



The New Zealand Association of Radio Transmitters Incorporated

Founder Member of the International Amateur Radio Union Region 3



Phone: (04) 475 9989 or (027) 444 5123
Fax: (04) 528 2173 (NZART HQ)
E-mail: nzart@wallace.gen.nz

P.O. Box 40 525
Upper Hutt
NEW ZEALAND

27 May 2016

Mr Len Starling
Manager, Radio Spectrum Management Policy and Planning
Ministry of Business, Innovation and Employment
(by email to Radio.Spectrum@mbie.govt.nz)

Dear Len,

Consultation Document: Options for 174 – 230 MHz – NZART Comments

Thank you for the opportunity to comment on your 174 – 230 MHz band consultation document.

NZART represents the Amateur Service in New Zealand which is defined by the ITU as “A radio communication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest.”

NZART is always on the lookout for spectrum that has different characteristics from that to which we already have access. The 174 to 230 MHz band clearly fits in this category – having characteristics quite different from the two adjacent (144 MHz and 430 MHz) amateur bands.

We are therefore requesting that a small allocation (222 – 223 MHz) be made to the NZ Amateurs to allow them to further both the *self-training* and *technical investigations* purposes of the Service.

In requesting this allocation be made to Amateur Radio, we are not seeking to exclude any other users from the band – in our view (and that of others) there is sufficient spectrum available in the band to satisfy all those seeking an allocation – including setting aside some bandwidth for applications (like the Internet of Things) that are not well defined at present.

Further detail on this request and our view on the other questions raised in your paper are given in the attached NZART Commentary.

Once again, we would like to thank you for the opportunity to comment on your Consultation Document and we look forward to further constructive dialogue on the issues it raises.

Regards

Don Wallace
NZART Administration Liaison Officer.

Consultation Document: Options for 174 – 230 MHz – NZART Commentary

Introduction

NZART welcomes the release of the Consultation Document on options for the 174 – 230 MHz band previously used for VHF analogue television broadcasting.

As noted in the document, a total of 56 MHz of spectrum is available in this band and in our (and others¹) view this should be sufficient to accommodate all the current and future uses of the spectrum mentioned in your Document including a small Amateur allocation.

This is illustrated in the diagram tabled at the RFUANZ meeting by 4RF Limited.

Proposed Allocation of 174 – 230 MHz Band

- VHF unlicensed 1W 174 – 175 MHz and/or EE band expansion 173 – 180 MHz
- DAB broadcast 181 – 195 MHz 8 blocks (as per RSM) at most
- Managed park shared 195 – 215 MHz
- Narrowband base RX TX 215 – 217 MHz, wideband base RX 217 – 219 MHz
- Simplex 219 – 220 MHz
- Narrowband base TX 220 – 222 MHz (5 MHz split)
- Amateur 222 – 223 MHz
- Wideband base TX 223 – 225 MHz (6 MHz split)
- Return 225 – 230 MHz to NZ Defence Force



NZART Response on the Questions

Q1. Should spectrum in Band III be allocated for radio microphones? If so, how much spectrum would satisfy demand in this area?

Given that few manufacturers are interested in making products specifically for the New Zealand market, it would only make sense to allocate Band III spectrum for radio microphones if this frequency band is in use in larger markets.

We understand that the British have allocated frequencies for radio microphones between 173.7 – 175.1 MHz so this may be an appropriate allocation for New Zealand.

Q2. Should spectrum in Band III be allocated for DAB? If yes, why? If not, why not?

¹ NZART was one of the participants in an inter-sector meeting organised by RFUANZ to discuss the RSM 174 - 230MHz consultation document.

Given trends around the world to move from analogue to digital audio broadcasting, and that Band III has been used for DAB in many countries, it seems appropriate to allocate some spectrum in Band III for DAB.

Q3. Would an allocation of 14 MHz in the form of eight 1.536 MHz frequency blocks be an appropriate spectrum allocation for DAB in New Zealand? If not, how many multiplexes would be more appropriate for current demand?

We have no information on the demand for DAB in New Zealand but, given the information provided in the Document that each multiplex could typically carry between 12 and 20 simultaneous programme streams, it would seem that an allocation of eight 1.536 MHz frequency blocks would be more than adequate for New Zealand.

We suggest that the views of the broadcasters should be sought on this topic.

Q4. Should spectrum in Band III be allocated to LMR? If yes, how much spectrum would satisfy demand in this area?

We understand that there are two, quite different, demands for additional LMR spectrum:

- Between 174 and 184 MHz (immediately adjacent to the EE band) to provide additional land mobile analogue or digital voice capacity; and
- Between 215 and 225 MHz Between 215 and 225 MHz to accommodate narrow and wideband digital/SCADA services as well as narrow band land mobile using readily available equipment.

As noted above, it appears that both of these demands could be accommodated without starving other applications of spectrum.

Q5. If spectrum is allocated to LMR, should there be technological requirements around the use of this spectrum? If yes, why? If not, why not?

No comment – the views of the LMR industry should be sought on this topic.

Q6. If spectrum is allocated to LMR, is it appropriate to charge a fee for this use or transfer the spectrum to the management rights regime? If yes, why? If not, why not?

No comment – the views of the LMR industry should be sought on this topic.

Q7. Is there a demand for exclusive spectrum in Band III, either now or in the future, for IoT technologies? If yes, which IoT technologies are demanding this spectrum?

In discussion with other members of the Radio Sector, it seems appropriate to provide a “sandpit” in Band III to accommodate IoT and other future technologies.

Q8. If spectrum is allocated to IoT, how much spectrum would satisfy demand in this area?

The band plan proposed by 4RF suggests that 195 to 215 MHz be allocated for this purpose and we believe that 20 MHz should be sufficient for this purpose.

Q9. Which type of licensing framework is most appropriate for spectrum allocated to IoT?

We would see that a mechanism similar to that used for managed spectrum parks and SRD GURLs could be suitable for this spectrum. We would also see this spectrum being included in the Amateur GURL on a similar basis to other SRD spectrum.

Q10. Is there demand for exclusive Band III spectrum for utility companies? If yes, what types of uses are driving this demand and how much spectrum do these uses require?

We do not know whether there is a demand for exclusive Band III spectrum for utility companies. We suggest that the views of utility companies and the LMR industry should be sought on this topic.

Q11. Is there demand for NZDF use of spectrum between 225–230 MHz?

We understand (http://www.ero.docdb.dk/docs/doc98/official/pdf/ERCRep025.pdf_pages_74_and_75) that this band is a “Harmonised military band”. While we have no direct knowledge, we would therefore expect that there is a demand for NZDF use of spectrum between 225–230 MHz.

Q12. Should spectrum in Band III be allocated to NZDF? If yes, why? If not, why not

As we understand that, when 225–230 MHz was taken from NZDF for television use, it was agreed that this would be returned if/when it was no longer required for television. It would therefore seem appropriate for 225–230 MHz to be given back to NZDF.

Q13. Should New Zealand consider PPDR uses in Band III? If yes, why? If not, why not?

As the Document states, only one country (Japan) is currently using Band III for PPDR. If there is a future demand for spectrum in NZ for PPDR, it would seem that this could be accommodated in the proposed “sandpit” between 195 and 215 MHz.

Q14. If there is demand for PPDR in Band III, how much spectrum would satisfy this demand?

See answer to question 13

Q15. Are there any other uses of Band III that should be considered? If yes, please describe.

Yes – we suggest that a small (1 MHz) segment of the band - from 222 to 223 MHz - be allocated to Radio Amateurs.

An allocation in this band would allow Amateurs, many of whom also have (or will have) professional interests in radio to gain experience in the characteristics of Band III.

The ITU allocates 220 – 225 MHz on a primary basis to Amateurs in Region 2 and the IARU band plan allocates the frequency range 222 to 223 MHz for beacons, EME and other weak signal work.

Locating the NZ allocation in this frequency range would have several benefits:

- it will allow experimentation in areas such as propagation between amateurs in New Zealand and those in Region 2;
- it would mean that NZ Amateurs would be able to make use of equipment designed for use in Region 2.

To ensure that there is no interference between Amateurs and other users of Band III, it is proposed that the power limit for this allocation be set at a level similar to that available to other users in the 215 to 225 MHz range.