



October 24, 2018

Ex Parte

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: *International Bureau Seeks Comment on Recommendations Approved by World Radiocommunication Conference Advisory Committee, IB Docket No. 16-185*

Dear Ms. Dortch:

On October 22, 2018, Facebook's Monica Desai, Director of Public Policy and Michael Tseytlin, Director of Engineering, and Tricia Paoletta, of Harris, Wiltshire & Grannis LLP met with International Bureau Chief Tom Sullivan, Senior Deputy Chief Jim Schlichting, Deputy Chief Nese Guendelsberger, World Radiocommunication Conference Advisory Council (WAC) Director Michael Mullinix, Chief of the Multilateral and Regional Affairs Branch in the International Bureau's Global Strategies and Negotiation Division Dante Ibarra and International Bureau Chief Engineer Bob Nelson. The meeting was to discuss Facebook's compromise recommendation for a U.S. Proposal for High-Altitude Platform Stations (HAPS), under Agenda Item 1.14 for the upcoming Committee on International Telecommunications meeting on next year's World Radiocommunication Conference (WRC-19). On the same day, Ms. Desai, Facebook's Dr. Robert Pepper, Head, Global Connectivity and Technology Policy, and Ms. Paoletta met telephonically with Julius Knapp, Chief Engineer of the Office of Engineering and Technology (OET), Jamison Prime, Chief of OET's Policy and Rules Division, and Michael Ha, Deputy Chief of the Policy and Rules Division on the same matter. On October 23rd, Ms. Desai and Ms. Paoletta met with Erin McGrath, Wireless and International Legal Advisor to Commissioner O'Rielly, to discuss the same compromise.

During the meetings, Facebook encouraged the Commission to champion a proposal in reconciliation with NTIA that includes the 21.5-22 GHz, 24.25-27.25 GHz, 28/31 GHz, and 38-39.5 GHz bands, with directionality and appropriate pfd and EIRP levels on HAPS that protects federal and commercial incumbent services. A summary of this proposal is attached in chart form to this ex parte.

Facebook's mission is to give people the power to build community and bring the world closer together, and one of the ways it has been doing this is by pioneering new technologies to bring affordable connectivity to more people faster. Facebook invested in proving HAPS technology as one potential way to connect people in rural areas who do not have broadband

Internet. A HAPS is a radio station that operates at approximately 20 km (12 miles) above the ground, at a nominally fixed position relative to the ground, providing about a 100 km diameter coverage area. Facebook is neither a HAPS manufacturer nor an operator, but has invested in this technology which can be used by both mobile and satellite operators to provide more affordable broadband. Facebook has been collaborating with Airbus and other HAPS companies to advance spectrum and aviation policy to demonstrate the viability of HAPS systems for providing broadband connectivity in the bands considered by the International Telecommunication Union (ITU), which will host WRC-19.

The Commission is currently deciding what its position should be for outstanding U.S. Proposals on the WRC-19 agenda items, going into the upcoming CITEL PCC.II meeting. At the last CITEL PCC.II meeting, a Draft Inter-American Proposal was adopted by our neighbors for HAPS in the 24.25-27.5 GHz and 38-39.5 GHz bands and a Preliminary Proposal was contributed by Mexico for the 21.4-22 GHz band. Facebook is pleased that other members of the industry, including those in the HAPS, mobile and satellite industry, have supported most of these bands for HAPS identifications. To lead in CITEL in new technology adoption, as well as to demonstrate that the U.S. shares its Region's goals of closing the digital divide in underserved areas, Facebook believes the Commission should champion a proposal that bridges these bands, and goes further to support modifying the existing HAPS identification in the 28/31 GHz band to be accessible in our CITEL Region.

Facebook proposes the following compromise to bring the various industry Views together, as reflected in the attached chart:

- 21 GHz: To protect a federal mobile system, begin the range at 21.5 GHz, rather than 21.4 GHz.
- 47 GHz: Agree to the satellite View (View D) for a No Change proposal for the existing global HAPS identification in the 47 GHz band.
- a pfd mask that reflects the need for consistency between agenda items 1.5, 1.13 and 1.14.
- Include the directionality requested of satellite and mobile operators, and federal incumbents.

Facebook explained that given its goals of supporting affordable broadband backhaul, it recommends identifications of HAPS and IMT in the same bands in order to make HAPS use of the 26 and 38 GHz bands in rural markets affordable, through scale economies for the chips and other broadband components. Brazil, which led development of the Draft Inter-American Proposal for HAPS in the 26 GHz and 38 GHz bands, also led development of a Draft Inter-American Proposal for IMT in the 26 GHz band and proposed IMT in the 38 GHz band. Brazil had done sharing studies for HAPS, satellite and mobile co-existence, and was satisfied that with appropriate mitigation, IMT, satellite and HAPS could share the bands.

Sincerely,

/s/Michael Tseytlin

Michael Tseytlin
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cc: Erin McGrath
Tom Sullivan
Julie Knapp
Jim Schlicting
Nese Guendelsberger
Jamison Prime
Michael Ha
Michael Mullinix
Dante Ibarra
Bob Nelson

Attachment: spectrum chart

PROPOSED HAPS IDENTIFICATION

Spectrum Bands (GHz)	NTIA	Satellite	Mobile	Lockheed Martin	CITEL	Proposed Compromise
21.4-22	NOC	*		21.5-22 Uplink	Mexico	21.5-22 GHz Downlink
24.25-24.75	NOC			**	Draft Inter-American Proposal	Downlink
24.75-25.25					Draft Inter-American Proposal	Downlink
25.25-27.0	NOC 25.5-27			Downlink	Draft Inter-American Proposal	Uplink
27-27.5			Downlink	Downlink	Draft Inter-American Proposal	Downlink
28		+	Global Downlink			Downlink
31			Global Uplink			Downlink
38-39.5		NOC	Global		Draft Inter-American Proposal	Uplink
47/48		NOC	Global, Uplink			NOC

* green Indicates Support for HAPS identification

**light green - Lockheed Martin's Cover to View C states open to merging its proposal with other bands

+ pink - SES comments state open to proposal if satisfied on mobile pfd.