



IR 2030 - UK Interface Requirements 2030 Licence Exempt Short Range Devices

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Section 1

References

- 1.1 EN 300 220-1 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 1: Technical characteristics and methods of measurement
- 1.2 EN 300 220-2 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 2: Harmonised Standard for access to radio spectrum for non specific radio equipment
- 1.3 EN 300 220-3-1 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 3-1: Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Low duty cycle high reliability equipment, social alarms equipment operating on designated frequencies (869,200 MHz to 869,250 MHz)
- 1.4 EN 300 220-3-2 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 3-2: Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Wireless alarms operating in designated LDC/HR frequency bands 868,60 MHz to 868,70 MHz, 869,25 MHz to 869,40 MHz, 869,65 MHz to 869,70 MHz
- 1.5 EN 300 220-4 Short Range Devices (SRD) operating in the frequency range 25 MHz to 1 000 MHz; Part 4: Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Metering devices operating in designated band 169,400 MHz to 169,475 MHz
- 1.6 EN 303 204 Network Based Short Range Devices (SRD); Radio equipment to be used in the 870 MHz to 876 MHz frequency range with power levels ranging up to 500 mW; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.7 EN 300 328 Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz ISM band and using wide band modulation techniques; Harmonised Standard for access to radio spectrum
- 1.8 EN 300 330 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; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.9 EN 300 422-1 Audio PMSE up to 3 GHz; Part 1: Class A Receivers; Audio PMSE up to 3 GHz; Part 1: Class A Receivers; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

- 1.10 EN 300 422-2 Wireless Microphones; Audio PMSE up to 3 GHz; Part 2: Class B Receivers; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
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- 1.13 EN 300 440 Short Range Devices (SRD); Radio equipment to be used in the 1 GHz to 40 GHz frequency range; Harmonised Standard for access to radio spectrum
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- 1.15 EN 300 674-2-2 Transport and Traffic Telematics (TTT); Dedicated Short Range Communication (DSRC) transmission equipment (500 kbit/s / 250 kbit/s) operating in the 5 795 MHz to 5 815 MHz frequency band; Part 2: Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Sub-part 2: On-Board Units (OBU)
- 1.16 EN 300 718-1 Avalanche Beacons operating at 457 kHz; Transmitter-receiver systems; Part 1: Harmonised Standard for access to radio spectrum
- 1.17 EN 300 718-2 Avalanche Beacons operating at 457 kHz; Transmitter-receiver systems; Part 2: Harmonised Standard for features for emergency services
- 1.18 EN 300 761 European Norm - Electromagnetic compatibility and Radio spectrum Matters (ERM); Automatic Vehicle Identification (AVI) for railways.
- 1.19 EN 301 091-1 Short Range Devices; Transport and Traffic Telematics (TTT); Radar equipment operating in the 76 GHz to 77 GHz range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 1: Ground based vehicular radar

- 1.20 EN 301 091-2 Short Range Devices; Transport and Traffic Telematics (TTT); Radar equipment operating in the 76 GHz to 77 GHz range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 2: Fixed infrastructure radar equipment
- 1.21 EN 301 091-3 Short Range Devices; Transport and Traffic Telematics (TTT); Radar equipment operating in the 76 GHz to 77 GHz range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU; Part 3: Railway/Road Crossings obstacle detection system applications
- 1.22 EN 301 357 Cordless audio devices in the range 25 MHz to 2 000 MHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.23 EN 301 839 Ultra Low Power Active Medical Implants (ULP-AMI) and associated Peripherals (ULP-AMI-P) operating in the frequency range 402 MHz to 405 MHz; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.24 EN 301 893 5 GHz RLAN; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.25 EN 302 195 Short Range Devices (SRD); Ultra Low Power Active Medical Implants (ULP-AMI) and accessories (ULP-AMI-P) operating in the frequency range 9 kHz to 315 kHz Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.26 EN 302 208 Radio Frequency Identification Equipment operating in the band 865 MHz to 868 MHz with power levels up to 2 W and in the band 915 MHz to 921 MHz with power levels up to 4 W; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.27 EN 302 288 Short Range Devices; Transport and Traffic Telematics (TTT); Ultra-wideband radar equipment operating in the 24,25 GHz to 26,65 GHz range; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.28 EN 302 291-1 Electromagnetic compatibility and Radio spectrum Matters (ERM);Short Range Devices (SRD);Close Range Inductive Data Communication equipment operating at 13,56 MHz; Part 1: Technical characteristics and test methods
- 1.29 EN 302 291-2 Electromagnetic compatibility and Radio spectrum Matters (ERM);Short Range Devices (SRD);Close Range Inductive Data Communication equipment operating at 13,56 MHz; Part 2: Harmonized EN under article 3.2 of the R&TTE Directive

- 1.30 EN 302 372 Short Range Devices (SRD); Tank Level Probing Radar (TLPR) equipment operating in the frequency ranges 4,5 GHz to 7 GHz, 8,5 GHz to 10,6 GHz, 24,05 GHz to 27 GHz, 57 GHz to 64 GHz, 75 GHz to 85 GHz; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.31 EN 302 510 Short Range Devices (SRD); Ultra Low Power Active Medical Membrane Implants (ULP-AMI-M) and Peripherals (ULP-AMI-M-P) operating in the frequency range 30 MHz to 37,5 MHz; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.32 EN 302 536 Short Range Devices (SRD); Radio equipment operating in the frequency range 315 kHz to 600 kHz for Ultra Low Power Animal Implantable Devices (ULP-AID) and associated peripherals; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.33 EN 302 537 Ultra Low Power Medical Data Service (MEDS) Systems operating in the frequency range 401 MHz to 402 MHz and 405 MHz to 406 MHz; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.34 EN 302 567 Multiple-Gigabit/s radio equipment operating in the 60 GHz band; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.35 EN 302 608 Short Range Devices (SRD); Radio equipment for Eurobalise railway systems; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.36 EN 302 609 Short Range Devices (SRD); Radio equipment for Euroloop railway systems; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.37 EN 302 686 Intelligent Transport Systems (ITS); Radiocommunications equipment operating in the 63 GHz to 64 GHz frequency band; Harmonized EN covering the essential requirements of article 3.2 of the R&TTE Directive
- 1.38 EN 302 858 Short Range Devices; Transport and Traffic Telematics (TTT); Radar equipment operating in the 24,05 GHz to 24,25 GHz or 24,05 GHz to 24,50 GHz range; Harmonised Standard covering the essential requirements of article 3.2 of the Directive 2014/53/EU
- 1.39 EN 305 550 Short Range Devices (SRD); Radio equipment to be used in the 40 GHz to 246 GHz frequency range; Harmonised Standard for access to radio spectrum

- 1.40 EN 303 405 Land Mobile Service; Analogue and Digital PMR446 Equipment; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.41 EN 303 406 Short Range Devices (SRD); Social Alarms Equipment operating in the frequency range 25 MHz to 1 000 MHz; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU
- 1.42 2006/771/EC Commission Decision 2006/771/EC of 9 November 2006 on harmonisation of the radio spectrum for use by short range devices (as amended)
- 1.43 2013/752/EU Commission Implementing Decision 2013/752/EU of 11 December 2013 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2005/928/EC
- 1.44 2017/1483/EU Commission Implementing Decision 2017/1483/EU of 8 August 2017 amending Decision 2006/771/EC on harmonisation of the radio spectrum for use by short-range devices and repealing Decision 2006/804/EC

Section 2

Foreword

- 2.1 The Radio Equipment Directive (Directive 2014/53/EU) was implemented in the United Kingdom (UK) by the Radio Equipment Regulations 2017. In accordance with Articles 8 and 7 of Directive 2014/53/EU, this UK Interface Requirement contains the requirements for the licensing and use of Short Range Devices in the specified frequency bands.
- 2.2 Nothing in this UK Radio Interface Requirement shall preclude the need for equipment to comply with Directive 2014/53/EU.
- 2.3 It is required by the Wireless Telegraphy Act 2006 that no radio equipment is installed or used in the UK except under the authority of a licence granted by or otherwise exempted by regulations made by Ofcom. It is a condition of such a licence or exemption regulations as appropriate that the equipment must meet the minimum requirements specified in this UK Interface Requirement for the stated equipment types and for the stated frequency bands.
- 2.4 The requirements given in the main body of this UK Radio Interface Requirement will apply to the licensing of Short Range Devices.
- 2.5 This UK Radio Interface Requirement will be revised as necessary, for example to follow:
 - i) current technology developments for reasons related to the effective and appropriate use of the spectrum in particular maximising spectrum utilisation;and
 - ii) changes to the available spectrum allocated for Short Range Devices.
- 2.6 All UK Radio Interface Requirements notified under Directive 2015/1535/EU will be published and will be made available free of charge from the [Ofcom website](#).
- 2.7 Further information on this UK Radio Interface Requirement can be obtained from the technical enquiry contact given at the back of this document.

Section 3

Minimum equipment requirements for operation within the UK

- 3.1 The minimum requirements in this document are made for reasons related to the effective and appropriate use of the radio spectrum, in particular, maximising spectrum utilisation.
- 3.2 This UK Radio Interface Requirement gives a high-level description of how the spectrum in the UK is used for Short Range Devices. It does not prescribe technical interpretation of the 'essential requirements' of Directive 2014/53/EU.
- 3.3 This UK Radio Interface Requirement therefore stipulates the necessary equipment parameters for the licensing or licence exemption of Short Range Devices in the UK. Table 3.1 contains the relevant equipment parameters. These together with the 'essential requirements' detailed in Article 3.2 of Directive 2014/53/EU constitute the minimum equipment requirements for Short Range Devices within the UK.
- 3.4 The technical parameters specified in the UK radio Interface Requirement are applied to achieve the desired level of compatibility within Short Range Devices and with radiocommunications services, whilst promoting enterprise, innovation and competition.
- 3.5 This UK Radio Interface requirement provides the necessary technical information which facilitates access to Short Range Devices spectrum by making clear the assumptions that are made in planning the use of Short Range Devices in the UK. It is not the intention of this UK Radio Interface Requirement to duplicate or impose any additional 'essential requirements' of the Directive 2014/53/EU on products. Any specified parameters within this document are for the purpose of identifying product options and not as a national de facto product requirement.

The following definitions apply in relation to the specified Radio Interface Requirements:

Defined term	Definition
Non-Specific Short-Range Device	The non-specific short-range device category covers all kinds of radio devices, regardless of the application or the purpose, which fulfil the technical conditions as specified for a given frequency band. Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications
Network Access Point	A network access point in a data network is a fixed terrestrial short range device that acts as a connection point for the other short range devices in the data network to service platforms located outside of that data network. The term data network refers to several short range devices, including the network access point, as network components and to the wireless connections between them.
Databuoy Telemetry	means equipment designed or adapted for telemetry in a maritime environment
Active medical Implants	The active medical implants device category covers the radio part of active implantable medical devices that are intended to be totally or partially introduced, surgically or medically, into the human body or that of an animal, and where applicable their peripherals
Animal Implantable Devices	Animal implantable devices” are transmitting devices which are placed inside the body of an animal for the purpose of performing diagnostic functions and/or delivery of therapeutic treatment
Active Implantable Medical Devices	“Active implantable medical devices” as defined in Council Directive 90/385/EEC of 20 June 1990 on the approximation of the laws of the Member States relating to active implantable medical devices (OJ L 189, 20.7.1990, p.17)
Medical Body Area Network Systems	Medical Body Area Network Systems (MBANSs), used for medical data acquisition, are intended to be used in healthcare facilities and patients' homes. They are low power radio systems used for the transmission of non-voice data to and from medical devices for the purposes of monitoring, diagnosing

and treating patients as prescribed by duly authorised healthcare professionals and are defined in the context of medical applications only; [24] Member States can specify exclusion zones

Wideband Data transmission Devices	The wideband data transmission device category covers radio devices that use wideband modulation techniques to access the spectrum. Typical uses include wireless access systems such as radio local area networks (WAS/RLANs)
Wireless Access Systems	equipment, including Radio Local Area Networks, designed for high speed data communication
Railway Applications	equipment designed or adapted for the purpose of railway vehicle identification or for the provision of short range data links between the track and railway vehicles
Radio determination	The radio determination device category covers radio devices that are used for determining the position, velocity and/or other characteristics of an object, or for obtaining information relating to these parameters. Radiodetermination equipment typically conducts measurements to obtain such characteristics. Any kind of point-to-point or point-to-multipoint radio communications is outside of this definition
Radio Frequency Identification	The radio frequency identification (RFID) device category covers tag/interrogator based radio communications systems, consisting of radio devices (tags) attached to animate or inanimate items and of transmitter/receiver units (interrogators) which activate the tags and receive data back. Typical uses include the tracking and identification of items, such as for electronic article surveillance (EAS), and collecting and transmitting data relating to the items to which tags are attached, which may be either battery-less, battery assisted or battery powered. The responses from a tag are validated by its interrogator and passed to its host system
Transport and Traffic Telematics	The transport and traffic telematics device category covers radio devices that are used in the fields of transport (road, rail, water or air, depending on the relevant technical restrictions), traffic management, navigation, mobility management and in intelligent transport systems (ITS). Typical applications are

used for interfaces between different modes of transport, communication between vehicles (e.g. car to car), between vehicles and fixed locations (e.g. car to infrastructure) as well as communication from and to users

Inductive

The inductive category covers radio applications intended to use magnetic fields with inductive loop systems for near field communications. Typical uses include devices for car immobilisation, animal identification, alarm systems, cable detection, waste management, personal identification, wireless voice links, access control, proximity sensors, anti-theft systems, including RF anti-theft induction systems, data transfer to hand-held devices, automatic article identification, wireless control systems and automatic road tolling

Low Duty Cycle / High Reliability Devices

The low duty cycle/high reliability device category covers radio devices that rely on low overall spectrum utilisation and low duty cycle spectrum access rules to ensure highly reliable spectrum access and transmissions in shared bands. Typical uses include alarm systems that use radio communication for indicating an alert condition at a distant location and social alarms systems that allow reliable communication for a person in distress

Social Alarms

“Social alarm devices” are radio communications systems that allow reliable communication for a person in distress in a confined area to initiate a call for assistance. Typical uses of social alarm are to assist elderly or disabled people

Alarms

An alarm system is a device which uses radio communication support for indicating an alert to a system or a person, as a main functionality, at a distant location when a problem or a specific situation occurs. Radio alarms include social alarms and alarms for security and safety

Model Control

Model control devices are a specific kind of telecommand and telemetry radio equipment that is used to remotely control the movement of models (principally miniature representations of vehicles) in the air, on land or over or under the water surface

Radio Microphones	equipment designed or adapted for telephony, for the purpose of projecting the user's voice or music
Assistive Listening Device	The assistive listening device (ALD) category covers radio communications systems that allow persons suffering from hearing disability to increase their listening capability. Typical systems include one or more radio transmitters and one or more radio receivers.
Tank Level Probing Radar	Tank Level Probing Radar (TLPR) is a specific type of radiodetermination application, which is used for tank level measurements and is installed in metallic or reinforced concrete tanks, or similar structures made of material with comparable attenuation characteristics. The purpose of the tank is to contain a substance
Metering device	The metering device category covers radio devices that are part of bidirectional radio communications systems which allow remote monitoring, measuring and transmission of data in smart grid infrastructures, such as electricity, gas and water
High Duty / Cycle Continuous Transmissions	The high duty cycle/continuous transmission device category covers radio devices that rely on low latency and high duty cycle transmissions. Typical uses are for personal wireless audio and multimedia streaming systems, mobile phones, automotive or home entertainment system, wireless microphones, cordless loudspeakers, cordless headphones, radio devices carried on a person, assistive listening devices, in-ear monitoring, wireless microphones for use at concerts or other stage productions, and low power analogue FM transmitters
PMR446	PMR446 equipment is hand portable (no base station or repeater use) and uses integral antennas only in order to maximise sharing and minimise interference. PMR 446 equipment operates in short range peer-to-peer mode and shall be used neither as a part of infrastructure network nor as a repeater

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Table 3.1: Minimum requirements for the use of Short Range Devices

	Normative Part								Informative Part
Interface / Notification number / Date	Application	Comments to application	Frequency band	Comments to frequency band	Maximum transmit power / Power spectral density / Field strength	Comments to Maximum transmit power / Power spectral density / Field strength	Channelling	Channel access and occupation rules	Reference
IR2030/1/1 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	6765 - 6795 kHz		42 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No. 22b
IR2030/1/2 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	13.553 - 13.567 MHz		42 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.27c
IR2030/1/3 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	26.957 - 27.283 MHz		10 mW e.r.p. 42 dB μ A/m at 10 m				EN 300 220 EN 300 330 2013/752/EU Band No.28b
IR2030/1/4 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	40.66 - 40.70 MHz		10 mW e.r.p.				EN 300 220 2013/752/EU Band No.35
IR2030/1/5 2010/0168/UK Oct 2010	Non-specific short-range devices		49.82 - 49.98 MHz		10 mW e.r.p.				EN 300 220

IR2030/1/6 2010/0168/UK Oct 2010	Non-specific short-range devices	Music is only permitted when using a digitised signal	173.20-173.35 MHz		1 mW e.r.p.		Channel Spacing 12.5 kHz Channel numbers 1 and 3 to 11 inclusive; are available with a channel centre frequency of 173.2 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/1/7 2010/0168/UK Oct 2010	Non-specific short-range devices	Music is only permitted when using a digitised signal	173.20-173.35 MHz		1 mW e.r.p.		Channel Spacing 25 kHz Channel numbers 2 to 5 inclusive are available with a channel centre frequency of 173.2 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/1/8 2010/0168/UK Oct 2010	Non-specific short-range devices	Telemetry and telecommand may only be used in conjunction with telephony with a non-locking push to talk key or voice operated carrier.	173.5875, 173.6 MHz		10 mW e.r.p.		Channel Spacing 12.5 kHz		EN 300 220

IR2030/1/9 2010/0168/UK Oct 2010	Non-specific short-range devices	New equipment cannot be taken into service. However existing equipment brought into service prior to 31 December 2007 may continue to operate within the band. Music is only permitted when using a digitised signal	417.9 - 418.1 MHz		250 μ W e.r.p.				EN 300 220
IR2030/1/10 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	433.05-434.79 MHz		10 mW e.r.p.			Duty cycle limit 10%	EN 300 220 2013/752/EU Band No.44b and 45b
IR2030/1/11 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne. Analogue audio applications other than voice / speech are excluded.	433.05-434.79 MHz		1 mW e.r.p.				EN 300 220 2013/752/EU Band No.44a and 45a
IR2030/1/12 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne Analogue audio applications other than voice / speech are excluded.	434.04-434.79 MHz		10 mW e.r.p.		Channel Spacing \leq 25 kHz		EN 300 220 2013/752/EU Band No.45c

IR2030/1/13 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne Analogue audio applications other than voice are excluded. Analogue video applications are excluded	863.0 – 865 MHz		25 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1% may be used	EN 300 220 2013/752/EU Band No.46a
IR2030/1/14 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne Analogue audio applications other than voice are excluded. Analogue video applications are excluded	865 – 868 MHz		25 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 1% may be used	EN 300 220 2013/752/EU Band No.47

IR2030/1/46	Non-specific short-range devices	This set of usage conditions is only available for devices used in data networks.	865.6 - 865.8 MHz 866.2 - 866.4 MHz 866.8 - 867.0 MHz 867.4 - 867.6 MHz		500 mW e.r.p.	Adaptive Power Control (APC) or other mitigation techniques providing at least the equivalent level of spectrum compatibility as APC must be used.	Maximum bandwidth: ≤ 200 kHz	Techniques to access spectrum and mitigate interference providing at least equivalent performance to techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Maximum Duty cycle for data network access points: ≤ 10 % ¹ Maximum Duty cycle for other data network devices: ≤ 2.5	2017/1483/EU Band No. 47b
IR2030/1/15 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne Analogue audio applications other than voice are excluded. Analogue video applications are excluded	868 – 869.7 MHz		25 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1% may be used	EN 300 220 2013/752/EU Band No.54a

¹ "Duty cycle" is defined as the ratio, expressed as a percentage of $\Sigma(T_{on}) / (T_{obs})$ where T_{on} is the "on" time of a single transmitter device and T_{obs} is the observation period. T_{on} is measured in an observation frequency band (F_{obs}). Unless otherwise specified in this technical annex, T_{obs} is a continuous one hour period and F_{obs} is the applicable frequency band in this technical annex. Less restrictive conditions within the meaning of Article 3(3), mean that Member States may allow a higher value for "duty cycle".

IR2030/1/16 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	868.0-868.6 MHz		25 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 1 % may be used.	EN 300 220 2013/752/EU Band No.48
IR2030/1/17 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	868.7-869.2 MHz		25 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1 % may be used.	EN 300 220 2013/752/EU Band No.50
IR2030/1/18 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	869.30-869.40 MHz		10 mW e.r.p.		Channel bandwidth ≤ 25 kHz	Duty cycle limit 10 %	EN 300 220 2013/752/EU Band No.53

IR2030/1/19 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	869.40-869.65 MHz		500 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. This can include for example Listen Before Talk. Alternatively a duty cycle limit of 10 % may be used.	EN 300 220 2013/752/EU Band No.54b
IR2030/1/20 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne Analogue audio applications other than voice are excluded. Analogue video applications are excluded	869.7 – 870 MHz		25 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 1% may be used	EN 300 220 2013/752/EU Band No.56b
IR2030/1/21 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne Analogue audio applications other than voice/speech are excluded.	869.70-870.00 MHz		5 mW e.r.p.				EN 300 220 2013/752/EU Band No.56a
IR2030/1/22 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	2400-2483.5 MHz		10 mW e.i.r.p.				EN 300 440 2013/752/EU Band No.57a

IR2030/1/23 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	5725- 5875 MHz		25 mW e.i.r.p.				EN 300 440 2013/752/EU Band No.61
IR2030/1/24 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	24.150-24.250 GHz		100 mW e.i.r.p.				EN 300 440 2013/752/EU Band No.70a
IR2030/1/25 2010/0168/UK Oct 2010	Non-specific short-range devices	Equipment may be used airborne	61.0 - 61.5 GHz		100 mW e.i.r.p.				EN 305 550 2013/752/EU Band No. 76
IR2030/1/26 2011/0401/UK Dec 2011	Non-specific short-range devices		138.20 – 138.45 MHz		10 mW e.r.p.			Duty Cycle limit < 1.0 %	EN 300 220
IR2030/1/27 2011/0401/UK Dec 2011	Non-specific short-range devices	Equipment may be used airborne	122 – 123 GHz		100 mW e.i.r.p.				EN 305 550 2013/752/EU Band No. 80
IR2030/1/28 2011/0401/UK Dec 2011	Non-specific short-range devices	Equipment may be used airborne	244 - 246 GHz		100 mW e.i.r.p.				EN 305 550 2013/752/EU Band No. 81
IR2030/1/29 2014/88/UK June 2014	Non-specific short-range devices		870-873 MHz		25 mW e.r.p.		≤ 200 kHz	Duty Cycle limit ≤ 0.1%	EN 300 220
IR2030/1/30 2014/88/UK June 2014	Non-specific short-range devices		873-876 MHz		25 mW e.r.p.		≤ 200 kHz	Duty Cycle limit ≤ 0.01% and limited to a maximum transmit on-time of 5ms/1s	EN 300 220
IR2030/1/31 2014/88/UK June 2014	Non-specific short-range devices		870-873 MHz		25 mW e.r.p.		≤ 600 kHz	Duty Cycle limit ≤ 1%	EN 300 220

IR2030/1/32 2014/88/UK June 2014	Non-specific short-range devices		873-875.8 MHz		25 mW e.r.p.		≤ 600 kHz	Duty Cycle limit ≤ 0.01% and limited to a maximum transmit on time of 5ms/1s	EN 300 220
IR2030/1/33 2014/88/UK June 2014	Non-specific short-range devices		915-918 MHz		25 mW e.r.p.		≤ 200 kHz	Duty Cycle limit ≤ 0.1%	EN 300 220
IR2030/1/34 2014/88/UK June 2014	Non-specific short-range devices		918-921 MHz		25 mW e.r.p.		≤ 200 kHz	Duty Cycle limit ≤ 0.01% and limited to a maximum transmit on-time of 5ms/1s	EN 300 220
IR2030/1/35 2014/88/UK June 2014	Non-specific short-range devices		915.2 -918 MHz		25 mW e.r.p.		≤ 600 kHz	Duty Cycle limit ≤ 1%	EN 300 220
IR2030/1/36 2014/88/UK June 2014	Non-specific short-range devices		918-920.8 MHz		25 mW e.r.p.		≤ 600 kHz	Duty Cycle limit ≤ 0.01% and limited to a maximum transmit on-time of 5ms/1s	EN 300 220
IR2030/1/37 2014/88/UK June 2014	Non-specific short-range devices		916.1-916.5 MHz 917.3-917.7 MHz,		100 mW e.r.p.			Duty Cycle limit ≤ 1%	EN 300 220
IR2030/1/38 2014/88/UK June 2014	Non-specific short-range devices		918.5-918.9 MHz 919.7-920.1 MHz		100 mW e.r.p.			Duty Cycle limit ≤ 0.01% and limited to a maximum transmit on-time of 5ms/1s	EN 300 220
IR2030/1/39 2014/88/UK June 2014	Non-specific short-range devices	Devices for detection of buried victims and valuable items	456.9-457.1 kHz		7 dB μ A/m at 10 m				EN 300 718 2013/752/EU Band No.18

IR2030/1/40 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	26.990 - 27.000 MHz 27.040 - 27.050 MHz 27.090 - 27.100 MHz 27.140 - 27.150 MHz 27.190 - 27.200 MHz		100 mW e.r.p.			Duty Cycle limit \leq 0.1%	EN 300 220 Model Control limits set out in IR2030/23 2013/752/EU Band No. 29, 30,31,32 and 33
IR2030/1/41 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	169.4-169.475 MHz		500 mW e.r.p.		\leq 50 kHz	Duty Cycle limit \leq 1.0%	EN 300 220 2013/752/EU Band No.37c
IR2030/1/42 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	169.4-169.4875 MHz		10 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1% may be used	EN 300 220 2013/752/EU Band No.38

IR2030/1/43 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	169.4875-169.5875 MHz		10 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.001% may be used. Between 00:00h and 06:00h local time a duty cycle limit of 0.1% may be used	EN 300 220 2013/752/EU Band No.39b
IR2030/1/44 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	169.5875-169.8125 MHz		10 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1% may be used	EN 300 220 2013/752/EU Band No.40
IR2030/1/45 2014/88/UK June 2014	Non-specific short-range devices	Equipment may be used airborne	57-64 GHz		100 mW e.i.r.p. 13 dBm/MHz e.i.r.p. 10 dBm transmitter power				EN 305 550 2013/752/EU Band No. 74a
IR2030/2/1 2010/0168/UK Oct 2010	Industrial/Commercial Telemetry and Telecommand	Use is limited to remote meter reading. Equipment may be used airborne	169.4 – 169.475 MHz		500 mW e.r.p.		Channel Bandwidth ≤ 50kHz	Duty cycle limit 10%	EN 300 220 2013/752/EU Band No.37b

IR2030/2/2 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Use is limited to asset tracking and tracing Equipment may be used airborne	169.4 – 169.475 MHz		500 mW e.r.p.		Channel Bandwidth ≤ 50kHz	Duty cycle limit 1%	EN 300 220
IR2030/2/3 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Music and speech are only permitted when using a digitised signal	173.2 - 173.35 MHz		10 mW e.r.p.		Channel Spacing 12.5 kHz Channel numbers 1 and 3 to 11 inclusive; are available with a channel centre frequency of 173.2 MHz plus (Channel Spacing times channel number).		EN 300 220
IR2030/2/4 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Music and speech are only permitted when using a digitised signal	173.2 - 173.35 MHz		10 mW e.r.p.		Channel Spacing 25 kHz Channel numbers 1 to 5 inclusive are available with a channel centre frequency of 173.2 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/2/5 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Music and speech are only permitted when using a digitised signal	173.2 - 173.35 MHz		10 mW e.r.p.				EN 300 220

IR2030/2/6 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Music and speech are only permitted when using a digitised signal	458.5 - 458.95 MHz		500 mW e.r.p.		Channel Spacing 12.5 kHz Channel numbers 1 to 25 inclusive and 28 to 31 inclusive and 33 to 35 inclusive are available with a channel centre frequency of 458.5 MHz plus (Channel Spacing times channel number).		EN 300 220
IR2030/2/7 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Music and speech are only permitted when using a digitised signal	458.5 - 458.95 MHz		500 mW e.r.p.		Channel Spacing 25 kHz Channel numbers 1 to 12 inclusive and 14 to 15 inclusive and 17 are available with a channel centre frequency of 458.5 MHz plus (Channel Spacing times channel number).		EN 300 220
IR2030/2/8 2010/0168/UK Oct 2010	Industrial/ Commercial Telemetry and Tele- command	Music and speech are only permitted when using a digitised signal	2445 - 2455 MHz		100 mW e.i.r.p.				EN 300 440
IR2030/3/1 2010/0168/UK Oct 2010	Databuoy Telemetry		34.5 to 34.995 MHz		250 mW e.r.p.		Channel Spacing 25 kHz		EN 300 220
IR2030/3/2 2010/0168/UK Oct 2010	Databuoy Telemetry		35.225 to 35.5 MHz		250 mW e.r.p.		Channel Spacing 25 kHz		EN 300 220

IR2030/4/1 2010/0168/UK Oct 2010	Active Medical Implants	Equipment may be used airborne	9 – 315 kHz		30 dB μ A/m at 10m			Duty cycle limit 10 %	EN 302 195 2013/752/EU Band No.2
IR2030/4/2 2010/0168/UK Oct 2010	Active Medical Implants		300 kHz-- 30 MHz		9 dB μ A/m at 10m				EN 300 330
IR2030/4/3 2010/0168/UK Oct 2010	Active Medical Implants	Equipment may be used airborne	30 to 37.5 MHz		1 mW e.r.p.			Duty cycle limit 10%	EN 302 510 2013/752/EU Band No.34
IR2030/4/4 2010/0168/UK Oct 2010	Active Medical Implants and associated peripherals	Equipment may be used airborne	401 – 402 MHz		25 μ W e.r.p.		Channel spacing 25 kHz Individual transmitters may combine adjacent channels for increased bandwidth up to 100 kHz.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1% may be used.	EN 302 537 2013/752/EU Band No.41
IR2030/4/5 2010/0168/UK Oct 2010	Active Medical Implants	This category covers the radio part of active implantable medical devices Equipment may be used airborne	402 – 405 MHz		25 μ W e.r.p.		Channel spacing 25 kHz Individual transmitters may combine adjacent channels for increased bandwidth.	Other techniques to access spectrum or mitigate interference can be used provided they result at least in an equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU	EN 301 839 2013/752/EU Band No.42

IR2030/4/6 2010/0168/UK Oct 2010	Active Medical Implants and associated peripherals	Equipment may be used airborne	405 – 406 MHz		25 μ W e.r.p.		Channel spacing 25 kHz Individual transmitters may combine adjacent channels for increased bandwidth up to 100 kHz.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 0.1% may be used	EN 302 537 2013/752/EU Band No.43
IR2030/4/7 2014/88/UK June 2014	Active Medical Implants	Equipment may be used airborne This set of usage conditions is only available to active implantable medical devices. Peripheral master units are for indoor use only.	2483.5-2500 MHz		10 mW e.r.p.		Channel spacing 1 MHz The whole frequency band may also be used dynamically as a single channel for high-speed data transmissions	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Alternatively a duty cycle limit of 10 % may be used	EN 301 559 2013/752/EU Band No.59
IR2030/4/8 2014/88/UK June 2014	Active Medical Implants	Equipment may be used airborne Animal Implantable Devices	315 - 600 kHz		-5 dB μ A/m at 10m			Duty cycle limit: 10%	EN 302 536 2013/752/EU Band No.16

IR2030/4/9 2014/88/UK June 2014	Active Medical Implants	Equipment may be used airborne Animal Implantable Devices	12,5 - 20,0 MHz		-7 dB μ A/m at 10m in a 10 kHz bandwidth			Duty cycle limit: 10%	EN 300 330 2013/752/EU Band No.26
IR2030/6/1 2010/0168/UK Oct 2010	Medical and Biological Applications	These bands may also be used for the tracking of birds. Equipment affixed to a bird may be used airborne	173.7 – 174 MHz		10 mW e.r.p.		Channel Spacing 12.5 kHz Channel numbers 1 to 24 inclusive are available with channel centre frequency of 173.7 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/6/2 2010/0168/UK Oct 2010	Medical and Biological Applications	These bands may also be used for the tracking of birds. Equipment affixed to a bird may be used airborne	173.7 – 174 MHz		10 mW e.r.p.		Channel Spacing 25 kHz Channel numbers 1 to 11 inclusive are available with channel centre frequency of 173.7 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/6/3 2010/0168/UK Oct 2010	Medical and Biological Applications		173.7 – 174 MHz		10 mW e.r.p.				EN 300 220

IR2030/6/4 2010/0168/UK Oct 2010	Medical and Biological Applications	These bands may also be used for the tracking of birds. Equipment affixed to a bird may be used airborne	458.9625 – 459.1000 MHz		10 mW e.r.p.		Channel Spacing 12.5 kHz Channel numbers 37 to 47 inclusive are available with channel centre frequency of 458.5 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/6/5 2010/0168/UK Oct 2010	Medical and Biological Applications		458.9625 – 459.1000 MHz		500 mW e.r.p.		Channel Spacing 12.5 kHz Channel numbers 37 to 47 inclusive are available with channel centre frequency of 458.5 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/6/6 2010/0168/UK Oct 2010	Medical and Biological Applications	These bands may also be used for the tracking of birds. Equipment affixed to a bird may be used airborne	458.9625 – 459.1000 MHz		10 mW e.r.p.		Channel Spacing 25 kHz Channel numbers 19 to 23 inclusive are available with channel centre frequency of 458.5 MHz plus (Channel Spacing times channel number)		EN 300 220

IR2030/6/7 2010/0168/UK Oct 2010	Medical and Biological Applications		458.9625 - 459.1000 MHz		500 mW e.r.p.		Channel Spacing 25 kHz Channel numbers 19 to 23 inclusive are available with channel centre frequency of 458.5 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/6/8	Medical data acquisition devices (MBANS) ¹	The set of usage conditions is only available for medical body area network system (MBANS) [23] for indoor use within healthcare facilities	2483.5-2500 MHz		1 mW e.r.p.		Modulation Bandwidth: ≤ 3 MHz	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Maximum Duty Cycle: ≤ 2 %	EN 301 559 2017/1483/EU Band No. 59a

¹ Medical Body Area Network Systems (MBANSs), used for medical data acquisition, are intended to be used in healthcare facilities and patients' homes. They are low power radio systems used for the transmission of non-voice data to and from medical devices for the purposes of monitoring, diagnosing and treating patients as prescribed by duly authorised healthcare professionals and are defined in the context of medical applications only

IR2030/6/9	Medical data acquisition devices (MBANS)	The set of usage conditions is only available for medical body area network system (MBANS) for indoor use within the patient's home	2483.5-2500 MHz		10 mW e.i.r.p.		Modulation Bandwidth: ≤ 3 MHz	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Maximum Duty Cycle: $\leq 2\%$	EN 301 559 2017/1483/EU Band No. 59b
IR2030/7/1 2010/0168/UK Oct 2010	Wideband Data Transmission Systems	Equipment may be used airborne	2400 MHz to 2483.5 MHz		100 mW e.i.r.p. In addition equipment must only emit emissions of 100 mW/100 kHz e.i.r.p. when frequency hopping modulation is used, or 10 mW/MHz e.i.r.p. when other types of modulation are used			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used	EN 300 328 EN 303 422 2013/752/EU Band No.57c
IR2030/7/2 2010/0168/UK Oct 2010	Wideband Data Transmission Systems	Equipment must not form part of a fixed outdoors installation. Equipment may be used airborne	57 – 66 GHz		40 dBm e.i.r.p. / 13 dBm/MHz e.i.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used	EN 302 567 2013/752/EU Band No.75

IR2030/7/3	Wideband Data Transmission devices		863-868 MHz		25 mW e.r.p.		Maximum channel bandwidth: ≤ 1 MHz	<p>This set of usage conditions is only available for wideband devices used in data networks</p> <p>Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used.</p>	<p>EN 300 220</p> <p>2017/1483/EU Band No. 84</p>
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<p>IR2030/8/1 2010/0168/UK Oct 2010</p>	<p>Wireless Access Systems (WAS)</p>	<p>Aeronautical mobile use is not permitted. The apparatus may only be used within a building or aircraft or any other enclosed space with attenuation characteristics at least as strong as those of either a building or an aircraft, and only to establish a connection with a station or apparatus within the same building or aircraft or other enclosed space</p>	<p>5150-5350 MHz</p>		<p>200 mW mean e.i.r.p. / 10 mW/MHz mean e.i.r.p.</p>			<p>Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used</p>	<p>Dynamic Frequency Selection and Transmit Power Control are assumed to be implemented as specified in EN 301 893 EC Decision 2005/513/EC Nominal Centre Frequency (MHz) 5180, 5200, 5220, 5240, 5260, 5280, 5300, 5320.</p>
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IR2030/8/2 2017/120/UK June 2017	Wireless Access Systems (WAS)	Aeronautical mobile use is not permitted. The apparatus may also be used airborne within an aircraft, only to establish a connection with a station or apparatus within the same aircraft	5470-5730 MHz		1 W mean e.i.r.p. / 50 mW/MHz mean e.i.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used	Where the band 5470 – 5725 MHz is used, Dynamic Frequency Selection and Transmit Power Control are assumed to be implemented as specified in EN 301 893 and EC Decision 2005/513/EC Where the band 5725 – 5730 MHz is used see footnote ¹ for information
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¹ Although a matter for users to determine, if Dynamic Frequency Selection and Transmit Power Control are implemented as elements of the techniques to access spectrum and mitigate interference referred to under ‘Channel access and occupation rules’, one possible approach may be to apply Dynamic Frequency Selection and Transmit Power Control as specified in EN 301 893 (applied to this band in the same way as applied to the 5150 – 5350 and 5470 – 5725 bands) and Dynamic Frequency Selection detection radar test signals as specified in EN 302 502 (as applied to WAS equipment).

IR2030/8/3 2017/120/UK June 2017	Wireless Access Systems (WAS)	Equipment must not form part of a fixed outdoors installation when operating in 5730 – 5850 MHz Aeronautical mobile use is not permitted. Equipment may be used airborne, within an aircraft, only to establish a connection with a station or apparatus within the same aircraft	5725 – 5850 MHz		Maximum mean e.i.r.p of 200 mW and maximum mean e.i.r.p density of 10 mW/MHz in any 1 MHz band			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards for the 5150 – 5350 MHz and 5470 – 5725 MHz bands adopted in accordance with EC Decision 2005/513/EC and Directive 2014/53/EU must be used.	See footnote ¹ for information. Nominal Centre Frequency (MHz) 5745, 5765, 5785, 5805, 5825
IR2030/9/1 2010/0168/UK Oct 2010	Short Range Indoor Data Links	Music and speech are only permitted when using a digitised signal	2445 – 2455 MHz		100 mW e.i.r.p.				EN 300 440
IR2030/9/2 2010/0168/UK Oct 2010	Short Range Indoor Data Links	Music and speech are only permitted when using a digitised signal.	5725 – 5875 MHz		25 mW e.i.r.p.				EN 300 440

¹ Although a matter for users to determine, if Dynamic Frequency Selection and Transmit Power Control are implemented as elements of the techniques to access spectrum and mitigate interference referred to under ‘Channel access and occupation rules’, one possible approach may be to apply Dynamic Frequency Selection and Transmit Power Control as specified in EN 301 893 (applied to this band in the same way as applied to the 5150 – 5350 and 5470 – 5725 bands), except with respect to Dynamic Frequency Selection detection radar test signals where Dynamic Frequency Selection detection radar test signals as specified in EN 302 502 (as applied to WAS equipment) may be applied.

IR2030/9/3 2012/0651/UK June 2013	Short Range Indoor Data Links	Music and speech are only permitted when using a digitised signal. This frequency band is no longer available. However, equipment that was put into service before 30 December 2014 may continue to operate within the band	10.675 – 10.699 GHz		1 W e.i.r.p.				EN 300 440
IR2030/10/2 2010/0168/UK Oct 2010	Railway Applications		516 – 8516 kHz	Center Frequency 4516 kHz	7 dB μ A/m at 10 m				EN 300 330
IR2030/10/4 2010/0168/UK Oct 2010	Railway Applications		27.090 – 27.100 MHz	Center Frequency (Fo) 27.095 MHz	42 dB μ A/m at 10 m	Fo \pm < 5 kHz			EN 300 330 EN 302 608
					5 dB μ A/m at 10 m	Fo \pm (5 to 200) kHz			
					- 1 dB μ A/m at 10 m	Fo \pm > 500 kHz			
IR2030/10/5 2010/0168/UK Oct 2010	Railway Applications		2446 – 2454 MHz		500 mW e.i.r.p.		Channel Bandwidth \leq 1.5 MHz		EN 300 761

IR2030/11/1 2010/0168/UK Oct 2010	Devices for locating victims in distress or at risk	This frequency band is no longer available. However, existing Avalanche Victim detection equipment may continue to operate within the band	2275 Hz		42 dB μ A/m at 10 m				
IR2030/11/2 2014/88/UK June 2014	Devices for locating victims in distress or at risk		456.9-457.1 kHz		7 dB μ A/m at 10 m				EN 300 718 2013/752/EU Band No.18
IR2030/12/1 2014/88/UK June 2014	Radio determination	This frequency band is no longer available. However, equipment that was put into service before 31 December 2003 may continue to operate within the band	888.0 - 889.0 MHz		500 mW e.i.r.p.		Channel Spacing 25 kHz		
IR2030/12/2 2014/88/UK June 2014	Radio determination	Equipment may be used airborne	2400 – 2483.5 MHz		25 mW e.i.r.p.				EN 300 440 2013/752/EU Band No.57b
IR2030/12/3 2014/88/UK June 2014	Radio determination		2445 - 2455 MHz		100 mW e.i.r.p.				EN 300 440

IR2030/12/4 2014/88/UK June 2014	Radio determination	Equipment may be used airborne	5725 – 5875 MHz		25 mW e.i.r.p.				EN 300 440
IR2030/12/5 2014/88/UK June 2014	Radio determination		10.575 - 10.600 GHz		1 W e.i.r.p.				EN 300 440
IR2030/12/6 2014/88/UK June 2014	Radio determination	Applications are for indoor use only. This frequency band is no longer available. However, equipment that was put into service before 30 December 2014 may continue to operate within the band	10.675 - 10.699 GHz		1 W e.i.r.p.				EN 300 440
IR2030/12/7 2014/88/UK June 2014	Radio determination		13.4 - 14.0 GHz		500 mW e.i.r.p.				EN 300 440

IR2030/12/8 2014/88/UK June 2014	Radio determination	Equipment must form part of a ground-based radio determination system.	17,1–17,3 GHz		26 dBm e.i.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used.	EN 300 440 2013/752/EU Band No.65
IR2030/12/9 2014/88/UK June 2014	Radio determination		24.050 – 24.150 GHz		100 mW e.i.r.p.			Minimum sweep rate 2 MHz/mS	EN 300 440
IR2030/12/10 2014/88/UK June 2014	Radio determination		24.150 - 24.250 GHz		2 W e.i.r.p.				EN 300 440
IR2030/12/11 2014/88/UK June 2014	Radio determination	Applications are for use in mobile applications only, fixed installations are not permitted.	24.250 - 24.350 GHz		2 W e.i.r.p.				EN 300 440

IR2030/12/12 2014/88/UK June 2014	Radio determination	Equipment may be used airborne. This set of usage conditions is only available to Tank Level Probing Radar (TLPR)	4.5–7.0 GHz		24 dBm e.i.r.p. Equipment must be within a closed tank, which is intended to contain substances and which is constructed of metal or reinforced concrete; or any other material that provides an equivalent level of attenuation to radio frequencies as metal or reinforced concrete	Equipment must only emit emissions which would (if the equipment were used within an enclosed tank, which has the specifications set out in Annex E of ETSI standard EN 302 372-1), when measured in any direction, have a maximum e.i.r.p. density of -41.3 dBm/MHz			EN 302 372 2013/752/EU Band No.60
IR2030/12/13 2014/88/UK June 2014	Radio determination	Equipment may be used airborne This set of usage conditions is only available to Tank Level Probing Radar (TLPR)	8.5–10.6 GHz		30 dBm e.i.r.p. Equipment must be within a closed tank, which is intended to contain substances and which is constructed of metal or reinforced concrete; or any other material that provides an equivalent level of attenuation to radio frequencies as metal or reinforced concrete	Equipment must only emit emissions which would (if the equipment were used within a closed tank, which has the specifications set out in Annex E of ETSI standard EN 302 372-1), when measured in any direction, have a maximum e.i.r.p. density of -41.3 dBm/MHz			EN 302 372 2013/752/EU Band No.64

IR2030/12/14 2014/88/UK June 2014	Radio determination	Equipment may be used airborne This set of usage conditions is only available to Tank Level Probing Radar (TLPR)	24.05–27.0 GHz		43 dBm e.i.r.p. Equipment must be within a closed tank, which is intended to contain substances and which is constructed of metal or reinforced concrete; or any other material that provides an equivalent level of attenuation to radio frequencies as metal or reinforced concrete	Equipment must only emit emissions which would (if the equipment were used within a closed tank, which has the specifications set out in Annex E of ETSI standard EN 302 372-1), when measured in any direction, have a maximum e.i.r.p. density of - 41.3 dBm/MHz			EN 302 372 2013/752/EU Band No.68
IR2030/12/15 2014/88/UK June 2014	Radio determination	Equipment may be used airborne This set of usage conditions is only available to Tank Level Probing Radar (TLPR)	57 - 64 GHz		43 dBm e.i.r.p. Equipment must be within a closed tank, which is intended to contain substances and which is constructed of metal or reinforced concrete; or any other material that provides an equivalent level of attenuation to radio frequencies as metal or reinforced concrete	Equipment must only emit emissions which would (if the equipment were used within a closed tank, which has the specifications set out in Annex E of ETSI standard EN 302 372-1), when measured in any direction, have a maximum e.i.r.p. density of - 41.3 dBm/MHz			EN 302 372 2013/752/EU Band No.74b

<p>IR2030/12/16 2014/88/UK June 2014</p>	<p>Radio determination</p>	<p>Equipment may be used airborne This set of usage conditions is only available to Tank Level Probing Radar (TLPR)</p>	<p>75- 85 GHz</p>		<p>43 dBm e.i.r.p. Equipment must be within a closed tank, which is intended to contain substances and which is constructed of metal or reinforced concrete; or any other material that provides an equivalent level of attenuation to radio frequencies as metal or reinforced concrete</p>	<p>Equipment must only emit emissions which would (if the equipment were used within a closed tank, which has the specifications set out in Annex E of ETSI standard EN 302 372-1), when measured in any direction, have a maximum e.i.r.p. density of -41.3 dBm/MHz</p>			<p>EN 302 372 2013/752/EU Band No.78b</p>
<p>IR2030/12/17 2014/88/UK June 2014</p>	<p>Radio determination</p>	<p>Equipment may be used airborne This set of usage conditions is only available to Level Probing Radar. Established exclusion zones around radio astronomy (RAS) site Jodrell Bank must be obeyed. (53°14'10" N, 02°18'26" W)</p>	<p>6.0 - 8.5 GHz</p>		<p>7 dBm/50 MHz peak e.i.r.p. / - 33 dBm/MHz mean e.i.r.p.</p>			<p>Automatic power control and antenna requirements as well as equivalent techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used</p>	<p>EN 302 729 Exclusion zones defined in the EN 302 729; Emissions are prohibited within 4 km radius of RAS sites. The antenna height shall be less than 15m within 40 km radius of RAS sites. 2013/752/EU Band No.63</p>

<p>IR2030/12/18 2014/88/UK June 2014</p>	<p>Radio determination</p>	<p>Equipment may be used airborne</p> <p>This set of usage conditions is only available to Level Probing Radar.</p> <p>Established exclusion zones around radio astronomy (RAS) site must be obeyed.</p> <p>Cambridge (52°09'59" N, 00°02'20" E)</p> <p>Darnhall (53°09'22" N, 02°32'03" W)</p> <p>Jodrell Bank (53°14'10" N, 02°18'26" W)</p> <p>Knockin (52°47'24" N, 02°59'45" W)</p> <p>Pickmere (53°17'18" N, 02°26'38" W)</p>	<p>24.05-26.5 GHz</p>		<p>26 dBm/50 MHz peak e.i.r.p. /- 14 dBm/MHz mean e.i.r.p.</p>			<p>Automatic power control and antenna requirements as well as equivalent techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used.</p>	<p>EN 302 729</p> <p>Exclusion zones defined in the EN 302 729; Emissions are prohibited within 4 km radius of RAS sites. The antenna height shall be less than 15m within 40 km radius of RAS sites.</p> <p>2013/752/EU Band No.67</p>
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IR2030/12/19 2014/88/UK June 2014	Radio determination	Equipment may be used airborne This set of usage conditions is only available to Level Probing Radar.	57- 64 GHz		35 dBm/50 MHz peak e.i.r.p. / - 2 dBm/MHz mean e.i.r.p.			Automatic power control and antenna requirements as well as equivalent techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used	EN 302 729 2013/752/EU Band No.74c
IR2030/12/20 2014/88/UK June 2014	Radio determination	Equipment may be used airborne This set of usage conditions is only available to Level Probing Radar.	75 - 85 GHz		34 dBm/50 MHz peak e.i.r.p./ 3 dBm/MHz mean e.i.r.p.			Automatic power control and antenna requirements as well as equivalent techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used	EN 302 729 2013/752/EU Band No.78a
IR2030/13/1 2010/0168/UK Oct 2010	Radio Frequency Identification	Equipment may be used airborne	13.553 - 13.567 MHz		60 dB μ A/m at 10 m				EN300 330 EN 302 291

IR2030/13/2 ¹ 2010/0168/UK Oct 2010	Radio Frequency Identification	Equipment may be used airborne	865 – 865.6 MHz		100 mW e.r.p.		Channel spacing 200kHz. Channel numbers 1 to 3. Channel centre frequencies are 864.9 MHz plus (0.2 MHz times channel number		EN302 208
IR2030/13/3 ¹ 2010/0168/UK Oct 2010	Radio Frequency Identification	Equipment may be used airborne	865.6 – 867.6 MHz		2W e.r.p.		Channel spacing 200kHz. Channel numbers 4 to 13. Channel centre frequencies are 864.9 MHz plus (0.2 MHz times channel number		EN302 208
IR2030/13/4 ¹ 2010/0168/UK Oct 2010	Radio Frequency Identification	Equipment may be used airborne	867.6 – 868 MHz		500 mW e.r.p.		Channel spacing 200kHz. Channel numbers 14 to 15. Channel centre frequencies are 864.9 MHz plus (0.2 MHz times channel number		EN302 208
IR2030/13/5 2011/0401/UK Dec 2011	Radio Frequency Identification	Equipment may be used airborne	2446 – 2454 MHz		500 mW e.i.r.p.				EN 300 440 2013/752/EU Band No.58

¹ IR2030/13/2 to IR2030/12/4 inclusive (the “IRs” in this footnote) are intended to reproduce requirements imposed by SI 2005/3471, which has been amended by SI 2007/1282 (the “Regulations” in this footnote). The IRs are intended neither to add to nor amend those requirements. If there is any conflict between the IRs and the Regulations, the IRs should be deemed to mean what the Regulations mean.

IR2030/13/6 2010/0168/UK Oct 2010	Radio Frequency Identification	Equipment is restricted to indoor use only.	2446 – 2454 MHz		4 W e.i.r.p.	For enforcement purposes, any emission shall not exceed 500 mW when measured 10 metres from either the installed building or boundary of the operator's premises		For applications with radiated powers greater than 500 mW, a duty cycle limit of < 15% with a maximum transmit power on time of 30 milliseconds is required	EN 300 440
IR2030/13/7 2014/88/UK June 2014	Radio Frequency Identification	Operation only when necessary to perform the intended operation, i.e. when RFID tags are expected to be present	916.1-916.5 MHz 917.3-917.7 MHz,	Passive RFID tags responding to RFID interrogators may operate in the band 915.3-920.9 MHz	4 W e.i.r.p.		≤ 400 kHz		EN 302 208
IR2030/13/8 2014/88/UK June 2014	Radio Frequency Identification	Operation only when necessary to perform the intended operation, i.e. when RFID tags are expected to be present	918.5-918.9 MHz 919.7-920.1 MHz	Passive RFID tags responding to RFID interrogators may operate in the band 915.3-920.9 MHz	4 W e.i.r.p.		≤ 400 kHz	Detect And Avoid (DAA) mechanism is required	EN 302 208
IR2030/14/1 2014/88/UK June 2014	Transport and Traffic Telematics	For Road Tolling or the provision of short range data links which respond to a signal initiated by a network operator	5795 - 5805 MHz		2 W e.i.r.p.				EN 300 674 ES 200 674 2013/752/EU Band No.62

IR2030/14/2 2014/88/UK June 2014	Transport and Traffic Telematics	For the provision of short range data links which respond to a signal initiated by a network operator; or by a private system used and operated by the owner or persons authorised by the owner	5805 - 5815 MHz		2 W e.i.r.p.				EN 300 674 ES 200 674
IR2030/14/3 2014/88/UK June 2014	Transport and Traffic Telematics	For the provision of short range data links which respond to a signal initiated by a private system used and operated by the owner or persons authorised by the owner	5805 - 5815 MHz		2 W e.i.r.p.				EN 300 440
IR2030/14/4 2014/88/UK June 2014	Transport and Traffic Telematics		24.050- 24.075 GHz		100 mW e.i.r.p.				EN 302 858 2013/752/EU Band No. 66
IR2030/14/5 2014/88/UK June 2014	Transport and Traffic Telematics		24.075- 24.150 GHz		0.1 mW e.i.r.p.				EN 302 858 2013/752/EU Band No. 69b

<p>IR2030/14/6 2014/88/UK June 2014</p>	<p>Transport and Traffic Telematics</p>	<p>For vehicle radar only.</p>	<p>24.075- 24.150 GHz</p>		<p>100 mW e.i.r.p.</p>			<p>≤ 4μs/40kHz dwell time every 3ms</p> <p>The spectrum access and mitigation requirement is given for devices mounted behind a bumper. If mounted without a bumper, the requirement is 3μs/40kHz maximum dwell time every 3ms</p> <p>A requirement for minimum frequency modulation range (applicable to FMCW or step frequency signals) or minimum instantaneous bandwidth (applicable to pulsed signal) of 250 kHz applies in addition to the requirement on maximum dwell time.</p>	<p>EN 302 858-1 V1.2.1</p> <p>2013/752/EU Band No. 69a</p>
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IR2030/14/7 2014/88/UK June 2014	Transport and Traffic Telematics	For vehicle radar only.	24.075- 24.150 GHz		100 mW e.i.r.p.			<p>≤ 1ms/40kHz dwell time every 40ms</p> <p>The spectrum access and mitigation requirement is given for devices mounted either behind a bumper or mounted without a bumper</p> <p>A requirement for minimum frequency modulation range (applicable to FMCW or step frequency signals) or minimum instantaneous bandwidth (applicable to pulsed signal) of 250 kHz applies in addition to the requirement on maximum dwell time.</p>	EN 302 858-1 V 1.2.1 2013/752/EU Band No. 69a
IR2030/14/8 2014/88/UK June 2014	Transport and Traffic Telematics		24.150- 24.250 GHz		100 mW e.i.r.p.				EN 302 858 2013/752/EU Band No. 70b
IR2030/14/9 2014/88/UK June 2014	Transport and Traffic Telematics	This set of usage conditions applies to terrestrial vehicle and infrastructure systems only	76 - 77 GHz		55 dBm e.i.r.p.				EN 301 091 2013/752/EU Band No.79

IR2030/14/10 2014/88/UK June 2014	Transport and Traffic Telematics	This set of usage conditions applies to vehicle-to-vehicle, vehicle-to-infrastructure and infrastructure-to-vehicle systems only	63-64 GHz		40 dBm e.i.r.p.				EN 302 686 2013/752/EU Band No.77
IR2030/14/11 2014/88/UK June 2014	Transport and Traffic Telematics	Vehicle-to-vehicle applications only	870-873 MHz		500 mW e.r.p		≤ 500 kHz	Duty cycle limit ≤ 0.1% Adaptive Power Control (APC) is required The APC is able to reduce a link's transmit power from its maximum to ≤ 5 mW.	EN 300 220
IR2030/14/12 2014/88/UK June 2014	Transport and Traffic Telematics	Vehicle-to-vehicle applications only	873-875.8 MHz		500 mW e.r.p		≤ 500 kHz	Duty cycle limit ≤ 0.01% and limited to a maximum transmit on-time of 5ms/1s Adaptive Power Control (APC) is required The APC is able to reduce a link's transmit power from its maximum to ≤ 5 mW.	EN 300 220
IR2030/14/13 2014/88/UK June 2014	Transport and Traffic Telematics	In-vehicle applications only	870-873 MHz		100 mW e.r.p.		≤ 500 kHz	Duty cycle limit ≤ 0.1% Adaptive Power Control (APC) is required The APC is able to reduce a link's transmit power from its maximum to ≤ 5 mW.	EN 300 220

IR2030/14/14 2014/88/UK June 2014	Transport and Traffic Telematics	In-vehicle applications only	873-875.8 MHz		100 mW e.r.p.		≤ 500 kHz	Duty cycle limit ≤ 0.01% and limited to a maximum transmit on- time of 5ms/1s Adaptive Power Control (APC) is required The APC is able to reduce a link's transmit power from its maximum to ≤ 5 mW.	EN 300 220
IR2030/14/15 2014/88/UK June 2014	Transport and Traffic Telematics	This set of usage conditions is only available to ground-based vehicle radars operating in the harmonised 24 GHz frequency range.	24,25- 24,495 GHz		- 11 dBm e.i.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Duty cycle limits and frequency modulation ranges apply as specified in EN 302 858- 1 v1.3.1.	EN 302 858 2013/752/EU Band No.71

IR2030/14/16 2014/88/UK June 2014	Transport and Traffic Telematics	This set of usage conditions is only available to ground-based vehicle radars operating in the harmonised 24 GHz frequency range.	24,25-24,5 GHz		20 dBm e.i.r.p. (forward-facing radars) 16 dBm e.i.r.p. (rear-facing radars)			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Duty cycle limits and frequency modulation ranges apply as specified in EN 302 858-1 v1.3.1.	EN 302 858 2013/752/EU Band No.72
IR2030/14/17 2014/88/UK June 2014	Transport and Traffic Telematics	This set of usage conditions is only available to ground-based vehicle radars operating in the harmonised 24 GHz frequency range.	24.495 - 24.5 GHz		- 8 dBm e.i.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used. Duty cycle limits and frequency modulation ranges apply as specified in EN 302 858-1 v1.3.1.	EN 302 858 2013/752/EU Band No.73
IR2030/14/18 2014/88/UK June 2014	Transport and Traffic Telematics	Railway Applications	984 - 7484 kHz	Center Frequency 4234 kHz	9 dB μ A/m				EN 300 330 EN 302 608 2013/752/EU Band No.19
IR2030/14/19 2014/88/UK June 2014	Transport and Traffic Telematics	Railway Applications	7.3 - 23 MHz	Center Frequency 13.547 MHz	-7 dBuA/m at 10 m				EN 302 609 2013/752/EU Band No.23

IR2030/15/1 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	9 - 59.75 kHz		72 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.1
IR2030/15/2 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	59.75 - 60.25 kHz		48 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.3
IR2030/15/3 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	60.25 - 90 kHz		72 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.4,5, 6,7,8
IR2030/15/4 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	90 - 119 kHz		48 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.9
IR2030/15/5 2011/0401/UK Dec 2011	Inductive	Equipment may be used airborne	119 - 127 kHz		66 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.10, 11,12
IR2030/15/6 2011/0401/UK Dec 2011	Inductive	Equipment may be used airborne	127 - 135 kHz		66 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.10, 11,12
IR2030/15/7 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	135 - 148.5 kHz		48 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No. 13, 14

IR2030/15/8 2010/0168/UK Oct 2010	Inductive		148.5 - 185 kHz		48 dB μ A/m at 10 m				EN 300 330
IR2030/15/9 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	148.5 - 5000 kHz		-15 dB μ A/m at 10 m in any bandwidth of 10 kHz. -5 dB μ A/m at 10 m for systems operating at bandwidths larger than 10 kHz				EN 300 330 2013/752/EU Band No.15
IR2030/15/10 2010/0168/UK Oct 2010	Inductive	That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.	148.5 - 1600 kHz		-5 dB μ A/m at 10 m	Only when the device is submerged in water, the power may be increased to 40 dB μ A/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of -5 dB μ A/m at 10 m			EN 300 330. The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems

IR2030/15/11 2010/0168/UK Oct 2010	Inductive	That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field	240 - 315 kHz		24 dB μ A/m at 10 m				EN 300 330
IR2030/15/12 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne Any inductive device may be used, including RFID	400 to 600 kHz		-5 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.17
IR2030/15/13 2010/0168/UK Oct 2010	Inductive		1600 kHz - 2 MHz		-15 dB μ A/m at 10 m in any bandwidth of 10 kHz. -5 dB μ A/m at 10 m for systems operating at bandwidths larger than 10 kHz.	Only when the device is submerged in water, the power may be increased to 40 dB μ A/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of - 15 dB μ A/m at 10 m			EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems

IR2030/15/14 2010/0168/UK Oct 2010	Inductive	That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field	2 - 3.155 MHz		9 dB μ A/m at 10 m	Only when the device is submerged in water, the power may be increased to 40 dB μ A/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 9 dB μ A/m at 10 m			EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems
IR2030/15/15 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	3.155 - 3.400 MHz		13.5 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.20

<p>IR2030/15/16 2010/0168/UK Oct 2010</p>	<p>Inductive</p>	<p>That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.</p>	<p>3.155 - 3.400 MHz</p>		<p>13.5 dBμA/m at 10 m</p>	<p>Only when the device is submerged in water, the power may be increased to 40 dBμA/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 13.5 dBμA/m at 10 m</p>			<p>EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems</p>
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IR2030/15/17 2010/0168/UK Oct 2010	Inductive	That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.	3.400 - 6.765 MHz		9 dB μ A/m at 10 m	Only when the device is submerged in water, the power may be increased to 40 dB μ A/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 9 dB μ A/m at 10 m			EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems
IR2030/15/18 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne.	5000 – 30000 kHz		-20 dB μ A/m at 10 m in any bandwidth of 10 kHz. Total field strength -5 dB μ A/m at 10 m for systems operating at bandwidths larger than 10 kHz				EN 300 330 2013/752/EU Band No.21
IR2030/15/20 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	6.765 - 6.795 MHz		42 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.22a

IR2030/15/21 2010/0168/UK Oct 2010	Inductive	That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.	6.795 - 13.533 MHz		9 dB μ A/m at 10 m	Only when the device is submerged in water, the power may be increased to 40 dB μ A/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 9 dB μ A/m at 10 m			EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems
IR2030/15/22 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne.	7.400 – 8.800 MHz		9 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.24
IR2030/15/25 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne.	10.200 – 11.000 MHz		9 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.25

<p>IR2030/15/28</p> <p>2010/0168/UK Oct 2010</p>	<p>Inductive</p>	<p>That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.</p>	<p>13.533 - 13.553 MHz</p>		<p>21.5 dBμA/m at 10 m</p>	<p>Only when the device is submerged in water, the power may be increased to 40 dBμA/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 9 dBμA/m at 10 m</p>			<p>EN 300 330</p> <p>The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems</p>
<p>IR2030/15/29</p> <p>2010/0168/UK Oct 2010</p>	<p>Inductive</p>	<p>Equipment may be used airborne</p>	<p>13.553 - 13.567 MHz</p>		<p>42 dBμA/m at 10 m</p>	<p>The transmit power may be increased to 60 dBμA/m at 10 m for Radio Frequency Identification and Electronic Article Surveillance applications</p>			<p>EN 300 330 EN 302 291</p> <p>2013/752/EU Band No.27a, 27b</p>

IR2030/15/30 2010/0168/UK Oct 2010	Inductive	That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.	13.567 - 26.957 MHz		9 dB μ A/m at 10 m	Only when the device is submerged in water, the power may be increased to 40 dB μ A/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 9 dB μ A/m at 10 m			EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems
IR2030/15/31 2010/0168/UK Oct 2010	Inductive	Equipment may be used airborne	26.957 - 27.283 MHz		42 dB μ A/m at 10 m				EN 300 330 2013/752/EU Band No.28a

<p>IR2030/15/32 2010/0168/UK Oct 2010</p>	<p>Inductive</p>	<p>That part of an induction system designed or adapted to produce:- (a) controlled magnetic field; and (b) a predetermined recognisable signal when operating within the magnetic field.</p>	<p>27.283 - 30 MHz</p>		<p>9 dBμA/m at 10 m</p>	<p>Only when the device is submerged in water, the power may be increased to 40 dBμA/m at 10 m (measured underwater), provided that emissions above water are restricted to the transmit power limit of 9 dBμA/m at 10 m</p>			<p>EN 300 330 The MoD operates high-power underwater communication systems. Users and manufacturers of underwater SRD equipment should be aware that this equipment should be constructed so as to operate safely in the presence of high-power systems</p>
<p>IR2030/16/1 2010/0168/UK Oct 2010</p>	<p>Metal Detectors</p>	<p>That part of an induction system designed or adapted to produce:- (a) to produce a controlled magnetic field; and (b) a predetermined recognisable signal when operating within that magnetic field</p>	<p>9 - 148.5 kHz</p>		<p>70 dBμA/m at 6 m</p>				<p>EN 300 330</p>

IR2030/17/1 2014/88/UK June 2014	Low duty cycle / high reliability devices	Equipment may be used airborne This set of usage conditions is for alarm systems	868.60 – 868.70 MHz		10 mW e.r.p.		Channel spacing ≤ 25 kHz. Consecutive channels may be combined where a larger bandwidth is required, due to the modulation of the signal, up to the maximum sub-band frequency allocation	Duty cycle limit ≤1%	EN 300 220 EN 303 406 2013/752/EU Band No.49
IR2030/17/2 2014/88/UK June 2014	Low duty cycle / high reliability devices	Equipment may be used airborne. This set of usage conditions is for alarm systems	869.25 – 869.30 MHz		10 mW e.r.p.		Channel spacing ≤ 25 kHz	Duty cycle limit ≤0.1%	EN 300 220 EN 303 406 2013/752/EU Band No.52
IR2030/17/3 2014/88/UK June 2014	Low duty cycle / high reliability devices	Equipment may be used airborne. This set of usage conditions is for alarm systems	869.3 – 869.4 MHz		10 mW e.r.p.		Channel spacing ≤ 25 kHz	Duty cycle limit ≤1%	EN 300 220 EN 303 406 2013/752/EU Band No.53
IR2030/17/4 2014/88/UK June 2014	Low duty cycle / high reliability devices	Equipment may be used airborne. This set of usage conditions is for alarm systems	869.65 – 869.70 MHz		25 mW e.r.p.		Channel spacing ≤ 25 kHz	Duty cycle limit ≤10%	EN 300 220 EN 303 406 2013/752/EU Band No.55
IR2030/17/5 2014/88/UK June 2014	Low duty cycle / high reliability devices	Equipment may be used airborne. This set of usage conditions is for social alarms	869.2 - 869.25 MHz		10 mW e.r.p.		Channel spacing ≤ 25 kHz	Duty cycle limit ≤ 0.1%	EN 300 220-3-1 2013/752/EU Band No.51

IR2030/18/1 2010/0168/UK Oct 2010	Social alarms		27.450MHz		500 μ W e.r.p.		Channel bandwidth 12.5 kHz		EN 300 220 / EN 303 406
IR2030/18/2 2010/0168/UK Oct 2010	Social alarms		34.925 MHz		500 μ W e.r.p.		Channel bandwidth 12.5 kHz		EN 300 220 / EN 303 406
IR2030/18/3 2010/0168/UK Oct 2010	Social alarms		34.950 MHz		500 μ W e.r.p.		Channel bandwidth 12.5 kHz		EN 300 220
IR2030/18/4 2010/0168/UK Oct 2010	Social alarms		34.975 MHz		500 μ W e.r.p.		Channel bandwidth 12.5 kHz		EN 300 220 / EN 303 406
IR2030/18/5 2010/0168/UK Oct 2010	Social alarms	Equipment may be used airborne	169.4750 – 169.4875 MHz		500 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220 / EN 303 406
IR2030/18/6 2010/0168/UK Oct 2010	Social alarms	Equipment may be used airborne	169.5875 – 169.600 MHz		500 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220 / EN 303 406
IR2030/19/1 2010/0168/UK Oct 2010	Vehicle Paging Alarms		47.4 MHz		100 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220
IR2030/19/2 2010/0168/UK Oct 2010	Vehicle Paging Alarms		458.90 MHz		100 mW e.r.p.	Equipment may also be used to arm or disarm the alarm system at a radiated level not exceeding 1 mW	Channel spacing 12.5 kHz		EN 300 220

IR2030/20/1 2010/0168/UK Oct 2010	General Alarms Associated with Marine Applications Including Fixed Shore Installations	Including use on land for the storage or transportation of vessels	161.275 MHz		10 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220
IR2030/21/1 2010/0168/UK Oct 2010	Mobile, Transportable and Lone Worker Safety Alarms		173.1875 MHz		10 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220
IR2030/21/2 2010/0168/UK Oct 2010	Mobile, Transportable and Lone Worker Safety Alarms		458.8375 MHz		100 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220
IR2030/22/1 2010/0168/UK Oct 2010	Fixed Alarms		173.225 MHz		10 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220
IR2030/22/2 2010/0168/UK Oct 2010	Fixed Alarms		173.225 MHz		10 mW e.r.p.		Channel spacing 25 kHz		EN 300 220
IR2030/22/3 2010/0168/UK Oct 2010	Fixed Alarms		458.825 MHz		100 mW e.r.p.		Channel spacing 12.5 kHz		EN 300 220

<p>IR2030/23/1 2010/0168/UK Oct 2010</p>	<p>Model Control</p>	<p>The transmitting equipment may be used airborne in the following frequency bands:</p> <p>26.990 - 27.000 MHz (Channel 4)</p> <p>27.040 - 27.050 MHz (Channel 9)</p> <p>27.090 - 27.100 MHz (Channel 14)</p> <p>27.140 - 27.150 MHz (Channel 19)</p> <p>27.190 – 27.200 kHz (Channel 24)</p>	<p>26.96 - 27.28 MHz</p>		<p>100 mW e.r.p</p>		<p>Channel spacing 10 kHz</p> <p>Channel numbers 1 to 32 inclusive are available with channel centre frequency of 26.955 MHz plus (Channel spacing times channel number).</p>		<p>EN 300 220</p> <p>2013/752/EU Band No. 29, 30,31,32,33</p> <p>Non-specific SRD limits are set out in IR2030/1/40</p>
<p>IR2030/23/2 2010/0168/UK Oct 2010</p>	<p>Model Control</p>	<p>For telecommand to control the movement of airborne models only</p>	<p>34.945 - 35.305 MHz</p>		<p>100 mW e.r.p</p>		<p>Channel spacing 10 kHz</p> <p>Channel numbers 1 to 36 inclusive are available with channel centre frequency of 34.94 MHz plus (Channel Spacing times channel number)</p>		<p>EN 300 220</p>

IR2030/23/3 2010/0168/UK Oct 2010	Model Control	For telecommand to control the movement of models on the ground, on water or under the water.	40.66 - 41.00 MHz		100 mW e.r.p		Channel spacing 10 kHz Channel numbers 1 to 34 inclusive are available with channel centre frequency of 40.655 MHz plus (Channel Spacing times channel number)		EN 300 220
IR2030/23/4 2010/0168/UK Oct 2010	Model Control	For telemetry to provide data from the model only, including airborne models	433.05 - 434.79 MHz		1 mW e.r.p		Channel spacing 25 kHz		EN 300 220
IR2030/23/5 2010/0168/UK Oct 2010	Model Control	For telemetry to provide data from the model only, including airborne models	434.04 – 434.79 MHz		10 mW		Channel spacing 25 kHz		EN 300 220
IR2030/23/6 2010/0168/UK Oct 2010	Model Control	For telecommand to control the movement of any model.	458.5 - 459.5 MHz		100 mW		Channel spacing 25 kHz Channel numbers 1 to 40 inclusive are available with channel centre frequency of 458.4875 MHz plus (Channel Spacing times channel number)		EN 300 220

IR2030/24/1 2010/0168/UK Oct 2010	Radio Microphones		173.775 to 175.075 MHz		10 mW e.r.p.		Channel spacing 50 kHz Channel numbers 10 to 35 inclusive are available; where the channel centre frequency is equal to 173.3 MHz plus (Channel Spacing times channel number).		EN 300 422
IR2030/24/2 2010/0168/UK Oct 2010	Radio Microphones		173.7 to 175.1 MHz		10 mW e.r.p.	The maximum radiated power may be increased to 50 mW e.r.p. for a radio microphone which is intended to be worn next to or strapped to the user's body.	Channel spacing 200 kHz Channel numbers 1 to 7 inclusive are available; where the channel centre frequency is equal to 173.6 MHz plus (Channel Spacing times channel number)		EN 300 422
IR2030/24/3 2010/0168/UK Oct 2010	Radio Microphones	Equipment may be used airborne	863 - 865 MHz		10 mW e.r.p.				EN 300 422 EN 301 357
IR2030/25/1 2010/0168/UK Oct 2010	Assistive Listening Devices	Equipment may be used airborne	169.4000 - 169.4750 MHz		500 mW e.r.p.		Channel Bandwidth ≤ 50 kHz		EN 300 422 2013/752/EU Band No. 37a
IR2030/25/2 2010/0168/UK Oct 2010	Assistive Listening Devices	Equipment may be used airborne	169.4875 - 169.5875 MHz		500 mW e.r.p.		Channel bandwidth ≤ 50 kHz		EN 300 422 2013/752/EU Band No.39a

IR2030/25/3 2010/0168/UK Oct 2010	Assistive Listening Devices	Equipment may be used airborne	173.325 to 175.075 MHz		2 mW e.r.p.		Channel spacing 50 kHz Channel numbers 1 to 5 inclusive and 7 to 9 inclusive are the preferred channels, channels 10 to 35 inclusive may be used as an alternative but are shared with other applications. The channel centre frequency is equal to 173.3 MHz plus (Channel Spacing times channel number)		EN 300 422
IR2030/25/4 2014/88/UK June 2014	Assistive Listening Devices	Indoor Digital Assistive Listening Device Systems only	916.1-916.5 MHz 917.3-917.7 MHz 918.5-918.9 MHz 919.7-920.1 MHz		10 mW e.r.p.		≤ 400 kHz	Duty cycle limit < 25 %	EN 300 422

IR2030/25/5	Assistive Listening Devices (ALD)		173.965-216 MHz ¹	Devices shall implement the whole frequency range on a tuning-range basis.	10 mW e.r.p.	A minimum wanted received signal threshold of 35 dBµV/m is required to ensure protection of a Digital Audio Broadcast (DAB) receiver situated 1.5 m from the ALD, subject to DAB signal strength measurements taken around the ALD operating site.	Maximum channel spacing: ≤ 50 kHz ALD must not be operated less than 300 kHz from the edge of an occupied DAB channel.	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used.	EN 300 422 EN 301 357 2017/1483/EU Band No.82b
IR2030/26/1 2010/0168/UK Oct 2010	Wireless Audio Applications		36.61 - 36.79 MHz 37.01 - 37.19 MHz		10 µW e.r.p.				EN 300 422 EN 301 357
IR2030/26/2 2011/0401/UK Dec 2011	Low power FM transmitters	Equipment may be used airborne	87.5 – 108 MHz		50 nW e.r.p.		Channel spacing ≤200 kHz		EN 301 357
IR2030/26/3 2010/0168/UK Oct 2010	Wireless Audio Applications	Equipment may be used airborne	863 - 865 MHz		10 mW e.r.p.				EN 300 422 EN 301 357
IR2030/26/4 2010/0168/UK Oct 2010	Wireless Audio Applications		864.8 - 865.0 MHz	Frequency band may be used for narrow band applications	10 mW e.r.p.		Channel bandwidth ≤ 50 kHz		EN 300 220

¹ Devices shall implement the whole frequency range on a tuning range basis.

IR2030/26/5 2010/0168/UK Oct 2010	Wireless Audio Applications		2400 – 2483.5 MHz		10 mW e.i.r.p.				EN 300 422 EN 301 357
IR2030/27/1 2010/0168/UK Oct 2010	Wireless Video Cameras - Non Broadcasting	Apparatus designed or adapted for Television. Where required, associated audio may also be used within the specified frequency band.	1394 MHz		500 mW e.i.r.p.		Channel Bandwidth ≤ 10 MHz		EN 302 064
IR2030/27/2 2010/0168/UK Oct 2010	Wireless Video Cameras - Non Broadcasting	Apparatus designed or adapted for Television. Where required, associated audio may also be used within the specified frequency band. Equipment may be used airborne	2400 – 2483.5 MHz		10 mW e.i.r.p.				EN 302 064
IR2030/27/3 2010/0168/UK Oct 2010	Wireless Video Cameras - Non Broadcasting	Apparatus designed or adapted for Television. Where required, associated audio may also be used within the specified frequency band. Equipment may be used airborne	5725 – 5875 MHz		25 mW e.i.r.p.				EN 302 064

IR2030/28/1 2010/0168/UK Oct 2010	Video Distribution for Private Use	Apparatus designed or adapted for Television Where required, associated audio may also be used within the specified frequency band. Music and speech only permitted when associated with the video application	1394 MHz		10 mW e.i.r.p.		Channel Bandwidth ≤ 10 MHz		EN 302 064
IR2030/29/1 2010/0168/UK Oct 2010	Radar Level Gauges		5150 MHz to 7100 MHz		25 mW Peak e.i.r.p. 0.1 mW Average e.i.r.p.				EN 302 372
IR2030/29/2 2010/0168/UK Oct 2010	Radar Level Gauges		8500 MHz to 10.600 GHz		25 mW Peak e.i.r.p. 0.1 mW Average e.i.r.p.				EN 302 372
IR2030/29/3 2010/0168/UK Oct 2010	Radar Level Gauges		10.700 GHz to 10.850 GHz		25 mW Peak e.i.r.p. 0.1 mW Average e.i.r.p.				EN 302 372
IR2030/29/4 2010/0168/UK Oct 2010	Radar Level Gauges		24.3 to 27.7 GHz		100 mW Peak e.i.r.p. 0.36 mW Average e.i.r.p.				EN 302 372

IR2030/31/1 2014/88/UK June 2014	Networked i. Meter Reading ii. Sensors and Actuators		870-873 MHz		500 mW e.r.p.		≤ 200 kHz	Duty cycle limit ≤ 2.5% Adaptive Power Control (APC) required. The APC Control is able to reduce a link's transmit power from its maximum to ≤ 5 mW	EN 303 204
IR2030/31/2 2014/88/UK June 2014	Networked SRDs i. Meter Reading ii. Sensors and Actuators		873-875.6 MHz		500 mW e.r.p.		≤ 200 kHz	Duty cycle limit ≤ 0.01% and limited to a maximum transmit on time of 5ms/1s Adaptive Power Control (APC) required. The APC Control is able to reduce a link's transmit power from its maximum to ≤ 5 mW e.r.p.	EN 303 204
IR2030/32/1 2014/88/UK June 2014	Metering Devices	Equipment may be used airborne	169.4 – 169.475 MHz		500mW e.r.p.		Channel Bandwidth ≤ 50kHz	Duty cycle limit 10%	EN 300 220 2013/752/EU Band No. 37b
IR2030/33/1 2014/88/UK June 2014	High duty cycle / continuous transmission devices	Equipment may be used airborne. This set of usage conditions is only available to wireless audio and multimedia streaming devices.	863 - 865 MHz		10 mW e.r.p.				EN 300 422 EN 301 357 2013/752/EU Band No. 46b

IR2030/33/2 2014/88/UK June 2014	High duty cycle / continuous transmission devices	Equipment may be used airborne This set of usage conditions is only available to transmitters with analogue frequency modulation (FM).	87.5 – 108 MHz		50 nW e.r.p.		Channel spacing ≤200 kHz		EN 301 357 2013/752/EU Band No.36
IR2030/34/1	PMR446		446.0 – 446.2MHz		500 mW e.r.p.			Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques described in harmonised standards adopted under Directive 2014/53/EU must be used.	EN 303 405 2017/1483/EU Band No. 83

Section 4

Annex A. Additional Performance Parameters (Informative)

A.1 For Licence Exempt Short Range Devices operating on radio frequencies between 25 MHz and 1 GHz, with power levels up to 500 mW, the guidance published in EN 300 220 should ensure reasonable reliability of the radio link and performance of the receiver.

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Section 5

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Section 6

Document history

Version	Date	Changes
1.0	Jan 2001	First Publication EU No. 2000/0156/UK
1.1	Aug 2001	Amended EU No. 2001/0116/UK
1.2	Oct 2002	Amended EU No. 2002/248/UK
1.3	Nov 2006	Changes for proposed Wireless Telegraphy (Exemption) Regulations 2006 EU No.2006/427/UK
1.4	2008	Changes to ensure alignment to the Draft 2007 amendment to the EC Decision 2006/771/EC – SRD Harmonisation
1.5	Oct 2010	Changes to ensure alignment to the 2010 amendment to the EC Decision 2006/771/EC – SRD Harmonisation
1.6	Dec 2011	Changes to ensure alignment to the 2011 amendment to the EC Decision 2006/771/EC – SRD Harmonisation
1.7	June 2013	Changes to close the 10.68-10.7 GHz bands
1.8	June 2014	Changes to add the 870-876 MHz & 915-921 MHz bands and to ensure alignment to the 2013 amendment to the EC Decision 2006/771/EC – SRD Harmonisation
1.9	July 2017	IR2030/8/2 was updated and IR2030/8/3 was added for 5.8 WAS /RLAN
1.10	January 2018	Replaced R&TTE Directive 1999/5/EC and Directive 98/34/EC with Radio Equipment Directive and Directive (EU) 2015/1535 respectively. Minor editorials
1.11	February 2018	Updated to align with Decision 2017/1483/EU on the harmonisation of Short Range Devices