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**GOVERNMENT NOTICES • GOEWERMENTSKENNISGEWINGS**

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**INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA**

NO. 1003

23 JULY 2019

**THE INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA****NOTICE OF INTENTION TO AMEND ANNEXURE B OF THE RADIO  
FREQUENCY SPECTRUM REGULATIONS, 2015**

The Independent Communications Authority of South Africa ("the Authority"), in terms of section 4(1) and (4) and section 34(7) (a) and (b) and 34(8) of the Electronic Communications Act, 2005 (Act No 36 of 2005) read with section 4(3)(j) of the Independent Communications Authority of South Africa Act, 2000 (Act No 13 of 2000) ("ICASA Act"), hereby intends to amend Annexure B of the Radio Frequency Spectrum Regulations, 2015 published in Notice No. 279 under Government Gazette No. 38641 of 30 March 2015, to the extent indicated in the schedule.

Interested persons are hereby invited to submit written representations about the proposed Regulations to the Authority within thirty (30) working days from the date of the publication of this notice. Written submissions can be submitted by post or hand delivery or email to:

**Independent Communications Authority of South Africa**

Bethuel Nkgadime

350 Witch-Hazel Avenue,

Eco Point Office Park,

Eco Park, **CENTURION**,

Gauteng

E-mail: [BNkgadime@icasa.org.za](mailto:BNkgadime@icasa.org.za), Tel: 012 568 3993

At the request of any person who submits written representations pursuant to this notice, the Authority will determine whether such representations or any portion thereof is confidential in terms of section 4D of the Independent Communications Authority of South Africa Act, 2000 (Act No. 13 of 2000). If the request for confidentiality is refused, the person making the request will be allowed to withdraw such representations or portion thereof.



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**Dr Keabetswe Modimoeng**

**ACTING CHAIRPERSON**

**Date: 19/07/2019**

## **SCHEDULE**

### **1. Definitions**

In these Regulations "the Regulations" means the Radio Frequency Spectrum Regulations, 2015 as published under Government Notice No. 279 of 30 March 2015 (Government Gazette No. 38641), as amended in Notice No. 386 of 30 April 2015 (Government Gazette No. 38754), Notice No. 351 of 17 June 2016 (Government Gazette No. 40078) and Notice No. 781 of 22 November 2016 (Government Gazette No. 40436).

### **2. Short Title and Commencement**

These Regulations are called the Amended Radio Frequency Spectrum Amendment Regulations, 2019 and will come into force on the date of publication in the Government Gazette.

### 3. Substitution of Annexure B of the Regulations (Apparatus exempt from Radio Frequency Spectrum Licenses)

The following annexure is hereby substituted for Annexure B of the Regulations:

#### “Annexure B

#### Apparatus exempt from radio frequency spectrum licences

The use or possession of the Radio Apparatus listed in Column B below, in accordance with all specifications listed in Columns, A, C, D, E and F of the Table below shall not require a radio frequency spectrum licence:

**Table of radio frequency spectrum licence Exemptions**

<b>Column A</b> Frequency Bands K=kHz M=MHz G=GHz	<b>Column B</b> Equipment Category	<b>Column C</b> Maximum Transmit Power, Field Strength or Sensitivity Limits & Channel spacing	<b>Column D</b> Relevant Standards	<b>Column E</b> Additional Requirements (channelling and/or channel access and occupation rules/ spectrum access and mitigation requirements)	<b>Column F</b> References
9 – 59.75K	Inductive Devices <sup>1</sup>	72 dB $\mu$ A/m @ 10m.	EN 300 330		CEPT/ERC/REC 70-03
59.75 – 60.25K	Inductive Devices,	42 dB $\mu$ A/m @ 10m.	EN 300 330		CEPT/ERC/REC 70-03
60.25 – 65.85K	Inductive Devices	72 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
65.85 – 67.35K	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Equipment Category	Column C Maximum Transmit Power, Field Strength or Sensitivity Limits & Channel spacing	Column D Relevant Standards	Column E Additional Requirements (channelling and/or channel access and occupation rules/ spectrum access and mitigation requirements)	Column F References
67.35 - 74.75K	Inductive Devices	72 dB $\mu$ A/m @ 10m.	EN 300 330		CEPT/ERC/REC 70-03
74.75 – 75.25K	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
75.25 – 77.25K	Inductive Devices	72 dB $\mu$ A/m @ 10m.	EN 300 330		CEPT/ERC/REC 70-03
77.25 – 77.75K	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
77.75 – 90K	Inductive Devices	72 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
90 – 119K	Inductive Devices	42 dB $\mu$ A/m @ 10m.	EN 300 330		CEPT/ERC/REC 70-03
119 – 128.6K	Inductive Devices	66 dB $\mu$ A/m @ 10m.	EN 300 330		CEPT/ERC/REC 70-03
128.6 – 129.6K	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
128.6 – 135K	Inductive Devices	66 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
135-140K	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
140-148.5K	Inductive Devices	37.7 dB $\mu$ A/m @ 10m	EN 300 330		CEPT/ERC/REC 70-03
9 – 315K	ULP-AMI Devices	30 dB $\mu$ A /m at 10 m	EN 302 195	Duty Cycle $\leq$ 10%	CEPT/ERC/REC 70-03
315 - 600K	ULP-AIDs and Peripherals	-5 dB $\mu$ A /m at 10 m	EN 302 536	Duty Cycle $\leq$ 10%	CEPT/ERC/REC 70-03

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400 - 600 kHz	RFID only	-8 dB $\mu$ A/m at 10 m	EN 300 330	In case of external antennas only loop coil antennas may be employed. <i>max field strength = 5dB<math>\mu</math>A/m at 10 m for systems operating at BW &gt; 10 kHz measured at <math>f_c</math> whilst keeping the density limit (-8dB<math>\mu</math>A/m in a bandwidth of 10 kHz.)</i> minimum operating BW = 30 kHz	CEPT/ERC/REC 70-03
148.5-5000K	Inductive Devices	-15 dB $\mu$ A/m @10 m	EN 300 330	The total field strength is – 5 dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz	CEPT/ERC/REC 70-03
5000K-30M	Inductive Devices	-20 dB $\mu$ A/m @ 10 m	EN 300 330	The total field strength is – 5 dB $\mu$ A/m at 10 m for systems operating at bandwidths larger than 10 kHz	CEPT/ERC/REC 70-03
3155 – 3400K	Low Power Wireless Hearing Aid	13.5 dB $\mu$ A/m @ 10m	EN 300 330	In case of external	NRFP18

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				antennas only loop coil	
6.765-6.795M	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330	The transmission mask and antenna requirements for all combined frequency segments have to provide at least equivalent performance to the techniques described in the standard	
7400 – 8800K	Inductive Devices	9 dB $\mu$ A/m @ 10m	EN 300 330		
10200 – 11000K	Inductive Devices	9 dB $\mu$ A/m @ 10m	EN 300 330		
13.553-13.567M	Non-Specific SRD	42 dB $\mu$ A/m @ 10m	EN 300 330		
13.553-13.567M	RFID (incl. NFC) and EAS applications only	60 dB $\mu$ A/m @ 10m	EN 300 330	The transmission mask and antenna requirements for all combined frequency segments have to provide at least equivalent performance to the techniques described in harmonised standards	

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26.957-27.283M	Inductive Devices	42 dB $\mu$ A/m @ 10m	EN 300 330		
26.957-27.283M	Non-specific SRD <sup>ii</sup>	10 mW E.R.P.	EN 300 220		
26.995M ; 27.045M ; 27.095M ; 27,145M ; 27.195M	Surface Model Control	100 mW E.R.P.	EN 300 220		
35.00-35.25M	Aircraft Model Control	100 mW E.R.P. 10 kHz channel spacing	EN 300 220		CEPT/ERC/REC 70-03
36.65-36.75M	Wireless Microphones.	100 mW E.R.P.	EN 300 422		CEPT/ERC/REC 70-03
40.65-40.70M	Wireless Microphones.	100 mW E.R.P.	EN 300 422		CEPT/ERC/REC 70-03
40.665, 40.675, 40.685, 40.695	Surface Model Control.	100mW E.R.P. 10 kHz channel spacing.	EN 300 220		CEPT/ERC/REC 70-03
40.66-40.7M	Non-specific SRD.	10 mW E.R.P.	EN 300 220		CEPT/ERC/REC 70-03
46.61-46.97M 49.67-49.97M	CT0 Cordless phones.	10 mW E.I.R.P.	The Authority TE-013		Government Gazette 22443 of 4 <sup>th</sup> July 2001
53-54M	Wireless Microphones.	10 mW E.R.P.	EN 300 422	For ALD the limit power is 100 mW	CEPT/ERC/REC 70-03



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54.4500 M; 54.4625 M; 54.4750 M; 54.4875 M; 54.500M ; 54.5125 M; 54.5250 M; 54.5375 M; 54.5500 M	Model Control	5W E.R.P. 12.5 kHz channel spacing	EN 300 220		CEPT/ERC/REC 70-03
141-142M	Remote Control Industrial Apparatus	100 mW E.R.P.	EN 300 220		
148-152M	Wildlife telemetry Tracking	25 mW E.R.P.	EN 300 220	The use of this band is restricted to National Game Parks.	
169.4-169.475 M	Meter Reading	500 mW E.R.P. 50 kHz channel spacing	EN 300 220	< 10% duty cycle	CEPT/ERC/REC 70-03 ECC/DEC (05)02
173.2125 - 173.2375 M	Non-specific SRD – telecommand only	10 mW E.R.P. 25 kHz channel spacing	EN 300 220		
173.2375 - 173.2875 M	Non-specific SRD	10 mW E.R.P. 25 kHz channel	EN 300 220		

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		spacing.			
173.7 – 175.1M	Wireless Microphones and assistive listening devices.	10 mW E.I.R.P.	EN 300 220		CEPT/ERC/REC 70-03
402-405M	Medical Implants.	25 µW (-16 dBm) E.R.P. 25 kHz channel spacing	EN 300 839	No duty cycle restriction for devices with LBT, otherwise	
402-406M	Doppler shift movement detectors, wireless microphones, garage door openers and motor car alarm systems.	10 mW E.R.P.	EN 300 422		
433.04-434.79M	Non-specific SRD Including RFID	1 mW E.R.P.	EN 300 220		CEPT/ERC/REC 70-03
433.04 – 434.79M	Non-specific SRD Including RFID	10mW E.R.P.	EN 300 220	Duty Cycle < 10%	CEPT/ERC/REC 70-03
433.04-434.79M	Non-specific SRD	10 mW ERP Up to 25 kHz channel spacing	EN 300 220		CEPT/ERC/REC 70-03
433.04-434.79M	Non-specific SRD	100 mW E.R.P.	EN 300 220		CEPT/ERC/REC 70-03
446-446.2 M	Public Mobile Radio (PMR). Analogue and Digital	500mW E.R.P.	EN 303 405	For analogue and digital PMR 446 applications	ECC/DEC(98)25 replaced by ECC/DEC(15)05

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464.5375 M	Security systems	1 W 25 kHz channel spacing	EN 300 296		
464.500 – 464.5875 M	Non-specific SRD	100 mW	EN 300 220		
463.975 M; 464.125 M; 464.175 M; 464.325 M; 464.375 M;	Low Power Radio	500 mW 12.5 kHz channel spacing	EN 300 296		CEPT/ERC/REC 70-03
863-865M	Wireless Audio Systems	10 mW E.R.P.	EN 300 357		CEPT/ERC/REC 70-03 CEPT/ERC/DEC (01) 18
863-865M	Wireless Microphones	10 mW E.R.P.	EN 300 422		CEPT/ERC/REC 70-03
865-868 M	RFID	100 mW E.R.P. 200 kHz Channel spacing	EN 302 208-2	Channels 1, 2 and 3  Listen Before Talk (LBT) is mandatory FHSS or Other Spread Spectrum Techniques shall not be used	CEPT/ERC/REC 70-03
865-868 M	RFID	2 W E.R.P.	EN 302 208	Channels 4,7,10 and 13  Listen Before Talk (LBT) is mandatory	CEPT/ERC/REC 70-03

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		200 kHz Channel spacing		FHSS or Other Spread Spectrum Techniques shall not be used	
865-868 M	RFID	500 mW E.R.P. 200 kHz Channel spacing	EN 302 208	Channels 5,6,8,9,11,12,14 and 15 Listen Before Talk (LBT) is mandatory FHSS or Other Spread Spectrum Techniques shall not be used	CEPT/ERC/REC 70-03
864.1-868.1M	CT2 cordless phones	10 mW E.I.R.P.	EN 301 797 TE – 012		CEPT/ERC/REC 70-03
868-868.6M	Non-specific SRD	25 mW E.R.P.	EN 300 220	Duty Cycle < 1% or LBT	CEPT/ERC/REC 70-03 ERC/DEC/(01)04
868.6-868.7M	Alarms	10 mW E.R.P. 25 kHz channel spacing	EN 300 220	Duty Cycle < 1% or LBT	CEPT/ERC/REC 70-03 CEPT/ERC/REC (01) 09
868.7-869.2M	Non-specific SRD	25 mW E.R.P.	EN 300 220	Duty Cycle < 1% or LBT	CEPT/ERC/REC 70-03 ERC/DEC/(01)04
869.25-869.3M	Alarms	10 mW E.R.P. 25 kHz channel spacing.	EN 300 220	<0.1 % duty cycle	CEPT/ERC/REC 70-03

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869.4-869.65M	Non-specific SRD Including RFID	500mW E.R.P. 25 kHz channel spacing.	EN 300 220	Narrow / wide-band modulation. The whole stated frequency band may be used as 1 channel for high speed data transmission. <10% duty cycle or LBT & AFA	CEPT/ERC/REC 70-03 ERC/DEC/(01)04
869.65-869.7M	Alarms	25 mW E.R.P. 25 kHz channel spacing.	EN 300 220	10 % duty cycle.	CEPT/ERC/REC 70-03
869.7-870 M	Non-specific SRD	5 mW E.R.P.	EN 300 220		CEPT/ERC/REC 70-03
915.1-915.2 M	Real Time Location Systems (RTLS)	25 mW E.R.P.	EN 300 086		
915.2-915.4 M	Passive Tags	100 mW E.R.P. 10 x 20 kHz wide channels	EN 300 208		ECC Report 200
915.4-919.2 M	Modulating RFID Systems (FHSS)	4 W E.I.R.P. 200 kHz channel spacing	EN 300 208		ECC Report 200
919-919.2 M	Tag Backscatter Guard Band		EN 300 208	DAA	ECC Report 200
919.2-921 M	Non-Modulating	4 W EIRP	EN 302 208	Spectral Masks; CW only @ 920 MHz ( $\pm$ 1.5 kHz)	ECC Report 200

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	Backscatter RFID Systems			frequency stability)	
1880-1900M	DECT cordless phones.	250 mW EIRP (peak).  1.728 MHz channel spacing.	EN 300 406 The Authority  TE 001		
2400-2483.5M	Non-specific SRD	10 mW EIRP	EN 300 440		CEPT/ERC/REC 70-03
2400-2483.5M	Wideband Wireless Systems  WLAN  Wideband Data Transmission Applications (WBDTS)  Model Control.	100 mW EIRP	EN 300 328		CEPT/ERC/REC 70-03  ERC/DEC/(01)07
2400-2483.5M	FDDA	25 mW EIRP  No duty cycle.  No channel spacing.	EN 300 440		CEPT/ERC/REC 70-03
2400-2483.5M	Low power Video Surveillance	100 mW EIRP	EN 300 440		CEPT/ERC/REC 70-03

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2446-2454M	RFID	500 mW	EN 300 440	4 W EIRP; Duty Cycle $\leq$ 15%; FHSS modulation techniques should be used	CEPT/ERC/REC 70-03
3100-3400M	Ultra-Wide Band (UWB) communication devices	Maximum peak EIRP limit: -36 dBm @ 50MHz  EIRP	EN 302 065	Generic UWB regulation Radio channel model based upon IEEE 802.15.4a Devices implementing Low Duty Cycle (LDC) mitigation techniques are permitted to operate with a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz  Devices implementing Detect And Avoid (DAA) mitigation techniques are permitted to operate with a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz.	CEPT/ERC/REC 70-03  ECC/DEC/(06)04

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3400-3800M	Ultra-Wide Band (UWB) communication devices	Maximum peak EIRP limit: -40 dBm @ 50MHz	EN 302 065	<p>Generic UWB regulation Radio channel model based upon IEEE 802.15.4a Devices implementing Low Duty Cycle (LDC) mitigation techniques are permitted to operate with a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz</p> <p>Devices implementing Detect And Avoid (DAA) mitigation techniques are permitted to operate with a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz</p>	CEPT/ERC/REC 70-03  ECC/DEC/(06)04
3800-4800M	Ultra-Wide Band (UWB) communication devices	Maximum peak EIRP limit: -30 dBm @ 50MHz	EN 302 065	Generic UWB regulation Radio channel model based upon IEEE 802.15.4a	CEPT/ERC/REC 70-03  ECC/DEC/(06)04



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				<p>Devices implementing Low Duty Cycle (LDC) mitigation techniques are permitted to operate with a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz</p> <p>Devices implementing Detect And Avoid (DAA) mitigation techniques are permitted to operate with a maximum peak e.i.r.p. of 0 dBm defined in 50 MHz</p>	
5150 - 5250M	Wireless Access Systems / Radio Local Access Network (WAS & RLAN) Indoor use only.	20 dBm E.I.R.P.	EN 300 893	Channel Access Mechanism (Frame Based Equipment / Load Based Equipment)	ITU-R M.1652
5250 - 5350M	Wireless Access Systems / Radio Local Access Network (WAS & RLAN) Indoor use only.	20 dBm E.I.R.P.	EN 301 893	<p>Dynamic Frequency Selection (DFS) Obligatory.</p> <p>TPC is Obligatory for devices that operate at a</p>	<p>CEPT/ERC/REC 70-03 ECC/DEC/(04)08</p> <p>ITU-R M.1652</p> <p>ITU Res 229 (WRC-03)</p>

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				<p>mean E.I.R.P. more than 20 dBm with a maximum mean E.I.R.P. limit of 23 dBm.</p> <p>Channel Access Mechanism (Frame Based Equipment / Load Based Equipment)</p>	
5470 - 5725M	Wireless Access Systems / Radio Local Access Network (WAS & RLAN)	27 dBm E.I.R.P.	EN 301 893	<p>Dynamic Frequency Selection (DFS) Obligatory.</p> <p>TPC is Obligatory for devices that operate at a mean E.I.R.P. more than 27 dBm with a maximum mean E.I.R.P. limit of 30 dBm.</p> <p>Channel Access Mechanism (Frame Based Equipment / Load Based Equipment)</p>	<p>CEPT/ERC/REC 70-03 ECC/DEC/(04)08</p> <p>ITU-R M.1652</p> <p>ITU Res 229 (WRC-03)</p>
5725 – 5875 M	Non-Specific SRD  (alarms, telecommand, telemetry, data transmission, etc).	13.98 dBm E.I.R.P.	EN 300 440	Spectrum Access Techniques (Listen Before Talk (LBT)/ Detect and Avoid (DAA))	CEPT/ERC/REC 70-03

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	<p>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.</p> <p>Typical uses include telemetry, telecommand, alarms, data transmissions in general and other applications</p>				
5725 – 5875 M	<p>Wireless Industrial Automation Equipment <i>(Tracking, Tracing &amp; Data Acquisition)</i></p>	<p>26 dBm E.I.R.P. APC required Adequate spectrum sharing mechanisms shall be implemented</p>	EN 303 258	<p>DFS is required in the frequency range 5725-5850 MHz to ensure an appropriate protection to the radiolocation service (including frequency hopping radars)</p> <p>DAA is required in the frequency range 5855-5875 MHz for the protection of ITS, in the frequency range 5725-5875 MHz for the protection of BFWA, and in</p>	CEPT/ERC/REC 70-03

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				the frequency range 5795-5815 MHz for the protection of TTT applications.	
5725-5875 M	Broadband Fixed Wireless Access systems (BFWA) including WAS/RLAN.	E.I.R.P. 36 dBm for P-P/ P-MP E.I.R.P. 33 dBm for Mesh/ AP-MP	EN 302 502	DFS and TPC are Obligatory.	ECC/REC/(06)04
5795-5805M	RTTT Devices	2 W EIRP	EN 300 674		
5805-5815M	TTT Devices	2 W EIRP	EN 300 674	Techniques to access spectrum and mitigate interference that provide at least equivalent performance to the techniques	

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				described in the standards	
6000-8500M	Ultra-Wide Band (UWB) communication devices	Maximum Peak Power Limit: 0 dBm and mean Power Spectral Density Limit: -41,3 dBm/MHz EIRP Both with and without mitigation techniques defined in 50 MHz	EN 302 065		
8500-9000M	Ultra-Wide Band (UWB) communication devices	Maximum Peak Power Limit: -25 dBm and mean Power Spectral Density Limit: -65.0 dBm/MHz EIRP without mitigation techniques defined in 50 MHz	EN 302 065	devices implementing Detect And Avoid (DAA) mitigation technique are permitted to operate with a maximum mean EIRP spectral density of -41,3 dBm/MHz and a maximum peak EIRP of 0 dBm defined in 50 MHz	

<b>Column A</b> <b>Frequency Bands</b> <b>K=kHz</b> <b>M=MHz</b> <b>G=GHz</b>	<b>Column B</b> <b>Equipment Category</b>	<b>Column C</b> <b>Maximum Transmit Power, Field Strength or Sensitivity Limits &amp; Channel spacing</b>	<b>Column D</b> <b>Relevant Standards</b>	<b>Column E</b> <b>Additional Requirements (channelling and/or channel access and occupation rules/ spectrum access and mitigation requirements)</b>	<b>Column F</b> <b>References</b>
9200-9500M	Radiodetermination Devices	25 mW EIRP	EN 300 440		
9500-9975M	FDDA.	25 mW EIRP	EN 300 440		
10.025-10.145 G	Low power Video Surveillance	1W EIRP  8 MHz channel spacing, with first channel on 10.029 GHz.	EN 300 440		
10.5-10.6G	Radiodetermination Devices	500 mW EIRP	EN 300 440		
13.4-14G	Radiodetermination Devices	25 mW EIRP	EN 300 440		
17.1-17.3G	Radiodetermination Devices	26 dBm EIRP.	EN 300 440	For Ground Based Synthetic Aperture Radar (GBSAR). Specific requirements for the radar antenna pattern and for the implementation of Detect And Avoid (DAA) technique apply as described in EN 300 440	

<b>Column A</b> <b>Frequency Bands</b> <b>K=kHz</b> <b>M=MHz</b> <b>G=GHz</b>	<b>Column B</b> <b>Equipment Category</b>	<b>Column C</b> <b>Maximum Transmit Power, Field Strength or Sensitivity Limits &amp; Channel spacing</b>	<b>Column D</b> <b>Relevant Standards</b>	<b>Column E</b> <b>Additional Requirements (channelling and/or channel access and occupation rules/ spectrum access and mitigation requirements)</b>	<b>Column F</b> <b>References</b>
24.00-24.25G	Non-specific SRD	100 mW EIRP	EN 300 440		
24.05-24.25G	Radiodetermination	100 mW EIRP	EN 300 440	For automotive radars	
57-64 GHz	Tank Level Probing Radar (TLPR) equipment	+43 dBm	EN 302 372	Applications are based on pulse RF, FMCW or similar wideband techniques Maximum peak power, as measured in 50 MHz (within main beam)	EC Decision 2013/752/EU and CEPT/ERC Recommendation 70-03
57-64 GHz	Level Probing Radar (LPR) equipment	35 dBm (contained in a 50 MHz bandwidth)	EN 302 729	Maximum value of mean power spectral density is applicable.	
57-64 GHz	Non-Specific SRD	100 mW EIRP 13 dBm/MHz	EN 305 550	Transmitter output power of 10 mW. The implementation of any mitigation techniques, such as duty cycle, shall be provided by the manufacturer.	
57-64G	Point-to-Point FS	55 dBm maximum EIRP	EN 302 217	The maximum transmitter output power is 10 dBm	CEPT/ECC/Recommendation (09)01

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Equipment Category	Column C Maximum Transmit Power, Field Strength or Sensitivity Limits & Channel spacing	Column D Relevant Standards	Column E Additional Requirements (channelling and/or channel access and occupation rules/ spectrum access and mitigation requirements)	Column F References
				The minimum $G_{ANT}$ is 30 dBi The emission remains within the spectral power density mask limits.	
63-64 GHz	Intelligent Transportation Systems		EN 302 686		
57-66G	Multi-Gigabit Wireless Access Systems (MGWS)	40 dBm EIRP 13 dBm / MHz	EN 302 567	Adaptivity (medium access protocol), designed to facilitate spectrum sharing mechanism. Also, LBT is mandatory.	ECC Report 113 ECC Report 114
76-77G	Railways. Radar	55dBm peak EIRP	EN 301 091	Obstruction/Vehicle detection via radar Sensor at railway level crossings. 50 dBm average power or 23.5 dBm average power for pulse radar	
76-77G	TTT;	55dBm peak EIRP  The maximum mean EIRP density is limited to	EN 301 091	Fixed outdoor installations are not allowed. Point-to-point links of the Fixed Service are regulated by ECC/REC/(05)02 and	ECC/REC/(05)02; ECC/REC/(09)01



Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Equipment Category	Column C Maximum Transmit Power, Field Strength or Sensitivity Limits & Channel spacing	Column D Relevant Standards	Column E Additional Requirements (channelling and/or channel access and occupation rules/ spectrum access and mitigation requirements)	Column F References
		13 dBm/MHz		ECC/REC/(09)01 Fixed transportation infrastructure radars have to be of a scanning nature in order to limit the illumination time and ensure a minimum silent time to achieve coexistence with automotive radar systems.	

Use and possession of all radio apparatus exempt in terms of the above table must comply with the following:

- (a) All radio apparatus must be type-approved by the Authority in accordance with section 35 of the Act;
- (b) The frequencies, transmitting power and external high-gain antenna of the radio apparatus must not be altered without a new type approval certificate being issued by the Authority;
- (c) The Radio Apparatus must be operated within, and not exceed, the technical parameters set out in each of the applicable columns C and D of the Table with respect to the frequency band; maximum radiated power or field strength limits and channel

spacing; relevant standard; and duty cycles and antennas to be used as contained in Column E;

- (d) The antenna of the Radio Apparatus must not be higher or above average ground level than the lowest point of the place where the Radio Apparatus operates effectively;
- (e) The Radio Apparatus must not cause interference with any licensed radio frequency spectrum; and
- (f) The user of the Radio Apparatus in the licence-exempt frequency spectrum operates on non-interference and zero protection basis from interference.”

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<sup>i</sup> *The inductive device category covers radio devices that 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.*

<sup>ii</sup> *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.*