

**ERC RECOMMENDATION 70-03 (Tromsø 1997 and subsequent amendments)**

**RELATING TO THE USE OF SHORT RANGE DEVICES (SRD)**

**Recommendation adopted by the Frequency Management, Regulatory Affairs and  
Spectrum Engineering Working Groups**

**Version of 30 May 2008.**

Please see the Document History at the end of this document for  
the revision status of individual annexes and appendices.

**PLEASE NOTE  
IMPLEMENTATION STATUS**

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## FOREWORD

This Recommendation sets out the general position on common spectrum allocations for Short Range Devices (SRDs) for countries within the CEPT. It is also intended that it can be used as a reference document by the CEPT member countries when preparing their national regulations in order to keep in line with the provisions of the R&TTE Directive.

In using this Recommendation it should be remembered that it represents the most widely accepted position within the CEPT but it should not be assumed that all allocations are available in all countries. An indication of where allocations are not available or where deviations from the CEPT position occur is to be found in Appendix 3.

It should also be remembered that the pattern of radio use is not static. It is continuously evolving to reflect the many changes that are taking place in the radio environment; particularly in the field of technology. Spectrum allocations must reflect these changes and the position set out in this Recommendation is therefore subject to continuous review.

Moreover, many administrations have designated additional frequencies or frequency bands for SRD applications on a national basis that do not conform to the CEPT position set out in this Recommendation.

For these reasons, those wishing to develop or market SRDs based on this Recommendation are advised to contact the relevant national administration to verify that the position set out herein still applies. Any inconsistencies between the national position stated in the implementation table in Appendix 1 of this Recommendation and those national positions stated elsewhere should be brought to the attention of the ERO ([Yurdal@ero.dk](mailto:Yurdal@ero.dk)) in order that these differences may be resolved.

When selecting parameters for new SRDs, which may have inherent safety of human life implications, manufacturers and users should pay particular attention to the potential for interference from other systems operating in the same or adjacent bands. Manufacturers should advise users on the risks of potential interference and its consequences.

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## INTRODUCTION

CEPT has adopted this Recommendation to deal with Short Range Devices and the European Telecommunications Standards Institute (ETSI) has now developed harmonised standards for the majority of these devices. Other standards or technical specifications will be applicable within the framework of the R&TTE Directive for placing on the market.

The term “Short Range Device” (SRD) is intended to cover the radio transmitters which provide either uni-directional or bi-directional communication and which have low capability of causing interference to other radio equipment. SRDs use either integral, dedicated or external antennas and all modes of modulation can be permitted subject to relevant standards. SRDs are not considered a “Radio Service” under the ITU Radio Regulations (Article 1).

This Recommendation describes the spectrum management requirements for SRDs relating to allocated frequency bands, maximum power levels, channel spacing and duty cycle.

For CEPT countries that have implemented the R&TTE Directive, Article 12 (CE-marking) and Article 7.2 on putting into service of radio equipment apply. Article 12 states that “any other marking may be affixed to the equipment provided that the visibility and legibility of the CE-marking is not hereby reduced” and Article 7.2 states that “member states may restrict the putting into service of radio equipment only for reasons related to the effective and appropriate use of the radio spectrum, avoidance of harmful interference or matters relating to public health.”

*“The CEPT has considered the use of SRD devices on board aircraft and it has concluded that, from the CEPT regulatory perspective, such use is allowed under the same conditions provided in the relevant Annex of Recommendation 70-03. For aviation safety aspects, the CEPT is not the right body to address this matter which remains the responsibility of aircraft manufacturers or aircraft owners who should consult with the relevant national or regional aviation bodies before the installation and use of such devices on board aircraft.”*

For Short Range Devices individual licenses are normally not required. Where licenses are required this is stated in the relevant Annex.

The following annexes define the regulatory parameters as well as additional information about harmonised standards, frequency issues and important technical parameters. Other technical parameters are indicated in the relevant standard.

Appendix 2 covers the relevant ERC Decisions and ETSI standards.

For countries having implemented the R&TTE Directive further details can be found on the relevant EC ([http://europa.eu.int/comm/enterprise/rtte/index\\_en.htm](http://europa.eu.int/comm/enterprise/rtte/index_en.htm)) and the ERO web sites ([www.ero.dk](http://www.ero.dk)).

Applications for certain short range devices within this recommendation are subject to EC Decisions including Decision 2006/771/EC and EU/EEA-EFTA Member States are obliged to implement the EC Decision in all these cases. (EEA-EFTA refers to those Member States of EFTA who participate in the EEA Agreement). These applications are identified by a footnote under “Additional Information” in the relevant Annex which also mentions any derogations that have been agreed. A list of relevant EC Decisions can be found in Appendix 2.

Member States of EU/EEA-EFTA may allow, at national level, equipment to operate under more permissive conditions than specified in the EC Decision if permitted by that EC Decision. However, in this case such equipment could not operate throughout the European Community without restrictions and would therefore be considered as ‘Class 2’ equipment under the classification in the 1999/5/EC (R&TTE) Directive.

“The European Conference of Postal and Telecommunications Administrations,

*considering*

- a) that SRDs in general operate in shared bands and are not permitted to cause harmful interference to radio services;
- b) that in general SRDs cannot claim protection from radio services;
- c) that due to the increasing interest in the use of SRDs for a growing number of applications it is necessary to harmonise frequencies and regulations for these devices;
- d) that there is a need to distinguish between different applications;
- e) that additional applications and associated annexes will be added as necessary;
- f) that for CEPT countries that have implemented the R&TTE Directive article 12 (CE marking) and article 7.2 on putting into service of radio equipment apply,
- g) that equipment marketed before the adoption of this Recommendation marked with the abbreviation CEPT LPD Y according to the abrogated CEPT Recommendation T/R 01-04 should be allowed continuation of free circulation and use
- h) that maintenance of Appendices 2 and 3 and also the related cross-references in the Annexes may be undertaken by the ERO based on information from Administrations,
- i) that information about placing SRD equipment on the market and its use can be obtained by contacting individual administrations, especially with regard to equipment operating in frequencies or frequency bands that may be designated for SRDs by administrations in addition to those covered in this Recommendation;
- j) that SRD equipment normally use either integral or dedicated antennas. In exceptional cases external antennas could be used which will be mentioned in the appropriate annex to this Recommendation;
- k) that for those countries implementing the provisions of this Recommendation, national restrictions in respect of the annexes can be found in Appendix 3;

*recommends*

- 1) that CEPT administrations implement the parameters in accordance with the indications mentioned in the annexes;
- 2) that technical parameter limits should not be exceeded by any function of the equipment;
- 3) that CEPT administrations should allow visitors from other countries to carry and use their equipment temporarily without any further formalities unless there are national restrictions as shown in Appendix 3.”

Note:

Please check the Office web site ( [www.ero.dk](http://www.ero.dk) ) for the up to date position on the implementation of this and other ECC/ERC recommendations.

## Annex 1 Non-specific Short Range Devices

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended primarily for Telemetry, Telecommand, Alarms and Data in general and other similar applications. Video applications should only be used above 2.4 GHz.

### Regulatory parameters related to Annex 1

	Frequency Band	Power / Magnetic Field	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
<b>a</b>	6765-6795 kHz	42 dBμA/m at 10m	No Restriction	No spacing		
<b>b</b>	13.553-13.567 MHz	42 dBμA/m at 10m	No Restriction	No spacing		
<b>c</b>	26.957-27.283 MHz	42 dBμA/m at 10m 10 mW e.r.p	No Restriction	No spacing	ERC/DEC/(01)02	
<b>d</b>	40.660-40.700 MHz	10 mW e.r.p.	No Restriction	No spacing	ERC/DEC/(01)03	
<b>e</b>	138.20-138.45 MHz	10 mW e.r.p.	< 1.0 %	No spacing		
<b>f</b>	433.050-434.790 MHz (note 4)	10 mW e.r.p.	< 10 %	No spacing	ECC/DEC/(04)02	
<b>f1</b>	433.050-434.790 MHz (note 4bis)	1 mW e.r.p. -13 dBm/10 kHz	up to 100%	No spacing	ECC/DEC/(04)02	Power density limited to -13 dBm/10 kHz for wideband modulation with a bandwidth greater than 250 kHz
<b>f2</b>	434.040-434.790 MHz (note 4bis)	10 mW e.r.p.	up to 100%	Up to 25 kHz	ECC/DEC/(04)02	
<b>g</b>	863-870 MHz (note 3, 4 and 6)	≤ 25 mW e.r.p.	≤ 0.1% or LBT (note 1 and 5)	≤ 100 kHz for 47 or more channels (note 2)		FHSS modulation
		≤ 25 mW e.r.p. (note 6) Power density : - 4.5 dBm/100 kHz (note 8)	≤ 0.1% or LBT (note 1, 5 and 6)	No spacing		DSSS and other wideband modulation other than FHSS
		≤ 25 mW e.r.p.	≤ 0.1% or LBT (note 1 and 5)	≤ 100 kHz, for 1 or more channels (note 2 and 7)		Narrow /wide-band modulation
<b>g1</b>	868.000-868.600 MHz (note 4)	≤ 25 mW e.r.p.	≤ 1% or LBT (note 1)	No spacing, for 1 or more channels (note 2)	ERC/DEC/(01)04	Narrow / wide-band modulation No channel spacing, however the whole stated frequency band may be used
<b>g2</b>	868.700-869.200 MHz (note 4)	≤ 25 mW e.r.p.	≤ 0.1% or LBT (note 1)	No spacing, for 1 or more channels (note 2)	ERC/DEC/(01)04	Narrow / wide-band modulation No channel spacing, however the whole stated frequency band may be used
<b>g3</b>	869.400-869.650 MHz (note 4)	≤ 500 mW e.r.p.	≤ 10% or LBT. (note 1)	25 kHz (for 1 or more channels)	ERC/DEC/(01)04	Narrow / wide-band modulation The whole stated frequency band may be used as 1 channel for high speed data transmission
<b>g4</b>	869.700-870.000 MHz (note 4bis)	≤ 5 mW e.r.p.	up to 100%	No spacing (for 1 or more channels)	ERC/DEC/(01)04	Narrow / wide-band modulation No channel spacing, however the whole stated frequency band may be used
<b>h</b>	2400.0-2483.5 MHz	10 mW e.i.r.p.	No Restriction	No spacing		
<b>i</b>	5725-5875 MHz	25 mW e.i.r.p.	No Restriction	No spacing	ERC/DEC/(01)06	
<b>j</b>	24.00-24.25 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
<b>k</b>	61.0-61.5 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
<b>l</b>	122-123 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
<b>m</b>	244-246 GHz	100 mW e.i.r.p.	No Restriction	No spacing		

- Note 1: For frequency agile devices the duty cycle limit applies to the total transmission unless LBT is used. For LBT devices without frequency agility, the duty cycle limit applies.
- Note 2: The preferred channel spacing is 100 kHz allowing for a subdivision into 50 kHz or 25 kHz.
- Note 3: Sub-bands for alarms are excluded (see ERC/REC 70-03 Annex 7).
- Note 4: The duty cycle, LBT or equivalent technique shall not be user dependent and shall therefore be guaranteed by appropriate technical means.
- Note 4bis: Audio applications should be excluded. Voice applications allowed with spectrum access technique such as LBT or equivalent technique, the transmitter shall include a power output sensor controlling the transmitter to a maximum transmit period of 1 minute.
- Note 5: Duty cycle may be increased to 1% if the band is limited to 865-868 MHz.
- Note 6: For other wide-band modulation than FHSS and DSSS with a bandwidth of 200 kHz to 3 MHz, duty cycle can be increased to 1% if the band is limited to 865-868 MHz and power to  $\leq 10$  mW e.r.p.
- Note 7: For other narrow-band modulation with a bandwidth of 50 kHz to 200 kHz, the band is limited to 865.5-867.5 MHz.
- Note 8: The power density can be increased to +6.2 dBm/100 kHz and +0.8 dBm/100 kHz, if the band of operation is limited to 865-868 MHz and 865-870 MHz respectively.

### ***Additional Information***

#### **Harmonised Standards**

EN 300 220 subbands c) to g4 )  
EN 300 330 subbands a) to c)  
EN 300 440 subbands h) i) and j)

#### **Technical parameters also referred to in the harmonised standard**

Listen before talk (LBT) with a preferred option of adaptive frequency agility (AFA) feature may be used instead of duty cycle. LBT is defined in EN 300 220.

#### **Frequency issues**

The bands in Annex 1 a - b - c - d f - f1 - f2 - h - i - j - k - l and m are also designated for industrial, scientific and medical (ISM) applications as defined in ITU Radio Regulations.

#### **Subband g)**

Certain channels may be occupied by RFID operating at higher powers (See Annex 11 for further details). To minimise the risk of interference from RFID, SRDs should use LBT with AFA or observe suitable separation distances. (In the high power RFID channels typically these may vary from 918 m (indoor) to 3.6 km (rural outdoor). In the remaining 2.2 MHz, where tags at -20 dBm e.r.p. occupy the spectrum, this may vary from 24 m (indoor) to 58 m (rural outdoor)).

The adjacent frequency band above 870 MHz has been designated for use by the high powered TETRA and other digital land mobile PMR/PAMR systems. Manufacturers should take this into account in the design of equipment and choice of power levels.

## Annex 2 Tracking, Tracing and Data Acquisition

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for a number of specific devices including –

- Detecting avalanche victims,
- Meter Reading
- Asset Tracking and Tracing

### Regulatory parameters related to Annex 2

	Frequency Band	Power / Magnetic field	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
a	457 kHz	7 dB $\mu$ A/m at 10 m	< 100%	Continuous wave (CW) – no modulation.	ECC/DEC/(04)01	Detection of avalanche victims
b	169.4-169.475 MHz	500 mW e.r.p.	< 10%	Max 50 kHz	ECC/DEC/(05)02	Meter Reading
c	169.4-169.475 MHz	500 mW e.r.p.	< 1%	Max 50 kHz	ECC/DEC/(05)02	Asset Tracking and Tracing

### Additional Information

#### Harmonised Standards

EN 300 718                      Subband a)  
EN 300 220                      Subband b) & c)

#### Frequency issues

No information

#### Technical parameters also referred to in the harmonised standard

No information

### Additional Information

#### Harmonised Standards

EN 300 718

#### Frequency issues

No information

#### Technical parameters also referred to in the harmonised standard

No information

## Annex 3 Wideband Data Transmission systems

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for Wideband Data Transmission Systems and Wireless Access Systems including Radio Local Area Networks (WAS/RLANs) (formerly known as Radio Local Area Networks (RLANs)) within the band 2400-2483.5 MHz and for Wireless Access Systems including Radio Local Area Networks (WAS/RLANs) within the bands 5150-5250 MHz, 5250-5350 MHz, 5470-5725 MHz and 17.1-17.3 GHz.

### Regulatory parameters related to Annex 3

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes	
a	2400.0-2483.5 MHz	100 mW e.i.r.p.	No Restriction	No spacing	ERC/DEC/(01)07	For wide band modulations other than FHSS (e.g. DSSS, OFDM, ..), the maximum e.i.r.p. density is limited to 10 mW/1 MHz
b	5150 -5250 MHz	200 mW Max mean	No Restriction		ECC/DEC/(04)08	Restricted to indoor use. The maximum mean e.i.r.p. density shall be limited to 0.25 mW/25 kHz in any 25 kHz band.
c	5250 – 5350 MHz	200 mW Max mean	No Restriction		ECC/DEC/(04)08	Restricted to indoor use. The maximum mean e.i.r.p. density shall be limited to 10 mW/MHz in any 1 MHz band.
d	5470 – 5725 MHz	1 W Max mean	No Restriction		ECC/DEC/(04)08	Indoor as well as outdoor use allowed. The maximum mean e.i.r.p. density shall be restricted to 50 mW/MHz in any 1 MHz band.
e	17.1 - 17.3 GHz	100 mW e.i.r.p.	No Restriction	No spacing		

### Additional Information

#### Harmonised Standards

EN 300 328 subband a)  
EN 301 893 subbands b), c) and d)  
subband e): t.b.d.

#### Frequency issues

Wireless Access Systems including Radio Local Area Networks (WAS/RLANs) within the bands 5250-5350 MHz and 5470-5725 MHz shall only be allowed to operate when the mandatory features required in the ECC Decision (04)08 are implemented.

#### Technical parameters also referred to in the harmonised standard

The power level for band b, c and d refers to Maximum mean e.i.r.p. The mean e.i.r.p. refers to the highest power level of the transmitter power control range during the transmission burst if transmitter power control is implemented.

## Annex 4 Railway applications

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for applications specifically intended for use on railways.

The subbands below are intended for the following applications:

- band a) Automatic vehicle identification systems for railways including Automatic Vehicle Identification for Railways (AVI)
- band b) Balise tele-powering and down-link (train to ground) systems including Eurobalise and activation of the Loop / Euroloop
- band c) Balise up-link (ground to train) systems including Eurobalise
- band d1) and d2) Loop up-link (ground to train) systems including Euroloop

### Regulatory parameters related to Annex 4

Frequency Band	Power / Magnetic field	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
<b>a</b> 2446-2454 MHz	500 mW e.i.r.p.	No Restriction			Transmitting only in presence of trains. 5 channels, each 1.5 MHz wide within the band 2446-2454 MHz
<b>b</b> 27.095 MHz	42 dB $\mu$ A/m at 10 m		No spacing		Tele-powering and Down-link signal for Balise / Eurobalise. May also be optionally used for the activation of the Loop / Euroloop.
<b>c</b> 4234 kHz	9 dB $\mu$ A/m at 10m	<1%	No spacing		Transmitting only on receipt of a Balise / Eurobalise tele-powering signal from a train.
<b>d1</b> 4516 kHz	7 dB $\mu$ A/m at 10 m	No Restriction	No spacing		Not intended for new applications, existing applications to be phased out by 2010.
<b>d2</b> 11.1-16.0 MHz	-7 dB $\mu$ A/m at 10m	No Restriction	No spacing		Maximum field strength specified in a bandwidth of 10 kHz, spatially averaged over any 200m length of the loop. Transmitting only in presence of trains. Spread Spectrum Signal, Code Length: 472 Chips

### Additional Information

#### Harmonised Standards

EN 300 761 subband a)  
EN 300 330 subbands b), c), d1)

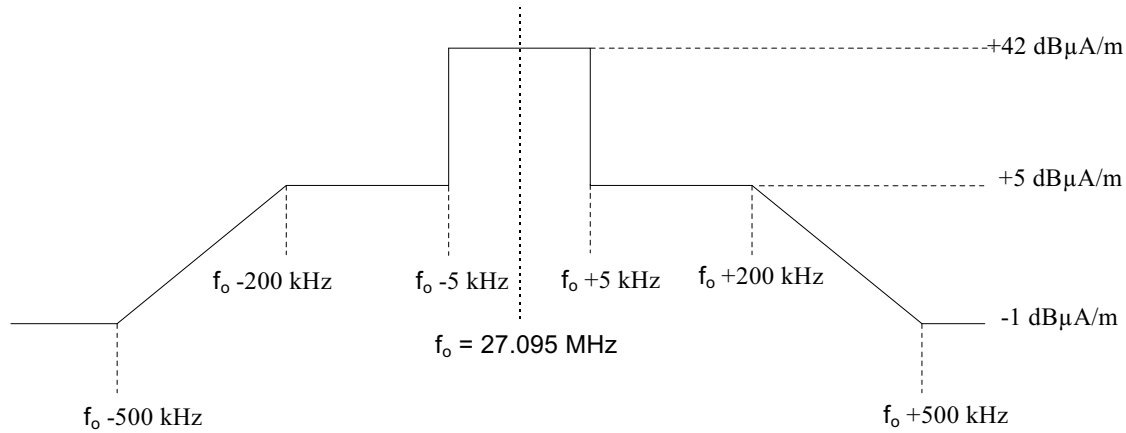
#### Frequency issues

No information

#### Technical parameters also referred to in the harmonised standard

The maximum allowed H-field for the Eurobalise Tele-powering and Down-link is defined in Figure 1 on the next page. The maximum allowed H-field for the Eurobalise Up-link is defined in Figure 2 and for the Euroloop Up-link is defined in Table 1 on the following pages.

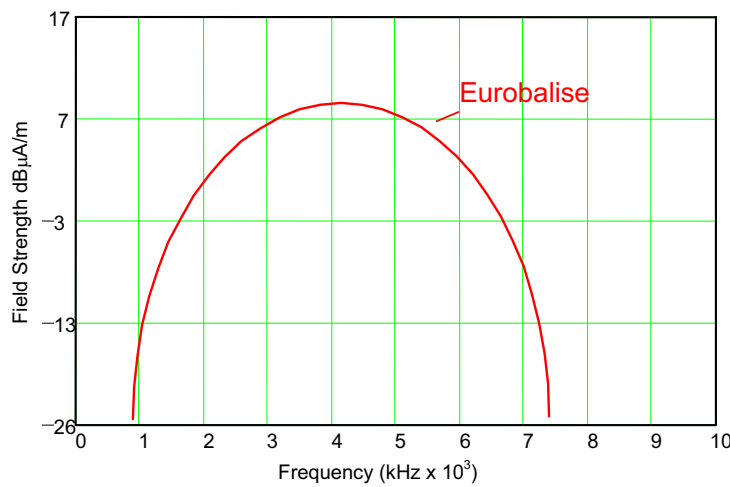
**Spectrum mask relating to Eurobalise Tele-powering and Down-link**



**Figure 1**

**Magnetic field limits at 10 metre measurement distance for the Balise / Eurobalise Tele-powering and Down-link signals**

**Spectrum mask relating Eurobalise Up-link**



**Figure 2**

**Magnetic field limits at 10 metre measurement distance in 10 kHz measurement bandwidth for the Balise / Eurobalise Up-link transmission**

**Spectrum Mask relating to Euroloop Up-link**

Frequency	Relative attenuation for the magnetic field strength
≤ 1 MHz	37 dB
7.3 MHz	23 dB
11.1 MHz	0 dB
16.0 MHz	0 dB
23.0 MHz	23 dB
≥ 30 MHz	35 dB

**Table 1**

**Figures defining the transmission mask of Loop / Euroloop Up-link signal**

## Annex 5 Road Transport and Traffic Telematics (RTTT)

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for Road Transport and Traffic Telematics (RTTT).

### Regulatory parameters related to Annex 5

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
a 5795-5805 MHz	2 W 8 W e.i.r.p. e.i.r.p.	No Restriction		ECC/DEC/(02)01	
b 5805-5815 MHz	2 W 8 W e.i.r.p. e.i.r.p.	No Restriction		ECC/DEC/(02)01	Individual license required
c 63-64 GHz			No spacing	ECC/DEC/(02)01	Vehicle to vehicle and road to vehicle systems. Power level to be determined
d 76-77 GHz	55 dBm peak	No Restriction	No spacing	ECC/DEC/(02)01	Power level 55 dBm peak power e.i.r.p. - 50 dBm average power - 23.5 dBm average power for puls radar only.  Vehicle and infrastructure radar systems

### Additional Information

#### Harmonised Standards

EN 300 674	subbands a) and b)
EN 301 091	subband d)
ES 200 674	subbands a) and b)

#### Frequency issues

The frequency band a) is intended for road to vehicle systems, particularly (but not exclusively) road toll systems.

The frequency band a) and b) are recommended for 5 MHz channel spacing systems with the frequencies: 5797.5 MHz, 5802.5 MHz, 5807.5 MHz and 5812.5 MHz. For 10 MHz channel spacing systems 5800 MHz and 5810 MHz.

5805 - 5815 MHz on a national basis for multi-lane road junctions, particularly, but not exclusively road toll systems.

The use of 8 W e.i.r.p. allows for 1 Mbit/s in accordance with ETSI standard ES 200 674-1.

2W e.i.r.p. allows for 500 kbit/s downlink and 250 kbit/s uplink in accordance with EN 300 674-1 and for low data rates (31 kbit/s) in accordance with EN 300 674-2.

#### Technical parameters also referred to in the harmonised standard

No information

## Annex 6 Radiodetermination applications

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for SRD radiodetermination applications including SRD radar systems, Equipment for Detecting Movement and Alert. Radiodetermination is defined as the determination of the position, velocity and/or other characteristics of an object, or the obtaining of information relating to these parameters, by means of the propagation properties of radio waves.

### Regulatory parameters related to Annex 6

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
<b>a</b> 2400.0-2483.5 MHz	25 mW	e.i.r.p.	No Restriction	No spacing	ERC/DEC/(01)08
<b>b</b> 9200-9500 MHz	25 mW	e.i.r.p.	No Restriction	No spacing	
<b>c</b> 9500-9975 MHz	25 mW	e.i.r.p.	No Restriction	No spacing	
<b>d</b> 10.5-10.6 GHz	500 mW	e.i.r.p.	No Restriction	No spacing	
<b>e</b> 13.4-14.0 GHz	25 mW	e.i.r.p.	No Restriction	No spacing	
<b>f</b> 24.05-24.25 GHz	100 mW	e.i.r.p.	No Restriction	No spacing	
<b>g</b> 4.5-7.0 GHz	-41.3 dBm/MHz	e.i.r.p.	No Restriction	No spacing	Tank Level Probing Radar (TLPR)
<b>h</b> 8.5-10.6 GHz	-41.3 dBm/MHz	e.i.r.p.	No Restriction	No Spacing	Tank Level Probing Radar (TLPR)
<b>i</b> 24.05-27.00 GHz	-41.3 dBm/MHz	e.i.r.p.	No Restriction	No Spacing	Tank Level Probing Radar (TLPR)
<b>j</b> 57-64 GHz	-41.3 dBm/MHz	e.i.r.p.	No Restriction	No Spacing	Tank Level Probing Radar (TLPR)
<b>k</b> 75-85 GHz	-41.3 dBm/MHz	e.i.r.p.	No Restriction	No Spacing	Tank Level Probing Radar (TLPR)
<b>l</b> 17.1-17.3 GHz	+26 dBm	e.i.r.p.	DAA	No Spacing	Ground Based Synthetic Aperture Radar (GBSAR) (note 1)

Note 1: Specific requirements for the radar antenna pattern and for the implementation of Detect And Avoid (DAA) technique apply as described in EN 300 440 for Ground Based Synthetic Aperture Radar (GBSAR) systems

### Additional Information

#### Harmonised Standards

EN 300 440 sub-bands a), b), c), d), e), f), l)

EN 302 372 (for TLPR) sub-bands g), h), i), j), k)

#### Frequency issues

Bands a), b), c), d), e) and f)

Some countries may allow equipment with transmitter powers between 25 mW and 500 mW in which case an individual licence or a general licence may be required.

#### Technical parameters also referred to in the harmonised standard

Bands g), h), i), j) and k) are to be used by TLPR equipment only.

The power limit is the radiated emission outside an enclosed tank structure.

The maximum emission inside an enclosed tank structure is given in EN 302 372.

Band h)

For the frequency range 10.6 GHz to 10.7 GHz, the radiated unwanted radiated emissions outside the tank enclosure shall be less than -60 dBm/MHz e.i.r.p.

## Annex 7 Alarms

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended exclusively for alarm systems including social alarms and alarms for security and safety.

The subbands below are intended for the following applications:

- Alarms in general band a), b) ,c) and e)
- Social Alarms band d), f) and g)

### *Regulatory parameters related to Annex 7*

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
a 868.6-868.7 MHz	10 mW	e.r.p. < 1.0 %	25 kHz	ERC/DEC/(01)09	The whole frequency band may also be used as 1 channel for high speed data transmissions
b 869.250-869.300 MHz	10 mW	e.r.p. < 0.1 %	25 kHz	ERC/DEC/(01)09	
c 869.650-869.700 MHz	25 mW	e.r.p. < 10 %	25 kHz	ERC/DEC/(01)09	
d 869.200-869.250 MHz	10 mW	e.r.p. < 0.1 %	25 kHz		Social Alarms
e 869.300-869.400 MHz	10 mW	e.r.p. < 1.0 %	25 kHz		
f 169.4750-169.4875 MHz	10 mW	e.r.p. < 0.1 %	12.5 kHz	ECC/DEC/(05)02	Social Alarms (exclusive use)
g 169.5875-169.6000 MHz	10 mW	e.r.p. < 0.1 %	12.5 kHz	ECC/DEC/(05)02	Social Alarms (exclusive use)

### *Additional Information*

#### Harmonised Standards

EN 300 220

#### Frequency issues

No information

#### Technical parameters also referred to in the harmonised standard

No information

## Annex 8      Model Control

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for the application of model control equipment, which is solely for the purpose of controlling the movement of the model, in the air, on land or over or under the water surface. Although the bands are not harmonised, the parameters given in the table are common in a majority of CEPT countries. It should be noted that the bands are not exclusive for this type of application.

### *Regulatory parameters related to Annex 8*

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
a 26.995, 27.045, 27.095, 27.145, 27.195 MHz	100 mW e.r.p.	No Restriction	10 kHz	ERC/DEC/(01)10	
b 34.995-35.225 MHz	100 mW e.r.p.	No Restriction	10 kHz	ERC/DEC/(01)11	Only for flying models
c 40.665, 40.675, 40.685, 40.695 MHz	100 mW e.r.p.	No Restriction	10 kHz	ERC/DEC/(01)12	

### *Additional Information*

#### Harmonised Standards

EN 300 220

#### Frequency issues

No information

#### Technical parameters also referred to in the harmonised standard

No information

## Annex 9 Inductive applications

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for inductive applications include for example car immobilisers, animal identification, alarm systems, cable detection, waste management, personal identification, wireless voice links, access control, proximity sensors, antitheft systems including RF anti-theft induction systems, data transfer to handheld devices, automatic article identification, wireless control systems and automatic road tolling. It should be noted that other types of anti-theft systems can be operated in accordance with other relevant annexes.

### Regulatory parameters related to Annex 9

Frequency Band	Magnetic field	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
aa 9 -59.750 kHz	72 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)13	In case of external antennas only loop coil antennas may be employed. Field strength level descending 3 dB/oct at 30 kHz
ab 59.750-60.250 kHz	42 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)13	In case of external antennas only loop coil antennas may be employed
ac 60.250-70.000 kHz	69 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)13	In case of external antennas only loop coil antennas may be employed. Field strength level descending 3 dB/oct at 30 kHz
b 70-119 kHz	42 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)13	In case of external antennas only loop coil antennas may be employed
c 119-135 kHz	66 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)13	In case of external antennas only loop coil antennas may be employed. Field strength level descending 3 dB/oct at 30 kHz
c1 135-140 kHz	42 dBμA/m at 10m	No Restriction	No spacing		In case of external antennas only loop coil antennas may be employed
c2 140-148.5 kHz	37.7 dBμA/m at 10m	No Restriction	No spacing		In case of external antennas only loop coil antennas may be employed
d 6765-6795 kHz	42 dBμA/m at 10m	No Restriction	No spacing		
e 7400-8800 kHz	9 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)15	
f 13.553-13.567 MHz	42 dBμA/m at 10m	No Restriction	No spacing		
fl 13.553-13.567 MHz	60 dBμA/m at 10m	No Restriction	No spacing		For RFID and EAS only
g 26.957-27.283 MHz	42 dBμA/m at 10m	No Restriction	No spacing	ERC/DEC/(01)16	
h 10.200-11.000 MHz	9 dBμA/m at 10m	No Restriction	No spacing		
k 3155-3400 kHz	13.5 dBμA/m at 10m	No Restriction	No spacing		In case of external antennas only loop coil antennas may be employed
ll 148.5 kHz - 5 MHz	-15 dBμA/m at 10 m	No Restriction	No spacing		In case of external antennas only loop coil antennas may be employed.  <i>The maximum field strength is specified in a bandwidth of 10 kHz. The maximum allowed total field strength is -5 dBμA/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the density limit (-15 dBμA/m in a bandwidth of 10 kHz).</i>
l2 5 - 30 MHz	-20 dBμA/m at 10 m	No Restriction	No spacing		In case of external antennas only loop coil antennas may be employed.  <i>The maximum field strength is specified in a bandwidth of 10 kHz. The maximum allowed total field strength is -5 dBμA/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the density limit (-20 dBμA/m in a bandwidth of 10 kHz).</i>
l3 400 - 600 kHz	-8 dBμA/m at 10 m	No Restriction	No spacing		For RFID only  In case of external antennas only loop coil antennas may be employed.

*The maximum field strength is specified in a bandwidth of 10 kHz.*

*The maximum allowed total field strength is  $-5\text{dB}\mu\text{A/m}$  at 10 m for systems operating at bandwidths larger than 10 kHz measured at the center frequency whilst keeping the density limit ( $-8\text{dB}\mu\text{A/m}$  in a bandwidth of 10 kHz).*

These systems should operate with a minimum operating bandwidth of 30 kHz.

## ***Additional Information***

### **Harmonised Standards**

EN 300 330  
EN 302 291

### **Frequency issues**

Users should be aware that emissions from inductive applications could cause interference to nearby receivers of other radio services.

In case of loop antennas used within bands aa) and ac) integral or dedicated within an area between 0.05 m<sup>2</sup> and 0.16 m<sup>2</sup>, the field strength is reduced by  $10 * \log(\text{area}/0.16 \text{ m}^2)$ ; for an antenna area less than 0.05 m<sup>2</sup> the field strength is reduced by 10 dB

Particular attention should also be paid to the more stringent protection requirements identified by the ITU for global distress and safety communications frequencies in the same or adjacent bands.

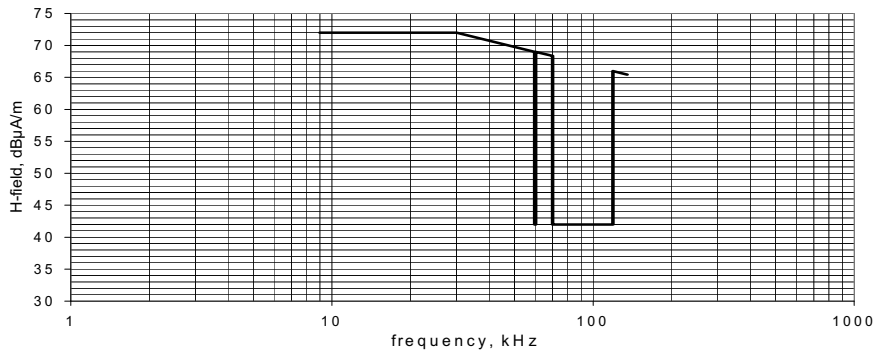
### **Technical parameters also referred to in the harmonised standard**

The maximum allowed H-field for bands aa), ab), ac), b) and c) is illustrated in Figure 1;

The maximum allowed H-field limits for bands c, c1) and c2) are illustrated in Figure 2;

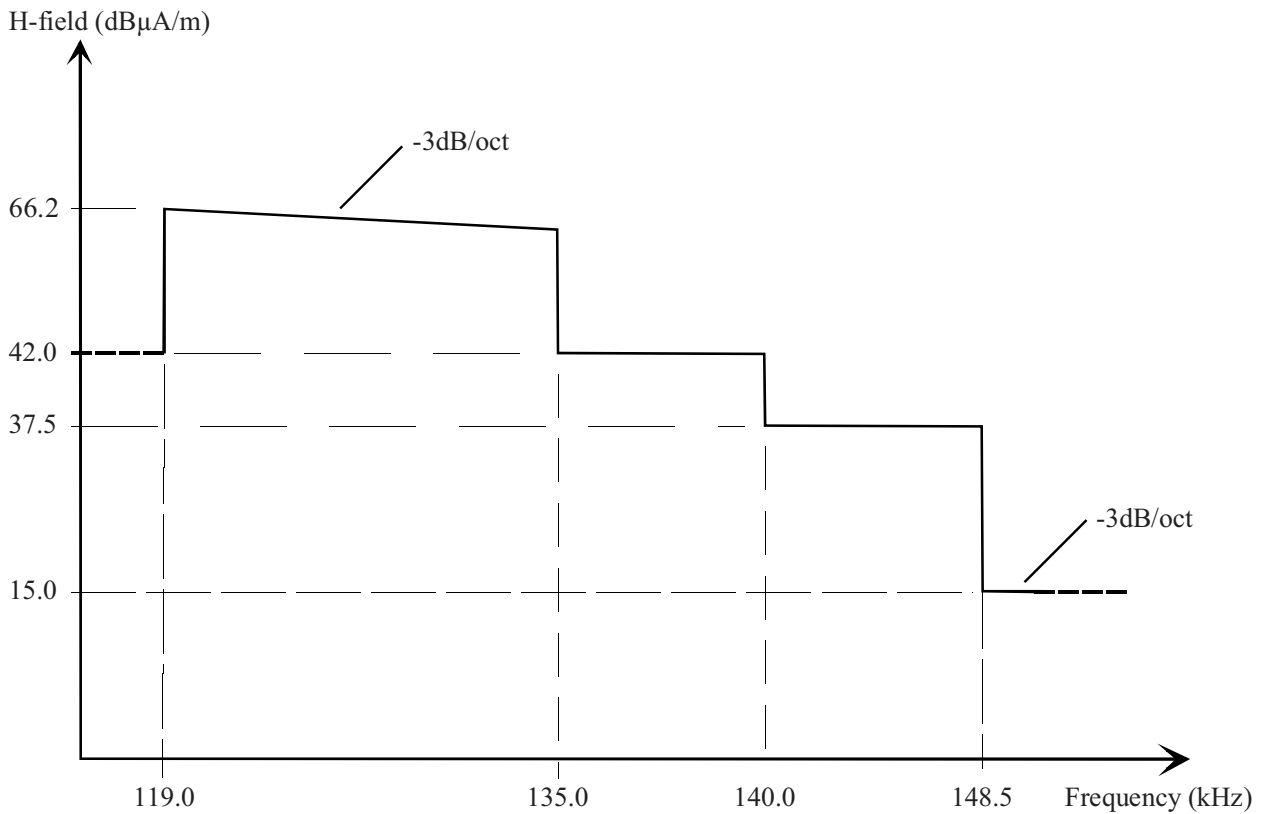
The maximum allowed H-field limits for bands d), f) and f1) are illustrated in Figure 3 on the next pages.

The maximum allowed H-field limits for bands a, b and c are illustrated in Figure 1



**Figure 1**  
9-135 kHz magnetic field strength limits overview at 10-metre measurement distance

The maximum allowed H-field limits for band c1 and c2 are illustrated in Figure 2



**Figure 2**  
135 – 148.5 kHz magnetic field strength limit at 10 metres measurement distance

The maximum allowed H-field limits for band d, f and f1 are illustrated in Figure 3

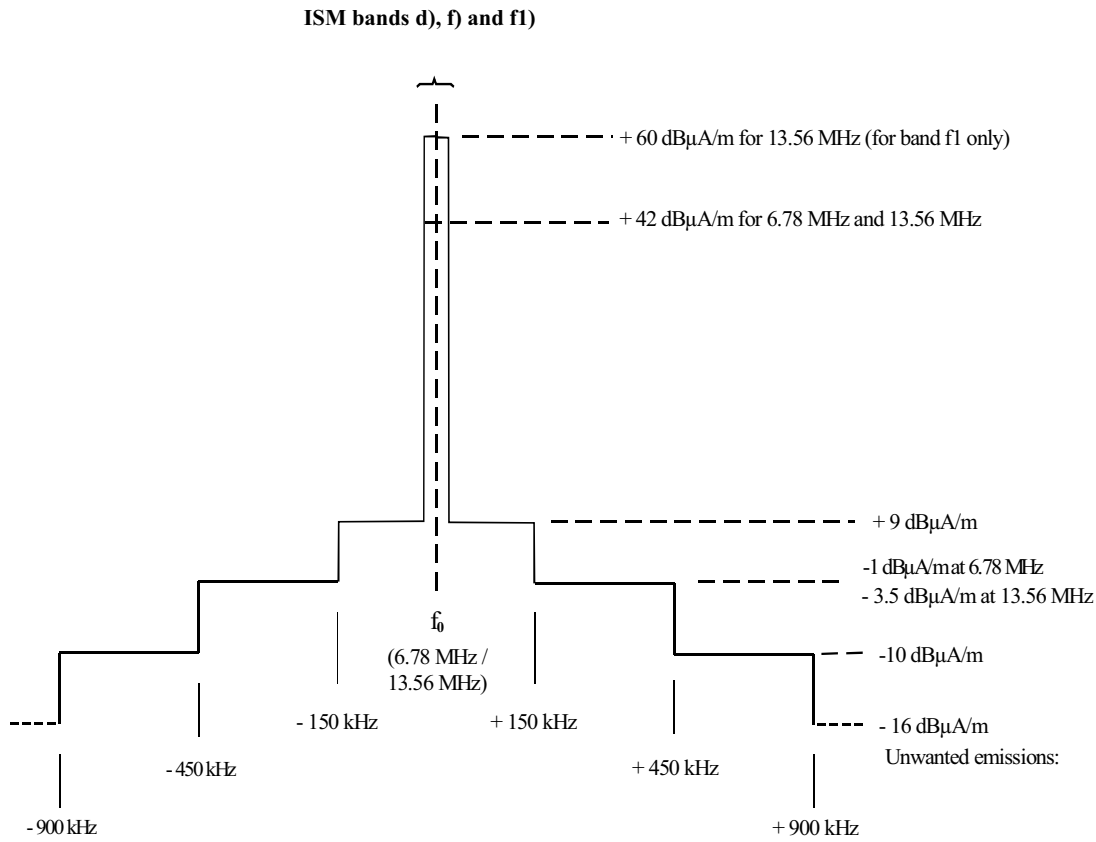


Figure 3  
6.78 MHz and 13.56 MHz magnetic field strength limit at 10 metres measurement distance

## Annex 10 Radio microphones and Assistive Listening Devices

### Scope of Annex

This This annex covers frequency bands and regulatory as well as informative parameters recommended for radio microphones (also referred to as wireless microphones or cordless microphones) and assistive listening devices including aids for the hearing impaired. Radio microphones are small, low power (50 mW or less) transmitters designed to be worn on the body, or hand held, for the transmission of close, personal sound. The receivers are more tailored to specific uses and may range from small and portable to rack mounted modules as part of a multichannel system. This annex covers professional and consumer radio microphones, both hand-held and body-worn, and aids for the handicapped.

Because of the difficulty in determining harmonized frequency bands for radio microphones, frequency band limits should be regarded as tuning ranges within which a device can be designated to operate. In most cases, Appendix 3 indicates those parts of the range that are not available in individual countries but this does not apply to the broadcasting bands at 174-216 MHz and 470-862 MHz where national geographical restrictions are likely to exist and the national administration should be contacted.

The sub bands below are intended for the following applications:

- Narrow band audio band a)
- Aids for the hearing impaired bands b), h1), h2), i)
- Radio microphones bands c) - g)

### Regulatory parameters related to Annex 10

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
a 29.7-47.0 MHz	10 mW e.r.p.	up to 100%	50 kHz		On a tuning range basis The frequency bands 30.3-30.5 MHz, 32.15-32.45 MHz and 41.015-47.00 MHz are harmonized military bands
b 173.965-174.015 MHz	2 mW e.r.p.	up to 100%	50 kHz		Aids for the hearing impaired
c 863-865 MHz	10 mW e.r.p.	up to 100%	No spacing		
d 174-216 MHz	50 mW e.r.p.	up to 100%	No spacing		On a tuning range basis Individual license required
e 470-862 MHz	50 mW e.r.p.	up to 100%	No spacing		On a tuning range basis Individual license required
f 1785-1795 MHz	20 mW e.i.r.p. 50 mW e.i.r.p.	up to 100%	No spacing		Individual license required 50 mW restricted to body worn microphones
g 1795-1800 MHz	20 mW e.i.r.p. 50 mW e.i.r.p.	up to 100%	No spacing		50 mW restricted to body worn equipment
h1 169.4000-169.4750 MHz	10 mW e.r.p.	up to 100%	Max 50 kHz	ECC/DEC/(05)02	Aids for the hearing impaired
h2 169.4875-169.5875 MHz	10 mW e.r.p.	up to 100%	Max 50 kHz	ECC/DEC/(05)02	Aids for the hearing impaired
i 169.4-174.0 MHz	10 mW e.r.p.	up to 100%	Max 50 kHz		Aids for the hearing impaired On a tuning range basis Administrations should consider channel plan for band 169.4 – 169.8125 MHz detailed in ECC/DEC/(05)02 and the risk of interference towards systems operated in the band 169.6 – 169.8125 band when developing their national frequency table

### Additional Information

#### Harmonised Standards

- EN 300 422 sub bands a) - g), h1), h2), i)
- EN 301 840 sub band f) - g)
- EN 301 357 sub band c)

#### Frequency Issues.

Band h1 is in shared spectrum, band h2 is in exclusive spectrum.

#### Technical parameters also referred to in the harmonised standard

No information

## Annex 11 Radio frequency identification applications

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for radio frequency identification (RFID) applications including for example automatic article identification, asset tracking, alarm systems, waste management, personal identification, access control, proximity sensors, anti-theft systems, location systems, data transfer to handheld devices and wireless control systems. It should be noted that other types of RFID systems can be operated in accordance with other relevant annexes.

### Regulatory parameters related to Annex 11

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
<b>a</b> 2446-2454 MHz	500 mW e.i.r.p. 4 W e.i.r.p.	up to 100% ≤ 15%	No spacing		Power levels above 500 mW are restricted to use inside the boundaries of a building and the duty cycle of all transmissions shall in this case be ≤15 % in any 200 ms period (30 ms on /170 ms off)
<b>b1</b> 865.0-865.6 MHz	100 mW e.r.p.		200 kHz		
<b>b2</b> 865.6-867.6 MHz	2 W e.r.p.		200 kHz		
<b>b3</b> 867.6-868.0 MHz	500 mW e.r.p.		200 kHz		

### Additional Information

#### Harmonised Standards

EN 300 440	Sub-band a)
EN 302 208	Sub-bands b1), b2) and b3)

#### Frequency issues

##### Subband a)

To assist enforcement authorities any emissions due to the RFID device when measured outside of the building at a distance of 10 metres shall not exceed the equivalent field strength for a 500 mW RFID device mounted outside the building when measured at the same distance. Where a building consists of a number of premises, such as shops within a shopping arcade or Mall then the measurements shall be referenced to the boundary of the user's premises within the building.

Frequency Hopping Spread Spectrum (FHSS) techniques should be used as means of mitigation when more than 500 mW e.i.r.p. is used.

##### Sub-bands b1), b2) and b3)

Channel centre frequencies are  $864.9 \text{ MHz} + (0.2 \text{ MHz} * \text{channel number})$ .

The available channel numbers for each sub-band are:

- b1: channel numbers 1 to 3
- b2: channel numbers 4 to 13
- b3: channel numbers 4 to 15.

Note: The same equipment is allowed to operate in several sub-bands.

Frequency hopping or other spread spectrum techniques shall not be used.

#### Technical parameters also referred to in the harmonised standard

##### Subband a)

In addition, antenna beamwidth limits shall be observed as described in the standard EN 300 440.

In addition, for an RFID device which can exceed 500 mW, the device should be fitted with an automatic power control to reduce the radiated power below 500 mW; this automatic power control shall guarantee the reduction of the power to a maximum of 500 mW in cases where the device is moved and used outside the boundary of the user's building or premises as described above.

##### Sub-bands b1), b2) and b3)

ETSI EN 302 208-2 V1.1.1 specifies a mandatory requirement for a Listen Before Talk (LBT) mechanism.

ETSI EN 302 208-2 V1.2.1 removes the mandatory requirement for LBT but restricts the transmission of RFID interrogators to four designated high power channels.

Upon the withdrawal of ETSI EN 302 208-2 V1.1.1 it is planned that interrogators be allowed to transmit at levels up to 2 W e.r.p. only in the following four designated high power channels:

- 865.6-865.8 MHz
- 866.2-866.4 MHz
- 866.8-867.0 MHz
- 867.4-867.6 MHz

The maximum transmit on-time on a channel for each interrogator shall not exceed 4 sec. The minimum transmit off-time on a channel for each interrogator shall be greater than 100 msec.

Antenna beam width limits shall be observed as described in the relevant version of standard EN 302 208.

## Annex 12 Wireless applications in Healthcare

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for wireless applications in healthcare.

### Regulatory parameters related to Annex 12

	Frequency Band	Power/Magnetic Field	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
<b>a</b>	402-405 MHz	25 $\mu$ W e.r.p.	No Restriction	25 kHz	ERC/DEC/(01)17	For Ultra Low Power Active Medical Implants covered by the applicable harmonised standard. Individual transmitters may combine adjacent channels for increased bandwidth up to 300 kHz.
<b>a1</b>	401-402 MHz	25 $\mu$ W e.r.p.	No Restriction for devices with LBT, otherwise $\leq 0.1\%$ (see note 2)	25 kHz		For Ultra Low Power Active Medical Implants and accessories covered by the applicable harmonised standard and not covered by band a. Individual transmitters may combine adjacent 25 kHz channels for increased bandwidth up to 100 kHz (see note 1).
<b>a2</b>	405-406 MHz	25 $\mu$ W e.r.p.	No Restriction for devices with LBT, otherwise $\leq 0.1\%$ (see note 2)	25 kHz		For Ultra Low Power Active Medical Implants and accessories covered by the applicable harmonised standard and not covered by band a. Individual transmitters may combine adjacent 25 kHz channels for increased bandwidth up to 100 kHz (see note 1).
<b>b</b>	9-315 kHz	30 dB $\mu$ A/m at 10m	< 10%	No spacing		The application is for Ultra Low Power Active Medical Implant systems using inductive loop techniques for telemetry purposes
<b>c</b>	315-600 kHz	-5 dB $\mu$ A/m at 10m	< 10%	No spacing		The application is for animal implantable devices.
<b>d</b>	30.0-37.5 MHz	1 mW e.r.p.	< 10%	No spacing		The application is for Ultra Low Power medical membrane implants for blood pressure measurements.
<b>e</b>	12.5-20.0 MHz	-7 dB $\mu$ A/m at 10m	< 10%	No spacing		The application is for ULP active animal implantable devices (ULP-AID), limited to indoor only applications. The maximum field strength is specified in a bandwidth of 10 kHz. The transmission mask of ULP-AID is defined as follows: 3dB bandwidth 300 kHz 10dB bandwidth 800 kHz 20dB bandwidth 2 MHz.

Note 1: Due to the limited available spectrum of 1 MHz, a maximum bandwidth of 100 kHz is proposed for these bands to ensure that several users could access the band concurrently.

Note 2: Systems not providing frequency agility based on ambient RF field sensing, be limited to a maximum permitted e.r.p. of 250 nanowatts with a duty cycle of  $\leq 0.1\%$ .

### Additional Information

#### Harmonised Standards

EN 301 839	Subband a)
EN 302 537	Subband a1) and a2)
EN 302 195	Subband b)
EN 302 536	Subband c)
EN 302 510	Subband d)
EN 300 330	Subband e)

#### Frequency issues

#### Technical parameters also referred to in the harmonised standard

No information

## Annex 13 Wireless Audio Applications

### Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for applications for wireless audio systems including the following, cordless loudspeakers; cordless headphones; cordless headphones for portable use, for example portable CD, cassette or radio devices carried on a person; cordless headphones for use in a vehicle, for example for use with a radio or mobile telephone etc; in-ear monitoring, for use with concerts or other stage productions.

### Regulatory parameters related to Annex 13

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decision	Notes
a 863-865 MHz	10 mW e.r.p.	Up to 100%	No spacing	ERC DEC (01)18	
b 864.8-865.0 MHz	10 mW e.r.p.	Up to 100%	50 kHz		Narrow band analogue voice devices
c 1795-1800 MHz	20 mW e.i.r.p.	Up to 100%	No spacing		
d 87.5-108.0 MHz	50 nW e.r.p.	Up to 100%	200 kHz		

### Additional Information

#### Harmonised Standards

EN 301 357 subband a) c) and d)  
EN 300 220 subband b)

#### Frequency issues

Subband b)

Narrow band analogue voice devices, such as baby voice monitors, door entry systems etc should only use the band b) 864.8-865 MHz.

#### Technical parameters also referred to in the harmonised standard

Systems should be designed so that when not in use there should be no transmission of an RF carrier.

Subband d)

The user interface of SRD shall permit as a minimum the selection of any and all possible frequencies within the 88.1 MHz to 107.9 MHz and as a maximum 87.6 MHz to 107.9 MHz.

When audio signals are not present, apparatus must employ a transmission time out facility. Pilot tones that ensure continuity of transmission are not permitted.

	AUT	BEL	BUL	CZE	CYP	DNK	EST	FIN	F	D	GRC	HNG	ISL	IRL	I	LVA	LIE	LTU	LUX	MLT	HOL	NOR	POL	POR	ROU	SVK	SVN	E	SUI	S	G				
	EU member states and EFTA countries																																		
<b>Annexes to ERC REC 70-03</b>																																			
<b>Annex 1 - Non-Specific SRDs</b>																																			
Annex 1A 6765-6795 kHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y				
Annex 1B 13.553-13.567 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1C 26.957-27.283 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1D 40.660-40.700 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1E 138.20-138.45 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1F 433.050-434.790 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1F1 433.050-434.790 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1F2 434.040-434.790 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1G 863-870 MHz	P	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1G1 868.000-868.600 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y			
Annex 1G2 868.700-869.200 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1G3 869.400-869.650 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1G4 869.700-870.000 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1H 2400.0-2483.5 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1I 5725-5875 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1J 24.00-24.25 GHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1K 61.0-61.5 GHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 1L 122-123 GHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Annex 1M 244-246 GHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
<b>Annex 2 - Tracking, Tracing and Data Acquisition</b>																																			
Annex 2A 457 kHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 2B 169.4-169.475 MHz	P	N	P	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Annex 2C 169.4-169.475 MHz	P	N	P	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
<b>Annex 3 - Wideband Data Transmission Systems</b>																																			
Annex 3A 2400.0-2483.5 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y		
Annex 3B 5150-5250 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Annex 3C 5250-5350 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Annex 3D 5470-5725 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Annex 3E 17.1-17.3 GHz	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
<b>Annex 4 - Railway Applications</b>																																			
Annex 4A 2446-2454 MHz	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	
Annex 4B 27.095 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 4C 4234 kHz	P	N	P	U	N	N	U	Y	N	N	N	P	U	N	N	N	Y	N	N	N	U	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Annex 4D1 4516 kHz	P	N	P	Y	N	N	U	Y	N	N	N	U	U	N	N	N	Y	N	N	N	L	N	N	N	N	N	N	N	N	N	N	N	N	N	N
Annex 4D2 11.1 - 16.0 MHz	P	N	P	U	N	N	U	Y	N	N	N	P	U	N	N	N	Y	N	N	N	U	N	N	N	N	N	N	N	N	N	N	N	N	N	N

Bright highlighted = new bands  
Highlighted yellow = not implemented

U=under study

P=planned

L=limited implementation

Y=implemc implemented



Implementation Status	AUT	BEL	BUL	CZE	CYP	DNK	EST	FIN	F	D	GRC	HNG	ISL	IRL	I	LVA	LIE	LTU	LUX	MLT	HOL	NOR	POL	POR	ROU	SVK	SVN	E	SUI	S	G	
<b>Annex 9 - Inductive Applications - continued</b>																																
Annex 9H 10.200-11.000 MHz	P	N	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	U	P	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	L	
Annex 9K 3.155-3.400 kHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	P	P	N	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	N	Y	Y	L	
Annex 9L 1.48.5 kHz - 5 MHz	L	N	L	Y	N	Y	Y	Y	P	N	N	L	Y	N	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	L	
Annex 9L2 5 - 30 MHz	P	N	P	Y	N	Y	Y	Y	P	N	N	P	Y	N	N	N	Y	Y	Y	Y	Y	Y	P	N	N	N	N	N	Y	Y	Y	
Annex 9L3 400-600 kHz	P	N	Y	Y	N	Y	Y	Y	P	N	N	P	Y	N	N	N	Y	Y	Y	Y	Y	N	P	N	N	N	N	N	Y	Y	Y	
<b>Annex 10 - Radio Microphones and Assistive Listening Devices</b>																																
Annex 10A 29.7-47.0 MHz	L	Y	Y	L	Y	Y	L	L	L	L	Y	L	Y	P	L	N	Y	L	L	L	Y	L	Y	N	N	N	L	L	L	L	L	
Annex 10B 173.965-174.015 MHz	P	N	L	Y	Y	N	L	L	N	Y	U	Y	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N	N	L	
Annex 10C 863-865 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 10D 174-216 MHz	P	Y	Y	Y	Y	L	L	L	L	L	Y	Y	Y	Y	Y	N	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	L	Y	Y	Y	Y
Annex 10E 470-862 MHz	Y	Y	Y	Y	Y	Y	Y	Y	L	L	Y	Y	Y	Y	L	N	Y	Y	Y	L	Y	L	Y	Y	Y	Y	Y	N	Y	Y	Y	Y
Annex 10F 1785-1795 MHz	L	N	Y	L	N	Y	Y	Y	L	N	N	Y	Y	N	N	N	Y	Y	Y	P	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L
Annex 10G 1795-1800 MHz	L	N	Y	L	N	Y	Y	Y	L	N	N	Y	Y	N	N	N	Y	Y	Y	P	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L
Annex 10H1 169.4000-169.4750 MHz	P	N	N	Y	N	N	Y	Y	P	N	N	Y	Y	N	N	N	L	Y	Y	Y	Y	Y	P	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 10H2 169.4875-169.5875 MHz	U	N	N	Y	N	Y	Y	Y	P	N	N	Y	P	N	N	N	L	Y	Y	Y	Y	Y	P	N	N	N	Y	Y	Y	Y	Y	Y
Annex 10I 169.4-174.0 MHz	N	N	N	L	N	Y	Y	Y	N	N	N	N	N	N	N	N	N	N	N	N	N	P	N	N	N	N	N	N	N	N	N	L
<b>Annex 11 - Radio Frequency Identification Applications</b>																																
Annex 11A 2446-2454 MHz	Y	Y	Y	Y	Y	Y	Y	Y	L	Y	Y	Y	Y	Y	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 11B1 865.0-865.6 MHz	Y	N	Y	Y	N	Y	Y	Y	N	N	N	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	N
Annex 11B2 865.6-867.6 MHz	Y	N	Y	Y	Y	Y	Y	Y	L	N	N	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	N
Annex 11B3 867.6-868.0 MHz	Y	N	Y	Y	Y	Y	Y	Y	N	N	N	Y	Y	N	N	N	Y	Y	N	Y	Y	Y	N	N	N	N	Y	Y	Y	Y	Y	N
<b>Annex 12 - Wireless Applications in Healthcare</b>																																
Annex 12A 402-405 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ERC/DEC(01)17	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 12A1 401-402 MHz	U	N	P	U	N	Y	Y	Y	P	N	N	P	Y	N	N	N	P	Y	Y	P	U	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	P
Annex 12A2 405-406 MHz	U	N	P	U	N	Y	Y	Y	P	N	N	P	Y	N	N	N	P	Y	Y	P	U	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	P
Annex 12B 9-315 kHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	P	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L
Annex 12C 315-600 kHz	Y	Y	Y	Y	Y	Y	Y	Y	P	Y	N	Y	Y	U	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 12D 30.0-37.5 MHz	P	Y	Y	Y	N	Y	Y	Y	P	Y	N	Y	Y	U	N	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 12E 12.5-20.5 MHz	P	N	P	Y	N	Y	Y	Y	P	N	N	P	Y	N	N	N	Y	Y	Y	Y	Y	Y	P	N	N	N	Y	Y	Y	Y	Y	Y
<b>Annex 13 - Wireless Audio Applications</b>																																
Annex 13A 863-865 MHz	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
ERC/DEC(01)18	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 13B 864.8-865.0 MHz	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	Y	Y	Y	P	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Annex 13C 1795-1800 MHz	N	Y	Y	Y	Y	Y	Y	Y	N	N	Y	Y	Y	U	N	N	Y	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	L
Annex 13D 87.5-108.0 MHz	Y	Y	Y	Y	Y	Y	Y	Y	N	Y	N	P	Y	N	N	N	Y	Y	Y	Y	Y	Y	P	Y	Y	Y	Y	Y	Y	Y	Y	Y

Bright highlighted = new bands  
Highlighted yellow = not implemented

Y=implemc implemented

L=limited implementation

P=planned

U=under study

Annexes to ERC REC 70-03			BIH	HRV	MKD	RUS	SRB	TUR
<b>Annex 1 - Non-Specific SRDs</b>								
Annex 1A	6765-6795 kHz		Y	Y	Y	N	Y	Y
Annex 1B	13.553-13.567 MHz		Y	Y	Y	Y	Y	Y
Annex 1C	26.957-27.283 MHz	ERC/DEC/(01)02	Y	Y	Y	Y	Y	Y
Annex 1D	40.660-40.700 MHz	ERC/DEC/(01)03	Y	Y	Y	Y	Y	Y
Annex 1E	138.20-138.45 MHz		Y	N	Y	N	Y	N
Annex 1F	433.050-434.790 MHz	ECC/DEC/(04)02	Y	Y	Y	L	Y	Y
Annex 1F1	433.050-434.790 MHz		Y	Y	Y	N	Y	Y
Annex 1F2	434.040-434.790 MHz		Y	Y	Y	N	Y	Y
Annex 1G	863-870 MHz		Y	Y	Y	N	N	Y
Annex 1G1	868.000-868.600 MHz	ERC/DEC/(01)04	Y	Y	Y	N	Y	Y
Annex 1G2	868.700-869.200 MHz		Y	Y	Y	N	Y	Y
Annex 1G3	869.400-869.650 MHz		Y	Y	Y	N	Y	Y
Annex 1G4	869.700-870.000 MHz		Y	Y	Y	N	Y	Y
Annex 1H	2400.0-2483.5 MHz		Y	Y	Y	Y	Y	Y
Annex 1I	5725-5875 MHz		Y	Y	Y	N	Y	Y
Annex 1J	24.00-24.25 GHz		Y	Y	Y	N	Y	Y
Annex 1K	61.0-61.5 GHz		Y	N	Y	N	Y	Y
Annex 1L	122-123 GHz		Y	N	Y	N	N	Y
Annex 1M	244-246 GHz		Y	N	Y	N	N	Y
<b>Annex 2 - Tracking, Tracing and Data Acquisition</b>								
Annex 2A	457 kHz	ECC/DEC/(04)01	Y	Y	Y	Y	N	Y
Annex 2B	169.4-169.475 MHz	ECC/DEC/(05)02	Y	N	Y	N	N	Y
Annex 2C	169.4-169.475 MHz		Y	N	Y	N	N	Y
<b>Annex 3 - Wideband Data Transmission Systems</b>								
Annex 3A	2400.0-2483.5 MHz	ERC/DEC/(01)07	Y	Y	Y	Y	Y	Y
Annex 3B	5150-5250 MHz	ECC/DEC/(04)08	Y	Y	Y	N	Y	Y
Annex 3C	5250-5350 MHz		Y	Y	Y	N	Y	Y
Annex 3D	5470-5725 MHz		Y	Y	Y	N	Y	N
Annex 3E	17.1-17.3 GHz		Y	N	Y	N	Y	N
<b>Annex 4 - Railway Applications</b>								
Annex 4A	2446-2454 MHz		Y	Y	Y	N	Y	Y
Annex 4B	27.095 MHz		Y	Y	Y	N	Y	Y
Annex 4C	4234 kHz		Y	N	N	N	N	U
Annex 4D1	4516 kHz		Y	N	N	N	N	Y
Annex 4D2	11.1 - 16.0 MHz		Y	N	N	N	N	U
<b>Annex 5 - Road Transport and Traffic Telematics - RTTT</b>								
Annex 5A	5795-5805 MHz	ECC/DEC/(02)01	Y	Y	Y	N	Y	Y
Annex 5B	5805-5815 MHz		Y	N	Y	N	Y	Y
Annex 5C	63-64 GHz		Y	N	Y	N	Y	Y
Annex 5D	76-77 GHz		Y	N	Y	N	Y	Y
<b>Annex 6 - Radiodetermination applications</b>								
Annex 6A	2400.0-2483.5 MHz	ERC/DEC/(01)08	Y	Y	Y	N	Y	Y
Annex 6B	9200-9500 MHz		Y	Y	Y	N	N	Y
Annex 6C	9500-9975 MHz		Y	Y	Y	N	N	Y
Annex 6D	10.5-10.6 GHz		Y	Y	Y	U	Y	N
Annex 6E	13.4-14.0 GHz		Y	Y	Y	N	Y	N
Annex 6F	24.05-24.25 GHz		Y	Y	Y	Y	Y	Y
Annex 6G	4.5 - 7.0 GHz		Y	N	N	N	N	U
Annex 6H	8.5 - 10.6 GHz		Y	N	N	N	N	U
Annex 6I	24.05 - 27.0 GHz		Y	N	N	N	N	U
Annex 6J	57 - 64 GHz		Y	N	N	N	N	U
Annex 6K	75 - 85 GHz		Y	N	N	N	N	U
Annex 6L	17.1 - 17.3 GHz		Y					
<b>Annex 7 - Alarms</b>								
Annex 7A	868.6-868.7 MHz	ERC/DEC/(01)09	Y	Y	Y	L	Y	Y
Annex 7B	869.250-869.300 MHz		Y	Y	Y	N	Y	Y
Annex 7C	869.650-869.700 MHz		Y	Y	Y	N	Y	Y

Implementation Status		BIH	HRV	MKD	RUS	SRB	TUR
<b>Annex 7 - Alarms - continued</b>							
Annex 7D	869.200-869.250 MHz	Y	Y	Y	N	Y	Y
Annex 7E	869.300-869.400 MHz	Y	Y	Y	N	N	Y
Annex 7F	169.4750-169.4875 MHz	} ECC/DEC/(05)02	Y	N	Y	N	N
Annex 7G	169.5875-169.6000 MHz		Y	N	Y	N	N
<b>Annex 8 - Model Control</b>							
Annex 8A	26.995,27.045,27.095, 27.145,27.195 MHz	} ERC/DEC/(01)10-12	Y	Y	Y	L	Y
Annex 8B	34.995-35.225 MHz		Y	Y	Y	N	Y
Annex 8C	40.665,40.675 40.685, 40.695 MHz		Y	Y	Y	Y	Y
<b>Annex 9 - Inductive Applications</b>							
Annex 9AA	9-59.750 kHz	} ERC/DEC/(01)13	Y	Y	Y	Y	Y
Annex 9AB	59.750-60.250 kHz		Y	Y	Y	Y	Y
Annex 9AC	60.250-70.000 kHz		Y	Y	Y	Y	Y
Annex 9B	70-119 kHz		Y	Y	Y	Y	Y
Annex 9C	119-135 kHz		Y	Y	Y	Y	Y
Annex 9C1	135-140 kHz		Y	Y	Y	N	Y
Annex 9C2	140.0-148.5 kHz		Y	Y	Y	N	Y
Annex 9D	6765-6795 kHz		Y	Y	Y	Y	Y
Annex 9E	7400-8800 kHz	ERC/DEC/(01)15	Y	Y	Y	Y	Y
Annex 9F	13.553-13.567 MHz		Y	Y	Y	Y	Y
Annex 9F1	13.553-13.567 MHz		Y	Y	Y	Y	Y
Annex 9G	26.957-27.283 MHz	ERC/DEC/(01)16	Y	Y	Y	Y	Y
Annex 9H	10.200-11.000 MHz		Y	Y	Y	N	N
Annex 9K	3155-3400 kHz		Y	Y	Y	N	N
Annex 9L1	148.5 kHz - 5 MHz		Y	Y	Y	N	N
Annex 9L2	5 - 30 MHz		Y	Y	Y	N	N
Annex 9L3	400-600 kHz		Y	Y	Y	N	N
<b>Annex 10 - Radio Microphones and Assistive Listening Devices</b>							
Annex 10A	29.7-47.0 MHz		Y	N	Y	L	Y
Annex 10B	173.965-174.015 MHz		Y	N	Y	N	Y
Annex 10C	863-865 MHz		Y	N	Y	N	Y
Annex 10D	174-216 MHz		Y	N	Y	L	Y
Annex 10E	470-862 MHz		Y	Y	Y	L	Y
Annex 10F	1785-1795 MHz		Y	Y	Y	N	N
Annex 10G	1795-1800 MHz		Y	N	Y	N	N
Annex 10H1	169.4000-169.4750 MHz	} ECC/DEC/(05)02	Y	N	Y	N	N
Annex 10H2	169.4875-169.5875 MHz		Y	N	Y	N	N
Annex 10I	169.4-174.0 MHz		Y	N	Y	N	N
<b>Annex 11 - Radio Frequency Identification Applications</b>							
Annex 11A	2446-2454 MHz		Y	N	Y	N	Y
Annex 11B1	865.0-865.6 MHz		Y	Y	N	N	N
Annex 11B2	865.6-867.6 MHz		Y	Y	N	N	N
Annex 11B3	867.6-868.0 MHz		Y	Y	N	N	N
<b>Annex 12 - Wireless Applications in Healthcare</b>							
Annex 12A	402-405 MHz	ERC/DEC/(01)17	Y	Y	Y	N	Y
Annex 12A1	401-402 MHz		Y	N	Y	N	N
Annex 12A2	405-406 MHz		Y	N	Y	N	N
Annex 12B	9-315 kHz		Y	Y	Y	N	N
Annex 12C	315-600 kHz		Y	Y	Y	N	N
Annex 12D	30.0-37.5 MHz		Y	Y	Y	N	Y
Annex 12E	12.5-20.5 MHz		Y	Y	Y	N	N
<b>Annex 13 - Wireless Audio Applications</b>							
Annex 13A	863-865 MHz	ERC/DEC/(01)18	Y	Y	Y	N	Y
Annex 13B	864.8-865.0 MHz		Y	N	Y	N	Y
Annex 13C	1795-1800 MHz		Y	N	Y	N	Y
Annex 13D	87.5-108.0 MHz		Y	Y	Y	N	N

Bright highlighted = new bands

Highlighted yellow = not implemented

## APPENDIX 2

### List of relevant ECC/ERC Decisions, Recommendations and ETSI Standards

#### ECC/ERC Decisions

ECC/DEC/(05)02	On the use of the frequency band 169.4-169.8125 MHz
ECC/DEC/(04)01	Short Range Devices for detection of Avalanche Victims
ECC/DEC/(04)02	Non-specific Short Range Devices in the band 433.05-434.79 MHz
ECC/DEC(04)08	On the harmonised use of the 5 GHz frequency bands for the implementation of Wireless Access Systems including Radio Local Area Networks (WAS/RLANs)
ECC/DEC/(02)01	On the frequency bands to be designated for the coordinated introduction of Road Transport and Traffic Telematic Systems.
ERC/DEC(01)02	Non-specific Short Range Devices in 26.957-27.283 MHz
ERC/DEC(01)03	Non-specific Short Range Devices in 40.660-40.700 MHz
ERC/DEC(01)04	Non-specific Short Range Devices in 868.0-868.6 MHz, 868.7-869.2 MHz, 869.4-869.65 MHz, 869.7-870.0 MHz
ERC/DEC(01)07	Radio-LAN Short Range Devices in 2400-2483.5 MHz
ERC/DEC(01)08	Short Range Devices for Movement Detection and Alert in 2400-2483.5 MHz
ERC/DEC(01)09	Short Range Devices for Alarms in 868.6-868.7 MHz, 869.25-869.3 MHz, 869.65-869.7 MHz
ERC/DEC(01)10	Short Range Devices for Model control in 26.995, 27.045, 27.095, 27.145 and 27.195 MHz
ERC/DEC(01)11	Short Range Devices for Flying Model Control in 34.995-35.225 MHz
ERC/DEC(01)12	Short Range Devices for Model Control in 40.665, 40.675, 40.685 and 40.695 MHz
ERC/DEC(01)13	Short Range Devices for Inductive applications in 9-59.750 kHz, 59.750 – 60.250 kHz, 60.250-70 kHz, 70-119 kHz and 119-135 kHz
ERC/DEC(01)15	Short Range Devices for Inductive applications in 7400-8800 kHz
ERC/DEC(01)16	Short Range Devices for Inductive applications in 26.957-27.283 MHz
ERC/DEC(01)17	Short Range Devices for Medical Implants in 402-405 MHz
ERC/DEC(01)18	Short Range Devices for Wireless Audio in 863-865 MHz

**ECC/ERC Reports**

ECC Report 001	Compatibility between inductive LF and HF RFID transponder and other radio communications systems in the frequency ranges 135-148.5 kHz, 4.78-8.78 MHz and 11.56-15.56 MHz
ECC Report 007	Compatibility between inductive LF RFID systems and radio communications systems in the frequency range 135 - 148.5 kHz
ECC Report 011	Strategic Plans for the future use of the frequency bands 862-870 MHz and 2400-2483.5 MHz for Short Range Devices
ECC Report 012	Ultra Low Power Active Medical Implant systems (ULP-AMI)
ECC Report 013	Adjacent band compatibility between Short Range Devices and TETRA TAPS mobile services at 870 MHz
ECC Report 024	PLT, DSL, CABLE communications (Including CABLE TV), LANS and their effect on radio services
ECC Report 037	Compatibility of planned SRD applications in 863-870 MHz
ECC Report 040	Adjacent band compatibility between CDMA-PAMR mobile services and Short Range Devices below 870 MHz
ECC Report 055	Compatibility between existing and proposed SRDs and other radiocommunication applications in the 169.4-169.8 MHz frequency band. See supplementary excel spreadsheets in download
ECC Report 067	Compatibility study for generic limits for the emission levels of inductive SRDs below 30 MHz
ECC Report 073	Compatibility of SRD in the FM radio broadcasting band
ECC Report 081	The coexistence between Ultra Low Power - Animal Implant Devices (ULP-AID) operating in the frequency band 12.5-20 MHz and existing radiocommunication systems
ECC Report 092	Coexistence between Ultra Low Power Active Medical Implants devices (ULP-AMI) and existing radiocommunication systems and services in the frequency bands 401–402 MHz and 405–406 MHz
ECC Report 098	Studying the compatibility issues of the UIC EUROLOOP system with other systems in the frequency band 9.5 to 17.5 MHz
ERC Report 005	ERC Report on frequency bands for Low Power Devices
ERC Report 044	ERC Report on sharing inductive systems and radiocommunication systems in the band 9-135 kHz
ERC Report 047	ERC Report on compatibility fixed services and motion sensors at 10.5 GHz
ERC Report 063	ERC Report on radio microphone applications in the frequency range 1785-1800 MHz
ERC Report 067	Study of the Frequency sharing between HIPERLANs and MSS feeder links in the 5 GHz band
ERC Report 069	ERC Report on propagation model and interference range calculation for inductive systems in 10 kHz – 30 MHz
ERC Report 072	Compatibility studies related to the possible extension band for HIPERLANs at 5 GHz
ERC Report 074	ERC Report on RFID and the radioastronomy services at 13 MHz

ERC Report 092	ERC Report on sharing inductive Short Range Devices and radio communication systems in 10.2-11 MHz
ERC Report 095	ERC Report on the use of 3155-3400 kHz for general inductive applications
ERC Report 096	ERC Report on the use of 290-300 kHz and 500-510 kHz for general inductive applications
ERC Report 098	ERC Report on compatibility of Short Range Devices at 900 MHz with adjacent services
ERC Report 109	Compatibility of Bluetooth with other existing and proposed radiocommunication systems in the 2.45 GHz frequency band

### ETSI Standards including harmonised standards

ETSI standards consist of at least two parts, the last part will normally be harmonised under the R&TTE Directive.  
Further information can be found at <http://europa.eu.int/comm/enterprise/rtte/harstand.htm>

#### Generic standards

- EN 300 220 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment to be used in the 25 MHz to 1000 MHz frequency range with power levels ranging up to 500 mW; Part 3: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive
- EN 300 330 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Radio equipment in the frequency range 9 kHz to 25 MHz and inductive loop systems in the frequency range 9 kHz to 30 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
- EN 300 440 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short range devices; Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive

#### Specific standards

- EN 300 328 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wideband Transmission systems; Data transmission equipment operating in the 2.4 GHz ISM band and using spread spectrum modulation techniques; Part 2: Harmonized EN covering essential requirements under article 3.2 of the R&TTE Directive .
- EN 300 422 Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
- EN 300 674 Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Technical characteristics and test methods for Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s / 250 kbit/s) operating in the 5.8 GHz Industrial, Scientific and Medical (ISM) band
- EN 300 718 Electromagnetic compatibility and Radio spectrum matters (ERM); Avalanche Beacons; Transmitter-receiver systems; Part 3: Harmonized EN covering essential requirements of article 3.3e of the R&TTE Directive
- EN 300 761 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Automatic Vehicle Identification (AVI) for railways operating in the 2.45 GHz frequency range; Part 2: Harmonized standard covering essential requirements under article 3.2 of the R&TTE Directive
- EN 301 091 Electromagnetic Compatibility and Radio Spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Technical characteristics and test methods for radar equipment operating in the 76 GHz to 77 GHz band
- EN 301 357 Electromagnetic compatibility and Radio spectrum Matters (ERM); Analogue cordless wideband audio devices using integral antennas operating in the CEPT recommended 863 MHz to 865 MHz frequency range; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
- EN 301 839 Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 402 MHz to 405 MHz for Ultra Low Power Active Medical Implants and Accessories; Part 2: Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- EN 301 840 Electromagnetic compatibility and Radio Spectrum Matters (ERM); Digital radio microphones operating in the CEPT Harmonized band 1 785 MHz to 1 800 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
- EN 301 893 Broadband Radio Access Networks (BRAN); 5 GHz high performance RLAN; Harmonized EN covering essential requirements of article 3.2 of the R&TTE Directive
- EN 302 195 Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio equipment in the frequency range 9 kHz to 315 kHz for Ultra Low Power Active Medical Implants (ULP-AMI) and accessories; Part 1: Technical characteristics and test methods
- EN 302 208 Electromagnetic compatibility and Radio spectrum Matters (ERM); Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive

- EN 302 291 Close Range Inductive Data Communication equipment operating at 13.56 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
- EN 302 372 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Equipment for Detection and Movement; Tanks Level Probing Radar (TLPR) operating in the frequency bands 5.8 GHz, 10 GHz, 25 GHz, 61 GHz and 77 GHz
- EN 302 537 Electromagnetic compatibility and Radio spectrum Matters (ERM); Short Range Devices (SRD); Ultra Low Power Medical Data Service Systems operating in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz
- ES 200 674 Electromagnetic compatibility and Radio spectrum Matters (ERM); Road Transport and Traffic Telematics (RTTT); Part 1: Technical characteristics and test methods for High Data Rate (HDR) data transmission equipment operating in the 5.8 GHz Industrial, Scientific and Medical (ISM) band

**List of relevant EC Decisions**

Decision	Title

Annex	Country	Restriction	Reason/remark
<i>All Annexes</i>			
	France	France does not recognise the former marking CEPT SRD Aa Y and CEPT RLAN Y recommended by T/R 01-04 and T/R 10-01 respectively. The free circulation and use of products bearing these old markings must then be confined to existing equipments and to countries which have already adopted these markings. The marking CEPT SRD Aa Y proposed by ERC/REC 70-03 will not be recognised in France. In any case in France marking issues are in line with the R&TTE Directive.	
	Germany		Clarification of the terms contained in the table reference to the German Telecommunications Act of 22 June 2004: The use of frequencies or frequency bands for the operation of transmitting equipment requires "frequency assignment". There are two types of frequency assignments: individual frequency assignments are granted upon application and correspond to "individual license required" within the meaning of CEPT/ERC/REC 70-03; general frequency assignments are granted ex officio by administrative act, published in the Federal Network Agency's Official Gazette and correspond to "individual license not required" within the meaning of CEPT/ERC/REC 70-03.
	Lithuania		The radio frequencies may be used without an individual authorization in case the relevant radio frequency or radio frequencies band is included in the List of Radio Frequencies/Channels, which may be used without an Individual Authorisation, approved by Order No. 1V-27 of the Director of the Communications Regulatory Authority of 13 March 2003 (Official Gazette Valstybes zinios, Nr.30-1277, 2003). Radio equipment must conform to the requirements of the List.
	Moldova	Telecommunication equipment and cables are imported commercialized only on basis of conformity certificates issued by the Telecommunication Products Certification Body of Moldova and must be marked in Moldova. It is not permitted to utilise non-certificated and non-marked telecommunication equipment and cables. Subject to the above all SRD frequency bands with technical parameters indicated in ERC REC 70-03 are permitted on secondary basis.	In accordance with Law of Telecommunications of Republic of Moldova.
	Russian Federation	In accordance with the current National Frequency Allocation Table, different communication services, including special applications operate in frequency bands designated for SRD applications. All radiocommunication systems require individual license and authorization for using certain radio frequencies, which is granted after conformity assessment procedures. All types of radio equipment requires national approval based on the national standard system (GOST) and issue of conformity certificate. Only equipment with national mark can be placed on the market in Russia.	
	Turkey		The short range and low powered devices under the scope of SRD Ordinance (enter into force 17 March 2007) can be used without any need to get the certificate, use permit and frequency registers on condition that they shall meet the determined conditions and be in accordance with the technical regulations specifications accepted by The Authority

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
<b>Annex 1 Band A</b>			
<b>Non Specific Short Range Devices</b>			
<b>6765-6795 kHz</b>			
	Russian Federation	No info	
<b>Annex 1 Band C</b>			
<b>Non Specific Short Range Devices</b>			
<b>26.957-27.283 MHz</b>			
	United Kingdom	Only 26.995, 27.045, 27.095, 27.145, 27.195 MHz @10 kHz, e.r.p. 1 mW	Restriction to protect CB. The UK is reviewing its position on this
<b>Annex 1 Band E</b>			
<b>Non Specific Short Range Devices</b>			
<b>138.20-138.45 MHz</b>			
	Belgium	Not implemented	
	Croatia	Not implemented	
	Finland	Audio and voice not allowed	
	France	Not implemented	Exclusive defence systems
	Germany	Not implemented	Defence systems
	Greece	Not implemented	Land Mobile service
	Hungary	Not implemented	Aeronautical mobile applications operate in the band
	Ireland	Not implemented	Allocated to Land Mobile
	Italy	Not implemented	Defence systems
	Latvia	Not implemented	
	Liechtenstein	Not implemented	
	Poland	Not implemented	Defence systems
	Portugal	Not implemented	Defence systems
	Russian Federation	No info	
	Slovak Republic	Not implemented	Defence systems
	Slovenia	Not implemented	Not available
	Spain	Not implemented	Defence systems
	Sweden	Not implemented	
	Switzerland	Not implemented	Exclusive defence systems
	The Netherlands	Not implemented	Exclusive defence systems
	Turkey	Not implemented	Defence systems
	United Kingdom	Not implemented	Not implemented due to lack of demand. Implementation under consideration
<b>Annex 1 Band F</b>			
<b>Non Specific Short Range Devices</b>			
<b>433.050-434.790 MHz</b>			
	Finland	Audio and voice not allowed	
	France	No duty cycle limits Voice applications allowed	Conformity with ERC REC 70-03 in progress
	Hungary	Voice and audio applications are excluded	
	Italy	Limited to 433.05-433.575 MHz for audio signals with 12.5 or 25 kHz channel spacing. Audio and voice signals not allowed	Defence systems
	Luxembourg	No audio and no voice	
	Russian Federation	Limited implementation	433.075-434.790 MHz. Possible use of low power stations and devices for processing of bar-codes
<b>Annex 1 Band F1</b>			
<b>Non Specific Short Range Devices</b>			
<b>433.050-434.790 MHz</b>			
	Finland	Audio and voice not allowed	
	France	No duty cycle limits voice applications	Conformity with ERC REC 70-03 in progress allowed
	Hungary	Voice and audio applications are excluded	
	Liechtenstein	Audio and voice applications not allowed	
	Luxembourg	No audio and no voice	
	Russian Federation	No info	
	Switzerland	Audio and voice applications not allowed	

Annex	Country	Restriction	Reason/remark
<b>Annex 1 Band F2</b>			
<b>Non Specific Short Range Devices</b>			
<b>434.040-434.790 MHz</b>			
	Finland	Audio and voice signals not allowed	
	France	No duty cycle limits Voice applications	Conformity with ERC REC 70-03 in progress allowed
	Greece	Not implemented	
	Hungary	Voice and audio applications are excluded	
	Liechtenstein	Audio and voice applications not allowed	
	Luxembourg	No audio and no voice	
	Russian Federation	No info	
	Switzerland	Audio and voice applications not allowed	

**Annex 1 Band G****Non Specific Short Range Devices****863-870 MHz**

	Austria	Not implemented	Planned
	Belgium	Not implemented	
	Cyprus	Not implemented	
	France	Not implemented	
	Greece	Not implemented	
	Hungary	Voice and audio applications are excluded	
	Ireland	Not implemented	Planned
	Italy	Not implemented	
	Latvia	Not implemented	
	Lithuania	Not implemented	
	Norway	Not implemented	
	Poland	Not implemented	Planned from 01.01.2007
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Slovak Republic	Not implemented	Under study
	Spain	Not implemented	Fixed Service
	Sweden	Not implemented	
	The Netherlands	Not implemented	Under study
	United Kingdom	Not implemented	Implementation under consideration

**Annex 1 Band G1****Non Specific Short Range Devices****868.000-868.600 MHz**

	Russian Federation	No info	
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**Annex 1 Band G2****Non Specific Short Range Devices****868.700-869.200 MHz**

	Cyprus	Not implemented	
	Russian Federation	No info	

**Annex 1 Band G3****Non Specific Short Range Devices****869.400-869.650 MHz**

	Italy	Max 25 mW e.r.p.	Defence systems
	Russian Federation	No info	

**Annex 1 Band G4****Non Specific Short Range Devices****869.700-870.000 MHz**

	Finland	Audio not allowed	
	Hungary	Audio applications are excluded	
	Russian Federation	No info	

Appendix 3 – National Restrictions

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 1 Band H</b>			
<b>Non Specific Short Range Devices</b>			
<b>2400.0-2483.5 MHz</b>			
	Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund Bluetooth
	Russian Federation		
<b>Annex 1 Band I</b>			
<b>Non Specific Short Range Devices</b>			
<b>5725-5875 MHz</b>			
	Russian Federation	No info	
<b>Annex 1 Band J</b>			
<b>Non Specific Short Range Devices</b>			
<b>24.00-24.25 GHz</b>			
	France	Power limited to 0.1 mW e.i.r.p.in frequency band 24.10 - 24.15 GHz	Military Radiolocation use. Operation by police forces of Radar Speed Meters
	Russian Federation	No info	
	United Kingdom	Only 24.150-24.250 GHz	To protect police speedmeters. Only used for movement sensing
<b>Annex 1 Band K</b>			
<b>Non Specific Short Range Devices</b>			
<b>61.0-61.5 GHz</b>			
	Croatia	Not implemented	Standard not yet available  Not implementation due to lack of demand. Implementation under consideration
	France	Not implemented	
	Russian Federation	No info	
	Slovak Republic	Not implemented	
	Sweden	Not implemented	
	United Kingdom	Not implemented	
<b>Annex 1 Band L</b>			
<b>Non Specific Short Range Devices</b>			
<b>122-123 GHz</b>			
	Croatia	Not implemented	Ready to implement. No specification/equipment available  Standard not yet available Under study Not implementation due to lack of demand. Implementation under consideration
	France	Not implemented	
	Ireland	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Slovak Republic	Not implemented	
	Sweden	Not implemented	
	United Kingdom	Not implemented	
<b>Annex 1 Band M</b>			
<b>Non Specific Short Range Devices</b>			
<b>244-246 GHz</b>			
	Croatia	Not implemented	Ready to implement. No specification/equipment available  Standard not yet available Under study Not implementation due to lack of demand. Implementation under consideration
	France	Not implemented	
	Ireland	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Slovak Republic	Not implemented	
	Sweden	Not implemented	
	United Kingdom	Not implemented	
<b>Annex 2 Band A</b>			
<b>Tacking, Tracing and Data Acquisition</b>			
<b>457 kHz</b>			
	Latvia	Not implemented	
	Serbia & Montenegro	Not implemented	

Annex	Country	Restriction	Reason/remark
<b>Annex 2 Band B</b>			
<b>Tacking, Tracing and Data Acquisition</b>			
<b>169.4-169.475 MHz</b>			
	Austria	Not implemented	Planned
	Belgium	No info	
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Cyprus	No info	
	Denmark	Not implemented	PMR band
	France	Not implemented	Planned
	Greece	No info	
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Liechtenstein	Not implemented	Under study
	Norway	Limited	Maximum radiated power = 10 mW
	Poland	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Spain	No info	
	Switzerland	Not implemented	Under study
	The Netherlands	Implemented	channel spacing 12.5 kHz

<b>Annex 2 Band C</b>			
<b>Tacking, Tracing and Data Acquisition</b>			
<b>169.4-169.475 MHz</b>			
	Austria	Not implemented	Planned
	Belgium	No info	
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Cyprus	No info	
	Denmark	Not implemented	PMR band
	France	Not implemented	Planned
	Greece	No info	
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Liechtenstein	Not implemented	Under study
	Poland	No info	
	Romania	No info	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Spain	No info	
	Switzerland	Not implemented	Under study
	The Netherlands	Implemented	channel spacing 12.5 kHz

<b>Annex 3 Band A</b>			
<b>Wideband Data Transmission systems</b>			
<b>2400.0-2483.5 MHz</b>			
	France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
	Italy		If used outside of own premises, general authorization is required
	Luxembourg	None	General authorization required for network and service supply (not for spectrum)
	Norway	Implemented	This subsection does not apply for the geographical area within a radius of 20 km from the centre of Ny-Ålesund
	Russian Federation		Only for indoor applications

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
<b>Annex 3 Band B</b>			
<b>Wideband Data Transmission systems</b>			
<b>5150-5250 MHz</b>			
	Italy		General authorization required if used outside own premises
	Luxembourg	None	General authorization required for network and service supply (not for spectrum)
	Russian Federation	No info	
<b>Annex 3 Band C</b>			
<b>Wideband Data Transmission systems</b>			
<b>5250-5350 MHz</b>			
	Italy		General authorization required if used outside own premises
	Luxembourg	None	General authorization required for network and service supply (not for spectrum)
	Russian Federation	No info	
<b>Annex 3 Band D</b>			
<b>Wideband Data Transmission systems</b>			
<b>5470-5725 MHz</b>			
	France		Relevant+ provisions for the implementation of DFS mechanism described in ETSI standard EN 301 893 V1.3.1 and subsequent versions
	Italy		General authorization required if used outside own premises
	Luxembourg	None	General authorization required for network and service supply (not for spectrum)
	Russian Federation	No info	
	Turkey	Not implemented	Defence systems
<b>Annex 3 Band E</b>			
<b>Wideband Data Transmission systems</b>			
<b>17.1-17.3 GHz</b>			
	Belgium	Not implemented	
	Croatia	Not implemented	
	Czech Republic	Not implemented	Under study, other services in the band
	France	Not implemented	
	Germany	Not implemented	Equipment/Standard not yet developed
	Hungary	Planned	No equipment and standards are available
	Italy		General authorization required if used outside own premises
	Luxembourg	Not implemented	
	Norway	Not implemented	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	Not implemented	Standard not yet available
	Slovenia	Not implemented	Not available
	Spain	Not implemented	Defence systems
	Sweden	Not implemented	
	Turkey	Not implemented	
	United Kingdom	Not implemented	
<b>Annex 4 Band A</b>			
<b>Railway applications</b>			
<b>2446-2454 MHz</b>			
	Cyprus	Not applicable	No railways
	Italy	Not implemented	
	Malta	Not implemented	Service not applicable to Malta
	Norway	Limited	Given center frequencies 2447.0, 2448.5, 2450.0, 2451.5 and 2453.0 MHz
	Russian Federation	No info	
	Slovak Republic	Not implemented	Under study
	Spain	Not implemented	Not implemented due to lack of demand
	Sweden	Not implemented	License required – Defence systems
	United Kingdom	Limited	Channel plan limitation. Full implementation planned

Annex	Country	Restriction	Reason/remark
<b>Annex 4 Band B</b>			
<b>Railway applications</b>			
<b>27.095 MHz</b>			
	Cyprus	Not applicable	No railways
	Ireland	Not implemented	
	Malta	Not implemented	Service not applicable to Malta
	Russian Federation	No info	
	Sweden	Not implemented	27.115 MHz used as provided in EU legislation

<b>Annex 4 Band C</b>			
<b>Railway applications</b>			
<b>4234 kHz</b>			
	Austria	Not implemented	Planned
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	Not implemented	Under study
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	Not implemented	Service not applicable to Malta
	Norway	Not implemented	
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Slovenia	Not implemented	Not available
	Spain	No info	
	Sweden	No info	
	The Netherlands	Not implemented	Under study
	Turkey	Not implemented	Under study
	United Kingdom	No info	

<b>Annex 4 Band D1</b>			
<b>Railway applications</b>			
<b>4516 kHz</b>			
	Austria	Not implemented	Planned
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	
	Greece	No info	
	Hungary	Not implemented	4515 kHz is allocated
	Iceland	Not implemented	Under study
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
	Malta	Not implemented	Service not applicable to Malta
	Norway	Not implemented	4515 kHz is allocated
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Slovenia	Not implemented	Planned: 4515 is allocated
	Spain	No info	
	The Netherlands	Not implemented	4515 kHz implemented
	United Kingdom	No info	

**Annex 4 Band D2**

**Railway applications  
11.1-16.0 MHz**

Austria	Not implemented	Planned
Belgium	No info	
Bulgaria	Not implemented	Planned
Croatia	Not implemented	
Cyprus	No info	
Czech Republic	Not implemented	Under study
Denmark	Not implemented	
Estonia	Not implemented	Under study
France	Not implemented	
Greece	No info	
Hungary	Not implemented	Planned
Iceland	Not implemented	Under study
Ireland	No info	
Italy	No info	
Latvia	No info	
Liechtenstein	Not implemented	Under study
Lithuania	No info	
Luxembourg	No info	
Malta	Not implemented	Service not applicable to Malta
Norway	Not implemented	
Poland	No info	
Portugal	No info	
Romania	Not implemented	
Russian Federation	No info	
Slovak Republic	No info	
Slovenia	Not implemented	Not available
Spain	No info	
Sweden	No info	
Switzerland	Not implemented	Under study
The Netherlands	Not implemented	Under study
Turkey	Not implemented	Under study
United Kingdom	No info	

**Annex 5 Band A**

**RTTT  
5795-5805 MHz**

Cyprus	Not implemented	
France	Limited to automatic toll collection. Power limited to 2 W e.i.r.p.	Military Radiolocation and Meteorological use
Liechtenstein	Power limited to 2 W e.i.r.p.	Annex has two levels. Lower level is implemented
Malta	Limited implementation	Power limited to 2 W e.i.r.p. as per the lower limit of the Annex
Norway	Limited implementation	Individual license required
Romania	Not implemented	Under study
Russian Federation	No info	
Switzerland	Power limited to 2 W e.i.r.p.	Annex has two levels. Lower level is implemented to protect defence systems
United Kingdom	Only 2 W permitted	Annex has two levels– the UK has only implemented the lower level to protect programme making video links

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 5 Band B</b>			
<b>RTTT</b>			
<b>5805-5815 MHz</b>			
	Croatia	Not implemented	Individual license required
	Cyprus	Not implemented	
	France	Not implemented	
	Liechtenstein	Power limited to 2 W e.i.r.p. For road toll systems only	Annex has two levels. Lower level is implemented
	Malta	Limited implementation	Power limited to 2 W e.i.r.p. as per the lower limit of the Annex
	Norway	Limited implementation	Individual license required
	Romania	Not implemented	Under study
	Russian Federation	No info	
	Switzerland	Power limited to 2 W e.i.r.p. For road toll systems only	Annex has two levels. Lower level is implemented
	United Kingdom	Only 2 W permitted	Annex has two levels – the UK has only implemented the lower level to protect programme making video links
<b>Annex 5 Band C</b>			
<b>RTTT</b>			
<b>63-64 GHz</b>			
	Croatia	Not implemented	License required
	Cyprus	Not implemented	
	Estonia	Power limited to 2 W e.i.r.p.	
	Germany	Not implemented	Equipment/standard not yet developed
	France	Not implemented	
	Liechtenstein	Not implemented	Under study. No standard available
	Poland	Not implemented	Equipment/standard not yet developed
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	Not implemented	Standard not yet available
	Sweden	Not implemented	Equipment/standard not available
	Switzerland	Not implemented	Under study. No standard available
<b>Annex 5 Band D</b>			
<b>RTTT</b>			
<b>76-77 GHz</b>			
	Croatia	Not implemented	
	Cyprus	Not implemented	
	Poland	Not implemented	Planned from 01.01.2007
	Russian Federation	No info	
<b>Annex 6 Band A</b>			
<b>Radiodetermination applications</b>			
<b>2400.0-2483.5 MHz</b>			
	France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz.	Military Radiolocation use. Refarming of the 2.4 GHz band has been ongoing in recent years to allow current relaxed regulation. Full implementation planned 2012
	Russian Federation	No info	
<b>Annex 6 Band B</b>			
<b>Radiodetermination applications</b>			
<b>9200-9500 MHz</b>			
	Finland	Not implemented	
	France	Not implemented	
	Greece	Not implemented	
	Italy	Not implemented	Defence systems
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Spain	Not implemented	Defence systems
	Sweden	Not implemented	
	United Kingdom	Limited implementation – may be used for Radar Level Gauges on a licence per site basis only	European use of 10 GHz for movement sensing and alert is fragmented. The UK has an allocation at 10.577-10.597 GHz for these devices

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 6 Band C</b>			
<b>Radiodetermination applications</b>			
<b>9500-9975 MHz</b>			
	France	Limited to 9.88-9.92 with max e.i.r.p. 50 mW	
	Germany	Not implemented	Defence systems
	Latvia	Not implemented	Under study
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Slovak Republic	Not implemented	Defence systems
	Spain	Not implemented	Defence systems
	Sweden	Not implemented	
	United Kingdom	Limited implementation - may be used for Radar Level Gauges on a license per site basis only	
<b>Annex 6 Band D</b>			
<b>Radiodetermination applications</b>			
<b>10.5-10.6 GHz</b>			
	Austria	Not implemented	Fixed Service
	Czech Republic	Not implemented	Other services in the band
	Estonia	Not implemented	FWA
	Finland	Not implemented	10.45-10.50 GHz available
	France	Limited to 10.57-10.61 with max e.i.r.p. 20 mW	
	Germany	Not implemented	ENG/OB video links equipment
	Hungary	e.i.r.p. 25 mW. ENG/OB systems are protected	
	Ireland	25 mW e.i.r.p. power limit	
	Luxembourg	Limited to 25 mW	To avoid interference with ENG/OB and Fixed Service
	Russian Federation	Not implemented	Under study
	Slovak Republic	Not implemented	Fixed Service
	Sweden	Limited to 10.51-10.58 GHz	
	Turkey	Not implemented	Fixed Service and radiolocation
	United Kingdom	Limited to 10.577-10.597 GHz. May be used for Radar Level Gauges on a license per site basis only	The UK is developing Point to Point and Point to Area services in the band below 10.575 GHz
<b>Annex 6 Band E</b>			
<b>Radiodetermination applications</b>			
<b>13.4-14.0 GHz</b>			
	France	Not implemented	
	Russian Federation	No info	
	Spain	Not implemented	Governmental band
	Sweden	Not implemented	
	Turkey	Not implemented	
<b>Annex 6 Band F</b>			
<b>Radiodetermination applications</b>			
<b>24.05-24.25 GHz</b>			
	France	No restriction for fixed applications. Power limited otherwise to 0.1 mW e.i.r.p. in frequency band 24.10 - 24.15 GHz. Alternatively for FMCW modulation, the following conditions are also allowed: power limited to 20 mW (+13 dBm) mean e.i.r.p. and 50 mW (+17 dBm) peak e.i.r.p. with a minimum frequency sweep speed of 5 MHz per millisecond.	forces of Radar Speed Meters.
	Russian Federation		<ol style="list-style-type: none"> <li>1. The equipment for detecting movement should be installed along roads at 4 m distance from controlled part of road.</li> <li>2. The installation of equipment for detecting movement should be performed perpendicularly to movement direction of one- or multilane road with permissible deviation <math>\pm 15</math> degrees.</li> <li>3. The installation height of equipment for detecting movement should not exceed 5m above a road.</li> <li>4. The tilt angle of the main beam should be minus 20 degrees or less</li> </ol>
	United Kingdom	Limited	To protect police speedmeters devices operating in 24.05-24.15 GHz must employ a 2 MHz/mS minimum sweep rate

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 6 Band G</b>			
<b>Radiodetermination applications</b>			
<b>4.5-7.0 GHz</b>			
	Austria	Not implemented	Under study
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	Not implemented	Under study
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	No implemented	
	Norway	Not implemented	
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Spain	No info	
	The Netherlands	Not implemented	Under study
	Turkey	Not implemented	Under study
	United Kingdom	No info	

**Annex 6 Band H**  
**Radiodetermination applications**  
**8.5-10.6 GHz**

	Austria	Not implemented	Under study
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	Not implemented	Under study
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	Not implemented	
	Norway	Not implemented	
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Spain	No info	
	The Netherlands	Not implemented	Under study
	Turkey	Not implemented	Under study
	United Kingdom	No info	

Appendix 3 – National Restrictions

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 6 Band I</b>			
<b>Radiodetermination applications</b>			
<b>24.05-27.0 GHz</b>			
	Austria	Not implemented	Under study
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	Not implemented	Under study
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	Not implemented	
	Norway	Not implemented	
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Slovenia	Not implemented	Planned
	Spain	No info	
	The Netherlands	Not implemented	Under study
	Turkey	Not implemented	Under study
	United Kingdom	No info	

**Annex 6 Band J**

**Radiodetermination applications**

**57-64 GHz**

	Austria	Not implemented	Under study
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	Not implemented	Under study
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	Not implemented	
	Norway	Not implemented	
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Slovenia	Not implemented	Planned
	Spain	No info	
	The Netherlands	Not implemented	Under study
	Turkey	Not implemented	Under study
	United Kingdom	No info	

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 6 Band K</b>			
<b>Radiodetermination applications</b>			
<b>75-85 GHz</b>			
	Austria	Not implemented	Under study
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	Denmark	Not implemented	
	Estonia	Not implemented	Under study
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	No info	
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	Not implemented	
	Norway	Not implemented	
	Poland	No info	
	Portugal	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Slovenia	Not implemented	Planned
	Spain	No info	
	The Netherlands	Not implemented	Under study
	Turkey	Not implemented	Under study
	United Kingdom	No info	

**Annex 6 Band L****Radiodetermination applications****17.1-17.3 GHz**

	Austria	Not implemented	
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	No info	
	Cyprus	No info	
	Czech Republic	No info	
	Denmark	No info	
	Estonia	Not implemented	Under study
	Finland	No info	
	France	No info	
	Germany	No info	
	Greece	No info	
	Hungary	Not implemented	Planned
	Iceland	No info	
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Lithuania	No info	
	Luxembourg	No info	
	Malta	Not implemented	
	Norway	No info	
	Poland	No info	
	Portugal	No info	
	Romania	No info	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
	Slovenia	Not implemented	Planned
	Spain	No info	
	Switzerland	License required and location coordination	Other service with primary status in this band
	The Netherlands	Not implemented	Under study
	Turkey	No info	
	United Kingdom	No info	

**Annex 7 Band A**

**Alarms**

**868.600-868.700 MHz**

France	Duty cycle limited to 0.1%	
Russian Federation	Limited implementation	868-868.2 MHz
United Kingdom	Duty cycle limit 0.1%	UK will be altering its regulations to align with new 70-03 level of 1%

**Annex 7 Band B**

**Alarms**

**869.250-869.300 MHz**

Russian Federation	No info
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**Annex 7 Band C**

**Alarms**

**869.650-869.700 MHz**

Russian Federation	No info	
Slovak Republic	Max 10 mW e.r.p.	Defence systems

**Annex 7 Band D**

**Alarms**

**869.200-869.250 MHz**

Cyprus	Not implemented
Russian Federation	No info

**Annex 7 Band E**

**Alarms**

**869.300-869.400 MHz**

*(Technical parameters have been changed)*

Cyprus	Not implemented	
Czech Republic		Intended for all non-specific SRD
France	Not implemented	
Greece	Not implemented	
Ireland	Not implemented	Planned
Italy	Not implemented	
Latvia	Not implemented	
Lithuania	Not implemented	
Poland	Not implemented	Planned from 01.01.2007
Russian Federation	No info	
Serbia & Montenegro	Not implemented	
Slovenia	Not implemented	Planned
Sweden	Not implemented	

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 7 Band F</b>			
<b>Alarms</b>			
<b>169.4750-169.4875 MHz</b>			
	Austria	Not implemented	Planned
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Cyprus	Not implemented	
	Denmark	Not implemented	PMR band
	France	Not implemented	Planned
	Greece	Not implemented	
	Ireland	Not implemented	Under study
	Italy	Not implemented	
	Latvia	Not implemented	
	Liechtenstein	Limited implementation	A paging system is active in the adjacent channel
	Norway	Limited implementation	Restriction 169.481250 MHz. Given center frequency
	Poland	Not implemented	Planned from 01.01.2007
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Switzerland	Geographical restriction	A paging system is active in the adjacent channel in a part of Switzerland

**Annex 7 Band G****Alarms****169.5875-169.6000 MHz**

	Austria	Not implemented	Planned
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Cyprus	Not implemented	
	Denmark	Not implemented	PMR band
	France	Not implemented	Planned
	Greece	Not implemented	
	Iceland	Not Implemented	Planned
	Ireland	Not implemented	Under study
	Italy	Not implemented	
	Latvia	Not implemented	
	Norway	Limited implementation	Restriction 169.593750 MHz. Given center frequency
	Poland	Not implemented	Planned from 01.01.2007
	Portugal	Not implemented	Land Mobile
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Switzerland	Geographical restriction	Another system is active in a part of Switzerland

**Annex 8 Band A****Model Control****26.995, 27.045, 27.095, 27.145,  
27.195 MHz**

	Russian Federation	Limited implementation	26.957-27.283 MHz Power limited to 10 mW, channel spacing 50 kHz
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**Annex 8 Band B****Model Control****34.995-35.225 MHz**

	France	Under study	Dedicated networks for Ministry of transport.
	Germany	Limited to 35.005-35.205 MHz	Emergency services
	Norway	Limited implementation	Given center frequencies (35.000-35.010-35.020 MHz etc.)
	Russian Federation	No info	
	Spain	Limited	Limited to 35.030-35.200 MHz

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 9 Band AB</b>			
<b>Inductive applications</b>			
<b>59.750-60.250 kHz</b>			
	Spain	No restriction	Magnetic field 72 dB $\mu$ A/m at 10 m
<b>Annex 9 Band AC</b>			
<b>Inductive applications</b>			
<b>60.250-70.000 kHz</b>			
	Spain	No restriction	Magnetic field 72 dB $\mu$ A/m at 10 m
<b>Annex 9 Band C</b>			
<b>Inductive applications</b>			
<b>119-135 kHz</b>			
	Germany	Within 119-127 kHz max field strength of 66 dB $\mu$ A/m at 10 metres, within 127-135 kHz max field strength is 42 dB $\mu$ A/m at 10 metres. Reason for this restriction is the protection of the application "radio ripple control" in the primary Fixed Service. The length of any antenna loop element shall be <30 m	Applications within the Fixed Service
<b>Annex 9 Band C1</b>			
<b>Inductive applications</b>			
<b>135-140 kHz</b>			
	Greece	Not implemented	
	Ireland	Not implemented	Planned
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Portugal	Not implemented	Defence systems
	Russian Federation	No info	
<b>Annex 9 Band C2</b>			
<b>Inductive applications</b>			
<b>140.0-148.5 kHz</b>			
	Greece	Not implemented	
	Ireland	Not implemented	Planned
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Portugal	Not implemented	Defence systems
	Russian Federation	No info	
	Spain	Not implemented	Not implemented due to lack of demand
<b>Annex 9 Band E</b>			
<b>Inductive applications</b>			
<b>7400-8800 kHz</b>			
	Spain	No restriction	Frequency band 7350-8800 kHz
	United Kingdom	In case of external antennas, only loop coil antennas may be employed	
<b>Annex 9 Band F1</b>			
<b>Inductive applications</b>			
<b>13.553-13.567 MHz</b>			
	Belgium	Not implemented	
	Greece	Not implemented	
	Ireland	Not implemented	Planned
	Latvia	Not implemented	
	Lithuania	Not implemented	Under study
	Norway	Not implemented	
<b>Annex 9 Band G</b>			
<b>Inductive applications</b>			
<b>26.957-27.283 MHz</b>			
	United Kingdom	In case of external antennas, only loop coil antennas may be employed	

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 9 Band H</b>			
<b>Inductive applications</b>			
<b>10.200-11.000 MHz</b>			
	Austria	Not implemented	Planned
	Belgium	Not implemented	
	Cyprus	Not implemented	
	Greece	Not implemented	
	Ireland	Not implemented	Under study
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Lithuania	Not implemented	Under study
	Norway	Not implemented	
	Portugal	Not implemented	Defence systems
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Spain	Not implemented	Not implemented due to lack of demand
	United Kingdom	In case of external antennas, only loop coil antennas may be employed	
<b>Annex 9 Band K</b>			
<b>Inductive applications</b>			
<b>3155-3400 kHz</b>			
	Ireland	Not implemented	Planned
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Norway	Not implemented	
	Portugal	Not implemented	Defence systems
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Spain	Not implemented	Not implemented due to lack of demand
<b>Annex 9 Band L1</b>			
<b>Inductive applications</b>			
<b>148.5 kHz-5 MHz</b>			
	Austria	Limited to the band 148.5 – 1600 kHz	Extension to 5 MHz planned
	Belgium	No info	
	Bulgaria	Limited	148.5-1600 kHz band is allocated 1600-5000 kHz band is planned
	Cyprus	No info	
	France	Not implemented	Planned
	Greece	No info	
	Italy	No info	
	Ireland	No info	
	Hungary	Limited	148.5-1600 kHz band is open / 1600-5000 kHz band is planned
	Latvia	No info	
	Lithuania	No info	
	Portugal	Not implemented	Defence systems
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	
	Spain	Not implemented	Not implemented due to lack of demand
	United Kingdom	Limited	Only 148.5-1600 kHz and 2000-5000 kHz permitted
<b>Annex 9 Band L2</b>			
<b>Inductive applications</b>			
<b>5-30 MHz</b>			
	Austria	Not implemented	Planned
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Cyprus	No info	
	France	Not implemented	Planned
	Greece	No info	

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
	Hungary	Not implemented	5000-30000 kHz band is planned
	Italy	No info	
	Ireland	No info	
	Latvia	No info	
	Lithuania	No info	
	Poland	Not implemented	Planned from 01.01.2008
	Portugal	Not implemented	Defence systems
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	
	Spain	Not implemented	Not implemented due to lack of demand

**Annex 9 Band L3**

**Inductive applications  
400-600 kHz**

	Austria	Not implemented	Planned
	Belgium	No info	
	Cyprus	No info	
	Denmark	Not implemented	Planned
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Italy	No info	
	Ireland	No info	
	Latvia	No info	
	Lithuania	No info	
	Norway	Not implemented	
	Poland	Not implemented	Planned from 01.01.2008
	Portugal	Not implemented	Defence systems
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	
	Spain	No info	Not implemented due to lack of demand

**Annex 10 Band A**

**Radio Microphones and Assistive Listening Devices  
29.7-47.0 MHz**

	Austria	Limited	only the frequencies 36.8, 36.85, 37.45, 37.50-37.55 MHz for narrow band and 36.7-37.1-44.55-45.0 MHz for broadband radio microphones are available
	Croatia	Not implemented	
	Czech Republic	only four sub-bands allowed	27.415-27.915 MHz 10 mW e.r.p. max 50 kHz 36.4-36.65 MHz 10 mW e.r.p. max 50 kHz 36.65-38 MHz 2 mW e.r.p. channel max 50 kHz 38-38.5 MHz 10 mW e.r.p. channel max 200 kHz
	Estonia	Limited to 37.6-38.6 MHz	Land mobile
	Finland	Limited	only 31.1, 32.1, 32.9, 33.5, 36.7, 37.1 and 42.4-43.6 MHz with max 200 kHz channels
	France	Limited	to 32.8, 36.4, 39.2 MHz 1 mW e.r.p. and 200 kHz
	Germany	Limited	to 32.4-38.2 MHz. Permitted channel spacing 10 kHz below 36 MHz and 40 kHz above 36 MHz
	Greece	Limited	to 30, 30.5, 31, 35, 36.5, 36.7, 37, 37.1, 37.5 MHz 38.25-47 MHz Governmental use
	Hungary	Limited	34.9-38.5 MHz band is allocated
	Ireland	Not implemented	Planned
	Italy	Limited to 41-43.6 MHz	Defence systems
	Latvia	Not implemented	
	Liechtenstein	Limited	to 31.4-39.6 MHz
	Luxembourg	Limited	excluding the use of the band 34.995-35.225 MHz
	Malta	Limited	to 29.7-34.9 and 37.5-40.98 MHz

Annex	Country	Restriction	Reason/remark
	Norway	Limited	to 41.0-43.6 MHz max channel spacing 10 kHz. Max 100 mW e.r.p. AM not allowed
	Portugal	Not implemented	Defence systems
	Romania	Not implemented	
	Russian Federation	Limited implementation	Hearing and speech training radio devices for persons with speech defects. Power limited to 10 mW. Fixed frequencies in the bands 33.175-40MHz and 40.025-48.5 MHz: 33.2, 33.35, 33.45, 33.55, 33.575, 33.6, 33.75, 33.85, 33.875, 33.9, 34.05, 34.15, 34.175, 34.2, 34.3, 34.375, 34.4, 34.975, 35.025, 35.15, 35.225, 35.375, 35.55, 35.65, 35.95, 35.975, 36.025, 36.075, 36.125, 36.175, 36.225, 36.275, 36.325, 36.375, 36.425, 36.475, 36.525, 36.575, 36.625, 36.675, 36.725, 36.775, 36.825, 36.875, 36.925, 36.975, 37.025, 37.075, 37.125, 37.175, 37.225, 37.275, 37.325, 37.375, 37.425, 37.475, 37.525, 37.575, 37.625, 37.675, 37.725, 37.775, 37.825, 37.875, 37.925, 37.975, 38.025, 38.075, 38.125, 38.175, 38.225, 38.275, 38.325, 38.375, 38.425, 38.475, 38.525, 38.575, 38.625, 38.675, 38.725, 38.775, 39.025, 39.225, 39.400, 39.6, 39.75, 39.85, 39.925, 39.975, 40.05, 40.15, 40.25, 40.325, 40.425, 40.65, 40.825, 41.3, 41.325, 41.35, 41.375, 41.4, 41.5, 41.6, 41.625, 41.65, 41.675, 41.7, 41.75, 41.8, 41.9, 41.95, 42.1, 42.15, 42.2, 42.25, 42.35, 42.45, 42.475, 42.5, 42.525, 42.55, 42.575, 42.6, 42.625, 42.65, 42.675, 42.7, 42.725, 42.75, 42.8, 42.85, 42.95, 42.975, 43, 43.15, 43.175, 43.2, 43.225, 43.25, 43.4, 43.5, 43.7, 43.725, 43.75, 43.8, 44, 44.25, 44.4, 44.475, 44.5, 44.65, 44.75, 44.975, 45, 45.25, 45.45, 45.475, 45.5, 45.65, 45.75, 45.8, 45.95, 45.975, 46, 46.125, 46.175, 46.225, 46.425, 46.45, 46.475, 46.55, 46.575, 46.6, 46.65, 46.675, 46.7, 46.775, 46.8, 46.825, 46.85, 46.875, 46.925, 46.95, 46.975, 47, 47.075, 47.125, 47.25 MHz
	Slovak Republic	Limited to 27.75-27.9 and 36.4-38.5 MHz	Defence systems in the rest of the band
	Spain	Limited	to 31.500, 31.750, 37.850, 38.300 and 38.550 MHz
	Sweden	Limited to 41.0-43.6 MHz	Land Mobile
	Switzerland	Limited to 31.4-39.6 MHz	Main use by defence systems
	United Kingdom	Individual licence required	26 countries have restrictions here. Many could be removed if licensing was specified in the Annex

**Annex 10 Band B****Radio Microphones and Assistive Listening Devices****173.965-174.015 MHz**

Austria	Not implemented	Planned
Belgium	Not implemented	
Bulgaria	Limited implementation	Limited to 174.000-174.015 MHz
Croatia	Not implemented	
Denmark	Not implemented	PMR band
Finland	Individual license require Regional restrictions	PMR and broadcasting usage
France	Not implemented	Governmental band
Greece	Not implemented	Under study
Liechtenstein	Not implemented	Occupied with mobile services
Norway	Limited	to 173.8125, 173.8375, 173.8625, 173.8875, 173.9125, 173.9375, 173.9625, 173.9875 MHz
Poland	Not implemented	Government band
Russian Federation	No info	
Spain	Not implemented	Not implemented due to lack of demand
Sweden	Not implemented	Land Mobile
Switzerland	Not implemented	Closely occupied with mobile services

**Annex 10 Band C****Radio Microphones and Assistive Listening Devices****863-865 MHz**

Croatia	Not implemented
Russian Federation	No info

**Annex 10 Band D****Radio Microphones and Assistive Listening Devices****174-216 MHz**

Austria	Not implemented	Planned
Croatia	Not implemented	
Denmark	Limited implementation	
Finland	Regional restrictions	
France	175.5-178.5 and 183.5-186.5 MHz with 10 mW e.r.p. and 200 kHz channel spacing	
Ireland	Individual license required	
Latvia	Not implemented	Under study

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
	Malta	Not implemented	
	Norway	Not implemented	
	Romania	Not implemented	
	Russian Federation	Limited implementation	174-230 MHz. Power limited to 5 mW
	Spain	Limited to 174.100, 174.300, 175.500, 176.300, 179.300, 188.100, 188.500, 189.100, 191.900 and 194.500 MHz	
	The Netherlands	Implemented	License exempted

**Annex 10 Band E**

**Radio Microphones and Assistive Listening Devices  
470-862 MHz**

Denmark	Limited	to 800.100-819.900 MHz
Finland	Only 790.100-821.900 and 854-862 MHz Individual licence required	
France	Limited	to 470-830 MHz
Germany	Subbands 608-614 MHz (TV ch 38) and 814-838 MHz (TV ch 64-66) excluded	Radio Astronomy, defence systems
Ireland	Individual license required	
Italy	Limited to 470-854 MHz	854-862 MHz is exclusive military band
Latvia	Not implemented	Under study
Malta	Limited	to 854-862 MHz
Norway	Limited	to 800-820 MHz max 20 mW e.r.p.
Romania	Not implemented	
Russian Federation	Limited implementation	470-638 and 710-726 MHz. Power limited to 5 mW
Spain	Not implemented	Only broadcasting TV in this band
The Netherlands	Implemented	License exempted
Ukraine	Individual license required	

**Annex 10 Band F**

**Radio Microphones and Assistive Listening Devices  
1785-1795 MHz**

Austria	Limited	to the band 1785.7 - 1795 MHz
Belgium	No info	
Cyprus	No info	
Czech Republic	Individual license required	
France	Limited	Body worn equipment permitted with max 50 mW e.r.p. Power otherwise limited to 10 mW e.r.p.
Greece	No info	
Italy	No info	
Ireland	No info	
Latvia	No info	
Lithuania	No info	
Malta	Not implemented	Planned
Romania	Not implemented	
Russian Federation	No info	
Serbia & Montenegro	No info	
Slovak Republic	No info	
Sweden	No info	
The Netherlands	Implemented	max 50 mW e.r.p. Channel spacing 600 kHz
United Kingdom	Limited	Band to be auctioned in Northern Ireland. Separate arrangements to be agreed for Great Britain

**Annex 10 Band G**

**Radio Microphones and Assistive Listening Devices  
1795-1800 MHz**

Austria	Limited	to the band 1795 - 1799.4 MHz
Belgium	No info	
Croatia	Not implemented	
Cyprus	No info	
Czech Republic	Individual license required	
Finland	Not implemented	
France	Limited	Body worn equipment permitted with max 50 mW e.r.p. Power otherwise limited to 10 mW e.r.p.
Greece	No info	

Annex	Country	Restriction	Reason/remark
	Italy	No info	
	Ireland	No info	
	Latvia	No info	
	Lithuania	No info	
	Malta	Not implemented	Planned
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	
	Sweden	No info	
	The Netherlands	Implemented	max 50 mW e.r.p. Channel spacing 600 kHz
	United Kingdom	Limited	Band to be auctioned in Northern Ireland. Separate arrangements to be agreed for Great Britain

**Annex 10 Band H1****Radio Microphones and Assistive Listening Devices  
169.4000-169.4750 MHz**

Austria	Not implemented	Planned
Belgium	No info	
Bulgaria	Not implemented	
Croatia	Not implemented	
Cyprus	No info	
Denmark	Not implemented	PMR band
France	Not implemented	Planned
Germany	Not implemented	Planned
Greece	No info	
Italy	No info	
Ireland	No info	
Latvia	No info	
Liechtenstein	Shared with paging services	Interference from paging services possible
Lithuania	No info	
Poland	Not implemented	Planned from 01.01.2007
Romania	Not implemented	
Russian Federation	No info	
Serbia & Montenegro	No info	
Slovak Republic	No info	
Switzerland	Shared with paging services	Interference from paging services possible

**Annex 10 Band H2****Radio Microphones and Assistive Listening Devices  
169.4875-169.5875 MHz**

Austria	Not implemented	Under study not available / PMR use
Belgium	No info	
Bulgaria	Not implemented	
Croatia	Not implemented	
Cyprus	No info	
Denmark	Not implemented	PMR band
France	Not implemented	Planned
Greece	No info	
Iceland	Not implemented	Planned
Italy	No info	
Ireland	No info	
Latvia	No info	
Liechtenstein	Shared with paging services	Interference from paging services possible
Poland	Not implemented	Planned from 01.01.2007
Portugal	Not implemented	Land Mobile
Romania	Not implemented	
Russian Federation	No info	
Serbia & Montenegro	No info	
Slovak Republic	No info	
Switzerland	Shared with paging services/ Geographical restriction	Interference from paging services possible

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
<b>Annex 10 Band I</b>			
<b>Radio Microphones and Assistive Listening Devices</b>			
<b>169.4-174.0 MHz</b>			
	Austria	Not implemented	implementation depends on market demand
	Belgium	No info	
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	only two additional channels allowed above 169.5875 MHz	173.3 MHz 50 mW e.r.p. max 75 kHz 173.99 MHz 2 mW e.r.p. max 50 kHz other services in the rest of the band
	Finland	Not implemented	
	France	Not implemented	
	Germany	No info	
	Greece	No info	
	Hungary	Not planned	Governmental use in the band
	Iceland	No info	
	Italy	No info	
	Ireland	No info	
	Latvia	No info	
	Liechtenstein	Not implemented	Occupied with mobile services
	Lithuania	No info	
	Luxembourg	Not implemented	
	Malta	Not implemented	
	Norway	Not implemented	
	Poland	Not implemented	Planned from 01.01.2007
	Portugal	Not implemented	Land Mobile
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	
	Slovenia	Not implemented	Planned
	Spain	Not implemented	Not implemented due to lack of demand
	Sweden	No info	
	Switzerland	Not implemented	Occupied with mobile services
	The Netherlands	Not implemented	Planned for end 2008
	Turkey	Not implemented	169.8-174.0 MHz band is used by PMR/PAMR
	United Kingdom	Implementation in 173.325-174.000 MHz	

**Annex 11 Band A**

**RFID**

**2446-2454 MHz**

	Croatia	Not implemented	
	France	Max e.i.r.p. 500 mW	
	Italy	Not implemented	
	Latvia	Not implemented	
	Russian Federation	No info	
	Slovak Republic	Not implemented	Under study
	Sweden	Limited to 25 mW e.i.r.p.	Defence systems

**Annex 11 Band B1**

**RFID**

**865.0-865.6 MHz**

	Belgium	No info	
	Cyprus	No info	
	France	No info	
	Greece	No info	
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Luxembourg	No info	
	Poland	No info	
	Portugal	No info	

Annex	Country	Restriction	Reason/remark
	Romania	Not implemented	
	Russian Federation	No info	
	Slovak Republic	No info	
	Spain	No info	
	United Kingdom	No info	

**Annex 11 Band B2****RFID****865.6-867.6 MHz**

Belgium	No info	
Cyprus	No info	
France	YES / Derogation	Power limited to 500 mW e.r.p. within defined zones around certain military camps in France (see list of military camps with geographical coordinates in national radio interface specification)
Greece	No info	
Ireland	No info	
Italy	No info	
Latvia	No info	
Luxembourg	No info	
Poland	No info	
Portugal	No info	
Russian Federation	No info	
Slovak Republic	No info	
Spain	No info	
United Kingdom	No info	

**Annex 11 Band B3****RFID****867.6-868.0 MHz**

Belgium	No info
Cyprus	No info
France	No info
Greece	No info
Ireland	No info
Italy	No info
Latvia	No info
Luxembourg	No info
Poland	No info
Portugal	No info
Romania	Not implemented
Russian Federation	No info
Slovak Republic	No info
Spain	No info
United Kingdom	No info

**Annex 12 Band A****Wireless applications in Healthcare  
402-405 MHz**

Russian Federation	No info
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**Annex 12 Band A1****Wireless applications in Healthcare  
401-402 MHz**

Austria	Not implemented	Under study
Belgium	No info	
Bulgaria	Not implemented	Planned
Croatia	Not implemented	
Cyprus	No info	
Czech Republic	Not implemented	Under study
France	Not implemented	Planned
Greece	No info	
Hungary	Not implemented	Planned
Ireland	No info	

**Appendix 3 – National Restrictions**

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
	Italy	No info	
	Latvia	No info	
	Liechtenstein	Not implemented	Planned to be implemented by 01.01.09
	Malta	Not implemented	Planned
	Norway	Not implemented	
	Poland	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	Not implemented	Under study
	Spain	No info	
	Switzerland	Not implemented	Planned to be implemented by 01.01.09
	The Netherlands	Not implemented	Under study
	Turkey	No info	
	United Kingdom	Not implemented	Full implementation planned

**Annex 12 Band A2**

**Wireless applications in Healthcare  
405-406 MHz**

	Austria	Not implemented	Under study
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Croatia	Not implemented	
	Cyprus	No info	
	Czech Republic	Not implemented	Under study
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Ireland	No info	
	Italy	No info	
	Latvia	No info	
	Liechtenstein	Not implemented	Planned to be implemented by 01.01.09
	Malta	Not implemented	Planned
	Norway	Not implemented	
	Poland	No info	
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	Not implemented	Under study
	Spain	No info	
	Switzerland	Not implemented	Planned to be implemented by 01.01.09
	The Netherlands	Not implemented	Under study
	Turkey	No info	
	United Kingdom	Not implemented	Full implementation planned

**Annex 12 Band B**

**Wireless applications in Healthcare  
9-315 kHz**

	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Portugal	Limited	Limited 9-135 kHz
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Spain	Limited	Limited 9-140 kHz
	Turkey	Planned	Implemented after SRD Ordinance is revised
	United Kingdom	Limited to 9-185 kHz	Full implementation planned

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 12 Band C</b>			
<b>Wireless applications in Healthcare</b>			
<b>315-600 kHz</b>			
	Cyprus	Not implemented	
	France	Not implemented	Planned
	Greece	Not implemented	
	Ireland	Not implemented	Under study
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Norway	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Turkey	Planned	Implemented after SRD Ordinance is revised
<b>Annex 12 Band D</b>			
<b>Wireless applications in Healthcare</b>			
<b>30.0-37.5 MHz</b>			
	Austria	Not implemented	Planned
	Czech Republic	Not implemented	Other services in the band
	Cyprus	Not implemented	
	France	Not implemented	Planned
	Greece	Not implemented	
	Ireland	Not implemented	Under study
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Liechtenstein	Not implemented	
	Norway	Not implemented	
	Portugal	Not implemented	Defence systems
	Russian Federation	No info	
	Slovak Republic	Not implemented	Under study
	Spain	Not implemented	
	Sweden	Not implemented	Planned
	Switzerland	Not implemented	Defence systems
	Turkey	Planned	Implemented after SRD Ordinance is revised
<b>Annex 12 Band E</b>			
<b>Wireless applications in Healthcare</b>			
<b>12.5-20.5 MHz</b>			
	Austria	Not implemented	Planned
	Belgium	No info	
	Bulgaria	Not implemented	Planned
	Cyprus	No info	
	France	Not implemented	Planned
	Greece	No info	
	Hungary	Not implemented	Planned
	Italy	No info	
	Ireland	No info	
	Latvia	No info	
	Lithuania	No info	
	Malta	Not implemented	Planned
	Norway	Not implemented	
	Poland	Not implemented	Planned from 01.01.2008
	Portugal	Not implemented	Defence systems
	Romania	Not implemented	
	Russian Federation	No info	
	Serbia & Montenegro	No info	
	Slovak Republic	No info	
	Spain	Not implemented	
	Turkey	Planned	Implemented after SRD Ordinance is revised

Appendix 3 – National Restrictions

<b>Annex</b>	<b>Country</b>	<b>Restriction</b>	<b>Reason/remark</b>
<b>Annex 13 Band A</b>			
<b>Wireless Audio</b>			
<b>863-865 MHz</b>			
	Russian Federation	No info	
<b>Annex 13 Band B</b>			
<b>Wireless Audio</b>			
<b>864.8-865 MHz</b>			
	Croatia	Not implemented	
	Greece	Not implemented	
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Russian Federation	No info	
<b>Annex 13 Band C</b>			
<b>Wireless Audio</b>			
<b>1795-1800 MHz</b>			
	Austria	Not implemented	
	Croatia	Not implemented	
	Finland	Not implemented	
	France	Not implemented	
	Greece	Not implemented	
	Ireland	Not implemented	Under study
	Italy	Not implemented	Planned
	Latvia	Not implemented	
	Russian Federation	No info	
	Slovak Republic	Not implemented	Fixed service
	Spain	Not implemented	
	The Netherlands	Not implemented	
	Turkey	Planned	Implemented after SRD Ordinance is revised
	United Kingdom	Limited	Band to be auctioned in Northern Ireland. Separate arrangements to be agreed for Great Britain
<b>Annex 13 Band D</b>			
<b>Wireless Audio</b>			
<b>87.5-108.0 MHz</b>			
	Cyprus	Not implemented	
	France	Not implemented	
	Greece	Not implemented	
	Hungary	Not implemented	Planned
	Ireland	Not implemented	
	Italy	Not implemented	
	Latvia	Not implemented	
	Poland	Not implemented	Planned from 01.01.2007
	Russian Federation	No info	
	Serbia & Montenegro	Not implemented	
	Slovak Republic	Under study	
	Slovenia	Limited	max 50nW e.r.p. (RTTE SC55)
	Turkey	Planned	Implemented after SRD Ordinance is revised

**List of abbreviations as used in this document**

AVI	Automatic Vehicle Identification for Railways
CEPT	European Conference of Postal and Telecommunications Administrations
CB	Citizen Band (27 MHz)
CT2	Cordless Telephones
DAA	Detect and Avoid
EAS	Electronic Article Surveillance
ECC	Electronic Communications Committee
EFIS	ERO Frequency Information System
ENG/OB	Electronic News Gathering / Outside Broadcasting
ERC	European Radiocommunications Committee
ERM	Electromagnetic Compatibility and Radio Spectrum Matters
ERO	European Radiocommunications Office
ETSI	European Telecommunications Standard Institute
FHSS	Frequency Hopping Spread Spectrum
ISM	Industrial, Scientific and Medical applications
LAN	Local Area Network
LBT	Listen Before Talk
(O)RLAN	Outdoor Radio Local Area Network
PMR	Professional Mobile Radio / Private Mobile Radio
R&TTE	Directive 1999/5/EC of the European Parliament and of the Council of 9 March 1999 on radio equipment and telecommunications terminal equipment and the mutual recognition of their conformity
RFID	Radio Frequency Identification
RTTT	Road Transport & Traffic Telematics
SRD	Short Range Devices
TETRA	Terrestrial Trunked Radio
TLPR	Tank Level Probing Radar
ULP-AID	Ultra Low Power Animal Implant Devices
ULP-AIP	Ultra Low Power Animal Implantable
WAS	Wireless Access Systems
WLL	Wireless Local Loop

**Duty cycle categories**

For the purposes of this Recommendation the duty cycle is defined as the ratio, expressed as a percentage, of the maximum transmitter “on” time on one carrier frequency, relative to a one hour period unless otherwise mentioned in the relevant Annex.

For pre-programmed devices the maximum transmitter “on” time and minimum “off” time are given in the following table.<sup>1</sup>  
These limits are advisory with a view to facilitating sharing between systems in the same frequency band

	Name	Transmitting time/Full cycle <sup>1</sup>	Maximum transmitter “on” time (seconds)	Minimum transmitter “off” time (seconds)	Explanation
1	Very Low	<0.1%	0.72	0.72	For example, 5 transmissions of 0.72 seconds within one hour.
2	Low	<1.0%	3.6	1.8	For example, 10 transmissions of 3.6 seconds within one hour.
3	High	<10%	36	3.6	For example, 10 transmissions of 36 seconds within one hour
4	Very High	Up to 100%	-	-	Typically continuous transmissions but also those with a duty cycle greater than 10%

### Document History

	Text	Page	Edition
	Text of the ERC Recommendation changed to align with the R&TTE Directive	4	October 2005
<b>Rearranged text of Recommendation 18 October 2005</b>			
Annex 1	Non-specific Short Range Devices	6	October 2007
Annex 2	Tracking, Tracing and Data Acquisition	8	February 2007
Annex 3	Wideband Data Transmission systems	9	August 2005
Annex 4	Railway applications	10	October 2007
Annex 5	Road Transport & Traffic Telematics (RTTT)	12	February 2004
Annex 6	Radiodetermination applications	13	February 2008
Annex 7	Alarms	14	October 2006
Annex 8	Model Control	15	May 2003
Annex 9	Inductive applications	16	October 2007
Annex 10	Radio microphones and Assistive Listening Devices	19	October 2006
Annex 11	Radio frequency identification applications	20	February 2008
Annex 12	Wireless applications in healthcare	23	October 2007
<b>Annex 13</b>	<b>Wireless Audio applications</b>	<b>24</b>	<b>May 2008</b>
Appendix 1	Implementation Status	25	May 2008
Appendix 2	List of relevant ECC/ERC Decisions, Recommendations and ETSI Standards, EC Decisions	30	October 2007
Appendix 3	National restrictions	35	May 2008