



April 21, 2016

Ex Parte

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

Re: *Amendment of Parts 15, 73 and 74 of the Commission's Rules to Provide for the Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks, **IB Docket No. 13-213***
*Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band, **ET Docket No. 13-49***
*Use of Spectrum Bands Above 24 GHz for Mobile Radio Service, **GN Docket No. 14-177***

Dear Ms. Dortch:

On April 20, 2016 Michael Calabrese, director of the Wireless Future Program at New America's Open Technology Institute (OTI), met with Julius Knapp, chief of the Office of Engineering and Technology, as well as OET staffers Mark Settle, Michael Ha, Ron Repasi and Howard Griboff, regarding the above-listed proceedings.

With respect to **Globalstar's proposed Terrestrial Low Power Service (TLPS)**, OTI has supported expanded use of Wi-Fi Channel 14 and could support TLPS, but only if the Commission can ensure it will create a net benefit for the public interest. The OTI representative described a public interest condition, proposed last year in separate filings by OTI and Public Knowledge – and separately by Google – that could yield a return to the public, enabling both TLPS and enhanced Wi-Fi for consumers more broadly.¹ Specifically, in exchange for the valuable terrestrial mobile waiver and the waiver of the strict OOBE limits at the border between the 2.4 GHz unlicensed band and Globalstar's spectrum, the Commission should authorize reciprocal public use of Wi-Fi Channel 14 in locations where Globalstar's TLPS is not deployed and where Globalstar itself has determined that Channel 14 transmissions create virtually no risk of harmful interference to its mobile satellite device customers (e.g., indoors and

¹ See Ex Parte Letter from Austin Schlick, Google, *Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks*, IB Docket No. 13-213 (Oct. 10, 2015); Ex Parte Letter from Michael Calabrese, New America's Open Technology Institute, and Harold Feld, Public Knowledge, *Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks*, IB Docket No. 13-213 (Feb. 13, 2015).

generally within urban areas). Whether or not Globalstar receives valuable new spectrum rights – and effectively proprietary use of the top 10 megahertz of the public’s 2.4 GHz unlicensed band – Channel 14 Wi-Fi spectrum should not lie fallow in schools, libraries and other venues in urban areas if it can be accessed on a secondary basis without interfering with TLPS deployments.

Although Globalstar has a legitimate claim to prioritized use of the *licensed portion* of Channel 14 where and when it actually commences service, the advocates noted that Globalstar is highly unlikely to deploy immediately on a nationwide basis. In return for the auction-free windfall that Globalstar seeks, unlicensed operations should be able to use Channel 14 on an opportunistic basis, as the Commission has adopted for unused licensed spectrum in the 3.5 GHz and 600 MHz band post-incentive auction. Based on its filings, Globalstar’s Network Operating System will know the locations of its authorized access points, which would allow the NOS itself – or the Spectrum Access System the Commission is certifying for the 3.5 GHz band – to greenlight opportunistic use of Channel 14 where it is unused.

Concerning the Commission’s ongoing proceeding to make next generation Wi-Fi possible by authorizing unlicensed use of all or a portion of **the proposed U-NII-4 band at 5.9 GHz** with the auto industry, I inquired about the status of the refresh Public Notice that is currently on circulation. I also suggested that even if the Commission cannot reach a final order with respect to the technical details around sharing the 5.9 GHz band between Wi-Fi and non-safety (and non-time-critical) DSRC operations, the Commission should nevertheless make a quick decision on rechannalization of the band based on a clear separation of the two or three DSRC channels that are necessary for time-critical public safety applications (e.g., vehicle-to-vehicle signaling). The public interest is best served if the remainder of the band (40 or 45 megahertz) is shared between DSRC non-safety applications and low-power unlicensed operations on an equal basis, enabling gigabit Wi-Fi.²

With respect to the **Spectrum Frontiers NPRM**, I summarized the main points from Reply Comments OTI and Public Knowledge filed jointly on February 26. First, OTI and PK recommend that the Commission extend its Part 96 framework for intensive, three-tiered sharing to at least the 37 GHz band. Extending the three-tier 3.5 GHz framework and the Spectrum Access System governance model to the mmW bands creates a flexible sharing framework that protects band incumbents, facilitates efficient spectrum re-use, and promotes lower barriers to entry and innovation.

Second, OTI and PK urged the Commission to address ISP concerns about the NPRM’s proposal to award *exclusive* indoor operating rights to property holders on a license-by-rule basis – and make 37 GHz a far more intensively-used innovation band – by modifying its proposal so that indoor use is licensed by rule on a *non-exclusive* General Authorized Access (GAA) basis. A separate GAA (or unlicensed) authorization for indoor use ensures that enterprises, households, schools and other public buildings can decide how best to use this particular band of mmW spectrum inside their own building and ensures that 1,600 megahertz of mmW spectrum does not lie fallow in the tens of millions of structures where carriers will not be deploying, or where a wide area licensee’s product or service does not meet the unimaginably diverse needs of business firms, home owners and public sector venues.

² See Michael Calabrese, *Spectrum Silos to Gigabit Wi-Fi – Sharing the 5.9 GHz ‘Car Band’*, Open Technology Institute at New America (Jan. 2016), available at <https://goo.gl/Ry8M09>.

Third, OTI and PK strongly supports the Commission's proposal for a robust "use-or-share" obligation on mmW licensees that authorizes opportunistic access to unused spectrum capacity in the 28, 37 and 39 GHz bands. Widespread opportunistic access can enhance efficient reuse of mmW spectrum without any risk to licensee operations by relying on a geolocation database governance mechanism that is either an extension of, or similar to, the Spectrum Access System the Commission will certify to manage more intensive sharing of the 3.5 GHz band. Further, OTI and PK see no public interest justification for the proposed five-year waiting period before fallow spectrum can be put to use.

Finally, I reiterated the OTI and PK suggestion that the Commission this year prioritize an extension of the 57-64 GHz unlicensed band up to at least 71 GHz. The record reflects diverse and widespread agreement that the 64-71 GHz band should be allocated for unlicensed use under technical rules consistent with the existing unlicensed band at 57 to 64 GHz. OTI and PK agree with Microsoft's further recommendation that the Commission extend the upper boundary of the 60 GHz Band to 72.5 GHz, thereby creating an additional non-overlapping channel for consumer use of WiGig.

Respectfully submitted,

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