



Guideline for the allocation of Spot Frequency for Land Mobile Radio

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1. Introduction

- 1.1 The Land Mobile Radio (LMR) system is generally used to provide communication facilities for closed user groups and support specific features such as group call and push-to-talk. Land Mobile Radio system is terrestrially-based professional push to talk wireless communications system commonly used for critical communication by public safety organizations such as police, firefighters, and other emergency response organizations. In addition to the public safety sector, LMR system is also used in various industries, transportation, utilities, security, and logistics and even in the military. The LMR system are designed for short call holding times as this enables a large number of users to be accommodated within a particular frequency allocation.
- 1.2 For effective and efficient management and usage of LMR system, the Bhutan InfoComm and Media Authority (“Authority”) hereby issues these guidelines as per the provisions of Information, Communications and Media Act of Bhutan 2018 and the National Radio Rules (NRR) 2019. These guidelines shall streamline the allocation of spot frequencies for LMR system to the specific uses in accordance with International best practices and national priorities.

2. Objective

These Guidelines shall allocate the spot frequency for Land Mobile Radio for fair, transparent and efficient utilization of spectrum.

3. Definitions

- 3.1 **Radio** means the transmission and reception of electromagnetic waves of radio frequency.
- 3.2 **Radiocommunication** means a service involving the transmission, emission and/or reception of radio waves for specific telecommunication purposes.
- 3.3 **Land mobile station** means is a mobile radio station in the land mobile service that operates within a country or continent.
- 3.4 **Base station** means a land station in the land mobile service.
- 3.5 **Repeater** means a station that is established at a fixed location for the reception and automatic re-transmission from the repeater station to an extended geographical or topological network boundary than what would be capable with the original signal.

3.6 **Interference** means anything which modifies, or disrupts a signal as it travels along a channel between a source and a receiver.

4. Eligibility

4.1 Any Organization requiring using LMR system in a specific location for internal communication.

4.2 The following agencies shall be eligible for use of LMR system in multiple location using Base Station and Repeaters:

- a) Armed Forces
- b) Health Emergency Services
- c) Fire Emergency Services
- d) Disaster Services
- e) Forestry Services
- f) Meteorological Services
- g) Aeronautical Services

The Authority shall have the right to reject the application for a license even upon fulfillment of the above criteria.

5. Application Procedures

5.1 The application for spot frequency shall be submitted to the Authority along with the detailed technical specifications of the radio equipment as per the format prescribed in *Annexure 1* of these Guidelines.

5.2 The applicant shall also specify the number of frequency(s)/channel required for the operation of the equipment.

5.3 Any applicant requiring spot frequency for multiple locations through establishment of Base Stations and Repeaters shall submit detailed project report including:

- a) Specific location of such establishment with geographical coordinates and coverage.
- b) Rational for such establishment.

6. Call Sign for Base Station

6.1 No entity shall operate any base station without the call sign approved and issued by the Authority.

6.2 The Authority shall assign the call signs for Base stations as per the Table 9 and sub-sections 3.2, 3.3 and 3.4 of the National Radio Rules, 2019.

7. Frequency Assignment

The spot frequency licence shall be assigned as per the provision of the NRR as shown in the frequency allocation table below:

	VHF (MHz)	UHF (MHz)
Frequency Bands	138.00 – 149.90	300.00 – 328.60
	150.05 – 174.00	332.42 – 399.90
	230.00 – 272.00	406.12 – 430.00
	273.00 – 300.00	

Table 1: Frequency allocation table for land mobile radio

8. Fee

The fee structure for the allocation of spot frequency shall be as per Table 7, sub-sections 2.1 and 2.4 (b), Schedule A of the National Radio Rules, 2019.

8.1 Application fee

Applicants shall be charged an initial application fee as per the table 2 shown below:

	Station Type	Application fee in price unit
Mobile user equipment in a network with or without Base Station (in land mobile service)	One to thirty handsets	10
	Thirty-one to seventy handsets	20
	More than seventy handsets	20 plus (+) 10 for each additional of 50 UE

Table 1: Application fee in price unit with respect to Number of Stations

8.2 Spectrum Utilization fee

The spot frequency shall be assigned for specific location for a fee of Nu.3750.00/channel/location. However, if the same spot frequency is used in more than one location, an incremental fee of twenty percent on the spectrum utilization fee (Nu. 0.20 of 3750) per location shall be charged.

Annexure 1: Application for Land Mobile communication system

Guidelines:

- *This application form is to be used by individual/company/organization requesting an Apparatus license to operate Land mobile service communication in Bhutan.*
 - *The applicant must be familiar with the relevant provisions of the Information, Communications and Media Act of Bhutan, 2018 and National Radio Rules 2019.*
 - *The form must be filled completely and incomplete form shall be rejected.*
 - *The applicant(s) must submit:*
 - 1. Location Clearance from the concerned administration for establishment of base and repeater station*
 - 2. A copy of the technical specifications of the equipment.*
 - 3. A copy of the license if the applicant is a private company.*
-

A. Applicant Details:

Client Type (Select a category below)

Government Agency International Organization Private Company/CSO/NGO

1. Name of Organization/Company: _____
2. Postal Address: _____
3. Phone: _____ Fax: _____
4. Email: _____
5. Contact Person (Name): _____
6. Designation: _____

D. Frequency requirement (tick)

- Very High Frequency
- High Frequency
- Ultra High Frequency

E. Type of equipment:

Portable/hand-held walkie-talkie Base Station Repeater

F. Location of frequency usage

G. Station Information (to be filled up if applicable)

- 1. Area of Operation:
- 2. No of base station with location (along with geographical coordinates):.....
- 3. No. of Repeater station with location (along with geographical coordinates).....
- 4. No of portable handsets:.....
- 5. Coverage in Kilometers :
- 6. Preferred Call Sign (for base station):

H. Details of equipment (for each type of Handsets)

- 1. Equipment Name:
 - a. Model:
 - b. Manufacturer:
 - c. Type of equipment (tick): Transceiver Transmitter Receiver
- 2. Frequency
 - a. Frequency range of the equipment (MHz):
 - b. Preferred frequency (MHz/GHz):.....
 - c. No. of channels requested:..... Tick (Simplex Duplex)
 - d. Maximum power output:
- 3. Antenna
 - a. Type of Antenna:.....
 - b. Manufacturer:
 - c. Antenna Model:..... Antenna Height:
 - d. Maximum Transmitter power (Watts):.....

Date of Application:

Signature:

Name:

Seal:

Annexure 2: Terms and Conditions of Spot Frequency Licence for UHF/VHF Land Mobile Radio

1. General

- 1.1 This spot frequency license shall be governed by the Information, Communications and Media Act of Bhutan 2018, the National Radio Rules 2019 and the International Telecommunication Union-Radio Regulation.
- 1.2 The licensee shall use only the assigned frequency and operate in the location authorized in the license.

2. Requirements

The Licensee shall:

- 2.1 Ensure that no radio apparatus used or operated exceed the specified maximum output power and emission parameter.
- 2.2 Cease operation of all radio apparatus causing harmful interference until such time the harmful interference has been eliminated.
- 2.3 Cooperate with the Authority during monitoring.

3. Renewal and Penalty

- 3.1 The date of commencement of radiocommunication usage shall be with effect from the issuance of the license.
- 3.2 The license shall be renewed annually. A penalty of Nu.50 per day shall be imposed after the expiry of the license term.
- 3.3 The license shall be cancelled if it is not renewed within 90 days from the date of expiry.

4. Compliance

- 4.1 The licensee shall not authorize any third person/organization to use the assigned frequency.
- 4.2 The Licensee shall comply with all the directives issued by the Authority in relation to the use of the frequency/spectrum and the area of operation.
- 4.3 The license shall be non-transferable and shall not be leased out to any third party.

5. Declaration

We hereby affirm that;

- a) The application details are factual and correct.
- b) The terms and conditions of the license are read and understood and accordingly abide by it.
- c) The relevant provisions of ICM Act 2018 and National Radio Rules are read and understood and shall abide by it.
- d) In case of breach of license terms and conditions, provisions of these Guidelines, Rules and the Act willingly agree to any penalties that may be imposed by the Authority.

Agreed and signed on (Day)/..... (Month)/..... (Year).

Signature of the applicant

