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Response to

Development of point-to-multipoint apparatus licensing arrangements in the 5.6 GHz band

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The ACMA proposes presenting the 5.6Ghz band as a viable alternative for Regional Australia to use for carrier grade Wireless Broadband services. It is being proposed as a mitigation strategy for incumbent operators displaced from the 3.6Ghz band previously allocated to regional broadband services.

To support their view, the ACMA has presented an analysis of the possible interference risks to a carrier attempting to use this band.

The ACMA conclusions are repeated verbatim here:

Based on the indicative results it appears that:

- *the full 40 MHz of potentially available spectrum in the 5.6 GHz band could be available at 63 per cent of existing 3.6 GHz band P-MP sites*
- *at least 20 MHz of spectrum could be available at 90 per cent of existing 3.6 GHz band P-MP sites*
- *at least 10 MHz of spectrum could be available at 98 per cent of existing 3.6 GHz band P-MP sites*

The ACMA is aware of the technical issues associated with sharing this very narrow band. The Bureau of Meteorology has commented on technical aspects that it finds concerning.[1] The ACMA is aware that it is rejecting both the BOM and world technical advice to pursue this agenda.

The ACMA is aware that

- There is a requirement for WBB services in Regional Australia.
- There has been significant investment in regional Australia based on stability of the license.
- Closing the 3.6Ghz band will destroy these WBB services in Regional Australia.
- No alternate band has been offered Regional Australia.
- The 5.6 Ghz band is not suitable for WBB carrier grade deployment.

Analysis.

The ACMA paper implies that the 5.6 GHz band proposal provides an acceptable mitigation target for 3.6 Ghz incumbents. Whilst the concept of exploring an alternative for 3.65GHz displaced incumbents is acknowledged and appreciated, the 5.6GHz is not a suitable replacement for the use of 3.6GHz in regional areas. From the graphical information provided by the ACMA, in order to contain interference to the radar returns, implementation of a scheme based on the ACMA's own data would preclude all but remote areas from creating a carrier grade network for regional Australians using this band.

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[1] https://www.acma.gov.au/-/media/Spectrum-Transformation-and-Government/Issue-for-comment/9-2017/Bureau-of-Meteorology-submission-pdf.pdf

If the inalienable problems associated with radar interference are ignored, the limitations of the 5.6GHz proposal also include:

a) A significant reduction in performance. Whereas 3.6GHz is very effective through trees in the RF path, with 5.6GHz the loss through trees will increase by 2.5 times in dB.

b) A significant cost impost in transitioning 3.6Ghz equipment and customer premise receivers with 5.6Ghz equipment. Even if the 5.6GHz band was suitable, the cost of transition is prohibitive and not feasible, particularly when referencing point (a).

c) Replacing 125MHz with 20MHz is extremely limiting - it is most unlikely that more than one WiSP could co-exist in a given area, even in the rare examples of locations where 40Mhz is available. The FCC CBRS band for Rural areas in the USA allows for 220 Mhz of spectrum to be allocated for WBB services. In stark contrast, in this paper, the ACMA data identifies that for many parts of Regional Australia, less than 20 Mhz of spectrum will be available.

d) The proposal implies there will be a short window in which incumbent 3.6GHz i licence holders can apply for 5.6GHz (noting this is most unlikely) and that the process would require them to surrender their 3.6GHz licenses ahead of the end of the 7 year transition window. This cancels ACMA's proposals that displace 3.6GHz incumbents would have leverage to enter into commercial agreements with the 3.6GHz licence purchasers. It is a commercial disincentive that renders consideration of 5.6 as commercially daft.

e) 28GHz whilst offering potential in some contexts for short haul, clearly cannot be compared to 3.6GHz as a spectrum option for regional or remote area by anyone that understands RF? It is not comparing apples with apples.

The WiSPAU Association requests ACMA:

1. Immediately explore escalating the 3.3 - 3.4GHz project to an initial investigation in its 2018-19 work program as a real alternative to 3.6 GHz, particularly in the context of the displaced incumbents who will be required to vacate the band within the next 6.5 years.
2. That the 3.3 - 3.4 project investigation be conducted in the context of a pioneer candidate for a Dynamic Spectrum Licensing Model to enable effective and efficient sharing of the spectrum.
3. To commit to a real discovery process as to what an appropriate DSLM model might look like in Australia including a regional trial.