



*Wireless Institute of Australia*

# ***Australian Amateur Band Plans***

Updated July 2018



# Australian Amateur Band Plans

## *Introduction*

### **Spectrum Management**

International spectrum management is the responsibility of the International Telecommunications Union (ITU). The ITU Radio Regulations allocate separate bands for each service such as fixed, mobile, broadcasting or amateur. Some bands are shared by more than one service.

When bands are shared, services designated "Primary" are entitled to full protection from interference caused by secondary services. Secondary services must tolerate interference from primary services operating in the same band, and not cause any interference to primary services. Other services may also be permitted to share bands with primary and secondary services on a non-interference basis.

Each ITU member nation implements the Radio Regulations within its borders. Most member nations follow the ITU allocation tables fairly closely, although they do have the right to make variations to suit local requirements. In Australia, spectrum management is the responsibility of the Australian Communications and Media Authority (ACMA). It determines frequency allocations and licence conditions for all transmitting stations in Australia and its territories.

### **Amateur Self-Regulation**

Amateurs use a wide variety of different modes. Within one amateur band, activity can include CW, voice, satellite and EME activity, and ATV. The best way of avoiding clashes is to set aside different band segments for each of these activities, so that all amateurs can pursue their interests without interference.

Amateur band plans are voluntary agreements, often known as "Gentlemen's Agreements". They are sponsored by the WIA, but they are for the benefit of all amateurs. Most amateurs - WIA members or not - abide by the band plans because it makes sense to give everyone a fair go. Clashes still occur at times, and the usual reason is lack of awareness of the band plans. Most amateurs are willing to change frequency if the problem is explained to them politely.

### **Band Planning Guidelines**

Band plans need to satisfy a number of conflicting criteria:

- They should take local conditions into account, but they should be consistent with international usage.
- They should encourage spectrum efficiency, but they should also ensure that all modes have their fair share of spectrum space.
- They should take the popularity of each mode into account, while still providing enough spectrum space for less popular activities. For example, ATV requires far more bandwidth per operator than other modes; and activities such as EME are of major importance regardless of the number of stations involved.
- Band plans must be flexible enough to adapt to changing needs, but they tend to lose support if they are changed too often. The aim must be to think ahead and to make sure that future options are not closed off.

### **Mode Compatibility**

Some modes require exclusive band segments, but others can coexist with similar modes in the same part of the band. On the HF bands, there are three main mode divisions: CW, digital data modes, and SSB. Image modes such as SSTV are usually sent as SSB signals, so these modes can be used in the SSB band segments. The same applies to digital voice modes that occupy much the same bandwidth as an SSB signal.

AM receives little use nowadays because it is less efficient than SSB and occupies twice as much bandwidth. But it can still be found, mainly on 160 metres and sometimes around 29 MHz.

On 10 metres, there is also a fourth category for FM. This mode is quite popular above 29 MHz, but it should not be used on lower frequencies because of its wide bandwidth. It should also be noted that most HF radios, when running FM, cannot comply with ACMA's bandwidth limit of 8 kHz for operation on bands below 10 metres.

On the VHF-UHF bands, the grouping of modes is slightly different. The three main groups are:

- CW and SSB: the preferred modes for weak signal work, including digital DX modes using SSB bandwidths.
- FM: not suitable for weak signal work and not compatible with SSB or CW. This category also includes modes such as packet, which usually use FM mode on the VHF bands.
- ATV: requires a very large bandwidth but has a very low power density, so it needs an exclusive interference-free band segment.

### Calling Frequencies

On the VHF bands, the band plans include calling frequencies. These frequencies are "meeting places" and should be used only to make initial contact before moving to another frequency. If you "hog" the calling frequency you will prevent others from making calls or hearing more distant stations that may appear on the frequency.

### Beacons

Beacons give an indication of band conditions and provide a warning of DX openings. They also serve as test signals for receiver calibration and testing. There should be no other transmissions within the beacon segments or on their band edges. This applies even if you are hundreds of kilometres away from the nearest beacon.

On the VHF/UHF bands, beacon frequencies are allocated according to a geographic allocation plan with a frequency spacing of 2 kHz. Further details on beacon frequency allocations are available from the Technical Advisory Committee.

### Satellite Segments

The band plans provide separate band segments for satellite operation. Satellite downlink bands should be kept clear of other transmissions at all times - right to the band edges. On bands where the satellite band joins an FM segment, there should be no FM operation on the bandedge.

### FM Segments















FM operators can operate on any simplex channel. The band plan SSB and beacon segments should be avoided at all times. It is also a good idea to avoid operating simplex on repeater input channels - you may unintentionally key up a distant repeater.

Newer digital voice modes such as D-Star and Fusion commonly share the band plan FM segments.

### Further Information

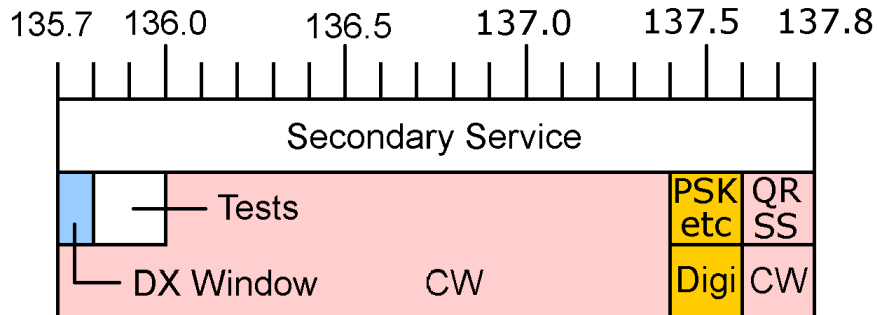
The band plans are reviewed regularly, to keep up to date with changing patterns of activity. The band plans apply in all states, so any changes must be discussed and agreed in all states before they are adopted. If a proposed new application requires a change to the band plan, or if you are aware of any band planning problems in your area, please advise the Technical Advisory Committee.

## Key to the Colours used in the Band Plan Diagrams

	CW		FM		Links
	NB Digi		Digital Voice		Satellites
	SSB		Wide Band		DX Window
	All NB Modes		ATV		Restricted Segment
	Beacons		All Modes		

## LF and MF bands

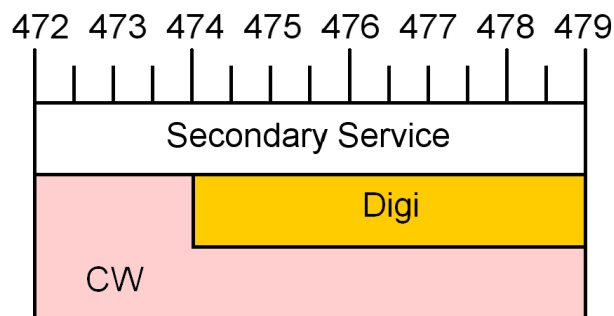
### 2200 metre band – Advanced licensees only



ACMA licence conditions permit any mode with a maximum bandwidth of 2.1 kHz, and a maximum EIRP of 1 watt pX. The following interim band plan is based on the unofficial plan adopted by LF operators in Region I.

135.7 - 137.4 kHz	CW only
135.7 - 135.8 kHz	International DX window
135.8 - 136.0 kHz	Test transmissions and test beacons
136.0 - 137.4 kHz	Normal CW operation (centre of activity 136.5 kHz)
137.4 - 137.6 kHz	Narrow band digital modes, e.g. PSK (centre of activity 137.5 kHz)
137.6 - 137.8 kHz	Slow CW modes, e.g. QRSS

### 630 metre band - Advanced licensees only



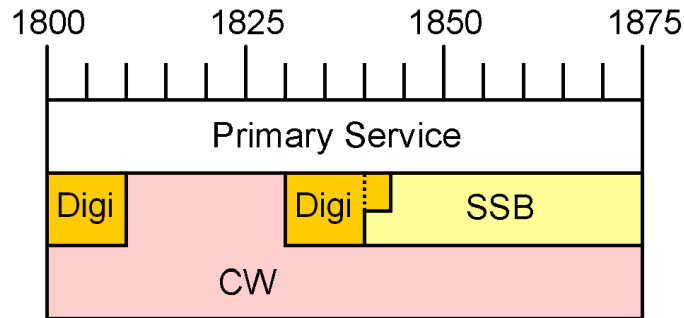
ACMA licence conditions permit any mode with a maximum bandwidth of 2.1 kHz, and a maximum EIRP of 5 watts pX. The following interim band plan is based on current activity in Region I.

472.0 - 479.0	CW
472.5	Recommended centre frequency for international DX
474.0 - 479.0	Narrow band digital data modes
474.2 *	WSPR (475.6 - 475.8 kHz)
476.0 *	ROS (477.4 - 477.6 kHz)
476.175 *	QRSS (477.175 - 477.185 kHz)
477.0 *	WSJTX (478.0 - 478.5 kHz)
477.0 *	Opera (478.5 - 478.8 kHz)

\* USB dial frequency. Frequencies in brackets denote actual occupied bandwidth.

ACMA licence conditions also allow SSB, with a maximum occupied bandwidth of 2.1 kHz. Two frequencies have been suggested: 479.3 kHz or 476.0 kHz (both LSB, with an audio bandwidth of 300 - 2400 Hz). However SSB operation in this band is not recommended because it will overlap frequencies that are used for CW or digital modes. Users of this band will need to exercise tolerance and restraint. SSB operators are advised to avoid using this band, or to voluntarily restrict their activities to daylight hours.

## 160 metre band – Advanced licensees only



1800 - 1875	CW	
1800 - 1810	Digital data modes - Region II DX window	(Note 1)
1830 - 1840	Digital data modes - Region III	(Note 1)
1838 - 1843	Digital data modes - Region I DX window	(Note 1)
1839 - 1843	Digital data modes - Region II DX window	(Note 1)
1840 - 1875	SSB / AM	(Note 2)

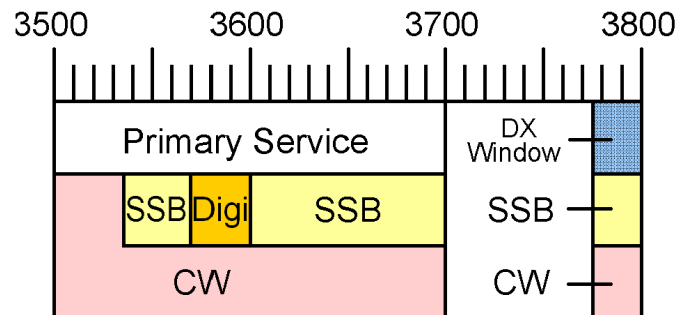
Note the different digital segments used in the three IARU regions. It is recommended that digital operation should be within the Region III segment whenever possible, except at times when it is essential to operate in the Region I or II DX windows.

Operation may vary from the band plan during times when all stations within working range are in full daylight.

## HF bands

Footnotes for these bands appear after the 10 metre listing.

## 80 metre band – 3500 -3700 kHz All licence classes 3776 - 3800 kHz Advanced licensees only



3.500 - 3.700	CW	
3.535 - 3.570	SSB	
3.570 - 3.600	Digital data modes	(Note 1)
3.600 - 3.700	SSB	(Note 2)
3.600	WICEN frequency	
3.600	IARU Region III emergency centre frequency	
3.776 - 3.800	DX Window	

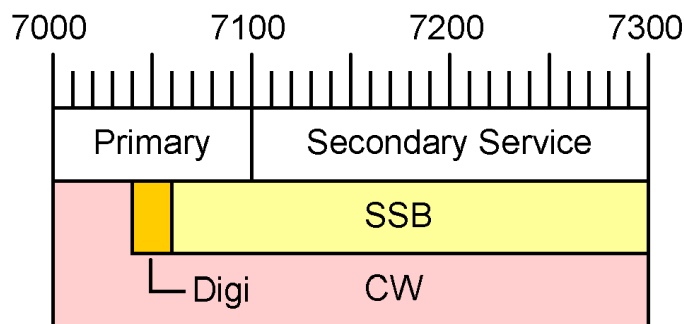
### NOTE: DX WINDOW

Emissions must not extend below 3776 kHz. Therefore when using LSB, the suppressed carrier frequency should be no lower than 3779 kHz.

## 60 metre band

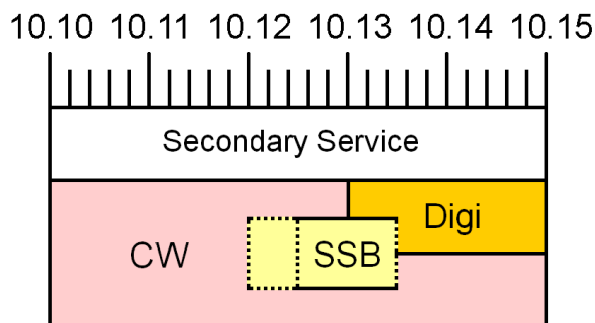


## 40 metre band – All licence classes



7.000 - 7.300	CW	
7.040 - 7.060	Digital data modes (expanded IARU segment)	(Note 1)
7.060 - 7.300	SSB	(Note 2)
7.075	WICEN frequency	
7.110	IARU Region III emergency centre frequency	

## 30 metre band – Advanced licensees only

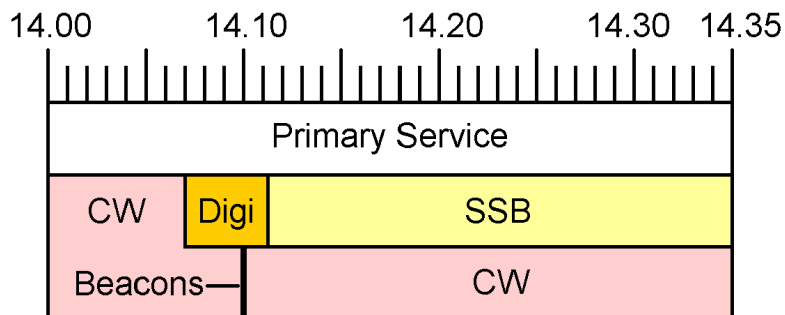


10.100 - 10.150	CW	
10.125 - 10.135	SSB:recommended segment	
10.130 - 10.150	Digital data modes	(Note 1)

### NOTE: SSB OPERATION

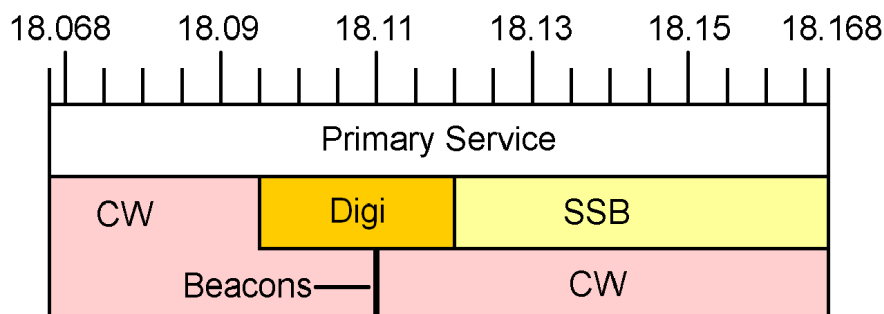
To reduce the likelihood of interference between stations using SSB and narrow band modes, it is recommended that SSB stations operate above 10.125 MHz whenever possible.

## 20 metre band – Advanced & Standard licensees



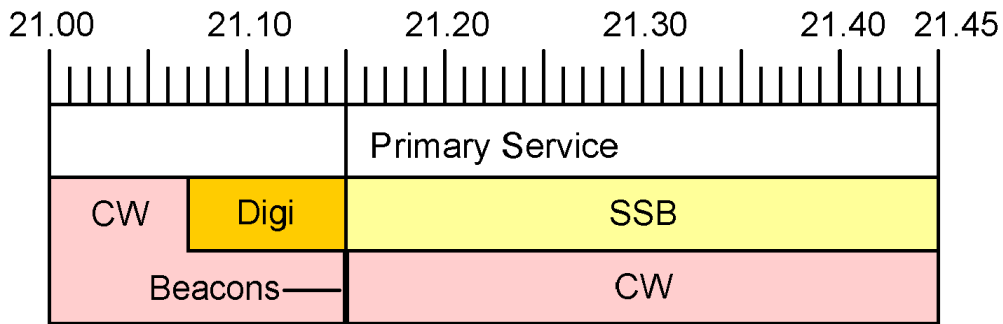
14.000 - 14.350	CW	
14.070 - 14.112	Digital data modes	(Note 1)
14.100	IBP Beacons	(Note 3)
14.112 - 14.350	SSB	(Note 2)
14.125	WICEN frequency	
14.230	SSTV calling frequency	(Note 2)
14.250	FAX calling frequency	(Note 2)
14.300	IARU Region III emergency centre frequency	

## 17 metre band – Advanced licensees only



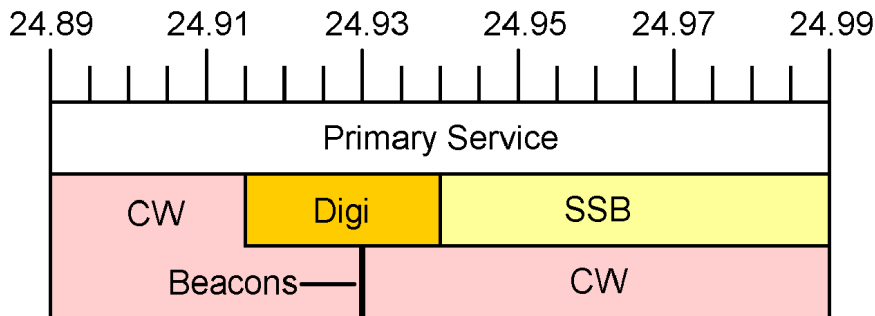
18.068 - 18.168	CW	
18.095 - 18.120	Digital data modes	(Note 1)
18.110	IBP Beacons	(Note 3)
18.110 - 18.168	SSB	
18.150	WICEN frequency	
18.160	IARU Region III emergency centre frequency	

## 15 metre band – All licence classes



21.000 - 21.450	CW	
21.070 - 21.150	Digital data modes	(Note 1)
21.150	IBP Beacons	(Note 3)
21.150 - 21.450	SSB	(Note 2)
21.190	WICEN frequency	
21.340 +/- 5 kHz	SSTV calling frequency	(Note 2)
21.360	IARU Region III emergency centre frequency	

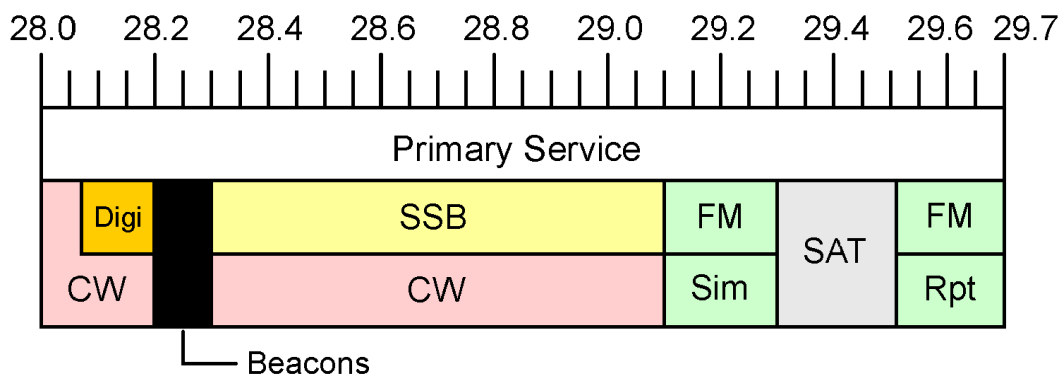
## 12 metre band – Advanced licensees only



24.890 - 24.990	CW	
24.915 - 24.940	Digital data modes	(Note 1)
24.930	IBP Beacons	(Note 3)
24.930 - 24.990	SSB	
24.950	WICEN frequency	



## 10 metre band – All licence classes



28.000 - 28.200	CW AND DIGITAL MODES	(Note 1)
28.000 - 28.070	CW	
28.070 - 28.190	Digital data modes	
28.190 - 28.200	IBP Beacons	(Note 3)
28.200 - 28.300	Continuous Duty Beacons	(Note 3)
28.300 - 29.100	CW / SSB / AM	(Note 2)
28.390	Recommended intra-VK calling frequency	
28.450	WICEN frequency	
28.680 +/- 5 kHz	SSTV calling frequency	(Note 1)
28.885	International 6 Metre liaison frequency	
29.110 - 29.290	FM SIMPLEX	(Note 5)
29.120	Simplex repeater gateway frequency	
29.200	National calling frequency	
29.250	Recommended packet frequency	
29.300 - 29.510	AMATEUR SATELLITES	(Note 4)
29.510 - 29.700	FM REPEATERS AND SIMPLEX	(Note 6)
29.520 - 29.580	Repeater inputs	
29.600	International simplex calling frequency	
29.620 - 29.680	Repeater outputs	

### Notes for the LF, MF and HF bands

#### Note 1: Digital Data Modes

This category includes all data modes using FSK, MFSK, PSK or other digital modulation systems.

#### Note 2: Other Modes in the SSB Segments

The SSB segments are also used for digital voice modes and image transmission modes such as SSTV or Fax, using bandwidths up to 4 kHz, or for AM voice. AM is not a recommended mode on the HF bands because of its bandwidth, but it is fully legal and is used on several bands.

#### Note 3: Beacons

The beacon segments should be kept clear of all other transmissions.

#### Note 4: Amateur Satellites

Amateur satellites may operate in the bands 7.0 - 7.1, 14.0 - 14.250, 18.068 - 18.168, 21.0 - 21.45, 24.89 - 24.99 and 28.0 - 29.7 MHz. Current satellites operate between 21.160 - 21.300 and 29.300 - 29.500 MHz. The 10 metre satellite segment should be kept clear of all other transmissions.

#### **Note 5: FM Simplex**

Maximum permitted bandwidth for FM is 16 kHz on 10 metres, and 8 kHz on lower bands. Most multimode transceivers cannot comply with the 8 kHz bandwidth limit and should not be used in FM mode below 10 metres. Please avoid operation on 29.300 or 29.500 MHz, as this can interfere with satellite downlinks.

#### **Note 6: FM Repeaters**

The standard repeater input frequencies are 29.52, 29.54, 29.56 and 29.58 MHz. Some overseas repeaters operate on 10 kHz spaced channels. Repeater offset is 100 kHz.

### ***Supplementary information: Special purpose frequencies on the LF, MF and HF bands***

The following frequencies are used internationally for special purposes. Note that some of these frequencies differ from those in the Australian or IARU band plans. They are listed here for information only and are not intended to be prescriptive.

#### **Recommended IARU Region III centre frequencies for emergency operation**

IARU Region III has adopted the following frequencies as recommended emergency centre of activity frequencies: 3.600, 7.110, 14.300, 18.160 and 21.360 MHz. As an IARU member society, the WIA has also adopted these recommended frequencies. "Centre of Activity" frequencies are not spot frequencies or net frequencies. They are recommended as starting points for emergency traffic which may extend 5 kHz above or below the designated centre frequency.

#### **AM**

160 metres: The upper portion of the band is recommended for AM use.

40 metres: There is crystal controlled AM operation around 7125 kHz (daytime only).

10 metres: Recommended segment for AM is 29.0 - 29.1 MHz.

#### **Digital data modes**

RTTY 3.590, 7.043, 10.143, 14.080, 18.105, 21.080, 24.925, 28.080

PSK 1.838, 3.580, 7.040, 10.141, 14.070, 18.098, 21.070, 24.920, 28.070

JT65 \* 136.13, 474.2, 1.838, 3.576, 7.076, 10.138, 14.076, 18.102, 21.076, 24.917, 28.076

JT9 \* 138.13, 476.2, 1.839, 3.572, 7.078, 10.140, 14.078, 18.104, 21.078, 24.919, 28.078

WSPR \* 136.0, 474.2, 1.8366, 3.5926, 7.0386, 10.1386, 14.0956, 18.1046, 21.0946, 24.9246, 28.1246

FT8 \* 1.840, 3.573, 7.074, 10.136, 14.074, 18.100, 21.074, 24.915, 28.074

\* Indicated dial frequency using USB mode.

#### **Other specialist frequencies**

QRP crystal locked CW: 3.579, 10.116

Digital voice: 3.630, 7.070, 14.130, 18.150, 21.180, 28.330

SSTV: 14.230, 21.340, 28.680

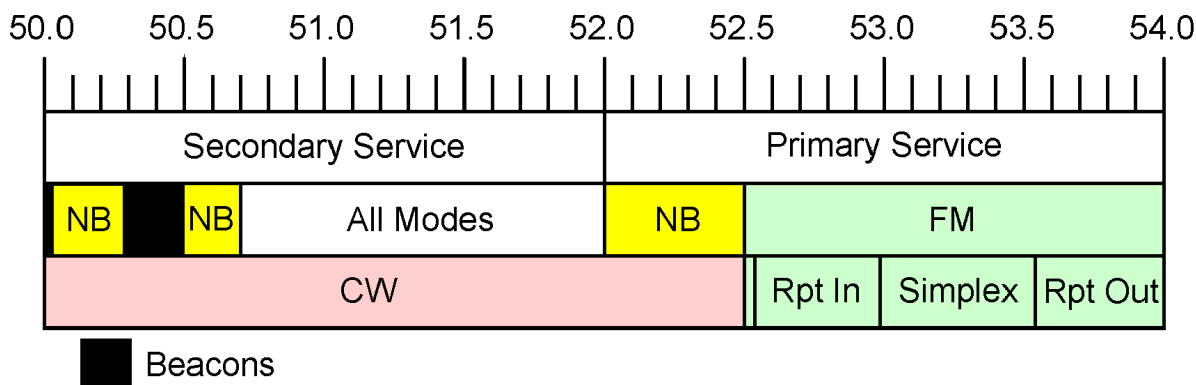
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## VHF, UHF and SHF bands

**6 metre band – 50 - 52 MHz    Advanced licensees only**  
**52 - 54 MHz    Advanced & Standard licensees**

### Band Allocation

50 - 52 MHz	BROADCASTING AMATEUR	Primary Service
52 - 54 MHz	AMATEUR	Secondary Service Primary Service



50.000 - 50.700	NARROW BAND MODES	(Note 1)
50.000 - 50.100	CW only	
50.000 - 50.030	Reserved - International Synchronised Beacon Project	
50.030 - 50.080	International beacons	(Note 2)
50.080 - 50.100	International DX window	
50.100 - 50.150	CW / SSB: International DX only	
50.110	International DX calling frequency	
50.150 - 50.280	CW / SSB: DX or local	
50.200	Australian calling frequency	
50.220 - 50.240	Digital DX modes	
50.240 - 50.280	Recommended for Chirp beacons with 2 - 20 kHz bandwidth	
50.280 - 50.300	Beacons (VK1,2,3,4,7)	(Note 2)
50.300 - 50.320	Beacons (VK5,6,8,9,0)	(Note 2)
50.320 - 50.400	Digital DX modes	
50.400 - 50.500	Beacons	
50.500 - 50.700	Reserved	
50.700 - 52.000	ALL MODES	
52.000 - 52.500	NARROW BAND MODES	(Note 1)
52.100	SSB Calling frequency	
52.300 - 52.500	Reserved	
52.525 - 53.975	SIMPLEX AND REPEATERS	(Notes 3,4)
52.525	International FM simplex calling frequency	
52.550 - 52.975	Repeater inputs	
53.000 - 53.525	Simplex	
53.050	Recommended APRS channel	
53.150	National WICEN frequency	
53.300	National ARDF frequency	
53.325 - 53.500	Reserved for possible future use as repeater outputs.	
53.525	Simplex: voice	
53.550 - 53.975	Repeater outputs	

### **Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. International practice is to keep the segment below 50.150 MHz clear at all times for international DX operation, and to use 50.150 MHz and above for contacts within the country or region. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. The calling frequencies are 50.110 MHz for international DX only, and 50.200 MHz for all other operation.

The following spot frequencies are recommended for digital DX operation using SSB-based modes:

- 50.220 Weak signal modes with bandwidths below 100 Hz, e.g. PSK and slow CW
- 50.225 Weak signal modes with bandwidths up to 750 Hz, e.g. MFSK, JT65 and similar
- 50.230 High speed meteor scatter modes with bandwidths up to 3 kHz, e.g. FSK441

### **Note 2: Beacons**

The beacon segments should be kept clear of other transmissions.

The segment 50.000 - 50.080 MHz is reserved for international beacons.

The following frequencies are used by Australian beacons:

For call areas VK1, VK2, VK3, VK4, and VK7: 50.280 - 50.299 MHz.

For call areas VK5, VK6, VK8, VK9 and VK0: 50.300 - 50.320 MHz.

Note however that 50.300 - 50.400 MHz has been adopted by all IARU regions as the standard international segment for digital modes. This includes the following:

- 50.293 WSPR
- 50.310 JT65
- 50.312 JT9
- 50.313 FT8

Beacons will be progressively relocated to avoid clashes with digital mode operations in this part of the band.

### **Note 3: FM Simplex**

Channel spacing is 25 kHz. Channels reserved for special purposes should be kept clear of other operation.

### **Note 4: Repeaters**

The repeater split is 1 MHz (negative offset) and the channel spacing is 25 kHz. Six repeater channels are reserved for re-use in the following call areas:

- |                         |                       |
|-------------------------|-----------------------|
| 52.750 / 53.750 - VK5/8 | 52.800 / 53.800 - VK6 |
| 52.825 / 53.825 - VK7   | 52.850 / 53.850 - VK2 |
| 52.900 / 53.900 - VK3   | 52.950 / 53.950 - VK4 |

The remaining channels are available for use in any call area.

Repeater channels are co-ordinated nationally to reduce the possibility of interstate sporadic E interference.

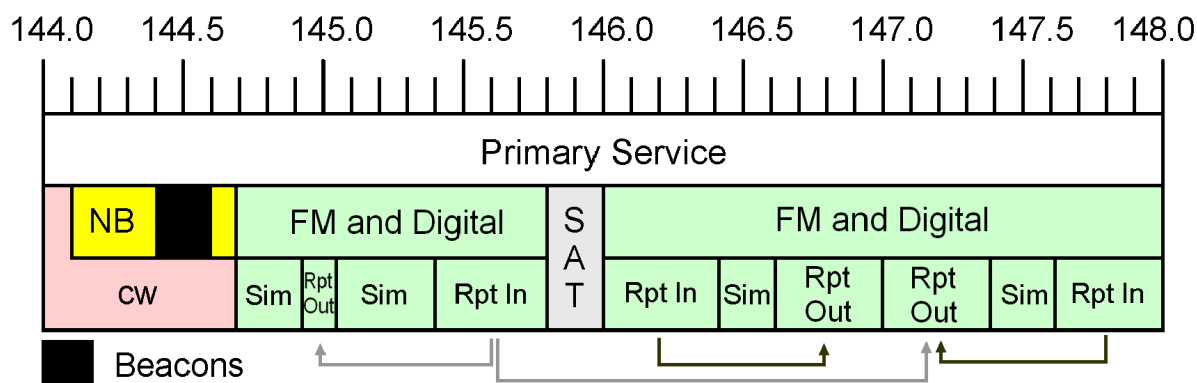
## 2 Metre band – All licence classes

### Band Allocation

144 - 148 MHz

AMATEUR

Primary Service



144.000 - 144.700	NARROW BAND MODES	(Note 1)
144.000 - 144.025	Amateur Satellites (new IARU segment)	
144.000 - 144.100	EME	
144.100 - 144.400	CW / SSB	
144.100	Calling frequency: national primary	
144.200	Calling frequency: national secondary	
144.220 - 144.240	Digital DX modes	
144.240 - 144.300	Guard band: New Zealand beacons	
144.300	SSB chat frequency	
144.320 - 144.340	Digital DX modes	
144.300 - 144.500	Space communications	
144.400 - 144.600	Beacons	(Note 2)
144.600 - 144.700	Experimental	
144.700 - 144.900	DIGITAL SIMPLEX (12.5 or 25 kHz channel spacing)	(Note 4)
144.750	Digital High Site Hotspot	
144.800	Digital Narrow band calling	
144.925 - 145.050	REPEATER OUTPUTS (12.5 kHz channels) (paired with inputs at 145.525 - 145.650)	(Notes 5,7)
144.950	The following legacy frequency to be avoided: VK6RIO Indian Ocean beacon (Perth area)	
145.075 - 145.400	FM AND DIGITAL SIMPLEX (25 kHz channels)	(Note 4)
145.100	Non-voice modes (RTTY, SSTV, Fax)	
145.175	National APRS frequency	
145.200	National WICEN frequency	
145.250	CW practice / information beacons (future)	
145.300	National ARDF frequency	
145.325	Internet gateways	
145.350	Internet gateways	
145.375	Internet gateways	
145.400 - 145.775	REPEATER INPUTS (12.5 and 25 kHz channels)	(Note 5)
145.4125 - 145.5125	Paired with outputs at 147.0125 - 147.1125	
145.5250 - 145.6500	Paired with outputs at 147.1250 - 147.250 or 144.9250 - 145.0500	
145.6625 - 145.750	Paired with outputs at 147.2625 - 147.350	

		Legacy frequencies to be avoided:	(Note 7)
145.575		Information beacons (Perth area)	
145.600		Broadcast relays (VK2)	
145.650		CW practice / information beacons (Sydney, Melbourne)	
145.700		ARDF Homing Beacons	
145.800 - 146.000		AMATEUR SATELLITES	(Note 3)
146.0125 - 146.400		REPEATER INPUTS (12.5 / 25 kHz channels)	(Note 5)
146.425 - 146.600		FM SIMPLEX (25 kHz channels)	
146.500		National voice calling frequency	
146.6125 - 147.0000		REPEATER OUTPUTS (12.5 / 25 kHz channels)	(Note 5)
147.0125 - 147.3750		REPEATER OUTPUTS (12.5 / 25 kHz channels)	(Note 5)
147.0125 - 147.1125		Paired with inputs at 147.6125 - 147.7125 or 145.4125 - 145.5125	
147.1250 - 147.250		Paired with inputs at 147.7250 - 147.850 or 145.5250 - 145.6500	
147.2625 - 147.3750		Paired with inputs at 147.8625 - 147.9750 or 145.6625 - 145.7750	
147.400 - 147.600		FM AND DIGITAL SIMPLEX (25 kHz channels)	
147.400		ATV liaison	
147.525		Internet gateways	
147.550		Internet gateways	
147.6125 - 147.975		REPEATER INPUTS	

**Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment.

The following spot frequencies are recommended for digital DX operation using SSB-based modes:

144.220 / .320 Weak signal modes with bandwidths below 100 Hz, e.g. PSK and slow CW

144.225 / .325 Weak signal modes with bandwidths up to 750 Hz, e.g. MFSK, JT65 and similar

144.230 / .330 High speed meteor scatter modes with bandwidths up to 3 kHz, e.g. FSK441

Note that the segment 144.110 – 144.160 MHz is also used for international digital mode EME operation.

The band 144.3 - 144.5 MHz is not an IARU recognised satellite band, however some frequencies in this segment may be used at times for space communications.

**Note 2: Beacons**

Beacon frequencies are allocated on a call area basis, e.g. VK1: 144.410 - 144.419, VK2: 144.420 - 144.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions, but note that the internationally recognised frequency for WSPR mode is 144.489 MHz (indicated dial frequency using USB). This corresponds to the WSPR signals actually occupying 144.4904 - 144.4906 MHz.

**Note 3: Amateur Satellites**

The satellite segment should be kept clear of all terrestrial operation.

**Note 4: Simplex Segments**

Any permitted mode and bandwidth may be used in these segments. FM channel spacing is 25 kHz. D-Star and other digital channel spacing is 12.5 or 25 kHz. Channels reserved for special purposes should be kept clear of other operation. For APCO P25 digital voice, Network Access Code (NAC) – 293.

### **Note 5: Repeaters**

Channel spacing is 25 kHz for repeaters occupying 16 kHz bandwidth, or 12.5 kHz for repeaters occupying 10.1 kHz bandwidth. Transmit - receive offset is 600 kHz, but 1.6 MHz offset may be used in the 147 MHz segment.

The alternative repeater input segment 145.400-145.800 (-1.6 MHz offset) and the repeater outputs in the 144.925-145.050 segment will only be allocated when no standard 600 kHz offset channels above 146 MHz are available.

The following channels are reserved for WICEN repeaters:

147.175	(all states)
147.125, 147.150	(NSW, Queensland)
146.925, 147.300	(Victoria)

### **Note 6: Repeater Linking**

Our licence conditions require tone access for repeaters that are linked to repeaters in certain other bands, to prevent transmissions from being relayed on frequencies that the operators are not entitled to use. CTCSS is also used to activate selective linking or for interference protection.

The following CTCSS tones have been adopted for repeater access:

91.5 Hz:	For use with repeaters fitted with CTCSS for interference protection.
141.3 or 146.2 Hz:	To activate links to repeaters on other VHF/UHF bands.
85.4 Hz:	To activate links to other bands that some operators are not permitted to use.

The previously recommended 123 Hz tone is no longer recommended for future repeaters due to problems with false detecting.

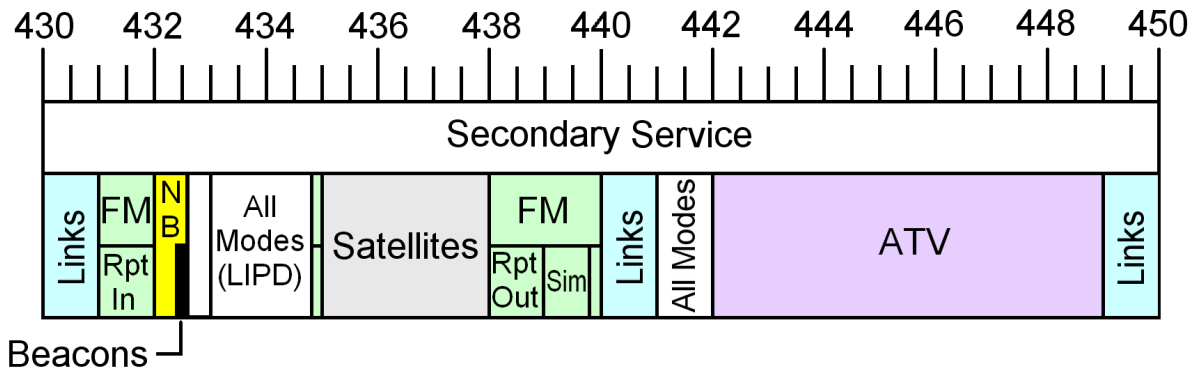
### **Note 7: New band plan implementation**

Existing legacy repeater, IRLP and AX25 licences allocated prior to September 2015 may remain on their existing frequencies until the licensees choose to initiate a frequency change. Some long established special purpose simplex frequencies (e.g. ARDF) may also need to remain for some time.

## 70 cm band – All licence classes

### Band Allocation

420 - 450 MHz	RADIOLOCATION	Primary Service
420 - 450 MHz	FIXED, MOBILE	Primary Service
420 - 430 MHz	AMATEUR (no access from January 2013)	Secondary Service
430 - 450 MHz	AMATEUR	Secondary Service
435 - 438 MHz	AMATEUR SATELLITE	Permitted on non-interference basis



430.025 - 430.975	REPEATER LINKS - Group A	(Note 7)
431.0250 - 431.9375	REPEATER INPUTS Group A (7 MHz offset) Paired with outputs 438.0250 - 438.9375	(Note 6,9)
431.950 - 432.700	NARROW BAND MODES	(Note 1)
431.950 - 432.000	EME guard band	
432.000 - 432.100	EME	
432.100 - 432.400	CW / SSB	
432.100	Calling frequency: national primary	
432.200	Calling frequency: national secondary	
432.220 - 432.240	Digital DX modes	
432.240 - 432.300	Guard band: New Zealand beacons	
432.300	SSB chat frequency	
432.320 - 432.340	Digital DX modes	
432.400 - 432.600	Beacons	(Note 2)
432.600 - 433.000	Experimental (future)	
432.625 - 432.975	Legacy repeater inputs (5.4 MHz offset)	(Note 6,9)
433.025 - 434.775	ALL MODES	(Notes 4, 5, 6)
433.050 - 434.790	LIPD Class Licence band	
433.025 - 433.750	Legacy repeater inputs (5 MHz offset)	
434.000 - 434.775	Repeater links - Group D	(Note 7)
434.275 - 434.775	Repeater inputs - 5 MHz offset (legacy)	
434.800 - 434.9875	REPEATER INPUTS Group B (5 MHz offset) (12.5 or 25 kHz channel spacing)	(Notes 4, 7)
435.000 - 438.000	AMATEUR SATELLITES	(Note 3)
438.000 - 438.9375	REPEATER OUTPUTS Group A (7 MHz offset) (12.5 or 25 kHz channels)	(Note 6)
438.0250 - 438.7625	Existing repeater outputs (legacy 5 or 5.4 MHz offset)	(Note 9)
438.7750 - 438.9375	New repeater outputs	



438.950 - 439.775	FM AND DIGITAL SIMPLEX (12.5 or 25 kHz channel spacing)	
438.950	WICEN	
439.000	National FM voice calling frequency	
439.100	APRS	
439.125	Internet gateways	
439.150	Internet gateways	
439.200	Digital voice calling frequency	
439.400	ARDF frequency	
439.275 - 439.775	REPEATER OUTPUTS - 5.0 MHz offset (legacy)	(Note 6)
439.800 - 439.9875	REPEATER OUTPUTS Group B (5 MHz offset)	(Note 6)
440.025 - 440.975	REPEATER LINKS - Group B	(Note 7)
441.000 - 441.975	ALL MODES	
442.000 - 449.000	ATV	(Note 8)
449.025 - 449.975	REPEATER LINKS - Group C	(Note 7)

### Note 1: Narrow Band Modes

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment. The "Digital DX modes" segments include recommended spot frequencies for SSB-based digital modes, on the same pattern as in Note 1 of the 2 metre band plan.

### Note 2: Beacons

Beacon frequencies are allocated on a call area basis, e.g. VK1: 432.410 - 432.419, VK2: 432.420 - 432.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions.

### Note 3: Amateur Satellites

The satellite segment should be kept clear of all terrestrial operation.

### Note 4: LIPD Allocation

Stations operating between 433.050 and 434.790 MHz may experience interference from LIPDs ("Low Interference Potential Devices"). Repeaters have no protection from interference caused by LIPDs.

### Note 5: Simplex

Channel spacing is 12.5 or 25 kHz. Channels reserved for special purposes should be kept clear of other operation.

### Note 6: Repeaters

Channel spacing is 25 kHz for repeaters occupying 16 kHz bandwidth, or 12.5 kHz for repeaters occupying 10.1 kHz bandwidth.

Repeaters in the output segment 438.025 - 438.9375 MHz have a 7.0 MHz offset.

Repeaters in the output segment 439.800 - 440.000 MHz have a 5.0 MHz offset.

### Note 7: Repeater Links

Link bands A and B are the primary link bands. They provide a 10 MHz offset pair.

Link Band C will be used only as a last resort, where the normal link segments cannot be used.

### Note 8: Amateur Television

AM transmissions must be VSB only. Video carrier frequency 444.250 MHz. For digital ATV, the recommended standard is DVB-T using a 7 MHz bandwidth centred on 445.500 MHz.

**Note 9: Implementation of band plan changes**

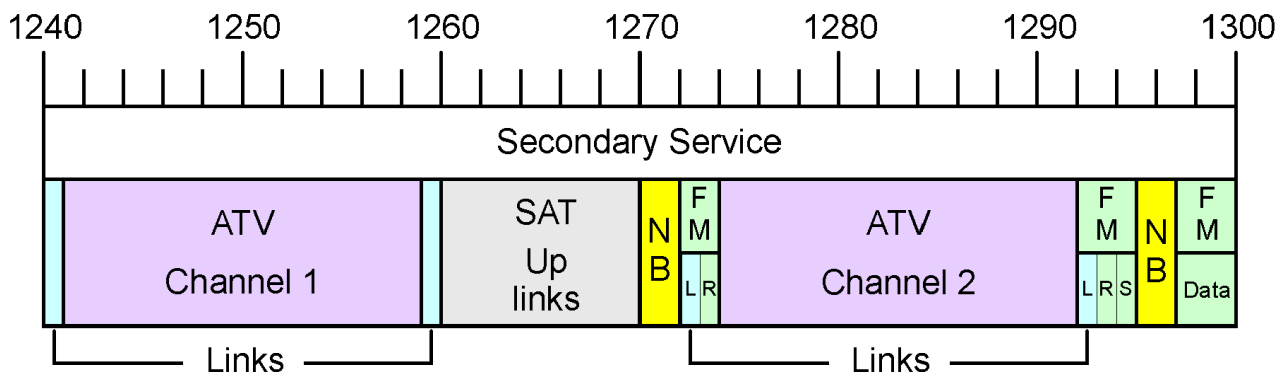
Existing fixed stations in the 431.000 - 431.950, 432.600 - 435.000 and 438.000 - 440.0000 MHz segments can remain on their current active frequencies until such time as they cancel their licenses or change frequency to one of the new allocations.

Existing ATV systems centred on 446.500 MHz may remain, but it is recommended that all ATV eventually move down to the 442 - 449 MHz channels. This will provide a guard band for DATV systems and an additional link segment at 449 - 450 MHz.

## 23 cm band – Advanced and Standard licensees only

### Band Allocation

1240 - 1300 MHz	RADIOLOCATION	Primary Service
1240 - 1260 MHz	RADIONAVIGATION - SATELLITE	Primary Service
1240 - 1300 MHz	AMATEUR	Secondary Service
1260 - 1270 MHz	AMATEUR SATELLITE (uplinks)	Permitted on non-interference basis



1240.000 - 1241.000	REPEATER LINKS - Group A	(Note 7)
1241.000 - 1259.000	ATV CHANNEL 1	(Note 8)
1259.000 - 1260.000	REPEATER LINKS - Group A	(Note 7)
1260.000 - 1270.000	AMATEUR SATELLITES	(Note 3)
1270.000 - 1272.000	NARROW BAND MODES (Possible future use)	(Note 1)
1270.000 - 1271.000	Same pattern as 1296.000 – 1297.000	
1271.000 - 1272.000	Experimental	
1272.025 - 1273.000	REPEATER LINKS - Group B	(Note 7)
1273.025 - 1273.975	FM REPEATER OUTPUTS	(Note 6)
1274.000 - 1292.000	ATV CHANNEL 2	(Note 8)
1292.025 - 1293.000	REPEATER LINKS - Group B	(Note 7)
1293.025 - 1293.975	FM REPEATER INPUTS	(Note 6)
1294.000 - 1294.975	FM SIMPLEX	(Note 4)
1294.000	National voice calling frequency	
1294.800	WICEN	
1294.850	National ARDF frequency	
1294.900	Non-voice modes (RTTY, SSTV, Fax)	
1295.000 - 1297.000	NARROW BAND MODES	(Note 1)
1295.000 - 1295.900	General / Experimental	
1295.900 - 1296.100	EME	
1296.100 - 1296.400	CW / SSB	
1296.100	Calling frequency: national primary	
1296.200	Calling frequency: national secondary	
1296.220 - 1296.240	Digital DX modes	
1296.240 - 1296.300	Guard band: New Zealand beacons	
1296.320 - 1296.340	Digital DX modes	
1296.400 - 1296.600	Beacons	(Note 2)
1296.600 - 1297.000	Experimental	
1297.025 - 1300.000	SIMPLEX (DATA)	(Note 5)
1297.025 - 1297.400	General FM - 25 kHz channel spacing	
1297.500 - 1299.900	Digital – 200 kHz channel spacing	
1297.500	D-Star – recommended national calling frequency	
1297.900	D-Star Comms Site Elevated Hot Spot	

### **Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment. The "Digital DX modes" segments include recommended spot frequencies for SSB-based digital modes, on the same pattern as in Note 1 of the 2 metre band plan.

The Experimental segment is reserved for specialised experimental use, including possible future linear translators. The 1270 MHz segment is reserved for possible future use.

### **Note 2: Beacons**

Beacon frequencies are allocated on a call area basis, e.g. VK1: 1296.410 - 1296.419, VK2: 1296.420 - 1296.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions.

### **Note 3: Amateur Satellites**

The satellite segment should be kept clear of all terrestrial operation.

### **Note 4: FM Simplex Segment**

Channel spacing is 25 kHz. Channels reserved for special purposes should be kept clear of other operation.

### **Note 5: Simplex (Data) Segments**

The 1297.025 – 1297.400 MHz segment is recommended for FM data modes, with 25 kHz channel spacing. The 1297.500 – 1297.900 MHz segment is recommended for D-Star simplex operation with 200 kHz channel spacing. The channels between 1298.100 and 1299.900 MHz are used for the simplex ports of D-Star repeaters.

### **Note 6: FM Repeaters**

Channel spacing is 25 kHz, and the offset is 20 MHz.

Digital (D-Star) repeaters will be allocated frequencies spaced at 200 kHz intervals in the upper part of the repeater segment (primary frequency 1273.900 / 1293.900 MHz).

### **Note 7: Repeater Links**

Two sets of link pairs are available, Group A on 1240/1259 MHz and Group B on 1272/1292 MHz. Wider offsets can be obtained with cross-group pairing, e.g. 1240 / 1292 MHz for a 52 MHz offset.

### **Note 8: Amateur Television**

Both channels may be used for simplex or repeater operation. Recommended uses are:

Channel 1: Simplex or repeater inputs

FM	Maximum bandwidth 18 MHz, centred on 1250 MHz
DVB	Bandwidth 7 MHz, centred on 1246 MHz or 1255 MHz

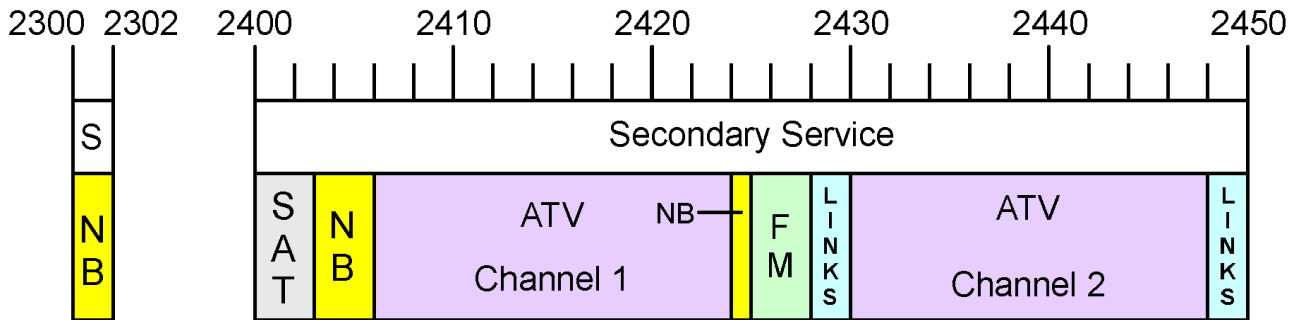
Channel 2: Simplex or repeater outputs

FM	Maximum bandwidth 18 MHz, centred on 1283 MHz
DVB	Bandwidth 7 MHz, centred on 1278 or 1287 MHz

**13 cm band – 2300 - 2302 MHz      Advanced licensees only**  
**2400 - 2450 MHz      Advanced & Standard licensees**

**Band Allocation**

2300 - 2450 MHz	FIXED, MOBILE	Primary Services
2300 - 2450 MHz	RADIOLOCATION	Primary Service
2400 - 2450 MHz	INDUSTRIAL / SCIENTIFIC / MEDICAL	
	(Other services must accept any harmful interference from ISM devices).	
2300 - 2302 MHz	AMATEUR	Secondary Service
2400 - 2450 MHz	AMATEUR	Secondary Service
2400 - 2450 MHz	AMATEUR SATELLITE	Permitted on non-interference basis



2300.000 - 2302.000	NARROW BAND MODES	(Note 1)
2400.000 - 2403.000	AMATEUR SATELLITES	(Note 3)
2403.000 - 2406.000	NARROW BAND MODES	(Note 1)
2403.000 - 2403.100	EME only	
2403.100 - 2403.400	CW / SSB	
2403.100	Calling frequency: national primary	
2403.200	Calling frequency: national secondary	
2403.220 - 2403.240	Digital DX modes	
2403.400 - 2403.600	Beacons	(Note 2)
2403.600 - 2406.000	Experimental	
2406.000 - 2424.000	ATV CHANNEL 1	(Note 6)
2424.000 - 2425.000	NARROW BAND MODES (JA - ZL)	(Note 1)
2425.000 - 2428.000	FM SIMPLEX	(Note 4)
2425.000	National voice calling frequency	
2425.800	WICEN	
2425.850	National ARDF frequency	
2425.900	Non-voice modes (RTTY, SSTV, Fax)	
2426.000 - 2428.000	Data	
2428.025 - 2429.975	FM DUPLEX	(Note 5)
2430.000 - 2448.000	ATV CHANNEL 2	(Note 6)
2448.025 - 2449.975	FM DUPLEX	(Note 5)

### **Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment. The "Digital DX modes" segment includes recommended spot frequencies for SSB-based digital modes, on the same pattern as in Note 1 of the 2 metre band plan. The Experimental segment is reserved for specialised experimental use, including possible future linear translators.

The 2403 MHz segment may have to be moved if required by future amateur satellite allocations. The 2424 MHz segment is reserved for possible use for EME contacts with Japan and New Zealand, which have their weak signal segments in this part of the band.

The segment 2300 – 2302 MHz is recommended for use in areas where the weak signal segment on 2403 MHz suffers unacceptable interference from digital links and other devices, and also for crossband EME contacts with overseas stations operating on 2304 MHz.

### **Note 2: Beacons**

Beacon frequencies are allocated on a call area basis, e.g. VK1: 2403.410 - 2403.419, VK2: 2403.420 - 2403.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions.

### **Note 3: Amateur Satellites**

The satellite segment should be kept clear of all terrestrial operation.

### **Note 4: FM Simplex**

Channel spacing is 25 kHz, or 100 kHz in the high speed data segment. Channels reserved for special purposes should be kept clear of other operation.

### **Note 5: FM Duplex**

These segments are for duplex links with an offset of 20 MHz. Recommended channel spacing is 25 kHz, or 100 kHz for high speed data, with voice links in the lower half of the segment and data links in the upper half.

### **Note 6: Amateur Television**

Both channels may be used for simplex or repeater operation. Satellites have absolute priority in the lower end of the band, and the availability of Channel 1 is conditional upon its not being required for future satellite use. Channel 2 is recommended as the primary channel. Recommended uses are:

Channel 1 (secondary):	Simplex or repeater output
FM or DVB	Maximum bandwidth 18 MHz, centred on 2415 MHz
DVB	Bandwidth 7 MHz, centred on 2411 or 2419 MHz
Channel 2 (primary):	Simplex or repeater input
FM or DVB	Maximum bandwidth 18 MHz, centred on 2439 MHz
DVB	Bandwidth 7 MHz, centred on 2435 or 2443 MHz

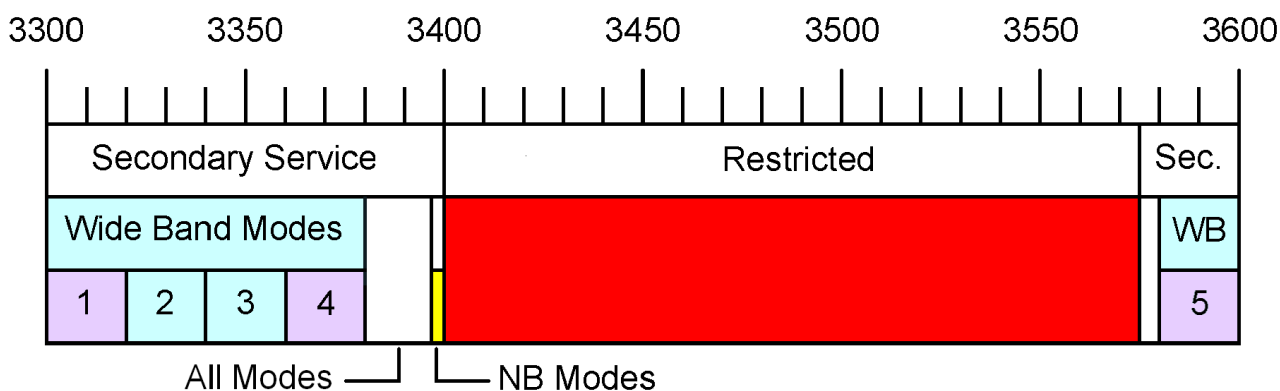
## 9 cm band – Advanced licensees only

**NOTE:** From July 2015, operation on frequencies between 3400 and 3575 MHz is prohibited in many parts of Australia (basically all major population centres). However operation is still permitted in country and remote areas. For full details, please refer to the latest ACMA Amateur Licence Conditions Determination.

The main impact is on weak signal work. To ensure that there is a common national weak signal segment that can be accessed by stations in any part of Australia, the Narrow Band Modes segment has been moved to 3398 MHz.

### Band Allocation

3300 - 3600 MHz	RADIOLOCATION	Primary Service
3300 - 3600 MHz	AMATEUR	Secondary Service
3400 - 3410 MHz	AMATEUR SATELLITE	Permitted on non-interference basis
3400 - 3600 MHz	FIXED SATELLITE (Space to Earth)	Secondary Service
3400 - 3600 MHz	FIXED, MOBILE	Secondary Service



3300.000 - 3380.000	WIDEBAND MODES	(Note 5)
3300.000 - 3320.000	Channel 1: ATV	
3320.000 - 3340.000	Channel 2: Voice or data	
3340.000 - 3360.000	Channel 3: Simplex, any mode	
3360.000 - 3380.000	Channel 4: ATV	
3380.000 - 3398.000	ALL MODES	
3398.000 - 3400.000	NARROW BAND MODES	(Note 1)
	For operation in any part of Australia	
3398.000 - 3398.100	EME only	
3398.100 - 3398.400	CW / SSB	
3398.100	Calling frequency: national primary	
3398.200	Calling frequency: national secondary	
3398.220 - 3398.240	Digital DX modes	
3398.400 - 3398.600	Beacons	(Note 2)
3398.600 - 3400.000	Experimental	
3400.000 - 3575.000	NO OPERATION IN ACMA RESTRICTED AREAS	
3575.000 - 3580.000	ALL MODES	
3580.000 - 3600.000	WIDEBAND MODES	(Note 5)
3580.000 - 3600.000	Channel 5 (ATV)	

### **Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment. The "Digital DX modes" segment includes recommended spot frequencies for SSB-based digital modes, on the same pattern as in Note 1 of the 2 metre band plan. The Experimental segment is reserved for specialised experimental use, including possible future linear translators.

### **Note 2: Beacons**

Beacon frequencies are allocated on a call area basis, e.g. VK1: 3400.410 - 3400.419, VK2: 3400.420 - 3400.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions.

### **Note 3: Amateur Satellites**

There are no amateur satellites currently operating or planned for this band.

### **Note 4: FM Simplex**

Recommended channel spacing is 100 kHz. Channels reserved for special purposes should be kept clear of other operation.

### **Note 5: Wideband Modes**

These segments are for wideband simplex operation or duplex links. Suggested uses are:

ATV (channels 1, 4 or 5):

FM or DVB Maximum bandwidth 20 MHz, centred on the channel midpoint

DVB Maximum bandwidth 10 MHz, centred 5 MHz above or below the channel midpoint

Recommended use for duplex links is channel 1 input and channel 4 output.

Data or Voice:

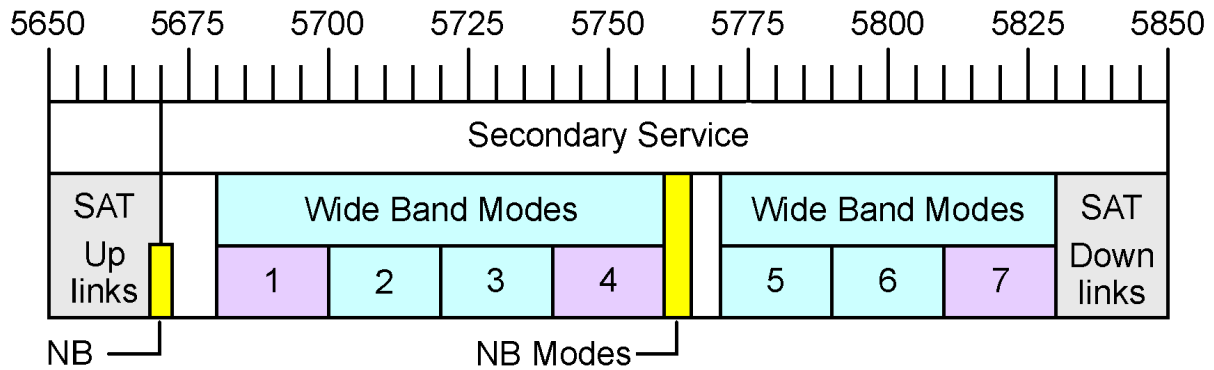
Recommended channel spacing is 100 kHz, or 1 MHz for high speed data, excluding upper and lower segment edges, with voice links at the lower end of the segment and data links at the upper end.



## 6 cm band – Advanced & Standard licensees

### Band Allocation

5650 - 5850 MHz	RADIOLOCATION	Primary Service
5650 - 5725 MHz	SPACE RESEARCH	Secondary Service
5650 - 5850 MHz	AMATEUR	Secondary Service
5650 - 5670 MHz	AMATEUR SATELLITE (uplinks)	Permitted on non-interference basis
5830 - 5850 MHz	AMATEUR SATELLITE (downlinks)	Secondary Service



5650.000 - 5670.000	AMATEUR SATELLITES (UPLINKS)	(Note 3)
5668.000 - 5670.000	NARROW BAND MODES (Possible future use)	(Note 1)
5670.000 - 5672.000	FM SIMPLEX (Possible future use)	(Note 4)
5672.000 - 5680.000	ALL MODES	
5680.000 - 5760.000	WIDEBAND MODES	(Note 5)
5680.000 - 5700.000	Channel 1: ATV	
5700.000 - 5720.000	Channel 2: Data	
5720.000 - 5740.000	Channel 3: Voice	
5740.000 - 5760.000	Channel 4: ATV	
5760.000 - 5762.000	NARROW BAND MODES	(Note 1)
5760.000 - 5760.100	EME only	
5760.100 - 5760.400	CW / SSB	
5760.100	Calling frequency: national primary	
5760.200	Calling frequency: national secondary	
5760.220 - 5760.240	Digital DX modes	
5760.400 - 5760.600	Beacons	(Note 2)
5760.600 - 5762.000	Experimental	
5762.000 - 5764.000	FM SIMPLEX	(Note 4)
5764.000 - 5770.000	ALL MODES	
5770.000 - 5830.000	WIDEBAND MODES	(Note 5)
5770.000 - 5790.000	Channel 5: Data	
5790.000 - 5810.000	Channel 6: Voice	
5810.000 - 5830.000	Channel 7: ATV	
5830.000 - 5850.000	AMATEUR SATELLITES (DOWNLINKS)	(Note 3)

### **Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment. The "Digital DX modes" segment includes recommended spot frequencies for SSB-based digital modes, on the same pattern as in Note 1 of the 2 metre band plan. The Experimental segment is reserved for specialised experimental use, including possible future linear translators.

### **Note 2: Beacons**

Beacon frequencies are allocated on a call area basis, e.g. VK1: 5760.410 - 5760.419, VK2: 5760.420 - 5760.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions.

### **Note 3: Amateur Satellites**

The satellite segments should be kept clear of all terrestrial operation.

### **Note 4: FM Simplex**

Recommended channel spacing is 100 kHz. Channels reserved for special purposes should be kept clear of other operation. The segments at 5672 and 5673 MHz are reserved for possible future use.

### **Note 5: Wideband Modes**

These segments are for wideband simplex operation or duplex links. Suggested uses are:

ATV (channels 1, 4 or 7):

FM or DVB Maximum bandwidth 20 MHz, centred on the channel midpoint

DVB Maximum bandwidth 10 MHz, centred 5 MHz above or below the channel midpoint

Recommended use for duplex links is channel 1 input and channel 7 output.

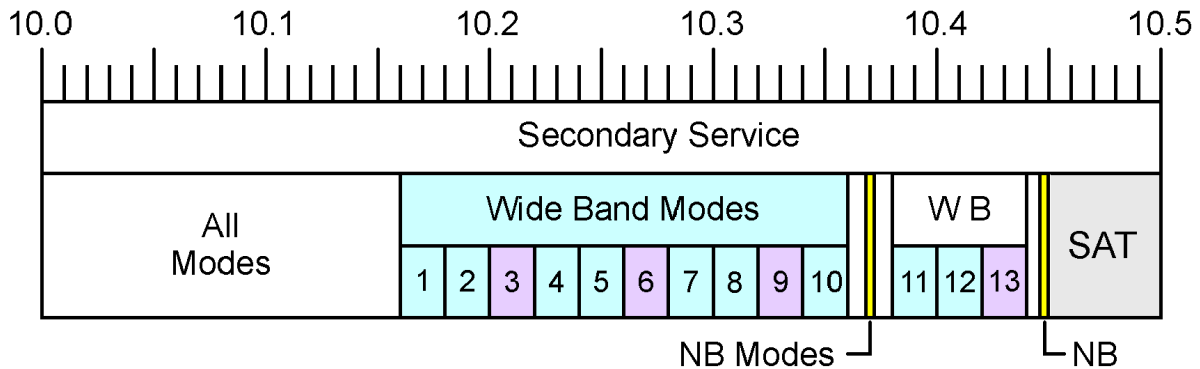
Data or Voice:

Recommended channel spacing is 100 kHz, or 1 MHz for high speed data, excluding upper and lower segment edges. Duplex offset is 70 MHz.

## 3 cm band – Advanced licensees only

### Band Allocation

10.000 - 10.500 GHz	RADIOLOCATION	Primary Service
10.000 - 10.025 GHz	METEOROLOGICAL SATELLITE	Secondary Service
10.000 - 10.500 GHz	AMATEUR	Secondary Service
10.450 - 10.500 GHz	AMATEUR SATELLITE	Secondary Service



10000.000 - 10160.000	ALL MODES	
10160.000 - 10360.000	WIDEBAND MODES	(Note 5)
10160.000 - 10180.000	Channel 1: Data	
10180.000 - 10200.000	Channel 2: Voice	
10200.000 - 10220.000	Channel 3: ATV	
10220.000 - 10240.000	Channel 4: Data	
10240.000 - 10260.000	Channel 5: Voice	
10260.000 - 10280.000	Channel 6: ATV	
10280.000 - 10300.000	Channel 7: Data	
10300.000 - 10320.000	Channel 8: Voice	
10320.000 - 10340.000	Channel 9: ATV	
10340.000 - 10360.000	Channel 10: Simplex, any mode	
10360.000 - 10368.000	ALL MODES	
10368.000 - 10370.000	NARROW BAND MODES	(Note 1)
10368.000 - 10368.100	EME only	
10368.100 - 10368.400	CW / SSB	
10368.100	Calling frequency: national primary	
10368.200	Calling frequency: national secondary	
10368.220 - 10368.240	Digital DX modes	
10368.400 - 10368.600	Beacons	(Note 2)
10368.600 - 10370.000	Experimental	
10370.000 - 10372.000	FM SIMPLEX	(Note 4)
10372.000 - 10380.000	ALL MODES	
10380.000 - 10440.000	WIDEBAND MODES	(Note 5)
10380.000 - 10400.000	Channel 11: Data	
10400.000 - 10420.000	Channel 12: Voice	
10420.000 - 10440.000	Channel 13: ATV	
10440.000 - 10448.000	ALL MODES	
10448.000 - 10450.000	NARROW BAND MODES (Possible future use)	(Note 1)
10450.000 - 10500.000	AMATEUR SATELLITES	(Note 3)

### **Note 1: Narrow Band Modes**

This segment is reserved for modes such as CW, digital modes and SSB with bandwidths up to 4 kHz. Weak signal operation has absolute priority. Calling frequencies should be used only to make initial contact and then vacated as soon as possible. Please avoid any terrestrial operation within the EME segment. The "Digital DX modes" segment includes recommended spot frequencies for SSB-based digital modes, on the same pattern as in Note 1 of the 2 metre band plan. The Experimental segment is reserved for specialised experimental use, including possible future linear translators. The 10448 MHz segment is reserved for possible future use.

### **Note 2: Beacons**

Beacon frequencies are allocated on a call area basis, e.g. VK1: 10368.410 - 10368.419, VK2: 10368.420 - 10368.429 etc. Beacon frequency spacing is 2 kHz. The beacon segment should be kept clear of other transmissions.

### **Note 3: Amateur Satellites**

The satellite segment should be kept clear of all terrestrial operation.

### **Note 4: FM Simplex**

Recommended channel spacing is 100 kHz. Channels reserved for special purposes should be kept clear of other operation.

### **Note 5: Wideband Modes**

These segments are for wideband simplex operation or duplex links. A variety of duplex offsets between 60 and 220 MHz can be obtained by choosing the appropriate channel pairs. Suggested uses are:

ATV (channels 3, 6, 9 or 13):

FM or DVB Maximum bandwidth 20 MHz, centred on the channel midpoint

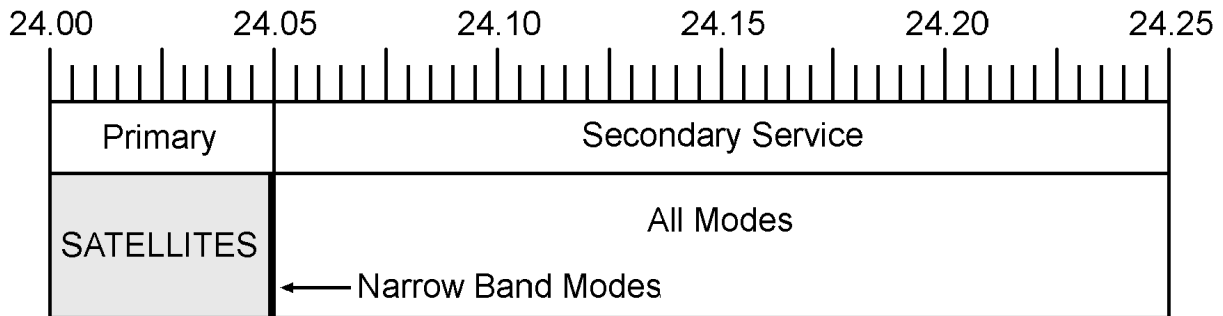
DVB Maximum bandwidth 10 MHz, centred 5 MHz above or below the channel midpoint

Data or Voice: Recommended channel spacing is 100 kHz, or 1 MHz for high speed data, excluding upper and lower segment edges.

## 12 mm band – Advanced licensees only

### Band Allocation

24.000 - 24.050 GHz	AMATEUR	Primary Service
24.000 - 24.050 GHz	AMATEUR SATELLITE	Primary Service
24.050 - 24.250 GHz	RADIOLOCATION	Primary Service
24.050 - 24.250 GHz	AMATEUR	Secondary Service
24.050 - 24.250 GHz	EARTH EXPLORATION SATELLITE	Secondary Service

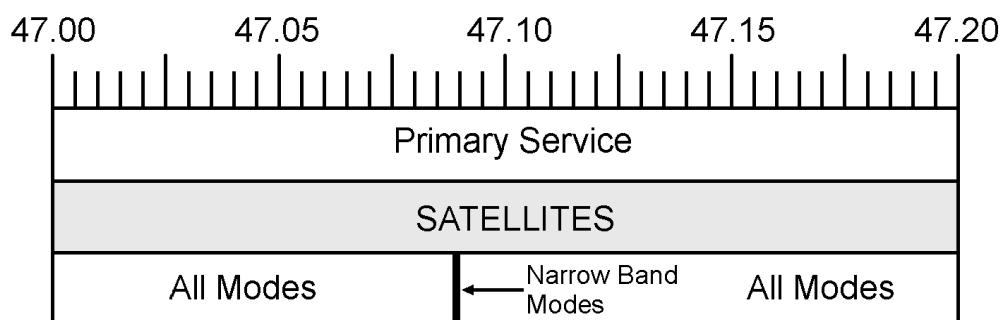


24.000 - 24.050	AMATEUR SATELLITES
24.048 - 24.050	NARROW BAND MODES
24.050 - 24.250	Same pattern as for lower bands
24.050 - 24.250	ALL MODES

## 6 mm band – Advanced licensees only

### Band Allocation

47.000 - 47.200 GHz	AMATEUR & AMATEUR SATELLITE	Primary Service
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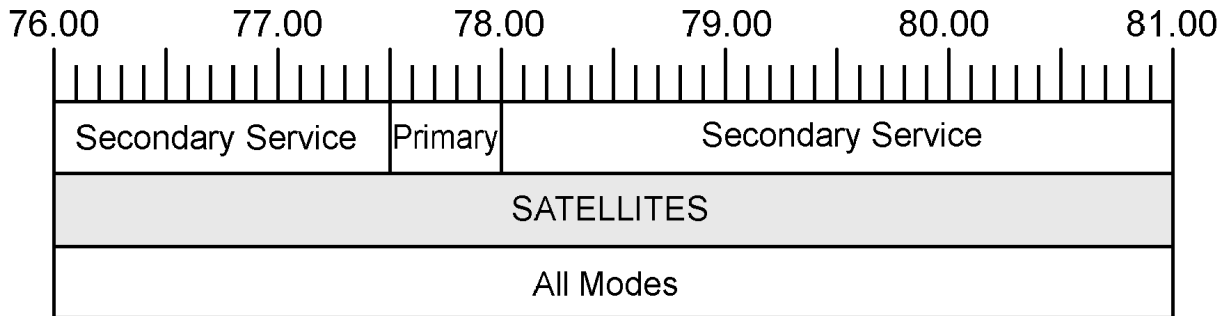


47.000 - 47.088	ALL MODES
47.088 - 47.090	NARROW BAND MODES
47.090 - 47.200	Same pattern as for lower bands
47.090 - 47.200	ALL MODES

## 4 mm band – Advanced licensees only

### Band Allocation

76.000 - 77.500 GHz	RADIO ASTRONOMY & RADIOLOCATION	Primary Services
76.000 - 77.500 GHz	AMATEUR & AMATEUR SATELLITE	Secondary Services
76.000 - 81.000 GHz	SPACE RESEARCH	Secondary Service
77.500 - 78.000 GHz	AMATEUR & AMATEUR SATELLITE	Primary Services
77.500 - 79.000 GHz	RADIO ASTRONOMY	Secondary Service
78.000 - 81.000 GHz	AMATEUR & AMATEUR SATELLITE	Secondary Services
78.000 - 81.000 GHz	RADIOLOCATION	Primary Service
79.000 - 81.000 GHz	RADIO ASTRONOMY	Primary Service



76.000 - 81.000 ALL MODES

## Higher bands – Advanced licensees only

122.250 - 123.000 GHz	FIXED, MOBILE , SPACE RESEARCH, EARTH EXPLORATION SATELLITE, INTER-SATELLITE AMATEUR	Primary Services Secondary Service
134.000 - 136.000 GHz	AMATEUR & AMATEUR SATELLITE RADIOLOCATION	Primary Services Secondary Service
136.000 - 141.000 GHz	RADIO ASTRONOMY, RADIOLOCATION AMATEUR & AMATEUR SATELLITE	Primary Services Secondary Services
241.000 – 248.000 GHz	RADIOLOCATION AMATEUR & AMATEUR SATELLITE	Primary Service Secondary Service
248.000 – 250.000 GHz	AMATEUR & AMATEUR SATELLITE	Primary Service

## **Notes**

