

4.2 Uses Exempt from radio licensing

Station license exemption

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

a) SRD-Short Range Devices

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

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

¹ Video applications are only allowed above the 2.4 GHz band.

² The duty cycle, LBT or technical equivalent may not be dependent on the user and the appropriate technical resources have to be guaranteed immediately

³ Audio signals are excluded from this band. Voice application with mitigation techniques of the LBT type or equivalent are permitted. The transmitter must include an output power control sensor with up to 1 minute time-out.

⁴ The power density for modulations with bandwidths above 250 kHz is limited to -13 dBm/10 kHz

⁵ The sub-bands for alarms are excluded

⁶ For broadband modulations other than FHSS and DSSS with bandwidths between 200 kHz and 3 MHz, the duty cycle can be increased up to 1% if the band is limited to 865-868 MHz and the power below 10 mW e.m.r.p..

⁷ The preferential spacing is 100 kHz, allowing 50 kHz and 25 kHz subdivisions.

⁸ For devices with FHSS, DSSS and AFA (*Adaptive Frequency Agility*) the *duty cycle* is applied to the total transmission except where LCT is used.

⁹ Duty cycle may be 1% if the band is limited to 865-868 MHz

¹⁰ The power density may be increased up to 6.2 dBm/100 kHz and 0.8 dBm/100 kHz, if the band is limited to 865-868 MHz and 865-870 MHz, respectively.

¹¹ For narrow band modulations with bandwidth from 50 to 200 kHz the band is limited to 865.5-867.5 MHz

¹² The entire band may be used as a common channel for the high-speed transmission of data.

SRD - Station characterization (cont.)

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

¹³ Victim Detection applications.

¹⁴ Measurement reading applications.

¹⁵ Applications for object detection and tracking.

¹⁶ For systems that use direct sequence spectrum spreading techniques, the value of the maximum power spectrum density should be limited to 10 mW/1 MHz; for systems that use frequency leap spectrum spreading techniques, the value of the maximum power spectrum density should be limited to 20 mW/100 kHz.

¹⁷ In accordance with Commission Decision 2005/513/EC of 11 July 2005.

¹⁸ The following conditions should be respected:

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

¹⁹ Maximum value of the average e.i.r.p.

²⁰ Automatic vehicle identification systems for railways. Transmission only where trains are present.

²¹ Tele-powered and train-station systems, including Eurobalise and loop/Euroloop activation. May also be used for loop/Euroloop activation.

²² Train-station systems, including Eurobalise.

²³ Train-station loop systems including *Euroloop*.

²⁴ The maximum field density value if specified for a 10 kHz bandwidth, taking an average of measurements made over 200m of the loop. Transmission only where trains are present.

SRD - Station characterization (cont.)					
Application	Frequency Band	Maximum power or field strength limits	Antenna type	Channel spacing	Duty Cycle
Road transport and traffic telematics - RTTT	5795 – 5805 MHz ²⁵	2 W e.i.r.p.	Integral or dedicated	²⁶	
	5805 – 5815 MHz ²⁷				
	63-64 GHz ²⁸	To be defined			
	76-77 GHz ²⁹	55 dBm peak			
Radio determination applications	2400 - 2483.5 MHz	25 mW e.i.r.p.			
	9200 - 9500 MHz				
	9500 - 9975 MHz				
	10.5 – 10.6 GHz	500 mW e.i.r.p.			
	13.4 - 14.0 GHz	25 mW e.i.r.p.			
	24.05 - 24.25 GHz	100 mW e.i.r.p.			
	4.5 – 7.0 GHz ³⁰	-41.3 dBm/MHz e.i.r.p.			
	8.5 – 10.6 GHz ³⁰				
	24.05 – 27.0 GHz ³⁰				
	57 – 64 GHz ³⁰				
75 – 85 GHz ³⁰					
Alarms	868.600 - 868.700 MHz ³¹	10 mW e.m.r.p.	25 kHz	< 1.0%	
	869.200 - 869.250 MHz ³²			< 0.1%	
	869.250 - 869.300 MHz			< 1.0%	
	869.300 – 869.400 MHz			< 10%	
	869.650 - 869.700 MHz	25 mW e.m.r.p.			
	169.4750 – 169.4875 MHz ³³	10 mW e.m.r.p.	12.5 kHz	< 0.1%	
	169.5875 – 169.6000 MHz ³³				

²⁵ The band is for road-vehicle systems, in particular (but not exclusively) for automatic toll payment systems.

²⁶ Frequencies: 5797.5 MHz, 5802.5 MHz, 5807.5 MHz and 5812.5 MHz are used with a 5 MHz channel spacing. 5800 MHz and 5810 MHz frequencies are used with a 10 MHz channel spacing.

²⁷ Requires individual licence.

²⁸ These systems, vehicle-vehicle or road-vehicle, will only be exempt from licensing after the definition of power limits. Vehicle and infrastructure radar systems.

²⁹ Tank Level Probing Radar (TLPR). The radiated power limit is determined outside the closed structure of the tank.

³¹ The 868.6-868.7 MHz frequency band may also be used as one channel for high speed data transmissions.

³² Band for Social Alarms.

³³ Exclusive use for Social Alarms.

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

³⁴ Frequencies exclusive for flying models.

³⁵ In the case of external antenna use, only "loop coil" type antennas are permitted

³⁶ At 30 kHz decrease of 3 dB/octave

³⁷ For RFID and EAS (Electronic Article Surveillance) exclusive use,

³⁸ The maximum field intensity is specified for a bandwidth of 10 kHz. The maximum value is -5dBμ A/m at 10m for systems which operate with bandwidths greater than 10 kHz, maintaining the field intensity limit (-15 dBμA/m at 10 m for bandwidth of 10 kHz).

³⁹ The maximum field intensity is specified for a bandwidth of 10 kHz. The maximum value is -5 dBμA/m at 10 m for systems which operate with bandwidths greater than 10 kHz, maintaining the field intensity limit (-20 dBμ A/m at 10 m for bandwidth of 10 kHz).

⁴⁰ For exclusive use of RFID.

⁴¹ The maximum field intensity is specified for a bandwidth of 10 kHz. The maximum value is -5 dBμA/m at 10 m for systems which operate with bandwidths greater than 10 kHz, maintaining the field intensity limit (-8 dBμA/m at 10 m for bandwidth of 10 kHz). These systems are required to operate with a minimum bandwidth of 30 kHz.

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

⁴² Hearing aids

⁴³ Earphone monitoring equipment is permitted, provided that the technical parameters applicable to radio microphones is adhered to.

⁴⁴ Radio microphones are only permitted in the 470-782 MHz, 790-838 MHz and 846-854 MHz sub-bands.

⁴⁵ Radio microphones.

⁴⁶ The maximum power limit for transmitting body-worn microphones is 50 mW e.m.r.p.

⁴⁷ For ultra-low power active medical implants which use inductive loop techniques for telemetry.

⁴⁸ Animal implant applications.

⁴⁹ For ultra-low power, active animal implants of indoor use.

⁵⁰ For ultra-low power membrane medical implants for measuring blood pressure.

⁵¹ For ultra-low power, active medical implants covered by the harmonised EN 301 839 standard. Transmitters may combine adjacent 25KHz channels to increase bandwidth up to 300 kHz.

⁵² For ultra-low power, active medical implants and accessories covered by the harmonised EN 302 537 standard and not covered by the 402-405 MHz frequency band. Transmitters may combine adjacent 25KHz channels to increase bandwidth up to 100 kHz. Due to the 1 MHz limit of available spectrum a maximum limit of 100 KHz is proposed for bandwidth. In order to ensure the concurrent use of the band by users.

⁵³ Unrestricted for equipment using LBT. Systems which do not use Agility frequency techniques based on RF ambient, field detection are limited to a permitted maximum of 250 nW p.a.r. with a duty cycle of ≤0.1 %.

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

⁵⁴ The SRR user interface must allow, as a minimum, the selection of a frequency between 88.1 MHz and 107.9 MHz and, at a maximum, between 87.6 MHz and 107.9 MHz.

⁵⁵ In analogue systems the width of the band used may not exceed 300 kHz.

⁵⁶ Narrow band analogue voice equipment, such as baby alarms, door control systems etc. is limited to the 864.8-865 MHz band

⁵⁷ According to Commission Decision 2005/50/EC of 17 January 2005.

⁵⁸ The maximum average power density will be -41.3 dBm/MHz e.i.r.p. Peak power density value should not exceed 0dBm/50 MHz e.i.r.p.

⁵⁹ For peak powers over -10 dBm e.i.r.p. and duty cycle < 10%.

⁶⁰ According to Commission Decision 2004/545/EC of 8 July 2004..

⁶¹ Maximum average power density will be -3 dBm/MHz e.i.r.p. Maximum average power density outside a vehicle resulting from the operation of a short range radar should not exceed -9 dBm/MHz e.i.r.p.

b) Earth stations in the Fixed Satellite Service

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

The use of this kind of Earth stations is only allowed at distances beyond 500 metres from airport boundaries.

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

c) Earth stations in the mobile-satellite service

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

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

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

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

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

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

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

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

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

d) Land Mobile Service Stations

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

PMR446 Analogue Stations

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

PMR446 Digital Stations

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

Talk-Back

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

⁶² Channels according to Decision ERC/DEC/(98)25.

⁶³ Channels according to Decision ECC/DEC/(05)12.

e) Receiver-only radiocommunications stations

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

Station characterization
<p>Receiver stations:</p> <ul style="list-style-type: none">• multiband, not associated with any particular radiocommunications services (scanners)• satellite radiocommunications services in the frequency bands:<ul style="list-style-type: none">3.4-4.2 GHz;10.7-12.75 GHz;17.7-20.2 GHz;• AIS system• Radio astronomy service ⁶⁴• Satellite radio determination service ⁶⁵• Meteorological – satellite service⁶⁵• Earth exploration satellite service⁶⁵

f) Receiver only sound and television broadcasting stations.

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

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