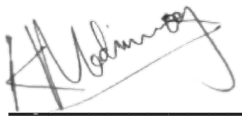
INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

NOTICE 737 OF 2021

AMENDMENT TO THE RADIO FREQUENCY SPECTRUM REGULATIONS, 2015

The Independent Communications Authority of South Africa ("the Authority") has amended the Radio Frequency Spectrum Regulations, 2015 to the extent reflected in the Schedule.



Dr. Keabetswe Modimoeng
Chairperson
Date: 15/12/2021

AMENDMENT OF THE RADIO FREQUENCY SPECTRUM REGULATIONS, 2015 DEVELOPED IN TERMS OF THE ELECTRONIC COMMUNICATIONS ACT, 2005 (ACT NO. 36 OF 2005, AS AMENDED)

The Independent Communications Authority of South Africa has, under section 4, read with sections 31(3), 34(7)(c)(iii), 34(8and 34(16) of the Electronic Communications Act, 2005 (Act No. 36 of 2005, as amended), made the regulations in the Schedule.

SCHEDULE

1. Definitions

In these regulations "the Regulations" means the regulations published by Government Notices Nos. 279 of 2015, 386 of 2015, 781 of 2016, and 585 of 2019.

2. Short Title and Commencement

These regulations are called the Radio Frequency Spectrum Amendment Regulations, 2021, and shall come into operation upon publication in the Government Gazette.

3. Substitution of Annexure B of the Regulations

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

Annexure B

Radio 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, and E of the Table below, shall not require a radio frequency spectrum licence. Compliance with the EMC and Safety Standards for the relevant Application Type is mandatory as prescribed in the Official List of ICASA Regulated Standards for Technical Equipment and Electronic Communications Facilities.

Table of radio frequency spectrum licence Exemptions

Column A **Frequency Bands** **K=kHz** **M=MHz** **G=GHz**	**Column B** **Application Type**	**Column C** **Maximum Radiated Power, Field Strength or Sensitivity Limits**	**Column D** **Relevant Performance Standards**	**Column E** **Reference**
9-315K	Ultra Low Power Active Medical Implant (ULP-AMI)	30 dBµA/m at 10 m	EN 302 195	CEPT/ERC/REC 70-03
9-135K	Inductive Applications	42 dBµA/m @ 10 m (Additional restrictions apply to limits above 42 dBµA/m)	SANS 300 330	
135-140K	Inductive Applications	42 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
140-148.5K	Inductive Applications	37.7 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
148.5-5000K	Inductive Applications	-15 dBµA/m @ 10 m (Additional restrictions apply to limits above -15 dBµA/m)	SANS 300 330	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
315-600K	Ultra Low Power Animal Implantable (ULP-AID)	-5 dBµA /m @ 10 m	EN 302 536	
400-600K	RFID Applications only	-8 dBµA/m @ 10 m (Additional restrictions apply to limits above -8 dBµA/m)	SANS 300 330	CEPT/ERC/REC 70-03
456.9-457.1K	Emergency detection of buried victims and valuable items	7 dBµA/m at 10 m	EN 300 718	CEPT/ERC/REC 70-03
3.155-3.4M	Inductive Applications including Low Power Wireless Hearing Aid	13.5 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
5-30M	Inductive Applications	-20 dBµA/m at 10 m (Additional restrictions apply to limits above -20 dBµA/m)	SANS 300 330	CEPT/ERC/REC 70-03
6.765-6.795M	Inductive Applications	42 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
7.4-8.8M	Inductive Applications	9 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
10.2-11M	Inductive Applications including Low Power Wireless Hearing Aid	9 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
13.553-13.567M	Inductive Applications	42 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
13.553-13.567M	RFID (incl. NFC) and EAS applications only	60 dBµA/m @ 10 m	SANS 300 330	CEPT/ERC/REC 70-03
13.553-13.567M	Non-specific SRD	10 mW e.r.p.	SANS 300 330	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
26.957-27.283M	Inductive Applications	42 dBµA/m @ 10 m	SANS 300 330	
26.957-27.283M	Non-specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
26.99-27.00M	Model Control Devices	100 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
27.04-27.05M	Model Control Devices	100 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
27.09-27.10M	Model Control Devices	100 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
27.14-27.15M	Model Control Devices	100 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
27.19-27.20M	Model Control Devices	100 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
29.7-47.0M	Wireless Microphones	10 mW e.r.p. (Additional restrictions apply to limits above 10 mW)	SANS 300 422	CEPT/ERC/REC 70-03
30-37.5M	Ultra Low Power medical membrane implants (ULP-AMI-M)	1 mW e.r.p.	EN 302 510	CEPT/ERC/REC 70-03
34.995-35.225M	Aircraft Model Control	100 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
40.66-40.7M	Model Control Devices	100 mW e.r.p.	SANS 300 220	
40.66-40.7M	Non-specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
46.61-46.97M 49.67-49.97M	CT0 Cordless phones	10 mW e.i.r.p.	SANS 300 175 TE-013	Government Gazette 22443 of 4th July 2001
53-54M	Wireless Microphones	10 mW e.r.p.	SANS 300 422	

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
54.4500M; 54.4625M; 54.4750M; 54.4875M; 54.500M; 54.5125M; 54.5250M; 54.5375M; 54.5500M	Model Control Devices	500 mW e.r.p.	SANS 300 220	
138.2-138.45M	Non-specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
141-142M	Remote Control Industrial Apparatus	100 mW e.r.p.	SANS 300 220	
148-152M	Wildlife Telemetry Tracking	25 mW e.r.p.	SANS 300 220	
169.4-169.475M	Meter Reading	500 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
169.4-169.475M	Assistive Listening Device (ALD)	500 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
169.4-169.475M	Non-Specific SRD	500 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
169.4-169.4875M	Non-Specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
169.4-174M	Assistive Listening Device (ALD)	10 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
169.4875-169.5875M	Assistive Listening Device (ALD)	500 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
169.4875-169.5875M	Non-Specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
169.5875-169.8125M	Non-Specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
173.2125-173.2375M	Non-specific SRD – telecommand only	10 mW e.r.p.	SANS 300 220	
173.2375-173.2875M	Non-specific SRD	10 mW e.r.p.	SANS 300 220	
173.965-216M	Assistive Listening Device (ALD)	10 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
174-216M	Wireless Microphones	50 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
401-402M	Ultra Low Medical Data Services (UL-MEDS)	25 µW e.r.p.	EN 302 537	CEPT/ERC/REC 70-03
402-405M	Ultra Low Power Active Medical Implant (ULP-AMI)	25 µW e.r.p.	EN 301 839	CEPT/ERC/REC 70-03
405-406M	Ultra Low Medical Data Services (UL-MEDS)	25 µW e.r.p.	EN 302 537	CEPT/ERC/REC 70-03
402-406M	Wireless Microphones	10 mW e.r.p.	SANS 300 422	
402-406M	Doppler shift movement detectors, garage door openers and motor car alarm systems	10 mW e.r.p.	SANS 300 220	

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430-440M	Ultra-Low Power Wireless Medical Capsule Endoscopy (ULP-WMCE)	-40 dBm/10MHz	EN 303 520	CEPT/ERC/REC 70-03
433.05-434.79M	Non-specific SRD	1 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
433.05-434.79M	Non-specific SRD	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
446-446.2M	Public Mobile Radio (PMR) 446 Applications	500 mW e.r.p.	EN 303 405	CEPT/ERC/REC 70-03
463.975M; 464.125M; 464.175M; 464.325M; 464.375M;	Low Power Radio	500 mW e.r.p.	SANS 300 296	
464.5375M	Security systems	1 W e.r.p.	SANS 300 296	
464.5-464.5875M	Non-specific SRD	100 mW e.r.p.	SANS 300 220	
470-786M	Wireless Microphones	50 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
786-789M	Wireless Microphones	12 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
823-826M	Wireless Microphones	20 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
823-826M	Body Worn Equipment	100 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
826-832M	Wireless Microphones	100 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
862-863M	Non-Specific SRD	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
863-865M	Wireless Microphones	10 mW e.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
863-865M	Wireless audio and multimedia streaming devices	10 mW e.r.p.	SANS 301 357	CEPT/ERC/REC 70-03
863-870M	Non-specific SRD	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
864.1-868.1M	CT2 Cordless phones	10 mW e.i.r.p.	SANS 301 797 TE - 012	
865-868M	RFID Applications	2 W e.r.p.	SANS 302 208	CEPT/ERC/REC 70-03
868-868.6M	Non-specific SRD	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
868.6-868.7M	Alarms	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
868.7-869.2M	Non-specific SRD	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
869.2-869.25M	Social Alarm	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
869.25-869.3M	Alarms	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
869.3-869.4M	Alarms	10 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
869.4-869.65M	Non-specific SRD	500 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
869.65-869.7M	Alarms	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
869.7-870M	Non-specific SRD	5 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03

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869.7-870M	Non-specific SRD	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
915-919.4M	Non-specific SRD	25 mW e.r.p.	SANS 300 220	CEPT/ERC/REC 70-03
915.1-915.2M	Real Time Location System (RTLS)	25 mW e.r.p.	SANS 300 086	
915.3-920.9M	Tag Transmit	-10 dBm e.r.p.	SANS 302 208	ECC Report 200
916.1-916.5M	Interrogator Transmit	4 W e.r.p.	SANS 302 208	ECC Report 200
917.3-917.7M	Interrogator Transmit	4 W e.r.p.	SANS 302 208	ECC Report 200
918.5-918.9M	Interrogator Transmit	4 W e.r.p.	SANS 302 208	ECC Report 200
919.7-920.1M	Interrogator Transmit	4 W e.r.p.	SANS 302 208	ECC Report 200
915.4-919M	Modulating RFID systems (FHSS)	4 W e.r.p.	FCC CFR 47 Part 15.247	
1350-1400M	Wireless Microphones	20 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1350-1400M	Body Worn Equipment	50 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1492-1518M	Wireless Microphones	50 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1518-1525M	Wireless Microphones	50 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1656.5-1660.5M	Assistive Listening Systems (ALS)	2 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1785-1795M	Wireless Microphones	20 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03

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1785-1795M	Body Worn Equipment	50 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1795-1800M	Wireless Microphones	20 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1795-1800M	Body Worn Equipment	50 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1795-1800M	Wireless audio and multimedia streaming devices	20 mW e.i.r.p.	SANS 301 357	CEPT/ERC/REC 70-03
1800-1804.8M	Wireless Microphones	20 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1800-1804.8M	Body Worn Equipment	50 mW e.i.r.p.	SANS 300 422	CEPT/ERC/REC 70-03
1880-1900M	DECT Systems	250 mW e.i.r.p.	SANS 301 406 TE 001	CEPT/ERC/REC 70-03
2200-8500M	Radiodetermination Applications for Material Sensing	-30 dBm @ 50MHz (Additional restrictions apply to limits above -30 dBm)	EN 302 065	ECC/DEC/(07)01
2400-2483.5M	Non-specific SRD	10 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
2400-2483.5M	Wideband Data Transmission Systems (WBDTS)	100 mW e.i.r.p.	SANS 300 328	CEPT/ERC/REC 70-03
2400-2483.5M	Radiodetermination Applications	25 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
2400-2483.5M	Low power Video Surveillance	100 mW e.i.r.p.	SANS 300 440	
2446-2454M	RFID Applications	500 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
		(Additional restrictions apply to limits above 500 mW)		
2483.5-2500M	Low Power Active Medical Implants (LP-AMI) and peripherals	10 dBm e.i.r.p.	EN 301 559	CEPT/ERC/REC 70-03
2483.5-2500M	Medical Body Area Network System (MBANS) Indoor Only	1 mW e.i.r.p.	SANS 303 203	CEPT/ERC/REC 70-03
2483.5-2500M	Medical Body Area Network System (MBANS) Indoor Only	10 dBm e.i.r.p.	SANS 303 203	CEPT/ERC/REC 70-03
3100-3400M	Radiodetermination Application	-36 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
3400-3800M	Radiodetermination Application	-40 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
3400-4200M	Radiodetermination Application For Location tracking application for emergency and disaster situations (LAES)	20 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
3400-4800M	Radiodetermination Application For Location Tracking Systems TYPE 2 (LT2)	0 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
3800-4200M	Radiodetermination Application	-30 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
4200-4800M	Radiodetermination Application	-30 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
4200-4800M	Radiodetermination Application For Location tracking application for emergency and disaster situations (LAES)	0 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
4500-7000M	Radiodetermination Application	24 dBm e.i.r.p. @ 50MHz	EN 302 372	CEPT/ERC/REC 70-03
5150-5250M	Wireless Access Systems / Radio Local Access Network (WAS/RLAN)	23 dBm e.i.r.p.	SANS 301 893	CEPT/ERC/REC 70-03 ITU Res 229 (WRC-19)
5250-5350M	Wireless Access Systems / Radio Local Access Network (WAS/RLAN)	23 dBm e.i.r.p.	SANS 301 893	CEPT/ERC/REC 70-03 ITU-R M.1652 ITU Res 229 (WRC-19)
5470-5725M	Wireless Access Systems / Radio Local Access Network (WAS/RLAN)	30 dBm e.i.r.p.	SANS 301 893	CEPT/ERC/REC 70-03 ITU-R M.1652 ITU Res 229 (WRC-19)
5725-5875M	Non-Specific SRD	25 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03

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5725-5875M	Wireless Industrial Applications (WIA)	400 mW e.i.r.p.	EN 303 258	CEPT/ERC/REC 70-03
5725-5875M	Broadband Fixed Wireless Access systems (BFWA)	36 dBm e.i.r.p.	SANS 302 502	ECC/REC/(06)04
5725-5875M	Broadband Fixed Wireless Access systems (BFWA)	30 dBm e.i.r.p.	FCC 47 CFR Part 15.247	
5795-5805M	Transport and Traffic Telematics (TTT) Applications	2 W e.i.r.p.	SANS 300 674	CEPT/ERC/REC 70-03
5805-5815M	Transport and Traffic Telematics (TTT) Applications	2 W e.i.r.p.	SANS 300 674	CEPT/ERC/REC 70-03
5855-5875M	Intelligent Transportation Systems (ITS)	33 dBm e.i.r.p.	EN 302 571	ECC/REC (08)01
5875-5905M	Intelligent Transportation Systems (ITS)	33 dBm e.i.r.p.	EN 302 571	CEPT/ERC/REC 70-03
5905-5925M	Intelligent Transportation Systems (ITS)	33 dBm e.i.r.p.	EN 302 571	ECC/DEC (08)01
6000-8500M	Radiodetermination Applications	0 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03

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6000-6650M	Radiodetermination Applications On-board Aircraft	0 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
6650-6675.2M	Radiodetermination Applications On-board Aircraft	-12 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
6675.2-8500M	Radiodetermination Applications On-board Aircraft	0 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
6000-8500M	Radiodetermination Applications	7 dBm e.i.r.p. @ 50MHz	EN 302 729	CEPT/ERC/REC 70-03
8500-9000M	Radiodetermination Applications	-25 dBm e.i.r.p. @ 50MHz	EN 302 065	CEPT/ERC/REC 70-03
8500M-10.6G	Radiodetermination Applications	30 dBm e.i.r.p. @ 50MHz	EN 302 372	CEPT/ERC/REC 70-03
9200-9500M	Radiodetermination Applications	25 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
9500-9975M	Radiodetermination Applications	25 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
10.025-10.145G	Low power Video Surveillance	1 W e.i.r.p.	I-ETS 300 440	
10.5-10.6G	Radiodetermination Applications	500 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
13.4-14G	Radiodetermination Applications	25 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03

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17.1-17.3G	Radiodetermination Applications	26 dBm e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
17.1-17.3G	HiperLAN	100 mW e.i.r.p.		
24-24.25G	Non-Specific SRD	100 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
24.05-24.075G	Transport and Traffic Telematics (TTT) Applications For Automotive Radars	100 mW e.i.r.p.	EN 302 858	CEPT/ERC/REC 70-03
24.05-24.25G	Radiodetermination Applications	100 mW e.i.r.p.	SANS 300 440	CEPT/ERC/REC 70-03
24.05-27G	Radiodetermination Applications	43 dBm e.i.r.p. @ 50MHz	EN 302 372	CEPT/ERC/REC 70-03
24.05-26.5G	Radiodetermination Applications	26 dBm e.i.r.p. @ 50MHz	EN 302 729	CEPT/ERC/REC 70-03
24.075-24.15G	Transport and Traffic Telematics (TTT) Applications For Automotive Radars	0.1 mW e.i.r.p.	EN 302 858	CEPT/ERC/REC 70-03
24.075-24.15G	Transport and Traffic Telematics (TTT) Applications For Automotive Radars (road vehicles only)	100 mW e.i.r.p.	EN 302 858	CEPT/ERC/REC 70-03
24.15-24.25G	Transport and Traffic Telematics (TTT) Applications	100 mW e.i.r.p.	EN 302 858	CEPT/ERC/REC 70-03

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	For Automotive Radars (road vehicles only)			
57-64G	Radiodetermination Applications	43 dBm e.i.r.p. @ 50MHz	EN 302 372	CEPT/ERC/REC 70-03
57-64G	Radiodetermination Applications	35 dBm e.i.r.p. @ 50MHz	EN 302 729	CEPT/ERC/REC 70-03
57-64G	Non-Specific SRD	100 mW e.i.r.p.	EN 305 550	CEPT/ERC/REC 70-03
57-64G	Point-to-point (P-P) Digital Fixed Radio Systems (DFRS)	55 dBm e.i.r.p.	SANS 302 217	ECC/REC (09)01
64-66G	Point-to-point (P-P) Digital Fixed Radio Systems (DFRS)	55 dBW e.i.r.p.	SANS 302 217	ECC/REC (05)02
57-71G	Multi-Gigabit Wireless Systems (MGWS)	40 dBm e.i.r.p.	EN 302 567	CEPT/ERC/REC 70-03 ECC Report 114 ECC Report 288 ITU-R Rec. M.2003
61-61.5G	Non-Specific SRD	100 mW e.i.r.p.	EN 305 550	CEPT/ERC/REC 70-03
63.72-65.88G	Intelligent Transportation Systems (ITS)	40 dBm e.i.r.p.	EN 302 686	CEPT/ERC/REC 70-03
75-85G	Radiodetermination Applications	43 dBm e.i.r.p. @ 50MHz	EN 302 372	CEPT/ERC/REC 70-03
75-85G	Radiodetermination Applications	34 dBm e.i.r.p. @ 50MHz	EN 302 729	CEPT/ERC/REC 70-03

Column A Frequency Bands K=kHz M=MHz G=GHz	Column B Application Type	Column C Maximum Radiated Power, Field Strength or Sensitivity Limits	Column D Relevant Performance Standards	Column E Reference
76-77G	Transport and Traffic Telematics (TTT) Applications	55 dBm peak e.i.r.p.	EN 301 091	CEPT/ERC/REC 70-03
76-77G	Transport and Traffic Telematics (TTT) Applications For Obstacle Detection Radars for rotorcraft use	30 dBm peak e.i.r.p.	EN 303 360	CEPT/ERC/REC 70-03
77-81G	Transport and Traffic Telematics (TTT) Applications For Automotive Short Range Radars (SRR)	55 dBm e.i.r.p.	EN 302 264	CEPT/ERC/REC 70-03

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 of the Table with respect to the frequency band; maximum radiated power or field strength or Sensitivity limits as prescribed in the relevant performance standard in Column D.

(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.

(f) The user of the Radio Apparatus in the licence-exempt frequency spectrum operates on non-interference and zero protection basis from interference.

REASONS DOCUMENT FOR THE ANNEXURE B OF THE RADIO FREQUENCY SPECTRUM REGULATIONS 2015

REASONS DOCUMENT

DECEMBER 2021

1. ACKNOWLEDGEMENTS

1.1 The Independent Communications Authority of South Africa ("the Authority"/"ICASA") hereby acknowledges and thanks all stakeholders who have participated in the process aimed at amending Annexure B of the Radio Frequency Spectrum Regulations 2015.

1.2 The following stakeholders have submitted written representations to the Authority on the draft amendment of Annexure B of the Radio Frequency Spectrum Regulations 2015:

1. AMCHAM (American Chamber of Commerce)
2. APWPT (Association of Professional Wireless Production Technologies)
3. Audiomart
4. Audiosure
5. BitCo
6. C2C-CC (Car 2 Car Comms Consortium)
7. Decawave
8. Gearhouse
9. Get Connected
10. Globalstar
11. IEEE802 MAN
12. Intel Corporation
13. Itron
14. Kathrein

15. Kleens Music
16. MGG Productions
17. Mr Pretorius
18. Multi-Media Event Trading
19. Musiek Wêreld
20. NAB (National Association of Broadcasters)
21. Novelda
22. Ontec
23. Project Isizwe
24. Radwin
25. RAIN RFID
26. RF Junky
27. SACIA (Southern African Communications Industries Association)
28. SARAO (South African Radio Astronomy Observatory)
29. Sennheiser
30. Shockwave Music
31. Shure
32. Sight and Sound
33. Sound Stylists
34. Telkom
35. UWB Alliance

36. WAPA (Wireless Access Providers Association)

37. Widex

38. WI-FI Alliance

39. Wild & Marr

40. XAV

41. Zebra

42. Zenzeleni Networks NPC

2. INTRODUCTION

2.1 On 23 July 2019, the Authority published its intention to amend Annexure B of the Radio Frequency Spectrum Regulations, 2015 published in Notice No. 279 (Government Gazette No. 38641) of 30 March 2015 ("the Regulations").

2.2 The purpose of the amendment to Annexure B of the Regulations is to update the radio apparatus exempt from radio frequency spectrum licence to keep up with the pattern of radio use and rapid global technological advancements as they are continuously evolving to reflect the many changes that are taking place in the radio environment.

2.3 The Authority received forty-two (42) written submissions from stakeholders for consideration.

2.4 The purpose of this Reasons Document is to summarise the submissions by stakeholders in relation to the proposed amendment to the Regulations and provide reasons for the Authority's decisions.

2.5 The Reasons Document will focus on the Authority's consideration of the National Radio Frequency Allocation Plan, prescribed standards, CEPT/ERC/REC 70-03, ECC Decisions, ECC Reports, and written submissions made by stakeholders about the respective bands. The Authority considered and aligned Annexure B of the Radio Frequency Spectrum Regulations to reflect the latest technological advancements as adopted by the country.

2.6 The Authority relied on CEPT/ERC/REC 70-03, ECC Decisions, ECC Reports which comprises of expects whose objective is to harmonise the efficient use of the radio spectrum across Europe.

The Republic of South Africa falls under ITU Region 1 and thus aligns its frequency allocations with those specified (i.e., Europe) for ITU Region 1 in the ITU Radio Regulations as required by the Act.

The documents produced by CEPT/ERC/REC 70-03, ECC Decisions and ECC Reports are based on detailed co-existence studies of various applications in the specific frequency bands aimed to reduce spectrum scarcity and improve sharing and access to spectrum to enable the introduction of new technologies, whilst protecting existing ones.

The documents produced by CEPT/ERC/REC 70-03, ECC Decisions, and ECC Reports are relevant to the South African context for harmonization within ITU Region 1.

2.7 Written submissions that do not appear in this reason document are accepted as they are by the Authority and incorporated in the Final Annexure B of the Radio Frequency Spectrum Regulations.

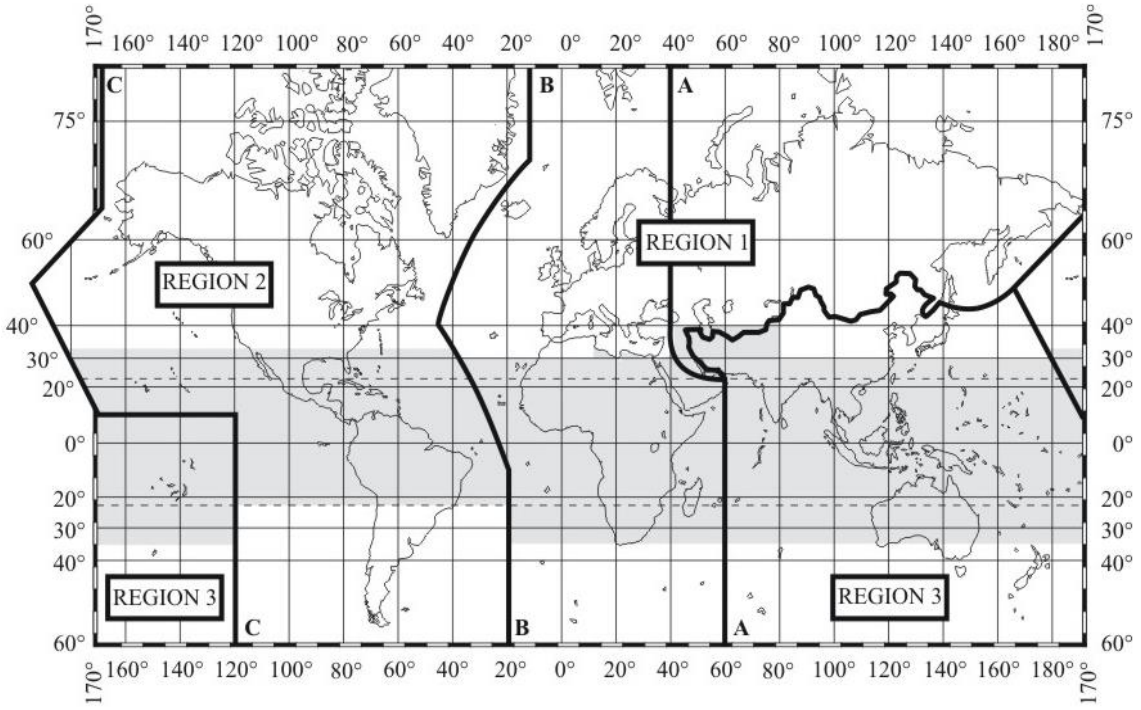
3. Legislative and Regulatory Framework

3.1 The Authority is empowered by the provisions of section 31(6) read with section 6(1)(d), section 6(2) (e), section 6 (3), and section 32(1)(b) of the Electronic Communications Act 36 of 2005 ("ECA") to exempt certain apparatus from requiring a radio frequency spectrum licence. In terms of section 31(6) of the ECA, the Authority may prescribe types of radio apparatus, the use or possession of which or the circumstances in which the use or possession of radio apparatus, does not require a radio frequency spectrum licence.

3.2 The Authority is empowered by the provisions of section 4(1) and 36(1) of the Electronic Communications Act 36 of 2005 ("ECA") read with section 4(3)(j) of the Independent Communications Authority of South Africa Act 13 of 2000 ("ICASA Act") as amended to prescribe the Official List of Regulated Standards for Technical Equipment and Electronic Communications Facilities Regulations.

4. The ITU Frequency Allocations

The ITU has divided the world into three regions, as shown on the following map



Region 1: Region 1 includes the area limited on the east by line A (lines A, B, and C are defined below) and on the west by line B.

Region 2: Region 2 includes the area limited on the east by line B and on the west by line C.

Region 3: Region 3 includes the area limited on the east by line C and on the west by line A.

The Republic of South Africa falls under ITU Region 1 and thus aligns its frequency allocations with those specified for ITU Region 1 in the ITU Radio Regulations.

While the South African allocations are broadly aligned with the ITU Region 1 requirements, several variations exist as provided for in Regulation 2.3.2 of the National Radio Frequency Plan 2018 in Notice No. 266 (Government Gazette No. 41650).

5. GENERAL SUBMISSIONS

5.1 There was a concern regarding the content of Column E (Additional Requirements), which listed some requirements of the standards, and the Authority took a decision to remove Column E (Additional requirements) because all the requirements in column E are contained in the prescribed performance standards as published in Government Gazette No. 42590 (Notice No. 1003.)

5.2 There was a concern regarding Column F (References) whether it is mandatory or not, and the Authority indicates that the Previous Column F, now Column E (References), is mandatory and intended to provide clarity and support the Column A, B, C and D.

5.3 There was a recommendation to fully align with the latest version of REC 70-03, however the Authority aligns with CEPT/ERC/REC 70-03 as practically as possible and uses its autonomy to deviate based on the provisions of regulation 2.3.2 of the National Radio Frequency Plan 2018 in Notice No. 266 (Government Gazette No. 41650).

5.4 The was a submission requiring clarity regarding harmful interference caused by previously deployed exempt devices, and the Authority states that the user of the Radio Apparatus in the licence-exempt frequency spectrum operates on non-interference and zero protection basis from interference as stipulate in the Radio Frequency Spectrum Regulations 2015.

5.5 The was a submission requiring clarity on transitional measures associated with the implementation of the Radio Frequency Spectrum Amendment Regulations "RFSAR" and Authority maintains that this is not a regime change but an update of the existing regulation to reflect the latest technological advancement in the sector, there was no discontinuation of existing licence-exempt bands or applications.

5.6 There was a recommendation to change the heading of Column D to "Relevant Radio Frequency Standards" instead, the Authority updated the heading of column D to "Relevant Performance

Standards" as the proposed heading is not inclusive of non-radio performance standards.

6. APPLICATION-SPECIFIC SUBMISSIONS

6.1 Inductive Application

a. In the draft Annexure B, the Authority sub-divided the frequency band 9-135 kHz for Inductive Applications into thirteen (13) sub-bands.

b. Submissions received

AMCHAM Proposed to sub-divide the frequency range 9-135 kHz into three (3) sub-bands to improve readability.

Telkom recommends adding the band 100 Hz - 9 kHz to the RFSAR to align with REC 70-03.

c. The Authority's Response

The Authority resolved not to sub-divide the band 9-135 kHz to align with the prescribed performance standard published in the Official List of Regulated Standards for Technical Equipment and Electronic Communications Equipment Regulations ("Official List") in Government Gazette No 43132 of 24 March 2020.

The Authority notes the submission regarding adding the band 100Hz - 9 kHz, however the Authority maintains that this will not be possible because the frequency bands below 8.3 kHz are not catered for in the Radio Frequency Plan 2018.

6.2 Active Medical Implants

a. In the draft Annexure B, the band 315-600 kHz was proposed for ULP-AIDs and Peripherals referencing CEPT/ERC/REC 70-03, and there was no reference for Medical Implants in the band 402-405 MHz.

b. Submissions received

Telkom submits that the band 315-600 kHz does not appear in REC 70-03 and appears to be a subset of the band 148.5-5000 kHz.

Telkom recommends that the reference to ERC/DEC/(01)17 be maintained in the band 402-405 MHz as the power levels and channel spacing's are obtained from this EU decision.

c. The Authority's Response

The Authority notes the recommendation regarding the band 315-600 kHz not appearing in REC 70-03, however the Authority maintains that band 315-600 kHz is for Active Medical Implants whereas the band 148.5-5000 kHz is for Indictive Loop applications, and both applications have different prescribed performance standards.

The Authority note submission regarding the addition of the reference ERC/DEC/(01)17, however the Authority maintains that reference CEPT/ERC/REC 70-03 already contains the Decision ERC/DEC/(01)17, therefore referencing CEPT/ERC/REC 70-03, means the Decision is implied.

6.3 <u>Low Power Radio and Security Systems</u>

a. In the draft Annexure B, Security Systems were proposed to operate at the frequency 464.5375 MHz and Low Power Radios were proposed to operate at the frequency 463.975 MHz, 464.125 MHz, 464.175 MHz, 464.325 MHz and 464.375 MHz.

b. Submissions received

Telkom recommends that the frequency band be added (i.e., 464.525-464.550 MHz) rather than just the centre frequency (464.5375 MHz) for frequencies from 463.975 MHz to 464.375 MHz in order to align with the convention used in the rest of the RFSAR.

c. The Authority's Response

The Authority notes recommendation regarding the use of frequency ranges instead of channels for frequencies 463.975MHz, 464.125MHz, 464.175MHz, 464.325MHz, 464.375MHz, and 464.5375MHz, however the Authority retain the allocations in order

to limit the Low Power Radios and Security Systems operations in the said spot frequencies.

6.4 Radiodetermination Application

a. In the draft Annexure B, the bands 3100-3400 MHz, 3400-3800 MHz, 3800-4800 MHz, 6000-8500 MHz and 8500-9000 MHz were proposed for Ultra-Wide Band (UWB) communication devices, all with the prescribed standard EN 302 065.

The band 57-64 GHz was proposed for Level Probing Radar (LPR) equipment with the prescribed standard EN 302 729 without a reference to any Decision or Recommendation.

b. Submissions received

AMCHAM proposed the equipment category to change from Ultra-Wide Band (UWB) Devices to Ultra-Wide Band (UWB) Application.

AMCHAM and Novelda propose that the standards column could be updated to reflect specific parts of the standard EN 302 065.

Telkom recommends that the sub-bands 3100-3400 MHz, 3400-3800 MHz, 3800-4800 MHz, 6000-8500 MHz, and 8500-9000 MHz be combined in line with REC 70-03 and the necessary technical and operational parameters for the use of each sub-band by UWB devices are specified in detail in REC 70-03. They submit that combining the sub-bands and aligning of the technical and operational parameters is preferred rather than replicating only some of the requirements.

Telkom recommends that a reference to ECC/DEC/(11)02 be added as a reference in Column F as this will assist with the details on power spectral density for the band 57-64 GHz (Level Probing Radars).

c. The Authority's Response

The Authority accepted the proposal to change the equipment category from devices to application, however the Authority resolved to adopt the equipment category name Radiodetermination Application as UWB is the applicable technology.

The Authority notes the recommendation to indicate the parts for the Ultra-Wide Band (UWB) standard EN 302 065, however the Authority adopted a format throughout the whole annexure not to indicate the part(s) of the standard(s) as they are already mentioned in the Official List.

The Authority notes the recommendation to combine the UWB bands mentioned above, however Authority maintains the separation of the sub-bands as they indicate the different types of Radiodetermination Applications and specify the respective power limits for each type in accordance with the prescribed standard EN 302 065.

The Authority notes the recommendation regarding the addition of the reference ECC/DEC/(11)02, however the Authority maintains that reference CEPT/ERC/REC 70-03 already contains the Decision ECC/DEC/(11)02, therefore referencing CEPT/ERC/REC 70-03, means the Decision is implied.

6.5 Wireless Microphone Applications

a. In the Draft Annexure B, the Authority proposed the following frequency bands for Wireless Microphone Applications:
36.65-36.75 MHz, 40.65-40.70 MHz, 53-54 MHz, 173.7–175.1 MHz, 402-406 MHz, and 863-865 MHz with their respective maximum power limits.

b. Submissions received

APWPT and SACIA proposed adding bands 470-694 MHz, 823-832 MHz, 1350-1400 MHz, 1518-1525 MHz, and 1785-1804.8 MHz on the list of apparatus exempt from radio frequency spectrum licenses for Wireless Microphones and In-Ear-Monitors as per ITU Regulations and the CEPT developments with a Maximum Power of 50 mW e.r.p. for all the proposed bands. They further proposed the addition of the reference material CEPT REC 25-10 and CEPT REC 70-03.

Audiomart, Audiosure, Kleens Music, Musiek Wêreld, Sight & Sound and Wild & Marr motivates for a license free spectrum be granted for any or all the band 470-790 MHz for wireless microphones

Gearhouse submits that they are currently services radio microphones and wireless in-ear monitoring equipment in the band 638-820 MHz and believes that the proposed allocation of band 863-865M Hz is not sufficient or viable to service their clients.

Multi-Media Event Trading submits that they supply microphones operating from brand 606 MHz to 822 MHz and believe if these bands are no longer allowed to be used, it will render their business useless and would not only lead to a loss of income but also the inability to serve their customers' specific needs.

RF Junky submits that they have been operating at a range of 638-698MHz at 50mW, and 750-850MHz at 100mW for their wireless audio equipment's, and they say the Authority taking away the entire use of the 470-850MHz would be a huge knock to the entertainment industry.

Sound Stylists proposes the frequency bands 470-636 MHz, 606-670 MHz, 638-698 MHz, and 750-822 MHz be added as new bands for wireless microphones.

SACIA proposes increasing power limitation from 50 mW ERP to 100 mW ERP throughout all bands for wireless microphones.

Get Connected, MGG Productions, Shockwave Music, XAV proposed allocation of band 863-865MHz is not sufficient or viable to service their clients.

Telkom requests the Authority to stipulate why the power of the wireless microphone in the band 53-54 MHz was changed from the

value contained in the current regulations and recommends that this issue be confirmed and corrected as required.

c. The Authority's Response

The Authority accepted the addition of the bands 470-694 MHz, 823-832 MHz, 1350-1400 MHz, 1518-1525 MHz and 1785-1804.8 MHz for wireless microphones, however the Authority adopted the Maximum Power limits for each band as supported by reference material CEPT/ERC/REC 70-03 and prescribed performance standard.

The Authority notes the recommendation to add CEPT REC 25-10 in the references, however the Authority maintains that CEPT REC 25-10 includes applications that are still under research and not yet supported by prescribed standards, and the Authority only adopts developed applications.

The Authority notes the recommendation to add the band 470-790 MHz, 638-820 MHz and band 606-822 MHz for wireless microphones, however the Authority added the band 470-789 MHz as supported by reference material CEPT/ERC/REC 70-03 and prescribed performance standard.

The Authority notes the recommendation to add the band 638-698 MHz at 50mW and 750-850MHz at 100mW maximum power for wireless microphones, however the Authority added the bands 470-789 MHz and 823-832 MHz, and their respective Maximum Power limit as supported by reference material CEPT/ERC/REC 70-03 and prescribed performance standard.

The Authority notes the recommendation to add the band 470-636 MHz, 606-670 MHz, 638-698 MHz, and 750-822 MHz for wireless microphones, however the Authority added the band 470-789 MHz as supported by reference material CEPT/ERC/REC 70-03 and prescribed performance standard.

The Authority notes the recommendations to increase the power limits for all bands of wireless microphones from 50 mW ERP to 100 mW ERP, however the Authority maintains that the power limits are in accordance with the performance standard SANS 300 422.

The Authority notes the submission about insufficient bands for Wireless Microphones, and the Authority resolved to open the bands 174-216 MHz, 470-789 MHz, 823-832 MHz, 1350-1400 MHz, 1518-1525 MHz, 1785-1804.8 MHz to address the concerns raised.

The Authority notes the submission regarding the change in power for wireless microphones in the band 53-54 MHz, however the Authority maintains that the power limit is as per the prescribed performance standard SANS 300 422.

6.6 WAS/RLANS

a. In the draft Annexure B, the frequency bands 5150-5250 MHz, 5250-5350 MHz and 5470-5725 MHz were proposed for WAS/RLANS, with a maximum power of 20 dBm for band 5150-5250 MHz and 5250-5350 MHz for Indoor use only, while band 5470-5725 MHz had a maximum power of 27 dBm.
The reference for the band 5150-5250 MHz was ITU-R M.1652 while band 5250-5350 MHz and 5470-5725 MHz referenced CEPT/ERC/REC 70-03, ECC/DEC/(04)08, ITU-R M.1652 and ITU Res 229 (WRC-03)

The band 5150-5250 MHz had Channel Access Mechanism (Frame Based Equipment / Load Based Equipment) as an additional requirement, while band 5250-5350 MHz and 5470-5725 had DFS, TPC, and Channel Access Mechanism (Frame Based Equipment / Load Based Equipment) as additional requirements.

b. Submissions received

AMCHAM Proposed that the reference CEPT/ERC/REC 70-03 be removed for the bands 5150-5250 MHz, 5250-5350 MHz, and 5470-5725 MHz and be replaced by an ECC/DEC/(04)08.

Globalstar supports the Authority's proposal to allow indoor deployments of WAS/RLANS with a power limit of 20 dBm in the 5150-5250 MHz band and further strongly argues and cautions against any future amendment that would allow the high-powered outdoor deployment.

IEEE802 MAN suggested the deployment of RLAN in the band 5150-5250MHz to be allowed for outdoor deployment.

WAPA is concerned by the reduction in allowable EIRP for outdoor WAS & RLAN applications from 1W/30dBm to 500mW/27dBm in the absence of Transmit Power Control (TPC) being employed in the band 5470-5725MHz. TPC is currently unsupported by most equipment deployed in the field by WAPA's members, and the cost of replacement would impose a considerable economic burden on their members.

Bitco & WAPA is concerned by the addition of a Dynamic Frequency Selection (DFS) requirement for the band 5470-5725MHz, DFS functionality is currently unsupported by most equipment deployed in the field and recommends it be recalled because it will introduce additional hardware costs and the DFS technology may cause significant degradation of service.

WI-FI Alliance encourages the Authority to allow RLANs operating bands 5150-5250 MHz, 5250-5350 MHz, and 5470-5725 MHz to be considered for outdoor usage.

Furthermore, WI-FI Alliance recommends the Authority to allow License-Exempt Device in the 6 GHz Band (5925-7125 MHz) and

extend it for RLAN/WLAN in preparation for the next Wi-Fi generation(s).

Telkom recommends that the notes from REC 70-03 that specify the maximum e.i.r.p. density limits in Column C be added to the RFSAR for the band 2400-2483.5 MHz, 5150-5250 MHz, 5250-5350 MHz, and 5470-5725 MHz.

Telkom requests clarity on what "Frame-based equipment/load-based equipment" in Column E is, in the band 5150-5250 MHz and 5470-5725 MHz.

c. The Authority's Response

The Authority notes the proposal to remove the reference CEPT/ERC/REC 70-03 and replace it with ECC/DEC/(04)08 , however the Authority maintains that reference CEPT/ERC/REC 70-03 already contains the Decision ECC/DEC/(04)08, therefore referencing CEPT/ERC/REC 70-03, means the Decision is implied.

The Authority notes the submission regarding the power limit and outdoor deployment of WAS/RLANS in the 5150-5250 MHz band, however the Authority updated the power limit to 23 dBm in accordance with the prescribed performance standard SANS 301 893.

The Authority notes the submission about the reduced power in the absence of TPC and the addition of DFS for WAS/RLANS operating in the band 5470-5725 MHz, however TPC and DFS are not new requirements as they have always been requirements within the prescribed performance standard SANS 301 893.

The Authority notes the recommendation about allowing outdoor deployment of RLAN in the band 5150-5250MHz and 5250-5350 however, based on numerous interference complaints caused by the unauthorized outdoor deployment, the Authority maintained the position allowing only indoor deployment in those bands.

The Authority notes the recommendation to allow License-Exempt device in the 6 GHz Band (5925-7125 MHz) and extend it for RLAN/WLAN however the Authority wishes to advise that currently the band is assigned to licensees as contained in the National Radio Frequency Plan 2018.

The Authority notes the submission of including the power spectral density limits in the RFSAR for the bands 2400-2483.5 MHz, 5150-5250 MHz, 5250-5350 MHz, and 5470-5725 MHz, however power spectral density and other essential requirements as contained within the prescribed standards SANS 300 328 and SANS 301 893 still need to be complied with, and their exclusion in the RFSAR does not imply that they are not a requirement for conformance.

The Authority notes the submission requesting clarity for the terms "Frame-based equipment/load-based equipment" in Column E.
Frame based equipment is an equipment where the transmit/receive structure is not demand-driven but has fixed timing.
Load based equipment is an equipment where the transmit/receive structure is demand-driven.

6.7 Broadband Fixed Wireless Access systems (BFWA)

a. In the draft Annexure B, the maximum power was 36 dBm for the band 5725-5875 MHz.

b. Submissions received

WAPA, Project Isizwe & Zenzeleni Networks NPC submits a reduction from the earlier 200W/53dBm EIRP limit for fixed point-to-point (PtP) links in the band 5725-5875MHz to 3.9W/36dBm would pose an insurmountable technical and economic challenge.

c. The Authority's Response

The Authority notes the submission about the reduction of power for fixed point-to-point (PtP) links in the band 5725-5875 MHz from 200W/53dBm to 3.9W/36dBm however the Authority adjusted the

power to 1W/30dBm in accordance with the performance standards FCC 15.247 & FCC 15.249 and 200 W is not supposed by the these referenced FCC standards.

6.8 Non-Specific SRDs

a. In the draft Annexure B, the band 915.2-921 MHz was proposed for RFID applications only.

b. Submissions received

IEEE802 MAN submits the Authority to open more license-exempt spectrum in the 900 MHz (902–928 MHz) band in general, to allow more growth and opportunity for South Africa to develop and deploy more technologies and networks designed for this band.

c. The Authority's Response

The Authority notes the recommendations about opening the 900 MHz band for Short Range Devices (SRDs) application, however the opened only the band 915-919.4 MHz as it is supported by reference material CEPT/ERC/REC 70-03 and prescribed performance standard SANS 300 220.

6.9 Point-to-point (P-P) Digital Fixed Radio Systems (DFRS)

a. In the draft Annexure B, the band 57-64 GHz was proposed for the Point-to-Point FS with the prescribed standard EN 302 217.

b. Submissions received

Radwin recommends the Authority to replace the point-to-point standard on the 57-64 GHz from EN 302 217 to EN 302 567 as per REC 70-03.

c. The Authority's Response

The Authority notes the recommendation to change the standard for Point-to-Point applications in the band 57-64 GHz, however the Authority maintains that the applicable standard is EN 302 217 as the proposed standard EN 302 567 scope covers Multi-Gigabit Data Rate in the 60 GHz, not the point-to-point services.

6.10 KCAAA Regulations

a. In the draft Annexure B, there were conditions for the use and possession of all radio apparatus exempt to Radio Frequency Spectrum Licenses as per below:

(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

(f) The user of the Radio Apparatus in the licence-exempt frequency spectrum operates on non-interference and zero protection basis from interference.

b. Submissions received

SARAO recommends the Authority to add a text that says apparatus operating in the KCAAA must also comply with the KCAAA Regulations.

Furthermore, SARAO recommends the Authority to add a text that says the Radio Apparatus must not cause interference with any licensed radio frequency spectrum or frequency bands allocated to radio astronomy and other passive services.

c. The Authority's Response

The Authority notes the submission to add text in the regulation, however the Authority cannot enforce regulations outside its jurisdiction.

6.11 RFID Applications

a. In the draft Annexure B, the band 865-868MHz and 915.2-921 MHz were proposed for RFID applications with the prescribed standard EN 302 208 and reference ECC Report 200 for the band 915.2-921 MHz.

The maximum power was 100 mW ERP for Passive tags and 4 W for RFID Systems in the 915.2-921 MHz band.

b. Submissions received

Itron and Ontec propose the deletion of the reference "ECC Report 200" for the band 915.2-921MHz because it provides no more specific information.

Itron and Ontec propose the Passive tags to operate in the band 915.2-915.4 MHz and a maximum power of 100 mW ERP.

Itron and Ontec propose that the Modulating RFID Systems (non-FHSS) operate in the band 915.4-920.9 MHz and a maximum power of 4 W EIRP using the standard EN 302 208.

Itron and Ontec propose that the non-Modulating backscatter RFID Systems operate in the band 919.2-921 MHz and a maximum power of 4 W EIRP using the standard EN 302 208.

Mr. Pretorius proposes the Authority replace frequency ranges 915.2-915.4 M to 919.2-921 M to the new range 915.3-920.9 MHz in line with the ETSI standard EN 302 208 and grandfather for 12 months the frequency range 915.4-919.2 MHz because the FCC standard is inefficient in dense reader mode.

RAIN RFID submits that the Relevant standard for the band 865-868MHz (Channel 5,6,8,9,11,12,14 and 15) is most probably EN 300 220.

RAIN RFID submits that the passive tags band 915.2-915.4MHz be updated to 915.3-916.1 MHz, 916.5-917.3 MHz, 917.7-918.5 MHz, 918.9-919.7 MHz, and 920.1-920.9 MHz according to ETSI Standard EN 302 208 and ECC Report 200.

RAIN RFID proposes the deletion of FHSS and 200 kHz channel spacing in the band 915.4-919.2MHz.

RAIN RFID proposes that reference be made to ERC Rec 70-03 instead of ECC Report 200 only for the bands 915.2-915.4MHz, 915.4-919.2MHz, 919-919.2MHz, and 919.2-921MHz.

c. The Authority's Response

The Authority notes the recommendation about the removal of the "ECC Report 200" for the band 915.2-921MHz, however the Authority maintains that the Report is still relevant as it provides vital co-existence of various applications within the band.

The Authority notes the recommendation regarding operating frequency and maximum power for passive tags, however the Authority resorted to updating the frequency range to 915.3-920.9 MHz with a maximum power of -10 dBm for Tags in order to align with the reference materials ECC Report 200 and the standard EN 302 208.

The Authority notes the recommendation regarding operating frequencies and maximum powers for Modulating RFID Systems (non-FHSS) and Non-Modulating backscatter RFID Systems, however the Authority resorted to updating the frequency ranges to 916.1-916.5 MHz, 917.3-917.7 MHz, 918.5-918.9 MHz, and 919.7-920.1 MHz in order to align with the reference materials ECC Report 200 and the standard EN 302 208.

The Authority notes the submission to adopt the ETSI standard in the band 915.3-920.9 MHz and grandfather the FCC standard for 12 Months in the band 915.4-919.2 MHz, however the Authority resolved not to grandfather the frequency band 915.4-919.2 MHz and will accept both FCC and ETSI regimes in their respective frequency bands as supported by the section 7(1) of the Type Approval Regulations in Government Gazette No 36785 (Notice No 578).

The Authority notes the submission about the proposed relevant standard EN 300 220 for RFID application in the band 865-868MHz however the Authority maintains that the standard EN 302 208 is technology-specific and takes precedence over generic standards because the technology-specific standard prescribes additional essential performance requirements which are not included in the generic standards.

The Authority notes the submission about passive tags band 915.2-915.4 MHz; however, the Authority updated the frequency range of the tag to the band 915.3-920.9 MHz to align with the reference materials ECC Report 200 and standard EN 302 208.

The Authority notes the recommendation about the deletion of FHSS and 200 kHz channel spacing in the band 915.4-919.2MHz, however the Authority maintains that those requirements are still relevant as per the prescribed FCC standard requirements.

The Authority notes the recommendation to amend the reference to ERC Rec 70-03, however the Authority maintains that the ECC Report 200 is applicable and supports how the standard EN 302 208 apportion the sub-bands within the frequency range 915.3-920.9 MHz whereas ERC Rec 70-03 frequency allocation (915-921 MHz) coincides with a portion of the licensed IMT band.

6.12 MW Broadcasting

a. In the draft Annexure B, the band 540-600 kHz was proposed for RFID applications and Medical Implants.

b. Submissions received

NAB recommends that the band 540-600 kHz, which was proposed for the usage of RFID and Medical Implants to be removed because it is interfering and disrupting services of MW bands used for broadcasting.

c. The Authority's Response

The Authority notes the submits about the interference between MW broadcasting devices and the RFID and Medical Implants in the 540-600 kHz band however the Authority maintains there are provisions within the Radio Frequency Spectrum Regulation Annexure B, conditions (e) and (f) and ECA section 30(4) that outlines how to address issues of interferences.

6.13 Low power Video Surveillance

a. In the draft Annexure B, the band 10.025-10.145 GHz was proposed for Low power Video Surveillance application with the prescribed standard EN 300 440.

b. Submissions received

Telkom submits that the frequency band 10.025-10.145 GHz is however not listed in the referenced standard EN 300 440. further, the power level of 1 W contained in the RFSAR is not allowed under this standard, and consequently, the listed standard cannot be used for the Type Approval of the listed devices and operating equipment, therefore requests the Authority to investigate and confirm the relevant standard.

c. The Authority's Response

The Authority notes recommendations regarding the standard EN 300 440 and the power limit in the band 10.025-10.145 GHz, however the Authority maintained the frequency band and power limit as per previous regulation requirements of I-ETS 300 440.

6.14 Transport and Traffic Telematics

a. In the draft Annexure B, the bands 5795-5805 MHz, 5805-5815 MHz, and 76-77 GHz were proposed for TTT with the references ECC/REC/(05)02 and ECC/REC/(09)01 for the band 76-77 GHz.

b. Submissions received

Telkom recommends adding a reference to ITU-R Rec. M.1453 ("Intelligent transport systems which are dedicated short-range communications at 5.8 GHz") in Column F of the RFSAR as it relates to the use of the bands 5795-5805 MHz and 5805-5815 MHz for TTT.

Telkom recommends the addition of a reference to ECC Report 262 in the band 76-77 GHz.

c. The Authority's Response

The Authority notes the recommendation to add the reference to ITU-R Rec. M.1453 for TTT applications, however the Authority maintains that the reference is for ITS and not applicable for TTT.

The Authority notes the recommendation to add the relevant Decision as a reference for TTT applications, however the Authority maintains there is no active ECC Decision for the TTT applications.

The Authority notes the recommendation regarding the addition of the reference ECC Report 262; however the Authority maintains that reference CEPT/ERC/REC 70-03 already contains the Report ECC Report 262, therefore referencing CEPT/ERC/REC 70-03 means the Report is implied.

6.15 <u>Intelligent Transportation Systems (ITS)</u>

a. In the draft Annexure B, the band 63-64 GHz was proposed for ITS with the prescribed standard EN 301 091 without a reference to any Decision or Recommendation.

b. Submissions received

Telkom recommends that reference to ERC/DEC/(09)(01) be added to Column F of band 63-64 GHz.

c. The Authority's Response

The Authority note submission regarding the addition of the reference ERC/DEC/(09)(01), however the Authority maintains that reference CEPT/ERC/REC 70-03 already contains the Decision ERC/DEC/(09)(01), therefore referencing CEPT/ERC/REC 70-03, means the Decision is implied.