



April 1, 2016

Ex Parte

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

Re: *Preservation of One Vacant Channel in the UHF Television Band for Use by White Space Devices and Wireless Microphones, MB Docket No. 15-146*
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
Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band, GN Docket No. 12-354
Use of Spectrum Bands Above 24 GHz for Mobile Radio Service, GN Docket No. 14-177

Dear Ms. Dortch:

On March 30, 2016 Michael Calabrese, director of the Wireless Future Program at New America's Open Technology Institute (OTI), met with Daudeline Meme, Wireless Legal Advisor to Commissioner Mignon Clyburn, regarding the above-listed proceedings.

Concerning **the Vacant Channel NPRM**, I reiterated the strong support of the Public Interest Spectrum Coalition (PISC) for the Commission's pending proposal to preserve at least one vacant television channel in every market nationwide for unlicensed use, as well as a second channel in any market where a TV station is repacked into the Duplex Gap post-auction. OTI emphasized the critical importance of an early Commission decision that ensures a minimum of at least three channels for unlicensed public access in the ongoing TV band after the incentive auction. Leading chipmakers and other tech industry stakeholders have steadfastly maintained that if the post-auction band plan and repacking policies do not ensure at least three channels of 6 megahertz of unlicensed access in every market, especially in the most populated metro markets, the Commission will be killing off many emerging unlicensed use cases and the economic and social benefits that depend on low-band spectrum. These important benefits include lower barriers of entry for competition and innovation, as well as civic engagement and democracy.

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 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 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). Although Globalstar has a legitimate claim to exclusive 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 the 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 suggested that Commissioner Clyburn consider endorsing rechannelization of the band based on a clear separation between the two or three DSRC channels that are necessary for public safety and the remainder of the band (40 or 45 megahertz) that can readily be shared with low-power unlicensed operations, enabling gigabit Wi-Fi. I shared a copy of the report on the band released in January by OTI: *Spectrum Silos to Gigabit Wi-Fi – Sharing the 5.9 GHz ‘Car Band.’* A copy of the report is attached.

With respect to the pending final order on implementation of the **3.5 GHz Citizens Broadband Radio Service**, I emphasized that PISC has strongly supported rules that facilitate robust opportunistic use of unused PAL spectrum on a GAA basis as critical to laying the foundation for dynamic and efficient sharing of unused capacity on underutilized bands. I also emphasized that 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. It is critical that the Commission continue to be clear about the distinction between a Spectrum Access System (SAS) – to which the FCC will delegate its authority as a band access manager – and the far larger number of

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).

two-tier “authorized spectrum access” (ASA) systems that individual operators may choose to deploy to coordinate their own deployments on PAL and/or GAA spectrum.

I noted further that OTI and PISC continue to **support PAL license terms shorter than three years and oppose any automatic renewal of licenses**, including for a second three-year term after the first round of auctions. Wireless carriers will continue to have wide-area licenses on an exclusive and indefinite basis. The CBRS, on the other hand, enhances spectrum efficiency, competition and innovation precisely because it is small cell and does not allow licensees using today’s technology to lock up exclusive spectrum rights over large areas for indefinite periods, or to warehouse spectrum to foreclose competitive entry. As the President’s Council of Advisors on Science and Technology (PCAST) recommended in their 2012 report on spectrum and the economy, in the future we can have spectrum abundance and best serve the public interest using a three-tier framework with dynamic spectrum sharing and licenses that are short-term and limited in nature to paying for non-interference (as opposed to the traditional FCC model of paying to foreclose public use and competition).

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.

Third, OTI and PK strongly agreed with commenters supporting 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,

/s/ Michael Calabrese
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David Grossman

Your submission has been accepted

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Proceedings

Name	Subject
14-177	Spectrum Bands above 24 GHz
13-213	Globalstar NPRM
15-146	Amendment of Parts 15, 73 and 74 of the Commission's Rules to Provide for the Preservation of One Vacant Channel in the UHF Television Band For Use By White Space Devices and Wireless Microphones
12-354	Amendment of the Commission's Rules with Regard to Commercial Operations in the 3550-3650 MHz Band
15-105	Office of Engineering and Technology and Wireless Telecommunications Bureau Seek Information on Current Trends in LTE-U and LAA Technology

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Document(s)

File Name	Custom Description	Size
OTI-PK_ExParte_Unlicensed_WilkinsWTB_AsFiled_032416.pdf		241 KB
Calabrese_5.9GHzReport_SpectrumSilosToGigabitWiFi_FINAL_Jan2016.pdf		523 KB

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