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Via Electronic Filing

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

Re: *Written Ex Parte: Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks* – IB Docket No. 13-213

Dear Ms. Dortch:

In an April 2, 2015 *ex parte* letter,¹ Google, Inc. (“Google”) raised certain technical and policy concerns with the Commission’s proposed rules for terrestrial use of the 2473-2495 MHz band for low-power mobile broadband networks.² Through its counsel, Globalstar, Inc. (“Globalstar”) seeks to clarify the issues raised in Google’s letter and underscore that the Commission’s proposal to permit low-power terrestrial mobile broadband service (Terrestrial Low Power Service or “TLPS”) in Globalstar’s own licensed spectrum and adjacent unlicensed frequencies will protect and advance the public interest.

The Commission should act expeditiously to issue an order in this proceeding and realize the substantial public interest benefits of TLPS. Following the National Broadband Plan, the Commission has pursued multiple approaches to meeting consumers’ burgeoning broadband demand. Innovative rules that maximize the use of adjacent licensed and unlicensed spectrum and produce a new class of broadband service (managed TLPS) are consistent with these ongoing Commission efforts. The Commission has applied an “all of the above” approach to increasing the nation’s supply of broadband spectrum and promoting more intensive use of both unlicensed and licensed frequencies. This approach has produced increased terrestrial flexibility in the 2 GHz MSS band, a future groundbreaking incentive auction in the 600 MHz band, an upcoming, creative spectrum sharing framework in the 3.5 GHz band, and greater unlicensed use at 5 GHz (which Globalstar supported and worked with stakeholders to implement in

¹ Letter from Aparna Sridhar, Counsel, Google, Inc., to Marlene H. Dortch, Secretary, FCC, IB Docket No. 13-213 (Apr. 2, 2015).

² *See Terrestrial Use of the 2473-2495 MHz Band for Low-Power Mobile Broadband Networks; Amendments to Rules for the Ancillary Terrestrial Component of Mobile Satellite Service Systems*, Notice of Proposed Rulemaking, 28 FCC Rcd 15351 (2013).

Globalstar's licensed spectrum at 5150-5250 MHz).³ Globalstar continues to support rapid progress in all of these proceedings, each of which promises increased competition, lower prices, and improved services for consumers.

On the technical front, as the record in this proceeding demonstrates, Globalstar's TLPS deployment will have no real-world detrimental effect on other unlicensed services at 2.4 GHz, including public Wi-Fi and Bluetooth devices.⁴ The fact that TLPS will be a good neighbor was demonstrated recently in the Commission's Technology Experience Center ("TEC"), where Globalstar operated its TLPS access points at power levels appropriate for the indoor office setting. In contrast to the unreasonably close proximity of the access points at the TEC, the 20 dBm power level for TLPS transmissions was realistic for this indoor environment.⁵ Indeed, the Bluetooth Special Interest Group agreed to this 20 dBm power level for Globalstar's demonstration of the effect of TLPS on Bluetooth.⁶ Globalstar will of course comply fully with Part 15 rules in any commercial deployment following an order in this proceeding. Further, use of a carrier-grade Network Operating System ("NOS") for TLPS will enable maximum throughput while retaining polite protocols, thereby helping to ease worsening congestion in the 2.4 GHz Wi-Fi spectrum.

³ See *Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, First Report and Order, 29 FCC Rcd 4127 (2014).

⁴ See Letter from Regina M. Keeney, Counsel to Globalstar, Inc., to Marlene H. Dortch, Secretary, FCC, IB Docket No. 13-213 (Mar. 10, 2015) (attaching report of AT4 wireless, Inc. and Roberson and Associates, LLC, *Globalstar TLPS Operation Demonstration* (Mar. 6 and 9, 2015) ("Globalstar TLPS Demo Report"), and report of Michael Needham and Dr. Kenneth Zdunek, Roberson and Associates, LLC, *Bluetooth – TLPS Demonstrations at the FCC Technology Experience Center* (Mar. 10, 2015) ("Roberson TLPS-Bluetooth Demo Report").

⁵ Due to the close physical proximity of the TLPS access points to the client devices, the received power levels at those devices were atypically high and more likely to result in a detrimental impact to other unlicensed services than what would occur in the real world.

⁶ See Letter from Regina M. Keeney, outside counsel to Globalstar, Inc., to Marlene H. Dortch, Secretary, FCC, IB Docket No. 13-213, at 2 (Mar. 27, 2015) ("Globalstar March 27 *Ex Parte*") (attaching Kenneth J. Zdunek, Michael Needham, Nat Natarajan, Edward Porrett, *Review of the Bluetooth SIG Ex Parte Filing of March 20, 2015 Titled: "Further Comments and Detailed Report from TLPS & Bluetooth Demonstrations FCC Technology Center - March 6, 2015,"* Roberson and Associates, LLC (Mar. 27, 2015)). For the TLPS/Wi-Fi demonstration conducted by CableLabs, Globalstar agreed in fact to operate its access points at the TEC at a higher power level.

On policy, as the record in this proceeding demonstrates, Globalstar's TLPS deployment will produce substantial public interest benefits.⁷ Unmanaged public Wi-Fi operations on Channel 14 would cause unpredictable, unlimited interference to Globalstar's MSS operations and substantial harm to its customers, jeopardizing the growth of Globalstar's service and its greater than \$5 billion investment in its MSS system. By contrast, Globalstar's management of TLPS will enable it to minimize interference to its MSS offerings while wringing more intensive use out of the spectrum. Consistent with the Commission's findings in its 2003 rulemaking on ancillary terrestrial component ("ATC") systems and its 2012 decision assigning AWS-4 authority to DISH,⁸ Globalstar's TLPS access points will be carefully controlled by a carrier-grade NOS analogous to the systems used to manage pico- and femto-cellular infrastructure.⁹ With the NOS, Globalstar can rapidly identify, control, and eliminate interference to MSS if necessary in a particular location. Globalstar's control of the TLPS network through its NOS will be critical during and after disasters when terrestrial facilities can be rendered unavailable and citizens and public safety personnel must rely on satellite services.

Significantly, the Commission's proposed rules would not give Globalstar exclusive operating rights within the unlicensed band segment. Rather, the Commission's proposed framework will permit any party to use that spectrum, including for new technologies, as long as the operations meet the Part 15 rules.¹⁰ The 2473-2483.5 MHz band segment will remain open to current and future Part 15-compliant services including, for example, Bluetooth, Zigbee, and innovative technologies that can better utilize this unlicensed spectrum.¹¹ Globalstar does not

⁷ See, e.g., Reply Comments of Globalstar, Inc., IB Docket No. 13-213, at 7-12 (June 4, 2014) ("Globalstar Reply Comments"); Comments of Globalstar, Inc., IB Docket No. 13-213, at 10-18 (May 5, 2014) ("Globalstar Comments").

⁸ See *Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Bands*, Report and Order and Notice of Proposed Rulemaking, 18 FCC Rcd 1962, ¶¶ 47-55, 65 (2003) ("ATC Order"); *Service Rules for Advanced Wireless Services in the 2000-2020 MHz and 2180-2200 MHz Bands; Fixed and Mobile Services in the Mobile Satellite Service Bands at 1525-1559 MHz and 1626.5-1660.5 MHz, 1610-1626.5 MHz and 2483.5-2500 MHz, and 2000-2020 MHz and 2180-2200 MHz; Service Rules for Advanced Wireless Services in the 1915-1920 MHz, 1995-2000 MHz, 2020-2025 MHz and 2175-2180 MHz Bands*, Report and Order and Order of Proposed Modification, 27 FCC Rcd 16102, ¶ 169 (2012).

⁹ See Globalstar Comments at 21-22.

¹⁰ 802.11 Wi-Fi systems could operate on this band segment in compliance with Part 15 if they contained the necessary passive filtration.

¹¹ See Globalstar Reply Comments at 17 n.52; Consolidated Reply of Globalstar, Inc. RM-11685, at 14 (Jan. 29, 2013) ("Globalstar Consolidated Reply").

seek, and will not obtain under the Commission's proposed rules, protection from interference from other unlicensed operations or exclusive use of the 2473-2483.5 MHz band segment.¹²

The public interest benefits of the Commission's proposed TLPS rules are extensively documented in the record by Globalstar, other parties, and the Commission itself. The proposed rules protect MSS above 2483.5 MHz from harmful interference, add 22 megahertz to the nation's wireless broadband spectrum inventory, increase consumer access to underutilized unlicensed spectrum, and ease the congestion that is diminishing the quality of Wi-Fi service at high-traffic 802.11 hotspots and other locations. The Commission's rules will encourage investment in innovation, enhance competition in wireless broadband, and provide consumers with additional choice in broadband service offerings. Importantly, the Commission's TLPS framework will provide consumers with benefits almost immediately, more rapidly than other ongoing Commission spectrum proceedings.

Accordingly, Globalstar urges the Commission to add to its recent line of successful spectrum decisions by moving forward with the unique TLPS opportunity at 2.4 GHz, a step that will provide consumers with additional wireless broadband capacity throughout the United States without delay.

Respectfully submitted,

/s/ Regina M. Keeney
Regina M. Keeney

cc: Mark Settle

¹² See Globalstar Reply Comments at 13-14 n.44; Globalstar Comments at 20; Globalstar Consolidated Reply at 14.