



March 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* Communication – Petition for Rulemaking RM-11640
Amendment of the Commission’s Rules to Establish a Next-Generation Air-
Ground Communications Service on a Secondary Licensed Basis in the 14.0 to
14.5 GHz Band**

Dear Ms. Dortch:

The Satellite Industry Association (“SIA”)¹ hereby provides notice of an email communication with Howard Griboff, B.K. Yi, and James Ball of the International Bureau in Docket #RM-11640. The aforementioned FCC staff requested clarification of certain additional technical information provided by SIA in its February 22, 2013 *ex parte* submission in this docket regarding Qualcomm’s proposed secondary Next Generation Air-to-Ground Service (“Next-Gen AG”) service in the 14.0-14.5 GHz band (“Ku-band”).

Specifically, SIA was asked to respond to the following questions:

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 fifteen years ago, SIA advocates for the unified voice of the U.S. satellite industry on policy, regulatory, and legislative issues affecting the satellite business. SIA Executive Members include: Artel, Inc.; 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 S.A.; and Space Systems/Loral. SIA Associate Members include: AIS Engineering, Inc.; ATK Inc.; Cisco; Cobham SATCOM Land Systems; Comtech EF Data Corp.; DRS Technologies, Inc.; Encompass Government Solutions; Eutelsat, Inc.; Globecom Systems, Inc.; Glowlink Communications Technology, Inc.; iDirect Government Technologies; Inmarsat, Inc.; ITT Exelis; Marshall Communications Corporation.; MTN Government Services; NewSat America, Inc.; O3b Networks; Orbital Sciences Corporation; Panasonic Avionics Corporation; Spacecom, Ltd.; Spacenet Inc.; TeleCommunication Systems, Inc.; Telesat Canada; TrustComm, Inc.; Ultisat, Inc.; ViaSat, Inc., and XTAR, LLC.

1. What is the rationale for the SIA request for an additional 3 dB “safety margin” in section one of the February 22 ex parte?
2. Is it possible to provide a detailed list of the Ku-band satellites with U.S. coverage (i.e. between 45 and 150 degrees West), including the orbital location of each satellite? Is it also possible to describe whether each of these satellites have CONUS beams or spot beams, and their associated G/T figures?

SIA provided the following responses via email:

With respect to question 1, the rationale for the additional 3 dB of safety margin is that SIA (as well as Qualcomm) has assumed an average antenna gain across the entire service area of the receiving satellite’s beam(s). Consequently, there is some inaccuracy associated with such an assumption as compared to taking the actual gain characteristics (i.e. contours) into account in the interference analysis. Part of the 3 dB margin is meant to account for the aforementioned inaccuracy. The other reason for the margin is to account for the fact that future CONUS coverage satellites (i.e. excluding those with spot beam coverage architecture) may use improved receivers with lower noise levels and/or CONUS beams which may have a slightly higher gain than those used by existing satellites.

With regard to question 2, the SIA’s ex partes of October 22, 2012 and December 11, 2012 contain the (same) list of satellites located within the orbital arc of 45W to 150 W that operate in the 14.0–14.5 GHz band, the specific orbital location of each satellite, and the characteristics of the receiving beam(s) of the satellites, including the beam peak G/T and SFD range. As explained in the SIA Ex Parte of October 22, 2012, none of the listed satellites utilizes a spot beam architecture – all of them provide CONUS beam coverage. For the U.S.-licensed satellites, the beam performance information was obtained from the FCC license application for the satellite. This list of satellites is reproduced below as Exhibit 1 to this filing.

A copy of this notice 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 written in a cursive, flowing style.

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

Attachment
cc (via email):

Howard Griboff, International Bureau
Sci-Byung K. Yi, International Bureau
James Ball, International Bureau

Exhibit 1: GSO Satellites Within the 45° W.L - 150° W.L. Orbital Arc That Utilize The 14 - 14.5 GHz Frequency Band

Satellite	Nominal Orbital Location (° WL)	Beam Peak G/T (dB/K)	Beam Peak Minimum SFD (dBW/m ²)	Beam Peak Maximum SFD (dBW/m ²)	Edge of Coverage Relative Gain Contour Below Beam Peak (dB)	Assumed Average Relative Gain Contour Below Beam Peak (dB)	Assumed Average G/T (dB/K)	Minimum SFD At Average G/T Contour (dBW/m ²)	Maximum SFD At Average G/T Contour (dBW/m ²)
Horizons 1	127	5.3	-106.3	-76.3	4.0	2.0	3.3	-104.3	-74.3
AMC-21	125	8.2	-101.2	-81.2	6.0	3.0	5.2	-98.2	-78.2
Galaxy 18	123	8.3	-107.9	-76.9	8.0	4.0	4.3	-103.9	-72.9
Echostar 9	121	Unknown	Unknown	Unknown	-	-	-	Unknown	Unknown
Anik F3	118.7	9.3	-103.7	-83.7	8	4	5.3	-99.7	-79.7
Satmex 5	116.8	Unknown	Unknown	Unknown	-	-	-	Unknown	Unknown
Satmex 6	113	6.0	-96.0	-60.0	6.0	3.0	3.0	-93.0	-57.0
Anik F2	111.1	8.6	-95.6	-65.6	10.0	5.0	3.6	-90.6	-60.6
Anik F1R	107.3	8.9	-106	-86	9.0	4.5	4.4	-101.5	-81.5
Anik F1	107.3	Unknown	Unknown	Unknown	-	-	-	Unknown	Unknown
AMC-15	105.05	5.4	-98.4	-80.4	4.0	2.0	3.4	-96.4	-78.4
SES-3	103	Unknown	Unknown	Unknown	-	-	-	Unknown	Unknown
AMC-1	103	6.7	-98.6	Unknown	9.7	4.8	1.9	-93.8	Unknown
SES-1	101	7.0	-100	-79	5.0	2.5	4.5	-97.5	-76.5
Galaxy 16	99	6.1	-104.1	-73.1	5.0	2.5	3.6	-101.6	-70.6
Galaxy 19	97	4.5	-96.0	-75.0	2.0	1.0	3.5	-95.0	-74.0
Galaxy 3C	95.05	5.3	-106.3	-76.3	4.0	2.0	2.5	-104.3	-74.3
Galaxy 25	93.1	2.7	-98.0	-77.0	2.0	1.0	1.7	-97.0	-76.0
Galaxy 17	91	7.1	-119.1	-72.1	4.0	2.0	5.1	-117.1	-70.1

**Exhibit 1: GSO Satellites Within the 45° W.L - 150° W.L. Orbital Arc That Utilize The 14 - 14.5 GHz Frequency Band
(continued)**

Satellite	Nominal Orbital Location (° WL)	Beam Peak G/T (dB/K)	Beam Peak Minimum SFD (dBW/m ²)	Beam Peak Maximum SFD (dBW/m ²)	Edge of Coverage Relative Gain Contour Below Beam Peak (dB)	Assumed Average Relative Gain Contour Below Beam Peak (dB)	Assumed Average G/T (dB/K)	Minimum SFD At Average G/T Contour (dBW/m ²)	Maximum SFD At Average G/T Contour (dBW/m ²)
Galaxy 28	89	5.0 ⁽⁴⁾	-100.6 ⁽⁴⁾	-79.6 ⁽⁴⁾	3.0	1.5	3.5	-99.1	-78.1
SES-2	87	8.0	-102.0	-81.0	4.0	2.0	6.0	-100.0	-79.0
AMC-16	85	5.6	-98.6	-80.6	4.0	2.0	3.6	-96.6	-78.6
AMC-9	83	4.8	Unknown	Unknown	3.0	1.5	3.3	Unknown	Unknown
AMC-5	81	7.7	-104.3	-83.3	4.0	2.0	5.7	-102.3	-81.3
AMC-6	72	6.0	-100.0	-82.0	4.0	2.0	4.0	-98.0	-80.0
Telstar 14R	63	5.9	-102.9	-82.9	2.0	1.0	4.9	-101.9	-81.9
Amazonas-1	61	1.0 ⁽⁵⁾	Unknown	Unknown	3.0 ⁽⁶⁾	1.5	-0.5	Unknown	Unknown
Amazonas-2	61	6.7	-98.7	-80.7	3.0 ⁽⁶⁾	1.5	5.2	-97.2	-79.2
Intelsat 9	58	0.0	-93.1	-77.1	2.0	1.0	-1.0	-92.1	-76.1

Notes:

- 1) Data obtained from www.lyngsat.com.
- 2) Only those satellites having non-steerable beams in the 14 - 14.5 GHz band that provided approximately 70% or greater coverage of CONUS are listed.
- 3) Beam peak G/T and SFD values obtained from FCC filings of the spacecraft unless otherwise noted.
- 4) FCC filed data could not be found. Specified values obtained from Intelsat's Technical Users Guide.

- 5) Data obtained from http://www.tbs-satellite.com/tse/online/REG/main_index.html.
- 6) Uplink coverage pattern not available. Listed value is an assumed value.