

Before the  
**FEDERAL COMMUNICATIONS COMMISSION**  
Washington, D.C. 20554

In the Matter of	)	
	)	
Globalstar, Inc. Petition for Notice of Inquiry	)	RM-11808
Regarding the Operation of Outdoor	)	
U-NII-1 Devices in the 5 GHz Band	)	

**COMMENTS OF SIRIUS XM RADIO INC.**

Sirius XM Radio Inc. (“Sirius XM”) supports the request by Globalstar Inc. (“Globalstar”) that the Commission initiate a proceeding to assess the harm caused to Globalstar’s operations by unlicensed devices the Commission has authorized to operate in the 5.1 GHz spectrum band.<sup>1</sup> Globalstar uses this band for uplinks to its mobile-satellite service (“MSS”) network. Globalstar is already seeing significant degradation to its satellite service due to a 2 dB increase in the noise floor in the 5150-5250 MHz Unlicensed National Information Infrastructure “U-NII-1” band since the Commission’s 2014 decision to allow higher-powered outdoor devices in that spectrum.<sup>2</sup>

Although Sirius XM does not operate in the U-NII-1 band, it has a strong interest in assuring that aggregate interference caused by unlicensed terrestrial transmissions does not compromise the integrity of satellite reception. The Globalstar Petition highlights the dangers to satellite operations stemming from proposals in the pending mid-band spectrum proceeding.<sup>3</sup> Parties in that docket have urged the Commission to allow unlicensed devices in the 7025-

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<sup>1</sup> Globalstar, Inc. Petition for Notice of Inquiry, RM-11808, May 21, 2018 (the “Globalstar Petition”).

<sup>2</sup> *Id.* at 1-2.

<sup>3</sup> *Expanding Flexible Use in Mid-Band Spectrum Between 3.7 and 24 GHz*, Notice of Inquiry, GN Docket No. 17-183, FCC 17-104 (rel. Aug. 3, 2017).

7075 MHz frequencies that Sirius XM relies on to provide satellite digital audio radio service (“SDARS”) to over 33 million customers and over 100 million vehicles equipped with satellite radios, and Sirius XM has detailed the risks presented by such proposals.<sup>4</sup>

There are strong parallels between Globalstar’s experience in the U-NII-1 band and the potential for serious harm to SDARS reception if unlicensed devices are allowed to share the sole feeder link spectrum Sirius XM is authorized to use. Globalstar’s MSS spacecraft have wide receive beams that “hear” interference produced by devices over a large area.<sup>5</sup> Sirius XM’s SDARS satellites cover the entire continental U.S., meaning that “all terrestrial transmitters operating in the 7025-7075 MHz band throughout the United States would cause uplink interference into all four active Sirius XM satellites.”<sup>6</sup> Moreover, the mechanism degrading Globalstar’s service – namely an increase in the noise floor caused by unlicensed devices operating in the band used for satellite uplinks – will affect Sirius XM’s service quality in the same manner. Globalstar clearly demonstrates that the higher noise level affecting Globalstar’s feeder link signals degrades the network’s downlink service to end users.<sup>7</sup> Sirius XM already experiences interference affecting its service to subscribers in the 2320-2345 MHz downlink band from a number of terrestrial sources and therefore has no margin for tolerating further

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<sup>4</sup> See Response of Sirius XM Radio Inc. to Analysis of RKF Engineering LLC: “Frequency Sharing for Radio Local Area Networks in the 6 GHz Band,” filed June 22, 2018 as an attachment to Letter from Karis A. Hastings, Counsel to Sirius XM Radio Inc., to Marlene H. Dortch, Federal Communications Commission, GN Docket No. 17-183, (the “Sirius XM 6 GHz Response”) at 3, 14-17.

<sup>5</sup> Globalstar Petition at 2.

<sup>6</sup> Sirius XM 6 GHz Response at 7.

<sup>7</sup> Globalstar Petition at 2.

degradation.<sup>8</sup> Introducing additional noise in the uplink signal would severely harm the SDARS service.

The Globalstar Petition underscores two important lessons. First, the Commission should evaluate interference predictions from proponents of new unlicensed devices with extreme skepticism. Second, the regulatory measures the Commission uses to monitor or control unlicensed device proliferation are simply inadequate. Only a few years after the Commission's rule changes affecting the U-NII-1 band took effect, Globalstar has already measured noise floor increases of 2 dB, *double* the "peak interference" of 1 dB that entities advocating for expanded U-NII device access to that band had predicted.<sup>9</sup> This substantial increase in interference occurred despite reporting requirements and power limits the Commission adopted – in lieu of more restrictive requirements that Globalstar proposed – as its preferred mechanisms to prevent harmful interference and address it if it occurred.<sup>10</sup> As occurred in the proceedings that led to rule liberalization in the U-NII-1 band, proponents of unlicensed devices in the SDARS feeder link frequencies likewise attempt to minimize the interference risk to satellite networks from unlicensed use and argue that the risk can be successfully managed via regulatory safeguards.<sup>11</sup> The real-world example of increased noise in the U-NII-1 spectrum exposes the unreliability of these claims.<sup>12</sup>

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<sup>8</sup> Sirius XM 6 GHz Response at 5-9.

<sup>9</sup> Globalstar Petition at 2 n.7.

<sup>10</sup> *Id.* at 8-9 & nn.21-22.

<sup>11</sup> *See* Letter from Apple Inc. *et al.*, GN Docket No. 17-183 (June 12, 2018) at 4-5.

<sup>12</sup> Moreover, in the context of interference caused by unlicensed devices, the Commission has few tools available to remediate the harm those devices are causing once they are in consumers' hands.

The rapidly increasing interference that Globalstar has already documented from unlicensed devices using the 5.1 GHz band establishes the need for Commission to exercise extreme caution before it authorizes unlicensed devices in other satellite bands. In the context of Sirius XM's feeder link spectrum, allowing unlicensed use will put the continuity and reliability of service to over 33 million SDARS subscribers at risk. Sirius XM strongly urges the Commission to grant the Globalstar Petition and begin a proceeding to thoroughly explore the interference concerns Globalstar has raised. Until the issues in the Globalstar Petition are fully resolved, the Commission should defer any consideration of allowing unlicensed devices in other satellite uplink spectrum, including the SDARS feeder link bands at 7025-7075 MHz.

Respectfully submitted,

Sirius XM Radio Inc.

/s/ James S. Blitz

James S. Blitz

Vice President, Regulatory Counsel

1500 Eckington Place, N.E.

Washington, D.C. 20002

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