



October 24, 2016

**VIA ELECTRONIC FILING**

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

**Re: Ex Parte Presentation, Use of Spectrum Bands Above 24 GHz for Mobile Radio Services, GN Docket No. 14-177; IB Docket No. 15-256; RM-11664; WT Docket No. 10-112; IB Docket No. 97-95.**

On October 20, 2016, representatives of CTIA and member companies met with staff from the FCC's Wireless Telecommunications Bureau, Office of Engineering and Technology, and International Bureau to discuss measurements in the above-referenced proceeding indicating a strong potential for interference from satellite operations into terrestrial mobile use of spectrum bands above 24 GHz and the wireless industry's support for additional measurements to ensure the Commission has an accurate picture of the interference environment in high band spectrum.

The *Spectrum Frontiers Report and Order* adopted a mechanism for satellite stations to use the 28 GHz and 37/39 GHz bands, generally premised on more limited earth station use in the bands. In addition, in the 28 GHz band, the Commission adopted power flux density ("PFD") rules that limit signal strength from satellites. In the *Further Notice*, the Commission asks whether the existing PFD limits in the 37.5-40 GHz band should be changed and if the sharing mechanisms adopted for the 28 GHz and 37/39 GHz bands should be used in other bands to permit satellite operations.

During the meeting, CTIA highlighted that recent measurements show a potential for harmful interference from satellite operations to terrestrial mobile services. CTIA affirmed support for the measurements conducted by Nokia<sup>1</sup> to date, and noted the need for additional studies to enable the Commission to adequately address the "real

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<sup>1</sup> See Comments of Nokia, GN Dkt Nos. 14-177, *et al.* (filed Sept. 30, 2016) at Appendix 2.



world" effects of interference from satellite operations into terrestrial mobile use. CTIA also addressed the importance of establishing an effective enforcement mechanism.

CTIA and Nokia explained that measurements conducted by Nokia<sup>2</sup> show that, in the 28 GHz band, emission levels are higher and impact a greater angular area as compared to the adopted PFD limits of -77.6 dBm/m<sup>2</sup>/MHz. Nokia's measurements reveal that: 1) the measured levels were higher – typically 20-30 dB above the adopted limits; 2) the PFD levels measured in the vertical plane were typically 1-2 dB higher than the horizontal; 3) the measured levels to the sides and rear of sites were higher than expected; 4) there was no roll-off as a function of the azimuth angle as SIA argued there would be; and 5) there were equal levels of PFD at all angles – an approximate 10 dB reduction as compared to the 0 degree measurement.

CTIA further noted that the record in this proceeding already contains detailed link budget analyses for various interference scenarios between fixed satellite services ("FSS") and 5G services in this band, and comments reveal that FSS downlink (space-to-earth) already causes non-negligible impairment to 5G base stations and mobile station receivers at the current PFD limit.<sup>3</sup>

Pursuant to Section 1.1206 of the Commission's rules, a copy of this letter is being filed in ECFS and emailed to the Commission participants. Please do not hesitate to contact the undersigned with any questions.

Sincerely,

/s/ Brian M. Josef

Assistant Vice President, Regulatory Affairs

CTIA®

cc: Meeting Attendees

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<sup>2</sup> See *id.*

<sup>3</sup> See, e.g., Comments of Straight Path Communications, Inc., GN Docket No. 14-177, *et al.*, at 30-37 (filed Jan. 27, 2016).



## **October 20, 2016 Meeting Participants**

### **Federal Communications Commission – Wireless Telecommunications Bureau**

Brian Regan  
Blaise Scinto  
Steve Buenzow \*  
Tim Hilfiger \*  
Simon Banyai \*  
Matthew Pearl \*  
Chris Helzer \*  
John Schauble  
Nancy Zaczek  
Catherine Schroeder  
Paul Powell  
Charles Mathias

### **Federal Communications Commission – Office of Engineering and Technology**

Michael Ha  
Barbara Pavon  
Martin Doczkat  
Bahman Badipour

### **Federal Communications Commission – International Bureau**

Chip Fleming  
Kal Krautkramer

### **CTIA**

Paul Anuszkiewicz, Vice President, Spectrum  
Brian Josef, Assistant Vice President, Regulatory Affairs

### **CTIA Member Companies**

Stacey Black, AT&T  
Jack Wengryniuk, DirecTV \*  
Jeffrey Marks, Nokia  
Prakash Moorut, Nokia \*



Gardner Foster, Sprint \*

Garrie Losee, Sprint

Harry Perlow, Sprint \*

Jerry Pi, Straightpath \*

John Hunter, T-Mobile

Ahmad Armand, T-Mobile \*

Charla Rath, Verizon

Krishnamurthy Sreenath, Verizon \*

\* Joined via telephone