IARU REGION 2 BAND PLAN

September 2020

INTRODUCTION

The IARU Region 2 has established this voluntary band plan to better organize the use of our bands efficiently. To the extent possible, this band plan is harmonized with those of the other regions. It is suggested that Member Societies use the band plan as a voluntary guide and promote it widely with their radio amateur communities. Note that national and/or local band plans may not follow the IARU Region 2 band plan exactly. Operators are cautioned to consult all applicable national plans and regulatory documents before transmitting.

DEFINITIONS

ACDS: Automatic Controlled Data Stations, including Store and Forward stations (not Digital Voice Repeaters and Internet Voice Gateways). In the case of digital beacons, it is recommended to insert CW on the usual schedule for non-machine recognition and use as narrow a bandwidth (BW) as possible. ACDS are allowed only when directly specified on the segment (except those on board satellites and spacecraft - able to transmit on specified satellites segments - and onboard near space stations - see “NSS”). Unattended operations are restricted in HF (see “Unmanned/unattended transmitting stations”).

AM: Double Sideband Amplitude Modulated (DSB AM) phone is suggested with maximum BW of 6 kHz. The AM signal can be placed when: a) the segment is permitted for “all modes” with sufficient bandwidth; b) the BW field is marked with “(*)”, allowing AM with maximum 6 kHz BW.

ARDF: Very low power temporary beacons devoted specifically to Amateur Radio Direction Finding events (ARDF) can transmit with due caution on any frequency; exceptions are the segments with “exclusive” usage where ARDF is not permitted. ARDF must follow the BW and mode suggestions for the segment and carefully observe the usual occupation of the band in the related region to avoid harmful interference. In the event that propagation may permit reception beyond regional boundaries, extra care must be observed to ensure harmonization with different allocations. ARDF should not cause interference to other applications.

Application: The applications column indicates the usage of a segment. In case only one application (or number of applications) is (are) exclusively allowed, the word “exclusive” is added.

Band usage: The suggested usage of each band segment is defined by the combination of 3 characteristics: the **mode**, the **maximum bandwidth** (BW) and the **application**.

Bandwidth: The suggested maximum bandwidth determines the maximum spectral width (-6 dB points) of all emissions allowed in a segment. Power output and modulation levels should be set so as to not exceed the maximum expected BW. Unless specified there will be no restrictions in respective segments. Best practices should be observed to avoid adjacent band interference.

Broadband Applications: Broadband applications may be used for any combination of high-speed data (e.g. 802.11 protocols), Amateur Television and other high-bandwidth activities. Division into channels and/or separation of uses within these segments may be done regionally based on needs and usage.

Contests: Contest activity shall not take place on: 2200 m (136 kHz), 630 m (472 kHz), 60 m (5.3 MHz), 30 m (10 MHz), 17 m (18 MHz) and 12 m (24 MHz). Non-contesting radio amateurs are encouraged to also use the contest-free bands during large international contests. Member societies are encouraged to publish contest operating segments clearly in the rules of their contests and that those segments are considered with due respect to the IARU band plans.

CW: Continuous Wave (CW) Telegraphy (A1A) QSO is permitted over the whole band, but preferably not in the beacon segments and repeater inputs.

DM: Digital Modes: Any mode devoted to digital data communication taking the bandwidth and application suggested for the segment (not for Digital Voice and Internet Voice Gateways). Examples: RTTY, PSK, FSK, etc.

DV: Digital Voice: Any mode based on digital encoded voice, restricted to the specified bandwidth and application of the segment. The non-voice digital embedded content must be an ancillary data, not the main purpose of the communication, except during emergency communications. Digital Voice users should first check if the channel is already in use by other stations and modes (including analog).

Emergency communications: Amateur Radio emergency communications are the preferred application over all other usage, especially on their specified frequencies during rescue operations.

Frequencies: The announced frequencies in the band plan are understood as “transmitted frequencies” and not those of the suppressed carrier.

IBP: International Beacon Project: Worldwide network of high-frequency radio beacons organized by IARU, sharing the same single frequency per band (20, 17, 15, 12 and 10 meters).

Image Modes: Any analog or digital image modes within the appropriate bandwidth of the segment. Examples: Slow Scan Television (SSTV) and facsimile (FAX).

IVG: Internet Voice Gateways: Simplex DV/FM communications linked by Internet (via VoIP and/or related systems) to establish a network. IVG are allowed only when directly specified on the segment.

NSS - Near Space Stations: Equipment located in temporary Near Space Stations (such as those carried by High Altitude Balloons) can transmit carefully on any frequency; exceptions are the segments with “exclusive” usage where “NSS” are not permitted. NSS must follow the BW and mode suggested for the segment and carefully observe the usual occupation of the band in the related region to avoid harmful interference. For longer missions and NSS crossing international and regional boundaries, extra care must be observed in harmonization of different allocations.

Point-to-point QSO: All frequencies can be used to establish point-to-point QSO with the specified mode and BW. However segments devoted to beacons, repeaters and satellites should be avoided.

Primary: The primary service authorized to use the specified band of frequencies according to ITU Radio Regulations for Region 2. Secondary users are not to cause interference to Primary users. Note that there may be more than one Primary user.

Repeaters: Repeaters are cited on band plan for voice traffic and also carry ancillary data in the cases of DV mode repeaters. Input segments could also be used for authorized links and controls related to the particular repeater input. Repeaters are allowed only when directly specified on the segment (except those on board satellites and spacecraft - able to transmit on specified satellite segments - and on board near space stations - see “NSS”).

Secondary: The secondary service authorized to use the specified band of frequencies according to ITU Radio Regulations for Region 2. Stations of a secondary service:

a. shall not cause harmful interference to stations of primary service to which frequencies are already assigned or to which frequencies may be assigned at a later date;

b. cannot claim protection from harmful interference from stations of a primary service to which frequencies are already assigned or may be assigned at a later date; and

c. can claim protection, however, from harmful interference from stations of the same or other secondary service(s) to which frequencies may be assigned at a later date.

Single Sideband (SSB), Amplitude Modulation (AM) and Frequency Modulation (FM): These modes are cited on the band plan for analog phone communications only (not for Digital Modes or Digital Voice).

Unmanned/unattended transmitting stations: IARU member societies are requested to limit this activity on HF bands. It is recommended that any unmanned/unattended transmitting stations on HF shall be activated only under operator control except for beacons agreed with IARU beacon coordinator or specially licensed experimental stations.

Upper Sideband (USB) and Lower Sideband (LSB): For SSB phone operations below 10 MHz use lower sideband (LSB); above 10 MHz use upper sideband (USB). Exception: On 60 m band (5.3 MHz) the best practice is to use upper sideband (USB).

The following additional terms may be encountered in the Band Plan:

ATV – Amateur Television
DX – Long distance or rare stations
EME – Earth Moon Earth, or “moonbounce” communications.
QRG – Q signal referring to frequency.
QRP – Q signal referring to low power operations.
QRS – Q signal referring to slow speed CW operations.

BAND PLANS

LF – LOW FREQUENCIES

2200 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
135.7 – 137.8	200	All Modes	(1)

Footnotes

1 – ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point and DX communications.

2 – Band is allocated on a Secondary basis in Region 2. Primary users are Fixed and Maritime Mobile stations.

MF – MEDIUM FREQUENCIES

630 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
472 - 479	500	CW, DM	(1)

Footnotes

1 – ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point and DX communications.

2 – Band is allocated on a Secondary basis in Region 2. Primary users are Maritime Mobile stations

160 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
1800-1810	500	DM	
1810-1830	200	CW	CW QRP Center of Activity 1812 kHz
1830-1839	200	CW	CW Priority for intercontinental operation (DX window)
1839-1840	200	CW, DM	CW Priority for intercontinental operation (DX window), ACDS (1)
1840-1843	2700	CW, SSB, DM (2)	SSB Priority for intercontinental operation (DX window)
1843-1850	2700	CW, SSB	SSB Priority for intercontinental operation (DX window)
1850-2000	2700 (*)	All modes	SSB QRP Center of Activity 1910 kHz

Footnotes

1 – ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point and DX communications.

2 – For DM use maximum 200 Hz of BW.

3 – Band is allocated on a Primary basis in Region 2. Radiolocation and Radionavigation stations are also Primary stations in the range 1850 – 2000 kHz.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

HF – HIGH FREQUENCIES

80 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
3500-3510	200	CW	Priority for intercontinental operation (DX window)
3510-3560	200	CW	CW QRS Center of Activity 3555 kHz, CW contest preferred
3560-3570	200	CW	CW QRP Center of Activity 3560 kHz
3570-3580	200	CW, DM	
3580-3590	500	CW, DM	
3590-3600	500	CW, DM	ACDS
3600-3625	2700 (*)	All modes	ACDS
3600-3650	2700	All modes	SSB contest preferred
3650-3700	2700	All modes	SSB QRP Center of Activity 3690 kHz
3700-3775	2700	All modes	SSB contest preferred, Image Center of Activity 3735 kHz, Emergency Center of Activity 3750 kHz
3775-3800	2700	All modes	Priority for intercontinental operation (DX window)
3800-3875	2700	All modes	
3875-3900	2700 (*)	All modes	Image Center of Activity 3845 kHz, AM Center of Activity 3885 kHz
3900-4000	2700	All modes	Emergency Center of Activity 3985 kHz

Footnotes

1 – Band is allocated on a Primary basis in Region 2. Note that shortwave broadcast stations in Regions 1 and 3 may be encountered above 3800 kHz however, and some countries in Region 2 do not permit use of the entire band.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

60 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
5351.5 - 5354	500	CW, DM	
5354 - 5366	2700	All Modes	
5366 – 5366.5	20	CW, DM	ACDS

Footnotes

1 – The band should be avoided for local nets, instead make use of adjacent amateur bands or alternative 5 MHz domestic channels (where available under ITU RR Article 4.4).

2 – Band is allocated on a Secondary basis in Region 2. Fixed and Mobile (except Aeronautical Mobile) stations are the Primary users. Not all countries in Region 2 have approved operations in this band yet, and some specify different frequencies than this band plan.

40 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
7000-7025	200	CW	Priority for intercontinental operation (DX window)
7025-7040	200	CW	QRP Center of Activity 7030 kHz
7040-7047	500	CW, DM	
7047-7050	500	CW, DM	ACDS
7050-7053	2700	All modes	ACDS
7053-7060	2700	All modes	R2 Emergency Center of Activity 7060 kHz
7060-7100	2700	All modes	SSB contest preferred, DV Center of Activity 7070 kHz, SSB QRP Center of Activity 7090 kHz
7100 - 7130	2700 (*)	All modes	
7130 - 7200	2700 (*)	All modes	SSB contest preferred, Image Center of Activity 7165 kHz
7200 - 7300	2700 (*)	All modes	R2 Emergency Center of Activity 7240 kHz, R2 Emergency Center of Activity 7275 kHz, SSB QRP Center of Activity 7285 kHz, AM Center of Activity 7290 kHz

Footnotes

(*) DSB AM phone is allowed with maximum 6 kHz BW.

1 – Band is allocated on a Primary basis in Region 2, except use of the band 7200-7300 kHz in Region 2 by the Amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

30 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
10100 - 10130	200	CW	CW QRP Center of Activity 10116 kHz
10130 - 10140	500	CW, DM	ACDS
10140 - 10150	2700	CW, DM	

Footnotes

1 – CW Beacons should be avoided.

2 – Band is allocated on a Secondary basis in Region 2. Fixed stations are the primary users.

20 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
14000-14025	200	CW	Priority for intercontinental operation (DX window)
14025-14060	200	CW	CW Contests preferred, CW QRS Center of Activity 14055 kHz
14060-14070	200	CW	CW QRP Center of Activity 14060 kHz
14070-14089	500	CW, DM	
14089-14099	500	CW, DM	ACDS
14099-14101	200	CW	IBP (exclusive)
14101-14112	2700	All Modes	ACDS
14112-14190	2700	All Modes	SSB Contest preferred
14190-14200	2700	All Modes	SSB Priority for intercontinental operation (DX window), SSB Contest preferred
14200-14285	2700	All Modes	SSB Contest preferred, Image Center of Activity 14230 kHz, SSB QRP Center of Activity 14285 kHz
14285-14300	2700 (*)	All Modes	AM Calling QRG 14285 kHz
14300-14350	2700	All Modes	Global Emergency Center of Activity 14300 kHz

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

17 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
18068-18095	200	CW	CW QRP Center of Activity 18086 kHz
18095-15105	500	CW, DM	
18105-18109	500	CW, DM	ACDS
18109-18111	200	CW	IBP (exclusive)
18111-18120	2700	All modes	ACDS
18120-18168	2700	All modes	QRP Center of Activity 18130 kHz, Global Emergency Center of Activity 18160 kHz

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

15 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
21000-21070	200	CW	CW QRP Center of Activity 21060 kHz
21070-21090	500	CW, DM	
21090-21110	500	CW, DM	ACDS
21110-21120	2700	CW, DM	ACDS
21120-21149	500	All modes	
21149-21151	200	CW	IBP (exclusive)
21151-21380	2700	All modes	SSB QRP Center of Activity 21285 kHz, Image Center of Activity 21340 kHz, Global Emergency Center of Activity 21360 kHz
21380-21450	2700 (*)	All modes	

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

2 – Amateur Satellite uplink signals are permitted in the subband 21125 to 21450 kHz on a non-exclusive basis. Satellite designers and operators shall avoid causing interference to the International Beacon Project (IBP) transmissions on 21150 kHz.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

12 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
24890-24915	200	CW	CW QRP Center of Activity 24906 kHz
24915-24925	500	CW, DM	
24925-24929	500	CW, DM	ACDS
24929-24931	200	CW	IBP (exclusive)
24931-24940	2700	All modes	ACDS
24940-24990	2700	All modes	SSB QRP Center of Activity 24950 kHz

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

10 METERS

Frequencies (kHz)	BW (Hz)	Mode	Applications and observations
28000-28070	200	CW	CW QRS Center of Activity 28055 kHz, CW QRP Center of Activity 28060 kHz
28070-28120	500	CW, DM	
28120-28150	500	CW, DM	ACDS
28150-28190	500	CW, DM	
28190-28225	200	CW	Beacons, IBP (exclusive) 28199-28201 kHz
28225-28300	2700	All modes	Beacons
28300-28320	2700	All modes	ACDS
28320-29000	2700	All modes	DV Center of Activity 28330 kHz, SSB QRP Center of Activity 28360 kHz, Image Center of Activity 28680 kHz
29000-29200	6000	All modes	AM preferred
29200-29300	6000	All modes	ACDS
29300-29510	6000	All Modes	Satellite
29510-29520			Guard band, no transmission allowed
29520-29590	6000	FM, DV	Repeater inputs (exclusive) (9 channels of 10 kHz from 29520-29590 kHz)
29590-29620	6000	FM, DV	FM calling QRG 29600 kHz
29620-29700	6000	FM, DV	Repeater outputs (9 channels of 10 kHz from 29620 to 26690 kHz)

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2.

VHF – VERY HIGH FREQUENCIES

6 METERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
50.000-50.100	500	CW	Beacons
50.100-50.125	2700	CW, SSB	DX window. Calling QRG (exclusive) 50.110 MHz
50.125-50.400	2700	CW, SSB, DM	PSK Center of Activity 50.305 MHz
50.400-50.500	2700 (*)	All modes	Beacons, ACDS (Digital Beacons)
50.500-50.600	2700 (*)	All modes	ACDS
50.600-50.800	12000	All modes	ACDS
50.800-51.000	12000	All modes	Radio remote control permitted (20 kHz channels)
51.000-51.110	2700	CW, SSB	DX window
51.110-51.480	12000	FM, DV	Repeater inputs (exclusive) (10 kHz channels starting at 51.120 MHz) (output +500 Hz)
51.500-51.600	12000	FM, DV	Simplex
51.620-51.980	12000	FM, DV	Repeater outputs (10 kHz channels starting at 51.620 MHz) (input -500 Hz)
52.000-52.100	12000	FM, DV	IVG (10 kHz channels)
52.100-54.000	12000	All modes	

Footnotes

1 – Band is allocated on a Primary exclusive basis in Region 2. Note that Broadcasting stations are the Primary users in Region 1.

(*) DSB AM phone is allowed with maximum 6 kHz BW.

2 METERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
144.000-144.025	2700	All modes	Satellites (Note 1)
144.000-144.110	500	CW	EME and Weak Signal
144.110-144.150	2700	CW, DM	EME and Weak Signal
144.150-144.180	2700	CW, DM, SSB	Weak Signal
144.180-144.275	2700	CW, SSB	Weak Signal, Calling QRG (exclusive) 144.200 MHz
144.275-144.300	500	CW	Beacons
144.300-144.360	2700	CW, SSB	Calling QRG 144.300 MHz
144.360-144.400	12000	DM	ACDS, APRS Center of Activity 144.390 MHz
144.400-144.500	500	CW, DM	Beacons, ACDS (Digital Beacons) (Note 2)
144.500-144.600			Local Option
144.600-144.900	12000	FM, DV	Repeater inputs (exclusive) (output +600 kHz)
144.900-145.000	12000	FM, DV	Weak Signal

145.000-145.100	12000	All modes	ACDS, IVG (10 kHz channels) (Note 3)
145.100-145.200			Local Option
145.200-145.500	12000	FM, DV	Repeater outputs (input -600 kHz)
145.500-145.790	12000	All modes	
145.790-145.800			Guard band, no transmission allowed
145.800-146.000	12000	All modes	Satellites (exclusive)
146.000-146.390	12000	FM, DV	Repeater inputs (exclusive) (output +600 kHz) (Channels from 146.01-146.37 MHz)
146.390-146.600	12000	FM, DV	FM Calling Freq. 146.520 MHz
146.600-146.990	12000	FM, DV	Repeater outputs (input -600 kHz) (last channel 146.970 MHz)
146.990-147.400	12000	FM, DV	Repeater inputs (exclusive) (output +600 kHz) (first channel 147.000 MHz)
147.400-147.590	12000	FM, DV	
147.590-148.000	12000	FM, DV	Repeater outputs (input -600 kHz)

Footnotes

1 – Designers and operators of satellites using this section shall not transmit below 144.0025 MHz so that a necessary guard band is provided at the bottom band edge.

2 - 144.490 MHz may be used for FM voice uplinks to the International Space Station. Priority should be given to this activity when required.

3 - In Caribbean region 145.010 MHz must be protected for APRS operation.

4 – Band is allocated on a Primary exclusive basis in Region 2.

1.25 METER

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
220.000-222.000	12000	All modes	ACDS
222.000-222.050	500	CW, DM	EME and Weak Signal
222.050-222.060	500	CW	Beacons
222.060-222.070	500	CW, DM	Beacons, ACDS (Digital Beacons)
222.070-222.100	500	CW, SSB, DM	Weak Signal, SSB/CW Calling QRG 222.100 MHz
222.100-222.150	2700	CW, SSB	Weak Signal
222.150-222.250			Local Option
222.250-223.380	12000	FM, DV	Repeater inputs (exclusive) (output +1600 kHz)
223.380-223.520	12000	FM, DV	
223.520-223.640	12000	All modes	ACDS
223.640-223.700	12000	All modes	ACDS, Links and control auxiliary to repeaters
223.700-223.750	12000	FM, DV	ACDS, IVG (10 kHz channels)
223.750-223.850	12000	FM, DV	Local Option

223.850-225.000	12000	FM, DV	Repeater outputs (20 kHz channels) (input -1600 kHz)

Footnotes

1 – Band is allocated on a Primary basis in Region 2, but is shared with Fixed and Mobile as other Primary users, and Radiolocation as a Secondary user. Not all countries in Region 2 have access to the complete band.

UHF – ULTRA HIGH FREQUENCIES

70 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
420.000-426.000		ATV	ATV repeater or simplex with 421.25 MHz video carrier control links and experimental
426.000-432.000		ATV	ATV simplex with 427.25 MHz video carrier frequency (Note 1)
432.000-432.025	500	CW	EME
432.025-432.100	500	CW, DM	EME and Weak Signal
432.100-432.300	2700	CW, SSB	Weak Signal, SSB/CW Calling Frequency 432.1 MHz
432.300-432.400	500	CW	Beacons
432.400-432.420	2700	CW, DM	Beacons, ACDS (Digital Beacons)
432.420-433.000	2700	CW, SSB, DM	
433.000-433.050	12000	DM	ACDS
433.050-433.100	12000	All modes	IVG
433.100-435.000			Local Option
435.000-438.000		All modes	Satellite (exclusive)
438.000-450.000			Local Option (Note 1)

Footnotes

1 – For countries without 430-450 MHz full Amateur Service range, the 430-432 MHz and 438-450 MHz segments must be used according local options.

2 – Band is allocated on a Secondary basis is Region 2. Primary users include Fixed, Mobile and Radiolocation stations.

33 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
902.000-902.075			Local option
902.075-902.125	2700	CW, SSB	Weak signal, Calling Frequency 902.1 MHz
902.125-903.000	12000	FM, DV	Repeater inputs (output +25 MHz) (12.5 kHz channel spacing)
903.000-903.100	2700	CW, SSB, DM	Weak Signal, Beacons, ACDS (Digital Beacon)
903.100-903.400	2700	CW, SSB	Weak Signal. Calling Frequency 903.1 MHz

903.400-909.000		All modes	Mixed operations including control links
909.000-927.000		All modes	Broadband multimedia including ATV, DATV and SS.
927.000-927.075			Local option
927.075-927.125		FM, DV	Simplex
927.125-928.000		FM, DV	Repeater outputs (input -25 MHz)

Footnotes

1 – Band is allocated on a Secondary basis in Region 2. Fixed and Mobile users (except Aeronautical Mobile) are the Primary users. Radiolocation is another Secondary user.

23 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
1240.000-1246.000		ATV	ATV Channel 1
1246.000-1248.000	20 kHz	FM, DV	Point-to-point links paired with 1258.000-1260.000
1248.000-1252.000	20 kHz	DM	
1252.000-1258.000		ATV	ATV Channel 2
1258.000-1260.000	20 kHz	FM, DV	Point-to-point links paired with 1246.000-1248.000
1260.000-1270.000		All modes	Priority to Satellite uplinks, Experimental, Simplex ATV
1270.000-1276.000	20 kHz	FM, DV	Repeater inputs, 25 kHz channel spacing, paired with 1282.000-1288.000
1270.000-1274.000	20 kHz	FM, DV	Repeater inputs, 25 kHz channel spacing, paired with 1290.000-1294.000 (Regional option)
1276.000-1282.000		ATV	ATV Channel 3
1282.000-1288.000	20 kHz	FM, DV	Repeater outputs, 25 kHz channel spacing, paired with 1270.000-1276.000
1288.000-1294.000		All modes	Broadband Experimental. Simplex ATV
1290.000-1294.000	20 kHz	FM, DV	Repeater outputs, 25 kHz channel spacing, paired with 1270.000-1274.000 (Regional option)
1294.000-1295.000	20 kHz	FM, DV	FM simplex calling frequency 1294.500 MHz
1295.000-1295.800		All modes	Narrow Band Image, Experimental
1295.800-1296.080	2700	CW, SSB, DM	EME and Weak Signal
1296.080-1296.200	2700	CW, SSB	Weak Signal, CW/SSB calling frequency 1296.100 MHz

1296.200-1296.400	500	CW, DM	Beacons, ACDS (Digital Beacon)
1296.400-1297.000	2700	All modes	General Narrow Band
1297.000-1300.000	150 kHz	DM	

Footnotes

1 – Band is allocated on a Secondary basis in Region 2. Radiolocation is the Primary user, with Radionavigation (Satellite) another Primary user in the range 1240 – 1260 MHz.

13 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
2300.000-2303.000	1 MHz	All mode	Analog & Digital, including full duplex; paired with 2390 – 2393 MHz
2303.000-2303.750	50 kHz	All mode	Analog & Digital; paired with 2393 - 2393.750 MHz
2303.750-2304.000	3000	CW, SSB, DM	Weak Signal
2304.000-2304.100	3000	CW, SSB, DM	EME and Weak Signal
2304.100-2304.300	3000	CW, SSB, DM	Weak Signal. Calling Frequency 2304.100 MHz
2304.300-2304.400	3000	CW, DM	Beacons, ACDS (digital beacons)
2304.400-2304.750	6000	CW, SSB, DM, NBFM	Weak Signal
2304.750-2305.000	50 kHz	All mode	Analog & Digital; paired with 2394.750 – 2395 MHz
2305.000-2310.000	1 MHz	All mode	Analog & Digital, paired with 2395 – 2400 MHz
2310.000-2390.000			Local Option
2390.000-2393.000	1 MHz	All modes	Analog & Digital, including full duplex; paired with 2300-2303 MHz
2393.000-2393.750	50 kHz	All modes	Analog & Digital; paired with 2303 - 2303.750 MHz
2393.750-2394.750		All modes	Experimental
2394.750-2395.000	50 kHz	All modes	Analog & Digital; paired with 2304.750 – 2305 MHz
2395.000-2400.000	1 MHz	All modes	Analog & Digital, including full duplex; paired with 2305-2310 MHz
2400.000-2450.000		All modes	Satellites (1)

Footnotes

1 – Broadband applications can be used in 2410 – 2450 MHz with the maximum BW of 22 MHz. The broadband applications should not cause interference on satellites communications.

2 – Band is allocated on a Secondary basis in Region 2. Fixed, Mobile and Radiolocation stations are the Primary users. ISM users may also be encountered.

SHF – SUPER HIGH FREQUENCIES

9 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
3300.000-3309.000	1 MHz	All modes	Analog & Digital, including Full Duplex; paired with 3430.0-3439.0 (130 MHz split)
3309.000-3310.000		All modes	Experimental
3310.000-3330.000	1 MHz	All modes	Analog & Digital, including Full Duplex; paired with 3410.0-3430.0 (100 MHz split)
3330.000-3332.000		All modes	Experimental
3332.000-3339.000	--	--	Radio Astronomy protected band
3339.000-3345.800	1 MHz	All modes	Analog & Digital, including Full Duplex; paired with 3439.0-3445.8; (100 MHz Split)
3345.800-3352.500	--	--	Radio Astronomy protected band
3352.500-3355.000	200 kHz	All modes	Analog & Digital, including Full Duplex; paired with 3452.5-3455.0 (100 MHz split)
3355.000-3357.000		All modes	Experimental
3357.000-3360.000	50 kHz	All modes	Analog & Digital, including Full Duplex; paired with 3457.0-3460.0
3360.000-3400.000	22 MHz	DM	Broadband Applications, ATV at local option on 3360-3380
3400.000-3400.300	3000	CW, SSB, DM	EME, EME Calling Freq. 3400.100 MHz, Satellite
3400.300-3401.000	3000	CW, SSB, DM	Weak Signals, Satellite (1)
3401.000-3410.000		All modes	Satellite
3410.000-3430.000	1 MHz	All modes	Analog & Digital, including Full Duplex; paired with 3310.0-3330.0 (100 MHz split)
3430.000-3439.000	1 MHz	All modes	Analog & Digital, including Full Duplex; paired with 3300.0-3309.0 (130 MHz split)

3439.000-3445.800	1 MHz	All modes	Analog & Digital, including Full Duplex; paired with 3339.0-3345.8 (100 MHz split)
3445.800-3452.500		All modes	Experimental
3452.500-3455.000	200 kHz	All modes	Analog & Digital, including Full Duplex; paired with 3352.5-3355.0 (100 MHz split)
3455.000-3455.500	100 kHz	All modes	Crossband linear translator (input or output)
3455.500-3456.300	6000	CW, SSB, DM, NBFM	Weak Signal. Calling Freq. 3456.100 MHz
3456.300-3457.000	1000	CW, DM	Beacons, ACDS (Digital beacons)
3457.000-3460.000	50 kHz	All modes	Analog & Digital, including Full Duplex; paired with 3357.0-3360.0 (100 MHz Split)
3460.000-3500.000	22 MHz	All modes	Broadband Applications. ATV at local option on 3460-3480 MHz

Footnotes

1 – There are no restrictions for modes and bandwidth for satellites communications. Care should be taken to avoid interference to adjacent segments.

2 – Per ITU RR 5.149 from WRC-07, 3332-3339 and 3345.800-3352.500 are segments also used for Radio Astronomy. Amateur use of these frequencies should first consider contact with your national Radio Astronomy authority.

3 – Band is allocated on a Secondary basis in Region 2. Radiolocation stations are the Primary users in the range 3300 – 3400 MHz, with Fixed and Mobile stations Secondary users. Fixed and Fixed-Satellite (space to Earth) are the Primary users in the range 3400 – 3500 MHz, with Mobile and Radiolocation stations Secondary.

5 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
5650-5670		All modes	Satellite (uplink)
5650-5760		All modes	
5760–5760.3	2700	All modes	EME and Weak Signal. Calling Freq. 5760.1 MHz
5760.3-5761	2700	CW, DM	Beacons, ACDS (Digital Beacons)
5761-5765		All modes	Weak Signal
5765-5850		All modes	
5830-5850		All modes	Satellite (downlink)
5850-5925		All modes	

Footnotes

1 – ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point and DX communications.

2 – Band is allocated on a Secondary basis in Region 2. Radiolocation stations are the Primary users in the range 5650 – 5725 MHz, with Space Research (Deep Space) another Secondary user. Radiolocation is the Primary user in the range 5725 – 5850 MHz. Fixed, Fixed-Satellite and Mobile stations are the Primary users in the range 5850 – 5925 MHz, with Radiolocation as another Secondary user.

3 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
10000.0-10368.0		All mode	Calling Freq. 10364 MHz
10368.0-10368.3	2700	All mode	Weak Signal, Narrow band Calling Freq. 10368.1 MHz
10368.3-10368.4		All mode	Beacons
10368.4-10380.0		All mode	Weak Signal Guard Band
10368.0-10450.0		All mode	
10450.0-10500.0		All mode	Satellite

Footnotes

1 – ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

2 – 10.450-10.452 GHz may be also used for Narrow Band modes and Earth-Moon-Earth (EME) communications with countries where the usual EME frequencies near 10.368 GHz are not available.

3 - 10.360-10.380 GHz operation should be carefully used to provide a guard band to protect against interference between narrowband stations near 10.368 GHz and wideband stations, which typically suffer from several MHz of drift and frequency setting error. This takes into account the trend toward more home station operation (including EME) on narrowband modes, where one cannot get away from interference by simply moving to a new operating site.

4 – Band is allocated on a Secondary basis in Region 2. Radiolocation is the Primary user in the band.

1.2 CENTIMETERS

Frequencies (MHz)	BW (Hz)	Mode	Applications and observations
24000-24048		All mode	10368.4-10380.0
24048-24048.75	2700	All mode	Narrow band center of activity 24048.2 MHz, Satellite (1)
24048.75-24048.80	2700	All mode	Beacons, ACDS (Digital Beacons)
24048.80-24048.995	2700	All mode	Beacons
24049-24050	2700	All mode	Narrow band modes, Satellite (1)
24050-24250		All mode	24125 MHz Preferred operating frequency for wide-band

Footnotes

1 – There are no restrictions for modes and bandwidth for satellites communications. Care should be taken to avoid interference to adjacent segments.

2 - Between 24 and 24.050 GHz the Amateur and Amateur Satellite service have a Primary/exclusive status, while the status is Secondary in the remainder of the allocation. Radiolocation stations are the Primary users in the range 24.05 – 24.25 GHz. The All mode section in the secondary segment should only be used in cases where the preferred segment cannot be used.

3 - ACDS can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

EHF – EXTREMELY HIGH FREQUENCIES

6 MILLIMETERS

Frequencies (GHz)	BW (Hz)	Mode	Applications and observations
47.000-47.088		All mode	
47.088-47.090	2700	All mode	Narrow band center of activity 47.088200 GHz, Satellite (1)
47.090-47.200		All mode	

Footnotes

1 – There are no restrictions for modes and bandwidth for satellites communications. Care should be taken to avoid interference to adjacent segments.

2 - ACDS and beacons can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

3 – Band is allocated on a Primary exclusive basis in Region 2.

4 MILLIMETERS

Frequencies (GHz)	BW (Hz)	Mode	Applications and observations
76.000-77.500	2700	All mode	Narrow band center of activity 76.0322 GHz
77.500-77.501	2700	All mode	Narrow band center of activity 77.5002 GHz, Satellite (1)
77.501-78.000		All mode	
78.000-81.500		All mode	

Footnotes

1 – There are no restrictions for modes and bandwidth for satellites communications. Care should be taken to avoid interference to adjacent segments.

2 - Between 77.5 and 78 GHz the Amateur and Amateur Satellite service have a Primary status, while the status is secondary in the remainder of the allocation. The all mode section in the secondary segment should only be used in case the preferred segment cannot be used.

3 - ACDS and beacons can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

4 – Radio Astronomy is a Secondary user in the range 76 – 77.5 GHz.

2.5 MILLIMETERS

Frequencies (GHz)	BW (Hz)	Mode	Applications and observations
122.250-122.251	2700	All mode	Narrow band modes
122.251-123.000		All mode	

Footnotes

1 – ACDS and beacons can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

2 – Band is allocated on a Secondary basis in Region 2. Fixed, Inter-satellite and Mobile stations are the Primary users.

2 MILLIMETERS

Frequencies (GHz)	BW (Hz)	Mode	Applications and observations
134.000-134.928		All modes	Satellite
134.928-134.930	2700	All modes	Narrow band center of activity 134.930 GHz
134.930-136.000		All modes	
136.000-141.000		All modes	

Footnotes

1 – Between 134 and 136 GHz the Amateur and Amateur Satellite service have a Primary/exclusive status, while the status is Secondary in the remainder of the allocation. The all mode section in the secondary segment should only be used in case the preferred segment cannot be used.

2 – ACDS and beacons can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

3 – Radio Astronomy is a Secondary user in the range 134 – 136 GHz. Radio Astronomy and Radiolocation are the Primary users in the range 136 – 141 GHz.

1 MILLIMETER

Frequencies (GHz)	BW (Hz)	Mode	Applications and observations
241.000-248.000		All modes	
248.000-248.001		All modes	Satellite and narrow band
248.001-250.000		All modes	

Footnotes

1 – Between 248 and 250 GHz the Amateur and Amateur Satellite service have a Primary/exclusive status, while the status is Secondary in the remainder of the allocation. Radiolocation stations are the Primary user in the range 241 – 248 GHz. The All mode section in the secondary segment should only be used in cases where the preferred segment cannot be used.

2 - ACDS and beacons can be used carefully on appropriate frequencies, not to exceed the maximum bandwidth specified for the segment. ACDS should not cause interference to point-to-point, satellite and DX communications.

275 GHz to 3000 GHz

ITU has not allocated this segment to any radio service, but some administrations protected passive applications in portions between 275 and 1000 GHz (Radio Astronomy, Earth exploration-satellite service and space research service). Amateur Radio on 322 GHz, 403 GHz and 411 GHz. Experimenters should check local rules before the activity.

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