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VIA EMAIL (CNECT-RSPG@ec.europa.eu)

Radio Spectrum Policy Group – Secretariat
DG CNECT B4: Spectrum – Office: BU33 7/065
European Commission, B-1048
Bruxelles, Belgium

RE: Comments on Public consultation on the Draft RSPG Opinion on the ITU-R World Radiocommunication Conference 2019

Facebook, Inc. (“Facebook”) is pleased to submit these comments in response to the consultation of the Radio Spectrum Policy Group (“RSPG”) on its Draft Opinion on the ITU-R World Communication Conference 2019 (WRC-19).¹

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, nearly four billion people are still not connected to broadband Internet.² Among those that have broadband connectivity many are under-connected. Connecting these people is a complicated effort that requires not just bringing network infrastructure to more people, but involves addressing the regulatory environment. To do its part, Facebook, working with a range of partners, has launched several initiatives focused on connecting the unconnected and under-connected.

The outcome of the WRC-19 agenda items will affect these efforts. Spectrum policy and regulations affect both the affordability and availability of the Internet. Improving connectivity 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. To further these goals, as the RSPG works to finalize its Opinion on the WRC-19 Agenda Items on behalf of the EU and its Member States, Facebook offers the following comments on agenda items 1.13 and 1.14.

¹ See RSPG, Public Consultation on Draft RSPG Opinion on the ITU-R World Radiocommunication Conference 2019, RSPG19-023 FINAL (5 Jun. 2018) at https://circabc.europa.eu/sd/a/7ab8a6bb-f59a-434f-9b66-606b5a8067ce/RSPG18-023final-Opinion_WRC19-for_public_consultation.pdf. (“Draft Opinion on WRC-19”).

² The Inclusive Internet Index: Bridging digital divides at 8 (citing ITU, Key ICT indicators for developed and developing countries and the world, 2005-2016) available at <https://theinclusiveinternet.eiu.com/assets/external/downloads/3i-bridging-digital-divides.pdf>.

1. WRC-19 Agenda Item 1.13 (IMT2020/5G): Recommendation 4.9.3 (66-71 GHz)

Facebook suggests that for the 66-71 GHz band, the RSPG should recommend “no change” in the ITU Radio Regulations.³

A number of countries have made the adjacent 57-66 GHz (or “60 GHz band”) licence-exempt.⁴ As a result, the 60 GHz band has attracted considerable investment resulting in innovation, development, and deployment of 5G services ranging from outdoor wireless links that extend the reach of fiber networks to personal networking technologies based on the WiGig standards 802.11ad and 802.11ay that deliver multi-Gigabit speeds between devices. And more is yet to come. The huge demand for network capacity, higher speeds, and lower latencies is driving investment in 60 GHz licence-exempt technologies for wireless distribution networks, high definition interactive video, and other uses. These services and applications are integral to 5G technologies and objectives as they support high throughput, low latency, short range communications. For example, last year, Facebook announced its Terragraph project, a low-cost high-throughput (multi-Gigabit) multi-node mesh wireless network for dense urban topologies that could provide fiber-like reliability for access at a lower upfront cost.⁵

The 66-71 GHz band is expected to become a natural extension of the developments in the 60 GHz band. In fact, existing and evolving standards for both 3GPP and IEEE802.11 rely on an extension of licence-exempt access into the band to expand these developing technologies.⁶ While this band is in the midst of technological development and innovation, the RSPG should recommend “no change” to the RR of the 66-71 GHz band. The RSPG should also recommend the initiation of studies of the use case, benefits of an IMT identification, and the

³ See Draft Opinion on WRC-19, Recommendation 4.9.3 at 13.

⁴ Countries around the world have adopted a licence-exempt approach in the 60 GHz band, including the United States, Canada, the United Kingdom, Switzerland, Belgium, Poland, Slovakia, Brazil, Mexico, Australia, New Zealand, China, Japan, Korea, and Philippines. See ETSI White Paper No. 9, E-Band and V-Band: Survey on status of worldwide regulation. Appendix, Database (updated Feb. 2018) at https://www.etsi.org/images/files/ETSIWhitePapers/etsi_wp9_e_band_and_v_band_survey_20150629.pdf.

⁵ Introducing Facebook’s new terrestrial connectivity systems—Terragraph and Project Aries, <https://code.facebook.com/posts/1072680049445290/introducing-facebook-s-new-terrestrial-connectivity-systems-terragraph-and-project-aries/>

⁶ See, e.g., 3GPP 5GNR, Unlicensed. <https://www.qualcomm.com/media/documents/files/new-3gpp-effort-on-nr-in-unlicensed-spectrum-expands-5g-to-new-areas.pdf>. And, the latest IEEE 802.11-2016 standard defines six 2160 MHz channels including three that require access to spectrum in the 64-71 GHz band. Table E-1, US Operating Class 34, and/or Table E-4, Global Operating Class 180.

ability for the IMT and licence-exempt technologies that are currently being deployed in the band to co-exist. Facebook believes that the IMT identification in this band is not necessary as the IMT services are not precluded from deployment on condition they are compatible with current licence-exempt regulations already established by many administrations. Should an IMT identification be established in this band, it could lead to regulatory uncertainty, and thus freeze commercial investment because such an identification would bring the potential for exclusive, individual licensing in the band. Thus, an IMT identification could result in exactly the opposite effect that CEPT wants to achieve – slowing down 5G deployments, inefficient use of this primary spectrum, and disruption of ongoing innovation.

As noted by the RSPG's Second Opinion on 5G Networks, "general authorised frequency use can be an important breeding ground for innovation" and "[t]he application of a general authorisation regime is foreseen in the 66-71 GHz band which could be an important band for 5G."⁷

2. WRC-19 Agenda Item 1.14: High Altitude Platform Stations (HAPS): Recommendation 4.10

Facebook strongly supports the RSPG's Recommendation 4.10,⁸ which states that Member States should support the identification of a worldwide frequency band for HAPS, conditional to the results of studies.

HAPS deployed on unmanned solar platforms can be used to support emergency communications as well as backhaul for broadband and 5G services in underserved markets. Facebook supports an emerging HAPS industry, having large European presence, committing considerable investments to the development of high-altitude unmanned HAPS to deliver broadband fixed backhaul connectivity to extend the reach of broadband providers' networks.⁹

Facebook believes that HAPS would be well-suited to facilitating critical emergency communications links during natural disasters. HAPS have the potential to be deployed rapidly during emergencies yet remain in place for long periods of time. The United Nations Broadband Commission report concluded that HAPS would be a "valuable alternative" in natural disasters,

⁷ RSPG, Strategic Spectrum Roadmap Towards 5G for Europe, RSPG Second Opinion on 5G Networks, ¶ 10 https://circabc.europa.eu/sd/a/fe1a3338-b751-43e3-9ed8-a5632f051d1f/RSPG18-005final-2nd_opinion_on_5G.pdf

⁸ Draft Opinion on WRC-19, Recommendation 4.10 at 13-14.

⁹ <https://www.theguardian.com/technology/2017/jul/02/facebook-drone-aquila-internet-test-flight-arizona>.

which “can often overload traditional networks, and ground-based infrastructure is itself vulnerable to damage.”¹⁰

Furthermore, as these bands are built out, more users will enjoy high-speed connectivity and broadband providers will have more traffic to backhaul. 5G will generate more demand for higher broadband speeds and IoT applications in underserved markets. And, within the 5G ecosystem, HAPS can help extend broadband networks with lower cost backhaul without degrading the 5G services. As noted by the United Nations Broadband Commission, “Developments in aeronautics and radio technologies have made HAPS a viable option to supplement existing network technologies and help bring broadband backhaul to unserved and underserved regions of the world, particularly remote and rural areas of developing countries.”¹¹

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¹⁰ United Nations Broadband Commission for Sustainable Development, Report “Working Group on Technologies in Space and the Upper-Atmosphere: Identifying the potential of new communications technologies for sustainable development,” (Sep. 2017) at 47, available at <http://www.broadbandcommission.org/Documents/publications/WG-Technologies-in-Space-Report2017.pdf>.

¹¹ *Id.* at 30.