

Radio Frequency Users Assn of NZ Inc
Suite 7033
PO Box 83000
Johnsonville
WELLINGTON 6440



26 May 2016

Mr L Starling
Radio Spectrum Policy and Planning
Ministry of Business, Innovation and Employment,
P.O. Box 2847,
WELLINGTON 6140.

Dear Mr Starling

After a due consultative process of RFUANZ members and guests I enclose the RFUANZ submission on the 174 – 230 MHz band discussion document.

Parties represented at this meeting were:

Corey Weir (RFUANZ Chairman), Debby Morgan (Secretary RFUANZ), Steve Fogerty (RFUANZ Committee), Kevin Dove (RFUANZ Committee).

John Yaldwyn (CTO 4RF), Don Wallace (NZART Administration Liaison Officer), Bruce Emirali (NZ Defence Force Head of Spectrum Management), Brian Davis (Independent Radio Engineer/Consultant).

Two further written submissions were received from Tait Communications and Mt Campbell Communications.

Yours sincerely

A handwritten signature in black ink, appearing to be 'C Weir', written over a white background.

C Weir
RFUANZ Chairman

SUBMISSION

For 174 – 230 MHz: Consultation Document

3.1 Radio Microphones

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

RFUANZ support the allowance for radio microphones somewhere in this band, with an allocation of up to 1MHz. RFUANZ suggests a low power limit be applied and a GURL licence.

3.2 Digital Audio Broadcasting

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

RFUANZ supports the allocation of spectrum that matches that allocated internationally, but should there should be a guard band at both the top and bottom of the DAB allocation, to ensure that it does not cause interference to lower power adjacent services.

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?

Provided the Government decides to adopt digital DAB, RFUANZ supports up to 8 blocks at the top end of the DAB band. E.g. Block 6d – 8c 186.304 – 200.128MHz.

3.3 Land Mobile

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

RFUANZ supports the allocation of spectrum in Band III. The current VHF LMR Bands are heavily utilised, and free channels can be difficult to find in many parts of the country. This is particularly difficult for data applications, VHF trunking, and critical communications. It is essential that spectrum is made available to allow New Zealand businesses to cater for their growing data and communication requirements.

We see that there two areas of allocation appropriate for LMR and related purposes (data).

1. 174 – 184MHz to extend the current EE band.
2. 215 – 225MHz to match up with the commercial equipment currently available from multiple vendors internationally.

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?

Yes.

Technological requirements for 174 – 184 MHz considerations:

- Efficient modulation techniques should be deployed.
- Separate 12.5 & 6.25 kHz sub bands to prevent spectrum denial.
- Two frequency channels to have a 4.5 MHz split.
- Analogue modulation techniques should be restricted to the EN & EE band.
- A small trunking sub band should be provided for. It needs to be of sufficient size to support multi-site, multi-channel systems and channel spacing to allow effective antenna multiplexing.
- All channel rasters shall consider intermodulation products to in-band receivers.
- There should be a mix of simplex and duplex channels.

Technological requirements for 215 – 225 MHz considerations:

- There should be a mix of narrow band (12.5 kHz) and wide band (up to 50 kHz) allocation to support higher data rate applications
- There should be a mix of simplex and duplex channels

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?

This is very important. Fees should be charged based on individual licenses not management rights. The Crown needs to remain as the right holder and managing authority. This would ensure equal access to spectrum for all users in this band. All proposed licences should be on a first come first served basis.

3.4 The Internet of Things

3.4.1 Licensing

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?

Given that IoT is a rapidly growing industry utilizing a range of technologies it would be short sighted not to reserve spectrum for this growth. RFUANZ does not believe that exclusive spectrum should be allocated for IoT at this time, however provision should be made in a managed spectrum park (sand pit).

RFUANZ believes that a block of spectrum ('a sandpit') should be allocated for emerging technologies including IoT, cognitive radio systems, and new/experimental developments. This 'sandpit' allocation would fit well between the DAB allocation and the proposed 215 to 225 MHz allocation as outlined in Q4.

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

As noted above RFUANZ sees this shared allocation as being between the top of the DAB allocation and the bottom of the proposed 215 to 225 MHz LMR band.

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

RFUANZ believes that a mix of both the SRD GURL approach and the spectrum park approach as being appropriate.

4 Potential users of 174-230 MHz

4.1 Utilities

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?

With the exception of the NZ Defence Force, RFUANZ believes that there should be no exclusive allocation of spectrum to the Utilities or any other industry group.

4.2 New Zealand Defence Force

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

RFUANZ believes that the needs of the industry can be adequately met within the 174 to 225 MHz band. RFUANZ supports the NZ Defence Force using 225 – 230 MHz exclusively.

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

See response to Q11 above.

4.3 Public Protection and Disaster Relief

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

RFUANZ supports PPDR, however we understand that the lack of suitable equipment in this particular band would reduce interoperability with other countries. RFUANZ would suggest PPDR being implemented in another band where equipment is readily available and more widely adopted.

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

See response to Q13 above.

5 General Questions

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

Whilst preparing a response to this consultation document, RFUANZ noted that in Region 2 there is an allocation to the Amateur Radio Service. After consultation with its members, RFUANZ can support an allocation of 222 – 223 MHz for Amateur radio service to align with the ITU Region 2. A power limit should be imposed on this allocation to ensure compatibility with adjacent users.