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RBA Submission on RSM Consultation Document: IoT VHF Testbed Rules

Introduction

RSM has proposed the following:

To provide a fixed term licensing arrangement for the use of Internet of Things (IoT) devices in the upper VHF band (210 – 220 MHz). Licences for using this band for IoT deployment are available by applying through Approved Persons, similar to the way that other radio licences are applied for.

The RBA would like to submit the following by way of considered response in looking to provide capacity in the 174 – 230 MHz spectrum for the IoT.

In May 2016, RSM originally asked for submissions on the use of the 174 – 230 MHz range with a specific question on reserving spectrum for IoT.

The RBA response at that time is still valid and worth reiterating in this document.

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.

It is noted though that the outcome of the review granted available capacity to the IoT.

Spectrum Reserved For DAB+

In the same 2016 decision, RSM announced it had reserved the 184 – 206 MHz band for DAB, now superseded by DAB+.

By confirming its intention to proceed with IoT using the original allocation, not supported by the RBA, there will be a dangerous precedent set whereby the IoT trial triggers a slew of requests for more spectrum needing to be allocated for similar devices.

The RBA request that the allocated space for DAB+ remains protected.

While the Kordia trial for DAB has ended, we await any Government policy on Digital Radio in New Zealand. It should be noted that the RBA intends starting a working group in 2019 to consider the most practical and cost-effective model for introducing DAB+ in New Zealand.

The timing of the launch is paramount in leveraging coverage for all broadcasters as they look to protect valuable FM and AM assets as we close on the 2031 renewal date for existing licenses.

There absolutely is a desire by all RBA members to thoroughly explore Digital Radio with the aim of complimenting or replacing existing services.

Planning and agreement on the preferred DAB+ model for New Zealand is a multi-year task, predicted at 5 years in 2016. The RBA working group to be established next year will present more realistic timelines and a sustainable launch model for consideration.

It is therefore paramount we keep the current reserved spectrum (184 – 206 MHz) protected.

Power Levels, Interference and Licensing

RSM has indicated the following by way of power restrictions for the IoT trial.

Maximum power of up to -7dBW (200 milliwatts) e.i.r.p. is permitted. This is a balance between the power limits that are available to IoT networks and that equipment that is certified for the US land mobile band (2 watts). The EIRP that the device is capable of must be stated on the licence (up to the maximum power as permitted).

The RBA presents the following observations that need to be considered and mitigated:

1. Will the presence, even of only 1/5W emanating from every appliance in the house going to affect current domestic FM reception?
2. If part of the licence spectrum is held for DAB, then 1/5 watt interfering with FM would likely make DAB unusable domestically – has this been considered, given the continued growth of high density apartment living?
3. For licensing, the proposed plan is a workable way for VHF spectrum to be licensed and controlled. The channel plan is workable, and whilst the plan to license in the same way as land mobile simplex is the most basic possible (with potential for valuable spectrum to be easily captured and used by a small number of profiteers), it is far better than a GURL. The RBA would resist this interim plan being turned into a GURL, when the trial is completed.

Summary

In summarising the draft consultation, the RBA acknowledge that licensing all IoT devices is a major step forward in standardising license requirements in New Zealand.

The RBA would also like to reiterate that protection of the integrity of Digital Radio within its proposed spectrum is vital.

Any likelihood of interference in high density population centers has the potential to render Digital Radio useless in such residential and office environments.

Due caution is paramount in any testing, with the caveat of providing greater separation of spectrum between IoT and Digital Radio to guarantee minimum viable interference levels.

The proposed licensing model, similar to that used for Land Mobiles, is preferred by the RBA moving forward.

Yours sincerely

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