

DECISION ANRT / DG / N ° 07/21 DU 24 RAMADAN 1442 (07 MAY 2021) AMENDING DECISION ANRT/DG/N°07/2020 OF 3 KAADA 1441 (JUNE 25, 2020) FIXING THE TECHNICAL CONDITIONS OF USE COMPOUND RADIO ELECTRIC INSTALLATIONS LOW POWER AND SHORT RANGE DEVICES

THE DIRECTOR GENERAL OF THE NATIONAL AGENCY REGULATION OF TELECOMMUNICATIONS,

- ÿ Having regard to Law No. 24-96 relating to the post and telecommunications, promulgated by Dahir No. 1-97-162 of 2 Rabii II 1418 (August 7, 1997), as amended and supplemented, and in particular its Articles 6 and 19;
- ÿ Having regard to Decree No. 2-97-813 of 27 Chaoual 1418 (February 25, 1998) implementing the provisions of Law No. 24-96 relating to post and telecommunications with regard to the National Agency for the Regulation of telecommunications;
- ÿ Considering the decision of the Prime Minister n°27/00 of March 1, 2000 relating to the methods of management and monitoring of the radio frequency spectrum;
- **ÿ** Given the decision of the Head of Government No. 3-06-18 of 26 Journada II 1439 (March 15, 2018) publishing the national frequency plan;
- ÿ Having regard to decision ANRT/DG/N°07/2020 of 3 Kaada 1441 (June 25, 2020) setting the technical conditions for the use of radio installations made up of low-power and short-range devices;

DECIDE :

Article 1.- The annex to decision ANRT/DG/N°07/2020 of 3 Kaada 1441 (June 25, 2020) referred to above is repealed and replaced by annexes 1 to 14 attached to this decision.

Article. 2.- The Central Technical Director and the Central Director Responsible for the Regulatory Mission are responsible, each in his respective capacity, for the execution of this decision which will be published in the Official Bulletin.

The Director General of the National Agency of Telecommunications Regulation

Az-El-Arabe HASSIBI

ANNEX 1: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Non-specific applications:

Codification	Frequency band/ Frequency Channels	Power/Maximum magnetic field level	Width of Max band (kHz)	Special conditions
l.1	13,553 – 13,567 MHz	42 dBµA / m at 10m	-	The range should not exceed 10 meters. This band should be used for the transmission of telemetry, remote control, alarms and data signals. Under no circumstances should it allow the transmission of voice.
1.2	26,957 – 27,283 MHz	10 mW par		Radio installations of the CB (Citizen Band) type are not affected by this decision.
1.3	40,660 – 40,700 MHz	10 mW par		
1.4	169,4 – 169,8125 MHz	10 mW par		
1.5	434,040 – 434,790 MHz	10 mW par	ÿ 25 kHz	Voice applications are permitted with advanced mitigation techniques and (audio/ video) applications are excluded.
1.6	433,050 – 434,790 MHz	10 mW par		The duty cycle limit is 10%
1.7	868 – 869 MHz	25 mW par		This band is intended for use, from 2022, by different types of wireless applications, in particular remote control and telecontrol, telemetry, alarm and data transmission.
1.8	869 – 869,4 MHz	25 mW per 500		
1.9	869,4 – 869,65 MHz	mW per 25 mW		
l.10	869,65- 870 MHz	per 10 mW worse		
l.11	2400 – 2483,5 MHz			

^a: In certain cases and under certain conditions, the ANRT may specify, during the operation of the facilities, subject of this decision, additional specifications taking into account the risks harmful interference.

^{* :} The radioelectric installations, subject of this appendix, should be equipped with integrated antenna systems (equipment without external antenna port) or dedicated (antenna approved with the equipment). * : Equipment already approved, in frequency bands which are no longer listed in this appendix, may continue to be operated until their approval expires.

l.12	3100 – 3400 MHz	-36 dBm eirp with a maximum eirp density of -70 dBm/ MHz	
I.13	3400 – 3800 MHz	-40 dBm eirp with maximum eirp density of -80 dBm/ MHz	 These bands are intended for the exclusive operation of equipment using ultra-
l.14	3800 – 4800 MHz	-30 dBm eirp with maximum eirp density of -70 dBm/MHz	 wideband technology on board motor and rail vehicles.
l.15	6000 – 8500 MHz	-13.3 dBm eirp with maximum eirp density of -53.3 dBm/MHz	

APPENDIX 2: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY Induction loop equipment:

Codification	Frequency band/ Frequency Channels	Maximum magnetic field level	Width of Band (kHz)	Special conditions
II.1	9 – 90 KHz	72 dBµA / m at 10m		
II.2	90 – 119 KHz	42 dBµA / m at 10m 66		
II.3	119 – 135 KHz	dBµA / m at 10m 42		
11.4	135 – 140 KHz	dBµA / m at 10m 37.5		
II.5	140 – 148,5 KHz	dBµA / m at 10m 13.5		
II.6	3155 – 3400 KHz	dBµA / m at 10m -15		These tapes are intended for operation by induction loop equipment (inductive
II.7	148,5 – 5000 KHz	dBµA / m at 10m 42		applications).
II.8	6765 – 6795 KHz	dBµA / m to 10m		
II.9	7400 – 8800 KHz	9dBµA / m to 10m 9		
II.10	10,2 – 11 MHz	dBÿA / m to 10m 42		
II.11	13,553 – 13,567 MHz 5000	dBµA / m to 10m -20		
II.12	kHz – 30 MHz	dBÿA / m to 10m		

APPENDIX 3: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Simplified professional radio communications:

Codification	Frequency band/ Frequency Channels	Apparent power Maximum radiated	Width of Band (kHz)	Special conditions
III.1	446 – 446,1 MHz	500 mW par	12,5	These bands are intended for the operation of portable devices (not using a base station or fixed station6) equipped only with integrated
III.2	446,1 – 446,2 MHz	500 mW par	6.25 or 12.5	antennas. This equipment must operate in peer-to-peer or multi- station mode.

^{* :} as defined by the order of the Minister of Industry, Investment, Trade and the Digital Economy No. 2045-18 of 6 chaoual 1439 (June 20, 2018) setting the fees for assignment of radio frequencies.

APPENDIX 4: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Cordless Telephones:

Codification	Frequency band/ Frequency Channels	Apparent power Maximum radiated	Width of Band (kHz)	Special conditions
IV.1	26,3125 – 26,4875 MHz 41,3125 – 41,4875 MHz	10 mW par	12,5	These bands are intended for use by "cordless" type telephone sets. Connection to public telecommunications networks is authorized for
IV.2	46,630 – 46,830 MHz 49,725 – 49,890 MHz	10 mW par		this type of equipment.
IV.3	1880 – 1900 MHz	250 mW (Power of Normal Transmission)	1728	This band is intended for use by radio installations conforming to DECT technology, for voice and data transmission applications. Connection to public telecommunications networks is authorized for this type of equipment. The range should not exceed 1 km for this type of installation.

APPENDIX 5: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Local radio networks:

Codification	Frequency band/ Frequency Channels	Isotropic Power Radiated Equivalent maximum	Width of Band (kHz)	Special conditions
V.1	2400 – 2483,5 MHz	100 mW pire		Indoor use only.
V.2	5150 – 5250 MHz	200 mW pire	-	This band is intended for indoor use only. In the case of RLAN deployment inside automobiles, the maximum eirp is 40 mW. These uses are not permitted in aircraft.
V.3	5250 – 5350 MHz	200 mW pire	-	The use of attenuation techniques (DFS: Dynamic Frequency Selection) and transmitter power control techniques (TPC: Transmitter Power Control) is mandatory. This band is intended for indoor use only. These uses are not permitted in aircraft.
V.4	5925 – 6425 MHz	200 mW pire	-	This band is intended for indoor use only7. Use inside vehicles/rolling machines is not permitted.
V.5	5925 – 6425 MHz	25 mW pire		This band can also be used by portable devices (smartphones, connected objects, etc.) for indoor and/or outdoor use. These uses are not permitted in unmanned aerial vehicles.
V.6	57 – 66 GHz	40 dBm eirp with a maximum eirp density of 13 dBm/MHz		This band is intended for broadband data transmission systems for exclusively indoor use.

⁷: No emission shall exceed an eirp of 200 mW, when measured at 10 meters from the installed building or the boundary of the user's premises.

APPENDIX 6: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Telematics systems for road transport and traffic:

Codification	Frequency band/ Frequency Channels	Isotropic Power Radiated Equivalent maximum	Width of Band (kHz)	Special conditions
VI.1	63 – 64 GHz	40 dBm p.i.r.e		This band is intended for traffic information systems.
VI.2	76 – 77 GHz	55 dBm p.i.r.e	88	This band is intended for traffic information systems and short-range radars intended for vehicles.
VI.3	77 – 81 GHz	55 dBm p.i.r.e	88	This band is intended for short range automotive radar systems.

APPENDIX 7: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Medical implants:

Codification	Frequency band/ Frequency Channels	Power/Maximum magnetic field level	Width of Band (KHz)	Special conditions
VII.1	9 – 315 KHz	30 dBµA / m at 10m	***	This band is intended for telemetry applications (radio part of active implantable medical devices).
VII.2	30 – 37,5 MHz	1 mW par		This tape is intended for use by ultra-low power medical implantable membranes for measuring arterial pressures.
VII.3	402 – 405 MHz	25µW per	25	This band is intended for use by medical implants (radio part of active implantable medical devices). The range should not exceed 10 meters.

APPENDIX 8: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY <u>Modeling:</u>

Codification Frequency band/ Width of Apparent power **Special conditions Frequency Channels** Maximum radiated Band (KHz) 26,995 MHz VIII.1 These frequency channels are intended for use by leisure VIII.2 27,045 MHz 10 radiocommunication installations of the scale model radio control type. 100 mW par 27,145 MHz VIII.3 VIII.4 27,195 MHz This band is intended for use by leisure radiocommunication installations of the model radio control type. 40,660 – 40,700 MHz 100 mW par 10 VIII.5

APPENDIX 9: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Alarm systems:

Codification	Frequency band/ Frequency Channels	Maximum Apparent Radiated Power	Width of Band (KHz)	Special conditions
IX.1	169,4750 – 169,4875 MHz	10 mW per 10	12.5 kHz	
IX.2	169,5875 – 169,6 MHz	mW per 10	12,5 kHz	
IX.3	868,6 – 868,7 MHz	mW per 10	25 kHz8	
IX.4	869,200 – 869,250 MHz	mW per 10	25 kHz	
IX.5	869,250 – 869,300 MHz	mW per 10	25 kHz	
IX.6	869,300 – 869,400 MHz	mW per 25	25 kHz	
IX.7	869,650 – 869,700 MHz	mW per	25 kHz	

^{* :} or the whole band for a high-speed data transmission channel.

APPENDIX 10: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Wireless microphones, audio transmission devices and hearing aids:

Codification	Frequency band/ Frequency Channels	Apparent power Maximum radiated	Width of Band (kHz)	Special conditions
X.1	87,6 – 107,9 MHz	50 nW par	200	This band is intended for wireless audio applications. The user interface of the device must allow, at a minimum, the selection of all possible frequencies in the band 88.1 MHz to 107.9 MHz. If there are no audio signals, the device should use the signal interrupt function. The transmission of a pilot signal to ensure continuity of transmission is also prohibited.
X.2	169,4 – 169,6 MHz	500 mW per	Up to 50 These	bands are intended exclusively for the operation of hearing aid
X.3	173,965 – 174,015 MHz	10 mW per	Up to 50	devices
X.4	174 – 230 MHz	50 mW per	200	These bands are intended exclusively for use by wireless
X.5	470 – 694 MHz	50 mW par	200	microphones in broadcast auxiliary applications.
X.6	863 - 865 MHz	10 mW par		This band is intended for wireless audio devices and media streaming devices.
X.7	1795 – 1800 MHz	20 mW per for portable equipment.		This band is intended exclusively for operation by professional users of audio auxiliary equipment for program design and broadcasting.
X.8	1795 – 1800 MHz	50 mW per for equipment worn close to the human body.		

APPENDIX 11: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Radiodetermination and motion detection devices:

Codification	Frequency band/ Frequency Channels	Isotropic Power Maximum Equivalent Radiated	Width of Band (KHz)	Special conditions
XI.1	2400 – 2483,5 MHz	25 mW pire		This band is intended for motion detection and warning radars.
XI.2	10,5 – 10,6 GHz	20 mW pire 100	***	
XI.3	24,00 – 24,25 GHz	mW pire		This band is intended for omnidirectional obstacle detection radars and motion detection radars.
XI.4	6,0 – 8,5 GHz	7 dBm p.i.r.e		
XI.5	24,05 – 26,5 GHz	26 dBm p.i.r.e		These bands are exclusively intended for the use of level measurement radar
XI.6	57 - 64 GHz	35 dBm p.i.r.e		devices for industrial use (LPR), for fixed installations with antenna poin towards the ground.
XI.7	75 – 85 GHz	34 dBm p.i.r.e		

APPENDIX 12: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Radio Frequency Identification Devices:

Codification	Frequency band/ Frequency Channels	Maximum Radiated Power / Maximum Magnetic Field Level	Width of Band (KHz)	Special conditions
XII.1	400 – 600 KHz	-8 dBµA / m at 10m		
XII.2	13,553 – 13,567 MHz	60 dBµA / m at 10m		This band is intended for use by radio frequency identification (RFID) and electronic monitoring devices.
XII.3	865,6-865,8 MHz	2 In par	200	The operation of the interrogators is only allowed in the channel whose central carrier is 865.7 MHz with a maximum bandwidth of 200 KHz.
XII.4	867,6 – 868 MHz	500 mW par	200	

APPENDIX 13: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Locating, tracking and data acquisition devices:

Codification	Frequency band/ Frequency Channels	Maximum Radiated Power / Maximum Magnetic Field Level	Width of Band (KHz)	Special conditions
XIII.1	442,2 – 450 kHz	7 dBÿA / m at 10m		This band is intended for people detection and collision avoidance
XIII.2	456,9 – 457,1 kHz	7 dBÿA / m at 10 m		This strip is intended for the location of avalanche victims.
XIII.3	169,4 – 169,475 MHz	500 mW par	12,5	This band is intended for use by meter reading systems and location and tracking devices.

APPENDIX 14: LIST OF FREQUENCY BANDS FOR INSTALLATIONS A2FP OR RLAN THAT CAN BE OPERATED3,4,5 FREELY

Unmanned flying machines:

Codification	Frequency band/ Frequency Channels	Apparent power Maximum radiated	Width of Band (KHz)	Special conditions
XIV.1	2400 – 2483,5 MHz	100 mW pire	-	The free use of this band is possible under the conditions set by this decision and only if the flight of the said machine has been authorized in accordance with the national regulations in force, in particular those relating to civil aviation.
XIV.2	5725 – 5875 MHz	25 mW pire	-	The free use of this band is possible under the conditions set by this decision and only if the flight of the said machine has been authorized in accordance with the national regulations in force, in particular those relating to civil aviation.

by: effective radiated power.

eirp: equivalent isotropically radiated power.

These appendices are regularly updated by the ANRT.