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Via Online Filing:

<https://www.acma.gov.au/have-your-say>

The Manager
Spectrum Planning Section
Australian Communications and Media
Authority PO Box 78
Belconnen ACT 2616

Re: Remaking the low interference potential devices class license – Consultation paper

1. Introduction

The undersigned companies submit this response on ACMA's Consultation on Remaking the low interference potential devices ("LIPDs") class license on the sole issue of ensuring the long-term coexistence of Wi-Fi systems and narrowband transmitters, such as Bluetooth, in the 6 GHz band.¹

As explained below, the ETSI EN 303 687 standard is being revised to enable successful coexistence between narrowband and Wi-Fi systems in 6 GHz spectrum, and we strongly recommend ACMA wait until the ETSI EN 303 687 standard is revised to enable fair sharing between these two communications technologies. Should ACMA nonetheless decide to allow narrowband frequency-hopping transmitters (*e.g.*, Bluetooth transmitters) in the 6 GHz band, we request that ACMA implement guardrails to ensure the long-term utility of the band for all LIPD systems and not allow one to have spectrum access precedence over the others.

2. Criticality of Co-channel Coexistence Between Wi-Fi and Narrowband Systems, such as Bluetooth

Each of the undersigned companies are leading manufacturers of products that use Bluetooth and Wi-Fi functionality to carry data and wirelessly connect devices. Each of us has a vested interest in ensuring both technologies continue to have fair access to spectrum when operating on the same frequencies.

We want to ensure that when narrowband systems (*e.g.*, Bluetooth) and Wi-Fi operate in a common band, such as the 6 GHz band, both technologies share fairly, *i.e.*, (1) their use of the band scales proportionately with the number of active devices in a given location, (2) one technology does not unfairly hinder the other technology from successfully using the band, and (3) if possible, the same channel access mechanism (*e.g.* Contention Based Protocol such as Listen Before Talk) is employed for both. If fair spectrum sharing schemes are not adopted, certain implementations of Bluetooth and other narrowband systems in 6 GHz can access the band without protecting active Wi-Fi communications sessions and unduly impact Wi-Fi.

¹ The undersigned companies do not share the same view on the appropriate treatment of the Upper 6 GHz band in Australia and refer ACMA to our other filings that address other issues raised in the Consultation.

Some narrowband systems implement Detect and Avoid (“DAA”) techniques to detect other users (such as radars, Electronic News Gathering (“ENG”) systems, and very high duty cycle Wi-Fi operations) and take hundreds of milliseconds to vacate spectrum occupied by other users. Such an extended time delay to vacate the spectrum can prevent other LIPD operations from accessing the spectrum, including Wi-Fi systems that implement a contention-based protocol to sense and vacate occupied spectrum within single digit milliseconds.

The ACMA Consultation states that ETSI EN 303 687 (2023-06) 6 GHz WAS/RLAN; Harmonised Standard for access to radio spectrum has been “finalized in Europe.” While the first version of the standard has been approved by ETSI, a new revision of this standard that is under development is expected to include operating parameters and test procedures to enable successful coexistence between Wi-Fi systems and narrowband systems, such as Bluetooth. Assuming ETSI BRAN is successful in meeting this goal, we fully support ACMA’s implementation of regulations based on the subsequent version of ETSI EN 303 687 that enables successful coexistence among all LIPD transmitters.

We will keep ACMA apprised of these ongoing efforts to enable successful coexistence between these disparate systems.

3. Conclusion

We respectfully request that ACMA wait to introduce narrowband frequency-hopping transmitters in the 6 GHz spectrum until industry completes its work defining successful sharing parameters in ETSI EN 303 687 that enable successful and fair coexistence between Wi-Fi and narrowband systems in the band.

Sincerely,

/s/ Seow Hiong Goh
Seow Hiong Goh
Executive Director, Global Policy &
Government Affairs, Asia Pacific
Cisco Systems
shgoh@cisco.com

/s/ Carlos Cordeiro
Carlos Cordeiro
Intel Fellow & CTO, Wireless
Intel Corporation
carlos.cordeiro@intel.com

/s/ Alan Norman
Alan Norman
Director, Public Policy
Meta Platforms, Inc.
alannorman@meta.com

/s/ Nies Purwati
Nies Purwati
Senior Director, Government Affairs
Qualcomm International Inc.
npurwati@qti.qualcomm.com