



November 5, 2013

FILED ELECTRONICALLY

Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street N.W.
Washington, D.C. 20544

Re: Notice of *Ex Parte* Presentation – GN 12-354
Amendment of the Commission's Rules with Regard to Commercial Operations
in the 3550-3650 MHz Band

Dear Ms. Dortch:

On November 1, 2013, representatives of the Satellite Industry Association (“SIA”)¹ met with a number of Commission staff to discuss satellite industry’s views on GN Docket No. 12-354, the Commission’s proposal to amend its rules to authorize the deployment of small wireless cell sites utilizing the 3550-3650 MHz band (the “Small

¹ SIA is a U.S.-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, and ground equipment suppliers. Since its creation more than eighteen years ago, SIA has advocated for the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business. For more information, visit www.sia.org.

SIA Executive Members include: Artel, LLC; The Boeing Company; The DIRECTV Group; EchoStar Satellite Services LLC; Harris CapRock Communications; Hughes Network Systems, LLC; Intelsat S.A.; Iridium Communications Inc.; Kratos Defense & Security Solutions; LightSquared; Lockheed Martin Corporation.; Northrop Grumman Corporation; Rockwell Collins Government Systems; SES Americom, Inc.; and SSL. SIA Associate Members include: AIS Engineering, Inc.; Astrium Services Government, Inc.; ATK Inc.; Cisco; Cobham SATCOM Land Systems; Comtech EF Data Corp.; DigitalGlobe; DRS Technologies, Inc.; Encompass Government Solutions; Eutelsat, Inc.; Globecom Systems, Inc.; Inmarsat, Inc.; ITT Exelis; Marshall Communications Corporation.; MTN Government; NewSat America, Inc.; O3b Networks; Orbital Sciences Corporation; Panasonic Avionics Corporation; Row 44, Inc.; Spacecom, Ltd.; Spacenet Inc.; TeleCommunication Systems, Inc.; Telesat Canada; The SI Organization, Inc.; TrustComm, Inc.; Ultisat, Inc.; ViaSat, Inc., and XTAR, LLC.

Cells NPRM"). The written presentation used by the SIA representatives in the meeting is included as an annex to this submission.

The following SIA representatives attended the meeting in person: Patricia Cooper, Satellite Industry Association; Sam Black, Satellite Industry Association; Susan Crandall, Intelsat; Abdolmajid Khalilzadeh, Intelsat; Patrick Sullivan, Harris Corporation; Daniel Mah, SES; Pascale Dumit, SES; and Karis Hastings, SatCom Law, LLC (representing SES). Additionally, Stefan Brak of SES and Chris Murphy of Inmarsat participated by phone.

SIA representatives met with the following Commission staff: John Leibovitz, Susan Singer, Paul Powell, and Brian Regan, Wireless Telecommunications Bureau; Renee Gregory, Bob Pavlak, Navid Golshani, and Mark Settle, Office of Engineering and Technology; and Paul Blais and Chip Fleming, International Bureau. In addition, John Lambert of the Wireless Telecommunications Bureau participated by phone.

During the meeting, the SIA representatives discussed the satellite industry's interests in the C-band (3400-4200 MHz, which includes the 3550-3650 MHz frequencies under consideration in the Small Cells NPRM), and the industry's perspectives on both the policy and technical questions raised in the record. As of 2012, satellite companies have invested roughly \$50 billion in the 169 C-band satellites currently on orbit, and are investing another \$10 billion in 35 additional C-band satellites that are currently under construction. These estimates do not include the massive investments in the C-band ground infrastructure needed to communicate with these satellites. At least 69 existing C-band satellites operate in parts or all of the 3400-3700 MHz band - of these, 15 are licensed by the United States. All parts of the C-band are heavily used by the satellite industry, but various portions of the band are utilized differently in different parts of the world. In the United States, the 3700-4200 MHz band is more heavily utilized than the 3400-3700 MHz band, whereas the entire band is heavily utilized internationally. Because of these differences, and the many unresolved issues about sharing with the primary FSS, SIA stressed that any action being considered by the Commission domestically in the 3550-3650 MHz band should not dictate the United States' position on the entire C-band at the 2015 World Radiocommunication Conference.

The SIA representatives observed that commenters in the Small Cells NPRM agree that any FCC action to approve small cells deployments in the 3550-3650 MHz band must protect incumbent users in the band, and asked that both existing and future satellite services in the band be protected. However, the record is much less clear when it comes to the characteristics of small cells, how they would be deployed, or how

exactly incumbents will be protected. The SIA representatives noted that comments submitted by the wireless industry indicate a clear preference for additional licensed spectrum over the shared spectrum regulatory structure that would be created by the Small Cells NPRM. SIA continues to believe that the 3550-3650 MHz band could better support terrestrial wireless services if shared with point-to-point microwave services that could be used for cellular backhaul. The SIA representatives indicated that the expected broadband wireless capacity shortfall could be alleviated if the broadband wireless industry could operate more efficiently within their current allocated band by converting to small cell system architecture similar to that proposed in the NPRM.

The SIA representatives discussed the technical study submitted in its written *ex parte* filing of August 20, 2013. The study contained a detailed analysis of three operational scenarios: in-band interference, out-of-band interference, and overdrive of Low Noise Amplifier (“LNA”) or Low Noise Block (“LNB”) signal amplifiers. It concluded that, under various assumptions, separation distances of at least several kilometers and extending up to hundreds of kilometers would be required to ensure protection of FSS receivers from interference from the in-band and out-of-band effects of small cell operations. The study did not consider the possibility that multiple small cells could simultaneously interfere with a single satellite earth station, which likely would significantly exacerbate the interference environment faced by satellite users.

Finally, the SIA representatives noted the many challenges associated with ensuring the separation distances that would be required in order to address interference concerns. Sharing mechanisms discussed in the NPRM – including databases and spectrum sensing – face practical problems. Because the satellite earth stations operating in this band in the United States are receiving rather than transmitting, there are no transmissions from the earth station that could be detected with spectrum sensing technology. Moreover, it is unclear how currently unregistered receive-only earth stations would be captured in a database. The practical enforceability of interference protection mechanisms must also be studied, as the Commission’s experience with the 5 GHz U-NII band and radar detectors suggests that these mechanisms can be bypassed.

A copy of this notice and attachment is being emailed to the Federal Communications Commission staff identified below. Please contact Patricia Cooper if you have any questions.

Respectfully submitted,

/s/

SATELLITE INDUSTRY ASSOCIATION

A handwritten signature in black ink, appearing to read "Patricia Cooper". The signature is fluid and cursive, written in a professional style.

Patricia Cooper, President
1200 18th St., N.W.
Suite 1001
Washington, D.C. 20036
U.S.A.

Attachment

cc (via email):

John Leibovitz, Wireless Telecommunications Bureau
Susan Singer, Wireless Telecommunications Bureau
Paul Powell, Wireless Telecommunications Bureau
Brian Regan, Wireless Telecommunications Bureau
John Lambert, Wireless Telecommunications Bureau
Renee Gregory, Office of Engineering and Technology
Bob Pavlak, Office of Engineering and Technology
Navid Golshani, Office of Engineering and Technology
Mark Settle, Office of Engineering and Technology
Paul Blais, International Bureau
Chip Fleming, International Bureau