November 9, 2018

**VIA ONLINE SUBMISSION**

The Manager, Spectrum Planning Section

Spectrum Planning and Engineering Branch

Communications Infrastructure Division

PO Box 78, Belconnen, ACT 2616

**RE: Wireless broadband in the 26 GHz band**

Facebook is pleased to submit these comments in response to the Australian Communications and Media Authority’s (ACMA’s) consultation on its “Wireless broadband in the 26 GHz band” Options paper.[[1]](#footnote-1) Facebook commends the ACMA for moving forward to make the 24.25-27.5 GHz (“26 GHz”) band available to support the rollout of 5G wireless broadband in Australia.

Facebook’s mission is to give people the power to build community and bring the world closer together. And connecting people is a critical first step in executing this mission. Today, more than half of the world’s population is still not connected to the Internet.[[2]](#footnote-2) Among those that have connectivity, many are under-connected. Connecting these people is a complicated effort that requires not just bringing network infrastructure to more people, but establishing a regulatory environment that fosters innovation and encourages investment.

To do its part, Facebook, working with a range of partners, has launched several initiatives focused on connecting the unconnected and under-connected. It will take a mix of technical solutions to bring connectivity to all. As such, Facebook has been investing in research and development efforts in a range of technologies, including mobile, satellite, and aerial such as high altitude platform stations (“HAPS”).

Spectrum policy and regulations affect both the affordability and availability of the internet. Improving connectivity in Australia and around the world means pursuing spectrum policy that maximizes the utilization of this limited resource and promotes the expansion of both the capacity and coverage of wireless networks. As the ACMA works to make the 26 GHz band available to support wireless broadband, we encourage the ACMA to adopt spectrum policies that help to achieve these objectives in Australia, while also setting an example for the countries in the region. The ACMA should license the 26 GHz band in a manner that both encourages investment and maintains flexibility to allow for a variety of use cases in the future, including those not yet foreseen. To this end, Facebook offers the following responses to the consultation questions.

**(Question 1). Does the three-type model constitute an appropriate high-level representation of potential usage of the 26 GHz band? If not, are there any use cases that should be included, excluded or omitted?**

Facebook agrees that the three-type model captures a variety of potential use cases, including “type 1” deployments by mobile operators, particularly in densely populated areas. In addition, other use cases may arise that could be covered by the “type 2” framework. For example, a fixed wireless deployment in a rural town or village. And the “type 3” category could cover other future use cases or smaller scale deployments.

**(Question 3). Are the proposed defined geographic areas for wide-area licensing appropriate?**

The traditional “spectrum” exclusive geographic licensing intended for “type 1” wide-area subscriber networks should be based on high-density urban environments or metropolitan areas. Given the propagation characteristics and likely deployment scenarios in the 26 GHz band, Facebook agrees with the ACMA that an Australia-wide licensing model would not be optimal.[[3]](#footnote-3)

**(Questions 5-7) Comment is sought on preferred option(s) for configuring and licensing the 26 GHz band.**

Facebook supports the Option 5 framework proposed by the ACMA.[[4]](#footnote-4) Under this framework, ACMA would make 26 GHz band spectrum available through a combination of spectrum, apparatus, and class licensing. This framework would establish exclusively licensed geographic areas in metropolitan areas for type 1 mobile network deployments. At the same time, it would also allow for type 2 and 3 deployments through the use of apparatus and class licensing models. Business models, services and use cases for 5G broadband in this band are still being developed, and with Option 5, the ACMA will maintain flexibility to support optimal partioning of spectrum between type 1, 2, and 3 deployments. Although a likely use case for this spectrum is mobile operator deployments in metropolitan areas, there could be other potential future use cases that may not yet be known. For example, Facebook believes that one such option to provide a means to extend the reach of broadband networks in rural and remote areas would be by using HAPS, which are well-suited to providing backhaul services to enable broadband and also facilitating critical emergency communications links during natural disasters.[[5]](#footnote-5)

**(Question 8) If options 4 or 5 (all variants) are preferred, what conditions should be applied to a class licence to protect co-frequency spectrum-licensed operations (in defined areas)? Would it be appropriate to define a means of making class-licensed use visible (for example, through a form of voluntary device registration)?**

Considering that both the use cases and business cases for 5G in the 26 GHz band are not yet definitive, Facebook recommends that specific details of sharing and whether class-licensed devices should be visible or registered should be deferred until specifics of deployment are better known.

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As the ACMA proceeds with its plans to make the 26 GHz band available for wireless broadband deployment, Facebook encourages the ACMA to consider licensing options that would encourage investment and deployment of wide area mobile networks yet allow for long-term flexible use across platforms within the band.

Respectfully submitted by:

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**Facebook, Inc.**

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1. “Wireless broadband in the 26 GHz band: Options paper” September 2018 *available at* <https://www.acma.gov.au/theACMA/options-for-wireless-broadband-in-the-26-ghz-band>. (“Options Paper”). [↑](#footnote-ref-1)
2. International Telecommunication Union, Broadband Commission for Sustainable Development, The State of Broadband: Broadband catalyzing sustainable development at 8 (Sep. 2018) *at* <https://www.itu.int/dms_pub/itu-s/opb/pol/S-POL-BROADBAND.19-2018-PDF-E.pdf>. [↑](#footnote-ref-2)
3. *See* Options Paper at 37. [↑](#footnote-ref-3)
4. *See* *id*. at 41. [↑](#footnote-ref-4)
5. The International Telecommunication Union is studying HAPS identifications in millimeter wave spectrum bands including the 26 GHz band in Region 2. Resolution 160 resolves that the ITU-R will study the existing HAPS identification of 27.9-28.2 GHz (paired with 31.0-31.3 GHz) as appropriate 38-39.5 GHz. In addition, in Region 2, the ITU-R will study 21.4-22 GHz and 24.25-27.5 GHz. *See id. See* Resolution 160 (WRC-15\_ available at <https://www.itu.int/dms_pub/itu-r/oth/0c/0a/R0C0A00000C0015PDFE.pdf> [↑](#footnote-ref-5)