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February 25, 2014

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

Re: *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 – *Ex Parte* Notice

Dear Ms. Dortch:

On February 24, 2014, L. Barbee Ponder IV, General Counsel & Vice President, Regulatory Affairs, for Globalstar, Inc. ("Globalstar"); Ken Zdunek, Vice President and Chief Technology Officer of Roberson and Associates, LLC; Regina M. Keeney and Steve Berman of Lawler, Metzger, Keeney & Logan, LLC; Evan Leo of Kellogg, Huber, Hansen, Todd, Evans & Figel, PLLC; and I met with Jonathan Sallet, General Counsel of the Federal Communications Commission ("Commission"); David Horowitz and Steven Spaeth from the Office of General Counsel; and Mark Settle and Bruce Romano from the Commission's Office of Engineering and Technology, regarding the Commission's above-captioned proceeding on its rules governing the use of the 5 GHz band by Unlicensed National Information Infrastructure ("U-NII") devices.[1]

At this meeting, Globalstar's representatives discussed legal issues related to the threat of harmful interference to Globalstar from the Commission's proposed rule changes for the U-NII-1 band. Globalstar, through counsel, is concurrently filing a legal White Paper that will comprehensively address these issues and explain that, based on the current record, the Commission cannot legally permit the unlimited deployment of outdoor unlicensed devices in the U-NII-1 band. The key elements of our White Paper are included in the slide presentation attached to this *ex parte* notice. (This presentation was provided to Mr. Sallet and the other Commission staffers at this meeting.)

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[1] *See Revision of Part 15 of the Commission's Rules to Permit Unlicensed National Information Infrastructure (U-NII) Devices in the 5 GHz Band*, Notice of Proposed Rulemaking, 28 F.C.C.R. 1769 (2013) ("*5 GHz NPRM*").

As we described at the meeting, a core duty of the Commission is to protect licensed users such as Globalstar from harmful interference. In fact, the Commission's statutory authority under Section 301 of the Communications Act to permit unlicensed devices depends on such devices no causing harmful interference.[2] Before the Commission can authorize an unlicensed use such as outdoor operations in the U-NII-1 band, it must make an affirmative finding that the risk of harmful interference is minimal,[3] and must articulate a clear standard for determining what interference is harmful.[4] The burden of establishing this minimal risk of harmful interference is on the Commission or the new unlicensed U-NII-1 users.[5]

Neither the Commission nor proponents of outdoor U-NII-1 have come close to meeting this burden. The Commission has apparently conducted no studies of this risk, nor has it set forth a standard for measuring this risk. While there are competing analyses from Globalstar and the National Cable & Telecommunications Association ("NCTA"), there is no serious dispute that harmful interference to Globalstar will occur at high usage levels of outdoor U-NII-1. At such high usage levels – which the proposed rules are designed not only to permit but encourage –outdoor U-NII-1 operations will cause harmful interference by reducing capacity on Globalstar's network.[6]

The Commission cannot rush ahead with its proposed U-NII-1 rule changes without additional steps to determine thresholds for and risks of harmful interference with greater

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[2] 47 U.S.C. § 301; *American Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 231 (D.C. Cir. 2008).

[3] *See Revision of Part 15 of the Commission's Rules Regarding Ultra-Wideband Transmission Systems*, 19 F.C.C.R. 24,558, 24,589 & n. 179 (2004).

[4] *AT&T Wireless Services, Inc. v. FCC*, 270 F.3d 959 (D.C. Cir. 2001); *see American Radio Relay League, Inc. v. FCC*, 524 F.3d 227 (D.C. Cir. 2008).

[5] *AT&T Wireless Services*, 270 F.3d at 963 (noting that "AirCell had carried its burden of affirmatively showing that its system is not likely to cause harmful interference to terrestrial cellular operations").

[6] As developed further in the accompanying White Paper, the Commission has recognized that harmful interference may include interference that diminishes the capacity of a system. Moreover, it is of no consequence that the Commission originally licensed multiple other MSS systems to compete with Globalstar. Most of these other original licensees were to operate their feeder links in bands other than the 5.096-5.25 GHz band that Globalstar uses. Only one other MSS operator (Constellation) was to share this band with Globalstar, and that sharing was to occur pursuant to a negotiated agreement. Thus, from the outset, Globalstar has reasonably relied on the expectation that its use of the 5.096-5.25 GHz band would not be subject to capacity constraints or other forms of harmful interference from either other licensed or unlicensed users.

certainty. Nor can the agency rely on its predictive judgment where it has failed to articulate a standard or perform any studies, and where a more empirical approach is available. Such an approach is readily available in this case, as Globalstar can now measure the noise rise at its satellite and quantify the harmful effects on its Mobile Satellite Services network.[7] At a minimum, the Commission should adopt a failsafe: if Globalstar demonstrates harmful interference – in Globalstar's view, a noise rise at the satellite of 2 dB or more[8] – unlicensed users should be required to "immediately correct the interference or cease operation" as required under the Commission's Part 15 regulatory framework.[9]

Pursuant to section 1.1206(b)(2) of the Commission's rules, 47 C.F.R. § 1.1206(b)(2), this *ex parte* notification and the attached presentation are being filed electronically for inclusion in the public record of the above-referenced proceeding.

Respectfully submitted,

/s/ *Michael K. Kellogg*
Michael K. Kellogg

cc: Jonathan Sallet
David Horowitz
Steven Spaeth
Mark Settle
Bruce Romano

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[7] Globalstar will soon be submitting into the record of this proceeding a more detailed description of its ability to reliably and accurately measure the noise rise at its satellites.

[8] A 2 dB noise rise would cost Globalstar approximately 4 percent of its system capacity. Given Globalstar's projections regarding the forward-looking demands on its systems, it believes it could accept this level of capacity loss (but no more) without significantly threatening Globalstar's ability to recover its significant recent investment in new satellites and services.

[9] *See* 47 C.F.R. § 15.5(b) (establishing *ex ante* precondition of operation that a device not cause "harmful interference"); *id.* § 15.5(c) (establishing *ex post* requirement that a device "cease" operation if "harmful interference" occurs).

Attachment

Threat of Harmful Interference to Globalstar from Proposed Rule Changes to U-NII-1 Band

Presentation to FCC General Counsel

February 24, 2014

Threat to Globalstar

- Globalstar is licensed to use 5.096-5.25 GHz for uplink transmissions between gateway earth stations and space stations.
- Globalstar has recently spent $1B to launch a next-generation constellation of satellites that will provide CDMA-quality voice and data.
- The NPRM would remove the restriction on outdoor access point deployment at 5.15-5.25 GHz (U-NII-1 band) and allow those access points to transmit at higher power.
- If use of this band reaches high levels – as the rule changes are designed not only to permit but encourage – it will cause harmful interference by reducing capacity on Globalstar's network.

FCC's Duty To Protect Globalstar

- Core duty of the FCC is to protect licensed users from harmful interference.
- FCC's statutory authority under § 301 to permit unlicensed devices depends on such devices not causing harmful interference. *American Radio Relay League, Inc. v. FCC*, 524 F.3d 227, 231 (D.C. Cir. 2008).
- § 302 and Part 15 rules likewise protect licensed users.
- Licensed users also have vested property and reliance interests. *E.g.*, *Yankee Network, Inc. v. FCC*, 107 F.2d 212 (D.C. Cir. 1939); *L.B. Wilson, Inc. v. FCC*, 397 F.2d 717 (D.C. Cir. 1968); *National Assn' of Independent Television Producers & Distributors (NAITPD) v. FCC*, 516 F.2d 760 (D.C. Cir. 1975).

FCC Must Make Affirmative Finding that Risk of Harmful Interference Is Minimal

- Before FCC can authorize unlicensed use, there must be a finding of no "significant potential" for harmful interference; that risk is "small and manageable" 19 FCCR 24,558, 24,589 & n. 179 (2004); 19 FCCR 21,265, 21,276 (2004).
- As a threshold matter, FCC must articulate a clear standard for determining what interference is harmful. *AT&T Wireless Services, Inc. v. FCC*, 270 F.3d 959 (D.C. Cir. 2001):
  - "The Commission's failure to justify adequately its choice of an interference threshold thus implicates its additional failure to explain how it was able, in the absence of a probability study, to translate the raw signal data from [a single] field test into a finding that AirCell's system 'would cause a significant level of harmful interference 0% of the time' in the real world."

Burden To Prove Minimal Risk of Harmful Interference Is on FCC or New User

- FCC's "task" is "to determine limits based on reasonable, real-world applications and not just on the results of laboratory measurements conducted in anechoic chambers." 17 FCCR 7435, ¶ 6 (2002).
- In recent *Progeny* case, FCC required new entrant to submit field tests demonstrating that planned operations would not cause unacceptable levels of interference. 28 FCCR 8555 (2013).
- In the absence of conclusive evidence, FCC must proceed with great caution.

The Record Does Not Support a Finding of Minimal Risk of Harmful Interference

- No FCC studies of risk
- No FCC-articulated standard for measuring risk
- Competing studies by Globalstar and NCTA that disagree about future usage of the U-NII-1 Band
- No serious dispute that, at high usage levels, harmful interference will occur

Principal Dispute: Future Number of Outdoor Access Points

- Globalstar approach: extrapolate outdoor Wi-Fi network in Mountain View, CA to estimate nationwide number in urban areas (4.4M)
- Conservative because: (1) assumes only one Wi-Fi provider per area; (2) excludes non-urban areas, Mexico and Canada
- Reasonable because: (1) cable companies and others tout extensive deployment plans; (2) whole purpose of rule changes is to promote extensive use of U-NII-1 band; (3) FCC projections historically underestimate usage
- NCTA concedes that Globalstar estimate is consistent with "significant market demand for Wi-Fi services."
- Other assumptions in dispute (duty cycle, channelization, elevation angle) do not materially change the bottom line even when NCTA's assumptions are used

Globalstar's Proposed Path Forward

- Globalstar can now measure from its satellite the interference caused specifically by unlicensed devices.
- Globalstar wants time to work with NCTA and the FCC to determine a reasonable interference threshold and an agreed way of measuring it.
- This would provide framework for eventual rules, including appropriate mitigation options if interference exceeds threshold.

Conclusion

- FCC cannot rush ahead with rule changes without additional steps to determine thresholds for and risks of harmful interference with greater certainty.
- FCC cannot rely on predictive judgment where it has failed to articulate a standard, perform any studies, and where a more empirical approach is available.
- FCC should provide time for Globalstar and NCTA to develop voluntary solution.
- At a minimum, FCC should adopt a failsafe: if Globalstar shows harmful interference, unlicensed users should be required to “immediately correct the interference or cease operation” per Part 15 rules.