

November 15, 2019

Marlene H. Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: ***Expanding Flexible Use of the 3.7 to 4.2 GHz Band
GN Docket No. 18-122***

Notice of Ex Parte Communication

Dear Ms. Dortch:

On November 13, 2019, representatives of Google LLC (“Google”), Microsoft Corp. (“Microsoft”), Midco (“Midco”), the Open Technology Institute at New America (“OTI”) and the Wireless Internet Service Providers Association (“WISPA”) met with Umair Javed, Legal Advisor to Commissioner Jessica Rosenworcel. On November 15, 2019, representatives from these same entities met with Bill Davenport, Legal Advisor to Commissioner Geoffrey Starks.¹ The purpose of the meetings was to discuss the benefits of coordinated sharing among fixed point-to-multipoint (“P2MP”) and Fixed-Satellite Service (“FSS”) earth stations in the portion of the 3700-4200 MHz band that is not cleared. Each of the industry attendees have supported the coordinated sharing approach first proposed by the Broadband Access Coalition in its June 21, 2017 Petition for Rulemaking² on which a unanimous Commission voted to seek public comment.³

Dr. Clegg provided an overview of the sharing study submitted by Dr. Jeff Reed from Virginia Tech on behalf of Google, Microsoft and WISPA that showed, using conservative inputs and real-world propagation tools, that FSS earth stations require, on average, approximately 10 km of co-channel separation to ensure that earth stations are protected from harmful interference.⁴ Dr. Clegg emphasized that, under the coordinated sharing approach, each P2MP station would be individually coordinated under Part 101 of the Commission’s Rules in the same manner that point-to-point systems are currently coordinated in the band. Dr. Clegg explained that the Reed Study demonstrated that more than 80 million Americans would have access to this new spectrum resource for P2MP, the vast majority of whom reside in rural areas that are most lacking in fixed broadband access.⁵ He made clear that the Reed Study analyzed

¹ The list of individual attendees is attached.

² See Broadband Access Coalition, Petition for Rulemaking to Amend and Modernize Parts 25 and 101 of the Commission’s Rules to Authorize and Facilitate the Deployment of Licensed Point-to-Multipoint Fixed Wireless Broadband in the 3700-4200 MHz Band, RM-11791 (filed June 21, 2017).

³ See *Expanding Flexible Use of the 3.7 to 4.2 GHz Band*, Order and Notice of Proposed Rulemaking, GN Docket No. 18-122, 33 FCC Rcd 6915 (2018).

⁴ See Letter from WISPA, Google and Microsoft to Marlene H. Dortch, FCC Secretary, GN Docket No. 18-122 (filed July 15, 2019) (“Reed Study”).

⁵ *Id.* at 2.

co-channel sharing only, and that non-co-channel sharing would permit even more Americans to access more spectrum in more areas of the country.

Mr. Coran and Mr. Peraertz explained that the coordinated sharing approach has been implemented since 2008 in the adjacent 3650-3700 MHz band where P2MP licensees have successfully demonstrated that they can co-exist with FSS earth stations. There are many examples where P2MP operators have demonstrated that they can operate inside of the existing 150 km zone and have obtained consent from the earth station operators to do so. Some are operating as close as 19 *meters* from a co-channel FSS earth station. The coordinated sharing approach supported by the meeting attendees would simply automate the coordination process rather than subject it to customized interference showings and legal contracts, as is the case currently, thereby reducing transactional costs and time, and expediting service to the public.

Ms. Tupman summarized the results of Midco's recent field trial in Mitchell, South Dakota that demonstrated the benefits of P2MP service in rural areas.⁶ She noted the tremendous potential for fixed 5G services to obtain near-gigabit download speeds and high-speed upload speeds to support precision agriculture and other farming needs, with propagation for a single sector covering a distance of approximately 38 square miles using 100 megahertz of spectrum. Ms. Tupman reiterated that both the Reed Study and Midco's field trial demonstrate that C-band spectrum can be shared, and that rural consumers will be significant beneficiaries.⁷

With respect to implementing coordinated sharing, Dr. Clegg stated that the process would be totally trivial relative to the much more complicated sharing the Commission adopted for the Citizens Broadband Radio Service ("CBRS"). This is because there are no federal incumbents to protect (dynamic or otherwise), no mobile incumbents to protect and no multi-tier spectrum access required. The industry representatives noted that if coordinated sharing with federal incumbents can work in CBRS, then it will not be a problem to do so in the C-band. In addition, at the meeting with Mr. Davenport, Mr. Coran explained that an overlay auction of the uncleared portion of the C-band would either make more spectrum available exclusively for mobile services or would increase the cost of spectrum in rural areas and defeat the purpose of the proposal to use the band to make affordable fixed wireless broadband available to rural Americans.

Dr. Clegg also addressed concerns expressed by the aviation and aerospace organizations concerning potential interference to radio altimeter operations.⁸ He explained that its recent Aerospace Vehicle Systems Institute (AVSI) study⁹ actually confirmed that P2MP, as proposed by the meeting attendees, would not cause harmful interference to radio altimeters because (1) the potential interference level is well below the -30 dBm minimum value used in the AVSI

⁶ See Letter from Nicole Tupman, Midco Assistant General Counsel, to Marlene H. Dortch, FCC Secretary, GN Docket No. 18-122 (filed Nov. 5, 2019).

⁷ See *id.* at 3.

⁸ See Letter from Edward A. Yorkgitis, Counsel to Aviation Spectrum Resources, Inc., to Marlene H. Dortch, FCC Secretary, GN Docket No. 180-122 (filed Oct. 25, 2019).

⁹ See Letter from Dr. David Redman of the Aerospace Vehicle Systems Institute, to Marlene H. Dortch, FCC Secretary, GN Docket No. 180-122 (dated Oct. 22, 2019).

study, and (2) radio altimeters are not experiencing harmful interference at the upper edge of its authorized band, which is adjacent to a heavily-occupied federal fixed service band.

Finally, at the meeting with Mr. Davenport, Dr. Clegg explained that arguments from the Content Companies were overstated. First, with respect to the rights of earth stations to expand services in the future, Dr. Clegg stated that such expansions are expected to be relatively rare based on the current rate of licensing of new earth stations in the band and, in any event, the P2MP proposal would fully accommodate such expansion through coordination that, if required, would mandate a shutdown of the affected P2MP operations. It is unlikely that any P2MP provider would rely on C-band exclusively as, like now, such providers are likely to use multiple bands to provide service. Second, with respect to mobile earth stations, Dr. Clegg explained that the critical element is the C-band *uplink* connection in the paired 6 GHz portion of C-band, not the downlink in 3700-4200 MHz which is used only to monitor the uplink communications. He added that mobile C-band operations are often pre-scheduled (for example, for coverage of major sporting events) and thus could easily be made subject to coordination. Moreover, mobile C-band operations are often used solely for backup in cases where, for example, a fiber connection was cut. But even for unscheduled events such as breaking news coverage, the critical element is the uplink, which does not occur in 3700-4200 MHz and therefore would not be impacted by P2MP operations in the band.

Based on the record, we emphasized that there is no technical reason for the Commission to not allow coordinated sharing in the uncleared portion of the C-band. As proven by the co-channel deployments in the extended C-band, sharing will not cause harmful interference to FSS. As has been clear since the filing of the initial rulemaking petition that launched this proceeding, the Commission can make spectrum available in the C-band for 5G and provide spectrum resources to accelerate broadband deployment in rural areas. Any solution the Commission adopts should recognize that both of these important policy objectives can be satisfied.

Pursuant to Section 1.1206 of the Commission's Rules, this letter is being filed in ECFS in above-referenced docket. Please contact the undersigned with any questions.

Respectfully submitted,

/s/ Louis Peraertz

Louis Peraertz, Vice President of Policy

cc: Umair Javed
Bill Davenport
Meeting attendees

List of Attendees

November 13, 2019 Meeting:

Andy Clegg – Google (by phone)
James Pond – Google (by phone)
Michael Purdy – Google (by phone)
Paula Boyd – Microsoft
Nicole Tupman – Midco (by phone)
Michael Calabrese – OTI
Stephen Coran – Lerman Senter for WISPA
Louis Peraertz – WISPA

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Louis Peraertz – WISPA (by phone)