RADIO BROADCASTERS ASSOCIATION

Options for 174 – 230 MHz

RBA Response to MBIE Consultation

26 May 2016

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1 Executive Summary

The RBA appreciate MBIE providing this opportunity to present the views of its members on the evolution of broadcasting from analogue to digital.

The introduction of free-to-air radio broadcasting revolutionised New Zealander's access to news, information and the views of other New Zealanders. This has held true whether in times of prosperity or difficulty.

Just as importantly radio can, and does, reach and inform Kiwis in times of tragedy and disaster; often when all other technologies have failed.

Despite the proliferation of news and entertainment choices, radio is still among the most popular daily media in New Zealand.

Even on international measures, both the commercial and total radio consumption statistics of New Zealand continue to rank among the highest in the world. Our radio industry continues to innovate and extend connection with audiences.

DAB+ in Band III presents a unique opportunity to establish a digital radio platform with quality that equals the high fidelity of FM rather than the constrained audio quality and expense of internet streaming.

Rather than rush to spectrum allocation decisions care needs to be taken and with AM/FM tenure expiry in 2031, it is necessary to have spectrum in Band III allocated and assigned by 2026. This provides five years to plan implementation; a simulcasting period will be essential.

The RBA consider that the successful evolution of radio broadcast technology from analogue to digital requires at least 28 MHz of spectrum.

The use of DAB+ and MPEG HE-AAC coding, rather than the outdated and inefficient DAB, is essential to the efficient use of spectrum and should be enforced.

While the views of RBA members are represented in this submission this is a whole of radio discussion and additional discussions need to be held to ensure all needs are heard.

The RBA looks forward to working with RSM and other broadcasters over the next ten years to further develop this opportunity.

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3 Responses to Proposals

3.1 Radio Microphones

Q 1: ***Should spectrum in Band III be allocated for radio microphones? If so, how much spectrum would satisfy demand in this area?***

RBA members make use of radio microphones but predominantly in the UHF bands.

The RBA support the discontinuation of all analogue radio microphone devices in Band III by 2019.

Introduction in New Zealand of any emergent digital radio microphone technology would require compatibility studies to be undertaken in the presence of DAB.

3.2 Digital Audio Broadcasting

Q 2: ***Should spectrum in Band III be allocated for DAB? If yes, why? If not, why not?***

Although MBIE has asked this as a single question there are a multitude of issues here that require more study.

Careful analysis of the issues by the RBA suggests:

- The VHF Band III spectrum released as a 'digital dividend' to New Zealand should absolutely be reserved for the use of DAB+.
- Given the superior efficiency of DAB+, no consideration whatsoever should be made to allowing the legacy and outdated DAB standard to be used in New Zealand.

Reserving Band III for DAB+ is essential as:

- Digital radio broadcasting using DAB+ will provide a stable free-to-air national platform from which to transition from analogue.
- The evolution of DAB+ receivers is still taking place, with the capability now appearing in smartphones.
- AM/FM tenure expires in 2031 and *at least* five years is required to plan the implementation.

The ease of and cost of radio receiver uptake is possibly one of the most critical success factors for digital radio.

The simplicity of downloading an app to a mobile phone to buy or stream audio, or listen to a radio station has become an unquestionably low barrier.

But the evolution of how easy and how cheap it is to own a DAB+ receiver is far from complete.

Only weeks ago we observed the launch in Australia of the first embedded DAB+ reception capability in a smartphone that can receive high quality DAB+ transmissions with no dependence on cellular data availability and so free of streaming cost and quality limitations.

It is interesting that MBIE suggest NZ$70 as the lowest entry point receiver for DAB+ receivers when the global forum on digital radio, www.worlddab.org list entry level receivers at €15 (equivalent to NZ$25). Clearly some further study of this issue, which is vital to uptake, is required.

Q 3: ***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?***

At least 28 MHz of spectrum, and perhaps more, is needed for a successful deployment of DAB+ in New Zealand.

The RBA view on the amount of spectrum required for successful deployment of DAB+ in New Zealand was presented at the public forums held by RSM in 2009.

Not only does enough spectrum need to be allocated to transition the existing broadcasters, but to make the offering rich and compelling for listeners there needs to be additional capacity for new programs as well as the carriage of images and data.

The RBA view is that 14 MHz would *not* be enough to both transition the existing AM and FM stations as well as providing new capacity.

One of the factors that has restricted DAB/DAB+ uptake in other countries has been a limiting of the lack of choice, a direct result of not enough spectrum being allocated.

This lack of spectrum in Europe often arises from international congestion, whereas in Australia it arises out of other uses of Band III.

New Zealand has an opportunity to get this right and provide a clear and unencumbered allocation for radio broadcasting.

At least 28 MHz should be allocated for DAB+ here in New Zealand to maximise the opportunity for success rather than artificially constrain it.

3.3 Land Mobile

Q 4: ***Should spectrum in Band III be allocated to LMR? If yes, how much spectrum would satisfy demand in this area?***

RSM will recall from their 2009 Digital Dividend workshops that the RBA was supportive of some of Band III being made available to LMR use.

No conclusive view was presented as to the exact proportion that might be allocated because of the lack of clarity on where the evolution of both digital broadcast radio and LMR technology.

The RBA suggest that much closer study of this issue be conducted which allows LMR and broadcast radio interests to present and justify their needs.

However, before any allocation of Band III to LMR is contemplated it would be prudent to undertake a conclusive national study of LMR usage in existing VHF bands, including of how many perpetual LMR radio licences are assigned to users but are unused.

This study should also provide a view on how encoding and modulation efficiencies can improve the utilisation efficiency of current LMR usage.

Q 5: ***If spectrum is allocated to LMR, should there be technological requirements around the use of this spectrum? If yes, why? If not, why not?***

LMR should absolutely be bound to use the most efficient technology, just as broadcast radio use of Band III should be bound to use DAB+ and not DAB.

Furthermore, a proper assessment of emerging digital LMR technologies needs to be undertaken to ensure that standards adopted will not

become redundant or be leap-frogged by better digital LMR model technologies.

These studies should be coordinated by RSM in consultation with the wireless community and spectrum users before the amount of spectrum for LMR use can be properly discussed.

Q 6: ***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?***

The RBA make no comment on consideration for LMR use.

Further study is required to ensure the right balance of spectrum between LMR and broadcast use.

3.4 The Internet of Things

Q 7: ***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?***

The RBA are not aware of any machine-to-machine (internet of things) applications that present a greater need than the transition of broadcasting to digital.

Machine-to-machine/IoT communication, unlike human-to-human communication, is characterised by short efficient transmissions and the need for small antennas.

Band III requires physically large transmit antennas and is more suited to broadcast use where coverage reach is vitally important.

Q 8: ***If spectrum is allocated to IoT, how much spectrum would satisfy demand in this area?***

Very small portions might be used, but no clear demand exists.

Q 9: ***Which type of licensing framework is most appropriate for spectrum allocated to IoT?***

Initially a small amount, perhaps 1.5 MHz, could be allocated for experimentation and trials, although equipment in this band does not seem to be common.

A GURL is entirely appropriate as another characteristic of IoT devices is that they perform their own spectrum and channel negotiations in real time. This factor also tends to minimise the amount of spectrum required.

4 Potential users of 174-230 MHz

4.1 Utilities

Q 10: ***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?***

The RBA have no comment on the needs of utility companies, except to remind RSM that the radio industry has been forced to relinquish UHF spectrum so that utility companies were able to deploy smart metering.

4.2 New Zealand Defence Force

Q 11: ***Is there demand for NZDF use of spectrum between 225-230 MHz?***

The RBA make no comment on this question.

Q 12: ***Should spectrum in Band III be allocated to NZDF? If yes, why? If not, why not?***

The RBA have conversed and cooperated with NZDF in the past to help bring about trials for DAB/DAB+.

If there is a clear need it should be presented for further study and discussion.

4.3 Public Protection and Disaster Relief

Q 13: ***Should New Zealand consider PPDR uses in Band III? If yes, why? If not, why not?***

New Zealand should align with as many countries as possible.

Q 14: ***If there is demand for PPDR in Band III, how much spectrum would satisfy this demand?***

The RBA make no comment on this question.

5 General Questions

Q 15: ***Are there any other uses of Band III that should be considered? If yes, please describe.***

The RBA are not aware of any other technologies that have a greater need of Band III to ensure their success.

With Band III currently vacant, New Zealand has a unique opportunity to initiate DAB+ in Band III with at least 28 MHz to ensure the maximum opportunity for success.