
Regulations

Private Mobile Radio (PMR)

Version 2.0

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Article (1)

Scope of Document

- 1.1 These regulations are issued in accordance with the provisions of the UAE Federal Law by Decree No 3 of 2003 (Telecom Law) as amended and its Executive Order.
- 1.2 This document comprises technical regulations for the authorization of Private Mobile Radio (PMR). It shall be read in conjunction with the following documents available from the TRA website at www.tra.gov.ae:
 - 1.2.1 Spectrum Allocation and Assignment Regulations
 - 1.2.2 Spectrum Fees Regulations
 - 1.2.3 Interference Management Regulations
 - 1.2.4 National Frequency Plan

Article (2)

Definitions

- 2.1 The terms, words and phrases used in these Regulations shall have the same meaning as ascribed to them in the Telecom Law (Federal Law by Decree No. 3 of 2003 as amended) and its Executive Order. In addition, these Regulations expressly provide for the meaning and context in which those terms shall be interpreted, as follows:
 - 2.1.1 “**Aeronautical Mobile Service**” means mobile service between aeronautical stations and aircraft stations, or between aircraft stations, in which survival craft stations may participate: emergency, position-indicating radio beacon stations may also participate in this service on designated distress and emergency frequencies.
 - 2.1.2 “**Applicant**” means any Person who has applied for a License or an Authorization in accordance with the Telecom Law or other Regulatory Instruments issued by the Authority.
 - 2.1.3 “**Application**” means the request for issuance of a License or an Authorization, received at the Authority on prescribed forms as per the procedure in vogue.
 - 2.1.4 “**Authority (TRA)**” means the General Authority for Regulating the Telecommunication Sector known as Telecommunications Regulatory Authority (TRA) established pursuant to the provisions of Article 6 of Federal Law by Decree No. 3 of 2003.

- 2.1.5 **“Authorization”** means a valid frequency spectrum authorization issued by the TRA and permits the use of radio frequency subject to terms and conditions as stipulated by the TRA.
- 2.1.6 **“Authorized User”** means a Person that has been granted an Authorization by the TRA.
- 2.1.7 **“Assignment (of a radio frequency or radio frequency channel)”** means an Authorization given by The Authority for a radio station to use a radio frequency or radio frequency channel under specified conditions.
- 2.1.8 **“Base Station”** means a land mobile radio which is fixed.
- 2.1.9 **“CNS”** means Communication, Navigation and Surveillance
- 2.1.10 **“Class Authorization”** means the Authorization which permits the operation of Wireless Equipment by any Person within designated frequency bands subject to the terms and conditions stipulated by the TRA.
- 2.1.11 **“International Civil Aviation Organization (ICAO)”** means the United Nations specialized agency for civil aviation.
- 2.1.12 **“ITU”** means the International Telecommunication Union, a leading United Nations agency for information and communication technologies.
- 2.1.13 **“LPD433”** means land mobile radio (i.e. walkie talkie) that operate in the 433 MHz frequency range with technical characteristics as specified in the regulation on Ultra-wide band and Short Range Devices for this frequency range.
- 2.1.14 **“Maritime Mobile Service”** A mobile Radiocommunication Service between coast stations and ship stations, or between ship stations, or between associated on-board communication stations: survival craft stations and emergency position-indicating radio beacon stations may also participating in this service.
- 2.1.15 **“MID FASID”** means the ICAO Middle East office (MID) Facilities And Services Implementation Document (FASID).
- 2.1.16 **“Person”** will include ‘juridical entities’ as well as ‘natural persons’.
- 2.1.17 **“PMR over WLAN”** means land mobile radio (i.e. walkie talkie) and base stations (access points) operating in the 2.4 GHz and 5 GHz frequency range based on radio standard IEEE 802.11 a/b/g/n with technical characteristics as specified in the regulation on Ultra-wide band and Short Range Devices for the applicable frequency ranges.
- 2.1.18 **“PMR446”** means land mobile radio (i.e. walkie talkie) that operate in the 466 MHz frequency range with technical characteristics as specified in the regulation on Ultra-wide band and Short Range Devices for this frequency range.

- 2.1.19 **“Private Mobile Radio (PMR)”** are radio communications systems for terrestrial use. They consist of a network of radios which may contain one or more Base Stations, Repeaters, vehicle mounted radio and handheld including walkie-talkie. The Base Station and Repeaters are fixed while vehicle mounted radio and handheld are mobile.
- 2.1.20 **“Public Access Mobile Radio (PAMR)”** means PMR systems are deployed to allow public access (by subscription) and where the users of the systems are usually not the same as the system's owner and operator.
- 2.1.21 **“Radio Regulations (RR)”** means a publication issued by the ITU, adopted by the World Radiocommunication Conference and ratified by the UAE.
- 2.1.22 **“Radiocommunication Service”** means the transmitting or receiving of Radio Frequency which may be used for the conveyance of data, or messages or voice or visual images, or for the operation or control of machinery or apparatus.
- 2.1.23 **“RFID”** means Radio Frequency Identification. RFID systems enable data to be transmitted by a transponder (tag) via radio signals which are received by an RFID interrogator and processed according to the needs of a particular application.
- 2.1.24 **“Secondary Basis”** means the order of a Radiocommunication Service where it shall not cause harmful interference to stations of Primary Services and cannot claim protection from harmful interference from stations of Primary Services. This service appears as lower case in the National Frequency Plan.
- 2.1.25 **“Single Side Band (SSB)”** means amplitude modulation where one side band of the modulated signal is suppressed to use bandwidth more efficiently.
- 2.1.26 **“Station”** means one or more transmitters or receivers or a combination of transmitters and receivers, including the accessory equipment, necessary at one location for carrying on a radiocommunication service.
- 2.1.27 **“SRD860”** means land mobile radio (i.e. walkie talkie) that operate in the 860 MHz frequency range with technical characteristics as specified in the regulation on Ultra-wide band and Short Range Devices for this frequency range.
- 2.1.28 **“Trunking systems”** means land mobile radio systems with one or more radio base station(s) (cells) where each cell offers one or several transmission channels which will be dynamically assigned to users as soon as a connection is required.

2.1.29 **“UAE”** means the United Arab Emirates including its territorial waters and the airspace above.

2.1.30 **“Wireless Equipment”** means a category of Telecommunication Apparatus used for Radiocommunication Service.

2.1.31 **“WRC”** means World Radiocommunications Conference of the ITU.

Article (3)

Uses related to Private Mobile Radio (PMR)

- 3.1 Usage of private mobile radio is allowed but not limited to the following:
- 3.1.1 Land based radio systems for private use including trunking and paging.
 - 3.1.2 Aeronautical mobile (Ground –to –Air) stations
 - 3.1.3 Maritime mobile (Shore –to- ship) stations
 - 3.1.4 Others
- 3.2 Applications can be made for systems to be operated at any location within the UAE (for example for use during camel racing, hunting etc.).
- 3.3 LPD433, PMR 446, SRD860 and “PMR over WLAN” is allowed in the UAE under Class Authorization if meeting technical parameter as specified in the regulation on Ultra-Wide Band and Short Range Devices.

Article (4)

Technical Conditions

- 4.1 The following table provides guidance on frequency ranges for Private Mobile Radio and their use:

Frequency Range	Use
415-526.5 kHz	Maritime Mobile (shore-to-ship)
1606.5-3800 kHz	Maritime Mobile (shore-to-ship)
1.6-30 MHz	Land based radio systems for private use Maritime Mobile (shore-to-ship)
30-47 MHz	Land based radio systems for private use
66-87.5 MHz	Land based radio systems for private use
118-137 MHz	Aeronautical mobile (Ground-to-Air)
137-144 MHz	Land based radio systems for private use
146-156 MHz	Land based radio systems for private use
156-162.1 MHz	Maritime Mobile (shore to ship)
162.1-174 MHz	Land based radio systems for private use

350-380 MHz	Land based radio systems for private use
380-400 MHz	Trunking system for PAMR.
400.15-406 MHz	Land based radio systems for private use on Secondary Basis and with protection to Meteorological Aids
406.1-410 MHz	Land based radio systems for private use
410-430 MHz	Land based radio systems for private use
430-433.05 MHz	Land based radio systems for private use
434.79-450 MHz	Land based radio systems for private use
450-470 MHz	Private Land Mobile for Governmental Use Surveying equipment in sub-band 450-451 MHz may be considered by the TRA
868-870 MHz	High Power RFID Toll Applications with bandwidth not higher than 400 kHz and transmit powers between 4 and 25 Watt
915-921 MHz	High Power RFID Applications with bandwidth not higher than 400 kHz and transmit powers between 4 and 10 Watt

- 4.2 Applicable Channel widths are 3 kHz for SSB, 6.25 kHz, 8.33 kHz, 12.5 kHz and 25 kHz.
- 4.3 Frequency use for Aeronautical Mobile (Ground-to-Air) shall be in line with the relevant regulations of ICAO Annex 10 and Table 2, MID FASID App B (CNS).
- 4.4 Frequency use for Maritime Mobile (shore-to-ship) shall be in line with relevant regulations of ITU like ITU Geneva-85 Plan GE85-MM-R1RR Appendix 17, 18 and 25.
- 4.5 The TRA encourages the deployment of systems that make efficient use of the Radio frequency and will apply frequency re-use based on the coverage are specified in the Authorization. The applicant shall therefore consider the following while dimensioning the system:
- 4.5.1 The maximum radiated power shall be selected with due consideration of the required coverage area including relevant parameter like building penetration losses.
- 4.5.2 Maximum radiated powers for base stations and repeaters shall be determined on the basis of the required coverage and intended use as indicated in the application and will be specified as an Authorization condition.
- 4.5.3 For larger coverage areas preference shall be to use several repeaters or base stations with low radiated power instead of a single repeater or base station with high radiated power.
- 4.5.4 Wherever applicable, directive antennas shall be preferred over omnidirectional antennas or dipoles. Antenna mounting heights shall be selected as low as possible and appropriate down tilt of antennas shall be used to focus the transmitted power to the required coverage area.

- 4.6 For coverage requirements beyond specific location e.g. Countrywide or Emirate wide, detailed justification shall be submitted to the TRA with the application as it is a burden on the spectrum re-use. The TRA shall evaluate such requests and reject if justification to the satisfaction of the TRA is not appropriately provided.
- 4.7 The TRA will determine the number of frequency assignments per system based on the intended use and the requirements as stated in the application. The applicant shall therefore consider the following while dimensioning the system:
- 4.7.1 For networks requiring more than ten frequency Assignments, it is preferred to consider trunking systems to increase spectral efficiency. The TRA may reject an application if more than ten Frequency Assignments are requested without due consideration of the trunking system option.
- 4.7.2 For networks using repeaters, duplex frequencies can be requested but the Applicant shall justify the number of channels required for transmission through Base Station or Repeater. Minimum number of frequencies shall be allowed for coverage beyond a specific location.
- 4.8 The TRA does not support any particular trunking standard or technology.

Article (5)

Spectrum Coordination and Notification

- 5.1 Coordination of Radio Frequencies for radio stations at the national, regional and international levels shall be made through the Authority, as it is the sole body responsible for Radio Frequency coordination.
- 5.2 Notifying and Registering of Radio Frequencies in the ITU shall be made through the Authority according to the procedures outlined in the Radio Regulations.
- 5.3 The applicant shall support the coordination procedures.