

**§ 2.101**

**47 CFR Ch. I (10–1–12 Edition)**

reflect the ITU *Radio Regulations*, Edition of 2008.

[75 FR 62933, Oct. 13, 2010]

**§ 2.101 Frequency and wavelength bands.**

(a) The radio spectrum shall be subdivided into nine frequency bands, which shall be designated by progressive whole numbers in accordance with the following table. As the unit of frequency is the hertz (Hz), frequencies shall be expressed:

(1) In kilohertz (kHz), up to and including 3 000 kHz;

(2) In megahertz (MHz), above 3 MHz, up to and including 3 000 MHz;

(3) In gigahertz (GHz), above 3 GHz, up to and including 3 000 GHz.

(b) However, where adherence to these provisions would introduce serious difficulties, for example in connection with the notification and registration of frequencies, the lists of frequencies and related matters, reasonable departures may be made.<sup>1</sup>

Band number	Symbols	Frequency range (lower limit exclusive, upper limit inclusive)	Corresponding metric subdivision	Metric abbreviations for the bands
4	VLF	3 to 30 kHz	Myriametric waves	B.Mam
5	LF	30 to 300 kHz	Kilometric waves	B.km
6	MF	300 to 3 000 kHz	Hectometric waves	B.hm
7	HF	3 to 30 MHz	Decametric waves	B.dam
8	VHF	30 to 300 MHz	Metric waves	B.m
9	UHF	300 to 3 000 MHz	Decimetric waves	B.dm
10	SHF	3 to 30 GHz	Centimetric waves	B.cm
11	EHF	30 to 300 GHz	Millimetric waves	B.mm
12		300 to 3 000 GHz	Decimillimetric waves	

**Note 1:** "Band N" (N = band number) extends from  $0.3 \times 10^N$  Hz to  $3 \times 10^N$  Hz.

**Note 2:** Prefix: k = kilo ( $10^3$ ), M = mega ( $10^6$ ), G = giga ( $10^9$ ).

(c) In communications between administrations and the ITU, no names, symbols or abbreviations should be used for the various frequency bands other than those specified in this section.

[70 FR 46583, Aug. 10, 2005; 70 FR 53074, Sept. 7, 2005; 75 FR 62933, Oct. 13, 2010]

**§ 2.102 Assignment of frequencies.**

(a) Except as otherwise provided in this section, the assignment of frequencies and bands of frequencies to all stations and classes of stations and the licensing and authorizing of the use of all such frequencies between 9 kHz and 275 GHz, and the actual use of such frequencies for radiocommunication or for any other purpose, including the transfer of energy by radio, shall be in accordance with the Table of Frequency Allocations in § 2.106.

(b) On the condition that harmful interference will not be caused to services operating in accordance with the

Table of Frequency Allocations the following exceptions to paragraph (a) of this section may be authorized:

(1) In individual cases the Commission may, without rule making proceedings, authorize on a temporary basis only, the use of frequencies not in accordance with the Table of Frequency Allocations for projects of short duration or emergencies where the Commission finds that important or exceptional circumstances require such utilization. Such authorizations are not intended to develop a service to be operated on frequencies other than those allocated such service.

(2) A station for the development of techniques or equipment to be employed by services set forth in column 5 of the Table of Frequency Allocations may be authorized the use of frequencies allocated to those services or classes of stations.

<sup>1</sup>In the application of the ITU *Radio Regulations*, the Radiocommunication Bureau uses the following units:

kHz: For frequencies up to 28 000 kHz inclusive;

MHz: For frequencies above 28 000 kHz up to 10 500 MHz inclusive; and

GHz: For frequencies above 10 500 MHz.