



Government Gazette

REPUBLIC OF SOUTH AFRICA

Vol. 465 Pretoria 17 March 2004 No. 25814



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GENERAL NOTICE

NOTICE 477 OF 2004



INDEPENDENT COMMUNICATIONS AUTHORITY OF SOUTH AFRICA

NOTICE IN TERMS OF SECTION 96 OF THE TELECOMMUNICATIONS ACT, NO. 103 OF 1996 ("THE ACT") INVITING INTERESTED PERSONS TO FURNISH THE AUTHORITY WITH COMMENTS CONCERNING THE AMENDMENTS TO THE AMATEUR RADIO REGULATIONS

1. The Independent Communications Authority of South Africa ("the Authority") hereby gives notice and invites comments on the draft amateur radio regulations under section 96 of the Telecommunications Act, No 103 of 1996 ("the Act").
2. Electronic copies of the Draft Amateur Radio Regulations are available on the Authority's website (www.icasa.org.za).
3. Interested persons are hereby invited to submit written representations on the proposed amendments, including an electronic version of the representation in Microsoft Word, Adobe PDF or ASCII TXT of their views on the Draft Regulations by no later than 16h00 on Tuesday, 20th April 2004.

5. Written representations or enquiries may be directed to:

Mr. Mandla Mchunu
Manager: Spectrum Management,
Email: mmchunu@icasa.org.za;
Tel: +27 11-321-8323
Fax: +27 11-321-8564

Or,

*Private Bag X10002, Sandton, 2146
or Block A, Pinmill Farm
164 Katherine Street
South Africa Sandton*

6. All written representations submitted to the Authority pursuant to this notice shall be made available for inspection by interested persons during normal office hours of the Authority from 8 April 2004 at the ICASA Library and copies of such representations and documents will be obtainable on payment of a fee.
7. Written representations will be made publicly available except where respondents indicate that their responses or parts thereof are confidential. Respondents are requested to separate any confidential material into a clearly marked confidential annexure. Unconditional permission to use such confidential material will be assumed unless the author expressly states otherwise. If, however, the request for non-disclosure to the public is refused, the person making the request will be allowed to withdraw the representation or document in question. Any copyright attached to responses will be assumed to have been relinquished unless it is expressly reserved.
8. Persons submitting written representations are invited to indicate whether they would like to make an oral representation and state the estimated duration thereof which shall not exceed one hour

**MANDLA LANGA
CHAIRPERSON**

SCHEDULE

DEFINITIONS

1. In this Schedule the Regulations mean the Radio Regulations published by Government Notice No R 2862 of 28 December 1979 as amended.

AMENDMENT OF CHAPTER 1

2. Chapter 1 of the Regulations is hereby amended-

- (i) by the insertion after the definition of "amateur radio station" of the following definition: "antenna port means the last point preceding the feed line to the antenna;"
- (ii) by the insertion after the definition of "base station" of the following definition: "breakthrough means a disturbance to the normal operation of a radio or television receiving apparatus or other electronic or telecommunications apparatus as a result of the presence of strong electromagnetic fields generated by a transmitter;"
- (iii) by the insertion after the definition of "cellular radio communication service" of the following definition: "CEPT means the Conference of European Posts and Telecommunications authorities;"
- (iv) by the insertion after the definition of "experimental station" of the following definition: "HAREC means a Harmonised Amateur Radio Examination Certificate issued in terms of CEPT recommendation TR 61 02E;"
- (v) by the substitution for the definition of "Licencee" of the following definition: "Licencee means the person to whom a license has been issued in terms of section 30 of the Act;"
- (vi) by the substitution for the definition of "the Act" of the following definition: "the Act means the Telecommunications Act, 1996 (Act No. 103 of 1996);".
- (vii) "Call sign" means the allocation of identification letters and numbers as per ITU regulation S 19.

SUBSTITUTION OF CHAPTER 3

3. The Regulations are hereby amended by the substitution for chapter 3 of the following chapter.

CHAPTER 3

AMATEUR RADIO STATIONS

B1 CONDITIONS FOR ISSUING OF AMATEUR RADIO STATION LICENCE

(1) *The Authority shall issue call signs to licensed radio stations and no other body shall acquire call signs on behalf of a group of persons or amateur radio stations*

(2) The Authority may, subject to the provisions of the Act, these regulations and the conditions set out in this Chapter, issue a Class A1, Class A2 or Class B License for the use of an amateur radio station.

(3) Class A1 (unrestricted) License (ZS - CEPT Class 1) may be issued to a person who -

- (a) Has furnished proof of his or her ability to correctly set up, adjust and operate an amateur HF transceiver; and
- (b) is in possession of a HAREC issued by the Authority; and
- (c) is in possession of a certificate issued by the national body approved by the Minister attesting that he or she has satisfactorily completed an assessment prescribed by the national body for this purpose that demonstrates advanced knowledge of theoretical or practical aspects of amateur radio.

(4) Class A2 (restricted) License (ZR - CEPT Class 2) may be issued to a person who -

- (a) Has furnished proof of his or her ability to correctly set up, adjust and operate an amateur HF transceiver; and
- (b) is in possession of a HAREC issued by the Authority.

(6) Class B License (ZU) may be issued to a person who -

- (a) Has furnished proof of his or her ability to correctly set up, adjust and operate an amateur HF transceiver; and
- (b) is in possession of a certificate specified for a Class B license.

(7) The Authority may, subject to the Act, issue an amateur radio station licence to a person who is in possession of a valid foreign amateur radio license or amateur radio operators certificate, equivalent to the relevant class of South African license or certificate, issued by a recognised competent foreign authority and where there is a reciprocal agreement between South Africa and the other country.

(8) For the purposes of regulation B1, a person shall mean a natural person and shall not include associations, companies or other legal persons: Provided that an amateur radio station license may be issued to a licensed radio amateur in good faith, on behalf of an amateur radio association.

B2 USE OF AMATEUR RADIO STATIONS

(1) An amateur radio station shall only be used by the holder of the amateur radio station license issued by the Authority, provided that someone who holds an amateur radio operator certificate or HAREC issued in terms of the Act may be permitted by the holder of an amateur radio station license to make transmissions over the amateur radio station under the supervision of the Licencee on condition that such transmissions shall be in Morse Code and take place only for short periods for the sole purpose of training.

(2) The holder of an amateur radio station license may use an amateur radio station other than his or her own with the permission of the Licencee concerned.

(3) An amateur radio listener's licence authorises the holder thereof to acquire and be in possession of radio apparatus for the reception of amateur radio signals only.

B3 COMMUNICATION BY AMATEUR RADIO STATIONS

(1) The Licencee is permitted –

- (a) to engage in communication with other licensed amateur stations, using the permitted amateur bands, and such communications shall be restricted to comments on technical investigations, remarks of a personal nature and other items of a common interest ;
- (b) in the case of an emergency, where the safety of life or limb is at stake, to communicate with any other stations, using the Amateur Bands and other bands outside the amateur allocation to prevent loss of life, to render assistance, to call for assistance or convey health and welfare messages directly connected with the emergency,

- (c) to practice emergency communications, by providing communications for cycle, motor, marathon rallies and general community service, especially in times of national interest: Provided that the station engaged in the practise, be registered with the *national body approved by the Minister* in the Republic of South Africa, and be a holder of the appropriate class licence, for the frequency used;
 - (d) to carry out communications in plain language or Q Code;
 - (e) to send signals (not enciphered) which form part of, or relate to, the transmission of messages (e.g. Identification Tones).
- (2) No amateur radio station shall transmit political, derogatory, racist, sexual, irreligious, improper, blasphemous, insulting, obscene or threatening remarks.
- (3) No amateur radio station shall advertise any goods or services or anything else, or transmit any news or messages on behalf of a third person on an amateur radio station: Provided that the Authority may authorise a Licensee to transmit-
- (a) reports on behalf of or by a third person during events that are in the judgement of the Authority in the public interest;
 - (b) information bulletins that are of direct interest to amateurs; and
 - (c) Morse Code for reception by persons learning Morse Code operation or for improving their competence in Morse.
- (4) For the purposes of this regulation, messages and signals include communication by any of the modes or types of modulation permitted in B5.
- (5) Appointed stations of *the national body approved by the Minister* in the Republic of South Africa are permitted to broadcast news bulletins and programs of general interest which are of a general nature, to further the amateur radio service, radio science and electronics generally.
- (6) Stations registered as educational stations will be, allowed to demonstrate amateur radio to persons who do not hold an amateur radio licence by allowing them to speak and operate the station under the supervision of a licensed amateur participating in a special educational event, or at educational institutions.
- (7) The licensed amateur and the event must be registered with *the national body approved by the Minister in the Republic of South Africa*.

B4 LOG BOOK WITH REGARD TO AMATEUR RADIO STATION ACTIVITIES

(1) Except when operating a station in the VHF and UHF bands, the Licensee shall keep a logbook recording the activities of the amateur radio station used by him or her *or any other person under supervision of the Licensee*.

(2) Details recorded in the logbook referred to in sub-regulation (1) shall include -

- (a) the date, time and nature of each transmission. (The date with regard to each individual day's operations need be recorded only once and for the purposes of this paragraph "time of each transmission" shall mean the time that a specific station is called and the time at which the communication with such station is terminated);
- (b) the full name and address of the person making the transmission: Provided that the name of the Licensee who regularly uses the amateur radio station need be recorded only once in the log book together with an explicit statement that all transmissions are made by him except where stated otherwise;
- (c) the call sign of every station: Provided that it need not be recorded repeatedly for calls made to the same station during the course of the communication;
- (d) the power that is used;
- (e) the frequency band that is used: Provided that it need be recorded in the log book only once until a change of frequency to another authorised band takes place;
- (f) and the address from where the transmission takes place: Provided that such address need be recorded only once should the place of transmission not change.

B5 TERMS AND CONDITIONS FOR AMATEUR LICENSES (A1, A2, B)

(1) Subject to the provisions set out below no person shall transmit over amateur radio stations at frequencies, using modes of emission or at maximum power levels other than those indicated in Annexure G, unless by special application to the regulator as indicated in Annexure G.

- (a) The bandwidth of F3E and G3E emission shall be restricted to 10 kHz in bands under 50 MHz.
- (b) The bandwidth for 625-line television transmissions (C3F) shall not exceed 6 MHz at frequencies above 1 GHz

- (c) Bands where the Amateur Service allocation is on a Secondary basis are shared with other services and amateur radio stations shall avoid interference with these services. Additionally, users of these bands shall unconditionally accept interference from industrial, scientific and medical (ISM) equipment
 - (d) The bandwidth of all emissions shall be restricted to a maximum of 25 kHz in the bands 50 - 430 MHz with the exception of W9E emissions in the band 430-440 MHz.
 - (e) For W9E emissions a maximum of 12 channels may be multiplexed and the bandwidth shall not exceed 25 kHz per channel in the band 430 - 440 MHz
 - (f) The bandwidth of all emissions shall not exceed 10 per cent of the band concerned when operating above 1 GHz
 - (g) 430 - 440 MHz band. For digital repeater inter-linking at 9 600 baud the frequencies of 438,650 - 439,100 MHz may be used.
 - (h) On frequency bands above 1 GHz, since high intensities of RF radiation may be harmful, the following safety precautions must be taken. In locations to which people may have access, the power flux densities on transmit must not exceed the limits recommended by competent authorities from time to time. (Currently this limit is 10mW per square centimetre).
 - (i) The bandwidth of J2D and J2E transmissions shall not exceed 3 KHz in bands under 30 MHz.
- (2) Modes of emission as referred to in sub-regulation (1) are as specified in the following Table.

TABLE 1

No	Mode	Explanation
1.	A1A	Telegraphy without the use of a modulating audio frequency (by on/off keying) for aural reception.
2.	A3C	Facsimile (with modulation of the main carrier either directly or by frequency-modulated sub-carrier.
3.	A3E	Double sideband, telephony
4.	C3F	Television by analogue modulation and vestigial-sideband operation.
5.	F1A	Telegraphy for aural reception including RTTY and DATA by means of frequency-shift keying without the use of a modulating audio frequency, one or two frequencies being emitted at any instant.
6.	F1B	Telegraphy including RTTY and DATA by means of frequency-shift keying without the use of a modulating audio frequency, one or two frequencies being emitted at any instant.
7.	F1D	Data transmissions by means of frequency-shift keying without the use of a modulating audio frequency, with one frequency being emitted at any instant
8.	F2A	Telegraphy for aural reception including RTTY and DATA by the on/off keying of a frequency or by means of the on/off keying of a frequency-modulated emission.
9.	F2B	Telegraphy including RTTY and DATA by the on/off keying of a frequency-modulating audio frequency or by means of the on/off keying of a frequency-modulated emission
10.	F3C	Facsimile by direct frequency modulation of the carrier.
11.	F3E	Frequency-modulated telephony
12.	G3E	Phase-modulated telephony
13.	J3E	Single sideband, suppressed carrier, telephony.
14.	J3F	Single sideband, suppressed carrier, modulated by slow scan television audio frequencies.
15.	NON	Emission of an un-modulated carrier.
16.	R3E	Single sideband, reduced or variable-level carrier, telephony.
17.	W9E	Digital speech multiplexed up to 12 channels.
18.	J2D	Data transmission with the use of a modulating audio frequency.
19.	J2E	Digital telephony with the use of a modulating audio frequency.

(3) The transmit apparatus used at an amateur radio station shall under no circumstances or at any time be tuned to a frequency other than those referred to in Annexure G.

(4) The required frequencies shall be selected and maintained such that, no appreciable energy shall be radiated at frequencies other than those, referred to in Annexure G: Provided that the bandwidth of emissions on bands that have been allocated to the amateur radio service in terms of these regulations shall be restricted to the minimum.

B6 LIMITATIONS IN RESPECT OF CLASS B LICENCEES

- (1) No Class B Licencee may use an amateur radio station, for the transmission of any form of entertainment: Provided that music transmissions, television transmissions and spread-spectrum communications, may be permitted for experimental or tuition purposes under the supervision of the holder of a Class A1 or A2 license and in accordance with the requirements of regulations B7, B8 and B9 respectively.
- (2) No person may operate an amateur radio station using frequency bands, modes of emission or at maximum power levels other than those specified for Class B license holders in regulation B5 (1)

B7 MUSIC TRANSMISSIONS

No form of entertainment shall be transmitted from an amateur radio station: Provided that music transmissions for experimental purposes shall be permissible on condition that-

- (i) such transmissions shall last no longer than three minutes;
- (ii) at least five minutes shall elapse before any further music is transmitted from the same station.
- (iii) when commercial recordings are used the make, name or title of such recordings shall not be mentioned; and
- (iv) such transmissions shall not take place in bands other than the following:

3 500 - 3 800 kHz
50 - 54 MHz
144 - 146 MHz
430 - 440 MHz
1 240 - 1 300 MHz

B8 TELEVISION TRANSMISSIONS

- (1) The Authority may, subject to such conditions as it may, in each case lay down, authorise the holder of an amateur radio station license to transmit television: Provided that such approval shall only be granted to the Licencee after at least 12 months have elapsed since the date of issue of such license.
- (2) In the case of television transmissions the station call sign shall also be given in hand-speed Morse Code or radiotelephony at the beginning and end of each transmission and at least once every 15 minutes in the stipulated manner in the case of long transmissions.

B9 SPREAD-SPECTRUM COMMUNICATIONS

(1) The Authority may, subject to the condition that interference is not caused to other users of the same frequency band and such other conditions as it may deem necessary, on application, authorise the holder of an amateur radio station license to employ spread-spectrum communications.

(2) In an application referred to in sub-regulation (1) the frequency (band edges), the modulation technique/emission designation to be used shall be furnished.

B10 TELEPRINTER WORKING

(1) Teleprinter operation with call-sign identification in teleprinter code between amateur radio stations is permissible without prior approval of the Authority: Provided that the maximum operating speed shall be restricted to a maximum of 300 baud in the HF bands and to 9600 baud in the bands above 50 MHz.

(2) In the case of teleprinter operation the call sign identification in teleprinter code shall be given at the beginning and end of each transmission and at least once every 15 minutes in the case of long transmissions.

B11 RESTRICTIONS WITH REGARD TO TRANSMISSIONS BY AN AMATEUR RADIO STATION

(1) Class B emission (damped waves) by an amateur radio station is not permissible.

(2) An amateur or experimental radio station shall not be used for the simultaneous retransmission, by automatic or other means of programs or signals originating, from another radio station, provided that the holder of an amateur radio station license or experimental station license may relay legal signals by automatic or other means that originate from a licensed amateur or experimental radio station.

(3) An amateur radio station shall not be erected for use from a public vehicle.

B12 TRANSMITTER POWER OUTPUT OF AMATEUR RADIO STATIONS

(1) The maximum *power* output of the transmitter, as measured at the antenna, shall not exceed the levels specified in the schedule to regulation B5 (1) for the relevant license classes and linearity shall be maintained.

(2) An adequately filtered direct-current power supply shall be used for all the transmitting equipment.

- (3) (a) The coupling between the antenna and the transmitter shall be such that no direct potential danger to life exists at a power supply frequency on or at the antenna.
- (b) The antenna system shall furthermore comply with the requirements of the relevant local authority.

B13 FREQUENCY MEASURING EQUIPMENT

Every amateur or experimental radio station shall have frequency measuring equipment with an accuracy of at least 0,1 per cent unless the frequencies of all transmitters of the station are crystal controlled and are accurate to at least 0,1 per cent.

B14 MOBILE AMATEUR RADIO STATION

- (1) An amateur holding a Class A1, A2 or B license may use a mobile amateur radio station within the boundaries of the Republic.
- (2) When such a station is used in an amateur radio zone other than that in which the amateur resides the call sign allocated to the main station shall-
 - (a) in the case of continuous-wave radiotelegraphy be followed by the signal -...- , the letter M and the number of the zone from where the station is operated; and
 - (b) in the case of radiotelephony be followed by the word "mobile", followed by the number of the zone from where the station is operated.
- (3) For the application of the provisions of sub regulation (2) in respect of zones the different zones of the Republic are indicated in Annexe F of the Radio Regulations.

B15 ISSUING, SUSPENSION AND CANCELLATION OF AMATEUR RADIO OPERATOR CERTIFICATE & LICENCE

- (1) *The Authority shall appoint, on behalf of the Minister an examining national body that will issue HAREC*

However, the national body is not entitled to make a final decision refusing to accept a candidate for examination purposes or issue a HAREC. If the examining body decides not to accept the candidate or issue the certificate, the examining body must refer the application to the Authority for a final decision.

- (2) *The Authority may, by written notice given to a licensed operator, cancel the operator's HAREC.*

- (a) *The notice must give the reasons for the cancellation. In deciding whether to cancel the certificate, the Authority must have regard to; all matters that it considers relevant; and without limitation the, following matters:*
- (i) *any matters to which the Authority must have regard in deciding whether to issue an amateur radio licence;*
 - (ii) *whether the Authority is satisfied, that the operator has failed to comply with the radio regulations as stipulated under section 100 of the Telecommunications Act (Act No. 103 of 1996).*
 - (iii) *whether the operator has been convicted of an offence against the Telecommunication Act and relevant regulations;*
 - (iv) *whether the operator has been convicted of a criminal offence that relates to this Act and other instruments that regulate State security;*

Cancelling apparatus licences

- (1) *The Authority may, by written notice given to the Licencee, cancel the apparatus licence.*
- (2) *The notice must give the reasons for cancelling the licence.*

B16 AMATEUR RADIO OPERATOR CERTIFICATES

- (1) No person shall obtain an, HAREC or a certificate specified for a Class B license unless he or she has passed an examination set by *the national body approved by the Minister* in the Republic of South Africa, as authorised by the Authority on the syllabuses approved by it for Class A1, A2 or Class B licenses.
- (2) Any person permitted by the Authority may sit for the examination on payment of the fee in respect of the applicable certificate referred to in regulation B1.
- (3) The examination shall be conducted at least once a year at centres indicated by *the national body approved by the Minister* in the Republic of South Africa as authorised by the Authority.
- (4) HAREC's and certificates specified for Class B licenses shall be issued to candidates who pass the examination and such certificates are not recognised for any purpose other than the issuing of an amateur radio station license.

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(5) Subject to the provisions of the Act and these regulations, the possession of (a HAREC or certificate specified for Class B licences) shall not endow the holder with any right or claim to an amateur radio station license

(6) The holder of a HAREC or certificate specified for Class B licenses whose license has expired for any reason whatsoever shall comply with the applicable provisions of regulation B1 before an application from him or her for a new license will be considered.

- (7) (a) The syllabuses for the examination referred to in sub-regulation (1) are obtainable from the Authority.
- (b) Three hours shall be allowed for the examination paper consisting of various parts.
- (c) To pass the examination, a candidate must obtain at least 50 per cent in each of the relevant parts with a total average of 65 per cent.
- (d) A candidate who passes either of the parts referred to above and passes the remaining part within three successive attempts, which must commence with the examination immediately after the one in which a candidate was unsuccessful with a percentage which gives him an average of at least 50 percent shall be exempted from writing the whole examination again.

CHAPTER 4

AMENDMENT OF CHAPTER 4

4. Chapter 4 of the Regulations is hereby amended by-

(a) the substitution for the heading to Chapter 4 of the Regulations of the following heading:

“SUPER HIGH FREQUENCY (SHF), ULTRA HIGH FREQUENCY (UHF), VERY HIGH FREQUENCY (VHF), HIGH FREQUENCY (HF) AND VERY SHORT-RANGE (VSRB) STATIONS IN THE LAND AND MARITIME MOBILE AND AMATEUR RADIO SERVICES.”; and

(b) the addition in regulation C1 of the following sub-regulations after sub regulation (4);

“(5) 235 - 470 MHz

Transmitters with a mean power output exceeding 25W may not exceed 1mW or 0dBm (mW)

(6) 470 MHz -250 GHz

(a) Transmitters with a mean power output not exceeding 25W may not exceed 25 μ W or -16 dBm (mW)

(b) Transmitters with a mean power output exceeding 25W may not exceed 1mW or 0dBm (mW).

ADDITION OF ANNEXURE G

5. The Regulations are hereby amended by the addition of the following annexure after Annexure F of the Regulations:

ANNEXURE G

Frequency bands in MHz	The Amateur Service	Maximum Power (in dB relative to 1 watt) PEP	Satellite	Permitted types of transmission	(a) Remarks
1.810 – 1.850	Primary	A1 = 26 dBW A2 = 20 dBW B = 13 dBW		All except pulse or fast scan tv	No Class B operation
3.500 – 3.800	Co-primary	A1 = 26 dBW A2 = 20 dBW B = 13 dBW		All except pulse or fast scan tv	
7.000 – 7.100	Primary.	A1 = 26 dBW A2 = 20 dBW B = 13 dBW	Allocated	All except pulse or fast scan tv	
10.100 - 10.150	Secondary	A1 = 26 dBW		All except pulse or fast scan tv	No Class A2 or Class B operation International Band
14.000 - 14.350	Primary	A1 = 26 dBW	Allocated	All except pulse or fast scan tv	No Class B Operation International Band
14.070-14.099		A2 = 20 dBW			
14.225 - 14.350		A2 = 20 dBW			
18.068 - 18.168	Primary	A1 = 26 dBW	Allocated	All except pulse or fast scan tv	No Class A2 or Class B operation International Band
21.000 - 21.450	Primary	A1 = 26 dBW	Allocated	All except pulse or fast scan tv	No Class A2 or Class B operation International Band
21.080 – 21.120		A2 = 20 dBW		All except pulse or fast scan tv	No Class B operation International Band
21.300 – 21.450		A2 = 20 dBW			
24.890 - 24.990	Primary	A1 = 26 dBW	Allocated	All except pulse or fast scan tv	No Class A2 or B operation International Band
28.000 - 29.700	Primary	A1 = 26 dBW A2 = 20 dBW B = 13 dBW	Allocated	All except pulse or fast scan tv	No Class B operation International Band
28.050 – 28.150					
28.300 – 28.500		A2 = 20 dBW B = 13 dBW			
29.700 – 30.000	Secondary	26 dBW		All	Secondary basis during disaster exercises and emergency

Frequency bands in MHz	The Amateur Service	Maximum Power (in dB relative to 1 watt) PEP	Satellite	Permitted types of transmission	(a) Remarks
					situations. Single frequency mobile applications.
40.675 – 40.685	Primary	A1 = 13 dBW	Allocated	All except pulse or fast scan tv	Propagation study only
50.000 - 54.000	Co-primary	A1 = 26 dBW A2 = 26 dBW		All except pulse or fast scan tv	No Class B operation
70.000 - 70.300	Secondary	All Classes 14 dBW		All except pulse or fast scan tv	
144 – 146	Primary	A1 = 26 dBW A2 = 26 dBW B = 13 dBW	Allocated	All except pulse or fast scan tv	International Band
430 – 440	Co-Primary.	A1 = 26 dBW A2 = 26 dBW B = 13 dBW		All except pulse or fast scan tv	
435-438			Allocated		
1240 – 1300	Secondary	A1 = 26 dBW A2 = 26 dBW		All except pulse	International
1260 – 1270			Allocated		
2300 – 2450	Secondary. Users must accept interference from ISM users	A1 = 26 dBW A2 = 26 dBW		All except pulse	No Class B operation
5650 – 5850	Secondary. Users must accept interference from ISM users	A1 = 26 dBW	Allocated	All except pulse	No Class B operation International
10000 – 10450	Secondary	A1 = 26 dBW A2 = 26 dBW		All - including pulse	No Class B operation

Frequency bands in MHz	The Amateur Service	Maximum Power (in dB relative to 1 watt) PEP	Satellite	Permitted types of transmission	(a) Remarks
10450 – 10500	Secondary	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
24000 – 24050	Primary	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
24050 – 24250	Secondary. Users must accept interference from ISM users	A1 = 26 dBW A2 = 26 dBW		All - including pulse	No Class B operation International
47000 – 47200	Primary	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
75500 – 76000	Primary.	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
76000 – 81000	Secondary. Users must accept interference from ISM users	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
142000 – 144000	Primary.	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
144000 – 149000	Secondary. Users must accept interference from ISM users	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
241000 – 248000	Secondary	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International
248000 – 250000	Primary	A1 = 26 dBW A2 = 26 dBW	Allocated	All - including pulse	No Class B operation International