Regulations

Private Mobile Radio (PMR)

Version 3.0

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Telecommunications and Digital Government Regulatory Authority (TDRA)
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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 TDRA website at www.tdra.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 including National Table of Frequency Allocation.

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"** or **"TDRA"** "Authority" or "TDRA" means the General Authority for Regulating the Digital Government and Telecommunication Sector known as Telecommunications and Digital Government Regulatory Authority (TDRA) established pursuant to the provisions of Federal Law by Decree No. 3 of 2003 (as amended).

2.1.5 **"Authorization"** or "**Frequency Spectrum Authorization**" means a valid frequency spectrum authorization issued by the Authority and permits the use of radio frequency subject to terms and conditions as stipulated by the Authority.

2.1.6 **"Authorized User"** means a Person that has been granted an Authorization by the Authority.

2.1.7 **"Assignment"** means granting the Authorization by the Authority for the use of 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 Authority.

2.1.11 "**International Civil Aviation Organization"** or **"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 participate 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 WAS**" means Private Mobile Radio over Wireless Access Systems which is a land mobile radio (i.e. walkie talkie) and base stations (access points) operating in different frequency ranges specified for WAS in accordance with Ultra-Wide Band and Short Range Devices Regulations.

2.1.18 **"PMR446"** means land mobile radio (i.e. walkie talkie) that operate in the 446 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"** or **"PMR"** are private radio communications systems for terrestrial use. They consist of a network of radios which may containone 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"** or **"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 **"Public Protection & Disaster Relief"** or **"PPDR"** means Public Protection and Disaster Relief as per the ITU regulatory and technical frameworks.

2.1.22 "**Radio Regulations"** or **"RR**" means the publication issued by the ITU, adopted by the World Radiocommunication Conference and ratified by the UAE.

2.1.23 **"Radiocommunication Service"** means the transmitting and/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.

2.1.24 "**RFID**" means Radio Frequency Identification which is a system that enables 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.

2.1.25 **"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 stationsof Primary Services. This service appears as lower case in the National Frequency Plan.

2.1.26 "**Single Side Band"** or **"SSB**" means amplitude modulation where one side band of the modulated signal is suppressed to use bandwidth more efficiently.

2.1.27 **"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.

2.1.28 "**Trunking systems**" means land mobile radio systems with one or moreradio base station(s) (cells) where each cell offers one or several trans- mission channels which will be dynamically assigned to users as soon asa connection is required.

2.1.29 **"UAE"** or **"State"** means the United Arab Emirates including its territorial waters and the airspace above.

2.1.30 "**Wireless Access Systems**" or "**WAS**" means connected wireless equipment complying with technical specifications as set out in ITU-R Recommendations, ETSI standards, IEEE 802.11 family of standards, or related 3GPP standards. This includes networks such as (Radio Local Area Network (RLAN), Wireless Local Area Network (WLAN), Wideband Data Transmission, Multiple Gigabit Wireless Systems (MGWS), Broadband Radio Access Networks (BRAN) etc) in different frequency ranges.

2.1.31 **"Wireless Equipment"** means a category of Telecommunication Apparatus used for Radiocommunication Service.

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, and “PMR over WAS” are allowed in the UAE under Class Authorization if meeting technical parameter as specified in Ultra-Wide Band and Short Range Devices Regulations.

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 with priority for Governmental use
66-87.5 MHz	Land based radio systems with priority for Governmental 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
162.1-174 MHz	Land based radio systems for private use
350-380 MHz	Land based radio systems for private use
380-399.9 MHz	Trunking system for PPDR, PAMR, with priority for Governmental use.
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 including 446.0-446.2 MHz for PMR446.
450-470 MHz	Private Land Mobile for Governmental Use Surveying equipment in sub-band 450-451 MHz may be considered by the Authority.
868-870 MHz	High Power RFID Toll Applications with band- width not higher than 400 kHz and transmit powers between 4 and 25 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 Authority 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 beused to focus the transmitted power to the required coverage area.

4.6 For coverage requirements beyond specific location e.g. nationwide or Emirate wide, detailed justification shall be submitted to the Authority with the applications including rationalization of the spectrum re-use. The Authority shall evaluate such requestsand reject if justification to the satisfaction of the Authority is not appropriately provided.

4.7 The Authority 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 Authority 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 Authority 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.