

**Communications  
Regulatory Authority**  
State of Qatar

**هيئة تنظيم  
الاتصالات**  
دولة قطر

# **Class License for Short Range Devices (SRD)**

Version No.(4)

April 22, 2021

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## Document History

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Version 1 (Superseded)	May 30, 2010
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Dated 22 of April 2021

For the Communications Regulatory Authority (CRA)  
Signed by



**Mohammed Ali Al-Mannai**  
President of the Communications Regulatory Authority

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## 1. Introduction

- 1.1 The Communications Regulatory Authority “**CRA**” is the responsible authority for regulating and managing all the affairs relating to use of the radio spectrum as well as establishing an effective approval regime for telecommunications equipment in accordance with the Emiri Decision No. (42) of 2014 of establishing the CRA, the Decree Law No. (34) of 2006 on the promulgation of the Telecommunications Law “**Telecommunications Law**” as amended by the Law No. (17) of 2017, the Executive By-Law No. (1) of 2009 for the Telecommunications Law “**Executive By-Law**” and other related laws.
- 1.2 As such, CRA has the powers and authorities of:
  - 1.2.1 granting, amending, renewing, suspending, and revoking Class Licenses, Radio Spectrum Licenses and Authorizations and determining the terms and procedures necessary for their issuance.
  - 1.2.2 setting the necessary procedures for the approval of the telecommunications equipment or their types for attachment to telecommunications networks in the State including approval of the equipment previously approved by organizations or other countries.

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## 2. Relevant Legal Provisions

- 2.1 Article (4) of the Telecommunications Law states that CRA shall set and manage the plan for Radio Spectrum and for other scarce resources and ensure the optimal use of such resources and maximize revenues generated from them within the limits specified by international rules.
- 2.2 Article (10) of the Telecommunications Law states that CRA shall define the conditions under which Individual and Class licenses shall be issued.
- 2.3 Article (15) of the Telecommunications Law states that no person shall operate any radio-communications equipment or make any use of radio frequencies, without a Radio Spectrum License or a Radio Frequency Authorization from the CRA.
- 2.4 Article (9), (10), (11), (12) and (14) of the Executive By-Law, establishes the framework to be followed by CRA when defining the terms and conditions of a Class License.
- 2.5 In accordance with Article (31) of the Executive By-Law, CRA shall establish the terms and conditions of all Licenses and shall monitor compliance by Licensees with the terms and conditions of their Licenses, and CRA may take any measures and procedures in this regard. CRA may establish the criteria through Radio Spectrum Regulations in order to determine what radio spectrum should be available for common use and this may be awarded by

means of a Class License.

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### 3. Grant of License

- 3.1 CRA hereby grants this Class License pursuant to the above-mentioned articles of the Telecommunications Law. This Class License enables any person to possess, operate, install and use Short Range Device(s) (hereinafter referred to as "SRD") without that person having to apply for this Class License. Such person is hereinafter referred to as the "**Licensee**".
- 3.2 The Licensee is hereby authorized to import and operate SRDs within the State of Qatar and use the frequency(s) or the frequency band(s) assigned in Annexure (2) of this Class License on a non-exclusive basis provided that the Licensee operates in the authorized frequency bands and transmits the corresponding output power levels as stated in Annexure (2) of this Class and provided that type approval is obtained from CRA in accordance with section (6) of this License.
- 3.3 The Licensee must, in addition to complying with the terms and conditions of this Class License and its annexures, comply with the provisions of the Telecommunications Law, relevant legislation and any regulations decisions, orders, rules, instructions and notices issued by CRA (hereinafter, collectively referred to as the "**Applicable Regulatory Framework (ARF)**").
- 3.4 This Class License provides the minimum technical and regulatory requirements and operating specifications of SRD across different types of applications. Annexure (2) contains the list of various types of applications for SRDs, the applicable frequencies, Field Strength / RF Output Power, test reference and other related information which the Licensee must comply with in order to import and/or use SRDs.

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### 4. Definitions

The words and expressions in this License shall have the meanings ascribed to them in the Telecommunications Law, the Applicable Regulatory Framework and this Class License, including the definitions set out in Annexure (1).

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### 5. Operation of the Short Range Devices

- 5.1 The Licensee is hereby authorized to use and operate SRDs provided that the Licensee operates such devices within the authorized frequency bands or frequencies within the corresponding output power levels stipulated in Annexure (2) of this Class License.
- 5.2 The use of any SRDs above the maximum power is not allowed. However, if

the Licensee wishes to use any of the SRDs above the permitted maximum limit, the Licensee must follow a separate license application procedure and must obtain the required spectrum license from CRA pursuant to CRA's regulations as published on its official website.

- 5.3 Use of SRD as stipulated in Annexure (2) is intended to operate in unprotected and shared frequency bands. The Licensee must ensure that its operation shall not cause interference with other authorized radio-communications services and must tolerate any interference caused by other radio-communication services, electrical or electronic equipment.
- 5.4 The SRD must not be constructed with any external or readily accessible control that permits the adjustment of its operation in a manner inconsistent with this Class License, in particular Annexure (2) of it.
- 5.5 CRA may amend or update Annexure (2) of this Class License in order to respond to any new developments in the market or technology advancements. The Licensee must comply with any new amendments introduced to Annexure (2) as published on CRA's official website from time to time.

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## 6. Radio Spectrum

- 6.1 The Licensee is hereby authorized to use the specified radio frequencies set out in Annexure (2) subject to the terms and conditions of this Class License, its annexures and the Applicable Regulatory Framework. This Class License does not grant the Licensee any ownership interest or property rights in the radio frequencies.
- 6.2 CRA may amend or cancel spectrum allocations or assignments, in accordance with the Applicable Regulatory Framework or the National Frequency Allocation Plan of Qatar (NFAP).
- 6.3 In accordance with Article (17) of the Telecommunications Law, the Licensee must not misuse the licensed radio spectrum nor use it for an unauthorized purpose.

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## 7. Type Approval

- 7.1 The SRD(s) prior to being imported for marketing or sold in the State of Qatar shall be Type Approved by CRA in accordance with the "Type Approval Policy for Radio Equipment and Telecommunications Terminal Equipment" and the "Type Approval Guidelines for Radio Equipment and Telecommunications Terminal Equipment" published on CRA's official website.
- 7.2 The Licensee must not manufacture or import for the purposes of marketing, sell or distribute SRDs that are not type approved by CRA.

- 7.3 In accordance with the preceding paragraphs (6.1) and (6.2), the Licensee must ensure that the SRDs are type approved in accordance with the list of approved telecoms equipment by CRA published on CRA's official website.
- 7.4 If the SRD in question is not stated in the list of approved equipment by CRA, then that person must apply, request and obtain type approval certificate from CRA.
- 7.5 Companies or persons wishing to sell or import SRDs for marketing purposes or commercially deal with the SRDs must register with CRA and obtain from it an "Application to obtain Import Authorization for Radio and Telecom Terminals RTTE" and must renew their registration annually in accordance with the procedures published on CRA's official website. After obtaining the type approval along with the Import Authorization from CRA, the Licensee may import and/or sell the devices in the State of Qatar.
- 7.6 The SRD(s) may be imported or used by any person without seeking type approval if is to be used for private use only and provided that it is in accordance with the criteria and standards adopted by CRA.

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## 8. Safety Measures and Standards

The Licensee must implement any measures prescribed by the Applicable Regulatory Framework and other safety measures regarding the installation, operation and usage of all SRDs as stipulated in the above-mentioned "Type Approval Policy for Radio Equipment and Telecommunications Terminal Equipment" and the "Type Approval Guidelines for Radio Equipment and Telecommunications Terminal Equipment".

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## 9. License Term

This License must remain in force provided that the Licensee complies with the terms and conditions of this Class License and the Applicable Regulatory Framework.

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## 10. License Fees

- 10.1 There are no License fee associated with this Class License.
- 10.2 The Licensee must remain responsible for all costs, expenses or any other financial commitments arising out of this Class License and/or use of the SRDs in accordance with the Applicable Regulatory Framework.

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## 11. Other Compliance Obligations of the Licensee

- 11.1 The Licensee must, at all times, comply with the terms and conditions stated herein and the Applicable Regulatory Framework, including any amendments thereto that may be adopted by CRA from time to time.
- 11.2 The Class Licensee must comply with any requirements stipulated under the laws of the State of Qatar including the regulations and decisions issued by the relevant authorities in accordance with the applicable laws.
- 11.3 The Licensee must obtain any other necessary approvals as may be required by other competent authorities in the State of Qatar in accordance with the applicable laws of the State of Qatar.

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## 12. Breach of License

- 12.1 The Licensee shall be subject to penalties as provided for in the Applicable Regulatory Framework if the Licensee fails to comply with the terms and conditions set out herein. Any Failure will result in CRA taking enforcement action against the Licensee in accordance with the Applicable Regulatory Framework including initiating criminal proceedings in accordance with Articles (66), (67), (68) and (70) of the Telecommunications Law.
- 12.2 Without prejudice to any other enforcement powers of CRA or specific penalties set out in the Applicable Regulatory Framework, the Licensee can lose its right to own, import and operate SRDs if the Licensee commits repeated violations of this Class license terms and/or the Applicable Regulatory Framework.

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## 13. Security Requirements

The Licensee must comply with the requirements of the authorized agencies of the State of Qatar relating to national security and with the directions of governmental bodies in cases of public emergencies, and it shall implement the orders and instructions issued by CRA pertaining to same.

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## 14. Access to Premises

The employees of CRA who are vested with powers of judicial seizure in accordance with Article (63) of the Telecommunications Law shall seize and prove crimes committed in violation of the rules of the Telecommunications Law.



In this respect, the Licensee shall allow them to enter and inspect, in accordance with the law, the related premises, have access to records and documents and inspect equipment and SRD(s) or any other related things and request data or clarifications as they deem necessary.

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## 15. Request of Information

In accordance with Chapter (13) of the Executive Telecommunications By-Law, CRA may require the Licensee to provide to it information necessary for exercising its powers, and the Licensee must provide the information to CRA on request and in the form, manner and time specified by CRA.

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## 16. Modification and Amendment

CRA, based upon its discretion, may modify, by deletion or addition, any terms and conditions this Class License. The amendments shall be published on the official website of CRA. The Licensee is under the obligation to comply with any such amendments.

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## 17. Assignment of License

In accordance with the provisions of the Applicable Regulatory Framework, the Licensee may not assign or otherwise transfer this Class License to another person without the prior written approval of the CRA.

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## 18. Governing Law and Language of License

This Class License is rendered in the Arabic and English languages. The Arabic language for this License is the official binding language. The License shall be governed by and interpreted in accordance with the laws of the State of Qatar.

## ANNEXURE (1) – Definitions

The following terms and expressions shall have the meanings assigned to each of them:

**Active Medical Implant Applications:** Are part of a medical implant communication systems (MICS) for use with implanted medical devices, like pacemakers, implantable defibrillators, nerve stimulators, and other types of implanted devices. The MICS uses transceiver modules for radiofrequency communication between an external device referred to as a programmer/controller and a medical implant placed within a human or animal body.

**Adaptive Frequency Agility (AFA):** Is the capability of an equipment to dynamically change the temporary operational channel within its available frequencies for proper operation.

**Alarms:** The use of radiocommunication for indicating an alarm condition at a distant location.

**Applicable Regulatory Framework:** The Telecommunications Law and its By-Law and any other rules and regulations, decisions, orders, policies, guidelines, rules, instructions or notices issued by CRA as well as this license terms and conditions and the relevant laws of the State of Qatar.

**Class License:** The License granted in accordance with the provisions of the Telecommunications Law for a certain class of persons and/or activities without that person having to apply for the License.

**Clear Channel Assessment (CCA):** Is a procedure of sensing the operating channel to determine whether it is occupied by a transmission or not.

**Detect-And-Avoid (DAA):** Is an interference mitigation technique designed for UWB devices to protect active radio communication services operating on the same bands.

**Duty Cycle:** Is defined as the ratio, expressed as a percentage, of the maximum transmitter "on" time monitored over one hour, relative to a one-hour period.

**Effective Isotropic Radiated Power (e.i.r.p.):** The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna (absolute or isotropic gain).

**Effective Radiated Power (e.r.p.):** The product of the power supplied to the antenna and the antenna and its gain relative to a half-dipole in a given direction.

**Frequency Band:** A portion of the radio spectrum, which starts at a particular frequency and ends at another particular frequency.

**Harmful Interference:** Means interference which impairs the functioning of a radio communications or which materially degrades or obstructs or repeatedly interrupts radio communication service operating in accordance with the most recent version of ITU Radio Regulations/ ITU Recommendations.

**Inductive Applications:** Inductive loop systems are communication systems based on magnetic fields generally at low RF frequencies. Inductive applications include for example car immobilizers, car access systems or car detectors, animal identification, alarm systems, item management and logistic 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 handheld devices, automatic article identification, wireless control systems and automatic road tolling.

**Industrial, Scientific and Medical (ISM):** Applications (of radio frequency energy) Operation of equipment or appliances designed to generate and use locally radio frequency energy for industrial, scientific, medical, domestic or similar purposes, excluding applications in the field of telecommunications.

**Listen-before-Talk (LBT):** Is a mechanism by which an equipment applies Clear Channel Assessment (CCA) before transmission.

**Low Duty Cycle (LDC):** Is an interference mitigation technique designed for UWB devices to protect active radio communication services operating on the same bands.

**Maximum Mean e.i.r.p Spectral Density:** The maximum average value of the product of the transmitted power spectral density and the gain of the omnidirectional or sectoral antenna in the direction of the system.

**Maximum Transmit Power:** The maximum power at the transmitter output for a single traffic channel.

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

**Medical Body Area Network (MBANS):** Are short-range low-power wireless networks, consisting of a plurality of body-worn sensor devices and/or actuator devices and a hub device placed on/around the human body.

**Model Control:** Model control covers the application of radio model control equipment, which is solely for the purpose of controlling the movement of the model (toy), in the air, on land or over or under the water surface.

**National Spectrum Plan:** The plan established for allocation and use of radio spectrum by the concerned entities.

**Non-Specific Short Range Devices:** 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 similar applications.

**Person:** A natural or juridical person of any type or form.

**Radio Determination Applications:** Are equipment that determine the position, velocity and/or other characteristics of an object, or that obtain information relating to these parameters, by means of the propagation properties of radio waves.

**Radio Frequency Identification (RFID) Applications:** Are equipment that carry data in suitable transponders, generally known as tags, and retrieve data, by hand- or machine-readable means, at a suitable time and place to satisfy specific application needs.

**Radio Microphones:** Radio microphones (also referred to as wireless microphones or cordless microphones) are small, low power (50 mW or less) unidirectional transmitters designed to be worn on the body, or hand-held, for the transmission of sound over short distances for personal use. The receivers are more tailored to specific uses and may range in size from small hand units to rack mounted modules as part of a multichannel system.

**Radio Spectrum:** Radio frequencies capable of being used in radio communications in accordance with the publications of the International Telecommunications Union.

**Short Range Devices (SRD):** The term SRD is intended to cover the radio transmitters which provide either uni-directional or bi-directional communications, which have low capability of causing interference to other radio equipment. SRDs are used with either integral, dedicated or external antennas, and all modes of modulation are permitted subject to relevant standards. Applications include, but not exhaustively, tele-command, alarms data communication, meter reading, asset tracking, aids for hearing, movement detection and alert, remote controls and inductive systems.

**Telecommand:** The use of radiocommunication for the transmission of signals to initiate, modify or terminate functions of equipment at a distance.

**Telecommunications Executive By-Law:** The Executive Telecommunications By-Law No. (1) of 2009.

**Telecommunications Law:** Telecommunications Law of the State of Qatar No. (34) of 2006, as amended by Law 17 of 2017.

**Telemetry:** The use of radiocommunication for indicating or recording data at a distance.

**Transmit Power Control (TPC):** Technique in which the transmitter output power is controlled resulting in reduced interference to other systems.

**Transport and Traffic Telematics:** Are defined as systems providing data communication between two or more road vehicles and between road vehicles and the road infrastructure for various information-based travel and transport applications, including automatic toll-collection, route and parking guidance, collision avoidance, communication from and to users as well as radar system installations.

**Type Approval:** Approval is the procedure by which RTTE is authorized by CRA to be imported into or to be used in Qatar and involves verification of the equipment's compliance with the applicable standards and requirements.

**Wireless Audio Applications:** Applications for wireless audio systems include cordless loudspeakers, cordless headphones, cordless headphones for portable use, i.e., portable compact disc players, cassette decks or radio receivers carried on a person, cordless headphones for use in a vehicle, for example for use with a radio or mobile telephone, etc., in-ear monitoring, for use in concerts or other stage productions.

## ANNEXURE (2) – Technical Requirements for Short Range Devices (SRD)

### 1. Short Range Devices (SRDs)

SRD						
Applicable Sub section of Framework	Typical Application Type	Authorized Frequency Bands/ Frequencies (Channel Spacing)	Maximum Strength/ RF Output Power	Harmonized Standard Reference	Remarks (Emission Type, Duty Cycle, other restrictions)	
Non-specific Short Range Devices	ISM	6765 - 6795 kHz	42 dBµA/m at 10m	EN 300 330		
		13.553 - 13.567 MHz	e.r.p10 mW			
		26.957 - 27.283 MHz	e.r.p 10mW	EN 300 220 EN 300 330		
		26990 - 27000 kHz	e.r.p100 mW	EN 300 220	≤ 0.1 % duty cycle	
		27040 - 27050 kHz	e.r.p100 mW		≤ 0.1 % duty cycle	
		27090 - 27100 kHz	e.r.p100 mW		≤ 0.1 % duty cycle	
		27140 - 27150 kHz	e.r.p100 mW		≤ 0.1 % duty cycle	
		27190 - 27200 kHz	e.r.p 100 mW		≤ 0.1 % duty cycle	
		40.66 - 40.7 MHz	e.r.p 10mW			
		Non-specific Short Range Devices	Non-specific Short Range Devices	862 - 863 MHz	e.r.p 25 mW	EN 300 220
	863 - 865 MHz			e.r.p 25 mW	Channel spacing ≤ 25kHz	
	865 - 868 MHz			e.r.p 25 mW	Duty cycle ≤ 0.1% or BT+AFA	
					Duty cycle ≤ 1% or LBT+AFA	

	868 - 868.6 MHz	e. r.p 25mW			Duty cycle $\leq$ 1% or LBT+AFA
	868.7 - 869.2 MHz	e. r.p 25mW			Duty cycle $\leq$ 0.1% or BT+AFA
	869.4 - 869.65 MHz	e. r.p 500mW			Duty cycle $\leq$ 10% or LBT+AFA
	869.7 - 870 MHz	e. r.p 5mW or e. r.p 25mW		EN 300 220	No requirement for e. r.p of 5mW; Duty cycle $\leq$ 1% or LBT+AFA for e. r.p of 25mW
	863 - 870 MHz	e. r.p 25mW			Duty cycle $\leq$ 0.1% or LBT+AFA
M2M Applications	870 - 874.4 MHz	e. r.p 500mW		EN 303 204	Duty Cycle $\leq$ 10% for the Network Access Point (NAP) and $\leq$ 2.5% for others; Channel spacing $\leq$ 200 kHz
	915 - 919.4 MHz	e. r.p 25 mW		EN 300 220	Duty Cycle $\leq$ 1%; Channel spacing of 600 kHz
Non-specific Short Range Devices	433.05 - 434.79 MHz	e. r.p. 10mW			Duty cycle $\leq$ 10%
Non-specific Short Range Devices	5725 - 5875 MHz	e. i. r. p 25mW		EN 300 440	
Non-specific Short Range Devices	2400 - 2483.5 MHz	e. i. r. p 10mW		EN 300 440	Indoor use only
		e. i. r. p 100mW		EN 300 328	
	24 - 24.25 GHz	e. i. r. p 100mW		EN 300 440	
Non-specific Short Range Devices	57 - 64 GHz	e. i. r. p 100mW /output power 10 mW		EN 305 550	
		e. i. r. p 100mW			
	61 - 61.5 GHz				

		122 - 122.25 GHz	10 dBm/250 MHz e.i.r.p. -48 dBm/MHz at >30° elevation		These limits should be measured with rms detector and an averaging time of 1 ms or less.
		122.25 - 123 GHz	e.i.r.p 100mW		
		244 - 246 GHz	e.i.r.p 100mW		
Non-specific Short Range Devices	DECT	1880 - 1900 MHz	e.i.r.p 250mW	EN 300 175 EN 301 406	The use of DECT phones are restricted within indoor residential premises.
	Cordless Phones	2.4 - 2.4835 GHz	e.i.r.p 10mW	EN 300 440	Integral antennas only. Indoor use only
Radio-determination applications	Movement Detection & Alert Systems	2400 – 2483.5 GHz	e.i.r.p 25mW	EN 300 440	
		10.5 - 10.6 GHz	e.i.r.p 500mW		
		13.4 - 14.0 GHz	e.i.r.p 25mW		
		24.05 - 24.25 GHz	e.i.r.p 100mW		
		57 - 64 GHz			
		75 - 85 GHz	e.i.r.p -41.3 dBm/MHz	EN 302 372	
Transport and Traffic Telematics	Vehicle Radar Systems	76 - 77 GHz	55 dBm peak e.i.r.p -50 dBm average power -23.5 dBm	EN 301 091	Either 50 dBm average power or an average power of 23.5 dBm for pulse radar only. Conditions apply to vehicle and infrastructure radar systems only.
		24.050 - 24.075 GHz	e.i.r.p 100mW	EN 302 858	
		24.075 - 24.150 GHz	e.i.r.p 0.1 mW		

		24.150 - 24.250 GHz	e.i.r.p 100mW	
	Automotive Short Range Radars	77 - 81 GHz	Peak limit of 55 dBm e.i.r.p	EN 302 264
		9 - 90 kHz	72 dB $\mu$ A/m at 10m	In case of external antennas only loop coil antennas may be employed.
		90 - 119 kHz	42 dB $\mu$ A/m at 10m	
		119-135 kHz	66 dB $\mu$ A/m at 10m	
		135 -140 kHz	42 dB $\mu$ A/m at 10m	
		140 - 148.5 kHz	37.7 dB $\mu$ A/m at 10m	
Inductive Applications	<ul style="list-style-type: none"> <li>- Car Immobilizer</li> <li>- Anti-theft systems</li> <li>- Navigation devices</li> <li>- Alarm systems</li> <li>- Data transfer to handhelds</li> <li>- Animal identification devices.</li> </ul>	3155 - 3400 kHz	13.5 dB $\mu$ A/m at 10m	EN 300 330
		148.5 - 5000 kHz	-15 dB $\mu$ A/m at 10 m	EN 303 417 EN 300 330 EN 302 536
				Security Devices. In case of external antennas only loop coil antennas may be employed. In case of external antennas only loop coil antennas may be employed. The maximum magnetic field strength is specified in a bandwidth of 10 kHz. The maximum allowed total magnetic field strength is -5 dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the



					density limit (-15 dB $\mu$ A/m in a bandwidth of 10 kHz)
					In case of external antennas only loop coil antennas may be employed.
					The maximum magnetic field strength is specified in a bandwidth of 10 kHz.
					The maximum allowed total magnetic field strength is -5 dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz whilst keeping the density limit (-20 dB $\mu$ A/m in a bandwidth of 10 kHz)
5000 kHz - 30 MHz	-20 dB $\mu$ A/m at 10 m			EN 300 330	
6765 - 6795 kHz	42 dB $\mu$ A/m at 10m			EN 300 330 EN 303 417	
7400 - 8800 kHz	9 dB $\mu$ A/m at 10m				
10200 - 11000 kHz	9 dB $\mu$ A/m at 10m			EN 300 330	
13.553 - 13.567 MHz	42 dB $\mu$ A/m at 10m				
869.4 - 869.65 MHz	e.i.r.p 100mW			EN 300 220	For Falcon/ or bird tracking
133 kHz	60 dB $\mu$ A/m at 10m			EN 300 330	For Vehicular use.
134 kHz	70 dB $\mu$ A/m at 10m, e.r.p 10mW (10 dBm)			EN 300 330	For Vehicular use.
433.05 - 434.79 MHz	e.r.p 10mW			EN 300 220	For Vehicular use.

	1575.42 MHz		N/A		EN 303 413		For Falcon/ or bird tracking
	315 MHz		e.i.r.p 10mW		EN 300 330		GPS receivers For Vehicular use.
Model Control	26990 - 27000 kHz	Applications of devices for controlling the movement of a model.	e.i.r.p 100mW		EN 300 220		Channel spacing of 10 kHz
	27040 - 27050 kHz						
	27090 - 27100 kHz						
	27140 - 27150 kHz						
	27190 - 27200 kHz						
	40.66 - 40.67 MHz						
40.67 - 40.68 MHz							
40.68 - 40.69 MHz							
40.69 - 40.70 MHz							
	34.995 - 35.225 MHz						Only for flying models
Active Medical Implant and their associated peripherals, and Medical Data Acquisition	401 - 406 MHz	Wireless applications in Healthcare and Listening Devices	e.i.r.p 25µW		EN 301 839 EN 302 537		
	9 - 315 kHz		30 dBµA/m at 10m	EN 302 195		Duty cycle < 10%,	
	30 - 37.5 MHz		e.i.r.p 1mW	EN 302 510		Duty cycle < 10%	
	2483.5 - 2500 MHz		e.i.r.p 10mW	EN 301 559		LBT+AFA and ≤ 10% duty cycle.	
	2483.5 - 2500 MHz		e.i.r.p 1mW	EN 303 203		MBANS, indoor only within healthcare facilities. LBT+AFA and ≤ 10% duty cycle.	

## 2. Additional Applications of Radio communications Equipment

In the context of this document, additional applications of Radio-communications Equipment include the following:

1. Radio Microphone Applications including Assistive Listening Devices (ALD), Wireless Audio and Multimedia Streaming Systems
2. Radio Frequency Identification Applications.
3. Ultra-Wide Band Technology Applications.
4. Wireless Access Systems including Radio Local Area Networks (WAS/RLANs) Applications.

### 2.1 Radio Microphone Applications including Assistive Listening Devices (ALD), Wireless Audio and Multimedia Streaming Systems

- Radio microphone applications include small, low power transmitters designed to be worn on the body, or handheld, for the transmission of sound.
- The frequency ranges of operation and corresponding output power levels of radio microphone applications are as follows:

Radio Microphones					
Typical Application Type	Applicable Sub-Section of Framework	Authorized Frequency Bands/ Frequencies (Channel Spacing)	Maximum Strength/ RF Output Power	Harmonized Standard Reference	Remarks (Emission Type, Duty Cycle, other restrictions)
Wireless Microphone Systems	Band II low power FM transmitters	87.5-108 MHz	e.r.p.50 nW	EN 301 357 EN 300 422	Channel spacing 200 kHz
	Wireless audio applications	863 - 865 MHz	e.r.p 10mW		Wireless Audio & Multimedia Streaming ALDs
		1795 - 1800 MHz	e.i.r.p 20mW		

174 – 216 MHz	50 mW e.i.r.p.	EN 300 422	Use of the bands is on a tuning range basis.
			Note that the use of these bands may be subject to an Individual License.
470 - 694 MHz	20 mW e.i.r.p.	EN 300 422	Any e.r.p power higher than 50mW is subject to spectrum license as per the Spectrum Licensing Framework.
			Channel spacing of 200 kHz
823 - 826 MHz	100mW e.i.r.p.	EN 300 422	The use of these bands may be subject to an Individual License.
			Restricted to body worn microphones/ Channel spacing of 200 kHz
826 - 832 MHz	100mW e.i.r.p.	EN 300 422	The use of these bands may be subject to an Individual License.
			Channel spacing of 200 kHz
			The use of these bands may be subject to an Individual License.

## 2.2 Radio Frequency Identification Applications

- Radio frequency Identification (RFID) Applications include but are not limited to automatic article identification, asset tracking, anti-theft systems, alarm systems and wireless control systems.

- The frequency ranges of operation and corresponding output power levels of RFID applications are as follows:

RFID					
Typical Application Type	Applicable Sub-Section of Framework	Authorized Frequency Bands/ Frequencies (Channel Spacing)	Maximum Strength/ RF Output Power	Harmonized Standard Reference	Remarks (Emission Type, Duty Cycle, other restrictions)
Radio Frequency Identification (RFID) Application	Asset Tracking Systems	400 - 600 kHz	-8 dB $\mu$ A/m at 10m	EN 300 330	
		13.553 - 13.567 MHz	60 dB $\mu$ A/m at 10m		
		865 - 865.6 MHz	100 mW e.r.p.	EN 302 208	
		865.6 - 867.6 MHz	2W e.r.p		
		867.6 - 868 MHz	500 mW e.r.p.		
				2446 - 2454 MHz	

### 2.3 Ultra-Wide Band Technology Applications

- Ultra-Wide Band (UWB) Technology Applications include but are not limited to equipment used for communications, measurement, location, imaging, surveillance and medical systems.
- The technical requirements for the operation of UWB applications are not applicable to:
  - Devices and infrastructure used at a fixed outdoor location or connected to a fixed outdoor antenna.
  - Devices installed in flying models, aircraft and other aviation.
  - Devices installed in road and rail vehicles.

The frequency ranges of operation and corresponding output power levels of UWB technology applications are as follows:

UWB					
Typical Application Type	Applicable Sub-Section of Framework	Authorized Frequency Bands/ Frequencies (Channel Spacing)	Maximum Strength/ RF Output Power	Harmonized Standard Reference	Remarks (Emission Type, Duty Cycle, other restrictions)
Ultra-Wide Band Technology	Wide Band Data Transmission Systems	Below 1.6 GHz	maximum mean e.i.r.p. spectral density of -90 dBm/MHz.	EN 302 500 EN 302 065	
		1.6 - 2.7 GHz	maximum mean e.i.r.p. spectral density of -85 dBm/MHz		
		2.7 - 3.4 GHz	maximum mean e.i.r.p. spectral density of -70 dBm/MHz		
		3.4 - 3.8 GHz	maximum mean e.i.r.p. spectral density of -80 dBm/MHz		
		3.8 - 4.2 GHz	maximum mean e.i.r.p. spectral density of -70 dBm/MHz		
		4.2 - 4.8 GHz	maximum mean e.i.r.p. spectral density of -70 dBm/MHz		
				Within the band 3.1 - 4.8 GHz range, devices using Detect And Avoid (as per Annex 3 of ECC/DEC/(06)04 document) are allowed to operate with a maximum mean e.i.r.p. spectral	

				density of -41.3 dBm/MHz and a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz
4.8 - 6 GHz	maximum mean e.i.r.p. spectral density of -70 dBm/MHz			
6 - 8.5 GHz	maximum mean e.i.r.p. spectral density of -41.3 dBm/MHz			
8.5 - 10.6 GHz	maximum mean e.i.r.p. spectral density of -65 dBm/MHz			For 8.5 - 9 GHz range, devices using Detect And Avoid mitigation technique (as per Annex 3 of ECC/DEC/(06)04 document) are allowed to operate with a maximum mean e.i.r.p. spectral density of -41.3 dBm/MHz and a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz
Above 10.6 GHz	maximum mean e.i.r.p. spectral density of -85 dBm/MHz			

#### 2.4 Wireless Access Systems including Radio Local Area Networks (WAS/RLANs) Applications

- The operation of Wireless Access Systems is restricted within indoor residential and business premises. Indoor use is intended to mean inside a permanent domestic or commercial building which will typically provide the necessary attenuation to facilitate sharing with other services.
- "Vehicle" is a machine that transports people or cargo. In this Class License, the term vehicle refers to Land Vehicles which include wagons, cars, trucks and buses.
- The frequency ranges of operation and corresponding output power levels of WAS/RLAN applications are as follows:

WAS/RLAN						
Applicable Sub-section of Framework	Typical Application Type	Authorized Frequency Bands/ Frequencies (Channel Spacing)	Maximum Strength/ RF Output Power	Harmonized Standard Reference	Remarks (Emission Type, Duty Cycle, other restrictions)	
Wireless Access Systems including Radio Local Area Networks	WAS/RLAN	2400 - 2483.5 MHz	e.i.r.p 100mW	EN 300 328	Indoor use only	
		5150 - 5250 MHz	maximum e.i.r.p. 200mW (with & without TPC)	EN 301 893	Indoor use only	
		5250 - 5350 MHz	maximum e.i.r.p. 200mW (with & without TPC)	EN 301 893	Indoor use only	
		5470 - 5725 MHz	maximum e.i.r.p. 1000mW (with & without TPC)	EN 301 893	Indoor use only	
	5725 - 5875 MHz	e.i.r.p. 25mW	EN 300 440	Indoor use only		
	WAS/RLAN onboard vehicles, trams and trains only	2400 - 2483.5 MHz	e.i.r.p. 100mW	EN 300 328	Onboard vehicles, trams and trains only (indoor).	
		5150 - 5250 MHz	e.i.r.p. 40mW	EN 301 893		
Multiple-Gigabit WAS/RLAN	Multiple-Gigabit WAS/RLAN	5725 - 5875 MHz	e.i.r.p. 25mW	EN 300 440	Indoor use only Fixed outdoor installations are not allowed	
		57 - 71 GHz	maximum e.i.r.p 10W (40 dBm) (LBT)	EN 302 567		