



WIRELESS INSTITUTE OF AUSTRALIA

PO Box 2042
Bayswater
Victoria 3153 Australia
Phone: + 61 3 9729 0400
Facsimile: + 61 3 9729 7325
nationaloffice@wia.org.au
ABN 56 004 920 745

Mr Chris Worley
Spectrum Planning Section
Australian Communications and Media Authority
PO Box 78
BELCONNEN ACT 2616

Via email: freqplan@acma.gov.au

Dear Mr Worley

SUBMISSION REGARDING AMATEUR RADIO OPERATION ON THE 60M BAND BETWEEN 5351.5-5366.5 MHz ACMA consultation 13/2020

The Wireless Institute of Australia (WIA) thanks the Australian Communications and Media Authority for the opportunity to provide feedback on proposals to grant the Amateur Service access to the 5351.5 - 5366.5 kHz segment of the radio frequency spectrum in Australia.

The WIA represents over 3000 licensed radio amateurs in Australia and well over 50% of the cohort of amateur licensees through our network of affiliated amateur radio clubs.

Summary

Reviewing the options proposed by the authority, the WIA proposes that the ACMA's second option outlined in their consultation paper be the model used to permit the introduction of the Amateur Service into this part of the radio spectrum. The WIA view is that option 2 delivers the maximum benefit of this segment of the radio spectrum to the Australian people while not disadvantaging existing primary spectrum users.

This view is supported by stakeholders comprising WIA members and interested non-members who were polled to gain an understanding of their preferred arrangements for accessing the band. The WIA also offers a framework on which to shape the final technical aspects of implementing access to this band within the Amateur Licence Conditions Determination.

Background

The 2015 World Radio Conference (WRC-15) allocated a portion of the 5 MHz band to the Amateur Service on a secondary basis. In Australia, the high frequency (HF) band 5351.5 - 5366.5 kHz (15 kHz) was declared as a secondary allocation for the amateur service within the 2017 Australian Radio Frequency Spectrum Plan. The WIA now offers the following as a way forward to complete implementation of the band within the Amateur Service Licence Condition Determination.

Interest in 5MHz Spectrum

Access to the band for Australian amateurs is important for a number of reasons:

- Since its declaration at WRC-15, amateur radio operators in over 80 countries around the world have been granted access to the band, including many of our near Pacific neighbours, New Zealand and Indonesia. Australian amateur operators therefore have a strong desire to be able to commence communications on this band with these countries.

The National Association for Amateur Radio in Australia
A member society of the International Amateur Radio Union (IARU)

The short-haul daytime propagation characteristics of the 5 MHz band, ranging from 100 to ~500 km, enables operators to bridge the gap for communications over this distance when propagation fails on both the 3.5 MHz and the 7 MHz amateur bands.

- Day time communications over these distances are particularly important for the activities of groups such as the Wireless Institute Civil Emergency Network (WICEN), as well as facilitating general intra-state communication particularly during times of low sun spot activity.
- Night time communications, particularly using weak signal digital and CW communications modes are also of interest on this band, with their ability to support inter-continental communications already proven by amateur radio operators around the globe. Commercial domestic use of the band during these times is also expected to be quite low.

Secondary Service Sharing

The WIA recognises that the High Frequency (HF) radio spectrum is a valued communications medium for the community at large. It is also understood that this frequency range is one of the more popular segments on HF for multiple spectrum users due to its unique propagation characteristics.

To address the concerns of other spectrum users of this band, the WIA offers the following:

- The amateur service in Australia already successfully shares the 10.1 - 10.15 MHz band, on a secondary basis, with other fixed and mobile users. It has done so for over 40 years (since WRC 1979).
- The WIA supports the permitted output power limit of (15 W EIRP) approved at WRC-15 and proposes that it be maintained. The WIA also offers to develop a public education campaign to help educate amateur radio operators on how to interpret and implement EIRP power limits at their stations.
- To help facilitate voice operation and improve sharing outcomes on the band, it is recommended that J3E emission modes be limited to Upper Side Band (USB) operation only which will maximise the chance of the primary service being heard and understood thus reducing the risk of unwanted interference.
- The option 2 proposal to only assign 5351.5 - 5365 kHz to the amateur service (removing the top 1.5 kHz from the ITU allocation) is a compromise the WIA is prepared to endorse in Australia, given the high number of existing commercial and government licence registrations of the fixed and mobile service on this segment (5366.5 kHz +/- 1.5 kHz) in Australia.
- The WIA also supports providing agility for the amateur service to utilise the entire frequency block, including the “white space” between Australian fixed and mobile service channel arrangements. This is seen as the best way to deliver the maximum value of this spectrum to the Australian people. Furthermore, in support of this position, amateur operators have available numerous modulation techniques that are well suited to very narrow band and weak signal communications which can easily utilise the channel guard bands between fixed and mobile service channels in ways that will not cause interference to those primary spectrum users. Access to these CW and digital modes across the band is therefore a key to maximising value.
- The WIA supports this segment being granted only to AOC(A) and equivalent licensees, at least initially, particularly if this would further reduce any residual sharing concerns with the primary spectrum users.

Supporting Evidence

The position presented by the WIA has been developed after extensive consultation through an on-line poll of Australian amateur radio operators. Invitations to participate were sent to all members of the WIA and any other non-member who had expressed an interest in contributing to the poll. The poll was conducted over a two-week period to ascertain participants’ preference for the four options presented by the ACMA. There were 1139 respondents.

The poll conducted by the WIA included an information paper and posed two questions. That information paper is attached to this submission.

The results of the poll are presented below:

Question 1: "Which of the 4 options should be implemented by the ACMA for amateur access to the 60M band."

Question 1 responses.
Option 1: 132 Respondents (13%)
Option 2: 802 Respondents (70%)
Option 3: 170 Respondents (13%)
Option 4: 35 Respondents (3%)

Overwhelming feedback from this poll indicates support for the ACMA's proposed option 2 as the preferred solution.

The poll conducted by the WIA also sought feedback on what class of licenced amateur operator should be given access to the 5 MHz band. A response to question 2 was optional.

Question 2: "What is the minimum qualification that should be held for access to the 60M band"

Question 2 responses
Advanced: 622 Respondents
Standard: 365 Respondents
Foundation: 139 Respondents

The majority response was in favour of it being granted to AOC(P) and equivalent certificate of proficiency holders only:

Thank you for the opportunity to make this submission.

Yours sincerely

Peter Clee

Peter Clee
WIA Secretary

19 June 2020

WIRELESS INSTITUTE OF AUSTRALIA



PO Box 2042
Bayswater
Victoria 3153 Australia
Phone: + 61 3 9729 0400
Facsimile: + 61 3 9729 7325
nationaloffice@wia.org.au
ABN 56 004 920 745

Call to Action:

The WIA is asking for your input to assist in delivering a “cohesive” view of the amateur community’s preference for access to the 60M (5MHz) band.

The outcomes of this poll will be delivered to the AMCA in the WIA’s response to the recently announced Public Consultation Paper on Amateur Access to the 5MHz band.

On the 19th of June, 2020 the Australian Communications and Media Authority (ACMA) released a long awaited public consultation paper entitled “Possible use of the 5351.5-5366.5kHz band by the amateur service”.

The WIA is delighted that the ACMA has released this consultation paper to determine the community appetite for better alignment of the 60M band with international use.

We are seeking community opinions to ensure that the WIA’s recommendation to the ACMA is aligned with the desires of our members and other Australian operators.

The issues and background are set out in the consultation paper which is available at <https://www.acma.gov.au/consultations/2020-05/possible-use-53515-53665-khz-band-amateur-service-consultation-132020>.

The consultation process closes on the 19th of June, 2020.

The WIA would like to thank the ACMA for its response to the WIA’s call for longer consultation periods to allow the WIA to undertake consultation with the Australian amateur community.

The ACMA has presented four options for the integration of the amateur service into the 60M band. Of these, the first three provide a mechanism for achieving this.

This information paper seeks to describe the benefits and drawbacks of each option to assist operators in the process of selecting the option which they believe the WIA should present as the community’s preferred option.

This poll will run until Midnight on the 7th of June, 2020

Selection Criteria:

The WIA's view is that in implementing amateur access to the 60M band the following critical success factors should be considered when choosing from the 4 recommended options. The selected option should:

- permit all suitably qualified amateur operators use of the 60M band.
- mitigate, to the greatest extent possible the risk of accidental harmful interference to other users in the 60M band.
- Permit the use of amateur systems that rely on globally allocated frequencies (eg: WSPR, FT-8)
- Allow as much flexibility for Amateurs in the use of the 60M band as possible
- Permit the highest level "utility" from the 60M band for amateur operators..
- Maintain consistency between local and international regulation

In addition to the core question asked in the ACMA consultation paper, the WIA is seeking community feedback on what the minimum qualification level for access to this shared band should be.

Question Presentation:

There are two questions presented in a multiple choice format. In presenting these questions for consideration we have provided a view of how each choice will support or offend the critical success factors identified above.

Question 1

Which of the 4 options should be implemented by the ACMA for amateur access to the 60M band.

WIA Recommendation: Option 2

Option 1: Australia-wide access to the whole band (5351.5–5366.5 kHz) but excluding Queensland and zones around existing transmitters

Option 1 seeks to create “horizontal” separation between existing users and amateur through by drawing a 200km exclusion zone around each of the 504 Queensland emergency services sites.

All operations would be conducted on a “no interference” basis to provide a level of protection for other commercial users around Australia.

This option provides excellent utility to most operators in Australia by allowing the entire 60M band to be used by amateur operators in most of Australia, however, the utility in Queensland and northern New South Wales is very limited.

Option 2: Australia-wide access to 5351.5–5365 kHz, that is, exclude the top 1.5 kHz to mitigate against most known sharing issues.

Option 2 and option 3 seek to create “vertical” separation within the band itself by excluding the upper 1.5kHz of the band which is occupied by Queensland’s emergency services.

This option provides the ability for amateur operations on the lower segment of the band on a no-interference basis.

The third operator, Lloyd helicopters, are at the bottom end of the band. This means they only have 1k of their 3k within the band. WSPR and JT mode frequencies fall in a ‘clear’ section of the band.

This option provides amateurs with the freedom to move around the band in the same manner as is currently enjoyed.

Option 3: Segmented and/or channelised use to mitigate against interference to existing services.

Basically, option three describes a scenario where ACMA isolates two frequency blocks. The first, 5365 to 5366.5 Khz, contains the QLD fire service and the second, 5355 to 5358 Khz contains the Ambulance service of NSW.

This leaves us two blocks. The first 5351.5 to 5355.5 contains Lloyd helicopters and the second 5358 to 5365 contains the Royal flying doctor. Preliminary analysis suggests that amateur services may be 'shoe-horned' around the two existing services on a non-interference basis.

This option is similar to option 2 in that it excludes the top 1.5k and includes WSPR and JT frequencies in the remaining segments.

This option is more restrictive as it excludes 5358-5365. It divides the band into 'tight' blocks. It does not afford the 'freedom of movement' that may be possible in option 2.

In terms of utility, this option provides less "spectrum per square kilometer" than option 2.

Option 4: No amateur Use

Need we say more ??

Selection Criteria	OPTION 1	OPTION 2	OPTION 3	OPTION 4
Permit all suitably qualified amateur operators use of the 60M band	✗	✓	✓	✗
Mitigate, to the greatest extent possible the risk of accidental harmful interference to other users in the 60M band.	✓	✗	✓	✓
Allow as much flexibility for Amateurs in the use of the 60M band as possible	✗	✓	✗	✗
Permit the highest level “utility” from the 60M band.	✓	✓	✗	✗
Permit the use of amateur systems that rely on globally allocated frequencies (eg:wsp, FT-8)	✓	✓	✓	✗
Maintain consistency between local and international regulations.	✓	✓	✓	✗

Question 2:

“What is the minimum qualification that should be held for access to the 60M band”

WIA Recommendation: Advanced

All the proposals (with the exception of option 4) create a situation where Amateur operators are sharing spectrum with commercial users.

The risk of interference with these commercial users cannot be overlooked.

Advanced operators have proven experience operating alongside commercial operators (eg: 50Mhz) without causing harmful interference.