WIA Australian Band Plan Review

2025

Consultation TAC-2025/01

Outcomes

TABLE OF CONTENTS

1 Introduction

The public consultation on the proposed changes to the Australian Amateur Radio Band Plans closed on December 12th. Over 40 submissions were received from interested radio amateur operators across the country. This document defines the outcomes of the consultation and the changes that have been endorsed by the WIA board.

2 Band Plan Format and Presentation

2.1 Overall Presentation

Firstly in the consultation, we invited feedback on the new format and content within the band plan documentation.

Overall, the feedback was positive on the revised band plan presentation. There was a suggestion that further improvements could be made with the help of professional graphic design skills. If there is a member with such skills that would be willing to assist, please contact wia.tac.consultations@gmail.com.

Outcome #1

The feedback from most people who commented said that the new format for the band plan information was well done. We will therefore adopt this new format while looking for opportunities to further refine the output into various useful formats.

3 LF/MF Band Plans

3.1 630m Band plan

The consultation proposed to overhaul the design of the 630m band plan.

3.1.1 Proposed Revision of the 630m Band Plan

Outcome #2

With most of the feedback supporting the proposed changes to this band, the TAC will proceed to adopt this as the new 630m Band plan.

472 – 479 kHz - Secondary Service - Advanced Licensees Only

Spectrum Users

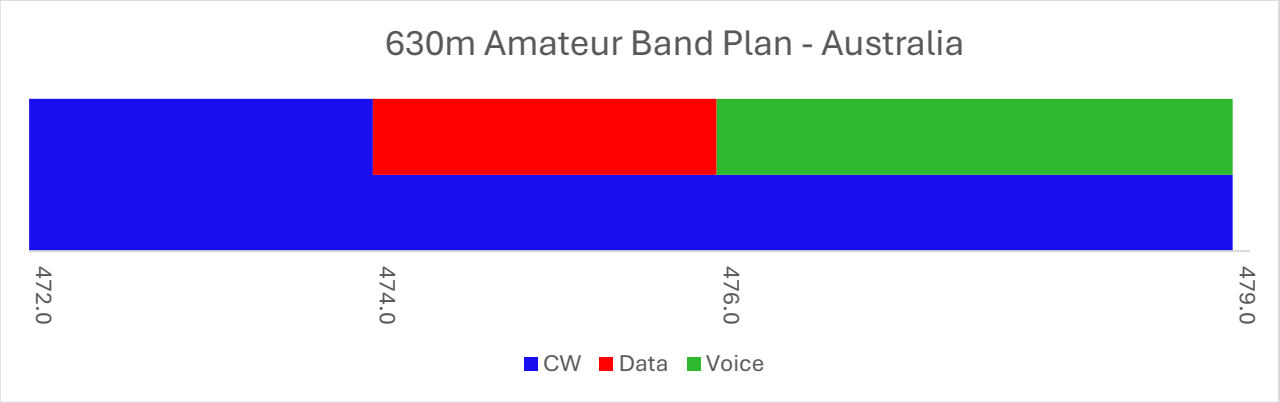
472 – 479 kHz [82 AUS68]

- **MARITIME MOBILE** [79]
- **AERONAUTICAL RADIONAVIGATION** [77 AUS49]
- *Amateur (Secondary)* [80A]

SECONDARY SERVICE NOTE:
Amateurs must not cause Harmful Interference to others.
Amateurs must accept Interference from the Primary user.

Australian Amateur Band Plan

Lower (kHz)	*Upper (kHz)*	*Use*	*Bandwidth*	*Priority*	*Notes*
472	**474**	**CW**	**< 500 Hz**	**Priority**	
474	**476**	**DATA** *CW*	< 500 Hz < 500 Hz	**Priority** *Shared*	Note DATA USB dial frequencies will be below 475 kHz in some situations
476	**479**	**VOICE** *CW*	**< 2.1 kHz** <500 Hz	**Priority** *Shared*	***NEW***



Centres of Activity

- *475.6 – 475.8 kHz – WSPR / FST4W – 474.2 kHz (USB Dial) + 1400-1600 Hz*
- *478.5 kHz – Lower Sideband Voice (2.1kHz BW limited)*

3.2 160m Band plan

3.2.1 Identification of 160m AM mode Centres of Activity

The consultation discussed identifying a Centre of Activity for AM operators to use on 160m. However, the feedback received lacked a degree of consistency. The following were proposed:

- 1825 kHz
- 1843 kHz x3 votes
- 1857 kHz x3 votes
- 1870 kHz x4 votes

1825 kHz for AM is not acceptable as that is inside the CW priority segment.

Likewise, 1843 kHz is not recommended for AM particularly during darkness hours due to the interference it can cause to the international data mode activity based on 1840 -1843 kHz. Of course it can still be used, but we would only recommend that during daylight hours under solely local groundwave propagation conditions.

Out of the two remaining options, more respondents proposed 1870 kHz over 1857 kHz.

Outcome #3

The Australian Amateur 160m band plan will include an AM Centre of Activity of 1870 kHz.

It should be noted that this doesn't preclude AM activity elsewhere on the band. The centre of activity, however, should act as a guide for people to consider into the future.

4 HF Band Plans

4.1 80m Band plan

4.1.1 Identification of 80m AM mode Centres of Activity

The consultation proposed to include an identified centre of activity for 80m AM experimentation in Australia.

Feedback was received from many within the AM operator community that the proposed AM centre of activity of 3620 was not appropriate. The most common recommendation was in fact 3686 kHz. Given the overwhelmingly clear feedback, the 80m band plan will now include an AM CoA of 3686 kHz.

It is also worth commenting that one of the proposals received requested that 3580 kHz be added as an AM CoA. Unfortunately, that is in the middle of the data segment and would directly interfere with data mode operators. The WIA no longer supports defining mixed voice/data mode segments on HF, given the observations made on how incompatible voice vs data operation is on a co-channel basis, so proposals that did not put AM operation within the voice sub-bands were deemed inappropriate.

Outcome #4

It is intended to revise the band plan to include 3686 kHz as an AM Centre of Activity, noting the feedback that there are common crystals available for this frequency, which helps support the restored radio community.

4.1.2 Revise 80m Emergency Communications Centre of Activity

The consultation proposed to move the Emergency Communications centre of activity away from 3600 kHz as currently, use of that channel in LSB VOICE mode is effectively operating within the DATA mode segment of the band.

While the response from the community on this was limited, 3610 kHz was endorsed by one of the state WICEN groups.

Commentary was also received about not interfering with long established nets when selecting a new emergency comms frequency. The feedback centred on respecting these long-standing nets rights to access a given frequency. The committee feels that such an approach, however, runs against accepted operating practice. In considering a suitable emergency communications centre of activity, the need to separate out such VOICE communications from the DATA sub-band necessitates a change. In selecting the new frequency, the committee asks operators to remember that all nets operate with the understanding that their “regular” frequencies can be varied +/- QRM, if the frequency is in use before the net starts. This means that the net shall QSY to an adjacent frequency instead and not try to force their occupancy of a frequency by disrupting another amateurs communications. This same expectation applies to any other amateur use of the radio spectrum.

Ultimately, the whole point of establishing an emergency communications centre of activity is to have a frequency that, in times of emergency activations, will be voluntarily cleared of all other “Ad Hoc” or even regular activity in that situation. This was the final guiding principle that was considered when the decision on the 80m Emergency Centre of Activity frequency was made.

Outcome #5

The Emergency Communications Centre of Activity on 80m for Australia will be moved to 3610 kHz, to remove it from the 80m DATA mode sub-band. Further, it will be recommended to IARU Region 3, that the Region 3 Emergency Communications CoA on this band also be changed to 3610 kHz for the same reason.

4.2 40m Band plan

4.2.1 Identification of 40m AM mode Centres of activity

One of the key proposals of this consultation was to finally include an identified AM mode centre of activity on the band.

A substantial amount of feedback was received on the proposed 40m AM Centre of Activity, all agreeing with the WIA proposal to list 7125 kHz for this purpose. The WIA is encouraged by the positive support received for this proposal.

Outcome #6

The WIA will include 7125 kHz as an AM Centre of activity on this band.

4.2.2 Revise 40m Emergency Communications Centre of Activity

In the consultation paper, the WIA proposed to move the Emergency Communications centre of activity away from the current Australian nominated frequency of 7075 kHz (LSB) given the current clash it has with global digital mode activity.

The initial recommendation was to move the Australian Emergency Communications channel to 7100 kHz to stay within the primary amateur radio spectrum segment of the band. Some comments were received to the effect that we should align with IARU Region 3 on this band instead, as 7110 kHz is already being recognised as an Emergency Communications centre of activity in Australia, given the use of this channel by our neighbouring countries.

While 7110 kHz is in the secondary part of the Australian amateur allocation, it was also noted that there are no assignments made to other services in this segment currently that would block Australia from following the international convention.

Outcome #7

The WIA will formally amend the band plan to show 7110 kHz as the Australian Emergency Communications centre of activity on the 40m band in alignment with IARU Region 3.

4.2.3 Formally Identify 7074 – 7080 kHz as DATA

The consultation proposed to formally recognise what has become the de facto global HF data segment for WSJT type DATA modes (including JS8Call) and add it to the band plan as a data segment. Limited feedback was receives supporting this and no feedback was received objecting to it.

Outcome #8

The WIA will amend the Australian 40m band plan to formally recognise 7074-7080 kHz as a DATA mode band segment, with the recommendation that operators using LSB based voice modes do not operate below a dial frequency of 7083 kHz (so that voice transmissions do not encroach into the new data segment).

4.3 30m Band plan

4.3.1 Revise 30m SSB Recommended Sub-Band

In the consultation, the WIA proposed narrowing the SSB voice sub-band on this band to 10120-10131 kHz. This proposal was a result of the increasing international DATA mode activity observed above 10131 kHz in the last 2-3 years. Feedback received was supportive of this change.

Outcome #9

The WIA will revise the Australian Amateur Band plan for 30m to limit the VOICE (e.g. SSB USB mode) operating window to 10120 – 10131 kHz (with 10128 kHz the highest USB dial frequency used), given the growing amount of international DATA mode activity above 10131 kHz.

4.4 20m Band plan

4.4.1 Revise 20m Emergency Communications Centre of Activity

The WIA consultation proposed that the WICEN / VK Emergency Communications channel of 14125 kHz be realigned to the IARU Region 3 Emergency Communications frequency of 14300 kHz. One of the reasons for moving the emergency activity higher in the voice segment of the band was to reduce the risk of data mode contests causing unwanted interference to potential emergency communications on 14125 kHz.

Feedback received was generally supportive, although commentary was again received about whether existing nets on 14300 kHz would cause conflict with such a change. Given that:

a) 14300 kHz is already recognised as the Region 3 EmCom centre of activity,
b) And that regular nets do not have any ownership rights of frequencies.

Outcome #10

The decision of the committee is to follow the lead of IARU Region 3 and reassign the Emergency Comms centre of activity to 14300 kHz in Australia.

4.5 12m Band plan

4.5.1 Revise 12m Emergency Communications Centre of Activity

IARU Region 3 does not currently define an Emergency Communications frequency on 12m, yet WICEN Australia has nominated 24950 kHz. The consultation considered whether to drop this as an Emcom centre of activity.

Outcome #11

Interest from the WICEN community, particularly in Queensland, indicated that the 12m band is useful for Emergency Communications. Therefore, the committee has decided to retain the existing EmComm Centre of Activity of 24950 kHz in the Australian amateur band plans.

5 VHF Band Plans

5.1 6m Band plan

There are some substantial changes proposed for 6m. These are driven predominantly by Standard class amateurs gaining access to the full band, as well as the rapid growth in DATA DX mode interest globally on 6m.

5.1.1 Revised DATA DX mode sub-band 50.180-50.330 MHz

In the consultation paper, the TAC committee proposed a new DATA modes priority segment be defined that encompassed all data mode activity. This recognises the common DATA mode centres of activity:

- 50.200 MHz – JT65 EME (+/- 10 kHz)
- 50.223 MHz – Q65 EME Global Expedition
- 50.230 MHz – FSK441 Meteor Scatter
- 50.276 MHz – JT65 / Q65 Global Primary
- 50.2946 – 50.2948 MHz – WSPR (USB Dial 50.293 MHz)
- 50.313 MHz – FT8 Global Primary
- 50.323 MHz – FT8 Global Secondary

Feedback was, however, received from the community of amateurs who predominately activate voice modes that the expanded data mode segment was excessive. As a result, the committee has revised its view.

Outcome #12

The 6m DATA mode segment will now be revised to cover 50.220-50.330 MHz, but it will contain a footnote that 6m EME activity may be observed around 50.200 +/- 10 kHz and that SSB use of that segment should be avoided.

5.1.2 New General Experimental sub-band 52.0-52.5 MHz

In the consultation the committee proposed to withdraw the legacy narrowband segment between 52.000-52.500 MHz now that standard grade licensees have access to the whole band. In its place, it was proposed to replace it with a wideband 'All Modes' modes experimental segment, given that above 52 MHz, there are no bandwidth emission limits specified by ACMA other than a requirement to only operate within the amateur band. This opens the door for experiments with narrowband Digital-ATV to take place on the band (provided ATV operators take care that their emissions do not disturb the FM simplex and repeater operators above 52.5 MHz).

Outcome #13

The previous narrowband modes segment between 52.000-52.500 MHz will be removed and be replaced with an Experimental "ALL MODES" segment to facilitate experimentation with new modes, including narrowband digital fast scan ATV.

5.1.3 Withdrawal of legacy beacon segment 50.280-50.320 MHz

This consultation also proposed to withdraw the legacy beacon segment between 50.280-50.320 MHz, clearing it for DATA users. Given the policy of avoiding sharing between different primary activity groups (e.g. CW and DATA modes) and that beacons have been given alternate spectrum now for >5 years, the committee has decided it is time to remove this beacon segment from the band.

Legacy beacons on withdrawn sub-bands can remain until the operators decide they wish to migrate into the 50.4 – 50.5 MHz sub-band.

Outcome #14

While little feedback was received on this proposal, given that there were also no objections to the proposal, the committee will withdraw the 50.280-50.320 MHz beacon segment from the band plan. While it is agreed that legacy beacons still operating in the segment can remain, all new domestic beacons shall be licenced in the 50.400-50.500 MHz band segment instead.

5.2 2m Band plan

5.2.1 Repeater Block D/E Use Requirements tightened (-1.6 MHz offsets)

The consultation proposed to tighten the conditions under which -1.6 MHz offset repeaters can be assigned. Specifically, it is proposed that -1.6 MHz split repeaters are only to be assigned in channel Block D and E (147.0125 – 147.3875 MHz) only once an attempt has been made to first assign and operate a repeater on a +/- 600 kHz offset frequency pair, which has then failed due to collocated Land Mobile Service stations with transmitters operating 600 kHz apart.

Several repeater operators have been applying for '-1.6 MHz' repeater offsets simply as a cost mitigation measure (cheaper filters). However, the issue with these repeater pairs is the impact they have on the FM simplex community between 145.4-145.8 and on the digital repeater band availability on 144.900 - 145.050 MHz. Every Block D and E frequency pair consumes effectively 2 repeater pairs in a district, as it blocks both a Block B and Black C frequency. Therefore, their use should be limited to only cases where the co-site commercial VHF services make a 600 kHz offset unworkable.

No negative feedback was received to this proposal, although objections to allowing Block E frequency allocations on 147.300 MHz were again raised by the ARDF Foxhunt community. Their objection was that the input frequency in this case of 145.700 MHz was a key frequency already identified in the band plan for ARDF competition use. The committee has given this due consideration in formulating the outcome.

Outcome #15

The allocation rules for repeater Block D and E -1.6 MHz repeater frequency pairs will be amended so that they are only allocated in cases where they are the last resort solution to overcoming co-site intermodulation interference from commercial VHF services.

Further, it is decided to exclude 147.300 MHz specifically from the Block E repeater allocation, so that it won't conflict with the ARDF national activities already present on 145.700 MHz. Given 147.300 is set aside for portable Australia wide operation and already has portable repeaters on it licenced with +600 kHz offsets based in several states, excluding 147.300 MHz from Block E frequency pairs is seen as a worthwhile improvement to the band plan whilst having no impact to existing services.

6 UHF / SHF Band Plans

6.1 70cm Band plan

There were five substantial changes being considered for the 70cm band plan.

6.1.1 Expansion of the '-7 MHz' offset repeater sub-bands

Outcome #15A

Following the review of the responses to the 2023 consultation on this band plan, the committee will proceed with extending the 70cm '-7 MHz' offset repeater plan to include all repeaters between 439.625 MHz and 439.9875 MHz. The inputs for these repeaters coincide with the existing '-5.4 MHz' offset repeater input channels between 432.625 - 432.9875 MHz.

6.1.2 Discontinuation of legacy offset repeater sub-bands

The second major change proposed in the consultation paper was to formally remove options for legacy repeater splits across most of the band. Specifically:

1) All new or modified repeater assignments between 438.025 - 438.925 MHz should now use -7 MHz offsets ONLY, with the old -5 and -5.4 MHz offsets previously used within that band segment being discontinued.
2) All new or modified repeater assignments between 439.625 - 439.7875 MHz will also only use -7 MHz offsets
3) All new or modified repeater assignments between 439.800 - 439.9875 MHz will still have the choice of using -7 MHz or -5 MHz offsets, but with the preference being for -7 MHz offset.
4) Having said that, existing repeaters in these segments will not be forced to move to -7 MHz unless they wish to make a change to their existing allocation licence conditions.
5) Repeaters in the old 439.275 - 439.625 MHz segment can continue until such time as they need to make a change to their technical licence conditions. Should a change be required (as initiated by the repeater operator) then the licence holder should expect to be reassigned a new frequency from one of the current -7 MHz repeater channels.

This will dramatically simplify the 70cm repeater band, permanently resolving interactions with the LIPD Class Licenced devices in 433.05 - 434.79 MHz, and removing confusion for repeater users in that only one offset (-7 MHz) will be used across Australia on the band into the future (except for the 439.8 - 440.0 MHz repeaters which for now will retain access to -5 MHz offsets as an alternative).

Outcome #16

The old -5.4 MHz and -5.0 MHz repeater channel offset frequency pairs will be formally discontinued in the band plan, except for the 439.800 - 439.9875 MHz segment which can continue to choose either -5.0 or – 7.0 MHz offsets.

Existing repeaters remaining on the other splits are "encouraged to move frequency" but it will not be mandatory.

6.1.3 Reintroduction of repeaters to 439.275 – 439.600 MHZ with '-5 MHz' offsets

The committee considered the proposal to re-open the 439.275-439.600 MHz sub-band for new repeater allocations.

Legacy repeaters had been allowed to remain in this segment since the 2015 band plan revision, but it hasn't been available for new allocations since that time. The original reason the sub-band was removed from new repeater allocations was to:

a) provide sufficient spectrum space for simplex unassigned activity on the band (as unlike 2m, there was previously only 300 kHz identified for such activity, so the 2015 plan sought to expand that out to 850 kHz).
b) address the risk that new amateur repeaters would receive interference from LIPD devices, for which the ACMA had declared they would not provide interference protection for repeater stations against such interference
c) it allowed an additional repeater link band option to be created in the 434.0-434.775 MHz band which was intended to offset the loss of the 420-421 MHz allocation.

Outcome #17

No responses were received that offered support for the proposed change, and indeed at least one response supported the recommendation to leave this band segment clear for simplex and general use activities.

As a result, the committee has agreed not to proceed with conversion of the segment 439.275-439.600 MHz back into repeater use.

6.1.4 Establishment of a new DMR/DSTAR/FUSION/P25 hotspot sub-band

With the rapid growth in users operating local hotspots (internet gateways) to access global digital voice networks, such as the multiple DMR, DSTAR, FUSION and P25 networks that abound these days, the is becoming clear that the current Digital Voice simplex channel capacity is inadequate.

Given the level of interest and activity in hotspots, and in particular the need to provide direct guidance on the best part of the band to operate them on (including helping steer people away from interfering with the Amateur Satellite Service), a new sub-band was proposed in the 441.000-441.500 MHz band for hotspot users to conduct their activities in.

Feedback was received requesting consideration of a duplex hot-spot band rather than just a simplex one. In reviewing this request, consideration has been given to how a -7 MHz offset might work against the new 441-442 MHz simplex band already proposed. The committee has found that while 441.000-441.500 falls into the band 434.000-434.500 which already has several voice repeater links active within it, the segment 441.500-441.800 paired with 434.500-434.800 is indeed clear.

Outcome #18

The committee is intending to identify the new local hotspot band (coverage < 1km) as follows:

Hotspot Sub-band	Usage
441.500-441.750 MHz TX/RX	Can be paired with 434.500-434.750 MHz RX for duplex hotspots or be used for simplex
441.750-442.000 MHz TX/RX	Simplex only hotspot use

6.1.5 Designation of repeater channels for specific uses

The WIA had received a specific request to consider dedicating at least 2 repeater channels in the 70cm band plan specifically for use on the VK-DMR network. The aim was to better promote and highlight the VK-DMR network as being one of the largest on air linked digital voice networks in the country (with points of presence in almost every state except VK6).

Outcome #19

Only limited feedback was received, and none of the feedback supported defining mode specific repeater channels. The committee will therefore agree to follow option b) from the consultation:

b) it is better to allow the bandwidth to be mode agnostic and support all operating modes on any repeater channel pair (except for the special portable repeater category systems operating under AUSTRALIA WIDE licence types).

6.2 23cm Band plan

The amateur service has a secondary allocation in the 1240-1300 MHz frequency band (the 23 cm band) which is shared with several other radiocommunication services which have primary status in the band. This allocation has, however, come under significant scrutiny following complaints of interference from some amateur stations to the primary radionavigation-satellite service (RNSS) users.

The RNSS systems operating in the band are GLONASS, Beidou and Galileo. The interference resulted in an agenda item for the 2023 World Radiocommunication Conference (WRC-23) and this agenda item resulted in the development of an ITU-R Recommendation (ITU-R M.2164) and a new footnote (**RR** 5.332A) being added to the Radio Regulations at WRC-23. The recommendation and footnote, developed by the member state representatives at the various working party and conference meetings, set forth instructions on how to mitigate interference from amateur service transmitters into RNSS receivers on the ground, should interference be reported.

Following on from this, the CEPT in Region 1 published their response and approach to managing the issue, which while not fully adopting all the ITU-R recommendations, has found a way forward that imposes fewer restrictions on the amateur service than those given in the ITU-R recommendation. In response to this, the IARU Region 1 VHF band plan committee has also now proposed a draft of a new 23cm band plan.

6.2.1 ITU Response to Amateur Interference – Radio Regulation Footnote 5.332A

While the response to the WRC-23 agenda item was developed under the condition that the amateur service access was not to be withdrawn, the outcome was that a sizable part of the band could be rendered unusable, should further instances of interference to the radionavigation-satellite service be reported to national administrations. At WRC-23 the following footnote was added to the table of frequency allocations in the Radio Regulations:

> ***5.332A*** *Administrations authorizing operation of the amateur and amateur-satellite services in the frequency band 1 240-1 300 MHz, or portions thereof, shall ensure that the amateur and amateur-satellite services do not cause harmful interference to radionavigation-satellite service (space-to-Earth) receivers in accordance with No. 5.29 (see the most recent version of Recommendation ITU-R M.2164). The authorizing administration, upon receipt of a report of harmful interference caused by a station of the amateur or amateur-satellite services, shall take all necessary steps to rapidly eliminate such interference. (WRC-23)*

The ACMA has now entered this footnote into the Australian Radio Spectrum Plan.

6.2.2 Amateur Service Mitigation of the ITU footnote risks

Today, the Amateur Service is in a difficult position. From now, if there are reports of interference to the radionavigation-satellite service in Australia, the ACMA can then act quickly to amend the Amateur Class Licence to follow Recommendation ITU- M.2164. The mitigation measures, described in the ITU recommendation, severely limit amateur use of the band, specifically in the range 1258-1298 MHz, but also in 1240-1256 MHz. To avoid this worst-case scenario, the WIA is recommending Australian radio amateurs observe the following changes to the 23 cm band plan:

1. Amateur TV repeater outputs will no longer be endorsed on the 23 cm band (they are best placed on 70 cm, 13 cm or 9 cm) and all remaining ATV activity on the band should be limited to the 1240-1258 MHz portion of the band, focused on point-to-point ATV transmissions using directional antennas (e.g. uplinks to TV repeaters or between individual amateur stations). Operators are also encouraged to use the minimum transmitter power to achieve a reliable link. Legacy TV repeater uplinks can continue in other parts of the band, but are recommended to move below 1258 MHz if/when possible.

2. The existing licenced low duty cycle FM repeater activity may continue on the 1273/1293 MHz sub-bands but again, amateurs should look to use only the power necessary to support communications. It is recommended that no new repeaters be added to this band segment, and that any new 23cm repeaters adopt the following sub-bands of TX 1257.5000-1258.000 MHz / RX 1297.500-1298.000 MHz using a 40MHz offset (similar to IARU Region 1's current proposal). This new segment places amateur FM repeater operation outside of the passband of the Galileo GPS network receivers. Finally, within the legacy repeater segment, transmitter power should be kept to a minimum (<1 watt where possible).

3. High power operations (such as EME) should look to migrate above 1299 MHz (where IARU Region 1 has proposed a new EME segment between 1299.000-1299.200 MHz).

By proactively avoiding the riskiest activities, the amateur service should be able to limit the chances of interference complaints triggering formal action by ACMA. This is also in line with being a "Secondary Service" on this band.

6.2.3 Feedback Received

The consultation received several different views on this proposed change. Specifically:

1. Several amateurs incorrectly believed that it was the GPS satellites being affected, questioning why the proposed change was even required.

   This was a misunderstanding of the problem as it is not the actual satellites at risk, but rather it is the network of ground based RNSS receivers, used for high accuracy survey work distributed across the country, that the amateur service is at risk of interfering with. Geoscience Australia maintain records of where these receivers are located. The amateur service needs to avoid causing interference to these receive sites.

2. Several amateurs also responded saying they do not believe they have ever caused interference and hence did not support a change to the band plan.

   The problem here is that while it is true that they might not have been notified of the impact of their actions, it is fair to say that this doesn't mean their transmissions have not caused intermittent interference in the past and won't continue to do so into the future to RNSS network receivers. The new problem today is, if Amateurs do cause interference, and it is subsequently reported to ACMA, they will use it as evidence to enact the general restrictions over the band. This is a unique situation where the amateur service must take a more precautionary approach to how it uses the band, to preserve access to the band.

3. There were also requests for the WIA to do more to protect the band for the amateur service.

   Firstly, as a secondary service, our rights to access the band are limited anyway (secondary service means the Amateur Service can operate only on a no interference, no protection basis). Secondly, amateur operators need to understand that the WIA and the international community worked very hard to retain the amateur service access to the 23cm band as it is. The conditions we are left with, where access has mostly been preserved provided the radio amateurs using the spectrum respect the fact they are ***secondary status*** users, is a result of that protection work undertaken till now. The outcome could have been much worst.

4. The WIA also received numerous items of feedback commending the approach taken and recognising that if we do not act, then we could be substantially worst off than we are today.

5. A further final feedback item was to question why there is no mention of FM ATV on the band.

   When we published the discussion paper, the advice received by the TAC from the ATV community to hand indicated that most ATV activity had migrated to digital ATV modes. However, this is not intended to exclude those who still wish to experiment with FM ATV. To that end, the committee will restore the highlighted FM ATV channel but notes it will now be centred on 1249 MHz rather than 1250 MHz

6.2.4 The outcome for 23cm

Following the feedback, and subsequent consideration of the IARU Region 1 draft 23cm band plan recently received, we intend to make the following final changes to the 23cm band plan in Australia.

Outcome #20

All activity on the segment 1258-1296 MHz should conducted with the minimum power required. Fixed station activity (i.e. repeaters) should be avoided in this band, although existing legacy 23cm voice repeaters are considered low enough risk that they can remain for the time being.

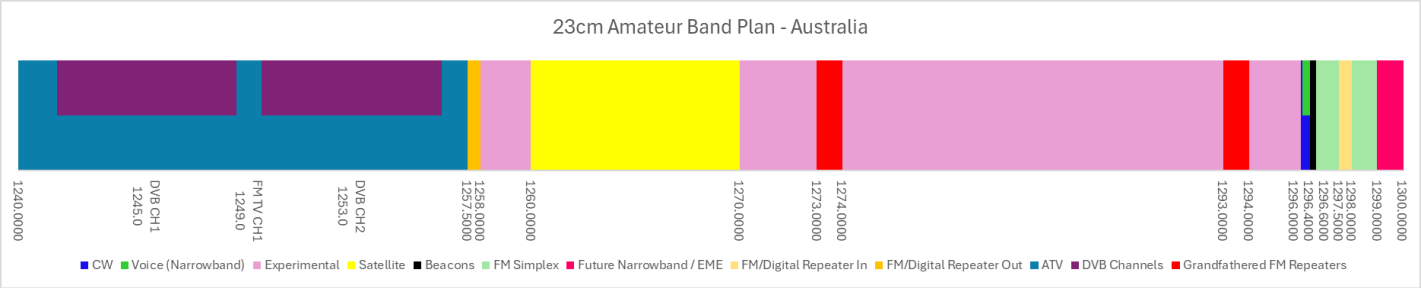
The following direct changes are also planned:

a) ATV repeater output transmitters should no longer use the 1274-1292 MHz band segment
b) New ATV repeater input receivers should only use the 1240-1258 MHz segment and while legacy systems can continue using 1274-1292 MHz on a no interference secondary usage basis, those existing repeater receivers should, where possible, relocate below 1258 MHz
c) FM Repeaters – it is proposed to follow the Region 1 proposal and set aside 1257.5-1258.0 MHz TX + 1297.5-1298.0 MHz RX as an alternate FM voice repeater band for new 23cm FM repeaters. Legacy repeaters can stay where they are provided the activity levels on the repeaters are low.
d) Repeater links on 1272-1273/1292-1293 MHz & 1240-1241/1259-1260 MHz should be relocated to another band (although we are not aware of any that are active at this time)
e) The alternate narrowband segment on 1270-1272 MHz will be discontinued
f) FM Simplex should move from 1294-1295 to 1296.6-1297.5 MHz with a new national call channel of 1297.0 MHz being implemented
g) The Narrowband Weak signal activity on 1295-1296 MHz will be discontinued
h) EME will be encouraged to follow the new emerging international sub-bands expected above 1299.0-1299.2MHz
i) FM ATV will have a centre of activity added at 1249.0 MHz and BW limits of 18 MHz
j) ATV DVB Activity limits now specified in occupied bandwidth not kSymbol terms. All DVB signals have a maximum bandwidth of 7 MHz

All segments which are being discontinued will instead be designated experimental – with a note to ensure activity in the band 1258-1296 MHz is conducted in ways that minimise the risk of interference to the Radio Navigation Satellite Service (RNSS).

6.2.5 Outcome: New 23cm Band Plan

Taking the decisions above into account we have revised the band plan as follows.



6.3 13cm Band plan

6.3.1 Supporting Narrowband Users in areas with high Wi-Fi utilisation

Narrow band users on the band have been reporting difficulties using the main 2403 - 2403.6 MHz narrowband modes segment for some time predominantly due to interference from Wi-Fi systems operating under the ISM licence that shares this band.

We proposed adding a secondary narrowband segment between 2400.000-2400.400 as an alternative.

Outcome #21

Feedback was received objecting to the WIA proposal from the satellite community.

As a result, we will not proceed with adding this narrowband segment.

6.3.2 Introduction of VOICE REPEATER sub-band options

The WIA in 2024 was approached by a group interested in establishing FM voice repeaters on the bands between 2GHz - 10GHz. Given these weren't supported by the current band plans, a proposal has been developed to open a new 20 MHz offset VOICE REPEATER segment on the band, in the hope of stimulating new uses and activity on 2.4 GHz. The choice of offset was aligned with the arrangements in Japan, which has an established SHF band activity base.

From the few responses that commented on this issue, it appears to have some support. Given no objections were received, the following is the proposed outcome.

Outcome #22

The WIA will add a duplex 20MHz offset FM voice repeater segment to the band plan operating on 2405 - 2406 MHz Repeater RX, 2425 - 2426 MHz Repeater TX.

6.3.3 Redefinition of ATV Channel Use

The WIA has left the 2x 20 MHz ATV segments intact, however the focus now has been to define these principally for DVB-ATV (either DVB-S or DVB-T). The centre frequencies nominated follow advice from the ATV community on existing hardware constraints that require channel centre frequencies to fall on frequency increments of whole 1 MHz numbers (not 0.5 MHz as previously used).

6.3.3.1 Digital ATV Channels

- 2411.000 – DVB ATV Channel 1 (Centre)
- 2419.000 – DVB ATV Channel 2 (Centre)
- 2435.000 – DVB ATV Channel 3 (Centre)
- 2443.000 – DVB ATV Channel 4 (Centre)

6.3.3.2 Analogue ATV Channels

- 2415.000 – FM ATV Channel 1
- 2439.000 – FM ATV Channel 2

Responses to the proposal were generally positive or neutral to this change.

Outcome #23

The WIA will amend the referenced ATV Centres of activity for digital transmission on 13cm to the new frequencies contained in the consultation – namely:

- 2411.000 – DVB ATV Channel 1 (Centre) @ 7MHz BW
- 2419.000 – DVB ATV Channel 2 (Centre) @ 7 MHz BW
- 2435.000 – DVB ATV Channel 3 (Centre) @ 7 MHz BW
- 2443.000 – DVB ATV Channel 4 (Centre) @ 7 MHz BW

6.4 9cm Band plan

The consultation specifically looked to make some changes to this band, following in part from feedback received from the previous consultation in 2024. Changes were also contemplated as we looked to ways to promote to Australian amateurs the fact that the 3300-3400 MHz band is still fully available to the Amateur Service in Australia, despite the near complete withdrawal of access between 3400-3600 MHz.

In the consultation, several changes were proposed which have yielded a mix of responses. These responses included:

a) Some support for the secondary narrowband segment
b) Concern about the lack of FM ATV analogue channels defined
c) One response indicating they did not support the proposed FM repeater allocation.

Given the feedback that was received, it was decided that more of the existing band plan will instead be retained, but with the required inclusions for the radio astronomy exclusion zones.

6.4.1 Secondary Narrowband Segment proposals

Outcome #24

The addition of an alternate narrowband segment, for now will not go ahead on 3385-3387 MHz Narrowband will continue to be indicated as 3398-3400 MHz as per the current plan.

6.4.2 Introduction of VOICE REPEATER sub-band options

For the same reasons as those that drove the voice repeater proposal for 2.4 GHz, a new 40 MHz offset repeater pair has been proposed for the 3.3 GHz band.

Outcome #25

While little support was received, and one response was negative to the proposal, the committee will still identify a segment for repeater activity on the band to see if that prompts any development of such systems in the future. The repeater segment will be defined as Repeater TX 3356 - 3357 MHz – Repeater Rx 3396 - 3397 MHz.

6.4.3 Redefinition of ATV Channel Use

These are different to the current band plan, but that is out of necessity to respect the radio astronomy exclusion zones that exist within much of the eastern seaboard.

Outcome #26

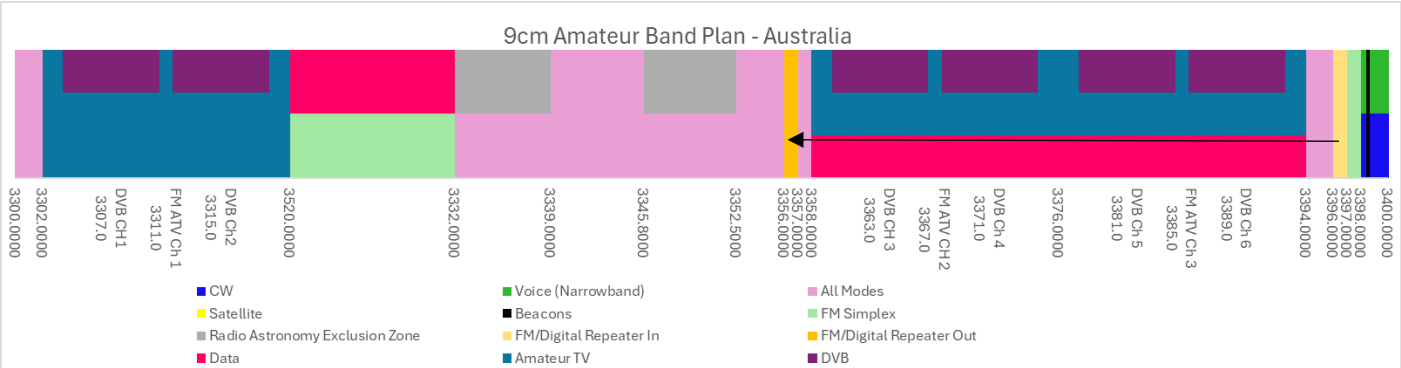
The WIA has now moved to retain most of the original ATV channels for this band but has rearranged them to better fit around the radio astronomy exclusions and the new voice repeater sub-band.

The plan will now see:

- 3307.000 – DVB Channel 1
- 3315.000 – DVB Channel 2
- 3363.000 – DVB Channel 3
- 3371.000 – DVB Channel 4
- 3381.000 – DVB Channel 5
- 3389.000 – DVB Channel 6
- 3311.000 – FM ATV Channel 1
- 3367.000 – FM ATV Channel 2
- 3385.000 – FM ATV Channel 3

6.4.4 Outcome: New 9cm Band Plan

Taking the decisions above into account we have revised the band plan as follows.



6.5 6cm Band plan

The feedback received on the 6cm band was limited but mostly positive for the changes proposed. The principal changes have sought to accommodate new activity types and align the data channels with the Wi-Fi bands to provide easier pathways to amateur wide area networking.

6.5.1 Introduction of VOICE REPEATER sub-band options

As per 2.4 and 3.3 GHz, a new 40 MHz offset voice repeater allocation has been proposed, following enquiries from users.

Outcome #27

We will add a duplex 40MHz offset FM voice repeater segment on the band operating on 5770 - 5775 MHz Repeater RX, 5730 - 5735 MHz Repeater TX.

6.5.2 Rearrangement of Wideband Channel Plans

The wideband (20 MHz) data and voice channels have been combined to create 40 MHz data channels that now align with existing Wi-Fi channels on the band. The aim here is to improve support for the Ham wideband networking using readily off the shelf networking equipment.

The narrowband (<250 kHz) voice simplex spectrum has been optimised in the shuffle of the data channels

Outcome #28

The unused 20 MHz wide voice channels will be removed and will then be used to define 40 MHz wide DATA channels aligned with the Wi-Fi channel raster.

6.5.3 ATV Channels redefined for DVB digital modulation

The ATV channel allocations have remained at 20 MHz bandwidth, but new centres of activity have been defined to better facilitate a clear understanding of where to operate DVB based ATV om the band.

6.5.3.1 Digital ATV Channels

- 5675.0 - D-ATV Channel 1
- 5685.0 - D-ATV Channel 2
- 5740.0 - D-ATV Channel 3
- 5750.0 - D-ATV Channel 4
- 5820.0 - D-ATV Channel 5

6.5.3.2 Analogue ATV Channels

- 5680.0 - FM ATV Channel 1
- 5745.0 - FM ATV Channel 2

Outcome #29

The ATV channels now have explicit digital ATV channels defined within the original Analogue FM channels, to help guide the implementation of the newer digital ATV modes.

6.6 3cm Band plan

The 3cm band plan will be revised in several areas.

6.6.1 Introduction of VOICE REPEATER sub-band options

There were no objections to a new 90 MHz offset voice repeater allocation on the band.

Outcome #30

A duplex 90MHz offset FM voice repeater segment on the band operating on 10335 - 10360 MHz Repeater RX, 10445 - 10450 MHz Repeater TX sub-bands will be introduced to the band plan.

6.6.2 Rearrangement of Wideband Channel Plans

The wideband (20 MHz) data and voice channels have been combined to create up to 40 MHz wide data channels. The aim here is to improve support for the Ham data networking experimenters. The previous 20 MHz voice channels had never to our knowledge been utilised and so did not appear to be a useful addition to the band plan. No objections were received to this proposal on this band.

Outcome #31

The unused 20 MHz wide voice channels will be combined with the 20MHz data channels to create 40 MHz wide DATA channels (noting that other simplex voice spectrum will remain to support up to 5 MHz wide voice transmissions).

6.6.3 ATV Channels redefined for DVB digital modulation

The ATV channel allocations have remained at 20 MHz bandwidth, but new centres of activity have been defined to better facilitate a clear understanding of where to operate DVB based ATV om the band.

The slots are still wide enough to accommodate 20MHz FM Analogue TV transmissions if people wish to use that mode as well, however digital ATV is the recommended as the preferred option.

6.6.3.1 Digital ATV Channels

- 10195.0 - D-ATV Channel 1
- 10205.0 - D-ATV Channel 2
- 10255.0 - D-ATV Channel 3
- 10265.0 - D-ATV Channel 4
- 10315.0 - D-ATV Channel 5
- 10325.0 - D-ATV Channel 6
- 10425.0 - D-ATV Channel 7
- 10435.0 - D-ATV Channel 8

6.6.3.2 Analogue ATV Channels

- 10200.0 - FM ATV Channel 1
- 10260.0 - FM ATV Channel 2
- 10320.0 - FM ATV Channel 3
- 10430.0 - FM ATV Channel 4

Outcome #32

The updated FM/DVB ATV Channel plan will be incorporated into the band plan.

7 Remaining Microwave Bands

Apart from reviewing and updating the ITU documentation aspects of these bands, no new use recommendations have been made, although the narrow-band centres of activity have now been noted for 24, 47, 76, 122 and 134 GHz.

Outcome #33

Feedback was received on centres of activity for the bands between 47 and 241 GHz which will be incorporated into the band plans.

8 Conclusion

We wish to thank all of the people who made the effort to pen a reply. We were surprised and pleased with the level of engagement shown across the Australian amateur radio community for this work. We hope that the changes bring about a positive impact on Amateur Radio activity in Australia into the future.

A full copy of the revised band plan is now available alongside this outcomes paper. In the near future, we intend to also issue various new information formats to help make band plans accessible to all.

9 Copyright