STATUS
of
ERC RECOMMENDATION 70-03

RELATING TO THE USE OF SHORT RANGE DEVICES (SRD)
Including Appendixes and Annexes
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October 2004

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

RELATING TO THE USE OF SHORT RANGE DEVICES (SRD)

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

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.

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 advice users on the risks of potential interference and its consequences.

INTRODUCTION

The CEPT has adopted recommendations to deal with low power devices, and specific short range devices. The European Telecommunications Standards Institute (ETSI) has now developed harmonised standards and standards for the majority of these devices. Other standards or technical specifications might be applicable within the framework of the R&TTE Directive.

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. Due to the many different services provided by these devices, no description can be exhaustive, however, the following categories are amongst those covered:

Telecommand and Telecontrol
Telemetry
Alarms
Speech and Video.

* See cover sheet for current status of Recommendation.

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 art. 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." For Short Range Devices individual license is normally not required. However, for particular applications individual license may be required for example where national frequency bands are chosen within tuning ranges. This is referred to in the particular annex.

Appendix 1 Table 1 lists the applications covered by this Recommendation. Tables 2 to 4 in Appendix 1 list parameters relevant to these applications.

In the following annexes the regulatory parameters as well as additional information about harmonised standards, frequency issues and important technical parameters also referred to in the harmonised standards are indicated for each type of Short Range Device applications. Other technical parameters are indicated in the relevant standard.

Relevant ERC Decisions and standards produced by ETSI are mentioned in Appendix 2 of this Recommendation for information purposes. Relevant ETSI Standards are also mentioned by their relevant (ETS/EN) number in the corresponding annexes. However, this list is not necessarily exhaustive and other standards or technical specifications may be applicable. For countries having implemented the R&TTE Directive its art. 10 procedures will then be applied for conformity assessment where either harmonised standards or with the involvement of a Notified Body also other standards and specifications may be applicable. Further details can be found on the relevant EC and the ERO web sites (www.ero.dk).

"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 other radio services;

b) that in general SRDs cannot claim protection from other 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 the list of applications currently covered by this Recommendation is shown in Appendix 1, Table 1;

g) 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,

h) 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

i) 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,

j) 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;

k) 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;

l) 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 listed in Appendix 1 (Applications and Parameter Tables) 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, for CEPT countries that have not implemented the R&TTE Directive, whenever there are ERC Decisions harmonising the radio parameters and adopting European standards the ERC Decision ERC/DEC/(97)10 is applicable. CEPT administrations that have not implemented the R&TTE Directive should accept the conformity assessment performed by bodies in other CEPT member countries without requiring national conformity assessment;

4) that, for CEPT countries that have not implemented the R&TTE Directive, whenever recommends (3) cannot be applied but there is an ETSI standard mentioned in the Annexes, those administrations should accept the test results reached by an accredited test laboratory in another country in accordance with ERC Recommendation CEPT/ERC/REC 01-06 (Brussels 1994) (Procedure for mutual recognition of type testing and type-approval for radio equipment);

5) that in cases not covered by recommends 3 and 4, CEPT administrations that have not implemented the R&TTE Directive should introduce national conformity assessment based on national type testing;

6) 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) for the up to date position on the implementation of this and other ECC/ERC recommendations.

Appendix 1

Applications and Parameter Tables

Annex	Application
1	Non-specific Short Range Devices
2	Equipment for Detecting Avalanche Victims
3	Local Area Networks, RLANs and HIPERLANs
4	Automatic Vehicle Identification for Railways (AVI)
5	Road Transport & Traffic Telematics (RTTT)
6	Equipment for Detecting Movement and Equipment for Alert
7	Alarms
8	Model Control
9	Inductive Applications
10	Radio Microphones
11	RF Identification Systems
12	Ultra Low Power Active Medical Implants
13	Wireless Audio Applications

Table 1: Applications

	Maximum power level
1.	7 dBµA/m at 10 metres
2.	42 dBµA/m at 10 metres
2a.	13.5 dBµA/m at 10 metres
2b.	30 dBµA/m at 10 metres
2c.	37.7 dBµA/m at 10 metres
2d.	60 dBµA/m at 10 metres
2e.	66 dBµA/m at 10 metres at 119 kHz (at 30 kHz descending 3 dB/octave)
2f.	69 dBµA/m at 10 metres at 60.25 kHz (at 30 kHz descending 3 dB/octave)
3.	72 dBµA/m at 10 metres (at 30 kHz descending 3 dB/octave)
5.	9 dBµA/m at 10 metres
5a.	25 µW [1]
6.	1 mW [1] / -13 dBm per 10 kHz
7.	2 mW [1]
7a.	5 mW [1]
8.	10 mW [1]
9.	25 mW [1]
10.	50 mW [1]
11.	100 mW [1]
11a.	200 mW [1]
12.	500 mW [1]
13.	1 W [1]
14.	2 W [1]
14a	4 W[1]
15.	8 W [1]
16.	*To be determined (t.b.d.)* [1]
17.	55 dBm peak power[1] 50 dBm average power[1] 23.5 dBm average power[1 2]
18.	Power requirements defined in relevant Annex.

Table 2: Radiated Power or Magnetic Field Strength

[1] Levels are either effective radiated power (e.r.p.) or equivalent isotropically radiated power (e.i.r.p.) as indicated in the relevant annex.

[2] Pulsed radar only.

	Channel spacing
1.	5 kHz
2.	6.25 kHz
3.	10 kHz
4.	12.5 kHz
5.	20 kHz
6.	25 kHz
7.	50 kHz
8.	75 kHz
9.	100 kHz
10.	150 kHz
11.	200 kHz
12.	Other channel spacing – see specific annex
13.	No channel spacing – whole stated frequency band may be used

Table 3: Channel spacing permitted

In the frequency bands where channel spacing is defined the centre frequency of the first channel is at a distance of *channel spacing/2* from the lower frequency band edge.

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.[1] These limits are advisory with a view to facilitating sharing between systems in the same frequency band

	Name	Transmitting time/Full cycle[1]	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%

Table 4: Duty cycle categories

[1] The ETSI standard EN 300 220-1 gives a further guide in section 8.9 for the definition, the declaration and the rationale to define duty cycle categories using pre-programmed, software controlled or manually operated equipment.

Appendix 2

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

ECC/ERC Decisions

ECC/DEC/(04)01	Short Range Devices for for detection of Avalance Victims
ECC/DEC/(04)02	Non-specific Short Range Devices in the band 433.05-434.79 MHz
ERC/DEC/(02)01	On the frequency bands to be designated for the coordinated introduction of Road Transport and Traffic Telematic Systems
ERC/DEC/(95)01	On the free circulation of radio equipment in CEPT member countries
ERC/DEC(97)06	On the harmonised frequency band to be designated for Social Alarm Systems
ERC/DEC(99)23	On the harmonised frequency bands to be designated for the introduction of High Performance Radio Local Area Networks (HIPERLANs)
ERC/DEC(01)01	Non-specific Short Range Devices in 6765-6795 kHz and 13.552-13.567 MHz
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)05	Non-specific Short Range Devices in 2400-2483.5 MHz
ERC/DEC(01)06	Non-specific Short Range Devices in 5725-5875 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)14	Short Range Devices for Inductive applications in 6765-6795 kHz, 13.553-13.567 MHz
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
ERC Report 005	ERC Report on frequency bands for Low Power Devices
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 037	Compatibility of planned SRD applications in 863-870 MHz
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 069	ERC Report on propagation model and interference range calculation for inductive systems in 10 kHz – 30 MHz
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 incl. harmonised standards

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 1 000 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 300 454	Electromagnetic compatibility and Radio spectrum Matters (ERM);Wide band audio links; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive
ETS 300 836-1	Broadband Radio Access Networks (BRAN);High Performance Radio Local Area Network (HIPERLAN) Type 1;Conformance testing specification; Part 1: Radio type approval and Radio Frequency (RF) conformance test specification
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

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
All Annexes			
	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 T/R 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 25 July 1996: 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 licence required" within the meaning of CEPT/ERC/REC 70-03; general frequency assignments are granted ex officio by administrative act, published in the Regulatory Authority Official Gazette and correspond to "individual licence not required" within the meaning of CEPT/ERC/REC 70-03.
	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.
	Russia	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.	
Annex 1 Band A			
Non Specific Short Range Devices 6765-6795 kHz			
	Romania	Secondary basis - individual licence	
	United Kingdom	Only inductive devices permitted	see annex 9

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 1 Band B			
Non Specific Short Range Devices 13.553-13.567 MHz			
	Bulgaria	Not implemented	
	Romania	Secondary basis - individual licence	
	United Kingdom	Only inductive devices permitted	See annex 9
Annex 1 Band C			
Non Specific Short Range Devices 26.957-27.283 MHz			
	Luxembourg	Only 26.995, 27.045, 27.095 and 27.145 MHz 27.195 MHz	Not on CB Channels
	Norway	Only 26.995, 27.045, 27.095, 27.145, 27.195 MHz and 27.255 MHz allowed	Planned implementation end 2004
	Romania	Secondary basis - individual licence	
	Sweden	Limited to 10 kHz channel separation or inductive	To be implemented
	United Kingdom	Only 26.995, 27.045, 27.095, 27.145, 27.195 MHz @10 kHz, e.r.p. 1mW	
Annex 1 Band D			
Non Specific Short Range Devices 40.660-40.700 MHz			
	Finland	Audio and voice allowed	
	Romania	Secondary basis - individual licence	

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 1 Band R			
Non Specific Short Range Devices 138.2-138.45 MHz			
	Belgium	Not implemented	
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Estonia	Not implemented	
	Finland	Audio and voice not allowed	
	France	Not implemented	Exclusive military band
	Germany	Not implemented	Military band
	Greece	Not implemented	Land Mobile service
	Hungary	Not implemented	
	Iceland	Not Implemented	
	Ireland	Not implemented	Assigned to the Land Mobile Service
	Italy	Not implemented	Military applications
	Latvia	Not implemented	
	Liechtenstein	Not implemented	
	Poland	Not implemented	Military band
	Portugal	Not implemented	Governmental band
	Romania	Not implemented	Not available
	Slovak Republic	Not implemented	
	Slovenia	Not implemented	Not available
	Spain	Not implemented	
	Sweden	Not implemented	
	Switzerland	Not implemented	Exclusive Military band
	The Netherlands	Not implemented	Exclusive Military band
	Turkey	Not implemented	
	United Kingdom	Not implemented	
Annex 1 Band E			
Non Specific Short Range Devices 433.050-434.790 MHz			
	Finland	Audio and voice not allowed	
	France	No duty cycle limits Voice applications allowed	Conformity with ERC REC 70-03 in progress
	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	Military applications
	Luxembourg	Audio and voice not allowed	
	Poland	Channel spacing 25 kHz	Military band
	Turkey	Not implemented	

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 1 Band E1			
Non Specific Short Range Devices 433.050-434.790 MHz			
	Croatia	Individual license required	
	Czech Republic	Not implemented	Planned
	Finland	Audio and voice not allowed	
	France	No duty cycle limits Voice applications allowed	Conformity with ERC REC 70-03 in progress
	Luxembourg	Audio and voice not allowed	
	Norway	Not implemented	Planned end 2004
	Poland	Not implemented	Military band
Annex 1 Band E2			
Non Specific Short Range Devices 434.040-434.790 MHz			
	Croatia	Individual license required	
	Czech Republic	Not implemented	Planned
	Finland	Audio and voice signals not allowed	
	France	No duty cycle limits Voice applications allowed	Conformity with ERC REC 70-03 in progress
	Greece	Not implemented	
	Poland	Not implemented	Military band
Annex 1 Band F			
Non Specific Short Range Devices 868.000-868.600 MHz			
	Bulgaria	Not implemented	
	Finland	Audio and voice not allowed	
	Germany	Audio and voice not allowed	
	Slovak Republic	Max 10 mW e.r.p.	Military
Annex 1 Band G			
Non Specific Short Range Devices 868.700-869.200 MHz			
	Bulgaria	Not implemented	
	Finland	Audio and voice not allowed	
	Germany	Audio and voice not allowed	
	Slovak Republic	Max 10 mW e.r.p.	Military
Annex 1 Band H			
Non Specific Short Range Devices 869.300-869.400 MHz			
	Bulgaria	Not allocated	
	Finland	Audio and voice not allocated	
	Greece	Not implemented	
	Ireland	Not implemented	Planned end 2004
	Latvia	ERP < 10 mW	
	Portugal	Not implemented	Planned end 2004
	Slovak Republic	Not implemented	Military

Annex	Country	Restriction	Reason/remark
Annex 1 Band I			
Non Specific Short Range Devices 869.400-869.650			
	Bulgaria	Not implemented	
	Finland	Audio and voice not allowed	
	Germany	Audio and voice not allowed	
	Italy	Max 25 mW e.r.p.	Military applications
	Slovak Republic	Max 10 mW e.r.p.	Military
Annex 1 Band K			
Non Specific Short Range Devices 869.700-870.000 MHz			
	Bulgaria	Not implemented	
	Croatia	Channel spacing 25 kHz or 50 kHz	
	Finland	Audio and voice not allowed	
	Germany	Audio and voice not allowed	
	Slovak Republic	Not implemented	Military services
Annex 1 Band L			
Non Specific Short Range Devices 2400-2483.5 MHz			
	Romania	Secondary basis - individual licence	
	United Kingdom	Channel spacing > 20 MHz	
Annex 1 Band M			
Non Specific Short Range Devices 5725-5875 MHz			
	Romania	Secondary basis - individual licence	
Annex 1 Band N			
Non Specific Short Range Devices 24.0-24.25 GHz			
	France	Not implemented	
	Luxembourg	Limited to 24.05-24.25 GHz	24.0-24.05 for amateur use only
	United Kingdom	Only 24.150-24.250 GHz	
Annex 1 Band O			
Non Specific Short Range Devices 61.0-61.5 GHz			
	All Administrations		Equipment/standards not yet developed
	Czech Republic	Not implemented	
	United Kingdom	Not implemented	
Annex 1 Band P			
Non Specific Short Range Devices 122-123 GHz			
	All Administrations		Equipment/standards not yet developed
	Czech Republic	Not implemented	
	Ireland	Not implemented	Subject to equipment availability
	Sweden	Not implemented	Under study
	United Kingdom	Not implemented	

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 1 Band Q			
Non Specific Short Range Devices 244-246 GHz			
	All Administrations		Equipment/standards not yet developed
	Czech Republic	Not implemented	
	Ireland	Not implemented	Subject to equipment availability
	Sweden	Not implemented	Under study
	United Kingdom	Not implemented	
Annex 2 Band B			
Avalanche Victims 457 kHz			
	Belgium	Not applicable	
	Bulgaria	Not implemented	Under study
	Latvia	Not applicable	
	The Netherlands	Not applicable	Planned January 2005
Annex 3 Band A			
RLANs and HIPERLANs 2400-2483.5 MHz			
	France	Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	
	Italy		If used outside of own premises, general authorization is required
	Luxembourg	None	General authorization required for public service
	Romania	On a secondary basis. Individual licence required. T/R 22-06 not implemented	
Annex 3 Band B			
RLANs and HIPERLANs 5150-5350 MHz			
	Belgium	5250-5350 MHz excluded	
	Croatia	Licence required	
	Italy		General authorization required if used outside own premises
	Latvia	Limited to 5150-5300 MHz	Under study
	Luxembourg	None	General authorization required for public service
	Switzerland	Power limited depending on implementation of DFS and TPC	Main use by military services

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 3 Band C			
RLANs and HIPERLANs 5470-5725 MHz			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Czech Republic	Not implemented	Planned
	France	Not implemented	France will implement this band identified by the ERC DEC(99)23 when the efficiency of the mitigation techniques made mandatory by this Decision is ensured
	Hungary	Not implemented	Equipment/Standard not available
	Italy		General authorization required if used outside own premises
	Luxembourg	None	General authorization required for public service
	Slovak Republic	Not implemented	Military services
	Switzerland	Not implemented	Exclusive military band
Annex 3 Band D			
RLANs and HIPERLANs 17.1-17.3 GHz			
	Croatia	Licence required	
	Czech Republic	Not implemented	
	Germany	Not implemented	Equipment/Standard not yet developed
	Hungary	Not implemented	Equipment/Standard not available
	Italy		General authorization required if used outside own premises
	Norway	Not implemented	Planned end 2004
	Sweden	Not implemented	
Annex 4 Band A			
Railway applications 2446-2454 MHz			
	Iceland	Not applicable	
	Italy	Not implemented	
	Malta	Not applicable	
	Norway	Only 2447, 2448.5, 2450, 2451.5 and 2453 MHz allowed	
	Portugal	Not implemented	
	Romania	Secondary basis. Individual licence required	
	Slovak Republic	Not implemented	Military – more info end 2004
	Sweden	Not implemented	License required – Military band
Annex 4 Band B			
Railway applications 27.095 MHz			
	Croatia	Individual license required	
	Iceland	Not applicable	
	Ireland	Not implemented	Planned end 2004
	Malta	Not applicable	
	Sweden	Not implemented	27.115 MHz used as provided in EU legislation
	The Netherlands	Not implemented	Planned January 2005

Annex	Country	Restriction	Reason/remark
Annex 4 Band C			
Railway applications 4515 kHz			
	Croatia	Not implemented	
	Greece	Not implemented	Under study
	Iceland	Not applicable	No railways
	Ireland	Not implemented	Planned August 2004
	Malta	Not applicable	
	Portugal	Not implemented	Governmental band
	Sweden	Not implemented	
	The Netherlands	Not implemented	Planned January 2005
Annex 5 Band A			
RTTT 5795-5805 MHz			
	Estonia	Power limited to 2 W e.i.r.p.	Planned modification beginning 2005
	France	Power limited to 2 W e.i.r.p.	
	Malta	Limited to 2 Watts e.i.r.p	System provider may require a Wireless Telegraphy and a Telecommunications Act licence
	Norway	Power limited to 2 W e.i.r.p.	Planned full implementation end 2004
	Romania	Not implemented	Under study
	Switzerland	Power limited to 2 W e.i.r.p	Military band
	United Kingdom	Only 2 W permitted	System provider may require a Wireless Telegraphy and/or Telecommunications Acts licence to operate. The end user (vehicle units) will be licence exempted
Annex 5 Band B			
RTTT 5805-5815 MHz			
	Croatia	Individual license required	
	Estonia	Not implemented	Planned modification beginning 2005
	France	Not implemented	
	Luxembourg	None	General authorization required for public service
	Norway	Power limited to 2 W e.i.r.p.	Planned full implementation end 2004
	Romania	Not implemented	Under study
	Sweden	Not implemented	
	Switzerland	Not implemented	Exclusive military band
	United Kingdom	Only 2 W permitted	
Annex 5 Band C			
RTTT 63-64 GHz			
	Austria		Equipment/standard not yet developed
	Croatia	Licence required	
	Germany	Not implemented	Equipment/standard not yet developed
	Norway	Not implemented	Planned implementation end 2004
	Sweden	Not implemented	Equipment/standard not available
	Switzerland	Not implemented	Under study

Annex	Country	Restriction	Reason/remark
Annex 6 Band A			
Movement Detection 2400-2483.5 MHz			
	France	Indoor use without restrictions. Outdoor use limited to 10 mW e.i.r.p. within the band 2454-2483.5 MHz	
	Romania	Not implemented	Under study
	Slovak Republic	Max 10 mW e.r.p.	Military – more info end 2004
	United Kingdom	Limited to 2445-2455 MHz	
Annex 6 Band B			
Movement Detection 9200-9500 MHz			
	Bulgaria	Not implemented	
	Estonia	Not implemented	Military applications
	Finland	Not implemented	
	France	Not implemented	
	Greece	Not implemented	
	Italy	Not implemented	Military applications
	Spain	Not implemented	
	Sweden	Not implemented	
	United Kingdom	May be used for Radar Level Gauges on a licence per site basis only	
Annex 6 Band C			
Movement Detection 9500-9975 MHz			
	Bulgaria	Not implemented	
	Estonia	Not implemented	
	France	Limited to 9.88-9.92 with max e.i.r.p 50 mW	
	Germany	Not implemented	Military band
	Latvia	Not implemented	Under study
	Slovak Republic	Not implemented	Military – more info end 2004
	Spain	Not implemented	
	Sweden	Not implemented	
	United Kingdom	May be used for Radar Level Gauges on a licence per site basis only	

Annex	Country	Restriction	Reason/remark
Annex 6 Band D			
Movement Detection 10.5-10.6 GHz			
	Austria	Not implemented	Fixed Service
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Czech Republic	Not implemented	Other services in the band
	Estonia	Not implemented	FWA
	Finland	Not implemented	10.45-10.5 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	Maximum e.i.r.p. 25 mW	Protection of analogue ENG/OB
	Ireland	Maximum e.i.r.p. 25 mW	FWA
	Luxembourg	In the band 10.5-10.6 GHz the e.i.r.p is limited to 25 mW	To avoid interference with ENG/OB and Fixed service (ERC Report 47)
	Portugal	Not implemented	SAP/SAB applications
	Slovak Republic	Not implemented	Fixed Service
	Spain	Limited to 10517.5-10537.5 MHz	
	Sweden	Limited to 10.51-10.58 GHz	
	Turkey	Not implemented	
	United Kingdom	Limited to 10.577-10.597 GHz. May be used for Radar Level Gauges on a licence per site basis only	
Annex 6 Band E			
Movement Detection 13.4-14.0 GHz			
	Bulgaria	Not implemented	
	Estonia	Not implemented	Military applications
	France	Not implemented	
	Spain	Not implemented	
	Sweden	Not implemented	
	Turkey	Not implemented	
Annex 6 Band F			
Movement Detection 24.05-24.25 GHz			
	France	Limited to 24.075-24.175 GHz	
	United Kingdom	Limited to 24.15-24.25 GHz	
Annex 7 Band A			
Alarms 868.600-868.700 MHz			
	Bulgaria	Not implemented	
	Germany	Audio and voice not allowed	
	Romania	Not implemented	
	Slovak Republic	Not implemented	

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 7 Band B			
Alarms 869.250-869.300 MHz			
	Bulgaria	Not implemented	
	Germany	Audio and voice not allowed	
	Romania	Not implemented	
	Slovak Republic	Not implemented	
Annex 7 Band C			
Alarms 869.650-869.700 MHz			
	Bulgaria	Not implemented	
	Germany	Audio and voice not allowed	
	Romania	Not implemented	
	Slovak Republic	Max 10 mW e.r.p.	Military applications
Annex 7 Band D			
Alarms 869.200-869.250 MHz			
	Bulgaria	Not implemented	
	Germany	Audio and voice not allowed	
	Slovak Republic	Not implemented	
Annex 8 Band A			
Model Control 26.995, 27.045, 27.095, 27.145, 27.195 MHz			
	France	Not implemented	Citizen band
	Ireland	Surface control only	
	Malta	Surface model control only	
Annex 8 Band B			
Model Control 34.995-35.225 MHz			
	Bulgaria	Not implemented	
	France	Not implemented	Military use
	Germany	Limited to 35.005-35.205 MHz	Emergency services
	Liechtenstein		As of 1.1.2008 band will be exclusively available for flying models
	Norway	Limited to 35.005-35.305 MHz channel spacing 10 kHz Max e.r.p. 100 mW	Planned full implementation end 2004
	Romania	Limited to 34.995-35.005 and 35.195-35.225 MHz. Individual licence required if e.r.p. > 100 mW	
	Spain	Limited to 35.030-35.200 MHz	
	Switzerland	Until 31.12.07 shared with the previous users (armed forces), interference-free operation cannot be guarenteed. From 1.1.2008 exclusively for flying models	Until 31.12.07 18 exclusive frequencies are available at 40.715-40.985 MHz band for flying models

Annex	Country	Restriction	Reason/remark
Annex 8 Band C **Model Control 40.665, 40.675, 40.685, 40.695 MHz**			
	France	Not implemented	
	Ireland	Surface control only	
Annex 9 Band AA **Inductive applications 9-59.750 kHz**			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Romania	Not implemented	
	Spain	Limited to 20.05-70 kHz	
Annex 9 Band AB **Inductive applications 59.750-60.250 kHz**			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Romania	Not implemented	
Annex 9 Band AC **Inductive applications 60.250-70 kHz**			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Romania	Not implemented	
Annex 9 Band B **Inductive applications 70-119 kHz**			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Romania	Not implemented	
Annex 9 Band C **Inductive applications 119-135 kHz**			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Germany	Within 119-127 kHz max field strength of 66 dBµA/m at 10 metres, within 127-135 kHz max field strength is 42 dBµA/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
	Romania	Not implemented	

Annex	Country	Restriction	Reason/remark
Annex 9 Band C1 **Inductive applications 135-140 kHz**			
	Czech Republic	Not implemented	Planned
	Greece	Not implemented	
	Hungary	Maximum field strength 37.7-3 log2(f/135) µA/m at 10 m	
	Italy	Not implemented	Under study
	Latvia	Not implemented	
	Norway	Not implemented	Planned end 2004
	Poland	Not implemented	Under study
	Portugal	Not implemented	Planned end 2004
	The Netherlands	Not implemented	Planned beginning 2005
Annex 9 Band C2 **Inductive applications 140-148.5 kHz**			
	Czech Republic	Not implemented	Planned
	Greece	Not implemented	
	Hungary	Maximum field strength 37.7-3 Log2(f/135) µA/m at 10 m	
	Italy	Not implemented	Under study
	Latvia	Not implemented	
	Norway	Not implemented	Planned end 2004
	Poland	Not implemented	Under study
	Portugal	Not implemented	Planned end 2004
	The Netherlands	Not implemented	Planned beginning 2005
Annex 9 Band D **Inductive applications 6765-6795 kHz**			
	Bulgaria	Not implemented	
	Croatia	Individual licence required	
Annex 9 Band E **Inductive applications 7400-8800 kHz**			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
Annex 9 Band F **Inductive applications 13.553-13.567 MHz**			
	Bulgaria	Not implemented	
	Croatia	Individual licence required	
	Germany	With 60 dBµA/m for RFID and EAS only	
Annex 9 Band G **Inductive applications 26.957-27.283 MHz**			
	Croatia	Individual licence required	

Annex	Country	Restriction	Reason/remark
Annex 9 Band K **Inductive applications 3155-3400 kHz**			
	Czech Republic	Limited to 5 dBµA/m	
	Italy	Not implemented	
	Latvia	Not implemented	
	Norway	Not implemented	Planned end 2004
	Poland	Not implemented	
	Portugal	Not implemented	Planned end 2004
	Switzerland	Not implemented	Planned end 2004
	The Netherlands	Not implemented	Planned beginning 2005

Annex	Country	Restriction	Reason/remark
Annex 10 Band A			
Radio microphones 29.7-47.0 MHz			
	Austria	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	Licence required	
	Czech Republic	Limited to 36.4-36.65 and 38-38.5 MHz	
	Estonia	Limited to 37.6-38.6 MHz	
	Finland	Only 31.100, 32.100, 32.900, 33.500, 36.700, 37.100 MHz and 42.400-43.600 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. Individual frequency assignments required. Permitted channel spacing 10 kHz below 36 MHz and 40 kHz above 36 MHz	
	Greece	Limited to 30.0, 30.5, 31.0, 35.0 MHz 36.5, 36.7, 37.0, 37.1, 37.5 MHz	38.25-47 MHz Governmental use
	Hungary	Limited to 34.9-38.5 MHz	
	Iceland	Limited to 41-43.6 MHz	
	Ireland	Not implemented	Planned August 2004
	Italy	Limited to 41-43.6 MHz	Military applications
	Latvia	Not implemented	
	Liechtenstein	Limited to 31.4-39.6 MHz	
	Luxembourg	Limited to 29.7-38 MHz, excluding the use of the band 34.995-35.225 MHz	
	Malta	Limited to 29.7-34.399 MHz	
	Norway	Limited to 41.0-43.6 MHz Max ch spacing 10 kHz. Max 100 mW e.r.p. AM not allowed	
	Portugal	Not implemented	
	Romania	Not implemented	
	Slovak Republic	Limited to 27.75-27.9 MHZ and 36.4-38.5 MHz	Occupied by military
	Spain	Limited to 31.5, 31.75, 37.85, 38.3 and 38.55 MHz	
	Sweden	Limited to 41.0-43.6 MHz	Land Mobile
	Switzerland	Limited to 31.4-39.6 MHz	Main use by military services
	The Netherlands	Limited to the subbands 36.6-36.8, 37.0-37.2, 37.480-37.6, 37.8-38.0, 38.2-38.4 and 38.6-38.8 MHz	
	Turkey	Limited to 29.7-41.0 MHz	
	United Kingdom	Individual licence required	

Annex	Country	Restriction	Reason/remark
Annex 10 Band B			
Radio microphones 173.965-174.015 MHz			
	Austria	Not implemented	
	Belgium	Not implemented	
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Denmark	Not implemented	PMR band
	Finland	Individual licence required. Regional restrictions	PMR and broadcasting usage
	France	Not implemented	Governmental band
	Greece	Not implemented	Under study
	Norway	Limited to 173.8125, 173.8375, 173.9125, 173.9375 and 173.9625 MHz. Ch spacing 25 kHz Max e.r.p.1 mW Only aids for handicapped	
	Poland	Not implemented	Military band
	Portugal	Not implemented	Under study
	Romania	Not implemented	
	Spain	Not implemented	
	Sweden	Not implemented	Land Mobile
	Switzerland	Not implemented	Closely occupied with mobile services
Annex 10 Band C			
Radio microphones 863-865 MHz			
	Bulgaria	Not implemented	
	Croatia	Licence required	
	Romania	Limited to 845-862 MHz	
Annex 10 Band D			
Radio microphones 174-216 MHz			
	Austria	Not implemented	
	Croatia	Not implemented	
	Finland	Regional restrictions	Broadcasting usage
	France	175.5-178.5 and 183.5-186.5 MHz with 10 mW e.r.p. and 200 kHz channel spacing	
	Ireland	Individual licence required	TV Broadcasting only
	Latvia	Not implemented	Under study
	Norway	Not implemented	Allocated to Broadcasting Services
	Poland	e.r.p. limited to 2 mW	
	Portugal	Not implemented	Under study
	Romania	Not implemented	
	Spain	Limited to 174.1, 174.3, 175.5, 176.3, 179.3, 188.1, 188.5, 189.1, 191.9 and 194.5 MHz	
	The Netherlands	Limited to the subband 195-202 MHz	Tuning range 195.1-201.9 MHz
	United Kingdom	No licence required below 175 MHz	

Annex	Country	Restriction	Reason/remark
Annex 10 Band E			
Radio microphones 470-862 MHz			
	Austria	Individual licence required	
	Croatia	Licence required	
	Denmark	Limited to 800.100-819.900 MHz	
	Finland	Only 790.100-821.900, 855.500, 856.000, 857.250, 860.375, 861.500 and 861.875 MHz	
	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, military applications
	Ireland	Individual licence 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.	
	Portugal	Not implemented	Under study
	Romania	Not implemented	
	Spain	Not implemented	
	The Netherlands	Limited to the subbands: 470-557, 630-637, 638-701, 702-790, 806-814 and 814-846 MHz	
	Ukraine	Individual licence required	
Annex 10 Band F			
Radio microphones 1785-1800 MHz			
	Austria	Limited to 1785.7-1799.4 MHz	Guard bands to be respected
	Bulgaria	Not implemented	
	Croatia	Not implemented	
	Czech Republic	Limited to 1785.7-1799.4 MHz	Guard bands to be respected
	Ireland	Limited to 1785.7-1799.4 MHz	
	Italy	Not implemented	Military applications
	Liechtenstein	Limited to 1785.7-1799.4 MHz	
	Portugal	Not implemented	Under study
	Romania	Not implemented	
	Slovak Republic	Not implemented	
	Switzerland	Limited to 1785.7-1799.4 MHz	Guard bands to be respected
Annex 11 Band A			
RFID 2446-2454 MHz			
	Croatia	Not implemented	
	Czech Republic	Not implemented	
	France	Max e.i.r.p. 500 mW	
	Italy	Not implemented	
	Poland	Limited to 100 mW e.i.r.p.	
	Slovak Republic	Not implemented	Military – more info end 2004
	Sweden	Limited to 25 mW e.i.r.p.	Military band

Appendix 3 – National Restrictions

Annex	Country	Restriction	Reason/remark
Annex 12 Band A			
Medical Implants 402-405 MHz			
	Bulgaria	Not implemented	
	Croatia	Not implemented	
Annex 12 Band B			
Medical Implants 9-315 kHz			
	Czech Republic	Not implemented	Planned
	Italy	Not implemented	
	Latvia	Not implemented	
	Poland	Not implemented	
	The Netherlands	Not implemented	Planned January 2005
	United Kingdom	Limited to 9-135 kHz	
Annex 13 Band A			
Wireless Audio 863-865 MHz			
	Bulgaria	Not implemented	
	Croatia	Individual licence required	
Annex 13 Band B			
Wireless Audio 864.8-865 MHz			
	Croatia	Individual licence required	
	Czech Republic	Not implemented	Planned
	Greeece	Not implemented	
	Italy	Not implemented	
	Portugal	Not implemented	Planned

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, Data in general and other similar applications. Video applications should only be used above 2.4 GHz. Audio and voice signals should be avoided in the band 433.050-434.790 MHz.

Regulatory parameters related to Annex 1

Frequency Band	Power / Magnetic field	Duty cycle	Channel spacing	ECC/ERC Decs	Notes
a 6765 - 6795 kHz	42 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)01	
b 13.553 - 13.567 MHz	42 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)01	
c 26.957 - 27.283 MHz	42 dBuA/m at 10 m 10 mW e.r.p.	No Restriction	No spacing	ERC DEC (01)02	
d 40.660 - 40.700 MHz	10 mW e.r.p.	No Restriction	No spacing	ERC DEC (01)03	
e 433.050 - 434.790 MHz	10 mW e.r.p.	< 10 %	No spacing	ECC DEC (04)02	Audio and voice signals should be avoided in the band 433.05-434.79 MHz
e1 433.050 - 434.790 MHz	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 channels with a bandwidth greater than 250 kHz. Audio and voice signals should be avoided in the band 433.05-434.79 MHz
e2 434.040-434.790 MHz	10 mW e.r.p.	up to 100%	Up to 25 kHz	ECC DEC (04)02	Audio and voice signals should be avoided in the band 433.05-434.79 MHz
f 868.000 - 868.600 MHz	25 mW e.r.p.	< 1.0 %	No spacing	ERC DEC (01)04	Duty cycle restriction or listen before talk (LBT). Audio and voice applications excluded
g 868.700 - 869.200 MHz	25 mW e.r.p.	< 0.1 %	No spacing	ERC DEC (01)04	Duty cycle restriction or listen before talk (LBT). Audio and voice applications excluded
h 869.300 - 869.400 MHz	10 mW e.r.p.	No Restriction	25 kHz		An appropriate access protocol should be used for example EN 301 391
I 869.400 - 869.650 MHz	500 mW e.r.p.	< 10 %	25 kHz	ERC DEC (01)04	The whole band may also be used as 1 channel for high speed data transmission. Duty cycle restriction or listen before talk (LBT). Audio and voice applications excluded
k 869.700 - 870.000 MHz	5 mW e.r.p.	up to 100%	No spacing	ERC DEC (01)04	Audio applications excluded. Voice applications allowed with LBT together with 1 minute carrier time-out-timer
l 2400 - 2483.5 MHz	10 mW e.i.r.p.	No Restriction	No spacing	ERC DEC (01)05	
m 5725 - 5875 MHz	25 mW e.i.r.p.	No Restriction	No spacing	ERC DEC (01)06	
n 24.00 - 24.25 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
o 61.0 - 61.5 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
p 122 - 123 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
q 244 - 246 GHz	100 mW e.i.r.p.	No Restriction	No spacing		
r 138.2 - 138.45 MHz	10 mW e.r.p.	< 1.0 %	No spacing		

Additional Information

Harmonised Standards

EN 300 220	subbands c) to k)
EN 300 330	subbands a) and b)
EN 300 440	subbands l) - m) and n)

Frequency issues

The bands in Annex 1 a - b - c - d - e - l - m - n - o - p and q are also designated for industrial, scientific and medical (ISM) applications as defined in ITU Radio Regulations.

To avoid interference between CT2 and SRD applications it is recommended that SRDs below 868.5 MHz should avoid using a dedicated frequency channel and instead use a technology that allows automatic channel selection of a free channel within the band.

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.

Wideband channels are those with a bandwidth greater that 250 kHz

Technical parameters also referred to in the harmonised standard

For the band 868-870 MHz listen before talk (LBT) with a preferred option of frequency agility feature is used instead of duty cycle. LBT timing is defined in EN 300 220.

The frequency band s) 865-868 MHz.
The channel bandwidth for FHSS and DSSS is 50 kHz and 0.6 MHz respectively. The bandwidth for other digital modulation shall be between 200 kHz and 3 MHz.

The frequency band t) 865-868 MHz.
The channel bandwidth for FHSS and DSSS is 100 kHz and 3 MHz respectively. The bandwidth for other digital modulation shall be between 50 kHz and 200 MHz.

The frequency band u) 863-870 MHz.
The channel bandwidth for FHSS and DSSS is 100 kHz and 7 MHz respectively. Other digital modulation shall not be used.

Annex 2 Devices for Detecting Avalanche Victims

Scope of Annex
This annex covers frequency bands and regulatory as well as informative parameters recommended for devices for detecting avalanche victims.

Regulatory parameters related to Annex 2

Frequency Band	Magnetic field	Duty cycle	Channel spacing	ECC/ERC Decs	Notes
b 457 kHz	7 dBuA/m at 10 m	up to 100%	Continous wave (CW) - no modulation	ECC DEC (04)01	

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 and HIPERLANs

Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for Wideband data transmission systems formerly known as (Radio Local Area Networks (RLANs)) within the band 2400-2483.5 MHz and for High Performance Radio Local Area Networks (HIPERLANs) within the bands 5150-5350 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 Decs	Notes
a 2400 - 2483.5 MHz	100 mW	e.i.r.p.	No Restriction	No spacing	ERC DEC (01)07	For direct sequence spread spectrum, the maximum spectrum power density is limited to -20 dBW/1 MHz. For FHSS the maximum spectrum power density is limited to -10 dBW/100 kHz.
b 5150 - 5350 MHz	200 mW	Max mean		No spacing	ERC DEC (99)23	Indoor use only
c 5470 - 5725 MHz	1 W	Max mean	No Restriction	No spacing	ERC DEC (99)23	
d 17.1 - 17.3 GHz	100 mW	e.i.r.p.	No Restriction	No spacing		

Additional Information

Harmonised Standards

EN 300 328 subband a)
ETS 300 836 subbands b) c) and d)

Frequency issues

As indicated in the ERC Decision (99)23 the HIPERLANs within band c shall only be allowed to operate when the following mandatory features are realised:

a) transmitter power control to ensure a mitigation factor of at least 3 dB;

b) Dynamic Frequency Selection associated with the channel selection mechanism required to provide a uniform spread of the loading of the HIPERLANs across a minimum of 330 MHz or 255 MHz in the case of equipment used only in the band 5470-5725 MHz. For full details of the mandatory features required see als the standard ETS 300 836-1

Technical parameters also referred to in the harmonised standard

The power level for band b and c refers to Maximum mean e.i.r.p. The mean e.i.r.p. refers here to the e.i.r.p. averaged over the transmission burst at the highest power control setting.

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 including automatic vehicle identification and balises (train control systems).

The subbands below are intended for the following applications:

- Automatic Vehicle Identification for Railways (AVI) band a)
- Eurobalise band b)
- Euroloop band c).

Regulatory parameters related to Annex 4

Frequency Band	Power / Magnetic field	Duty cycle	Channel spacing	ECC/ERC Decs	Notes
a 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 27.095 MHz	42 dBuA/m at 10 m		No spacing		
c 4515 kHz	7 dBuA/m at 10 m	No Restriction	No spacing		Transmitting only on receipt of a Eurobalise telepowering signal from a train

Additional Information

Harmonised Standards

EN 300 761 subband a)
EN 300 330 subbands b) and c)

Frequency issues

No information

Technical parameters also referred to in the harmonised standard

The maximum allowed H-field for the Eurobalise system is illustrated in Figure 1 and for Euroloop in Figure 2 on the next page.

Spectrum mask relating to Eurobalise

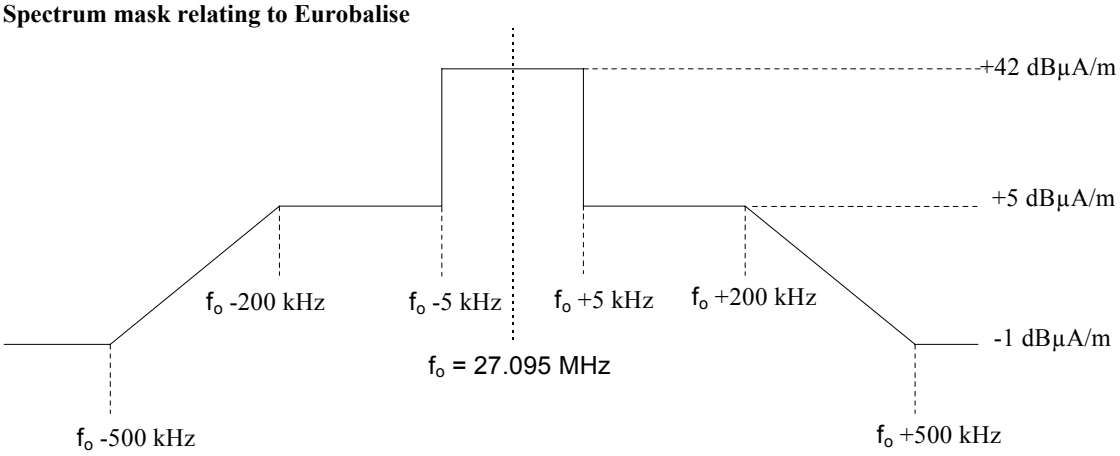

Figure 1
Magnetic fiels limits at 10 metre measurement distance for the Eurobalise system

Spectrum mask relating to Euroloop

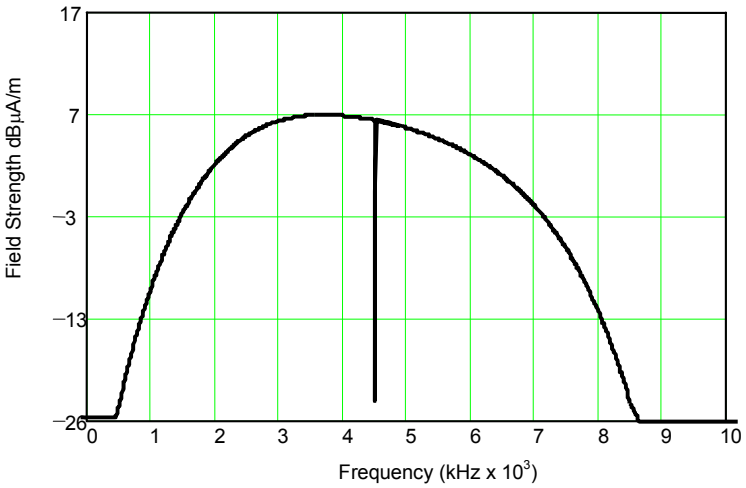

Figure 2
Magnetic field limits at 10 metre measurement distance in 10 kHz measurement bandwidth for the Euroloop up-link transmission

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 Decs	Notes
a 5795 - 5805 MHz	2 W e.i.r.p. 8 W e.i.r.p.	No Restriction		ECC DEC (02)01	
b 5805 - 5815 MHz	2 W e.i.r.p. 8 W 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 Equipment for Detecting Movement and Alert

Scope of Annex
This annex covers frequency bands and regulatory as well as informative parameters recommended for Equipment for Detecting Movement and Equipment for Alert.

Regulatory parameters related to Annex 6

	Frequency Band	Power		Duty cycle	Channel spacing	ECC/ERC Decs	Notes
a	2400 - 2483.5 MHz	25 mW	e.i.r.p.	No Restriction	No spacing	ERC DEC (01)08	
b	9200 - 9500 MHz	25 mW	e.i.r.p.	No Restriction	No spacing		
c	9500 - 9975 MHz	25 mW	e.i.r.p.	No Restriction	No spacing		
d	10.5 - 10.6 GHz	500 mW	e.i.r.p.	No Restriction	No spacing		
e	13.4 - 14.0 GHz	25 mW	e.i.r.p.	No Restriction	No spacing		
f	24.05 - 24.25 GHz	100 mW	e.i.r.p.	No Restriction	No spacing		

Additional Information

Harmonised Standards
EN 300 440

Frequency issues
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
No information

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) and c)
- Social Alarms band d)

Regulatory parameters related to Annex 7

Frequency Band	Power		Duty cycle	Channel spacing	ECC/ERC Decs	Notes
a 868.6 - 868.7 MHz	10 mW	e.r.p.	< 0.1 %	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	ERC DEC (97)06	Social Alarms

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 Decs	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 Decs	Notes
aa 9 - 59.750 kHz	72 dBuA/m at 10 m	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 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)13	In case of external antennas only loop coil antennas may be employed
ac 60.250 - 70 kHz	69 dBuA/m at 10 m	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 dBuA/m at 10 m	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 dBuA/m at 10 m	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 dBuA/m at 10 m	No Restriction	No spacing		In case of external antennas only loop coil antennas could be employed
c2 140 - 148.5 kHz	37.7 dBuA/m at 10	No Restriction	No spacing		In case of external antennas only loop coil antennas could be employed
d 6765 - 6795 kHz	42 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)14	
e 7400 - 8800 kHz	9 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)15	
f 13.553 - 13.567 MHz	42 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)14	
f1 13.553 - 13.567 MHz	60 dBuA/m at 10 m	No Restriction	No spacing		For RFID and EAS only
g 26.957 - 27.283 MHz	42 dBuA/m at 10 m	No Restriction	No spacing	ERC DEC (01)16	
h 10.2 - 11 MHz	9 dBuA/m at 10 m	No Restriction	No spacing		
k 3155 - 3400 kHz	13.5 dBuA/m at 10	No Restriction	No spacing		In case of external antennas only loop coil antennas may be employed

Additional Information

Harmonised Standards

EN 300 330

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 m2 and 0.16 m2, the field strength is reduced by 10 * log
(area/0.16 m2); for an antenna area less than 0.05 m2 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

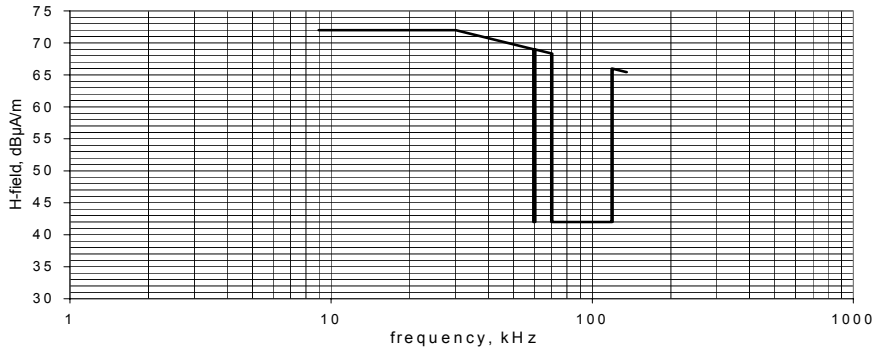

Figure 1
9-135 kHz magnetic field strength limits overview at 10-metre measurement distance

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

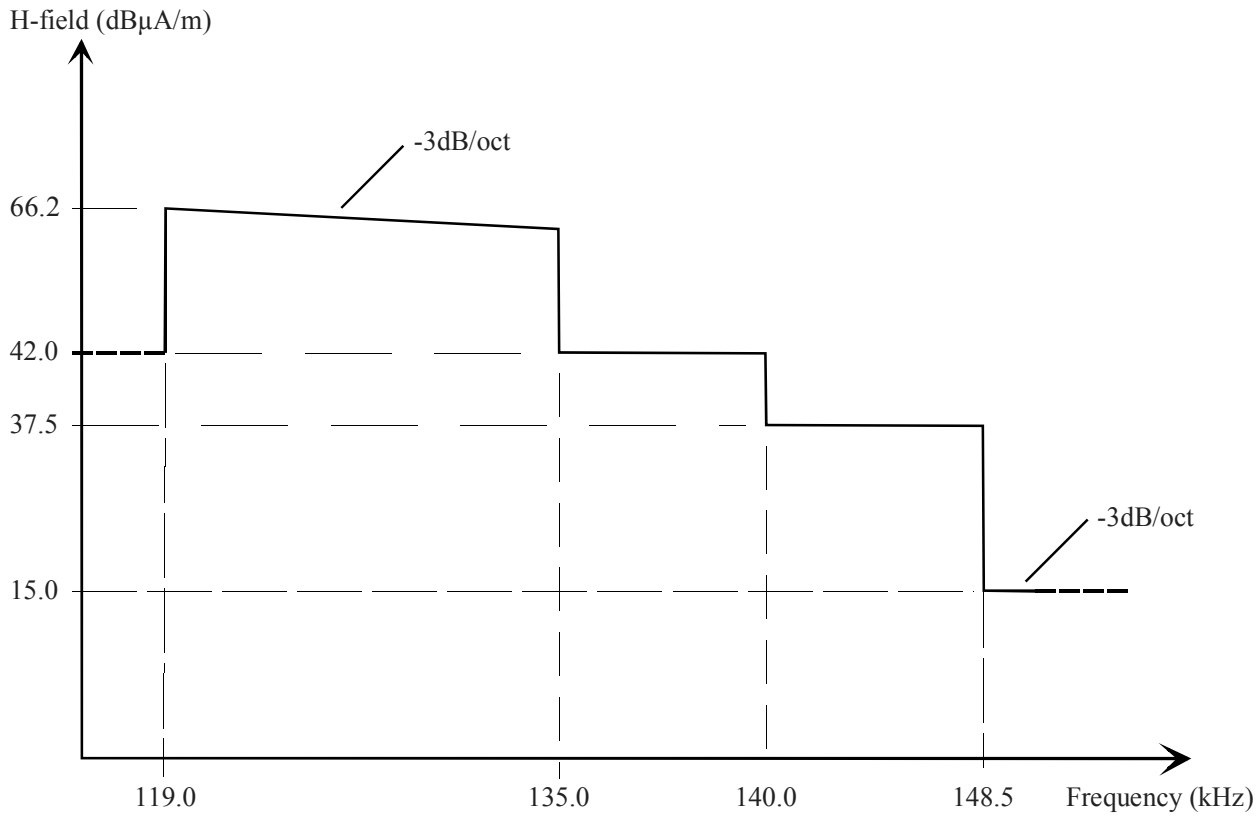

Figure 2
135 – 148.5 kHz magnetic field strength limit at 10 metres measurement distance

Spectrum mask for 6.78 and 13.56 MHz

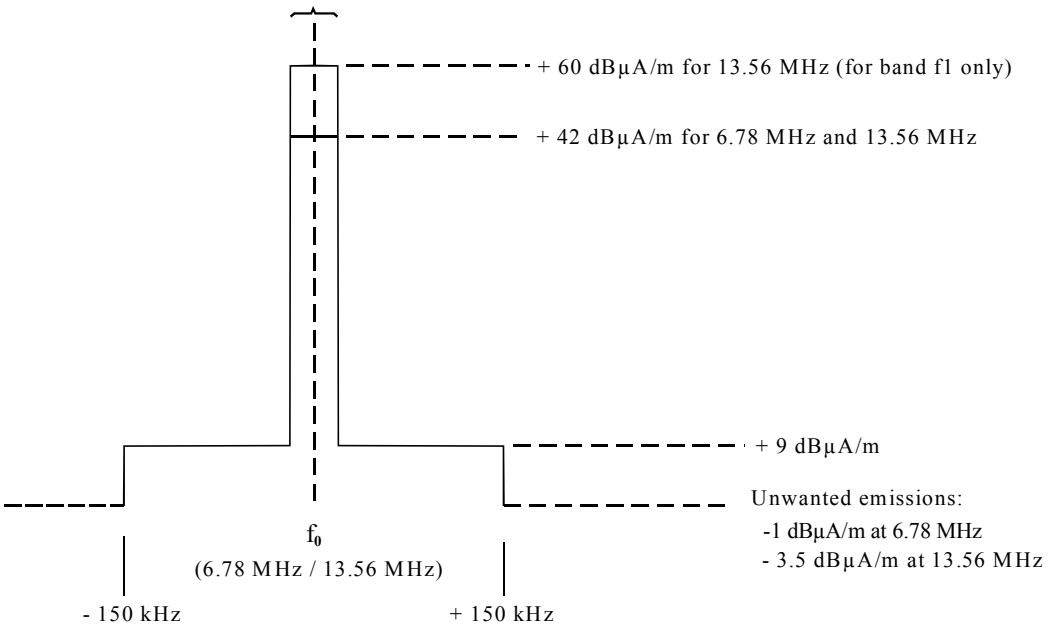

Figure 3
Magnetic field strength limits at 10 metre measurement distance for the 6.78 MHz and 13.56 MHz bands

Annex 10 Radio microphones

Scope of Annex

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). 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 multi-channel 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 harmonised 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 subbands below are intended for the following applications:

- Narrow band audio band a)
- Aids for the handicapped band b)
- Radio microphones bands c) d) e) f).

Regulatory parameters related to Annex 10

Frequency Band	Power		Duty cycle	Channel spacing	ECC/ERC Decs	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 harmonised military bands
b 173.965 - 174.015 MHz	2 mW	e.r.p.	up to 100%	50 kHz		
c 863-865 MHz	10 mW	e.r.p.	up to 100%	200 kHz		
d 174-216 MHz	10 mW 50 mW	e.r.p. e.r.p.	up to 100%	200 kHz		On a tuning range basis. Professional use only - Individual license required. 50 mW restricted to for body worn microphones
e 470 - 862 MHz	10 mW 50 mW	e.r.p. e.r.p.	up to 100%	200 kHz		On a tuning range basis. Professional use only -Individual license required. 50 mW restricted to for body worn microphones
f 1785 - 1800 MHz	10 mW 50 mW	e.i.r.p. e.i.r.p.	up to 100%	200 kHz		Professional use only - Individual license required. 50 mW restricted to for body worn microphones

Additional Information

Harmonised Standards

EN 300 422	subbands a) - e)
EN 301 840	subband f)
EN 301 357	Subband c)

Frequency issues

Guard bands at 1785.0-1785.7 and 1799.4-1800 MHz may be required to protect services in adjacent bands

In case of analogue systems the maximum occupied bandwidth should not exceed 300 kHz in subband c)

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	ERC/ECC Decision	Notes
a 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)
b1 865 - 868 MHz	100 mW e.r.p.	LBT	200 kHz		Listen before talk (LBT) shall be used, preferably with the option of frequency agility
b2 865.6 - 867.6 MHz	2 W e.r.p.	LBT	200 kHz		Listen before talk (LBT) shall be used, preferably with the option of frequency agility
b3 865.6 - 868 MHz	500 mW e.r.p.	LBT	200 kHz		Listen before talk (LBT) shall be used, preferably with the option of frequency agility

Additional Information

Harmonised Standards

EN 300 440 Subband a)

EN 302 208 Subbands 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.

Subbands b1), b2) and b3)

Channel centre frequencies are 864.9 MHz + (0.2 MHz * channel number).

The available channel numbers for each sub-band are:

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

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

Technical parameters also referred to in the harmonised standard

Subband a)

As mentioned in the standard EN 300 440 the antenna shall have <= +/- 45 degrees horizontal beamwidth and >=15 dB sidelobe attenuation

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.

Subbands b1), b2) and b3)

As mentioned in the standard EN 302 208 the antenna shall have <= +/- 45 and +/- 35 degrees horizontal beamwidth for a radiated power of 100-500 mW and 500 mW - 2 W respectively.

Annex 12 Ultra Low Power Active Medical Implants

Scope of Annex

This annex covers frequency bands and regulatory as well as informative parameters recommended for the radio part of active implantable medical devices (for convenient definitions see the EC Directive 90/385/EEC (Active Implantable Medical Device Directive)) and their peripherals.

Regulatory parameters related to Annex 12

Frequency Band	Power	Duty cycle	Channel spacing	ECC/ERC Decsion	Notes
a 402 - 405 MHz	25 µW e.r.p.	No Restriction	25 kHz	ERC/DEC/(01)17	Individual transmitters may combine adjacent channels for increased bandwidth up to 300 kHz
b 9 - 315 kHz	30 dBµA/m at 10 m	< 10 %	No spacing		
c 315 - 600 kHz	-5 dBµA/m at 10 m	< 10 %	No spacing		The application is intended for animal implantable devices.
d 30 – 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

Additional Information

Harmonised Standards

EN 301 839	Subband a)
EN 300 330	Subband b) and c)
EN 300 220	Subband d)

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 laudspeakers; 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 toAnnex 13

Frequency Band	Power		Duty cycle	Channel spacing	ECC/ERC Decs	Notes
a 863-865 MHz	10 mW	e.r.p.	up to 100%	No spacing	ERC DEC (01)18	In case of analogue systems the max occupied bandwidth should not exceed 300 kHz
b 864.8 - 865 MHz	10 mW	e.r.p.	up to 100%	50 kHz		Narrow band analogue voice devices

Additional Information

Harmonised Standards

EN 301 357 subband a)
EN 300 220 subband b)

Frequency issues

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.

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
ECC	Electronic Communications Committee
ENG/OB	Electronic News Gathering / Outside Broadcasting
ERC	European Radiocommunications Committee
ERM	Electromagnetic Compatibility and Radio Spectrum Matters
ETSI	European Telecommunications Standard Institute
FHSS	Frequency Hopping Spread Spectrum
ISM	Industrial, Scientific and Medical applications
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
WLL	Wireless Local Loop