



June 13, 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***
*Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, **GN Docket No. 12-354***

Dear Ms. Dortch:

On June 9, 2016 Michael Calabrese, representing New America's Open Technology Institute (OTI), and Harold Feld, representing Public Knowledge (PK), met with Jonathan Wilkins, chief of the Wireless Telecommunications Bureau, and WTB staff members Brian Regan, Chris Helzer and John Schauble, concerning the above-listed proceedings.

With respect to **Globalstar's proposed Terrestrial Low Power Service (TLPS)**, OTI and PK reiterated their support for expanded use of Wi-Fi Channel 14 and for Globalstar's proposed waivers if the Commission can ensure it will create a net benefit for the public interest. OTI and PK described a public interest condition, proposed last year in separate filings by our groups – and separately by Google – that could enable 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 OOB 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

¹ See 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). See also 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).

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 generally within urban areas).

If Globalstar receives valuable new spectrum rights, Wi-Fi Channel 14 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. 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 and operating parameters of its authorized access points, which would allow the NOS itself – and/or the Spectrum Access System (SAS) the Commission is certifying for the 3.5 GHz band – to greenlight opportunistic use of Channel 14 where it is unused.

Permitting a "use or share" regime is a logical outgrowth of the Commission's notice on how to allow Globalstar to lease or otherwise provide third parties access under its license. Following the precedent of the Commission's Order on third party mobile boosters, third parties could register with Globalstar (or through an extension of one or more Spectrum Access Systems certified by the Commission) and receive permission to operate in areas where Globalstar has not deployed. Unlike in the Booster Order, where the Commission merely assumed that licensees would not "unreasonably deny" third parties access, Globalstar could be required to permit such sharing subject to a reasonable administration fee. Globalstar would revoke such permission where either (a) the third parties cause interference of a type and manner that would require Globalstar to abate the interference were it running the access point; or (b) Globalstar begins to deploy in the market area.

The advocates further suggested that the Commission's Order should not allow this public access to Channel 14 immediately, but should provide that it will become effective if Globalstar receives an indefinite authorization to deploy TLPS nationwide (e.g., after the completion of a trial deployment). The timing could also be contingent on Commission approval of one or more certified SAS operators as a geolocation database extension using the TLPS location data the Order requires Globalstar to make publicly available to enforce protection areas to safeguard TLPS users once they commence service.

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, the OTI and PK representatives suggested that if the Commission cannot adopt a final order this year 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

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>.

The advocates noted their opposition to the auto industry's petition for reconsideration of the Commission's April 6 *Order on Reconsideration* concerning operating parameters for Wireless Internet Service Providers (WISPs) and other users of the U-NII-3 unlicensed band.³ The Auto Manufacturers do not even pretend to show that the rule changes they protest would cause harmful interference to DSRC. The automakers' petition fails to identify how the Commission's decision would create harmful interference to DSRC systems as defined by Rule 2.1.⁴ Nor do they identify any legal error in the Commission's rejection of precisely this claim as part of the *2016 Recon Order*.⁵ The advocates stated that the automakers' petition is further evidence that the public interest in *both* crash avoidance and next generation Wi-Fi for mobile broadband is best served by relocating the 10 megahertz DSRC Basic Safety Messaging channel to the top of the 5.9 GHz band where it can be isolated from efficient and intensive sharing by non-safety DSRC and unlicensed applications.

With respect to the **Spectrum Frontiers NPRM**, the advocates summarized four main points from Reply Comments that 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 (SAS) 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 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. At least half of the 37 GHz band should be set aside for open and innovative GAA.

Third, OTI and PK strongly support 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.

³ Opposition of Public Knowledge to Petition for Reconsideration of Assn. of Global Automakers, Inc., and Alliance of Automobile Manufacturers, *In the Matter of 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 (June 6, 2016).

⁴ 47 C.F.R. § 2.1.

⁵ *In the Matter of 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, Unlicensed-National Information Infrastructure, Order on Reconsideration (Apr. 6, 2016) ("2016 Recon Order").

Fourth, OTI and PK suggested that the Commission 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.

Finally, **concerning implementation of the Citizen Broadband Radio Service**, the OTI and PK representatives urged the Bureau to clarify for WinnForum participants, particularly AT&T, that the Commission's Order requires all of the location and operating parameters required by the CBSD registration process to be transparent and available with minimum delay to all certified SAS operators, or at least to SAS operators that will be serving GAA users. Rules that facilitate robust opportunistic use of unused PAL spectrum on a GAA basis is critical to laying the foundation for dynamic and efficient sharing of unused capacity on underutilized bands. In keeping with last year's historic Order and its 3-tier dynamic sharing framework, the Commission should certify only one or a small number of Spectrum Access Systems that are truly open to all GAA and PAL users nationwide, that are fully transparent, and that are willing and able to optimize intensive sharing of the band. PAL holders may choose to operate a so-called "Authorized Access System" (ASA) that is not fully transparent or open to all users – but such ASAs should not be certified as a SAS and given the FCC's delegated authority to manage access to the public's spectrum.

Respectfully submitted,

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