341		

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1710 - 1930	FIXED MOBILE 5.380, 5.384A, 5.388 5.149, 5.341, 5.385, 5.388	**GSM 1800 – Digital communications system (1710-1785 MHz; 1805-1880 MHz)** **DECT – European digital wireless telecommunications system (MOB); (1880-1900 MHz)** **IMT-2000 – International mobile telecommunications – 2000 (MOB); (1900-1980 MHz / 2110-2170 MHz)** **MCA** SRD - Radio microphones and hearing aid equipment (1785-1800 MHz) **SRD – Wireless audio applications (1795-1800 MHz)**	Decision 2008/294/EC of 7 April ERC/DEC/(95)03 ECC/REC/(05)08 ERC/DEC/(94)03 Directive 91/287/EEC CEPT Rec. T/R 22-02 1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992 ECC/DEC/(06)07 (1710-1785 MHz and 1805-1880 MHz) ERC/REC 70-03 Annex 10 ERC/REC 70-03 Annex 13 ECC/DEC/(02)07 (for harmonized use of the 1670-1675 MHz and 1800-1805 MHz bands)
1930 – 1970	FIXED MOBILE 5.388A 5.388	**IMT-2000 – International mobile telecommunications – 2000 (MOB); (1900-1980 MHz / 2110-2170 MHz)**	1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992
1970 - 1980	FIXED MOBILE 5.388A 5.388	**IMT-2000 – International mobile telecommunications – 2000 (MOB); (1900-1980 MHz / 2110-2170 MHz)**	1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
1980 - 2010	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) 5.351A 5.388, 5.389A	 GMPCS (1980-2010 MHz)	 IMT-2000 – International mobile telecommunications – 2000 (MOB) 1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992 Decision 2007/98/EC of 14 February Decision 2008/626/EC of 30 June 2008
2010 - 2025	FIXED MOBILE 5.388A 5.388	 	 IMT-2000 – International mobile telecommunications – 2000 (MOB) 1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992
2025 - 2110	SPACE OPERATIONS (Earth-to-space) (space-to-space) EARTH EXPLORATION SATELLITE (Earth-to-space) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (Earth-to-space) (space-to-space) 5.392	**TCR – Tracking, control and ranging (OE)** **Fixed links (FIX)** **SAP/SAB Applications (video links) (2025-2110 MHz)**	 2 GHz Band CEPT Rec. T/R 13-01 Annex C (2025-2110 MHz) ERC/REC 25-10
2110 - 2120	FIXED MOBILE 5.388A SPACE RESEARCH (deep space) (Earth-to-space) 5.388	**IMT-2000 – International mobile telecommunications – 2000 (MOB)**	1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2120 - 2170	FIXED MOBILE 5.388A 5.388	**IMT-2000 – International mobile telecommunications – 2000 (MOB)**	1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992
2170 - 2200	FIXED MOBILE MOBILE-SATELLITE (space-to-Earth) 5.351 5.388, 5.389A	 GMPCS (2170-2200 MHz)	 IMT-2000 – International mobile telecommunications – 2000 (MOB) 1885-2025 MHz and 2110-2200 MHz bands designated by WARC-1992 Decision 2007/98/EC of 14 February Decision 2008/626/EC of 30 June
2200 - 2290	SPACE OPERATIONS (space-to-Earth) (space-to-space) EARTH EXPLORATION SATELLITE (space-to-Earth) (space-to-space) FIXED MOBILE 5.391 SPACE RESEARCH (space-to-Earth) (space-to-space) 5.392	**TCR – Tracking, control and ranging (OE)** **Fixed links (FIX)** **SAP/SAB Applications (video links) (2200-2500 MHz)**	 2 GHz Band CEPT Rec. T/R 13-01 Annex C (2200-2290 MHz) ERC/REC 25-10
2290 - 2300	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (deep space) (space-to-Earth)	 **SAP/SAB Applications (video links) (2200-2500 MHz)**	 ERC/REC 25-10

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2300 - 2400	FIXED MOBILE Amateur Radiolocation	Amateur (AM) **SAP/SAB Applications (video links) (2200-2500 MHz)**	New planned regulation ERC/REC 25-10
2400 - 2450	FIXED MOBILE Amateur Amateur-satellite 5.282 Radiolocation 5.150	Amateur (AM) Amateur-satellite (AMS) **SAP/SAB Applications (video links) (2200-2500 MHz)** **ISM – Industrial, scientific and medical applications (2400-2500 MHz)** **SRD – Non-specific applications (2400-2483.5 MHz)** **SRD - WLANs (2400-2483.5 MHz)** **SRD – Radio determination applications (2400-2483.5 MHz)** **SRD - RFID (2446-2454 MHz)** **SRD – Railway applications (2446-2454 MHz)**	New planned regulation ERC/REC 25-10 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 3 ERC/DEC/(01)07 ERC/REC 70-03 Annex 6 ERC/DEC/(01)08 ERC/REC 70-03 Annex 11 ERC/REC 70-03 Annex 4

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2450 - 2483.5	FIXED MOBILE Radiolocation		
		SAP/SAB Applications (video links) (2200-2500 MHz)	ERC/REC 25-10
		ISM – Industrial, scientific and medical applications (2400-2500 MHz)	
		SRD – Non-specific applications (2400-2483.5 MHz)	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 3 ERC/DEC/(01)07
		SRD - WLANs (2400-2483.5 MHz)	ERC/REC 70-03 Annex 6 ERC/DEC/(01)08
		SRD – Radio determination applications (2400-2483.5 MHz)	ERC/REC 70-03 Annex 11
		SRD - RFID (2446-2454 MHz)	ERC/REC 70-03 Annex 4
		SRD – Railway applications (2446-2454 MHz)	
	5.150		
2483.5 - 2500	FIXED MOBILE		
	MOBILE-SATELLITE (space-to-Earth) 5.351A	GMPCS (2483.5-2500 MHz)	ERC/DEC/(97)03 IMT-2000 RR Resolution225 (WRC-07) Satellite component: 2483.5-2500 MHz)
	Radiolocation		
		SAP/SAB Applications (video links) (2200-2500 MHz)	ERC/REC 25-10
		ISM – Industrial, scientific and medical applications (2400-2500 MHz)	
	5.150, 5.371, 5.398, 5.399, 5.402		

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2500 - 2520	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (space-to-Earth) 5.403, 5.351A 5.414	**MMDS (2500-2690 MHz)**	Microwave multipoint distribution system (MDR) Decision 2008/477/EC of 13 June ECC/DEC/(02)06 and ECC/DEC/(05)05 (2500-2690 MHz UMTS/IMT2000)
2520 - 2655	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A SATELLITE - BROADCASTING 5.413, 5.416 5.339, 5.403, 5.417C, 5.417D 5.418B, 5.418C	**MMDS (2500-2690 MHz)**	Microwave multipoint distribution system (MDR) Decision 2008/477/EC of 13 June ECC/DEC/(02)06 and ECC/DEC/(05)05 (2500-2690 MHz UMTS/IMT2000)
2655 - 2670	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A SATELLITE - BROADCASTING 5.413, 5.416 Earth exploration satellite (passive) Radio astronomy Space research (passive) 5.149, 5.347A, 5.420	**MMDS (2500-2690 MHz)**	Microwave multipoint distribution system (MDR) Decision 2008/477/EC of 13 June ECC/DEC/(02)06 and ECC/DEC/(05)05 (2500-2690 MHz UMTS/IMT2000)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
2670 - 2690	FIXED 5.409, 5.410, 5.411 MOBILE except aeronautical mobile 5.384A MOBILE-SATELLITE (Earth-to-space) 5.351A Earth exploration satellite (passive) Radio astronomy Space research (passive) 5.149, 5.347A, 5.419, 5.420	**MMDS (2500-2690 MHz)**	Microwave multipoint distribution system (MDR) Decision 2008/477/EC of 13 June ECC/DEC/(02)06 and ECC/DEC/(05)05 (2500-2690 MHz UMTS/IMT2000)
2690 - 2700	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	USE OF THIS BAND IS STRICTLY FORBIDDEN	
2700 - 2900	AERONAUTICAL RADIONAVIGATION 5.337 METEOROLOGICAL AIDS 5.423 Radiolocation	**Navigation systems (RVA)** **Meteorological radars (METAX)** **Radars (RVA, RLC)**	
2900 - 3100	RADIOLOCATION 5.424A RADIONAVIGATION 5.426 5.425, 5.427	**Radars (RVA, RLC, RVM)**	
3100 - 3300	RADIOLOCATION Earth exploration-satellite (active) Space research (active) 5.149	**Radars (RLC)**	Restricted band
3300 - 3400	RADIOLOCATION 5.149	**Radars (RLC)**	Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
3400 - 3600	FIXED FIXED-SATELLITE (space-to-Earth) Mobile Radiolocation	**FWA** **BWA**	CEPT Rec. T/R 14-03, Annex B Decision 2008/411/EC of 21 May ECC/DEC/(07)02
3600 - 4200	FIXED FIXED-SATELLITE (space-to-Earth) Mobile	**FWA** **Fixed-satellite (FIX-S); VSATs (3800-4200 MHz)** BWA	ERC/REC 12-08 Annex B, Part 2 (3600-3800 MHz) Decision 2008/411/EC of 21 May ECC/DEC/(07)02 (3600-3800 MHz)
4200 - 4400	AERONAUTICAL RADIONAVIGATION 5.438 5.440	**Radars (RVA)**	
4400 - 4500	FIXED MOBILE		Restricted band
4500 - 4800	FIXED FIXED-SATELLITE (space-to-Earth) 5.441 MOBILE	**SRD – Radio determination applications (4500 -7000 MHz)**	RR Ap. 30B ERC/REC 70-03 Annex 6 Restricted band
4800 - 4990	FIXED MOBILE 5.442 Radio astronomy 5.149, 5.339	**SRD – Radio determination applications (4500 -7000 MHz)**	ERC/REC 70-03 Annex 6 Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
4990 - 5000	FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY Space research (passive) 5.149	**SRD – Radio determination applications (4500 -7000 MHz)**	ERC/REC 70-03 Annex 6 Restricted band
5000 – 5010	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (Earth-to-space) 5.367	**SRD – Radio determination applications (4500 -7000 MHz)**	ERC/REC 70-03 Annex 6
5010 – 5030	AERONAUTICAL RADIONAVIGATION RADIONAVIGATION-SATELLITE (space-to-Earth) 5.443B, (space-to-space) 5.328B 5.367	**SRD – Radio determination applications (4500 -7000 MHz)**	ERC/REC 70-03 Annex 6
5030 – 5091	AERONAUTICAL RADIONAVIGATION 5.367, 5.444, 5.444A	**SRD – Radio determination applications (4500 -7000 MHz)**	Band reserved for MLS system ERC/REC 70-03 Annex 6

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5091 – 5150	AERONAUTICAL RADIONAVIGATION AERONAUTICAL MOBILE 5.444B 5.367, 5.444, 5.444A	**SRD – Radio determination applications (4500 -7000 MHz)**	Band reserved for MLS system ERC/REC 70-03 Annex 6
5150 - 5250	AERONAUTICAL RADIONAVIGATION FIXED-SATELLITE (space-to-Earth) 5.447A MOBILE except aeronautical mobile 5.446A, 5.446B 5.446, 5.446C, 5.447B, 5.447C	**SRD - WAS/RLAN (5150-5350 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2005/513/EC of 11 July and 2007/90/EC of 12 February ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6
5250 - 5255	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.447D MOBILE except aeronautical mobile 5.446A, 5.447F 5.448A	**SRD - WAS/RLAN (5150-5350 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2005/513/EC of 11 July and 2007/90/EC of 12 February ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6 Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5255 - 5350	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) MOBILE except aeronautical mobile 5.446A, 5.447F 5.448A	**SRD - WAS/RLAN (5150-5350 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2005/513/EC of 11 July and 2007/90/EC of 12 February ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6 Restricted band
5350 - 5460	EARTH EXPLORATION SATELLITE (active) 5.448B SPACE RESEARCH (active) 5.448C AERONAUTICAL RADIONAVIGATION 5.449 RADIOLOCATION 5.448D	**SRD – Radio determination applications (4500 -7000 MHz)**	ERC/REC 70-03 Annex 6
5460 - 5470	RADIONAVIGATION 5.449 EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.448D 5.448B	**SRD – Radio determination applications (4500 -7000 MHz)**	

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5470 – 5570	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A, 5.450A EARTH EXPLORATION SATELLITE (active) SPACE RESEARCH (active) RADIOLOCATION 5.450B 5.448B	**Radars (RVM)** **SRD – WAS/RLAN (5470-5725 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2005/513/EC of 11 July ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6
5570 – 5650	MARITIME RADIONAVIGATION MOBILE except aeronautical mobile 5.446A, 5.450A RADIOLOCATION 5.450B 5.452	**Radars (RVM)** **Meteorological radars (5600-5650 MHz)** **SRD – WAS/RLAN (5470-5725 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2005/513/EC of 11 July ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5650-5670	RADIOLOCATION MOBILE except aeronautical mobile 5.446A, 5.450A Amateur Amateur-satellite (Earth-to-space) 5.282 Space research (deep space)	**Amateur (AM)** Amateur-satellite (AMS) **SRD – WAS/RLAN (5470-5725 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	New planned regulation Decision 2005/513/EC of 11 July ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6
5670 - 5725	RADIOLOCATION MOBILE except aeronautical mobile 5.446A, 5.450A Amateur Space research (deep space)	**Amateur (AM)** **SRD – WAS/RLAN (5470-5725 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2005/513/EC of 11 July ERC/REC 70-03 Annex 3 ECC/DEC/(04)08 ERC/REC 70-03 Annex 6
5725 - 5830	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur 5.150	Fixed-satellite (FIX-S) **Amateur (AM)** **ISM – Industrial, scientific and medical applications (5725-5875 MHz)** **SRD – Non-specific applications (5725-5875 MHz)** **SRD - RTTT (5795-5815 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 5 ECC/DEC/(02)01 ERC/REC 70-03 Annex 6

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5830 - 5850	FIXED-SATELLITE (Earth-to-space) RADIOLOCATION Amateur Amateur-satellite (space-to-Earth) 5.150	Fixed-satellite (FIX-S) **Amateur (AM)** Amateur-satellite (AMS) **ISM – Industrial, scientific and medical applications (5725-5875 MHz)** **SRD – Non-specific applications (5725-5875 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	 New planned regulation Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 6
5850 - 5925	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.150	Fixed-satellite (FIX-S) ITS (5875-5905 MHz) **ISM – Industrial, scientific and medical applications (5725-5875 MHz)** **SRD – Non-specific applications (5725-5875 MHz)** **SRD – Radio determination applications (4500 -7000 MHz)**	 Decision 2008/671/EC of 5 August Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 6

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
5925 - 6700	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A MOBILE 5.149, 5.440, 5.458	**Fixed links (FIX)** **Fixed-satellite (FIX-S); VSATs** **SRD – Radio determination applications (4500 -7000 MHz)**	6 GHz band (Low) ERC/REC 14-01 Annex 1 (5925-6425 MHz) 6 GHz band (High) ERC/REC 14-02 Annex 1 (6425-7125 MHz) ERC/REC 70-03 Annex 6
6700 - 7075	FIXED FIXED-SATELLITE (Earth-to-space) (space-to-Earth) 5.441 MOBILE 5.458, 5.458A, 5.458B, 5.458C	**Fixed links (FIX)** **SRD – Radio determination applications (4500 -7000 MHz)**	6 GHz band (High) ERC/REC 14-02 Annex 1 (6425-7125 MHz) ERC/REC 70-03 Annex 6
7075 – 7145	FIXED MOBILE 5.458	**Fixed links (FIX)**	6 GHz band (High) ERC/REC 14-02 Annex 1 (6425-7125 MHz) 7 GHz band (Low) Recommendation ITU-R F.385 (7110-7425 MHz) ECC/REC/(02)06 Annex 1 (7125-7425 MHz)
7145 – 7235	FIXED MOBILE SPACE RESEARCH (Earth-to-space) 5.460 5.458	**Fixed links (FIX)**	7 GHz band (Low) Recommendation ITU-R F.385 (7110-7425 MHz) ECC/REC/(02)06 Annex 1 (7125-7425 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
7235 – 7250	FIXED MOBILE 5.458	**Fixed links (FIX)**	7 GHz band (Low) Recommendation ITU-R F.385 (7110-7425 MHz) ECC/REC/(02)06 Annex 1 (7125-7425 MHz)
7250 - 7300	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE 5.461	**Fixed-satellite (FIX-S)**	Restricted band
7300 - 7450	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461	**Fixed links (FIX)** **Fixed-satellite (FIX-S)**	7 GHz band (Low) Recommendation ITU-R F.385 (7110-7425 MHz) ECC/REC/(02)06 Annex 1 (7125-7425 MHz) 7 GHz band (High) Recommendation ITU-R F.385 (7425-7725 MHz) ECC/REC/(02)06 Annexes 1 and 3 (7425-7725 MHz)
7450 - 7550	FIXED FIXED-SATELLITE (space-to-Earth) METEOROLOGICAL-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile 5.461A	**Fixed links (FIX)** **Fixed-satellite (FIX-S)**	7 GHz band (High) Recommendation ITU-R F.385 (7425-7750 MHz) ECC/REC/(02)06 Annexes 1 and 3 (7425-7725 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
7550 - 7750	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE except aeronautical mobile	**Fixed links (FIX)** **Fixed-satellite (FIX-S)**	7 GHz band (High) Recommendation ITU-R F.385 (7425-7750 MHz) ECC/REC/(02)06 Annexes 1 and 3 (7425-7725 MHz) 8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz)
7750 - 7850	FIXED METEOROLOGICAL-SATELLITE (space-to-Earth) 5.461B MOBILE except aeronautical mobile	**Fixed links (FIX)**	8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz)
7850 - 7900	FIXED MOBILE except aeronautical mobile	**Fixed links (FIX)**	8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz)
7900 - 8025	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.461	**Fixed links (FIX)** **Fixed-satellite (FIX-S)**	8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz) Restricted band (7975-8025 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
8025 - 8175	EARTH EXPLORATION SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	**Earth Exploration Satellite (EXP-S)** **Fixed links (FIX)** **Fixed-satellite (FIX-S)**	8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz)
8175 - 8215	EARTH EXPLORATION SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) METEOROLOGICAL-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	**Earth Exploration Satellite (EXP-S)** **Fixed links (FIX)** **Fixed-satellite (FIX-S)**	8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz) 8 GHz Band (High) Recommendation ITU-R F.386 (8200-8500 MHz)
8215 - 8400	EARTH EXPLORATION SATELLITE (space-to-Earth) FIXED FIXED-SATELLITE (Earth-to-space) MOBILE 5.463 5.462A	**Earth Exploration Satellite (EXP-S)** **Fixed links (FIX)** **Fixed-satellite (FIX-S)**	8 GHz Band (Low) Recommendation ITU-R F.386 Annex 1 (7700-8300 MHz) 8 GHz Band (High) Recommendation ITU-R F.386 (8200-8500 MHz)

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
8400 - 8500	FIXED MOBILE except aeronautical mobile SPACE RESEARCH (space-to-Earth) 5.465	**Fixed links (FIX)**	8 GHz Band (High) Recommendation ITU-R F.386 (8200-8500 MHz)
8500 - 8550	RADIOLOCATION	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6 Restricted band
8550 - 8650	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.469A	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6 Restricted band
8650 - 8750	RADIOLOCATION	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6 Restricted band
8750 - 8850	RADIOLOCATION AERONAUTICAL RADIONAVIGATION 5.470	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6 Restricted band

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
8850 - 9000	RADIOLOCATION MARITIME RADIONAVIGATION 5.472	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6 Restricted band
9000 - 9200	AERONAUTICAL RADIONAVIGATION 5.337 RADIOLOCATION 5.475A	**Radars (RVA, RLC)** **SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6
9200 - 9300	RADIOLOCATION MARITIME RADIONAVIGATION 5.472 5.474	**Radars (RVM, RLC) – SARTs** **SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6
9300 - 9500	RADIONAVIGATION 5.476 EARTH EXPLORATION SATELLITE (active) RADIOLOCATION 5.427, 5.474, 5.475, 5.475A, 5.475B, 5.476A	**Radars (RVM, RVA, RLC) – SARTs** **SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6

FREQUENCY BAND (MHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
9500 - 9800	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION RADIONAVIGATION SPACE RESEARCH (active) 5.476A	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6
9800 - 9900	RADIOLOCATION Earth exploration-satellite (active) Space research (active) Fixed 5.478A, 5.478B	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6
9900 – 10000	RADIOLOCATION Fixed 5.479	**SRD – Radio determination applications (8500 -10600 MHz)**	ERC/REC 70-03 Annex 6

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
10 - 10.45	FIXED MOBILE RADIOLOCATION Amateur 5.479	 **Amateur (AM)** **SAP/SAB Applications (video links) (10.0-10.45 GHz)** **SRD – Radio determination applications (8500 -10600 MHz)**	 ERC/REC 25-10 ERC/REC 70-03 Annex 6
10.45 - 10.5	RADIOLOCATION Amateur Amateur-satellite	 **Amateur (AM)** Amateur-satellite (AMS) **SRD – Radio determination applications (8500 -10600 MHz)**	 New planned regulation ERC/REC 70-03 Annex 6
10.5 - 10.55	FIXED MOBILE Radiolocation	 **SAP/SAB Applications (video links) (10.5-10.68 GHz)** **SRD – Radio determination applications (8500-10600 MHz)**	 ERC/REC 25-10 ERC/REC 70-03 Annex 6
10.55 - 10.6	FIXED MOBILE except aeronautical mobile Radiolocation	 **SAP/SAB Applications (video links) (10.5-10.68 GHz)** **SRD – Radio determination applications (8500-10600 MHz)**	 ERC/REC 25-10 ERC/REC 70-03 Annex 6

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
10.6 - 10.68	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) Radiolocation 5.149, 5.482, 5.482A	**SAP/SAB Applications (video links) (10.5-10.68 GHz)**	ERC/REC 25-10
10.68 - 10.7	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
10.7 - 11.7	FIXED FIXED-SATELLITE (space-to-Earth) 5.441, 5.484A, (Earth-to-space) 5.484 MOBILE except aeronautical mobile	**Fixed links (FIX)** **Fixed-satellite (FIX-S); VSATs; SNGs (10.95-11.2 GHz and 11.45-11.7 GHz); SITs (10.7-12.75 GHz);** **AESs (10.7-11.7 GHz)** **EUTELTRACS – Land mobile satellite data communications system (10.7-11.7 GHz)**	11 GHz band ERC/REC 12-06, Rec.3 (10.7-11.7 GHz) RR Ap. 30B: (10.7-10.95 GHz; 11.2-11.45 GHz)
11.7 - 12.5	FIXED BROADCASTING SATELLITE - BROADCASTING MOBILE except aeronautical mobile 5.487, 5.487A, 5.492	**Satellite broadcasting(RAD-S)** **SITs (5.492) (10.7-12.75 GHz)**	RR Ap. 30 and Ap. 30A

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
12.5 - 12.75	FIXED-SATELLITE (space-to-Earth) 5.484A, (Earth-to-space)	**Fixed-satellite (FIX-S); VSATs; SNGs;** **SITs (10.7-12.75 GHz)** **AESs (12.5-12.75 GHz)** **EUTELTRACS – Land mobile satellite data communications system (12.5-12.75 GHz)**	ERC/REC 13-03
12.75 - 13.25	FIXED FIXED-SATELLITE (Earth-to-space) 5.441 MOBILE Space research (deep space) (space-to-Earth)	**Fixed links (FIX)** **Fixed-satellite (FIX-S)**	13 GHz band ERC/REC 12-02 Annexes A and B (12.75-13.25 GHz) Recommendation ITU-R F.497 (12.75-13.25 GHz) RR Ap. 30B
13.25 - 13.4	EARTH EXPLORATION SATELLITE (active) AERONAUTICAL RADIONAVIGATION 5.497 SPACE RESEARCH (active) 5.498A		
13.4 - 13.75	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH 5.501A Standard frequency and time signal - satellite (Earth-to-space) 5.501B	**SRD – Radio determination applications (13.4-14 GHz)**	ERC/REC 70-03 Annex 6 Restricted band

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
13.75 - 14	FIXED-SATELLITE (Earth-to-space) 5.484A RADIOLOCATION Standard frequency and time signal - satellite (Earth-to-space) Space research Earth exploration satellite 5.502, 5.503	**Fixed-satellite (FIX-S)** **SRD – Radio determination applications (13.4-14 GHz)**	ERC/REC 70-03 Annex 6 Restricted band
14 - 14.25	FIXED-SATELLITE (Earth-to-space) 5.484A, 5.506, 5. 457A, 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.506A Space research 5.504A	**Fixed-satellite (FIX-S); VSATs; SNGs** **AESs (14-14.5 GHz)** **EUTELTRACS – Land mobile satellite data communications system (14-14.25 GHz)**	ERC/REC 13-03
14.25 - 14.3	FIXED-SATELLITE (Earth-to-space) 5.484A, 5.506, 5.457A, 5.506B RADIONAVIGATION 5.504 Mobile-satellite (Earth-to-space) 5.506A Space research 5.504A	**Fixed-satellite (FIX-S); VSATs; SNGs** **AESs (14-14.5 GHz)**	ERC/REC 13-03

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
14.3 - 14.4	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A, 5.506, 5.457A, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A Satellite radionavigation 5.504A	**Fixed-satellite (FIX-S); VSATs; SNGs** **AESs (14-14.5 GHz)**	ERC/REC 13-03
14.4 - 14.47	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A Space research (space-to-Earth) 5.504A	**Fixed-satellite (FIX-S); VSATs; SNGs** **AESs (14-14.5 GHz)**	ERC/REC 13-03
14.47 - 14.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.457A, 5.484A, 5.506, 5.506B MOBILE except aeronautical mobile Mobile-satellite (Earth-to-space) 5.506A Radio astronomy 5.149, 5.504A	**Fixed-satellite (FIX-S); VSATs; SNGs** **AESs (14-14.5 GHz)**	ERC/REC 13-03
14.5 - 14.8	FIXED FIXED-SATELLITE (Earth-to-space) 5.510 MOBILE Space research	**Fixed links (FIX)**	15 GHz band ERC/REC 12-07 Annex A (14.5-14.62 GHz) Restricted band (14.62-14.8 GHz)

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
14.8 - 15.35	FIXED MOBILE Space research 5.339	**Fixed links (FIX)**	15 GHz band ERC/REC 12-07 Annex A (15.23-15.35 GHz) Restricted band (14.8-15.23 GHz)
15.35 - 15.4	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
15.4 - 15.43	AERONAUTICAL RADIONAVIGATION 5.511D		
15.43 - 15.63	FIXED-SATELLITE (Earth-space) 5.511A AERONAUTICAL RADIONAVIGATION 5.511C		
15.63 - 15.7	AERONAUTICAL RADIONAVIGATION 5.511D		
15.7 - 16.6	RADIOLOCATION	**Radars (RLC)**	Restricted band
16.6 - 17.1	RADIOLOCATION Space research (deep space) (Earth-to-space)	**Radars (RLC)**	Restricted band
17.1 - 17.2	RADIOLOCATION	SRD - HIPERLANs (17.1-17.3 GHz)	ERC/REC 70-03 Annex 3 CEPT Rec. T/R 22-06 Restricted band

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
17.2 - 17.3	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.513A	SRD - HIPERLANs (17.1-17.3 GHz)	ERC/REC 70-03 Annex 3 CEPT Rec. T/R 22-06 Restricted band
17.3 - 17.7	FIXED-SATELLITE (Earth-to-space) 5.516, (space-to-Earth) 5.516A, 5.516B Radiolocation	**Fixed-satellite (FIX-S);** HDFSS	RR Ap. 30A: (17.3-18.1 GHz) HDFSS (space-to-Earth): 17.3-17.7 GHz (WRC-2003)
17.7 - 18.1	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.516 MOBILE	**Fixed links (FIX)** **Fixed-satellite (FIX-S)**	18 GHz band ERC/REC 12-03 Annex A (17.7-19.7 GHz) Recommendation ITU-R F.595 (17.7-19.7 GHz) RR Ap. 30A: (17.3-18.1 GHz)
18.1 - 18.4	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A (Earth-to-space) 5.520 MOBILE 5.519	**Fixed links (FIX)**	18 GHz band ERC/REC 12-03 Annex A (17.7-19.7 GHz) Recommendation ITU-R F.595 (17.7-19.7 GHz)
18.4 - 18.6	FIXED FIXED-SATELLITE (space-to-Earth) 5.484A MOBILE	**Fixed links (FIX)**	18 GHz band ERC/REC 12-03 Annex A (17.7-19.7 GHz) Recommendation ITU-R F.595 (17.7-19.7 GHz)

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
18.6 - 18.8	EARTH EXPLORATION SATELLITE (passive) FIXED FIXED-SATELLITE (space-to-Earth) 5.522B MOBILE except aeronautical mobile Space research (passive) 5.522A	**Fixed links (FIX)**	18 GHz band ERC/REC 12-03 Annex A (17.7-19.7 GHz) Recommendation ITU-R F.595 (17.7-19.7 GHz)
18.8 - 19.3	FIXED FIXED-SATELLITE (space-to-Earth) 5.523A MOBILE	**Fixed links (FIX)**	18 GHz band ERC/REC 12-03 Annex A (17.7-19.7 GHz) Recommendation ITU-R F.595 (17.7-19.7 GHz)
19.3 - 19.7	FIXED FIXED-SATELLITE (space-to-Earth) (Earth-to-space) 5.523B, 5.523C, 5.523D, 5.523E MOBILE	**Fixed links (FIX)**	18 GHz band ERC/REC 12-03 Annex A (17.7-19.7 GHz) Recommendation ITU-R F.595 (17.7-19.7 GHz)
19.7 - 20.1	FIXED-SATELLITE (space-to-Earth) 5.484A, 5.516B Mobile-satellite (space-to-Earth)	Fixed-satellite (FIX-S) HDFSS **SUTs (19.7-20.2 GHz)**	HDFSS (space-to-Earth): 19.7-20.2 GHz (WRC-2003)

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
20.1 - 20.2	FIXED-SATELLITE (space-to-Earth) 5.484 A, 5.516B MOBILE-SATELLITE (space-to-Earth) 5.525, 5.526, 5.527.5.528	Fixed-satellite (FIX-S) HDFSS **SUTs (19.7-20.2 GHz)**	HDFSS (space-to-Earth): 19.7-20.2 GHz (WRC-2003)
20.2 - 21.2	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) Standard Frequency and Time Signal (space-to-Earth)		Restricted band
21.2 - 21.4	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive)		
21.4 - 22	FIXED MOBILE SATELLITE - BROADCASTING 5.347A, 5.530	SRR (21.65-26.65 GHz)	Decision 2005/50/EC of 17 January ECC/DEC/(04)10
22 - 22.21	FIXED MOBILE except aeronautical mobile 5.149	**Fixed links (FIX)** SRR (21.65-26.65 GHz)	23 GHz band CEPT Rec. T/R 13-02 Annex A (22-22.6 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
22.21 - 22.5	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE except aeronautical mobile RADIO ASTRONOMY SPACE RESEARCH (passive) 5.149, 5.532	**Fixed links (FIX)** SRR (21.65-26.65 GHz)	23 GHz band CEPT Rec. T/R 13-02 Annex A (22-22.6 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10
22.5 - 22.55	FIXED MOBILE	**Fixed links (FIX)** SRR (21.65-26.65 GHz)	23 GHz band CEPT Rec. T/R 13-02 Annex A (22-22.6 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10
22.55 - 23.55	FIXED INTER-SATELLITE 5.338A MOBILE 5.149	**Fixed links (FIX)** SRR (21.65-26.65 GHz)	23 GHz band CEPT Rec. T/R 13-02 Annex A (22-22.6 GHz; 23-23.6 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10
23.55 - 23.6	FIXED MOBILE	**Fixed links (FIX)** SRR (21.65-26.65 GHz)	23 GHz band CEPT Rec. T/R 13-02 Annex A (23-23.6 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
23.6 - 24	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
24 - 24.05	AMATEUR AMATEUR-SATELLITE 5.150	**Amateur (AM)** Amateur-satellite (AMS) **ISM – Industrial, scientific and medical applications (24-24.25 GHz)** **SRD – Non-specific applications (24-24.25 GHz)** SRR (21.65-26.65 GHz)	 New planned regulation Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 Decision 2005/50/EC of 17 January ECC/DEC/(04)10
24.05 - 24.25	RADIOLOCATION Amateur Earth exploration-satellite (active) 5.150	**Radars (RLC)** **Amateur (AM)** **ISM – Industrial, scientific and medical applications (24-24.25 GHz)** **SRD – Non-specific applications (24-24.25 GHz)** **SRD – Radio determination applications (24.05-27 GHz)** SRR (21.65-26.65 GHz)	 Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 6 Decision 2005/50/EC of 17 January ECC/DEC/(04)10
24.25 - 24.45	FIXED	SRR (21.65-26.65 GHz) **SRD – Radio determination applications (24.05-27 GHz)**	Decision 2005/50/EC of 17 January ECC/DEC/(04)10 ERC/REC 70-03 Annex 6

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
24.45 - 24.75	FIXED INTER-SATELLITE	**FWA** SRR (21.65-26.65 GHz) **SRD – Radio determination applications (24.05-27 GHz)**	25 GHz band CEPT Rec. T/R 13-02 Annex B (24.5-26.5 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10 ERC/REC 70-03 Annex 6
24.75 - 25.25	FIXED	**FWA** SRR (21.65-26.65 GHz) **SRD – Radio determination applications (24.05-27 GHz)**	25 GHz band CEPT Rec. T/R 13-02 Annex B (24.5-26.5 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10 ERC/REC 70-03 Annex 6 Restricted band (25.242-25.25 GHz)
25.25 - 25.5	FIXED INTER-SATELLITE 5.536 MOBILE Standard frequency and time signal - satellite (Earth-to-space)	**FWA** SRR (21.65-26.65 GHz) **SRD – Radio determination applications (24.05-27 GHz)**	25 GHz band CEPT Rec. T/R 13-02 Annex B (24.5-26.5 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10 ERC/REC 70-03 Annex 6 Restricted band (25.25-25.492 GHz)

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
25.5 - 27	EARTH EXPLORATION SATELLITE (space-to-Earth) 5.536A, 5.536B FIXED INTER-SATELLITE 5.536 MOBILE SPACE RESEARCH (space-to-Earth) 5.536A Standard frequency and time signal - satellite (Earth-to-space)	**FWA** SRR (21.65-26.65 GHz) **SRD – Radio determination applications (24.05-27 GHz)**	25 GHz band CEPT Rec. T/R 13-02 Annex B (24.5-26.5 GHz) Decision 2005/50/EC of 17 January ECC/DEC/(04)10 ERC/REC 70-03 Annex 6 Restricted band (26.25-27 GHz)
27 - 27.5	FIXED INTER-SATELLITE 5.536 MOBILE		Restricted band
27.5 - 28.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A, 5.539, 5.516B MOBILE 5.538, 5.540	**FWA** Fixed-satellite (FIX-S); HDFSS	28 GHz band CEPT Rec. T/R 13-02 Annex C (27.5-29.5 GHz) HDFSS (Earth-to-space) :27.5-27.82 GHz; 28.45-28.94 GHz (WRC-2003)

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
28.5 - 29.1	FIXED FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.523A, 5.539 MOBILE Earth exploration satellite (Earth-to-space) 5.541 5.540	**FWA** Fixed-satellite (FIX-S); HDFSS	28 GHz band CEPT Rec. T/R 13-02 Annex C (27.5-29.5 GHz) HDFSS (Earth-to-space) : 28.45-28.94 GHz (WRC-2003)
29.1 - 29.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.516B, 5.523C, 5.523E, 5.535A, 5.539, 5.541A MOBILE Earth exploration satellite (Earth-to-space) 5.541 5.540	**FWA** Fixed-satellite (FIX-S) HDFSS	28 GHz band CEPT Rec. T/R 13-02 Annex C (27.5-29.5 GHz) HDFSS (Earth-to-space): 29.46-30 GHz (WRC-2003)
29.5 - 29.9	FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 Earth exploration satellite (Earth-to-space) 5.541 Mobile-satellite (Earth-to-space) 5.540	Fixed-satellite(FIX-S) HDFSS **SUTs (29.5-30.0 GHz);** **SITs (29.5-30.0 GHz);**	HDFSS (Earth-to-space): 29.46-30 GHz (WRC-2003)

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
29.9 - 30	FIXED-SATELLITE (Earth-to-space) 5.484A, 5.516B, 5.539 MOBILE-SATELLITE (Earth to space) Earth exploration satellite (Earth-to-space) 5.541, 5.543 5.525, 5.526, 5.527, 5.538, 5.540	Fixed-satellite(FIX-S) HDFSS **SUTs (29.5-30.0 GHz)** **SITs (29.5-30.0 GHz)**	HDFSS (Earth-to-space): 29.46-30 GHz (WRC-2003)
30 - 31	FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE-SATELLITE (Earth to space) Standard frequency and time signal - satellite (space-to-Earth)		Restricted band
31 - 31.3	FIXED 5.338A MOBILE Standard frequency and time signal - satellite (space-to-Earth) Space research 5.544 5.149		
31.3 - 31.5	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
31.5 - 31.8	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) Fixed Mobile except aeronautical mobile 5.149		
31.8 - 32	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547, 5.548		32 GHz band ERC/REC/(01)02 (31.8-33.4 GHz)
32 - 32.3	FIXED 5.547A RADIONAVIGATION SPACE RESEARCH (deep space) (space-to-Earth) 5.547, 5.548		32 GHz band ERC/REC/(01)02 (31.8-33.4 GHz)
32.3 - 33	FIXED 5.547A INTER-SATELLITE RADIONAVIGATION 5.547, 5.548		32 GHz band ERC/REC/(01)02 (31.8-33.4 GHz)
33 - 33.4	FIXED 5.547A RADIONAVIGATION 5.547		32 GHz band ERC/REC/(01)02 (31.8-33.4 GHz)
33.4 - 34.2	RADIOLOCATION		Restricted band

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
34.2 - 34.7	RADIOLOCATION SPACE RESEARCH (deep space) (Earth-to-space)		Restricted band
34.7 - 35.2	RADIOLOCATION Space research		Restricted band
35.2 - 35.5	METEOROLOGICAL AIDS RADIOLOCATION		Restricted band
35.5 - 36	METEOROLOGICAL AIDS EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) 5.549A		Restricted band
36 - 37	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.149, 5.550A		Restricted band

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
37 - 37.5	FIXED MOBILE SPACE RESEARCH (space-to-Earth) 5.547	**Fixed links (FIX)**	38 GHz band CEPT Rec. T/R 12-01 (37-39.5 GHz)
37.5 - 38	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE SPACE RESEARCH (space-to-Earth) Earth exploration satellite (space-to-Earth) 5.547	**Fixed links (FIX)**	38 GHz band CEPT Rec. T/R 12-01 (37-39.5 GHz) ERC/DEC/(00)02 Non-coordinated Earth stations cannot claim protection from the fixed service
38 - 39.5	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Earth exploration satellite (space-to-Earth) 5.547	**Fixed links (FIX)**	38 GHz band CEPT Rec. T/R 12-01 (37-39.5 GHz) ERC/DEC/(00)02 Non-coordinated Earth stations cannot claim protection from the fixed service

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
39.5 - 40	FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) Earth exploration satellite (space-to-Earth) 5.547		ERC/DEC/(00)02 Non-coordinated and coordinated Earth stations Bands identified by WRC-2003 (39.5-40 GHz) for HDFSS (space-to-Earth)
40 - 40.5	EARTH EXPLORATION SATELLITE (Earth-to-space) FIXED FIXED-SATELLITE (space-to-Earth) 5.516B MOBILE MOBILE-SATELLITE (space-to-Earth) SPACE RESEARCH (Earth-to-space) Earth exploration satellite (space-to-Earth)		ERC/DEC/(00)02 Non-coordinated and coordinated Earth stations Bands identified by WRC-2003 (40-40.5 GHz) for HDFSS (space-to-Earth)
40.5 - 41	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING SATELLITE - BROADCASTING Mobile 5.547	MWS applications, including MVDS (40.5-43.5 GHz)	ERC/DEC/(99)15 ECC/REC/(01)04 ECC/DEC/(02)04

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
41 – 42.5	FIXED FIXED-SATELLITE (space-to-Earth) BROADCASTING SATELLITE - BROADCASTING Mobile 5.547, 5.551H, 5.551I	MWS applications, including MVDS (40.5-43.5 GHz)	ERC/DEC/(99)15 ECC/REC/(01)04 ECC/DEC/(02)04
42.5 - 43.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE except aeronautical mobile RADIO ASTRONOMY 5.149, 5.547	MWS applications, including MVDS (40.5-43.5 GHz)	ERC/DEC/(99)15 ECC/REC/(01)04
43.5 - 47	MOBILE 5.553 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554		Restricted band (43.5-45.5 GHz)
47 - 47.2	AMATEUR AMATEUR-SATELLITE	**Amateur (AM)** Amateur-satellite (AMS)	New planned regulation
47.2 – 47.5	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.552A		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
47.5 – 47.9	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B, 5.554A MOBILE		Bands identified by WRC-2003 (47.5-47.9 GHz) for HDFSS (space-to-Earth)
47.9 – 48.2	FIXED FIXED-SATELLITE (Earth-to-space) 5.552, 5.554A MOBILE 5.552A		
48.2 – 48.54	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 (space-to-Earth) 5.516B, 5.554A, 5.555B MOBILE		Bands identified by WRC-2003 (48.2-48.54 GHz) for HDFSS (space-to-Earth)
48.54 – 49.44	FIXED FIXED-SATELLITE (Earth-to-space) 5.552 MOBILE 5.149, 5.340, 5.555		
49.44 – 50.2	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A, 5.552 (space-to-Earth) 5.516B, 5.554A, 5.555B MOBILE		Bands identified by WRC-2003 (49.44-50.2 GHz) for HDFSS (space-to-Earth)
50.2 - 50.4	EARTH EXPLORATION SATELLITE (passive) SPACE RESEARCH (passive) 5.340	**Radiometers - Passive sensors (EXP-S)**	

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
50.4 - 51.4	FIXED FIXED-SATELLITE (Earth-to-space) 5.338A MOBILE Mobile-satellite (Earth-to-space)		
51.4 - 52.6	FIXED 5.338A MOBILE 5.547, 5.556		
52.6 - 54.25	EARTH EXPLORATION SATELLITE (passive) SPACE RESEARCH (passive) 5.340, 5.556	**Radiometers - Passive sensors (EXP-S)** ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
54.25 - 55.78	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.556A SPACE RESEARCH (passive)	**Radiometers - Passive sensors (EXP-S)**	
55.78 - 56.9	EARTH EXPLORATION SATELLITE (passive) FIXED 5.557A INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	**Radiometers - Passive sensors (EXP-S)**	
56.9 - 57	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE 5.558A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	**Radiometers - Passive sensors (EXP-S)**	

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
57 - 58.2	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 SPACE RESEARCH (passive) 5.547	**Radiometers - Passive sensors (EXP-S)** Fixed links (FIX) **SRD – Radio determination applications (57-64 GHz)**	58 GHz band ERC/REC 12-09 Annex A (57-59 GHz) ERC/REC 70-03 Annex 6
58.2 - 59	EARTH EXPLORATION SATELLITE (passive) FIXED MOBILE SPACE RESEARCH (passive) 5.547, 5.556	**Radiometers - Passive sensors (EXP-S)** Fixed links (FIX) **SRD – Radio determination applications (57-64 GHz)**	58 GHz band ERC/REC 12-09 Annex A (57-59 GHz) ERC/REC 70-03 Annex 6
59 - 59.3	EARTH EXPLORATION SATELLITE (passive) FIXED INTER-SATELLITE 5.556A MOBILE 5.558 RADIOLOCATION 5.559 SPACE RESEARCH (passive)	**SRD – Radio determination applications (57-64 GHz)**	ERC/REC 70-03 Annex 6 Restricted band

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
59.3 - 64	FIXED INTER-SATELLITE MOBILE 5.558 RADIOLOCATION 5.559 5.138	**ISM – Industrial, scientific and medical applications (61-61.5 GHz)** **SRD – Non-specific applications (61-61.5 GHz)** **SRD - RTTT (63-64 GHz)** **SRD – Radio determination applications (57-64 GHz)**	Decision 2008/432/EC of 23 May ERC/REC 70-03 Annex 1 ERC/REC 70-03 Annex 5 ECC/DEC/(02)01 ERC/REC 70-03 Annex 6 Restricted band (59.3-61 GHz)
64 - 65	FIXED INTER-SATELLITE MOBILE except aeronautical mobile 5.547, 5.556		
65 - 66	EARTH EXPLORATION SATELLITE FIXED INTER-SATELLITE MOBILE except aeronautical mobile SPACE RESEARCH 5.547		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
66 - 71	INTER-SATELLITE MOBILE 5.553, 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.554		
71 - 74	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE-SATELLITE (space-to-Earth)		ECC/REC/(05)07 Restricted band
74 - 76	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE BROADCASTING SATELLITE - BROADCASTING Space research (space-to-Earth) 5.561	Fixed links (FIX) **Amateur (AM) (75.5-76 GHz)** Amateur-satellite (AMS) **SRD – Radio determination applications (75-85 GHz)**	74 GHz band ECC/REC/(05)07 Annex 4 ERC *Report* 25 (note EU35 of ECA) New planned regulation ERC/REC 70-03 Annex 6

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
76 – 77.5	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	 Amateur (AM) Amateur-satellite (AMS) SRR (77-81 GHz) **SRD - RTTT (76-77 GHz)** **SRD – Radio determination applications (75-85 GHz)**	 New planned regulation Decision 2004/545/EC of 8 June ECC/DEC/(04)03 CEPT/ERC/REC 70-03 Annex 5 ECC/DEC/(02)01 ERC/REC 70-03 Annex 6 Restricted band
77.5 - 78	AMATEUR AMATEUR-SATELLITE Radio astronomy Space research (space-to-Earth) 5.149	Amateur (AM) Amateur-satellite (AMS) SRR (77-81 GHz) **SRD – Radio determination applications (75-85 GHz)**	 New planned regulation Decision 2004/545/EC of 8 June ECC/DEC/(04)03 ERC/REC 70-03 Annex 6 Restricted band
78 - 79	RADIOLOCATION Amateur Amateur-satellite Radio astronomy Space research (space-to-Earth) 5.149, 5.560	 Amateur (AM) Amateur-satellite (AMS) SRR (77-81 GHz) **SRD – Radio determination applications (75-85 GHz)**	 New planned regulation Decision 2004/545/EC of 8 June ECC/DEC/(04)03 ERC/REC 70-03 Annex 6 Restricted band

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
79 - 81	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite Space research (space-to-Earth) 5.149	 Amateur (AM) Amateur-satellite (AMS) SRR (77-81 GHz) **SRD – Radio determination applications (75-85 GHz)**	 New planned regulation Decision 2004/545/EC of 8 June ECC/DEC/(04)03 ERC/REC 70-03 Annex 6 Restricted band
81 - 84	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY Space research (space-to-Earth) 5.149, 5.561A	 **SRD – Radio determination applications (75-85 GHz)**	ECC/REC/(05)07 ERC/REC 70-03 Annex 6 Restricted band
84 - 86	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149	Fixed links (FIX) **SRD – Radio determination applications (75-85 GHz)**	84 GHz Band ECC/REC/(05)07 Annex 4 ERC/REC 70-03 Annex 6

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
86 - 92	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
92 - 94	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149		
94 - 94.1	EARTH EXPLORATION SATELLITE (active) RADIOLOCATION SPACE RESEARCH (active) Radio astronomy 5.562, 5.562A		
94.1 - 95	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149		
95 - 100	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.554		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
100 - 102	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
102 - 105	FIXED MOBILE RADIO ASTRONOMY 5.149, 5.341		
105 – 109.5	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341		
109.5 – 111.8	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
111.8 - 114.25	FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341		
114.25 - 116	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
116 - 119.98	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.341		
119.98 - 122.25	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.562C SPACE RESEARCH (passive) 5.138, 5.341	**ISM – Industrial, scientific and medical applications (122-123 GHz)** **SRD – Non-specific applications (122-123 GHz)**	ERC/REC 70-03 Annex 1
122.25 – 123	FIXED INTER-SATELLITE MOBILE 5.558 Amateur 5.138	Amateur (AM) **ISM – Industrial, scientific and medical applications (122-123 GHz)** **SRD – Non-specific applications (122-123 GHz)**	New planned regulation ERC/REC 70-03 Annex 1
123 – 130	FIXED-SATELLITE (space-to-Earth) MOBILE-SATELLITE (space-to-Earth) RADIONAVIGATION RADIONAVIGATION-SATELLITE Radio astronomy 5.149, 5.554		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
130 - 134	EARTH EXPLORATION SATELLITE (active) 5.562E FIXED INTER-SATELLITE MOBILE 5.558 RADIO ASTRONOMY 5.149, 5.562A		
134 - 136	AMATEUR AMATEUR-SATELLITE Radio astronomy	Amateur (AM) Amateur-satellite (AMS)	New planned regulation
136 - 141	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.149	Amateur (AM) Amateur-satellite (AMS)	New planned regulation
141 – 148.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149	**Amateur (AM) (142-144 GHz)**	
148.5 – 151.5	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
151.5 – 155.5	FIXED MOBILE RADIO ASTRONOMY RADIOLOCATION 5.149		
155.5 – 158.5	EARTH EXPLORATION SATELLITE (passive) 5.562F FIXED MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.562G		Future use of passive sensors in this band
158.5 - 164	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE MOBILE - SATELLITE (space-to-Earth)		
164 - 167	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
167 – 174.5	FIXED FIXED-SATELLITE (space-to-Earth) INTER-SATELLITE MOBILE 5.558 5.149		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
174.5 - 174.8	FIXED INTER-SATELLITE MOBILE 5.558		
174.8 - 182	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)		
182 - 185	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
185 - 190	EARTH EXPLORATION SATELLITE (passive) INTER-SATELLITE 5.562H SPACE RESEARCH (passive)		
190 – 191.8	EARTH EXPLORATION SATELLITE (passive) SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
191.8 - 200	FIXED INTER-SATELLITE MOBILE 5.558 MOBILE-SATELLITE RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.341, 5.554		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
200 - 209	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.341, 5.563A	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
209 - 217	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149, 5.341		
217 - 226	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY SPACE RESEARCH (passive) 5.562B 5.149, 5.341		
226 – 231.5	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
231.5 - 232	FIXED MOBILE Radiolocation		
232 - 235	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE Radiolocation		

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
235 - 238	EARTH EXPLORATION SATELLITE (passive) FIXED-SATELLITE (space-to-Earth) SPACE RESEARCH (passive) 5.563A, 5.563B		
238 - 240	FIXED FIXED-SATELLITE (space-to-Earth) MOBILE RADIOLOCATION RADIONAVIGATION RADIONAVIGATION-SATELLITE		
240 - 241	FIXED MOBILE RADIOLOCATION		
241 - 248	RADIO ASTRONOMY RADIOLOCATION Amateur Amateur-satellite 5.138, 5.149	Amateur (AM) Amateur-satellite (AMS) **ISM – Industrial, scientific and medical applications (244-246 GHz)** **SRD – Non-specific applications (244-246 GHz)**	New planned regulation ERC/REC 70-03 Annex 1
248 - 250	AMATEUR AMATEUR-SATELLITE Radio astronomy 5.149	**Amateur (AM)** Amateur-satellite (AMS)	New planned regulation

FREQUENCY BAND (GHz)	ALLOCATIONS OF THE RADIO REGULATION – ARTICLE 5 – APPLICABLE TO PORTUGAL	PRINCIPAL NATIONAL APPLICATIONS	NOTES
250 - 252	EARTH EXPLORATION SATELLITE (passive) RADIO ASTRONOMY SPACE RESEARCH (passive) 5.340, 5.563A	ALL TRANSMISSIONS IN THIS BAND ARE PROHIBITED	
252 - 265	FIXED MOBILE MOBILE-SATELLITE (Earth-to-space) RADIO ASTRONOMY RADIONAVIGATION RADIONAVIGATION-SATELLITE 5.149, 5.554		
265 - 275	FIXED FIXED-SATELLITE (Earth-to-space) MOBILE RADIO ASTRONOMY 5.149, 5.563A		
275 - 1000	(Not allocated) 5.565		

Annex 2

PUBLICATION OF
FREQUENCY BAND USES

2.1 Frequency bands and number of channels used in the operation of publicly available electronic communications networks and services up to 30 November 2008

The terms and abbreviations that are used mean the following:

Entity, i.e., companies that provide publicly available electronic communications networks and services

Rights of use required: identification of the need to allocate rights of frequency use, according to article 16 of Law no. 5/2004 of 10 February

Date of allocation revision: ending date of the concession contract or of the rights of frequency use

Shared use: use of a channel/frequency by more than one entity

Exclusive use: use of a channel/frequency by one single entity

Scope of use:

n - national scope: use of a channel/frequency in the national territory;
g - geographical scope: use of a channel/frequency in a determined, well-defined area by radiocommunication stations, such as fixed stations, broadcasting stations and Earth stations.

PUBLICLY AVAILABLE ELECTRONIC COMMUNICATIONS NETWORKS AND SERVICES
– Uses –

FIXED SERVICE - POINT-to-POINT LINKS				
Entity	**Frequency Bands**	**Usage rights required**	**No of channels (1)**	**Scope of use**
PT COMUNICAÇÕES, S.A.	2 GHz (2025 - 2290 MHz) CEPT Rec T/R 13-01 Annex C	NO	2	g
	6 GHz (High) (6425 – 7110 MHz) ERC/REC 14-02 Annex 1	NO	7	g
	7 GHz (High) (7425 - 7750 MHz) Rec. ITU-R 385	NO	2	g
	8 GHz (High) (8200-8500 MHz) Rec. ITU-R 386	NO	2	g
	11 GHz (10.7 - 11.7 GHz) ERC/REC 12-06 Rec3	NO	11	g
	13 GHz (12.75 - 13.35 GHz) ERC/REC 12-02 Annex A	NO	8	g
	18 GHz (17.7 - 19.7 GHz) Rec. ITU-R F.595	NO	8	g
	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	13	g
	23 GHz (22.3 - 23.5 GHz) Report 936-2 Annex 6	NO	7	g
	23 GHz (21.2 - 23.6 GHz) CEPT Rec. T/R 13-02 Annex A	NO	16	g

(1) Channel of shared use.

FIXED SERVICE - POINT-to-POINT LINKS(cont.)				
Entity	**Frequency Bands**	**Usage rights required**	**No of channels (1)**	**Scope of use**
VODAFONE PORTUGAL - Comunicações Pessoais, S.A.	6 GHz (High) (6425 − 7110 MHz) ERC/REC 14-02 Annex 1	NO	8	g
	7 GHz (Low) (7125 − 7425 MHz) Rec. ITU-R 385	NO	4	g
	7 GHz (Low) (7125 − 7425 MHz) ECC/REC/(02)06 Annex 1	NO	13	g
	8 GHz (Low) (7700-8300 MHz) Rec. ITU-R 386 Annex 1	NO	3	g
	11 GHz (10.7 - 11.7 GHz) ERC/REC 12-06 Rec3	NO	8	g
	13 GHz (12.75 - 13.35 GHz) ERC/REC 12-02 Annex A	NO	8	g
	15 GHz (14.5 − 15.35 GHz) ERC/REC 12-07 Annex A	NO	6	g
	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	21	g
	23 GHz (22-23.6 GHz) ERC/REC 13-02 Annex A	NO	17	g
	38 GHz (37 - 39.5 GHz) CEPT Rec. T/R 12-01	NO	22	g
CABOVISÃO − Televisão por Cabo, SA	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	2	g
ONITELECOM − Infocomunicações, S.A.	13 GHz (12.75 - 13.35 GHz) ERC/REC 12-02 Annex A	NO	3	g
	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	6	g
	23 GHz (22-23.6 GHz) ERC/REC 13-02 Annex A	NO	8	g
	38 GHz (37 - 39.5 GHz) CEPT Rec. T/R 12-01	NO	19	g
SONAECOM - Serviços de Comunicações, S.A.	13 GHz (12.75 - 13.35 GHz) ERC/REC 12-02 Annex A	NO	9	g
	15 GHz (14.5 − 15.35 GHz) ERC/REC 12-07	NO	6	g
	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	11	g
	38 GHz (37 - 39.5 GHz) CEPT Rec. T/R 12-01	NO	2	g

(1) Channel of shared use.

FIXED SERVICE - POINT-to-POINT LINKS(cont.)				
Entity	**Frequency Bands**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RENTELECOM - Comunicações, SA	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	1	g
RADIOMOBILE - Telecomunicações SA	7 GHz (Low) (7125 – 7425 MHz) ECC/REC/(02)06 Annex 1	NO	9	g
	13 GHz (12.75 - 13.35 GHz) ERC/REC 12-02 Annex A	NO	8	g
	13 GHz (12.75 - 13.35 GHz) Rec. ITU-R F.497	NO	4	g
	15 GHz (14.5 – 15.35 GHz) ERC/REC 12-07 Annex A	NO	8	g
	18 GHz (17.7 - 19.7 GHz) ERC/REC 12-03 Annex A	NO	6	g
	23 GHz (22-23.6 GHz) ERC/REC 13-02 Annex A	NO	10	g
	38 GHz (37 - 39.5 GHz) CEPT Rec. T/R 12-01	NO	15	g
TVI – Televisão Independente, S.A.	6 GHz (Low) (5925 – 6425 MHz) ERC/REC 14-01 Annex 1	NO	1	g
	8 GHz (High) (8200 - 8500 MHz) Rec. ITU-R 386	NO	3	g

(1) Channel of shared use.

FIXED SERVICE - TRANSPORTABLE LINKS				
Entity	**Frequency Bands**	**Usage rights required**	**No of channels (1)**	**Scope of use**
PT COMUNICAÇÕES, S.A.	6 GHz (Low) (5925 – 6425 MHz) ERC/REC 14-01 Annex 1 29.65 MHz plan	NO	1	n
	18 GHz (17.7 – 19.7 GHz) ERC/REC 12-03 A 27.5 MHz plan	NO	1	n
	23 GHz (22 – 23.6 GHz) CEPT Rec. T/R 13-02 A 28 MHz plan	NO	1	n

FIXED SERVICE - MULTICHANNEL MULTI-POINT DISTRIBUTION SYSTEM (MMDS)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
CABO TV MADEIRENSE, S.A.	2500 - 2690 MHz	28-10-2009	NO	(2)	g

FIXED SERVICE - POINT-to-POINT LINKS				
Entity	**Frequency Bands**	**Usage rights required**	**No of channels (1)**	**Scope of use**
PT COMUNICAÇÕES, S.A.	1500 MHz band CEPT Rec. T/R 13-01 Annex A (1350-1517 MHz) 2 MHz plan	NO	8	g

(1) Channel of shared use.

(2) Band shared with other users.

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FIXED SERVICE - POINT-to-POINT LINKS Fixed Wireless Access (FWA)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Rights of use required**	**No of channels (1)**	**Scope of use (2)**
PT COMUNICAÇÕES, S.A.	3400-3600 MHz CEPT ERC/REC 14-03 Annex B	10-12-2014	YES	2x 28 MHz	g Zones 1, 3, 5, 6, 7
SONAECOM - Serviços de Comunicações, S.A.	3600-3800 MHz CEPT ERC/REC 12-08 Annex B	1-1-2015	YES	2x 28 MHz	g Zones 1, 2, 3, 4, 7
	24.5-26.5 GHz CEPT ERC/REC 13-02 Annex B	1-1-2015	YES	2x 56 MHz 2x 28 MHz	g Zones 1, 2 Zone 3
ONITELECOM – Infocomunicações, S.A.	24.5-26.5 GHz CEPT ERC/REC 13-02 Annex B	1-1-2015	YES	2x 56 MHz	g Zones 1, 2, 9
AR TELECOM – Acessos e Redes de Telecomunicações, S.A.	24.5-26.5 GHz CEPT ERC/REC 13-02 Annex B	1-1-2015	YES	2x 56 MHz	g Zone 1
VODAFONE PORTUGAL - Comunicações Pessoais, S.A.	24.5-26.5 GHz CEPT ERC/REC 13-02 Annex B	1-1-2015	YES	2x 112 MHz	g Zones 1, 2 Zone 3
WTS - Redes e Serviços de Telecomunicações, S.A.	27.5-29.5 GHz CEPT ERC/REC 13-02 Annex C	1-1-2015	YES	2x 175 MHz	g Zones 1, 2

SOUND BROADCASTING SERVICE (RAD) MF (Hectometric Waves)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	526.5 - 1606.5 kHz	30-06-2014	YES	12	g
RÁDIO RENASCENÇA, LDA		01-06-2012	YES	7	g
RÁDIO COMERCIAL, SA		01-06-2012	YES	5	g
RADIALTITUDE - SOC.COMUNICAÇÃO, LDA		01-06-2009	YES	1	g
CLUBE ASAS DO ATLANTICO		01-06-2009	YES	1	g
RÁDIO CLUBE ANGRA		01-06-2009	YES	1	g
POSTO EMISSSOR RÁDIOD.FUNCHAL, LDA		01-06-2009	YES	1	g

(1) Channel of shared use.

(2) The geographic zones are defined in the Annex to Administrative Rule no 1062/2004 of 25 August.

SOUND BROADCASTING SERVICE (RAD) HF (Decametric Waves)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
PROFUNK	5900 - 6200 kHz	11-07-2014	YES	(2)	(3)
	7100 - 7350 kHz				
	9400 - 9900 kHz				
	11600 - 12100 kHz				
	13570 - 13870 kHz				
	15100 - 15800 kHz				
	17480 - 17900 kHz				
	18900 - 19020 kHz				
	21450 - 21850 kHz				
	25670 - 26100 kHz				
RÁDIO E TELEVISÃO DE PORTUGAL, SA	5900 - 6200 kHz	30-06-2014	YES	(2)	(3)
	7100 - 7350 kHz				
	9400 - 9900 kHz				
	11600 - 12100 kHz				
	13570 - 13870 kHz				
	15100 - 15800 kHz				
	17480 - 17900 kHz				
	18900 - 19020 kHz				
	21450 - 21850 kHz				
	25670 - 26100 kHz				
RÁDIO RENASCENÇA, LDA	5900 - 6200 kHz	01-06-2012	YES	(2)	(3)
	7100 - 7350 kHz				
	9400 - 9900 kHz				
	11600 - 12100 kHz				
	13570 - 13870 kHz				
	15100 - 15800 kHz				
	17480 - 17900 kHz				
	18900 - 19020 kHz				
	21450 - 21850 kHz				
	25670 - 26100 kHz				

(2) The number of channels varies with seasonal timetable. Bands shared with users.

(3) Not applicable.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) NATIONAL COVERAGE - Mainland Territory					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	87.5 - 108 MHz	30-06-2014	YES	85	g
RÁDIO RENASCENÇA, LDA		01-06-2012	YES	41	g
RÁDIO COMERCIAL SA		01-06-2012	YES	17	g

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) NATIONAL AND REGIONAL COVERAGE - Autonomous Region of Madeira					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	87.5 - 108 MHz	30-06-2014	YES	31	g

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) NATIONAL AND REGIONAL COVERAGE - Autonomous Region of the Azores					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	87.5 - 108 MHz	30-06-2014	YES	37	g

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) REGIONAL COVERAGE (2)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RÁDIOPRESS-COM. E BROADCASTING, LDA	87.5 - 108 MHz	10-07-2014	YES	13	g
RÁDIO REGIONAL LISBOA, SA		10-07-2014	YES	7	g

(1) Channel of shared use.
(2) Entities with local and regional coverage sound broadcasting stations are authorized to operate under the terms of the licence (permit) granted by public tender.

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SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) REGIONAL COVERAGE [1] – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [2]**	**Scope of use**
A FLOR DO ÉTER, BROADCASTING, LDA	87.5 – 108 MHz	30-03-2009	YES	1	g
A FOLHA, CRL		09-05-2009 09-05-2009	YES	2	g
A VOZ DA PLANÍCIE CRL		22-05-2009	YES	1	g
A VOZ DO SORRAIA EMIS. REG. C CORUCHE		06-03-2009	YES	1	g
ÁGUIA AZUL, CRL		09-05-2009	YES	1	g
ALCOOJOR COOP JORNAL RÁDIOF. ALCOCHETE, CRL		12-06-2009	YES	1	g
ALFÂNDEGA FM-SOC. COMUNICAÇÃO, LDA		01-10-2011	YES	1	g
ANTENA DEZ RÁDIO SANTO ANTONIO LDA		12-06-2009	YES	1	g
ANTENA LIVRE DE GOUVEIA		12-06-2009	YES	1	g
ANTENA MINHO EMISSORA REG BRAGA, LDA		09-05-2009	YES	1	g
ANTENA MIRÓBRIGA COOP SERVICOS, CRL		22-05-2009	YES	1	g
ANTENA VAREIRA, CRL		09-05-2009	YES	1	g
AO TOM DELA (RÁDIO) LDA		22-05-2009	YES	1	g
ASS ACADEMICA UNIVERSIDADE MINHO		09-05-2009	YES	1	g
ASS CULT DESPORT. RECREATIVA INÊS NEGRA		23-12-2009	YES	1	g
ASS CULT E RECREATIVA RÁDIO CONDESTÁVEL		22-05-2009	YES	3	g
ASS CULTURAL RECREATIVA DE CARIA		06-03-2009	YES	1	g
ASS CULTURAL REGIONAL ZÊZERE		12-06-2009	YES	1	g
ASS CULTURAL TORRE DE MONCORVO		30-03-2009	YES	1	g
ASS HUM BOMB VOL VIDIGUEIRA		23-12-2009	YES	1	g
ASS PROM SOC CULT DESP FORNOS ALGODRES		23-12-2009	YES	1	g
ASS RÁDIO UNIVERSITARIA DO ALGARVE		22-05-2013	YES	1	g
ASS RECREATIVA E CULTURAL DA LOUSÃ		12-06-2009	YES	1	g
BAOBAD-COMUNICAÇÕES E PUBLICAÇÕES, SA		09-05-2009	YES	1	g
BASMINHO – PUBLICIDADE, LDA		06-03-2009	YES	1	g
BASTOMÉDIA-PRODUÇÕES DE RÁDIO E ESP., LDA		06-03-2009	YES	2	g
BENEDITA FM-PRODUÇÕES RADIOFÓNICAS,LDA		09-05-2009	YES	1	g
CASTELO DE LANHOSO 2-COM. SOCIAL, UN., LDA		22-05-2009	YES	1	g
CENTRO FORMACAO ASS DESENVOLVIMENTO		30-03-2009	YES	1	g
CINCIBERLANT		[3]	YES	1	g
CLUBE CULTURAL RÁDIO MARINHAIS		30-03-2009	YES	1	g
CÔCO-COMPANHIA DE COMUNICAÇÃO LDA		22-05-2009 06-03-2009 06-03-2009	YES	3	g
COMISSAO MELHORAMENTOS DE ESMORIZ		09-05-2009	YES	1	g
COOP CULTURAL PALA PINTA, CRL		23-12-2009	YES	1	g
COOP INF E CULTURA PORTO DE MÓS		30-03-2009	YES	1	g
COOP RÁDIO BANDARRA CRB, CRL		30-03-2009	YES	1	g
COOP RÁDIO BOA NOVA, CRL		30-03-2009	YES	1	g

[1] Entities with local and regional coverage sound broadcasting stations are authorized to operate under the terms of the licence (permit) granted by public tender.
[2] Channel of shared use.
[3] No licence (permit) granted. With Government authorization.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) REGIONAL COVERAGE (1) – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (2)**	**Scope of use**
COOP RÁDIO EMISSORA ST ANTONIO DE VAGOS	87.5 - 108 MHz	12-06-2009	YES	1	g
COOPERATIVA CULTURAL VOZ DO MARAO, CRL		09-05-2009	YES	1	g
COOP. INFORM CULTURA RÁDIO VINHAIS		30-03-2009	YES	1	g
COOPERATIVA DE RÁDIO VOUZELA, CRL		30-03-2009	YES	1	g
COOPERATIVA DE SANTO ANDRÉ, CRL		12-06-2009	YES	1	g
COOPERATIVA RÁDIO VOZ DO NEIVA, CRL		09-05-2009	YES	1	g
COOPERATIVA RADIODIFUSAO BRIGANTIA, CRL		22-05-2009	YES	2	g
COOPERATIVA RADIODIF. DE MORTAGUA, CRL		(3)	YES	1	g
CORAL RÁDIO ALTO AVE		30-03-2009	YES	1	g
CR-COMUNICAÇÃO REGIONAL, LDA		23-12-2009	YES	1	g
CRISTINA MARIA SILVA REDE, UNIPESSOAL, LDA		22-05-2009	YES	1	g
DEFESA BEIRA SOCIEDADE NOTÍCIAS, LDA		30-03-2009	YES	1	g
DIANA FM-BROADCASTING, UN.,LDA		09-05-2009	YES	1	g
DIFUSÃO IDEIAS SOC RADIODIFUSAO, LDA		09-05-2009	YES	1	g
DRUMS – COMUNICAÇÕES SONORAS, SA		30-03-2009	YES	1	g
ECOS DA RAIA PUBLICIDADE E RÁDIO, LDA		30-03-2009	YES	1	g
EDICOES LINEAR, CRL		09-05-2009	YES	1	g
EDITAVE COMUNIC PUBLIC. PROMOÇÕES, LDA		09-05-2009	YES	2	g
EMISSORA REGIONAL DE AMARANTE		09-05-2009	YES	1	g
EMISSORA REGIONAL DE RESENDE		23-12-2009	YES	1	g
EMISSORA REGIONAL LEIRIA RÁDIO LIZ, CRL		09-05-2009	YES	1	g
EMISSORA REGIONAL RÁDIO BATALHA, CRL		06-03-2009	YES	1	g
EMITÂMEGA EMISS. RADIOFON. TÂMEGA,LDA		09-05-2009	YES	1	g
EMPRESA DE DIFUSÃO DE RÁDIO, SA		09-05-2009 01-03-2011	YES	2	g
EMPRESA EDITORA CIDADE DE TOMAR, LDA		09-05-2009 01-03-2011	YES	2	g
EMPRESA JORNAL O CORREIO DE FAFE, LDA		09-05-2009	YES	1	g
EMPRESA RÁDIO CÁVADO, LDA		09-05-2009	YES	1	g
ERO- EMPRESA DE BROADCASTING DO OESTE, LDA		30-03-2009	YES	1	g
ESCOLA DE CONDUÇÃO CASTANHEIRENSE, LDA		11-03-2012	YES	1	g
EVB EMISSORA VOZ DA BAIRRADA, CRL		12-05-2009	YES	1	g
FABRICA DA SÉ CATEDRAL DE FARO		22-05-2009	YES	1	g
FERCORBER-MADEIRAS E MATERIAIS DE CONSTRUÇÃO, LDA		(4)	YES	1	g
FERNANDO MOURA, UNIPESSOAL, LDA		11-02-2013	YES	1	g
FONÓGRAFO PRODUÇÕES SOM IMAGEM, SA		22-05-2009	YES	4	g

(1) Entities with local and regional coverage sound broadcasting stations are authorized to operate under the terms of the licence (permit) granted by public tender.
(2) Channel of shared use.
(3) Awaits decision on licence (permit) renewal.
(4) Awaits decision of the appeal presented before the court by the second place runner up in the public tender – the licence (permit) has yet to be issued by ERC.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE (1) – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (2)**	**Scope of use**
FORUM BOTICAS ASS RECREATIVA CULTURAL	87.5 - 108 MHz	23-12-2009	YES	1	g
FOZ DO MONDEGO-MEIOS DE RADIOD., LDA		09-05-2009	YES	1	g
FUNDAÇÃO FREI PEDRO DA GUARDA		23-12-2009	YES	1	g
GUADISOM, LDA		12-06-2009	YES	1	g
GRANADA FM-RÁDIO E JORNALISMO, UN., LDA		30-03-2009	YES	1	g
GRUPO ESTUDOS INVEST CIENC EXPERIMENTAIS		09-05-2009	YES	1	g
HORA H-AGENCIA COMUNICAÇÃO GLOBAL, LDA		30-03-2009	YES	1	g
HORIZONTES PLANOS, INF. E COMUNICAÇÃO, LDA		01-03-2011	YES	2	g
INTERIOR NORTE RÁDIO, LDA		23-12-2009	YES	1	g
INFOR-BARROSO, INFORMAÇÃO, LDA		30-03-2009	YES	1	g
INFORÁDIO COMUNICAÇÃO SOCIAL, SA		25-06-2013	YES	1	g
INTERLOCAL-COMUNICAÇÃO, LDA		30-03-2009	YES	1	g
IRIS-SERVIÇO DE INF.RADIOF. INDEPEND, LDA		12-06-2009	YES	1	g
JANELA INDISCRETA SOC COMUNICAÇÃO, LDA		23-12-2009	YES	1	g
JORNAL DA TROFA, LDA		09-05-2009	YES	1	g
JORNAL ESPOSENDE SOC EDITORA, LDA		23-12-2009	YES	1	g
JOSE SOARES SILVA, LDA(R.REG SANJOANENSE)		15-11-2015	YES	1	g
LAGOANIMA-EMP. RADIOD. E COM. DE LAGOA,LDA		06-03-2009	YES	2	g
LAMEGRÁFICA-SOC. COMERC. E EDITORIAL, LDA		18-03-2013	YES	1	g
LEIRIMEDIA PRODUÇÕES E PUBLICIDADE, LDA		09-05-2009	YES	1	g
LEZÍRIA COMUNICACAO SOCIAL, SA		09-05-2009	YES	1	g
LUSOCANAL-SOC. BROADCASTING, LDA		30-03-2009	YES	1	g
MAFRA FM COOP RÁDIODIFUSÃO, CRL		06-03-2009	YES	1	g
MAIORCA FM-PROD. RADIOF. SOC. UN, LDA		09-05-2009	YES	1	g
MAISACTUAL-COMUNICAÇÃO E MEIOS, LDA		06-03-2009	YES	1	g
MARGINÁUDIO ACT RADIOFÓNICAS, SA		30-03-2009	YES	1	g
MEDIABORBA-SOC. DE COM. SOCIAL, LDA		06-03-2009	YES	1	g
MEDIA ON-COM. SOCIAL, LDA		09-05-2009	YES	1	g
MEIA MARATONA INTERNACIONAL NAZARE ACD		12-06-2009	YES	1	g
MIRANDUM FM-SOC. COMUNICAÇÃO, LDA		01-12-2011	YES	1	g
MG-RÁDIO E COM. SOCIAL, LDA		22-05-2009	YES	1	g
MONSANTORÁDIO-RÁDIO CLUBE DE MONSANTO, UNIPESSOAL, LDA		12-06-2009	YES	2	g
MOVIFACE-MEIOS PUBLICITÁRIOS, LDA		09-05-2009	YES	1	g
NORTE RÁDIO E TELEVISÃO, LDA		01-03-2011 21-08-2011	YES	2	g
NOTIMAIA PUBLIC E COM. SOCIAL, LDA		09-05-2009 30-03-2009	YES	2	g
NOVA RÁDIO-A VOZ DE STO.TIRSO, LDA		09-05-2009	YES	1	g
NOVOS MARES-BROADCASTING, LDA		06-03-2009	YES	1	g
NUCLEO AMATEUR DE INVEST. DE AFIFE		09-05-2009	YES	1	g
OFICINA DE VIDEO, LDA		23-12-2009	YES	2	g

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(2) Channel of shared use.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE (1) – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (2)**	**Scope of use**
ORGANIZ. COOP INFORMATIVA MARCO, CRL	87.5 - 108 MHz	30-03-2009	YES	1	g
PAJOVIR ESPECTAC. MARKETING PUBLICI., LDA		09-05-2009 30-03-2009	YES	3	g
PENALVA DE CASTELO FM-RADIOD. E PUBL., LDA		01-03-2011	YES	1	g
PENSE POSITIVO EDICAO DIST AUDIOVISUAIS, LDA		22-05-2009	YES	1	g
PFM-BROADCASTING, LDA		22-05-2009	YES	1	g
PIÇARRA E COMPANHIA, LDA		09-05-2009	YES	1	g
POLIMÉDIA, LDA		23-12-2009	YES	1	g
PRC PRODUCOES RADIOFÓNICAS COIMBRA, LDA		30-03-2009	YES	1	g
PRESÉPIO DE PORTUGAL-COM. SOCIAL, UN., LDA		06-03-2009	YES	2	g
PUBLIÁREA-PUBLICAÇÕES E COMUNIC., LDA		06-03-2009	YES	1	g
PUBLICELOS, LDA		09-05-2009	YES	1	g
PUBLIDIFUSÃO LDA ESTAÇÃO ORBITAL		30-03-2009	YES	1	g
PUBLITÁBUA SERV EMPRESAS, LDA		(3)	YES	1	g
R2000-COMUNICAÇÃO SOCIAL, LDA		09-05-2009	YES	2	g
R A PRODUCOES RADIOFÓNICAS, LDA		09-05-2009	YES	1	g
R O EDIÇÕES E PUBL, LDA		30-03-2009	YES	1	g
RADIALTITUDE-SOC. COMUN. LDA		22-05-2009	YES	1	g
RÁDIO 90 FM COIMBRA RADIODIFUSAO, LDA		30-03-2009	YES	1	g
RÁDIO 100-SOC. PRODUÇÕES AUDIOVISUAIS, LDA		23-12-2009	YES	1	g
RÁDIO BONFIM-PRODUÇÕES AUDIOVISUAIS, LDA		06-03-2009	YES	1	g
RÁDIO TERRA – MÃE, LDA		01-03-2011	YES	1	g
RÁDIO ALTO MINHO, LDA		09-05-2009	YES	2	g
RÁDIO ALVOR, CRL		22-05-2009	YES	1	g
RÁDIO AMATEUR DE CANAS DE SENHORIM, CRL		30-03-2009	YES	1	g
RÁDIO ANSIÃES, CRL		23-12-2009	YES	1	g
RÁDIO ASSOC BOMB VOLUNTARIOS DE SINES		12-06-2009	YES	1	g
RÁDIO ATLANTICO SUL R P PUBLICIDADE, LDA		(3)	YES	1	g
RÁDIO BAÍA SOC RADIODIFUSAO, LDA		09-05-2009	YES	1	g
RÁDIO BARCA, CRL		30-03-2009	YES	1	g
RÁDIO BEIRA INTERIOR, CRL		09-05-2009	YES	1	g
RÁDIO BRAGANÇANA RBA, CRL		22-05-2009	YES	2	g
RÁDIO CAMPANÁRIO VOZ DE VILA VIÇOSA, CRL		30-03-2009	YES	1	g
RÁDIO CARDAL, LDA		09-05-2009	YES	1	g
RÁDIO CARTAXO, CRL		06-03-2009	YES	1	g
RÁDIO CASTRENSE-SOC. UNIPESSOAL, LDA		06-03-2009	YES	1	g
RÁDIO CENTRAL DO VOUGA LDA		30-03-2009	YES	1	g
RÁDIO CIDADE DE RIO MAIOR, LDA		12-06-2009	YES	1	g

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(2) Channel of shared use.
(3) Awaits decision on licence (permit) renewal.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE [1] – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [2]**	**Scope of use**
RÁDIO CIDADE HOJE CCF	87.5 - 108 MHz	09-05-2009	YES	1	g
RÁDIO CIDADE PROD AUDIOVISUAIS, SA		30-03-2009	YES	1	g
RÁDIO CISTER, CRL		09-05-2009	YES	1	g
RÁDIO CLUBE AGUIARENSE		30-03-2009	YES	1	g
RÁDIO CLUBE ALVAIÁZERE, LDA		23-12-2009	YES	1	g
RÁDIO CLUBE DE ARGANIL, CRL		06-03-2009	YES	2	g
RÁDIO C. DE ARMAMAR, PROD.RADIOF, LDA		23-12-2009	YES	1	g
RÁDIO CLUBE DE ALCOUTIM, LDA		01-02-2012	YES	1	g
RÁDIO CLUBE DA COVILHÃ, CRL		06-03-2009	YES	2	g
RÁDIO CLUBE DA FEIRA, CRL		09-05-2009	YES	1	g
RÁDIO CLUBE DE GAIA SLRS, LDA		30-03-2009	YES	1	g
RÁDIO CLUBE DE GONDOMAR, LDA		09-05-2009	YES	1	g
RÁDIO CLUBE DE GRANDOLA, CRL		06-03-2009	YES	1	g
RÁDIO CLUBE DE LAFÕES, CRL		30-03-2009	YES	2	g
RÁDIO CLUBE DE LOULÉ, CRL		09-05-2009	YES	1	g
RÁDIO CLUBE DA LOURINHÃ, CRL		06-03-2009	YES	1	g
RÁDIO CLUBE DE OURÉM		30-03-2009	YES	1	g
RÁDIO CLUBE DA PAMPILHOSA CRL		12-06-2009	YES	1	g
RÁDIO CLUBE DE PENAFIEL, CRL		30-03-2009	YES	1	g
RÁDIO CLUBE DE REDONDO, CRL		30-03-2009	YES	1	g
RÁDIO CLUBE DE SINTRA, LDA		30-03-2009	YES	1	g
RÁDIO CLUBE DO SUL, CRL		09-05-2009	YES	1	g
RÁDIO CLUBE LAMEGO, LDA		22-05-2009	YES	2	g
RÁDIO CLUBE POMBAL, CRL		09-05-2009	YES	1	g
RÁDIO COMERCIAL DA LINHA, LDA		30-03-2009	YES	1	g
RÁDIO COMERCIAL DE ALMEIRIM, LDA		23-12-2009	YES	2	g
RÁDIO CONCELHO DE CANTANHEDE, LDA		06-03-2009	YES	1	g
RÁDIO CORVAL, CRL		01-03-2011	YES	1	g
RÁDIO DESPERTAR VOZ DE ESTREMOZ, CRL		06-03-2009	YES	1	g
RÁDIO DO SEIXAL, LDA		09-05-2009	YES	1	g
RÁDIO DUEÇA, INFORMAÇÃO, LDA		30-03-2009	YES	1	g
RÁDIO ELMO, LDA		30-03-2009	YES	1	g
RÁDIO ESCOLA TRIÂNG. PROFISSIONAL, LDA		30-11-2011	YES	1	g
RÁDIO ESCURO, CRL		30-03-2009	YES	1	g
RÁDIO EUROPA, CRL		09-05-2009	YES	1	g
RÁDIO FELGUEIRAS, CRL		06-03-2009	YES	1	g
RÁDIO FESTIVAL DO NORTE, LDA		06-03-2009	YES	1	g
RÁDIO FÓIA, CRL		30-03-2009	YES	1	g
RÁDIO FOZ DO AVE, LDA		09-05-2009	YES	1	g
RÁDIO GILÃO COOP RADIODIFUSAO, CRL		22-05-2009	YES	2	g

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SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE [1] – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [2]**	**Scope of use**
RÁDIO GUADALUPE, CRL	87.5 - 108 MHz	[3]	YES	1	g
RÁDIO HERTZ ASSOCIACAO CULT E RECREAT		09-05-2009	YES	1	g
RÁDIO HORIZ. TEJO-RAD. COM E MEIOS, LDA		30-03-2009	YES	1	g
RÁDIO INDEPENDENTE AVEIRO, CRL		09-05-2009	YES	1	g
RÁDIO INDEPENDENTE PAIVENSE, CRL		06-03-2009	YES	1	g
RÁDIO JORNAL CAMINHENSE, LDA		12-06-2009	YES	1	g
RÁDIO JORNAL FUNDÃO, LDA		22-05-2009	YES	1	g
RÁDIO JORNAL SETÚBAL, LDA		09-05-2009	YES	1	g
RÁDIO JUVENTUDE, CRL		09-05-2009	YES	1	g
RÁDIO LAROUCO, CRL		22-05-2009	YES	1	g
RÁDIO LIMITE DE CASTRO DAIRE, CRL		06-03-2009	YES	3	g
RÁDIO LITORAL CENTRO EMP RAD, LDA		23-12-2009	YES	1	g
RÁDIO LIVRE MACEDENSE, CRL		06-03-2009	YES	2	g
RÁDIO MAIOR, PUBLICIDADE E COM. LDA		12-06-2009	YES	2	g
RÁDIO MAIS		30-03-2009	YES	1	g
RÁDIO MANTEIGAS-BROADCASTING E PUBL., LDA		22-08-2011	YES	1	g
RÁDIO MÉRTOLA, LDA		22-06-2011	YES	1	g
RÁDIO METROPOLITANA, COMUN. SOCIAL, LDA		09-05-2009	YES	1	g
RÁDIO MIRASADO COOP CULT ANIM RÁDIOF CRL		06-03-2009	YES	1	g
RÁDIO MOLICEIRO COM SOCIAL, LDA		09-05-2009	YES	1	g
RÁDIO NACIONAL-EMISSÕES RADIOFÓNICAS, LDA		09-05-2009	YES	1	g
RÁDIO NOVA CONTRASTA, LDA		12-06-2009	YES	1	g
RÁDIO NOVA ERA SOC DE COMUNICAÇÕES LDA		30-03-2009 09-05-2009	YES	2	g
RÁDIO NOVA LOURES		30-03-2009	YES	1	g
RÁDIO NOVA SIRS SOC IND RADIODIFUSAO, LDA		06-03-2009	YES	1	g
RÁDIO OBJECTIVA, LDA		09-05-2009	YES	1	g
RÁDIO ONDA VIVA, SA		09-05-2009	YES	1	g
RÁDIO OURIQUE, LDA		01-03-2011	YES	1	g
RÁDIO PAÇOS-COMUNICAÇÃO REGIONAL, LDA		30-03-2009	YES	1	g
RÁDIO PAL-SOC. UN, LDA		22-05-2009	YES	1	g
RÁDIO PAX		22-05-2009	YES	1	g
RÁDIO PERNES, LDA		09-05-2009	YES	2	g
RÁDIO PLANALTO, CRL		30-03-2009	YES	1	g
RÁDIO PORTALEGRE, CRL		22-05-2009	YES	2	g
RÁDIO PRAIA, CRL		[3]	YES	1	g
RÁDIO PROVINCIA, LDA		06-03-2009	YES	1	g
RÁDIO RACAL EMP RÁDIODIF INFORMACAO, LDA		30-03-2009	YES	3	g
RÁDIO REGIONAL AVEIRO		09-05-2009	YES	1	g
RÁDIO REGIONAL CENTRO, LDA		23-12-2009	YES	1	g

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SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE (1) – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (2)**	**Scope of use**
RÁDIO REGIONAL DE AROUCA	87.5 - 108 MHz	23-12-2009	YES	1	g
RÁDIO RENASCENÇA, LDA		06-03-2009	YES	1	g
RÁDIO RIBA TAVORA, CRL		30-03-2009	YES	2	g
RÁDIO SABUGAL-PUBLIC. E RADIODIF., LDA		21-08-2011	YES	1	g
RÁDIO SANTA MARIA, CRL		09-05-2009	YES	1	g
RÁDIO SANTA MARTA, LDA		30-03-2009	YES	1	g
RÁDIO SANTIAGO COOPERATIVA COM CULTURA		22-05-2009	YES	1	g
RÁDIO SANTIAGO EMP GRAF JOR COM GUIM, LDA		30-03-2009	YES	1	g
RÁDIO SEM FRONTEIRAS, SA		30-03-2009	YES	1	g
RÁDIO SINGA, CRL		06-03-2009	YES	1	g
RÁDIO SOBERANIA, EMPRESA DE RAD. LDA		22-05-2009	YES	1	g
RÁDIO TAGIDE, CRL		09-05-2009	YES	1	g
RÁDIO TEMPOS LIVRES, CRL		30-03-2009	YES	2	g
RÁDIOTORRES, LDA		30-03-2009	YES	1	g
RÁDIO UNIVERS. MARAO COOP RÁDIO CRL		12-06-2009	YES	1	g
RÁDIO URBANA, CRL		09-05-2009	YES	1	g
RÁDIO VALDEVEZ ASS CULT DE RADIODIFUSAO		22-05-2009	YES	2	g
RÁDIO VIDA NOVA, CRL		12-06-2009	YES	1	g
RÁDIO VIRIATO NODIGRAFICA, LDA		09-05-2009	YES	1	g
RÁDIO VIZELA COOP RADIODIFUSAO, CRL		23-12-2009	YES	1	g
RÁDIO VOZ DA RAIA-SOC. UN., LDA		30-03-2009	YES	1	g
RÁDIO VOZ DE ALCANENA		06-03-2009	YES	1	g
RÁDIO VOZ DE TABUAÇO, CRL		30-03-2009	YES	1	g
RÁDIO VOZ MANGUALDE		06-03-2009	YES	1	g
RÁDIO VOZ RIA EMISSORA C ESTARREJA, CRL		30-03-2009	YES	1	g
RÁDIO VOZ SETÚBAL, LDA		09-05-2009	YES	1	g
RÁDIO XXI, LDA		06-03-2009	YES	1	g
RÁDIODIFUSAO PUBLIC ESPECTACULOS, LDA		30-03-2009	YES	1	g
RÁDIOESTE COOP RÁDIODIFUSAO LOCAL, CRL		09-05-2009	YES	1	g
RAIMUNDO-COMUNICAÇÕES INDEPENDENTES, RÁDIO E JORNAIS, LDA		09-05-2009	YES	2	g
RAJ RÁDIO ANTENA JOVEM, CRL		(3)	YES	1	g
RADIBELI-PRODUÇÕES RÁDIOFÓNICAS,LDA		22-05-2009	YES	1	g
RC EMPRESA DE RADIODIFUSAO, SA		09-05-2009 30-03-2009	YES	2	g
RCB RÁDIO COVA DA BEIRA, CRL		22-05-2009	YES	2	g
RCC RÁDIO CULTURAL CERVEIRA		30-03-2009	YES	1	g
RCCI RÁDIO COM. CRIATIVIDADE IMAGEM, LDA		09-05-2009	YES	1	g
RCM-RÁDIO CLUBE DE MEDA, LDA		01-03-2011	YES	1	g

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SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE [1] – Mainland Portugal					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [2]**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	87.5 - 108 MHz	[3]	YES	3	g
RECORD FM – SOC. DE MEIOS AUDIOVISUAIS DE SINTRA, LDA		30-03-2009	YES	1	g
REDE A EMISSORA REGIONAL DO SUL, LDA		30-03-2009	YES	1	g
RGA RÁDIO GLOBO AZUL, LDA		23-12-2009	YES	1	g
RJTV-RÁDIO, JORNAIS E TELEVISÃO-MEIOS COM. AUDIV., UN., LDA		30-03-2009	YES	1	g
RPCS-SOURE FM-SOC. COM., UN., LDA		30-03-2009	YES	2	g
RR RÁDIO RESTAURACAO, CRL		[4]	YES	1	g
RSF, BROADCASTING, LDA		09-05-2009	YES	2	g
RTA SOC RÁDIODIF TELECOM ALBUFEIRA, LDA		12-06-2009	YES	1	g
RTM-RÁDIO E TELEVISÃO DO MINHO, LDA		09-05-2009	YES	1	g
RTVA RÁDIOTELEVISAO ATLANTICO, SA		22-05-2009	YES	1	g
RUC RÁDIO UNIVERSIDADE AAC		30-03-2009	YES	1	g
RVE-SOCIEDADE RADIOFÓNICA, LDA		12-06-2009	YES	1	g
SALDIDA FM RÁDIO INFORM. CULTURACRL		30-03-2009	YES	1	g
SANTA CASA MISERIC. DE CAMPO MAIOR		21-06-2011	YES	1	g
SER-SOC.ELVENSE BROADCASTING, LDA		01-03-2011	YES	2	g
SINTONIZENOS COMUNICACAO SOCIAL, LDA		09-05-2009	YES	1	g
SIRPA SOC IMPRENSA RÁDIO PARALELO, LDA		09-05-2009	YES	1	g
SIT-SOC. DE INFORM. DE TRÁS-OS-MONTES, LDA		23-12-2009	YES	2	g
SOBRAL FM-SOC. COM., UN., LDA		30-03-2009	YES	1	g
SOC FRANCO-PORTUGUESA COMUNIC. SA		06-03-2009	YES	1	g
SOCIEDADE EDITORIAL BÉTICA, LDA		30-03-3009	YES	1	g
SOCIROL SOC RÁDIODIFUSAO LIMIANA, LDA		22-05-2009	YES	1	g
SOC. PAIVIMO-EMPREND. IMOBILIARIOS, LDA		09-05-2009	YES	1	g
SOM DO PINHAL 2 MULTIMÉDIA, UN., LDA		22-05-2009	YES	1	g
SONCENTRO EMISSORA RÁDIO, LDA		23-12-2009	YES	1	g
SONS DE BOTÁREU-ACTIV. RÁDIO, UN., LDA		22-05-2009	YES	2	g
SRA-SOC. DE BROADCASTING DE ALBUFEIRA, LDA		12-06-2009	YES	1	g
SULEDITA, LDA		01-12-2011	YES	1	g
TAVIRÁDIO, CRL		22-05-2009	YES	2	g
TLA-TELEFONIA LOCAL DE ALJUSTREL, CRL		01-03-2011	YES	1	g
TSF RÁDIO JORNAL LISBOA, LDA		06-03-2009	YES	1	g
UNIRÁDIO, UCRL		30-03-2009	YES	1	g
VDRF-ELECTRÓNICA, ÁUDIO E EQUIP. TELEC., LDA		06-03-2009	YES	1	g

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[2] Channel of shared use.
[3] With Government authorization.
[4] Awaits decision on licence (permit) renewal.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE (1) - Autonomous Region of the Azores					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (2)**	**Scope of use**
ANTENA NOVE, CRL	87.5 – 108 MHz	06-03-2009	YES	4	g
ATLANTIRÁDIO-SOC. DE BROADCASTING, LDA		06-03-2009	YES	3	g
BRUN PACHECO E FILHOS, LDA		22-06-2011	YES	1	g
CICLONE PUBLICAÇÕES E DIFUSÕES, LDA		06-03-2009	YES	2	g
CLUBE ASAS ATLÂNTICO		(3)	YES	1	g
COOPERATIVA ECOS DO NORTE, CRL		25-03-2009	YES	1	g
COOPERATIVA RADIODIFUSAO DO PICO, CRL		06-03-2009	YES	3	g
COOPERATIVA RADIODIFUSAO RÁDIO CAIS, CRL		01-03-2011	YES	2	g
COSTA E OSÓRIO, LDA		22-06-2011	YES	1	g
ECOS DAS FLORES-ACTIV. RÁDIODIF., LDA		01-02-2011	YES	1	g
ESTADO MAIOR FORÇA AÉREA		(3)	YES	1	g
PACHECO E FREITAS, LDA		22-09-2011	YES	1	g
RÁDIO CANAL ABERTO, LDA		21-08-2011	YES	1	g
RÁDIO CLUBE LAJES PICO-A VOZ DA MONTANHA, LDA		01-03-2011	YES	4	g
RÁDIO CLUBE ANGRA		06-03-2009	YES	1	g
RÁDIO ILHA, LDA		06-03-2009	YES	2	g
RÁDIO INSULAR, LDA		06-03-2009	YES	1	g
RÁDIO LUMENA VOZ DE S JORGE		06-03-2009	YES	2	g
RCA RÁDIO COMERCIAL DOS AÇORES, LDA		06-03-2009	YES	1	g
SOC. BROADCASTING GRACIOSENSE, LDA		06-03-2009	YES	1	g
TOP RÁDIO, LDA		06-03-2009	YES	2	g
UNITED STATES AIR FORCE		(3)	YES	1	g

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(2) Channel of shared use.
(3) With Government authorization.

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves) LOCAL COVERAGE [1] - Autonomous Region of the Madeira					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [2]**	**Scope of use**
ADENORMA-ASSOC. DESENVOLVIMENTO COSTA NORTE DA MADEIRA – IPSS	87.5 – 108 MHz	01-03-2011	YES	1	g
ASSOC. BOMBEIROS VOLUNT. DE SÃO VICENTE E PORTO MONIZ		01-03-2011	YES	2	g
BETAMAR, LDA		22-06-2009	YES	1	g
EMPRESA JORNAL DA MADEIRA, LDA		06-03-2009	YES	1	g
NOTÍCIAS 2000-ACT. RADIOD. SONORA, LDA		06-03-2009	YES	1	g
POSTO EMISSOR DE RADIOD. DO FUNCHAL		[3]	YES	1	g
RÁDIO CLUBE MADEIRA LDA		06-03-2009	YES	1	g
RADIURBE-PRODUÇÃO E COMÉRCIO DE PUBLICIDADE RÁDIO, LDA		21-08-2011	YES	4	g
RÁDIO GIRÃO-EMPRESA DE BROADCASTING E PUBLICIDADE, LDA		01-09-2011	YES	2	g
RAMOS, MARQUES E VASCONCELOS, LDA		06-03-2009 06-03-2009 06-03-2009 06-03-2009	YES	4	g
SPN – SOC. PRODUTORA DE NOTÍCIAS, LDA		06-03-2009	YES	1	g

TERRESTRIAL DIGITAL AUDIO BROADCASTING SERVICE Terrestrial Digital Audio Broadcasting (T-DAB)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [4]**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	224.880 - 226.416 MHz	08-06-2014	YES	1 [5]	n

[1] Entities with local and regional coverage sound broadcasting stations are authorized to operate under the terms of the licence (permit) granted by public tender.
[2] Channel of shared use.
[3] With Government authorization.
[4] Exclusive use channels.
[5] A T-DAB channel allows six simultaneous audio broadcasts.

TELEVISION BROADCASTING SERVICE - ANALOGUE (RDTV)						
Entity		**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (1)**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA Public television service's general concession contract of 22/09/2003	RTP1	47 - 68 MHz	27-08-2019	YES	2	g
		174 - 216 MHz			6	g
		470 - 582 MHz			14	g
		582 - 822 MHz			26	g
	RTP AÇORES	174 - 216 MHz	27-08-2019	YES	6	g
		470 - 582 MHz			6	g
		582 - 822 MHz			9	g
	RTP MADEIRA	174 - 216 MHz	27-08-2019	YES	6	g
		470 - 582 MHz			2	g
		582 - 822 MHz			5	g
RÁDIO E TELEVISÃO DE PORTUGAL, SA Public television service's special concession contract of 17/11/2003	RTP 2	174 - 216 MHz	27-08-2011	YES	1	g
		470 - 582 MHz			14	g
		582 - 822 MHz			28	g
SIC – SOCIEDADE INDEPENDENTE DE COMUNICAÇÃO, SA Resolution 6/92 (2nd Series) of the Council of Ministers of 22.02.1992		174 - 216 MHz	22-02-2022 (2)	YES	1	g
		470 - 582 MHz			12	g
		582 - 822 MHz			26	g
TVI TELEVISÃO INDEPENDENTE, SA Resolution 6/92 (2nd Series) of the Council of Ministers of 22.02.1992		470 - 582 MHz	22-02-2022 (2)	YES	12	g
		582 - 822 MHz			25	g

BROADCASTING SERVICE –SAP/SAB video links					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels (3)**	**Scope of use**
RÁDIO E TELEVISÃO DE PORTUGAL, SA	2260-2330 MHz	07-06-2009	NO	7 (4)	n
	10.5-10.68 GHz	07-06-2009	NO	2 (5)	n
SIC-SOCIEDADE INDEPENDENTE DE COMUNICAÇÃO, SA	2360-2390 MHz	07-06-2009	NO	3 (4)	n
	10.5-10.68 GHz	07-06-2009	NO	2 (5)	n
TVI-TELEVISÃO INDEPENDENTE, SA	2330-2360 MHz	07-06-2009	NO	3 (4)	n
	10.5-10.68 GHz	07-06-2009	NO	2 (5)	n

(1) Channel of shared use.
(2) The right of frequency use was renewed for a period of 15 years, subject to any alteration arising from the fixing, under legal terms, of the date for cessation (*switch-off*) of television transmissions of the analogue system.
(4) 10 MHz channels.
(5) 28 MHz channels.

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BROADCASTING SERVICE - SAP/SAB video links					
Entity	**Frequency Bands [1]**	**Date of allocation revision**	**Usage rights required**	**No of channels [2]**	**Scope of use**
MEDIA LUSO PRODUÇÕES DE TELEVISÃO, SA	174 – 197 MHz 470 – 493 MHz	06-10-2013	NO	2 [3]	n
SIC-SOCIEDADE INDEPENDENTE DE COMUNICAÇÃO, SA	470 – 494 MHz	30-08-2012	NO	2 [4]	n

MOBILE TRUNKING SERVICE (MPT 1327)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [5]**	**Scope of use**
REPART - Sistemas de Comunicação de Recursos Partilhados, S.A.	450/470 MHz [6]	21-3-2009	YES	38 [7]	n

MOBILE TRUNKING SERVICE (CDMA-PAMR)					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels [5]**	**Scope of use**
RADIOMOBILE - Telecomunicações, S.A.	453-457.45 MHz / 463-467.45 MHz	14-10-2023	YES	2 [8]	n

MOBILE TRUNKING SERVICE (TETRA)						
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels/ type of use**		**Scope of use**
				[2]	**[5]**	
REPART - Sistemas de Comunicação de Recursos Partilhados, S.A.	410/430 MHz	21-03-2009	YES	29 [9]	-	g

[1] These frequency bands are allocated on a primary basis to the broadcasting service, whereby any transmission frequency used may not cause harmful interference to the reception of television broadcasting.
[3] 250 kHz channels.
[4] 218 kHz channels.
[5] Exclusive use channels.
[6] Planning using a 12.5 kHz channel spacing.
[7] The stated number of channels is subject to variation depending on each operator's number of terminals.
[8] 1.25 MHz carrier.
[9] Channels subject to restrictions in certain regions of the country.

LAND MOBILE SERVICE **Global System for Mobile Communications (GSM)**					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels** (1)	**Scope of use**
SONAECOM - Serviços de Comunicações, S.A.	GSM 900 890 - 914 MHz 935 – 959 MHz	20-11-2012	YES	39	n
	GSM 1800 1710 - 1785 MHz 1805 - 1880 MHz	20-11-2012	YES	30	n
VODAFONE PORTUGAL - Comunicações Pessoais, S.A.	GSM 900 890 - 914 MHz 935 – 959 MHz	19-10-2021	YES	40	n
	GSM 1800 1710 - 1785 MHz 1805 - 1880 MHz	19-10-2021	YES	30	n
TMN – Telecomunicações Móveis Nacionais, S.A.	GSM 900 890 - 914 MHz 935 - 959 MHz	16-03-2022	YES	40	n
	GSM 1800 1710 – 1785 MHz 1805 – 1880 MHz	16-03-2022	YES	30	n

LAND MOBILE SERVICE **Universal Mobile Telecommunications System (UMTS)**					
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels** (1)	**Scope of use**
VODAFONE PORTUGAL - Comunicações Pessoais, S.A.	1920-1980 MHz 2110-2170 MHz	11-01-2016	YES	2x 20 MHz	n
	1900-1920 MHz	11-01-2016	YES	1x 5 MHz	n
TMN – Telecomunicações Móveis Nacionais, S.A.	1920-1980 MHz 2110-2170 MHz	11-01-2016	YES	2x 20 MHz	n
	1900-1920 MHz	11-01-2016	YES	1x 5 MHz	n
SONAECOM - Serviços de Comunicações, S.A.	1920-1980 MHz 2110-2170 MHz	11-01-2016	YES	2x 20 MHz	n
	1900-1920 MHz	11-01-2016	YES	1x 5 MHz	n

(1) Exclusive use channels.

MOBILE MARITIME SERVICE (SMM)						
Entity	**Frequency Bands**	**Date of allocation revision**	**Usage rights required**	**No of channels/type of use**		**Scope of use**
				(1)	**(2)**	
PT COMUNICAÇÕES. S.A.	2173.5 - 2190.5 kHz (Rescue and call)	20-03-2025[3]	NO	1		[4]
	2190.5 - 2194 kHz				1	[4]
	2501 - 2850 kHz (Article 52 of the RR				7	[4]
	3500 - 3800 kHz (Article 52 of the RR)				1	[4]
	4 MHz (Appendix 17 of the RR, part B, section I)				3	[4]
	4 MHz (Appendix 17 of the RR, part B, section II)				1	[4]
	6 MHz (Appendix 17 of the RR, part B, section I)				1	[4]
	6 MHz (Appendix 17 of the RR, part B, section II)				1	[4]
	8 MHz (Appendix 17 of the RR, part B, section I)				5	[4]
	8 MHz (Appendix 17 of the RR, part B, section II)				1	[4]
	12 MHz (Appendix 17 of the RR, part B, section I)				4	[4]
	12 MHz (Appendix 17 of the RR, part B, section II)				1	[4]
	16 MHz (Appendix 17 of the RR, part B, section I)				3	[4]
	16 MHz (Appendix 17 of the RR, part B, section II)				1	[4]
	18/19 MHz (Appendix 17 of the RR, part B, section I)				1	[4]
	22 MHz (Appendix 17 of the RR, part B, section I)				2	[4]
	22 MHz (Appendix 17 of the RR, part B, section II)				1	[4]

[1] Channel of shared use.
[2] Exclusive use channels.
[3] The provision of the Maritime Mobile Service shall be ensured by the concessionaire on a transitional basis, up to its transfer to another entity, according to article 3 of Decree-Law no. 31/2003 of 17 February.
[4] Not applicable.

	25/26 MHz (Appendix 17 of the RR, part B, section I)				1	(4)
	156/174 MHz (Appendix 18 of RR)			2	7	(4)

FIXED SATELLITE SERVICE (SFS)				
Entity	**Frequency Bands Type of Link**	**Usage rights required**	**No of channels (1)**	**Scope of use**
PT COMUNICAÇÕES, S.A.	5925 - 6475 MHz Uplink	NO	(2) (3)	g
	13.75-14 GHz Uplink		(2) (3)	g
	14 – 14.5 GHz Uplink		(2) (3)	g
	17.3 – 17.7 GHz Uplink		(4)	g
	3600 – 4200 MHz Downlink		(2) (3)	g
	10.95 – 11.2 GHz Downlink		(2) (3)	g
	11.45 – 11.7 GHz Downlink		(2) (3)	g
	12.5 – 12.75 GHz Downlink		(2) (3)	g
PT PRIME – Soluções Empresariais de Telecomunicações e Sistemas, S.A	5925 - 6425 MHz Uplink	NO	(2) (3)	g
	14 – 14.5 GHz Uplink		(2) (3)	g
	3700 – 4200 MHz Downlink		(2) (3)	g
	10.95 – 11.2 GHz Downlink		(2) (3)	g
	11.45 – 11.7 GHz Downlink		(2) (3)	g
	12.5 – 12.75 GHz Downlink		(2) (3)	g
AT & T - Serviços de Telecomunicações, Sociedade Unipessoal, Lda.	14 – 14.5 GHz Uplink	NO	(2) (3)	g
CATVP - TV CABO Portugal, S.A.	12.75 – 13.25 GHz Uplink	NO	(2) (3)	g
	13.75 – 14 GHz Uplink		(2) (3)	
TVTEL Comunicações, S.A.	17.3-17.7 GHz Uplink	NO	(4)	g

(1) Channel of shared use.
(2) Band shared with other users.
(3) Dynamic frequency management according to each application type.
(4) Exclusive for connection links of the broadcasting satellite service.

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MOBILE-SATELLITE SERVICE (SMS)				
Entity	**Frequency Bands Type of Link**	**Usage rights required**	**Type of Use (1)**	**Scope of use**
PT Comunicações, S.A.	1626.5 – 1645.5 MHz Uplink	NO	(2)	n
	1530 – 1544 MHz Downlink		(2)	n

Global Mobile Personal Communications by Satellite (GMPCS)				
Entity	**Frequency Bands Type of Link**	**Usage rights required**	**Type of use (1)**	**Scope of use**
IRIDIUM ITALIA S.R.L.	1621.35 - 1626.5 MHz Uplink/Downlink (3)	NO	(2)	n

SATELLITE RADIO COMMUNICATION SERVICES EARTH STATIONS ON BOARD ARICRAFT (AES)				
Entity	**Frequency Bands Type of Link**	**Usage rights required**	**Type of use (1)**	**Scope of use**
CONNEXION BY BOEING IRELAND LIMITED	14.00 - 14.50 MHz Uplink	NO	(2)	n
	10.70 – 11.70 MHz Downlink	NO	(2)	n
	12.50 – 12.75 MHz Downlink	NO	(2)	n

SPECIAL OPERATIONS SERVICE (OE)				
Entity	**Frequency Bands Type of Link**	**Usage rights required**	**Type of use (1)**	**Scope of use**
PT Comunicações, S.A.	2080-2095 MHz Uplink	NO	(2)	g
	2260-2275 MHz Downlink		(2)	g

(1) Channel of shared use.
(2) Pursuant to current legislation, these bands may be used with other users on a shared basis.
(3) Uplink in CDMA and TDMA modes; Downlink in TDMA mode.

Annex 3

RESERVED FREQUENCY BANDS

3.1 Frequency bands reserved and to be made available in 2008/2009, for the operation of publicly available electronic communications networks and services

The terms and abbreviations used mean the following:

Rights of use required: identification of the need to allocate rights of use, according to article 16 of Law no. 5/2004 of 10 February

Shared use: use of a channel/frequency by more than one entity.

Exclusive use: use of a channel/frequency by one single entity.

Scope of use:

n - national scope: use of a channel/frequency at the national territory
g - geographical scope: use of a channel/frequency on a given, well determined area, by radiocommunication stations such as fixed stations, broadcasting stations and Earth stations

Allocation procedure: full accessibility or selection method by competition or comparison

FIXED SERVICE - POINT-to-POINT LINKS				
Frequency Band	**Usage rights required**	**Type of use** [1]	**Scope of use**	**Allocation procedure**
406.1-410 MHz	NO	[2] [3]	g	full accessibility
410-430 MHz	NO	[2] [4]	g	full accessibility
1350 – 1375 MHz 1492 – 1517 MHz CEPT Rec. T/R 13-01 A	NO	[2]	g	full accessibility
1375 – 1400 MHz 1427 – 1452 MHz CEPT Rec. T/R 13-01 B	NO	[2]	g	full accessibility
2025 – 2110 MHz 2200 – 2290 MHz CEPT Rec. T/R 13-01 C	NO	[2]	g	full accessibility
6 GHz (Low) (5925 – 6425 MHz) ERC/REC 14-01 Annex 1	NO	[2]	g	full accessibility
6 GHz (High) (6425 – 7110 MHz) ERC/REC14-02 Annex 1	NO	[2]	g	full accessibility
7 GHz (Low) (7125-7425 MHz) ECC/REC/(02)06 Annex 1	NO	[2]	g	full accessibility
7 GHz (High) (7425-7725 MHz) ECC/REC/(02)06 Annexes 1 and 3	NO	[2]	g	full accessibility
8 GHz (Low) (7700 – 8300 MHz) Rec. ITU-R F.386 Annex 1	NO	[2]	g	full accessibility
8 GHz (High) (8200 – 8500 MHz) Rec. ITU-R F.386	NO	[2]	g	full accessibility
11 GHz (10.7 – 11.7 GHz) ERC/REC 12-06 Rec3	NO	[2]	g	full accessibility
13 GHz (12.75 – 13.25 GHz) Rec. ITU-R F.497	NO	[2]	g	full accessibility
13 GHz (12.75 – 13.25 GHz) ERC/REC 12-02 Annexes A and B	NO	[2]	g	full accessibility
15 GHz (14.5 – 15.35 GHz) ERC/REC 12-07 Annex A	NO	[2]	g	full accessibility
18 GHz (17.7 – 19.7 GHz) ITU-R F.595 Annexes 3 and 4	NO	[2]	g	full accessibility
18 GHz (17.7 – 19.7 GHz) ERC/REC 12-03 Annex A	NO	[2]	g	full accessibility
23 GHz (22 – 23.6 GHz) CEPT Rec. T/R 13-02 Annex A	NO	[2]	g	full accessibility

[1] Channel of shared use.
[2] Band shared with other users.
[3] Band with specific planning at 12.5 kHz and 25 kHz (simplex).
[4] Band with specific planning at 12.5 kHz and 25 kHz (duplex) and shared with the land mobile service.

FIXED SERVICE - POINT-to-POINT LINKS(cont.)				
Frequency Band	**Rights of use required**	**Type of use** [1]	**Scope of use**	**Allocation procedure**
32 GHz (31.8 – 33.4 GHz) ERC/REC/(01)02	NO	[2]	g	full accessibility
38 GHz (37 – 39.5 GHz) CEPT Rec T/R 12-01	NO	[2]	g	full accessibility
58 GHz (57 – 59 GHz) ERC/REC 12-09 Annex A	NO	[2]	g	full accessibility
74 GHz (74 – 76 GHz) ECC/REC/(05)07 Annex 4	NO	[2]	g	full accessibility
84 GHz (84 – 86 GHz) ECC/REC/(05)07 Annex 4	NO	[2]	g	full accessibility

[1] Channel of shared use.

[2] Band shared with other users.

Broadband Wireless Access (BWA) [1] [2]				
Frequency Band	**Usage rights required**	**No of channels [3]**	**Scope of use**	**Allocation procedure**
3400-3600 MHz ERC/REC 14-03 Annex B	YES	2 blocks de 2 x 28 MHz	g [4]	Selection by competition (auction)
3600-3800 MHz ERC/REC 12-08 Annex B	YES	2 blocks de 2 x 28 MHz	g [4]	Selection by competition (auction)

FIXED SERVICE - POINT-MULTIPOINT LINKS Fixed Wireless Access (FWA) [1]				
Frequency Band	**Usage rights required**	**No of channels [3]**	**Scope of use**	**Allocation procedure**
24.5-26.5 GHz CEPT Rec. T/R 13-02 Annex B	YES	[5] 2 x 336 MHz 2 x 392 MHz 2 x 588 MHz 2 x 672 MHz 2 x 672 MHz 2 x 672 MHz 2 x 672 MHz 2 x 672 MHz 2 x 616 MHz	g [4] Zone 1 Zone 2 Zone 3 Zone 4 Zone 5 Zone 6 Zone 7 Zone 8 Zone 9	Full accessibility

Broadband Fixed Wireless Access (BFWA)				
Frequency Band	**Usage rights required**	**No of channels [3]**	**Scope of use**	**Allocation procedure**
5725 – 5825 MHz	[6]	[6]	[6]	[6]

[1] Dependent on decisions resulting from the application of Administrative Rule no 1062/2004 of 25 August.
[2] The type of services/uses of the bands will be defined according to the conclusions and action plan resulting from the public consultation on Broadband Wireless Access BWA), pursuant to the Determination 14 June 2007 (http://www.anacom.pt/render.jsp?categoryId=245985&languageId=1).
[3] Channel of shared use.
[4] The geographic zones are defined in the Annex of Administrative Rule no 1062/2004 of 25 August.
[5] The number of channels to be made available depends on the channelization adopted by the entities requesting access to the band.

FIXED SERVICE - POINT-MULTIPOINT LINKS				
Frequency Band	**Usage rights required**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
1880-1900 MHz ERC/DEC(/(94)03	NO	10 (2)	g	Full accessibility
40.5-43.5 GHz ERC/DEC/(99)15	YES		g	To be defined

SOUND BROADCASTING SERVICE (RAD) VHF (Metric waves)				
Frequency Band	**Usage rights required**	**No of channels (3)**	**Scope of use**	**Allocation procedure**
87.5 – 108.0 MHz	YES	203	g	(4)

SOUND BROADCASTING SERVICE (RAD) MF (Hectometric Waves)				
Frequency Band	**Usage rights required**	**No of channels (3)**	**Scope of use**	**Allocation procedure**
526.5 – 1606.5 kHz	YES	120	g	(4)

TERRESTRIAL DIGITAL AUDIO BROADCASTING SERVICE Terrestrial Digital Audio Broadcasting (T-DAB)				
Frequency Band	**Usage rights required**	**No of channels (5)**	**Scope of use**	**Allocation procedure**
219 - 230 MHz	YES	5	g	To be defined

(1) Channel of shared use.
(2) Dynamic frequency management.
(3) Channel of shared use.
(4) Pursuant to Law no 4/2001 of 23 February.
(5) Exclusive use channels.

TELEVISION BROADCASTING SERVICE - ANALOGUE (RDTV)				
Frequency Band	**Usage rights required**	**No of channels** (1)	**Scope of use**	**Allocation procedure**
174 – 209 MHz	YES	5	g	(2)
470 – 822 MHz	YES	44	g	(2)

TERRESTRIAL DIGITAL TELEVISION BROADCASTING SERVICE Terrestrial Digital Video Broadcasting (DVB-T)					
Frequency Band	**Rights of use required**	**No of channels/type of use** (3)		**Scope of use** (4)	**Allocation procedure**
		(5)	(6)		
678 – 702 MHz (channels 47 to 49)	YES	-	3	A.R. Azores	Public tender underway (7)
750 – 774 MHz (channels 56 to 58)	YES	1	2		
798 – 862 MHz (channels 61 to 69)	YES	-	9		
806 – 814 MHz (channel 63)	YES	-	1	A.R. Madeira	
838 – 846 MHz (channel 67)	YES	-	1		
854 – 862 MHz (channel 69)	YES	-	1		
782 – 790 MHz (channel 60)	YES	-	1	Mainland	
838 – 846 MHz (channel 67)	YES	-	1		
854 – 862 MHz (channel 69)	YES	-	1		
822 – 838 MHz (channels 65 and 66)	YES	-	2	Mainland Coast	
846 – 854 MHz (channel 68)	YES	-	1		

(1) Channel of shared use.
(2) As a complement to the coverage of existing operators.
(3) Shared or exclusive channels for the region indicated.
(4) See details in section 5.4 (Annex 5).
(5) Channel of shared use.
(6) Exclusive use channels..
(7) Subsequent to Determination of the Board of Directors of ANACOM of 30 January 2008. Regulation of DTT tenders, available at http://www.anacom.pt/template15.jsp?categoryId=268822&languageId=1.

MOBILE TRUNKING SERVICE				
Frequency Band	**Usage rights required**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
410 - 430 MHz	YES	11	g	To be defined

LAND MOBILE SERVICE				
Frequency Band	**Usage rights required**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
450 - 470 MHz	YES	2x1.25 MHz	g	Public tender

LAND MOBILE SERVICE				
Frequency Band	**Usage rights required**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
880 - 890 MHz 925 - 935 MHz	YES	50	n	(2)

LAND MOBILE SERVICE				
Frequency Band	**Usage rights required**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
1710 - 1785 MHz 1805 - 1880 MHz	YES	150	n	(2)

(1) Exclusive use channels.

(2) Allocation procedure arising from ICP-ANACOM Decision, taking into account, among other factors, expressions of interest promoted in this publication (Annex 5), as well as relevant European decisions on this subject.

FIXED SATELLITE SERVICE (SFS)				
Frequency Band	**Usage rights required**	**Type of use (1)**	**Scope of use**	**Allocation procedure**
3800 – 4200 MHz Downlink	NO	(2) (3)	g	Full accessibility
5725 - 5830 MHz Uplink	NO	(2) (3)	g	Full accessibility
5830 - 5850 MHz Uplink	NO	(2) (3)	g	Full accessibility
5850 - 5925 MHz Uplink	NO	(2) (3)	g	Full accessibility
5925 - 6425 MHz Uplink	NO	(2) (3)	g	Full accessibility
10.7 – 10.95 GHz (4) Downlink	NO	(2) (3)	g	Full accessibility
10.95 – 11.2 GHz Downlink	NO	(2) (3)	g	Full accessibility
11.2 – 11.45 GHz (4) Downlink	NO	(2) (3)	g	Full accessibility
11.45 – 11.7 GHz Downlink	NO	(2) (3)	g	Full accessibility
12.5 – 12.75 GHz Downlink	NO	(2) (3)	g	Full accessibility
12.75 – 13.25 GHz (4) Uplink	NO	(2) (3)	g	Full accessibility
14 - 14.5 GHz Uplink	NO	(2) (3)	g	Full accessibility
17.3 – 18.1 GHz (5) Uplink	NO	(2) (3)	g	Full accessibility
17.3 - 17.7 GHz (6) Downlink	NO	(2) (3)	g	Full accessibility
19.7 - 20.2 GHz (6) Downlink	NO	(2) (3)	g	Full accessibility
27.5 - 27.82 GHz (6) Uplink	NO	(2) (3)	g	Full accessibility
28.45 - 28.94 GHz (6) Uplink	NO	(2) (3)	g	Full accessibility
29.46 - 30.0 GHz (6) Uplink	NO	(2) (3)	g	Full accessibility

(1) Channel of shared use.
(2) Band shared with other users.
(3) Dynamic frequency management in accordance with each application type.
(4) Appendix 30B.
(5) Appendix 30A.
(6) HDFSS.

SATELLITE BROADCASTING SERVICE				
Frequency Bands Type of Link	**Rights of use required**	**Type of use (1)**	**Scope of use**	**Allocation procedure**
11.7 – 12.5 GHz Downlink	NO	(2)	n	full accessibility

MOBILE-SATELLITE SERVICE (SMS) including Global Mobile Personal Communications by Satellite (GMPCS)				
Frequency Bands Type of Link	**Rights of use required**	**Type of use (3)**	**Scope of use**	**Allocation procedure**
137 – 138 MHz Downlink	NO	(4)	n	full accessibility
148 – 150.05 MHz Uplink	NO	(4)	n	full accessibility
1525 - 1544 MHz Downlink	NO	(4)	n	full accessibility
1545 - 1559 MHz Downlink	NO	(4)	n	full accessibility
1610 - 1626.5 MHz Uplink/Downlink (5)	NO	(4)	n	full accessibility
1626.5 - 1645.5 MHz Uplink	NO	(4)	n	full accessibility
1646.5 - 1660.5 MHz Uplink	NO	(4)	n	full accessibility
1980 - 2010 MHz Uplink	To be defined(6)	(4)	n	To be defined(6)
2170 - 2200 MHz Downlink	To be defined(6)	(4)	n	To be defined(6)
2483.5 - 2500 MHz Downlink	NO	(4)	n	full accessibility
14.0 - 14, 5 GHz Uplink	NO	(4)	n	full accessibility

(1) Exclusive use channels.
(2) Band exclusive to this service.
(3) Channel of shared use.
(4) Band shared with other users.
(5) Uplink CDMA and TDMA modes; Downlink in TDMA modes.
(6) The procedure of allocating spectrum for systems operating in the 1980-2010 MHz / 2170-2200 MHz band is dependent on the conclusion of discussion underway at a European level. Given the characteristics of these types of systems, the selection of the system(s) and the authorisation to be made are intrinsically related and cannot therefore be disassociated..

3.2 Frequency bands and channels reserved and to be made available in 2008/2009, for the operation of non-publically available electronic communications networks and services

The terms and abbreviations used mean the following:

Rights of use required: identification of the need to allocate rights of use according to article 16 of Law no. 5/2004 of 10 February

Exploration mode*: (simplex, duplex or semi-duplex, when applicable)*
. simplex: operation mode in which it is possible to alternately transmit in both directions in the telecommunication channel, using one or two frequencies
. duplex: operation mode in which it is possible to simultaneously transmit in both directions in the telecommunication channel, using two frequencies
. semi-duplex: simplex operation mode at one end of the telecommunication channels and duplex operation at the other, using two frequencies

Type of channel: *(spacing between adjacent channels, when applicable)*

Shared use: use of a frequency/channel by more than one entity

Exclusive use: use of a frequency/channel by one single entity

Scope of use:
n - national scope: use of a frequency/channel in the national territory
g - geographical scope: use of a frequency/channel on a given, well determined area by radiocommunication stations, such as fixed stations, broadcasting stations and Earth stations.

Allocation procedure: full accessibility or selection by competition or comparison

FIXED SERVICE - DECAMETRIC WAVE LINKS (SFHF)				
Frequency Band	**Rights of use required**	**Type of use [1]**	**Scope of use**	**Allocation procedure**
3200 – 3375 kHz	NO	[2]	g	full accessibility
6765 – 6795 kHz	NO	[2]	g	full accessibility
7350 – 7757 kHz	NO	[2]	g	full accessibility
13450 – 13495 kHz	NO	[2]	g	full accessibility
13515 – 13570 kHz	NO	[2]	g	full accessibility
13914 – 14000 kHz	NO	[2]	g	full accessibility
14350 – 14604 kHz	NO	[2]	g	full accessibility
14670 – 14990 kHz	NO	[2]	g	full accessibility
15800 – 16180 kHz	NO	[2]	g	full accessibility
16231-16360 kHz	NO	[2]	g	full accessibility
17452 – 17480 kHz	NO	[2]	g	full accessibility
18030 – 18052 kHz	NO	[2]	g	full accessibility
18168 – 18249 kHz	NO	[2]	g	full accessibility
18373 – 18780 kHz	NO	[2]	g	full accessibility
19120 – 19680 kHz	NO	[2]	g	full accessibility
19800 – 19990 kHz	NO	[2]	g	full accessibility
20010 – 20442 kHz	NO	[2]	g	full accessibility
20680 – 21000 kHz	NO	[2]	g	full accessibility
21850 – 21870 kHz	NO	[2]	g	full accessibility
22855 – 22900 kHz	NO	[2]	g	full accessibility
23000 – 23200 kHz	NO	[2]	g	full accessibility
23350 – 24125 kHz	NO	[2]	g	full accessibility
24325 – 24890 kHz	NO	[2]	g	full accessibility
25010 – 25070 kHz	NO	[2]	g	full accessibility
25210 – 25550 kHz	NO	[2]	g	full accessibility
26175 – 26870 kHz	NO	[2]	g	full accessibility
26957 – 27500 kHz	NO	[2]	g	full accessibility
27500 – 27850 kHz	NO	[2]	g	full accessibility
29700 – 30005 kHz	NO	[2]	g	full accessibility

[1] Shared Use channels.

[2] Band shared with other users.

FIXED SERVICE - POINT-to-POINT LINKS				
Frequency Band	**Rights of use required**	**Type of use (1)**	**Scope of use**	**Allocation procedure**
406.1-410 MHz	NO	(2) (3)	g	full accessibility
410-430 MHz	NO	(3) (4)	g	full accessibility
1350 – 1375 MHz 1492 – 1517 MHz CEPT Rec. T/R 13-01 A	NO	(3)	g	full accessibility
1375 – 1400 MHz 1427 – 1452 MHz CEPT Rec. T/R 13-01 B	NO	(3)	g	full accessibility
2025 – 2110 MHz 2200 – 2290 MHz CEPT Rec. T/R 13-01 C	NO	(3)	g	full accessibility
6 GHz (Low) (5925 – 6425 MHz) ERC/REC 14-01 Annex 1	NO	(3)	g	full accessibility
6 GHz (High) (6425 – 7110 MHz) ERC/REC 14-02 Annex 1	NO	(3)	g	full accessibility
7 GHz (Low) (7125-7425 MHz) ECC/REC/(02)06 Annex 1	NO	(3)	g	full accessibility
7 GHz (High) (7425-7725 MHz) ECC/REC/(02)06 Annexes 1 and 3	NO	(3)	g	full accessibility
8 GHz (Low) (7700 – 8300 MHz) Rec. ITU-R F.386 Annex 1	NO	(3)	g	full accessibility
8 GHz (High) (8200 – 8500 MHz) Rec. ITU-R F.386	NO	(3)	g	full accessibility
11 GHz (10.7 – 11.7 GHz) ERC/REC 12-06 Rec3	NO	(3)	g	full accessibility
13 GHz (12.75 – 13.25 GHz) Rec. ITU-R F.497	NO	(3)	g	full accessibility
13 GHz (12.75 – 13.25 GHz) ERC/REC 12-02 Annexes A and B	NO	(3)	g	full accessibility
15 GHz (14.5 – 15.35 GHz) ERC/REC 12-07 Annex A	NO	(3)	g	full accessibility
18 GHz (17.7 – 19.7 GHz) ITU-R F.595 Annexes 3 and 4	NO	(3)	g	full accessibility
18 GHz (17.7 – 19.7 GHz) ERC/REC 12-03 Annex A	NO	(3)	g	full accessibility
23 GHz (22 – 23.6 GHz) CEPT Rec. T/R 13-02 Annex A	NO	(3)	g	full accessibility

(1) Shared Use channels.
(2) Band with specific planning at 12.5 kHz and 25 kHz (simplex).
(3) Band shared with other users.
(4) Band with specific planning at 12.5 kHz and 25 kHz (duplex) and shared with the land mobile service.

FIXED SERVICE - POINT-to-POINT LINKS (cont.)				
Frequency Band	**Rights of use required**	**Type of use** (1)	**Scope of use**	**Allocation procedure**
32 GHz (31.8 – 33.4 GHz) ERC/REC/(01)02	NO	(2)	g	full accessibility
38 GHz (37 – 39.5 GHz) CEPT Rec T/R 12-01	NO	(2)	g	full accessibility
58 GHz (57 – 59 GHz) ERC/REC 12-09 Annex A	NO	(2)	g	full accessibility
74 GHz (74 – 76 GHz) ECC/REC/(05)07 Annex 4	NO	(2)	g	full accessibility
84 GHz (84 – 86 GHz) ECC/REC/(05)07 Annex 4	NO	(2)	g	full accessibility

FIXED SERVICE - STUDIO TRANSMITTER LINK Studio Transmitter Link (STL)					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels** (1)	**Scope of use**	**Allocation procedure**
1517 – 1525 MHz	NO	100 kHz	80	g	full accessibility (3)
	NO	300 kHz	26	g	full accessibility (3)

BROADCASTING SERVICE - SAP/SAB video links (4)					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels** (1)	**Scope of use**	**Allocation procedure**
2025-2110 MHz	NO	(5)	(6)	g	full accessibility
2200-2260 MHz	NO	(5)	(6)	g	full accessibility
2390-2400 MHz	NO	(5)	(6)	g	full accessibility
2483.5-2500 MHz	NO	(5)	(6)	g	full accessibility
10-10.45 GHz	NO	(5)	(6)	g	full accessibility

(1) Shared Use channels.
(2) Band shared with other users.
(3) Limited to holders of sound broadcasting licence (permit).
(4) SAP/SAB video links, particularly for wireless cameras, portable and mobile SAP/SAB video links and SAP/SAB point-to-point video links used for live transmission of events.
(5) Depending on request received.
(6) Depending on type of channel.

Integrated Emergency and Security Network System					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
383-385 MHz / 393-395 MHz	N. A.	25 kHz	80 (4)	n	Resolution of the Council of Ministers no. 56/2003 of 8 April

GSM-R					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
876 -880 MHz / 921 -925 MHz	NO	200kHz(5)	20	n	To be defined

LAND MOBILE SERVICE (SMT)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**Type of use (2)**	**Scope of use**	**Allocation procedure**
29.7 - 41 MHz	NO	20 kHz simplex	(3)	g	full accessibility
		20 kHz semi-duplex	(3)	g	full accessibility
68 - 87.5 MHz	NO	12.5 kHz simplex	(3)	g	full accessibility
		12.5 kHz semi-duplex	(3)	g	full accessibility
148 - 174 MHz	NO	12.5 kHz simplex	(3)	g	full accessibility
		12.5 kHz semi-duplex	(3)	g	full accessibility
440 - 450 MHz	NO	12.5 kHz simplex	(3)	g	full accessibility
		12.5 kHz semi-duplex	(3)	g	full accessibility
450 - 470 MHz	NO	12.5 kHz simplex	(3)	g	full accessibility
		12.5 kHz semi-duplex	(3)	g	full accessibility

(1) Exclusive use channels.
(1) Exclusive use channels.
(2) Shared Use channels.
(3) Band shared with other users.
(4) 4 channels in use in the 383-385 MHz/ 393-395 MHz extension band.
(5) 876-876.1 MHz sub-band is used with 12.5 kHz spacing between channels.

LAND MOBILE SERVICE – Systems using digital technology					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels (2)**	**Scope of use**	**Allocation procedure**
410 - 430 MHz	NO	25 kHz	105	g	full accessibility

MOBILE MARITIME SERVICE (SMM)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
156 – 174 MHz (Appendix 18 of the RR)	NO	25 kHz simplex	26	g	full accessibility
	NO	25 kHz duplex	33	g	full accessibility

AERONAUTICAL MOBILE SERVICE (SMA)					
Frequency Band	**Rights of use required**	**Type of channel**	**Type of use (1)**	**Scope of use**	**Allocation procedure**
3400 - 3500 kHz	NO	3 kHz	(2)	g	full accessibility
5480 - 5680 kHz	NO	3 kHz	(2)	g	full accessibility
8815 - 8965 kHz	NO	3 kHz	(2)	g	full accessibility
11275 - 11400 kHz	NO	3 kHz	(2)	g	full accessibility
13260 - 13360 kHz	NO	3 kHz	(2)	g	full accessibility
17900 - 17970 kHz	NO	3 kHz	(2)	g	full accessibility
117.975 - 137 MHz	NO	25 kHz	(2)	g	full accessibility
117.975 - 137 MHz	NO	8.33 kHz	(2)	g	full accessibility
143.9 - 144 MHz (3)	NO	12.5 kHz simplex	(2)	n	full accessibility

(1) Shared Use channels.
(2) Band shared with other users.
(3) Sport and recreational free flight and engineless ultralights and hang gliders.

AERONAUTICAL RADIONAVIGATION SERVICE (RVA)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
255 - 283.5 kHz	NO	(2)	(3)	g	full accessibility
283.5 - 315 kHz	NO	(2)	(3)	g	full accessibility
315 - 325 kHz	NO	(2)	(3)	g	full accessibility
325 - 405 kHz	NO	(2)	(3)	g	full accessibility
415 - 435 kHz GE-85	NO	1 kHz	(3)	g	full accessibility
74.8 - 75.2 MHz	NO	(2)	1	g	full accessibility
108 - 117.975 MHz	NO	(2)	(3)	g	full accessibility
328.6 - 335.4 MHz	NO	(2)	(3)	g	full accessibility
960 – 1350 MHz	NO	(2)	(3)	g	full accessibility
2700 – 2900 MHz	NO	(2)	(3)	g	full accessibility
2900 – 3100 MHz	NO	(2)	(3)	g	full accessibility
4200 – 4400 MHz	NO	(2)	(3)	g	full accessibility
5000 – 5150 MHz	NO	(2)	(3)	g	full accessibility
5150 – 5250 MHz	NO	(2)	(3)	g	full accessibility
9000 – 9200 MHz	NO	(2)	(3)	g	full accessibility
9300 – 9500 MHz	NO	(2)	(3)	g	full accessibility
15.4 – 15.7 GHz	NO	(2)	(3)	g	full accessibility

(1) Shared Use channels.
(2) Not applicable.
(3) Band shared with other users.

MARITIME RADIONAVIGATION SERVICE (RVM)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
283.5 - 315 kHz	NO	0.5 kHz	(2)	g	full accessibility
2900 – 3100 MHz	NO	(3)	(2)	g	full accessibility
5470 - 5600 MHz	NO	(3)	(2)	g	full accessibility
5600 - 5650 MHz	NO	(3)	(2)	g	full accessibility
9200 – 9300 MHz	NO	(3)	(2)	g	full accessibility
9300 - 9500 MHz	NO	(3)	(2)	g	full accessibility

RADIOLOCATION SERVICE (SV)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
2700 - 2900 MHz	NO	(3)	(2)	g	full accessibility
2900 - 3100 MHz	NO	(3)	(2)	g	full accessibility
5725 - 5830 MHz	NO	(3)	(2)	g	full accessibility
5830 - 5850 MHz	NO	(3)	(2)	g	full accessibility
9200 – 9300 MHz	NO	(3)	(2)	g	full accessibility
9300 - 9500 MHz	NO	(3)	(2)	g	full accessibility
59 - 64 GHz	NO	(3)	(2)	g	full accessibility

(1) Shared Use channels.
(2) Band shared with other users.
(3) Not applicable.

METEOROLOGICAL AID SERVICE					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
5600 - 5650 MHz	NO	(2)	(3)	g	full accessibility

PERSONAL RADIO SERVICE - CITIZEN BAND (CB)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
26965 – 27405 kHz	NO	10 kHz simplex	40	n	full accessibility

AMATEUR SERVICE (AM)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**Type of use (1)**	**Scope of use**	**Allocation procedure**
(4)	NO	(4)		g	(4)
135.7 – 137.8 kHz	NO	(2)		g	Category A
7100 – 7200 kHz	NO	(2)		g	Category A
50 – 50.5 MHz	NO	(2)		g	Category A

AMATEUR-SATELLITE SERVICE (AMS)					
Frequency Band	**Rights of use required**	**Type of channel Exploration Mode**	**Type of use (1)**	**Scope of use**	**Allocation procedure**
(4)	NO	(4)		g	(4)

(1) Shared Use channels.
(2) Not applicable.
(3) Band shared with other users.
(4) Frequency bands and transmission classes assigned in accordance with the terms of Administrative Rule no. 322/95 of 17 April until the publication of new legislation.

FIXED SATELLITE SERVICE (SFS)					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
3800 – 4200 MHz Downlink	NO	(2)	(3)	g	full accessibility
5725 – 5830 MHz Uplink	NO	(2)	(3)	g	full accessibility
5830 – 5850 MHz Uplink	NO	(2)	(3)	g	full accessibility
5850 – 5925 MHz Uplink	NO	(2)	(3)	g	full accessibility
5925 – 6425 MHz Uplink	NO	(2)	(3)	g	full accessibility
7300 – 7450 MHz Downlink	NO	(2)	(3)	g	full accessibility
7450 – 7550 MHz Downlink	NO	(2)	(3)	g	full accessibility
8025 – 8175 MHz Uplink	NO	(2)	(3)	g	full accessibility
8175 – 8215 MHz Uplink	NO	(2)	(3)	g	full accessibility
8215 – 8400 MHz Uplink	NO	(2)	(3)	g	full accessibility
10.7 – 10.95 GHz (4) Downlink	NO	(2)	(3)	g	full accessibility
10.95 – 11.2 GHz Downlink	NO	(2)	(3)	g	full accessibility
11.2 – 11.45 GHz (4) Downlink	NO	(2)	(3)	g	full accessibility
11.45 – 11.7 GHz Downlink	NO	(2)	(3)	g	full accessibility
12.5 – 12.75 GHz Downlink	NO	(2)	(3)	g	full accessibility
12.75 – 13.25 GHz (4) Uplink	NO	(2)	(3)	g	full accessibility
14 - 14.5 GHz Uplink	NO	(2)	(3)	g	full accessibility
17.3 – 18.1 GHz (5) Uplink	NO	(2)	(3)	g	Full accessibility
17.3 - 17.7 GHz (6) Downlink	NO	(2)	(3)	g	Full accessibility
19.7 - 20.2 GHz (6) Downlink	NO	(2)	(3)	g	full accessibility
27.5 - 27.82 GHz (6) Uplink	NO	(2)	(3)	g	full accessibility
28.45 - 28.94 GHz (6) Uplink	NO	(2)	(3)	g	full accessibility
29.46 - 30.0 GHz (6) Uplink	NO	(2)	(3)	g	full accessibility

(1) Shared Use channels.
(2) Not applicable.
(3) Band shared with other users.
(4) Appendix 30B.
(5) Appendix 30A.
(6) HDFSS.

SPACE OPERATIONS SERVICE (OE)					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
2025-2110 MHz Uplink	NO	(2)	(3)	g	full accessibility
2200-2290 MHz Downlink	NO	(2)	(3)	g	full accessibility

EARTH EXPLORATION SERVICE - SATELLITE (EXP-S)					
Frequency Band	**Rights of use required**	**Type of channel**	**No of channels (1)**	**Scope of use**	**Allocation procedure**
8025-8400 MHz Downlink	NO	(2)	(3)	g	full accessibility

(1) Shared Use channels.

(1) Shared Use channels.

Annex 4

USES EXEMPT FROM RADIO LICENSING

4.1 Spectrum uses exempt from radio licensing

Network license exemption

Under the terms of paragraph a) of no. 1 and no. 2 of article 9 of Decree-Law no. 151-A/2000 of 20 July, the following are exempt from network licences:

a) LMS Private networks of radio paging, with the following characteristics:

Station characterization			
Frequency Band	**Maximum power limits**	**Antenna type**	**Channel spacing**
40.680 MHz	5 W e.m.r.p.	External - base stations Integral - portable	20 kHz
169.175 MHz	5 W e.m.r.p.	External - base stations Integral - portable	25 kHz
468.1125 MHz	2 W e.m.r.p.	External - base stations Integral - portable	12.5 kHz
468.1250 MHz	2 W e.m.r.p.	External - base stations Integral - portable	
469.275 MHz	5 W e.m.r.p.	External - base stations Integral - portable	25 kHz

b) Cordless telephones (CTs), with the following characteristics:

Station characterization				
System Technology	**Frequency Band**	**Maximum power limits**	**Antenna type**	**Channel spacing**
CT0 (analogue)	27.5375 - 27.8375 MHz	Output power 10 mW	Integral or dedicated	25 kHz
	36.9875 - 37.2875 MHz			
CT1 (analogue)(*)	914 - 915 MHz		Integral	25 kHz
	959 - 960 MHz			
DECT (digital)	1880 -1900 MHz	250 mW	Integral or dedicated	1.728 MHz

(*)In compliance with Decision ECC/DEC(01)01, adopted by the Portuguese administration, these bands are no longer identified for this type of equipment; during a transition period, the necessary steps will be taken to gradually reduce their use with the aim of freeing the frequency bands by the end of 2008.

c) Networks constituted by stations installed on board aircraft and associated mobile stations:

Mobile Communications on Board Aircraft (MCA) [(a)]			
Frequency Bands	**Maximum power limits**	**Maximum height of operation above ground [m]** Error! Bookmark not defined.	**Channel spacing**
1710 - 1785 MHz 1805 - 1880 MHz	-13 dBm/200 kHz	3000	200 kHz

[(a)] There must be compliance with the technical conditions set out in Commission 2008/294/EC of 7April 2008

4.2 Uses Exempt from radio licensing

Station license exemption

Under the terms of paragraph a) of no. 1 and no. 2 of article 9 of Decree-Law no. 151-A/2000 of 20 July, the following are exempt from station licences:

a) SRD-Short Range Devices

These stations should operate on a non-interference and non-protection base regarding licensed radiocommunications stations or networks.

SRD - Station characterization					
Application	**Frequency Band**	**Maximum power or field strength limits**	**Antenna type**	**Channel spacing**	**Duty Cycle**
General Use [1]	6765 - 6795 kHz	42 dBμA/m at 10 m	Integral or dedicated	No spacing	
	13.553 - 13.567 MHz				< 1%
	26.957 - 27.283 MHz				< 10%
	40.660 - 40.700 MHz	10 mW e.m.r.p.			≤ 100%
	138.20 – 138.45 MHz			≤ 25 kHz	
	433.050 - 434.790 MHz [2]			≤ 100 kHz [7] for 47 or more channels	≤ 0.1% or LBT [8, 9]
	433.050 - 434.790 MHz [3]	1 mW e.m.r.p.[4]		No spacing	≤ 0.1% or LBT [6, 8, 9]
	434.040 – 434.790 MHz [3]	10 mW e.m.r.p.		≤ 100 kHz [7, 11] for 1 or more channels	≤ 0.1% or LBT [8, 9]
	863 - 870 MHz [2, 5, 6]	≤ 25 mW e.m.r.p.		No spacing, for 1 or more channels [7]	≤ 1% or LBT [8]
		≤ 25 mW e.m.r.p. [6] -4.5 dBm/100 kHz [10]			≤ 0.1% or LBT [8]
		≤ 25 mW e.m.r.p.		25 kHz, for one or more channels [12]	≤ 10% or LBT [8]
	868.000 - 868.600 MHz [2]	≤ 25 mW e.m.r.p.		No spacing, for 1 or more channels	≤ 100%
	868.700 - 869.200 MHz [2]				
	869.400 - 869.650 MHz [2]	≤ 500 mW e.m.r.p.			
	869.700 – 870.000 MHz [3]	≤ 5 mW e.m.r.p.			
	2400 - 2483.5 MHz	10 mW e.i.r.p.		No spacing	
	5725 - 5875 MHz	25 mW e.i.r.p.			

[1] Video applications are only allowed above the 2.4 GHz band.
[2] The duty cycle, LBT or technical equivalent may not be dependent on the user and the appropriate technical resources have to be guaranteed immediately
[3] Audio signals are excluded from this band. Voice application with mitigation techniques of the LBT type or equivalent are permitted, The transmitter must include an output power control sensor with up to 1 minute time-out.
[4] The power density for modulations with bandwidths above 250 kHz is limited to -13 dBm/10 kHz
[5] The sub-bands for alarms are excluded
[6] For broadband modulations other than FHSS and DSSS with bandwidths between 200 kHz and 3 MHZ, the duty cycle can be increased up to 1% if the band is limited to 865-868 MHz and the power below 10 mW e.m.r.p..
[7] The preferential spacing is 100 kHz, allowing 50 kHz and 25 kHz subdivisions.
[8] For devices with FHSS, DSSS and AFA (*Adaptive Frequency Agility*) the *duty cycle* is applied to the total transmission except where LCT is used.
[9] Duty cycle may be 1% if the band is limited to 865-868 MHz
[10] The power density may be increased up to 6.2 dBm/100 kHz and 0.8 dBm/100 kHz, if the band is limited to 865-868 MHz and 865-870 MHz, respectively.
[11] For narrow band modulations with bandwidth from 50 to 200 kHz the band is limited to 865.5-867.5 MHz
[12] The entire band may be used as a common channel for the high-speed transmission ofdata.

SRD - Station characterization (cont.)					
Application	**Frequency Band**	**Maximum power or field strength limits**	**Antenna type**	**Channel spacing**	**Duty Cycle**
General Use (cont.) [1]	24.00 - 24.25 GHz	100 mW e.i.r.p.			
	61.00 - 61.50 GHz				
	122 - 123 GHz				
	244 - 246 GHz				
Detection, tracking and data acquisition systems	457 kHz [13]	7 dBμA/m at 10 m		Continuous wave(CW) – without modulation	< 100%
	169.4 – 169.475 MHz [14]	500 mW e.m.r.p.		Max. 50 kHz	< 10%
	169.4 – 169.475 MHz [15]				< 1%
Wireless access systems / Radio local area networks (WAS/RLAN)	2400 - 2483.5 MHz	100 mW e.i.r.p.[16]		No spacing Binary rhythm>250 kbps	
	5150 - 5350 MHz [17,18]	200 mW e.i.r.p.[19]	Dedicated	No spacing	
	5470 - 5725 MHz [17, 18]	1 W e.i.r.p. [19]			
	17.1 - 17.3 GHz	100 mW e.i.r.p.			
Railway applications	2446 - 2454 MHz [20]	500 mW e.i.r.p.	Integral		
	27.095 MHz [21]	42 dBμA/m at 10 m	Dedicated		
	4234 kHz [22]	9 dBμA/m at 10 m		No spacing	< 1%
	4516 kHz [23]	7 dBμA/m at 10 m			
	11.1 – 16.0 MHz [23, 24]	-7 dBμA/m at 10 m			

[13] Victim Detection applications.
[14] Measurement reading applications.
[15] Applications for object detection and tracking.
[16] For systems that use direct sequence spectrum spreading techniques, the value of the maximum power spectrum density should be limited to 10 mW/1 MHz; for systems that use frequency leap spectrum spreading techniques, the value of the maximum power spectrum density should be limited to 20 mW/100 kHz.
[17] In accordance with Commission Decision 2005/513/EC of 11 July 2005.
[18] The following conditions should be respected:

a) In the 5150-5350 MHz only indoor uses are allowed
b) Transmitter power control (TPC) in the 5250-5350 MHz and 5470-5725 MHz band, to ensure an attenuating factor of at least 3 dB in the maximum power allowed by the systems, or, in case the TPC is not operating, the maximum power allowed for the average e.i.r.p. and the corresponding power density maximum value should be reduced in 3 dB.
c) Dynamic frequency selection (DFS) associated with the channel selection mechanism for a uniform spreading in the 5250-5350 MHz and 5470-5725 MHz bands.
d) In the 5150-5250 MHz band, the maximum value of power density for the average e.i.r.p. should be limited to 0.25 mW/25 kHz, for each 25 kHz.
e) In the 5250-5350 MHz band, the maximum value of power density for the average e.i.r.p. should be limited to 10mW/MHz, for each 1 MHz.
f) In the 5470-5725 MHz band, the maximum value of power density for the average e.i.r.p. should be limited to 50mW/MHz, for each 1 MHz.

[19] Maximum value of the average e.i.r.p.
[20] Automatic vehicle identification systems for railways. Transmission only where trains are present.
[21] Tele-powered and train-station systems, including Eurobalise and loop/Euroloop activation. May also be used for loop/Euroloop activation.
[22] Train-station systems, including Eurobalise.
[23] Train-station loop systems including *Euroloop*.
[24] The maximum field density value if specified for a 10 kHz bandwidth, taking an average of measurements made over 200m of the loop. Transmission only where trains are present.

SRD - Station characterization (cont.)					
Application	**Frequency Band**	**Maximum power or field strength limits**	**Antenna type**	**Channel spacing**	**Duty Cycle**
Road transport and traffic telematics - RTTT	5795 – 5805 MHz [25]	2 W e.i.r.p.	Integral or dedicated	[26]	
	5805 – 5815 MHz [27]				
	63-64 GHz [28]	To be defined		No spacing	
	76-77 GHz [29]	55 dBm peak			
Radio determination applications	2400 - 2483.5 MHz	25 mW e.i.r.p.			
	9200 - 9500 MHz				
	9500 - 9975 MHz				
	10.5 – 10.6 GHz	500 mW e.i.r.p.			
	13.4 - 14.0 GHz	25 mW e.i.r.p.			
	24.05 - 24.25 GHz	100 mW e.i.r.p.			
	4.5 – 7.0 GHz[30]	-41.3 dBm/MHz e.i.r.p.			
	8.5 – 10.6 GHz [30]				
	24.05 – 27.0 GHz [30]				
	57 – 64 GHz [30]				
	75 – 85 GHz [30]				
Alarms	868.600 - 868.700 MHz [31]	10 mW e.m.r.p.		25 kHz	< 1.0%
	869.200 - 869.250 MHz [32]				< 0.1%
	869.250 - 869.300 MHz				
	869.300 – 869.400 MHz				< 1.0%
	869.650 - 869.700 MHz	25 mW e.m.r.p.			< 10%
	169.4750 – 169.4875 MHz [33]	10 mW e.m.r.p.		12.5 kHz	< 0.1%
	169.5875 – 169.6000 MHz [33]				

[25].The band is for road-vehicle systems, in particular (but not exclusively) for automatic toll payment systems.
[26] Frequencies: 5797.5 MHz, 5802.5 MHz, 5807.5 MHz and 5812.5 MHz are used with a 5 MHz channel spacing. 5800 MHz and 5810 MHz frequencies are used with a 10 MHz channel spacing.
[27] Requires individual licence.
[28] These systems, vehicle-vehicle or road-vehicle, will only be exempt from licensing after the definition of power limits.
[29] Vehicle and infrastructure radar systems.
[30] Tank Level Probing Radar (TLPR). The radiated power limit is determined outside the closed structure of the tank.
[31] The 868.6-868.7 MHz frequency band may also be used as one channel for high speed data transmissions.
[32] Band for Social Alarms.
[33] Exclusive use for Social Alarms.

SRD - Station characterization (cont.)					
Application	**Frequency Band**	**Maximum power or field strength limits**	**Antenna type**	**Channel spacing**	**Duty Cycle**
Model control	26.995 MHz; 27.045 MHz; 27.095 MHz; 27.145 MHz; 27.195 MHz	100 mW e.m.r.p.	Dedicated	10 kHz	
	34.995 - 35.225 MHz [34]				
	40.665 MHz; 40.675 MHz; 40.685 MHz; 40.695 MHz				
Inductive systems	9 - 59.750 kHz	72 dBμA/m at 10 m [36]	Integral, dedicated or external [35]	No spacing	
	59.750 - 60.250 kHz	42 dBμA/m at 10 m			
	60.250 – 70.000 kHz	69 dBμA/m at 10 m [36]			
	70 - 119 kHz	42 dBμA/m at 10 m			
	119 - 135 kHz	66 dBμA/m at 10 m [36]			
	135 - 140 kHz	42 dBμA/m at 10 m			
	140 – 148.5 kHz	37.7 dBμA/m at 10 m			
	6765 - 6795 kHz	42 dBμA/m at 10 m See figure 1, Section 6.6.a)	Integral or dedicated		
	7400 – 8800 kHz	9 dBμA/m at 10 m			
	13.553 - 13.567 MHz	42 dBμA/m at 10 m See figure 1, Section 6.6.a)			
	13.553 - 13.567 MHz	60 dBμA/m at 10 m See figure 1, Section 6.6.a) [37]			
	26.957 - 27.283 MHz	42 dBμA/m at 10 m			
	10.200 – 11.000 MHz	9 dBμA/m at 10 m			
	3155 – 3400 kHz	13.5 dBμA/m at 10 m	Integral, dedicated or external [35]		
	148.5 kHz–5 MHz	-15 dBμA/m at 10 m [38]			
	5-30 MHz	-20 dBμA/m at 10 m [39]			
	400 – 600 kHz	-8 dBμA/m at 10 m [40, 41]			

[34] Frequencies exclusive for flying models.
[35] In the case of external antenna use, only "*loop coil*" type antennas are permitted
[36] At 30 kHz decrease of 3 dB/octave
[37] For RFID and EAS (Electronic Article Surveillance) exclusive use,
[38] The maximum field intensity is specified for a bandwidth of 10 kHz. The maximum value is -5dBμ A/m at 10m for systems which operate with bandwidths greater than 10 kHz, maintaining the field intensity limit (-15 dBμA/m at 10 m for bandwidth of 10 kHz).
[39] The maximum field intensity is specified for a bandwidth of 10 kHz. The maximum value is -5 dBμA/m at 10 m for systems which operate with bandwidths greater than 10 kHz, maintaining the field intensity limit (-20 dB A/m at 10 m for bandwidth of 10 kHz).
[40] For exclusive use of RFID.
[41] The maximum field intensity is specified for a bandwidth of 10 kHz. The maximum value is -5 dBμA/m at10 m for systems which operate with bandwidths greater than 10 kHz, maintaining the field intensity limit (-8 dBμA/m at 10 m for bandwidth of 10 kHz). These systems are required to operate with a minimum bandwidth of 30 kHz.

SRD - Station characterization (cont.)					
Application	**Frequency Band**	**Maximum power or field strength limits**	**Antenna type**	**Channel spacing**	**Duty Cycle**
Radio microphones and hearing aid equipment	173.965 – 174.015 MHz [42]	2 mW e.m.r.p.	Integral	50 kHz	≤ 100%
	174 – 216 MHz [43]	50 mW e.m.r.p.		No spacing	
	470 – 862 MHz [43, 44]				
	863 – 865 MHz [45]	10 mW e.m.r.p.			
	1785 – 1795 MHz	20 mW e.i.r.p. [46]			
	1795 – 1800 MHz				
	169.4 – 169.4750 MHz [42]	10 mW e.m.r.p.		Max 50 kHz	
	169.4875 – 169.5875 MHz [42]				
RFID – RF Identification Systems	2446 – 2454 MHz	500 mW	Integral or dedicated	No spacing	≤ 100%
	865.0 – 865.6 MHz	100 mW e.m.r.p.		200 kHz	LBT
	865.6 – 867.6 MHz	2 W e.m.r.p.			
	867.6 – 868.0 MHz	500 mW e.m.r.p.			
Wireless systems for medical applications	9 – 315 kHz [47]	30 dB μA/m at 10 m	Integral or dedicated	No spacing	<10%
	315 – 600 kHz [48]	-5 dB μA/m at 10 m			
	12.5 – 20.0 MHz [49]	-7 dB μA/m at 10 m			
	30.0 – 37.5 MHz [50]	1 mW e.m.r.p.			
	402 – 405 MHz [51]	25 μW e.m.r.p.		25 kHz	
	401 – 402 MHz [52]				[53]
	405 – 406 MHz [52]				

[42] Hearing aids
[43] Earphone monitoring equipment is permitted, provided that the technical parameters applicable to radio microphones is adhered to.
[44] Radio microphones are only permitted in the 470-782 MHz, 790-838 MHz and 846-854 MHz sub-bands.
[45] Radio microphones.
[46] The maximum power limit for transmitting body-worn microphones is 50 mW e.m.r.p.
[47] For ultra-low power active medical implants which use inductive loop techniques for telemetry.
[48] Animal implant applications.
[49] For ultra-low power, active animal implants of indoor use.
[50] For ultra-low power membrane medical implants for measuring blood pressure.
[51] For ultra-low power, active medical implants covered by the harmonised EN 301 839 standard. Transmitters may combine adjacent 25KHz channels to increase bandwidth up to 300 kHz.
[52] For ultra-low power, active medical implants and accessories covered by the harmonised EN 302 537standard and not covered by the 402-405 MHz frequency band. Transmitters may combine adjacent 25KHz channels to increase bandwidth up to 100 kHz. Due to the 1 MHz limit of available spectrum a maximum limit of 100 KHz is proposed for bandwidth. In order to ensure the concurrent use of the band by users.
[53] Unrestricted for equipment using LBT. Systems which do not use Agility frequency techniques based on RF ambient, field detection are limited to a permitted maximum of 250 nW p.a.r. with a duty cycle of ≤0.1 %.

SRD - Station characterization (cont.)					
Application	**Frequency Band**	**Maximum power or field strength limits**	**Antenna type**	**Channel spacing**	**Duty Cycle**
Wireless audio applications	87.5 - 108 MHz [54]	50 nW e.m.r.p.	Integral	200 kHz	≤ 100%
	863 - 865 MHz	10 mW e.m.r.p.		No spacing [55]	
	864.8 - 865 MHz [56]			50 kHz	
	1795 – 1800 MHz	20 mW e.i.r.p.		No spacing	
Telecommand, telemetry, alarm and data transmission systems	29.980 MHz	100 mW e.m.r.p.	Integral or dedicated	10 kHz	
	29.990 MHz				
	30.000 MHz				
	30.100 MHz				
	150.9375 MHz	500 mW e.m.r.p.		12.5 kHz	
	150.9500 MHz				
	155.5375 MHz				
	155.5500 MHz				
	458.1125 MHz				
	458.1250 MHz				
	458.1375 MHz				
	458.1500 MHz				
SRR - Automotive short range radar systems	21.65-26.65 GHz [57]	[58]	Integral	No spacing	
	24.05-24.25 GHz	20 dBm e.i.r.p. peak	Integral	No spacing	[59]
	77-81 GHz [60]	55 dBm e.i.r.p. peak [61]	Integral	No spacing	

[54] The SRR user interface must allow, as a minimum, the selection of a frequency between 88.1 MHz and 107.9 MHz and, at a maximum, between 87.6 MHz and 107.9 MHz.
[55] In analogue systems the width of the band used may not exceed 300 kHz.
[56] Narrow band analogue voice equipment, such as baby alarms, door control systems etc. is limited to the 864.8-865 MHz band
[57] According to Commission Decision 2005/50/EC of 17 January 2005.
[58] The maximum average power density will be -41.3 dBm/MHz e.i.r.p. Peak power density value should not exceed 0dBm/50 MHz e.i.r.p.
[59] For peak powers over -10 dBm e.i.r.p. and duty cycle < 10%.
[60] According to Commission Decision 2004/545/EC of 8 July 2004..
[61] Maximum average power density will be –3 dBm/MHz e.i.r.p. Maximum average power density outside a vehicle resulting from the operation of a short range radar should not exceed –9 dBm/MHz e.i.r.p.

b) Earth stations in the Fixed Satellite Service

These stations should operate on a non-interference and non-protection basis regarding licensed radiocommunications stations or networks.
The use of this kind of Earth stations is only allowed at distances beyond 500 metres from airport boundaries.

Station characterization			
Earth station	**Frequency Band**	**Maximum power limits**	**Antenna type**
"*Satellite Interactive Terminal (SIT)*"	10.70 - 12.75 GHz (space-to-Earth) 29.50 - 30.00 GHz (Earth-to-space)	Transmitter power < 2 W e.i.r.p. < 50 dew	antenna diameter < 1.2 m
"*Satellite User Terminal (SUT)*"	19.70 - 20.20 GHz (space-to-Earth) 29.50 - 30.00 GHz (Earth-to-space)		antenna diameter < 1.8 m
"*Very Small Aperture Terminal (VSAT)*"	12.50 - 12.75 GHz (space-to-Earth) 14.00 - 14.25 GHz (Earth-to-space)		antenna diameter < 3.8 m

c) Earth stations in the mobile-satellite service

These stations are required to operate on a non-interference and non-protection basis relative to licensed radio networks or stations.

Station characterization	
Earth station	**Frequency Band**
Inmarsat-B Inmarsat-C Inmarsat-D Inmarsat-M Inmarsat-M4 Inmarsat-phone (mini M) EMS-MSSAT Thuraya SpaceCheckers-SMS	1525 - 1544 MHz (space-to-Earth) [1] 1545 - 1559 MHz (space-to-Earth) [2] 1626.5 - 1645.5 MHz (Earth-to-space) [1] 1646.5 - 1660.5 MHz (Earth-to-space) [2, 3]
EUTELTRACS	10.70 - 11.70 GHz (space-to-Earth) [4] 12.50 - 12.75 GHz (space-to-Earth) [4] 14.00 - 14.25 GHz (Earth-to-space)
GMPCS [5]	1525 - 1544 MHz (space-to-Earth) [1] 1545 - 1559 MHz (space-to-Earth) [2] 1626.5 - 1645.5 MHz (Earth-to-space) [1] 1646.5 - 1660.5 MHz (Earth-to-space) [2, 3] 1610 – 1626.5 MHz (Earth-to-space) 1980 – 2010 MHz (Earth-to-space) 2483.5 – 2500 MHz (space-to-Earth) 2170 – 2200 MHz (space-to-Earth)
Mobile Earth Stations (MES) ORBCOM [6]	137- 138 MHz (space-to-Earth) 148 – 150.05 MHz (Earth-to-space)
AES [8]	10.70 - 11.70 GHz (space-to-Earth) 12.50 - 12.75 GHz (space-to-Earth) 14.00 - 14.25 GHz (Earth-to-space)

[1] In the 1530-1544 MHz and 1626.5-1645.5 MHz frequency bands, priority is given to distress, emergency and safety communications in the scope of the GMDSS system.

[2] In the 1545 - 1555 MHz and 1646.5-1656.5 MHz frequency bands, priority is given, in the scope of the Aeronautical Mobile-Satellite Service, to distress, emergency and safety communications, as well as to communication regarding flights safety and regularity and meteorology.

[3] In the 1660 – 1660.5 MHz frequency band, the operation of these Earth stations cannot cause any harmful interference to the stations of the radio astronomy service.

[4] In the 10.70-11.70 GHz and 12.50-12.75 GHz frequency bands, the operation of “Omnitracs-Eutelsat” Earth stations cannot cause any harmful interference to the stations of the fixed service or of the fixed satellite service.

[5] These stations must be marked as described in figure 2.

[6] These stations should not cause interference or require protection from stations of the fixed, mobile and space operation services in the 148-149.9 MHz frequency band, nor from stations of the radionavigation satellite service in the 149.9-150.05 MHz frequency band.

[8] AES must operate on a non-interference and non-protection basis in respect of licensed radiocommunications stations or networks.

d) Land Mobile Service Stations

These stations must operate on a non-interference and non-protection basis in respect of licensed radiocommunications stations or networks.

PMR446 Analogue Stations

Station characterization			
Frequency Band	**Maximum power limits**	**Antenna type**	**Channel spacing**
446.0 – 446.1 MHz [62]	500 mW e.m.r.p.	integral	12.5 kHz

PMR446 Digital Stations

Station characterization			
Frequency Band	**Maximum power limits**	**Antenna type**	**Channel spacing**
446.1 – 446.2 MHz [63]	500 mW e.m.r.p.	integral	6.25 kHz or 12.5 kHz

Talk-Back

Station characterization		
Frequency Band	**Maximum power limits**	**Channel spacing**
445.150 MHz	3W e.i.r.p.	25kHz
448.300 MHz		
448.325 MHz		
448.350 MHz		
448.375 MHz		
448.400 MHz		
448.425 MHz		
448.450 MHz		
448.475 MHz		

[62] Channels according to Decision ERC/DEC/(98)25.
[63] Channels according to Decision ECC/DEC/(05)12.

e) Receiver-only radiocommunications stations

These stations must operate on a non-interference and non-protection basis in respect of licensed radiocommunications stations or networks.

Station characterization
Receiver stations: • multiband, not associated with any particular radiocommunications services (scanners) • satellite radiocommunications services in the frequency bands: 3.4-4.2 GHz; 10.7-12.75 GHz; 17.7-20.2 GHz; • AIS system • Radio astronomy service [64] • Satellite radio determination service [65] • Meteorological − satellite service[65] • Earth exploration satellite service[65]

f) Receiver only sound and television broadcasting stations.

[64] Radio protection may be ensured for Radio astronomy stations operating in frequency bands allocated to this service with primary status, in accordance with their licensing.

[65] Radio protection may be ensured for earth stations operating in frequency bands allocated to this service with primary status, in accordance with their radio licensing. This procedure is not applicable to GPS and GLONASS terminals.

Annex 5

EQUIPMENT / SYSTEMS EMPLOYING ULTRA-WIDEBAND (UWB) TECHNOLOGY

Equipment / systems which use ultra-wideband (UWB) technology shall operate on a "non-interference and non-protection" basis whereby harmful interference may not be caused to any radiocommunication service and no protection of the devices concerned from harmful interference caused by radiocommunications services may be claimed.

5.1 "Generic" UWB equipment

UWB technology enables various systems to be developed for different applications, including, communication, localisation and medical systems. This technology makes it possible to transmit large quantities of information over small distances with low transmission power. UWB equipment is characterised by the need for large bandwidth, whereby its emissions are spread over the spectrum, with various radiocommunications services overlapping.

Such equipment shall adhere to the conditions set out in Commission Decision 2007/131/EC of 21 February 2007 on the use of the radio spectrum for equipment using ultra-wideband technology in a harmonised manner in the Community. Accordingly, interior spaces must be used or, if used outside, not attached to a fixed installation, fixed infrastructure, fixed exterior antenna or an automobile or railway vehicle.

"Generic" UWB equipment is exempt from radio licensing.

Maximum e.i.r.p. densities in the absence of suitable mitigation techniques		
Frequency Band (GHz)	**Maximum value of average e.i.r.p. density (dBm/MHz)**	**Maximum value of peak e.i.r.p. density (dBm/50 MHz)**
Below 1.6	– 90.0	– 50.0
1.6 to 3.4	– 85.0	– 45.0
3.4 to 3.8	– 85.0	– 45.0
3.8 to 4.2	– 70.0	– 30.0
4.2 to 4.8	– 41.3 (*for UWB devices placed in the market up to 31 December 2010*) – 70.0 (*for UWB devices placed in the market after 31 December 2010*)	0.0 (*for UWB devices placed in the market up to 31 December 2010*) – 30.0 (*for UWB devices placed in the market after 31 December 2010*)
4.8 to 6.0	– 70.0	– 30.0
6.0 to 8.5	– 41.3	0.0
8.5 to 10.6	– 65.0	– 25.0
Above 10.6	– 85.0	– 45.0

Table 5.1.1: Maximum e.i.r.p. densities for "generic" UWB in the absence of suitable mitigation techniques

Suitable mitigation techniques

A maximum value of – 41.3 dBm/MHz for the average e.i.r.p. density is permitted in the 3.4 – 4.8 GHz band, provided that a low-duty-cycle restriction is applied by which the total of all transmitted signals shall be less than 5% of the time in each second and 0.5% of the time of each hour and also provided that the duration of each transmitted signal does exceed 5 milliseconds (in accordance with Decision ECC/DEC/(06)12).

5.2 "Specific" UWB equipment

a) GPR/WPR imaging systems

UWB GPR/WPR imaging systems make various types of applications possible, including applications for locating underground gas leaks, locating avalanche survivors, locating "objects" underground and inside walls and locating defects in structures such as roads. They are operated by qualified professionals.

These systems do not have the purpose of radio communications. The planned use for this type of systems excludes radiation into open space, which must be totally avoided.
UWB GPR systems must radiate directly in a downward direction towards the ground, while UWB WPR must radiate directly towards a "wall".

UWB GPR/WPR systems will be subject to a licensing regime to be defined by ICP-ANACOM.

For the purpose of Decision ECC/DEC/(06)08, "undesired emissions" are defined as those emissions radiated in all directions above the ground from the GPR/WPR equipment, including direct emissions from the housing/structure of the equipment and emissions reflected or passing through the media under inspection.

Maximum mean and peak power densities of any undesired emission emanating from GPR/WPR imaging systems may not exceed the limits set out in **Tables 5.2.1** and **5.2.2**, respectively. The mean power density shall be determined by formulas (1) or (2) illustrated in Annex 1 to Decision ECC/DEC/(06)08 and the peak values shall be measured according to the ETSI EN 302 066-1 standard.

Maximum mean power densities of any "undesired emission" emanating from GPR/WPR imaging systems	
Frequency Band (GHz)	**Maximum mean value of e.i.r.p. density (dBm/MHz)**
Below 230	- 65.0
230 to 1000	- 60.0
1000 to 1600	-65.0[66]
1600 to 3400	- 51.3
3400 to 5000	- 41.3
5000 to 6000	- 51.3
Above 6000	- 65.0

Table 5.2.1: Maximum mean power densities of any "undesired emission" emanating from GPR/WPR imaging systems

Maximum power densities of any "undesired emission" emanating from GPR/WPR imaging systems	
Frequency Band (GHz)	**Maximum peak value of power density**
30 to 230	- 44.5 dBm/120kHz (e.m.r.p.)
> 230 to 1000	- 37.5 dBm/120kHz (e.m.r.p.)
> 1000 to 18000	- 30 dBm/MHz (e.i.r.p.)

Table 5.2.2: Maximum power densities of any "undesired emission" emanating from GPR/WPR imaging systems

Such equipment must comply with the conditions established in Decision ECC/DEC/(06)08 on the conditions for use of the radio spectrum by (GPR/WPR) imaging systems.

[66] Further to the maximum mean e.i.r.p. densities given in the above table, in the RNSS bands, 1164 – 1215 MHz and 1559 – 1610 MHz, a maximum mean e.i.r.p. values is applicable of
– 75 dBm/kHz where spectral lines exist in these bands.

b) BMA Equipment

UWB BMA equipment makes various types of applications possible, including applications for locations “objects” such as cables and electrical wires inside “walls” and for determining the thickness of walls. These systems do not have the purpose of radio communications.

UWB BMA equipment is exempt from radio licensing.

For the purpose of Decision ECC/DEC/(07)01, “undesired emissions” are defined as those emissions radiated in all directions from the BMA equipment, including direct emissions of the equipment and emissions reflected or passing through the media under inspection.

Maximum mean and peak power densities of any undesired emission emanating from UWB GPR/WPR imaging systems may not exceed the limits set out in **Table 5.2.3**. In addition the TRP spectral density has to be 5 dB below the maximum mean spectral density e.i.r.p. value set out in **Table 5.2.3**.

Maximum mean and peak power densities of any "undesired emission" emanating from BMA imaging systems		
Frequency Band (GHz) (GHz)	**Maximum mean value of e.i.r.p. spectral density (dBm/MHz)**	**Maximum peak e.i.r.p. value (measured at 50MHz) (dBm)**
Below 1.73[Note 1]	- 85	- 45
1.73 to 2.2	- 65	- 25
2.2 to 2.5	- 50	- 10
2.5 to 2.69 [Note 1]	- 65	- 25
2.69 to 2.7[Note 2]	- 55	- 15
2.7 to 3.4 [Note 1]	- 82	- 42
3.4 to 4.8	- 50	- 10
4.8 to 5 [Note 2]	- 55	- 15
5 to 8	- 50	- 10
8 to 8.5	- 70	- 30
Above 8.5	- 85	- 45

Table 5.2.3: Maximum mean and peak power densities of any "undesired emission" emanating from BMA imaging systems

Such equipment must comply with the conditions established in Decision ECC/DEC/(07)01 on the conditions for use of the radio spectrum by UWB BMA systems.

Annex 6

APPENDICES

6.1 DEFINITIONS

a) Concepts

Allotment (of a radio frequency or radio frequency channel):

Entry of a given frequency channel in a plan adopted by a competent conference, for use by one or more administrations for an Earth or space radiocommunication service in one or more identified countries or geographical areas and under specified conditions.

Allocation (of a frequency band):

Entry in the Frequency Allocation Table of a given frequency band for the purpose of its use by one or more Earth or space radiocommunication services, or by the radio astronomy service, under specified conditions. This term also applies to the frequency band referred to.

Primary allocation (of a frequency band):

The services which are entered in the Frequency Allocation Table in capital letters (e.g. FIXED) have primary status (see definition of secondary allocation).

Secondary allocation (of a frequency band):

The services which are entered in the Frequency Allocation Table in lowercase letters (e.g. Fixed) have secondary status. A station of a secondary service:

- may not cause harmful interference to stations of a primary service with frequencies which been already assigned or which are assigned at a later date.

- may not claim protection from harmful interference arising from stations of a primary service with frequencies which been already assigned or which are assigned at a later date.

- may claim protection from harmful interference arising from stations of the same service (secondary) or from other services with the same status, provided they were assigned the frequency on an earlier date.

Assignment (of a radio frequency or radio frequency channel):

Authorization given by an administration for a radio station to use a radio frequency or a radio frequency channel under specified conditions.

Radio or hertzian wave

Electromagnetic waves of a frequency below a 3000 GHz which propagate in space without artificial guide.

Emission:

Flow of energy produced in the form of radio waves from an emitting radio station.

Class of emission:

Set of emission characteristics, such as the modulation type of the principal carrier, the nature of the modulation signal, the type of transmitted information, and other characteristics. Each class is designated by a set of standardised symbols.

Emission in single lateral band:

Emission in modulation of amplitude containing only one of two lateral bands.

Assigned frequency band:

Frequency band which the emission of a determined station is authorised.

Assigned frequency:

Centre of the frequency band assigned to a station.

Characteristic frequency:

Frequency which is easily identified and measured in a given emission. A carrier frequency, for example, may be designated as characteristic frequency.

Reference frequency:

Frequency which has a fixed and well determined position in relation to the assigned frequency. The displacement of this frequency with respect to the assigned frequency has the same absolute value and sign that the displacement of the characteristic frequency has with respect to the centre of the frequency band occupied by the emission.

Frequency tolerance:

The maximum permissible displacement between the assigned frequency and the centre frequency of the frequency band occupied by an emission, or between the characteristic frequency of an emission and the reference frequency. Frequency tolerance is expressed in parts per 10^6 or in hertz.

Power:

Whenever the power of a radio emission is indicated, this must be expressed in one of the following ways, according to the class of emission, using the indicated signals:

Peak power (PX or pX)

Mean power (PY or pY)

Carrier power (PZ or pZ)

For the different emission classes, the relation between peak power, mean power and carrier power, in conditions of normal operation and in the absence of modulation, are indicated in ITU-R Recommendations, which may be used as a guide.

In formulas, the symbol p indicates the power in watts and the symbol P in decibels relative to a reference level.

Peak power (of a radio emission):

The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle at the crest of the modulation envelope taken under normal operating conditions

Mean power (of a radio transmitter):

The average power supplied to the antenna transmission line by a transmitter during an interval of time sufficiently long compared with the lowest frequency encountered in the modulation taken under normal operating conditions.

Carrier power (of a radio transmitter):

The average power supplied to the antenna transmission line by a transmitter during one radio frequency cycle taken under the condition of no modulation.

b) Radiocommunications services

Amateur Service (AM):

Radiocommunication service for individual training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.

Amateur Satellite Service (AM-S):

Radiocommunication service using space stations on Earth satellites for the same purposes as those of the amateur service.

Meteorological Aids Service (METAX):

Radiocommunication service used for meteorological, including hydrological, observation and exploration.

Special Service (ESP):

Radiocommunication service not otherwise defined, carried on exclusively for specific needs of general utility and not open to public correspondence.

Earth Exploration Satellite Service (EXP-S):

Radiocommunication service between Earth stations and one or more space stations, which may include links between space stations, in which:

- Information relating to the characteristics of the Earth and its natural phenomena is obtained from active sensors or passive sensors located on Earth satellites;
- Similar information is collected from airborne or Earth based platforms.
- Such information may be distributed to Earth stations within the same system.
- Platform interrogation may be included.

This service may also include feeder links necessary for its operation

Fixed Service (FIX):

Radiocommunication service between specific fixed points.

Fixed Satellite Service (FIX-S):

Radiocommunication service between Earth stations at given fixed positions, when one or more satellites are used; in some cases this service includes satellite-to-satellite links, which may also be operated by the inter-satellite service; the fixed-satellite service may also include feeder links for other space radiocommunication services.

Standard Frequency and Time Signal Service:

Radiocommunication service for scientific, technical and other purposes, providing the transmission of specified frequencies, time signals or both at the same time, of stated high precision, intended for general reception.

Standard Frequency and Time Signal Satellite Service:

Radiocommunication service using space stations on Earth satellites for the same purposes as those of the standard frequency and time signal service.

This service may also include feeder links necessary for its operation.

Inter-Satellite Service (INT-S):

Radiocommunication service providing links between artificial Earth satellites.

Space Research Service (INVES):

Radiocommunication service in which spacecraft or other objects in space are used for scientific or technical research purposes.

Meteorological Satellite Service:

Earth exploration satellite service for meteorological purposes.

Mobile Service (MOV):

Radiocommunication service between mobile and Earth stations, or between mobile stations (CV).

Mobile-Satellite Service (MV-S):

Radiocommunication Service between mobile Earth stations and one or several space stations, or among space stations that are used by this service, or among mobile Earth stations using one or several space stations.

This service may also include feeder links that are necessary for its operation.

Aeronautical Mobile Service (MA):

Mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which the survival craft stations may participate. Emergency position-indicating radio beacon stations may also participate in this service on designated sister and emergency frequencies.

Aeronautical Mobile-Satellite Service (MA-S):

Mobile-Satellite Service in which mobile Earth stations are located on aircrafts. Survival craft stations and emergency position-indicating radio beacon stations may also participate in this service.

Aeronautical Mobile Service (R)* (MAR):

Aeronautical mobile service reserved for communications relating to safety and regularity of flight, primarily along national or international civil air routes.

* (R): route.

Aeronautical Mobile-Satellite Service (R)* (MAR-S):

Aeronautical Mobile-Satellite service reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.

* (R): route.

Aeronautical Mobile Service (OR) (MAOR):**

Aeronautical mobile service reserved for communications relating to safety and regularity of flights, primarily along national or international civil air routes.

** (OR): off-route.

Aeronautical Mobile-Satellite Service (OR) (MAO-S):**

Aeronautical Mobile-Satellite service intended for communications, including those relating to flight coordination, primarily outside national and international civil air routes.

** (OR): off-route.

Maritime Mobile Service (MM):

Mobile service between coast stations and ship stations, or between ship stations or between associated on-board communication stations. Survival craft stations and emergency position-indicating radio beacon stations may also participate in this service.

Maritime Mobile-Satellite Service (MM-S):

Mobile-Satellite service in which mobile Earth stations are located on ships. Survival craft stations and emergency position-indicating radio beacon stations may also participate in this service.

Land Mobile Service (MT):

Mobile service between base stations and land mobile stations, or between land mobile stations.

Land Mobile-Satellite Service (MT-S):

Mobile-Satellite service which mobile Earth stations are located on land.

Ship Movement Service (ONS):

Safety service in the maritime mobile service other that the port operations service, between coast stations and ship stations, or between ship stations in which messages are restricted to data relating to the movement of ships.

Messages which are of a public correspondence nature are excluded from this service.

Space Operation Service (OE):

Radiocommunication service concerned exclusively with the operation of spacecrafts, in particular space tracking, space telemetry and space telecommand. These functions will normally be provided within the service in which the space station is operating.

Port Operations Service (OP):

Maritime Mobile Service in or near a port, between coast stations and ship stations, or between ship stations, in which messages are restricted to those relating to the operational handling, the movement and the safety of ships and, in emergency cases, to the safety of people.

Messages which are of a public correspondence nature are excluded from this service.

Radio Astronomy Service (RAST):

A service involving the use of radio astronomy.

Radio communication Service:

Service involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes

Unless otherwise stated, any radiocommunication service refers to terrestrial radiocommunication.

Radio Determination Service (RDT):

Radiocommunication service used for radio determination.

Radio determination Satellite Service (RDT-S):

Radiocommunication service used for radio determination involving the use of one or more space stations.

This service may also include feeder links for its own operation

Broadcasting Service (RAD):

Radiocommunication service in which the transmissions are intended for direct reception by the general public. This service may include sound transmissions, television transmission or other types of transmission (CS).

Broadcasting Satellite Service (RAD-S):

Radiocommunication service in which signals transmitted or retransmitted by space stations are intended for direct reception by the general public.

In the broadcasting satellite service, the phrase “direct reception” encompasses both individual and community reception.

Radiolocation Service (RLC):

Radio determination service for radiolocation.

Radiolocation Satellite Service (RLC-S):

Radio determination service for radiolocation.

This service may also include feeder links for its own operation.

Radionavigation Service (RV):

Radio determination service used for radionavigation.

Radionavigation Satellite Service (RV-S):

Radio determination satellite service used for radionavigation.

This service may also include feeder links for its own operation.

Aeronautical Radionavigation Service (RVA):

Radionavigation service intended for the benefit and for the safe operation of aircrafts.

Aeronautical Radionavigation Satellite Service (RVA-S):

Radionavigation satellite service in which Earth stations are located on aircrafts.

Maritime Radionavigation Service (RVM):

Radionavigation service intended for the benefit and for the safe operation of ships.

Maritime Radionavigation Satellite Service (RVM-S):

Radionavigation satellite service in which Earth stations are located on ships.

Safety Service (SEG):

Any radiocommunication service permanently or temporarily used for the safeguarding of human life and property (CV).

Adaptive system:

Radiocommunication service which adapts its characteristics according to the quality of the channel.

ISM (Industrial, Scientific and Medical) Applications:

Operation of equipment or appliances designed to generate and locally use radio energy for industrial, scientific, medical, domestic or similar purposes, excluding any telecommunication applications.

c) Aspects related to SRD - Short Range Devices

Dedicated antenna - movable antenna, indicated by the manufacturer, taking always as reference the maximum e.i.r.p. limit established.

External antenna - antenna not specifically designed for given stations type.

Integrated antenna - permanent fixed antenna designed to be an indispensable part of the equipment.

Railway applications - Specific applications for railways, including automatic vehicle identification and beacons (train control systems).

Model control - Equipment for controlling the movement of models in the air, on the ground and on or under water.

Movement detection and alert - Equipment for detecting movement and alarm equipment (low power radar systems for radio determination purposes: determination of position, velocity and/or other characteristics of an object, or the acquisition of information on those parameters)

Duty cycle - Ratio of the maximum time during which an equipment is active with one or more carriers, regarding a one-hour period.

Spectrum spreading - transmission technique in which the signal occupies a much larger bandwidth than the minimum necessary to send data.

Spectrum spreading with frequency hopping - spectrum spreading technique in which data is sent through several channels on a pseudo-random way.

Spectrum spreading with direct spectrum - spectrum spreading technique in which data is combined with a pseudo-random code.

Ultra low power active medical implants - Instruments, apparatus, appliance, material or other articles, whether used alone or in combination for: diagnosis, prevention, monitoring, treatment or alleviation of disease or injury, investigation, replacement or modification of anatomy or of a physiological process; control of conception.

Harmful interference - any interference which compromises the operation of a radionavigation service or any other safety services, or which seriously harms, obstructs, or repeatedly interrupts a radiocommunications service that operates according to the applying community or national law.

LBT - Listen Before Talk. Monitoring of the channel before transmission.

Effective monopole-radiated power (e.m.r.p.) - in a given direction - the power supplied to the antenna multiplied by its gain relative to a half-wave dipole in a given direction .

Equivalent isotropically radiated power (e.i.r.p.) in a given direction - the power supplied to the antenna multiplied by its gain regarding an isotropic antenna in a given direction (isotropic or absolute gain).

Average equivalent isotropically radiated power (e.i.r.p) - equivalent to average e.i.r.p. over a data transmission burst, when power control is set at its maximum.

RFID - Radio Frequency Identification Systems - automatic article identification, asset tracking, alarm systems, waste management, staff identification, access control, proximity sensors, anti-theft systems, tracking systems, data transfer for handheld equipment, wireless control systems.

Wireless audio systems - Cordless loudspeakers; cordless headphones; cordless headphones for portable use, such as portable CD readers, cassette or radio players; cordless headphones for use in vehicles, for example for radio or telephone use, etc; earphone monitoring for use in concerts or other type of stage production.

Inductive systems - Car immobilizers, animal identification, alarm systems, cable detection, waste management, staff identification, wireless voice links, access control, proximity sensors, anti-theft systems including RF anti-theft induction systems, data transfer for handheld equipment, automatic article identification, wireless control systems and automatic road tolls.

Road transport telematics systems - Transport-supporting communication systems (mobile data links between vehicles and between vehicles and the infrastructure).

***SRD* - Short Range Devices** - The term Short Range Devices (SRDs) encompasses radio transmitters that establish either unidirectional or bidirectional communications and with low probability of causing harmful interferences to other radio equipment. SRDs use either integral, dedicated or external antennas, and all modulation types may

be permitted, as long as they comply with the relevant standards. Given the wide range of services provided by this kind of equipment, no description can be exhaustive.

6.2 TABLE OF EMISSION FREQUENCY TOLERANCES

The different categories of emitting stations must respect the corresponding frequency tolerances specified in Appendix 2 of the ITU Radio Regulation, as set out below.

Table of emission frequency tolerances

1 Frequency tolerance is defined in article 1 of the RR and, except where indicated to the contrary, is expressed in parts per 10^6.

2 The power referred to for the different categories of stations is, except where indicated to the contrary, the peak power of a single lateral band transmitter and mean power of all other transmitters. The expression "power of a radio transmitter" is defined in article 1 of the RR.

3 For technical and operational reasons, certain categories of stations may require tolerances which are more rigorous than those given in the table.

Frequency Bands (excluding the lower limit, including the upper limit) and categories of stations	**Tolerances applicable to transmitters**
Band: **9 kHz a 535 kHz**	
1 *Fixed stations:*	
– from 9 kHz to 50 kHz	100
– from 50 kHz to 535 kHz	50
2 *Earth stations:*	
a) Shore stations	100 [1, 2]
b) Aeronautical stations	100
3 *Mobile stations:*	
a) Ship stations	200 [3, 4]
b) Ship distress transmitters	500 [5]
c) Stations on survival vessels	500
d) Aircraft stations	100
4 *Radio determination stations*	100
5 *Broadcasting stations*	10 Hz
Band : **535 kHz to 1 606.5 kHz (1 605 kHz in Region 2)**	
Broadcasting stations	10 Hz (WRC-03)
Band : **1 606.5 kHz (1 605 kHz in Region 2) to 4 000 kHz**	
1 *Fixed stations :*	
– power less than or equal to 200 W	100 [7, 8]
– power greater than 200 W	50 [7, 8]
2 *Earth stations :*	
– power less than or equal to 200 W	100 [1, 2, 7, 9, 10]
– power greater than 200 W	50 [1, 2, 7, 9, 10]

Frequency Bands (excluding the lower limit, including the upper limit) and categories of stations	Tolerances applicable to transmitters
Band : **1 606.5 kHz (1 605 kHz in Region 2) to 4 000 kHz** *(cont.)*	
3 *Mobile stations:*	
a) Ship stations	40 Hz [3, 4, 12]
b) Stations on survival vessels	100
c) Radio-beacon stations for locating accidents	100
d) Aircraft stations	100 [10]
e) Land mobile stations	50 [13]
4 *Radio determination stations :*	
– power less than or equal to 200 W	20 [14]
– power greater than 200 W	10 [14]
5 *Broadcasting stations*	10 Hz [15]
Band : **4 MHz to 29.7 MHz**	
1 *Fixed stations :*	
a) Transmitters in single lateral band and independent lateral band:	50 Hz
– power less than or equal to 500 W	20 Hz
– power greater than 500 W	10 Hz
b) F1B class emissions	
c) Other emission classes:	20
– power less than or equal to 500 W	10
– power greater than 500 W	
2 *Earth stations :*	
a) Shore stations	20 Hz [1, 2, 16]
b) Aeronautical stations :	
– power less than or equal to 500 W	100 [10]
– power greater than 500 W	50 [10]
c) Base stations	20 [7]
3 *Mobile stations:*	
a) Ship stations :	
1) A1A class emissions	10
2) Emissions other than A1A class emissions	50 Hz [3, 4, 19]
b) Stations on survival vessels	50
c) Aircraft stations	100 [10]
d) Land mobile stations	40 [20]
4 *Broadcasting stations*	10 Hz [15, 21]
5 *Space stations*	20
6 *Earth stations*	20

Frequency Bands (excluding the lower limit, including the upper limit) and categories of stations	**Tolerances applicable to transmitters**
Band : **29.7 MHz to 100 MHz**	
1 *Fixed stations :*	
– power less than or equal to 50 W	30
– power greater than 50 W	20
2 *Earth stations*	20
3 *Mobile stations*	20 [22]
4 *Radio determination stations*	50
5 *Broadcasting stations (non television)*	2 000 Hz [23]
6 *Broadcasting stations (television, sound and image)*	500 Hz [24, 25]
7 *Space stations*	20
8 *Earth stations*	20
Band : **100 MHz to 470 MHz**	
1 *Fixed stations:*	
– power less than or equal to 50 W	20 [26]
– power greater than 50 W	10
2 *Earth stations:*	
a) Shore stations	10
b) Aeronautical stations	20 [28]
c) Base stations :	
– in 100-235 MHz band	15 [29]
– in 235-401 MHz band	7 [29]
– in 401-470 MHz band	5 [29]
3 *Mobile stations :*	
a) Ship stations and Stations on survival vessels	
– in 156-174 MHz band	10
– outside 156-174 MHz band	50 [31]
b) Aircraft stations	30 [28]
c) Land mobile stations :	
– in 100-235 MHz band	15 [29]
– in 235-401 MHz band	7 [29, 32]
– in 401-470 MHz band	5 [29, 32]
4 *Radio determination stations*	50 [33]
5 *Broadcasting stations (non television)*	2 000 Hz [23]
6 *Broadcasting stations (television, sound and image)*	500 Hz [24, 25]
7 *Space stations*	20
8 *Earth stations*	20

Frequency Bands (excluding the lower limit, including the upper limit) and categories of stations	Tolerances applicable to transmitters
Band : **470 MHz to 2 450 MHz**	
1 *Fixed stations :*	
– power less than or equal to 100 W	100
– power greater than 100 W	50
2 *Earth stations*	20 [36]
3 *Mobile stations*	20 [36]
4 *Radio determination stations*	500 [33]
5 *Broadcasting stations (non television)*	100
6 *Broadcasting stations (television, sound and image)* in 470 MHz to 960 MHz band	500 Hz [24, 25]
7 *Space stations*	20
8 *Earth stations*	20
Band : **2 450 MHz to 10 500 MHz**	
1 *Fixed stations:*	
– power less than or equal to 100 W	200
– power greater than 100 W	50
2 *Earth stations*	100
3 *Mobile stations*	100
4 *Radio determination stations*	1 250 [33]
5 *Space stations*	50
6 *Earth stations*	50
Band : **10.5 GHz to 40 GHz**	
1 *Fixed stations*	300
2 *Radio determination stations*	5 000 [33]
3 *Broadcasting stations*	100
4 *Space stations*	100
5 *Earth stations*	100

Notes to table of emission frequency tolerances

1 For shore station transmitters used for telegraphy with direct printing or data transmission, tolerance is:
- 5 Hz where keyed by phase variation in narrowband;
- 15 Hz where keyed by frequency variation for transmitters in use or installed prior to 2 January 1992;
- 10 Hz where keyed by frequency variation for transmitters installed subsequent to 2 January 1992;

2 For shore station transmitters used for digital selective calling, tolerance is 10 Hz. (WRC-03)

3 For ship station transmitters used for telegraphy with direct printing or data transmission, tolerance is:
- 5 Hz where keyed by phase variation in narrowband;
- 40 Hz where keyed by frequency variation for transmitters in use or installed prior to 2 January 1992;
- 10 Hz where keyed by frequency variation for transmitters installed subsequent to 2 January 1992.

4 For ship station transmitters used for digital selective calling, tolerance is 10 Hz z. (WRC-03)

5 If the emergency transmitter is used as a backup transmitter to substitute the principal transmitter if needed, the tolerance for ship stations is applicable.

6 (SUP - WRC-03)

7 For radiotelephony transmitters in single lateral band except for those of shore stations, tolerance is:
- 50 Hz in the 1 606.5 (1 605 in Region 2) -4 000 kHz and 4-29.7 MHz bands for peak power less than or equal to 200 W and 500 W, respectively;
- 20 Hz in the 1 606.5 (1 605 in Region 2) -4 000 kHz and 4-29.7 MHz bands for peak power greater than 200 W and 500 W, respectively

8 For radiotelephony transmitters keyed by frequency variation, tolerance is 10 Hz.

9 For radiotelephony shore station transmitters in single lateral band, tolerance is 20 Hz.

10 For transmitters in single lateral band operating in the 1 606.5 (1 605 in Region 2) -4 000 kHz and 4-29.7 MHz frequency bands allocated with exclusivity to the aeronautical mobile service (R), tolerance for the carrier frequency (reference frequency) is:

a) for all aeronautical stations, 10 Hz;

b) for all aircraft stations in international service, 20 Hz;

c) for all aircraft stations exclusively in national service, 50 Hz*.

11 Not in use.

12 For A1A class emissions, tolerance is 50×10^{-6}.

13 For transmitters used for radiotelephony in single lateral band or for radiotelegraphy keyed by frequency variation, tolerance is 40 Hz.

14 For radio beacon transmitters in the 1 606.5 (1 605 in Region 2)-1 800 kHz band, tolerance is 50×10^{-6}.

* NOTE – to achieve maximum intelligibility, it is suggested that administrations encourage the reduction of this tolerance to 20 Hz.

[15] For A1A class emissions with carrier power less than or equal to 10 kW, tolerance is 20×10^{-6}, 15×10^{-6} and 10×10^{-6} in the 1 606.5 (1 605 in Region 2)-4 000 kHz, 4-5.95 MHz and 5.95-29.7 MHz bands, respectively.

[16] For A1A class emissions, tolerance is 10×10^{-6}.

[17] Not in use.

[18] Not in use.

[19] For ship station transmitters in 26 175-27 500 kHz band, installed on small vessels with power that is less than or equal to 5 W, operating in coastal or adjacent waters and using F3E and G3E class emissions, frequency tolerance is 40×10^{-6}. (WRC-03)

[20] For radiotelephony transmitters in single lateral band, tolerance is 50 Hz, except for transmitters operating in the 26 175-27 500 kHz band with peak power not exceeding 15 W, for which a basic tolerance is applied of 40×10^{-6} .

[21] It is suggested that administrations avoid carrier frequency differences of a few hertz, which cause similar degradation and fading. This can be avoided if the frequency tolerance is 0.1 Hz, a tolerance which will be suitable for emissions in single lateral band [*].

[22] For portable equipment not installed in vehicles with mean power not exceeding 5 W, tolerance is 40×10^{-6}.

[23] For transmitters with mean power less than or equal to 50 W, operating at a frequency below 108 MHz, a tolerance is applied of 3 000 Hz.

[24] In the case of television stations:

– with peak image power less than or equal to 50 W, in the 29.7-100 MHz band;

– with peak image power less than or equal to 100 W, in the 100-960 MHz band;

and which receive their emissions from other television stations or which serve small isolated communities, it may not be possible to maintain this tolerance. For such stations the tolerance is 2 000 Hz.

For stations with peak image power less than or equal to 1 W this tolerance may be further relaxed to:
– 5 kHz in the 100-470 MHz band;
– 10 kHz in the 470-960 MHz band.

[25] For transmitters which use the M (NTSC) system, tolerance is 1 000 Hz. However, for low power transmitters which use this system, Note 24 applies.

[26] For radio-relay link systems with multi-hop which use direct frequency conversion, tolerance is 30×10^{-6}.

[27] Not in use.

[28] For channel spacing of 50 kHz tolerance is 50×10^{-6}.

[29] These tolerances apply only to channel spacing equal to or greater than 20 kHz.

[*] NOTE – The single lateral band system adopted for frequencies allocated on an exclusive basis to the broadcasting in decametric waves do not require a frequency tolerance of less than 10 Hz. The degradation referred to above occurs when the relation between the useful signal/interfering signal is clearly less than the required protection relation. This observation is valid for emission in double lateral band and in single lateral band.

[30] Not in use.

[31] For transmitters used by onboard communication stations, a tolerance is applied of 5×10^{-6} .

[32] For portable equipment not installed in vehicles with mean power not exceeding 5 W, tolerance is 15×10^{-6}.

[33] In cases where specific frequencies are not allocated to radar stations, the width of the band occupied by the emissions of these stations will be maintained entirely within the band allocated to the service and the indicated tolerance does not apply.

[34] Not in use.

[35] Not in use.

[36] In applying this tolerance, administrations should take account of the most recent ITU-R Recommendations.

6.3 ACRONYMS

AES - Aircraft Earth Stations

AIS - Automatic Identification System

AM - Amateur Service

AMS - Amateur Satellite Service

BMA - Building Material Analysis

BWA - Broadband Wireless Access

CB - Citizen Band

CDMA - Code Division Multiple Access

CEPT - Conference of European Postal and Telecommunications Administrations

COSPAS - Space System for the Search of Vessels in Distress (''COsmicheskaya Sistyema Poiska Avariynich Sudov'',)

CT0; CT1 - Cordless telephones

DEC - Decision

DCS 1800 - Digital Cellular Telecommunications Systems in the 1800 MHz band, also known as GSM 1800

DECCA - LF Hyperbolic Radionavigation System

DECT - Digital European Cordless Telecommunication System

DME - UHF Distance Measuring Equipment

DMO - Direct Mode Operation

DSC - Selective Digital Calling

DVB-T	-	Terrestrial Digital Video Broadcasting system
ECA	-	European Common Allocation table
ECC	-	Electronic Communications Committee
ENG	-	Electronic News Gathering
ENG/OB	-	Electronic News Gathering / Outside Broadcasting
ERC	-	European Radiocommunications Committee
ERO	-	European Radiocommunications Office
ESP	-	Special Service
EUTELSAT	-	EUropean TELecommunications SATellite Organisation
EUTELTRACS	-	Land mobile satellite data communications system (EUTELsat Transport RAnging and Communication Services)
EXP-S	-	Earth Exploration Satellite Service
FIX	-	Fixed Service
FIX-S	-	Fixed – Satellite Service
FPH	-	Standard Frequency and Time Signal Service
FPH-S	-	Standard Frequency and Time Signal Satellite Service
FWA	-	Fixed Wireless Access
GE-75	-	Regional Administrative LF/MF Broadcasting Conference (Regions 1 and 3) - Geneva, 1975
GE-84	-	Regional Administrative Radio Conference for planning VHF Sound Broadcasting (Region 1 and part of Region 3) - Geneva, 1984
GE-85	-	(Radio beacons) Regional Administrative Radio Conference for planning maritime radionavigation (radio beacons) in the European maritime area - Geneva, 1985

GE-85	-	Regional Administrative Radio Conference for planning MF maritime mobile service and aeronautical radionavigation (Region 1) - Geneva, 1985
GMDSS	-	Global Maritime Distress and Safety System
GMPCS	-	Global Mobile Personal Communications by Satellite
GPR/WPR	-	Ground- and Wall- Probing Radar
GPS	-	Global Positioning System
GSM	-	Global System for Mobile Communications
GSO	-	Geostationary Satellite Orbit
HAPS	-	High Altitude Platform Stations
HDFSS	-	High Density Fixed-Satellite Service
HDTV	-	High Definition TeleVision
HIPERLAN	-	HIgh PErformance Radio Local Area Networks
HRPT	-	High Resolution Picture Transmission
ICAO	-	International Civil Aviation Organisation
ILS	-	Instrument Landing System
IMT-2000	-	International Mobile Telecommunications - 2000
INMARSAT	-	INternational MARitime SATellite Organisation
INTELSAT	-	INternational TELecommunication SATellite Organisation
INT-S	-	Inter-Satellite Service
INVES	-	Space Research Service
ISM	-	Industrial, Scientific and Medical applications
ITS	-	Intelligent Transport Systems

LBT - Listen Before Talk

LDC - Low Duty Cycle

LORAN-C - LOng RAnge Navigation system

LRPT - Low Resolution Picture Transmission

MA - Aeronautical Mobile Service

MA-S - Aeronautical Mobile-Satellite Service

MAO-S **-** Aeronautical Mobile-Satellite Service (Off-route)

MCA - Mobile Communications on Aircraft

METAX - Meteorological Aids Service

MLS - Microwave Landing System

MM - Maritime Mobile Service

MM-S - Maritime Mobile-Satellite Service

MMDS - Multichannel multipoint distribution service

MOV - Mobile Service

MSI - Maritime Safety Service

MT - Land Mobile Service

MT-S - Land Mobile- Satellite Service

MVDS - Multipoint Video Distribution System

MV-S - Mobile- Satellite Service

MWS - Multimedia Wireless Systems

NAVTEX - International NAVTEX System

NBDP - Telegraph by direct printing in narrowband

NDB - Non-Directional radio Beacon

NGSO	-	Non-Geostationary Satellite Orbit
OE	-	Special Operations
OMEGA	-	VLF Hyperbolic Radionavigation System
ONS	-	Ship Movement Service
OP	-	Special Operations
PAMR	-	Public Access Mobile Radio
E.R.P.	-	Effective Radiated Power
E.R.I.P	-	Equivalent isotropically radiated power
PMP	-	Point-to-MultiPoint
PMR	-	Professional Mobile Radio, Private Mobile Radio
RAD	-	Broadcasting Service
RAD-S	-	Satellite Broadcasting Service
RAST	-	Radio Astronomy Service
RAV	-	Aeronautical Radionavigation Service
RAV-S	-	Aeronautical Radionavigation Satellite Service
RDT	-	Radio Determination Service
RDT-S	-	Radio Determination Satellite Service
RDTV	-	Analogue Television Broadcasting Service
RFID	-	Radio Frequency IDentification devices
RLAN	-	Radio Local Area Network
RLC	-	Radiolocation Service
RLC-S	-	Radiolocation Satellite Service
RNSS	-	Radionavigation Satellite Service

RTI	-	Road Transport Information Systems
RTTT	-	Road Transport Telematic systems
RV	-	Radionavigation Service
RVA	-	Aeronautical Radionavigation Service
RVA-S	-	Aeronautical Radionavigation Satellite Service
RVM	-	Maritime Radionavigation Service
RVM-S	-	Maritime Radionavigation Satellite Service
SAP/SAB	-	Services Ancillary to Programming / Services Ancillary to Broadcasting
SARSAT	-	Search And Rescue Satellite-Aided Tracking
SCP	-	Public National Radio Paging
SCPP	-	Private Radio Paging
S-DAB	-	Satellite - Digital Audio Broadcasting
SEG	-	Security Service
SIRESP	-	Integrated System for Portugal's Security and Emergency Networks
SIT	-	Satellite Interactive Terminal
SMM	-	Maritime Mobile Networks
SMRP	-	National Trunking Mobile System
SMT	-	Private Mobile Radio
SNG	-	Satellite News Gathering
SRD	-	Short Range Device
SRR	-	Short Range Radar
SSR	-	Secondary Surveillance Radar

ST-61	**-**	European Conference on broadcasting in metric and decimetric waves - Stockholm, 1961
STL	**-**	Studio Transmitter Links
SUT	-	Satellite User Terminal
TACAN	**-**	TACtical Air Navigation System
TCR	**-**	Tracking, Control and Ranging
T-DAB	**-**	Terrestrial Digital Audio Broadcasting
TETRA	**-**	TErrestrial Trunked RAdio
TFTS	**-**	Terrestrial Flight Telephone System
TRANSIT	**-**	Radionavigation-Satellite System
TRP	-	Total Radiated Power
ITU	-	International Telecommunication Union
ITU-R	-	International Telecommunication Union - Radiocommunication Sector
UMTS	-	Universal Mobile Telecommunications System
UWB	-	Ultra Wideband
VOR	-	VHF Omnidirectional Radio range
VSAT	-	Very Small Aperture Terminal
WARC-92	**-**	World Administrative Radiocommunications Conference charged with studying frequency allocations in certain parts of the spectrum - Torremolinos, 1992
WAS/RLAN	**-**	Wireless Access Systems/ Radio Local Area Network
WLAN	**-**	Wireless Local Area Network
WRC-95	**-**	Word Radiocommunications Conference - Geneva, 1995

WRC-97 **-** Word Radiocommunications Conference - Geneva, 1997

WRC-2000 - Word Radiocommunications Conference - Istanbul, 2000

WRC-2003 - Word Radiocommunications Conference - Geneva, 2003

WBDTS - Wide Band Data Transmission System

6.4 RELEVANT DOCUMENTS OF CEPT, ITU AND EU

CEPT Documents

CEPT/ECC Decisions

ECC/DEC/(07)02 - Decision on availability of frequency bands between 3400-3800 MHz for the harmonised implementation of BWA systems.

ECC/DEC/(07)01 - Decision on BMA devices using UWB technology.

ECC/DEC/(06)12 - Decision on the harmonised conditions for devices using Ultra-Wideband (UWB) technology with Low Duty Cycle (LDC) in the frequency band 3.4-4.8 GHz.

ECC/DEC/(06)08 - Decision on the conditions for use of the radio spectrum by Ground- and Wall- Probing Radar (GPR/WPR) imaging systems

ECC/DEC/(06)07 - Decision on the harmonised use of airborne GSM systems in the frequency bands 1710-1785 and 1805-1880 MHz.

ECC/DEC/(05)12 - Decision on harmonised frequencies, technical characteristics, exemption from individual licensing and free carriage and use of digital PMR 446 applications operating in the frequency band 446.1-446.2 MHz.

ECC/DEC/(05)05 - Decision on harmonised utilisation of spectrum for IMT-2000/UMTS systems operating within the band 2500-2690 MHz

ECC/DEC/(04)01 - Decision on SRDs for detecting avalanche victims (457 kHz).

ECC/DEC/(04)02 - Decision on non-specific SRDs in the 433.050-434.790 MHz band.

ECC/DEC/(04)03 - Decision on SRR in the 77-81 GHz band.

ECC/DEC/(04)06 - Decision on the introduction of PMR/PAMR broadband digital land mobile in the 400 MHz and 800/900 MHz bands.

ECC/DEC/(04)08 - Decision on harmonized frequency bands for wireless access systems including RLANs.

ECC/DEC/(04)10 - Decision on temporary introduction of SRR in the 24 GHz band.

ECC/DEC/(03)02 - Designation of the 1479.5-1492 MHz band for use by S-DAB systems.

ECC/DEC/(02)01 - Coordinated introduction of Road Transport Traffic Telematics (RTTT).

ECC/DEC/(02)04 - Terrestrial systems (fixed service/broadcasting service) and non-Co-ordinated Earth stations in the fixed satellite service and in the broadcasting satellite service (space-to-Earth) in the 40.5-42.5 GHz frequency band**.**

ECC/DEC/(02)05 - Designation and availability of frequency bands for railway purposes in the 876-880 MHz and 921-925 MHz bands

ECC/DEC/(02)06 - UMTS/IMT2000 in the 2500-2690 MHz frequency band.

ECC/DEC/(02)07 - Harmonized use of the 1670-1675/1800-1805 MHz band and withdrawal of ERC Decision ERC (92)01 on the TFTS.

CEPT/ERC Decisions

ERC/DEC/(01)02 - Non-specific SRDs in the 26.957-27.283 MHz frequency band

ERC/DEC/(01)03 - Non-specific SRDs in the 40.660-40.700 MHz frequency band

ERC/DEC/(01)07 - SRDs for WLANs in the 2400-2483.5 MHz frequency band

ERC/DEC/(01)08 - SRDs for movement detection and alert in the 2400-2483.5 frequency band.

ERC/DEC/(01)10 - SRDs for model control in the 29.995 MHz, 27.045 MHZ, 27.095 MHZ, 27.145 and 27.195 MHz frequency bands

ERC/DEC/(01)11 - SRDs for air M-model control in the 34.995-35.225 MHz frequency band.

ERC/DEC/(01)12 - SRDs for model control in the 40.665 MHz, 40.675 MHZ 40.685 MHz and 40.695 MHz frequency bands.

ERC/DEC/(01)16 - SRDs for inductive applications in the 26.957-27.283 MHz frequency band.

ERC/DEC/(01)17 - SRDs for medical implants in the 402-405 MHz frequency band.

ERC/DEC/(01)19 - DMO frequencies for emergency services.

ERC/DEC/(00)02 - 37.5-40.5 GHz frequency band for the fixed service and the fixed satellite service.

ERC/DEC/(99)15 - Decision on the 40.5-43.5 GHz harmonized frequency band for introduction of multimedia wireless systems (MWS) including Multipoint Video Distribution Systems (MVDS)

ERC/DEC/(98)25 - Decision on the harmonized frequency band to be designated for PMR 446.

ERC/DEC/(97)02 - Decision on the extended frequency bands to be used for the European GSM digital communications system.

ERC/DEC/(97)03 - Decision on the harmonised use of spectrum for satellite personal communications services (S-PCS) operating in the 1610-1626.5 MHz, 2483.5-2500 MHz, 1980-2010 MHz and 2170-2200 MHz frequency bands

ERC/DEC/(96)04 - Decision on frequency bands for the introduction of the trans-European trunked radio system (TETRA).

ERC/DEC/(95)03 - Decision on frequency bands to be designated reserve for the introduction of the DCS 1800 system.

ERC/DEC/(94)01 - Decision on frequency bands to be reserved for the co-ordinated introduction of the European GSM digital cellular land mobile communications system (GSM).

ERC/DEC/(94)03 - Decision on the frequency band to reserve for the co-ordinated introduction of the European Digital Cordless Telecommunications system (DECT).

CEPT/ECC Recommendations

ECC/REC/(05)08 - Frequency planning and frequency coordination for the GSM 900, GSM 1800, E-GSM and GSM-R land mobile systems (except direct mode operation (DMO) channels)

ECC/REC/(05)07 - Radio frequency channel arrangements for Fixed Service Systems operating in the bands 71 - 76 GHz and 81 - 86 GHz

ECC/REC 01-04 - MWS in the 40.5-43.5 GHz frequency band.

ECC/REC 02-06 - Digital Systems for fixed digital services operating in the frequency range 7125-8500 MHz synchrony band.

ECC/REC 05-05 - Anticipated access by the amateur service to the 7100-7200 kHz frequency band.

CEPT/ERC Recommendations

ERC/REC/(01)02 - Preferred channel arrangement for digital fixed service systems operating in the frequency band 31.8 - 33.4 GHz

ERC/REC 12-02 - Frequency planning for digital terrestrial fixed systems in the 12.75-13.25 GHz frequency band.

ERC/REC 12-03 - Frequency planning for digital terrestrial fixed systems in the 17.7-19.7 GHz frequency band.

ERC/REC 12-06 - Frequency planning for digital terrestrial fixed systems in the 10.7-11.7 GHz frequency band.

ERC/REC 12-07 - Frequency planning for digital terrestrial fixed systems in the 15.23-15.35 GHz frequency band.

ERC/REC 12-08 - Harmonized radio frequency channel planning and block allocations for low, medium and high capacity systems in the 3600-4200 MHz frequency band.

ERC/REC 12-09 - Harmonized radio frequency channel planning for fixed terrestrial digital systems operating in the 57-59 GHz frequency band.

ERC/REC 13-03 - 14.0 - 14.5 GHz band for VSAT and SNG.

ERC/REC 14-01 - Harmonized radio frequency planning in the 6425-7125 MHz band.

ERC/REC 14-02 - Radio-frequency channel arrangements for high, medium and low capacity digital Fixed Service systems operating in the band 6425 - 7125 MHz

ERC/REC 14-03 - Harmonised radio frequency channel arrangements for low and medium capacity systems in the band 3400 MHz to 3600 MHz

ERC/REC 25-10 - Frequencies for ENG/OB video links.

ERC/REC 62-01 - 135.7-137.8 KHz frequency band for amateur service

ERC/REC 70-03 - Short Range and Low Power devices (SRD).

CEPT Rec. T/R 12-01 - Frequency planning for digital and analogue fixed service in the 37-39.5 GHz band.

CEPT Rec. T/R 13-01 - Frequency planning for fixed service in the 1-3 GHz band.

CEPT Rec. T/R 13-02 - Frequency planning for fixed service in the 22-29.5 GHz band.

CEPT Rec. T/R 20-09 - PR27 equipment for the provision of voice in the 27 MHz frequency band.

CEPT Rec. T/R 22-02 - Frequencies for DECT systems.

CEPT Rec. T/R 22-06 - Harmonized frequency bands for HIPERLANS in the 5 GHz and 17 GHz bands.

ITU Documents

Recommendations

Rec. ITU-R F.385 - Frequency planning for low capacity analogue radio-relay systems operating in the 7 GHz band.

Rec. ITU-R F.386 - Frequency arrangements for radio-relay systems operating in the 8 GHz band.

Rec. ITU-R F.497 - Frequency arrangements for radio-relay systems operating in the 13 GHz band.

Rec. ITU-R F.595 - Frequency arrangements for radio-relay systems operating in the 18 GHz band.

Rec. ITU-R F.1110 - Adaptive radio systems for frequencies below about 30 GHz.

EU Documents

Decisions

2008/673/EC - Commission Decision of 13 August 2008 amending Decision 2005/928/EC on the harmonisation of the 169.4-169.8125 MHz frequency band in the Community.

.**2008/671/EC** - Commission Decision of 5 August 2008 on the harmonised use of radio spectrum in the 5 875-5 905 MHz frequency band for safety-related applications of Intelligent Transport Systems (ITS).

.**2008/626/EC** - Commission Decision of 30 June 2008 on the selection and authorisation of systems providing mobile satellite services (MSS)

2008/477/EC - Commission Decision of 13 June 2008 on the harmonisation of the 2 500-2 690 MHz frequency band for terrestrial systems capable of providing electronic communications services in the Community.

2008/432/EC - Commission Decision of 23 May 2008 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices.

.**2008/411/EC** - Commission Decision of 21 May 2008 on the harmonisation of the 3 400-3 800 MHz frequency band for terrestrial systems

capable of providing electronic communications services in the Community.

.**2008/294/EC** - Commission Decision of 7 April 2008 on harmonised conditions of spectrum use for the operation of mobile communication services on aircraft (MCA services) in the Community.

2007/344/EC - Commission Decision of 16 May 2007 on harmonised availability of information regarding spectrum use within the Community.

2007/131/EC - Commission Decision of 21 February 2007 on allowing the use of the radio spectrum for equipment using ultra-wideband technology in a harmonised manner in the Community.

2007/98/ EC - Commission Decision of 14 February 2007, on the harmonised use of radio spectrum in the 2 GHz frequency bands for the implementation of systems providing mobile satellite services.

2007/90/ EC - Commission Decision of February 2007 amending Decision 2005/513/EC on the harmonised use of radio spectrum in the 5 GHz frequency band for the implementation of Wireless Access Systems including Radio Local Area Networks (WAS/RLANs).

2006/804/ EC - Commission Decision of 23 November 2006, on harmonisation of the radio spectrum for radio frequency identification (RFID) devices operating in the ultra high frequency (UHF) band.

2006/771/ EC - Commission Decision of 9 November 2006, on harmonisation of the radio spectrum for use by short-range devices.

2005/928/EC - Commission Decision of 20 December 2005, on the harmonisation of the 169.4-169.8125 MHz frequency band in the Community.

2005/513/EC - Commission Decision of 11 July 2005 on the harmonized use of radio spectrum in the 5 GHz frequency band for the implementation of Wireless Access Systems including Radio Local Area Networks (WAS/RLANs).

2005/50/EC - Commission Decision of 17 January 2005, on the harmonization of the 24 GHz range radio spectrum band for the time-limited use by automotive short-range radar equipment in the Community.

2004/545/EC - Commission Decision of 8 July on the harmonisation of radio spectrum in the 79 GHz range for the use of automotive short-range radar equipment in the Community

6.5 SCOPE OF DVB-T USE

The scope of use of radio channels reserved for the terrestrial digital television broadcasting service in the A.R. of Azores and in Mainland Portugal are as follows:

- AUTONOMOUS REGION OF AZORES

Channel 47 - 678-686 MHz (Island of São Jorge)
Channel 48 - 686-694 MHz (Island of São Jorge)
Channel 49 - 694-702 MHz (Island of São Jorge)
Channel 56 - 750-758 MHz (Island of Pico)
Channel 57 - 758-766 MHz (Island of Pico)
Channel 58 - 766-774 MHz (Island of Pico)
Channel 61 - 790-798 MHz (Islands of S. Miguel and Graciosa)
Channel 62 - 798-806 MHz (Islands of S. Miguel and Graciosa)
Channel 63 - 806-814 MHz (Islands of S. Miguel and Graciosa)
Channel 64 - 814-822 MHz (Island of Faial)
Channel 65 - 822-830 MHz (Island of Faial)
Channel 66 - 830-838 MHz (Island of Faial)
Channel 67 - 838-846 MHz (Islands of Terceira, S. Maria, Flores and Corvo)
Channel 68 - 846-854 MHz (Islands of Terceira, S. Maria, Flores and Corvo)
Channel 69 - 854-862 MHz (Islands of Terceira, S. Maria, Flores and Corvo)

- TERRITÓRIO CONTINENTAL

Channel 60 - 782-790 MHz (entire territory)
Channel 65 - 822-830 MHz (Coastal zone as shown in the map of figure 3)
Channel 66 - 830-838 MHz (Coastal zone as shown in the map of figure 3)
Channel 67 - 838-846 MHz (entire territory)
Channel 68 - 846-854 MHz (Coastal zone as shown in the map of figure 3)
Channel 69 - 854-862 MHz (entire territory)

6.6 FIGURES

a) Inductive systems

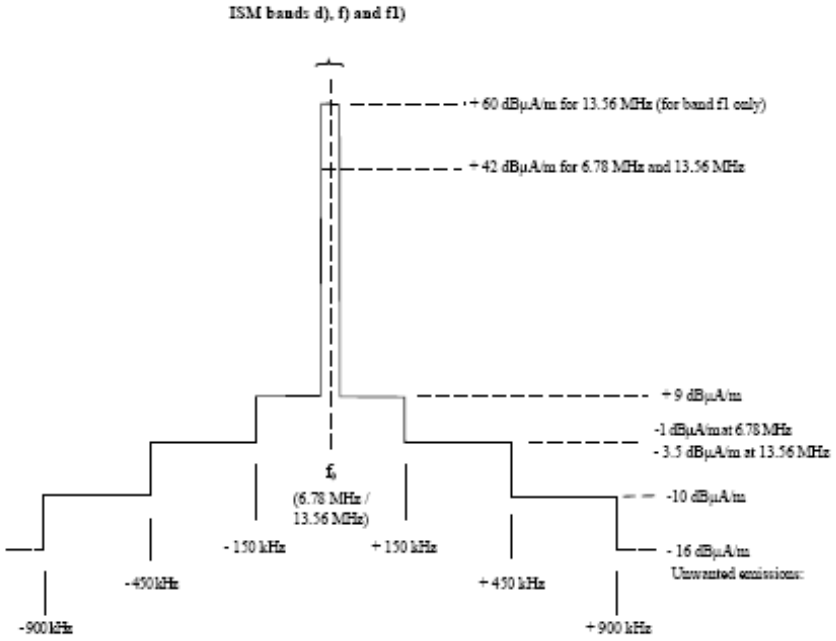

Figure 1 - **Field intensity limits 10 metres away for the frequency bands 6.765 - 6.795 MHz and 13.553 - 13.567 MHz**

b) GMPCS mobile Earth stations

Figure 2 - Marking of GMPCS stations

c) Coastal zone of mainland Portugal (DVB-T)

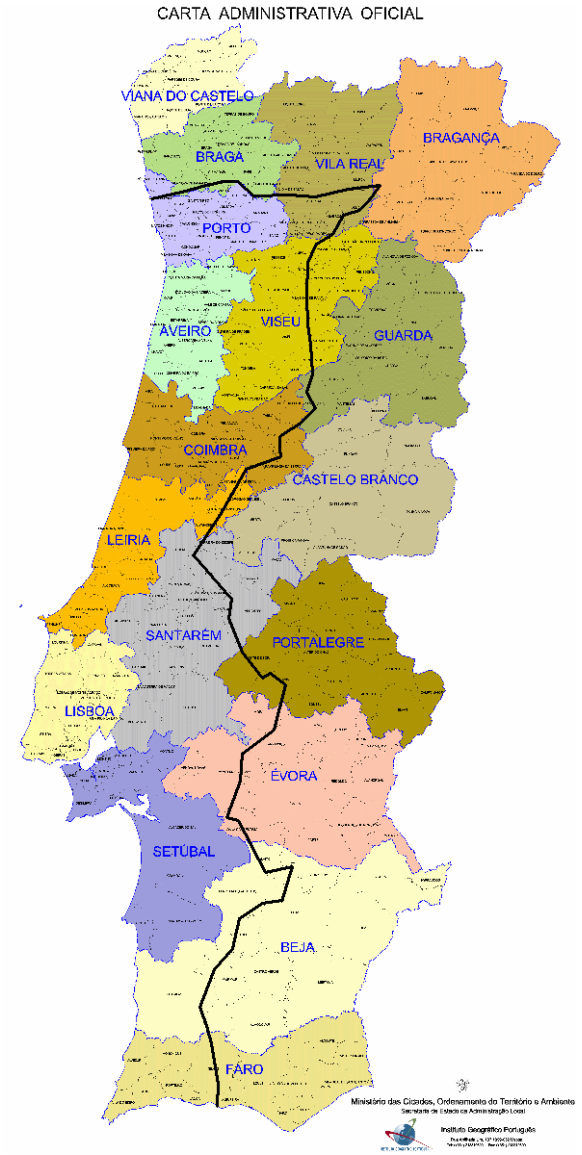

Figure 3 - Coastal zone of mainland Portugal (DVB-T)