

August 11, 2017

To: The Manager, Spectrum Planning Section  
Spectrum Planning and Engineering Branch  
Communications Infrastructure Division  
PO Box 78, Belconnen, ACT 2616  
Australia

**Via On Line:** <http://www.acma.gov.au/theACMA/~link.aspx?id=7043A83620984131BA404E340B15241A&z=z>

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**Subject:** Comments to ACMA on Future use of the 3.6 GHz band Options paper, Appendix 3: 5.6 GHz band considerations.

### **COMMENTS OF IEEE 802**

1. IEEE 802<sup>1</sup> respectfully submits these responses<sup>2</sup> to the Australia Communications and Media Authority (ACMA).
2. IEEE 802, as a leading consensus-based industry standards body, produces standards for wireless networking devices, including wireless local area networks (“WLANs”), wireless specialty networks (“WSNs”), wireless metropolitan area networks (“Wireless MANs”), and wireless regional area networks (“WRANS”). We appreciate the opportunity to provide these comments to ACMA.

### **RESPONSE**

3. IEEE 802.11 has been the primary developer of the RLAN standards known as Wi-Fi. Following the results of WRC 2003, when licence-exempt use of the 5 GHz band was authorized, IEEE 802.11

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<sup>1</sup> The IEEE Local and Metropolitan Area Networks Standards Committee (“IEEE 802” or the “LMSC”).

<sup>2</sup> This document solely represents the views of IEEE 802 and does not necessarily represent a position of either the IEEE or the IEEE Standards Association

developed a series of standards for operation in these bands. Starting in 5 GHz with IEEE Std 802.11a and on up through IEEE Std. 802.11ac, with improvements in throughput and spectrum efficiency, billions of Wi-Fi users worldwide depend upon equipment meeting these standards for most of their wireless access to the Internet.

4. Currently, the IEEE 802.11 Working Group is developing a standard for High Efficiency Wireless networking that will become IEEE Std. 802.11ax. Both IEEE Std 802.11ac and IEEE P802.11ax, in supporting the latest wireless applications, utilize 80 MHz and 160 MHz wide channels, for which they depend upon the available spectrum in the 5 GHz bands.
5. Most of that spectrum requires the use of a technology known as Dynamic Frequency Selection (DFS), which is able to sense radars that need to be protected, and move to a channel where no radars are detected. This technology has been under development and in use for over a decade. In all that time, in numerous parts of the world, DFS has been proven to be successful in protecting these radars, including the weather radars in the 5600 MHz to 5650 MHz band. Even EUMETNET, a grouping of 31 European National Meteorological Services, that was formerly a harsh critic of DFS, has publicly acknowledged that DFS does work.
6. Recent spectrum needs studies conducted by Wi-Fi Alliance [1] and one of its major member companies has shown, that in the U.S., where the 5.6 GHz band is a part of the U-NII-2c band, within the next five years, the amount of spectrum available will be unable to support the wireless networking needs of consumers and commercial users, and that congestion will begin to limit its usability. It is with this in mind that IEEE 802 would like to provide our comments with respect to Appendix 3 of this consultation.
7. Now, with the 3GPP LTE unlicensed technologies being added to these bands, the need for additional unlicensed spectrum is greater than ever.
8. On Questions 8: Is the 5.6 GHz band a viable option for wireless broadband systems and 9: Under what circumstances should apparatus- and class-licensed arrangements be considered for the 5.6 GHz band, we believe that class-licensing is the proper approach for use of this segment, as it is currently operated in the U.S. and throughout Europe, as pointed out in the *Options Paper*.

9. We do, however, strongly oppose the relocation of the 3.6 GHz point-to-point operations to the 5 GHz band, as this would-be counter-productive to expansion of RLAN spectrum for essential IEEE 802.11 wireless networking.
10. We would also suggest that ACMA consider joining with regulators in the U.S. and Europe, and studying the unlicensed use of the 6 GHz band. A pending FCC Notice Of Inquiry asks if the bands 5925 MHz to 6425 MHz, and 6425 MHz to 7125 MHz should allow “unlicensed” use, and CEPT in Europe currently has proposed Work Items to study 5925 MHz to 6425 MHz for licence exempt sharing. As mentioned previously, spectrum needs studies show serious spectrum shortfalls for Wi-Fi, which these regulatory actions look to prevent.

### **CONCLUSION**

6. IEEE 802 supports ACMA’s efforts to open the middle of the 5 GHz band for unlicensed use, and asks that this not be tempered by the addition of 3.6 GHz point-to-point link relocations. We also ask that ACMA consider joining with the U.S. and European regulatory efforts to support the future for RLANs by studying expansion to the 6 GHz band.

Respectfully submitted

By: /ss/.

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### **References:**

- [1] Wi-Fi Alliance is a non-profit organization that promotes Wi-Fi technology and certifies Wi-Fi products if they conform to certain standards of interoperability.