



# TANZANIA COMMUNICATIONS REGULATORY AUTHORITY

## RADIO FREQUENCY BAND PLAN FOR PRIVATE MOBILE RADIO

First Version


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# RADIO FREQUENCY BAND PLAN FOR PRIVATE MOBILE RADIO

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## Acronyms and Abbreviations

For the purpose of this document, the following abbreviation applies: -

ETSI	European Telecommunication Standardization Institute
DMR	Digital Mobile Radio
ITU	International Telecommunication Union
PMR	Private Mobile Radio
TCRA	Tanzania Communications Regulatory Authority
UHF	Ultra High Frequency
VHF	Very High Frequency

## **PART 1: Introduction**

The radio frequency spectrum is part of electromagnetic waves propagated in space and used as a communication medium for all wireless systems. It is a scarce public resource, thus subject to transparent, predictable and coherent governing policies, legislations and regulations. Therefore, it requires proper and timely management in order to accommodate the current and future emerging technologies.

The Tanzania Communications Regulatory Authority (TCRA) Act of 2003, and Electronic and Postal Communications Act of 2010, mandate TCRA to manage, assign and promote the efficient use of the radio frequency spectrum resource in the United Republic of Tanzania. In doing so, TCRA prepares and publish radio frequency band plans for difference services.

This radio frequency band plan for Private Mobile Radio(PMR) is in line with the National Frequency Allocation Plan (NFAP), frequency allocation under International Telecommunication Union (ITU) Region 1 and most adopted frequency channelization plan as a result of spectrum harmonization. It is complemented by the ITU Reports on PMR services.

## **PART 2: Scope and Purpose**

This document provides radio frequency spectrum plan for operations of the PMR services in the United Republic of Tanzania. The plan intends to facilitate the smooth and interference free operation of intended services in the country.

The purpose of the band plan is to provide assistance to operators and other stakeholders on spectrum-related technical issues relevant to the implementation and use of the frequency bands allocated for PMR in the National Frequency Allocation Plan (NFAP) in line with ITU Radio Regulations.

### PART 3: Definition of Terms

Simplex Operations	Operating method in which transmission is made possible interchangeably in each direction of a telecommunication channel, for example, by means of manual control. In Simplex mode, transmit and receive channel(s) is the same where by users have immediate access to selected channel(s) at any time and must listen for a clear channel before transmitting to avoid causing interference to another user in the group.
Duplex Operations	Operating method in which transmission is possible simultaneously in both directions of a telecommunication channel. The communication can be between the base station (Base Tx) and mobile station (Mobile Tx) where the transmit frequency of one side is the receive frequency of the other end.
Land Mobile Service	A mobile service between land based stations (fixed stations) and land mobile stations or between two land mobile stations.
Trunked PMR	Refers to PMR systems which uses trunked technology. A land mobile radio systems with one or more radio base station(s) where each cell offers one or several transmission channels which will be dynamically assigned to users as soon as a connection is required, employs a trunking system where by the resources of the communications network are shared. Typically, a communication channel is allocated for the duration of a call and then automatically released to allow it to be used by another user.



**PART 4: ITU Related Recommendations and Reports on PMR**

Report ITU-R M.2474-0	Conventional digital land mobile radio systems
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**PART 5: Private Mobile Radio (PMR)**

PMR is a radio communication system operating under the Land Mobile Service allocations using Very High Frequency (VHF) and Ultra High Frequency (UHF) to transmit voices. PMR consist of a network of radios which may contain one or more base stations, repeaters, vehicle mounted radios and handheld radios including the walkie-talkie. The base stations and repeaters are fixed while vehicle mounted radio(s) and handheld are mobile. PMR transceivers are normally in receive mode and user press a push to talk button on his microphone when he/she wants to talk.

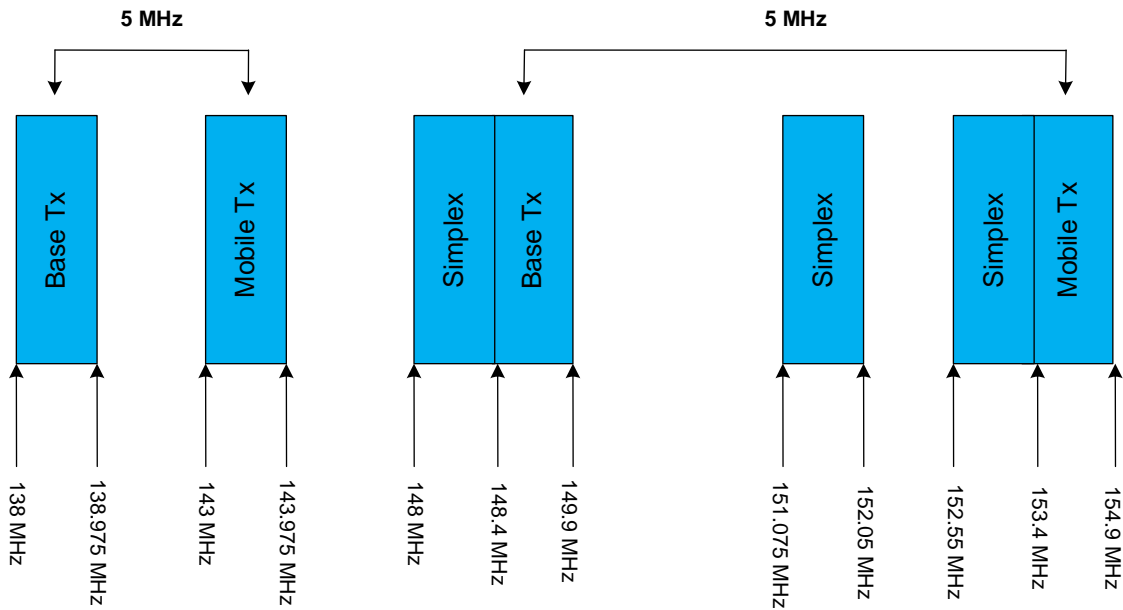
These systems are used by police, fire, ambulance, diplomatic agencies, private companies such as security, mining, factory etc. The term PMR is generally used to denote Professional, Personal, or Private mobile radio. PMR can be deployed as analogue, digital (Digital Mobile Radio - DMR) or trunked PMR. PMR radio can operate in simplex or duplex mode.

**PART 6: PMR Band Plan**

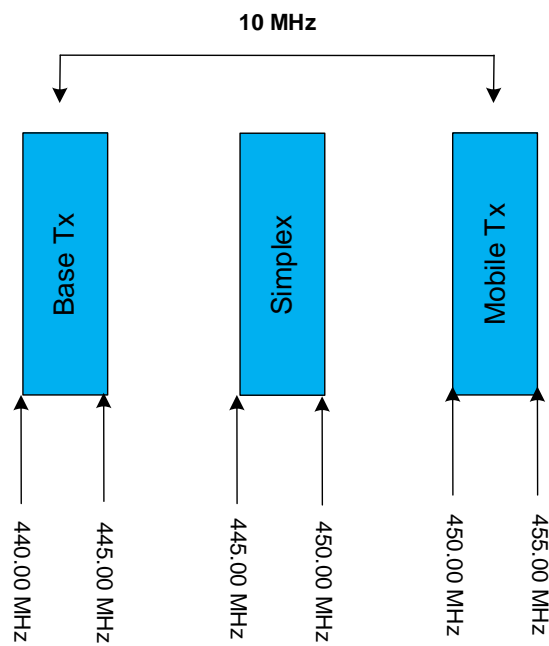
The frequency bands explained under this section are those allocated for PMR services in the country as per the NFAP.

## 6.1 Band plan for government

### 6.1.1 VHF Frequency band plan

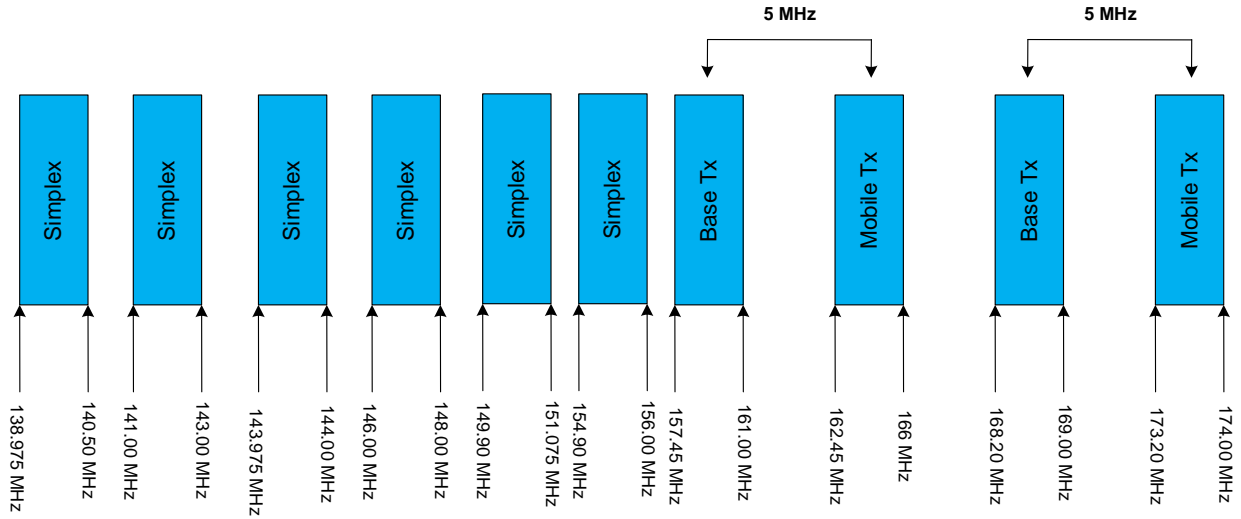


### 6.1.2 UHF Frequency band plan

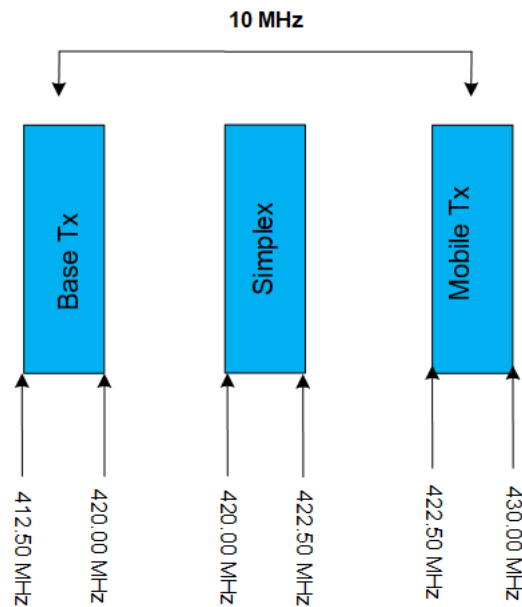


## 6.2 Band plan for private companies

### 6.2.1 VHF Frequency band plan

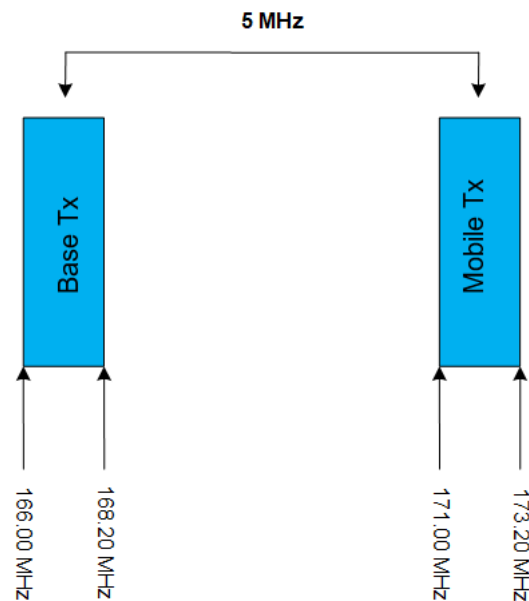


### 6.2.2 UHF Frequency band plan



## 6.3 Band plan for trunked PMR

### VHF band plan



## PART 7: Document Administration

### 7.1 Amendment

TCRA may from time-to-time, review, update or modify this document to ensure its continued service in alignment with national and international performance requirements.

### 7.2 Compliance

Appropriate provisions of the TCRA Act, 2003, the Electronic and Postal Communications Act, 2010 and the Electronic and Postal Communications (Radiocommunication and Frequency Spectrum) Regulations, 2018, shall be utilized to ensure compliance of this document. The document will come into use from the official date of its publication.

### 7.3 Publication

This document shall be published on the TCRA website <https://www.tcra.go.tz> for public information, compliance and reference purposes.

## Contact Us

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