# LATHAM & WATKINS LLP

October 15, 2012

#### VIA ELECTRONIC FILING

Ms. Marlene H. Dortch Secretary Federal Communications Commission 445 Twelfth Street, S.W. Washington, D.C. 20554 555 Eleventh Street, N.W., Suite 1000 Washington, D.C. 20004-1304 Tel: +1.202.637.2200 Fax: +1.202.637.2201 www.lw.com

FIRM / AFFILIATE OFFICES Abu Dhabi Moscow Barcelona Munich Beijing New Jersey Boston New York Brussels Orange County Chicago Paris Doha Riyadh Dubai Rome San Diego Frankfurt Hamburg San Francisco Shanghai Hong Kong Silicon Valley Houston London Singapore Los Angeles Tokyo Washington, D.C. Madrid Milan

#### Re: Notice of *Ex Parte* Presentation; IBFS File Nos. SES-LIC-20120427-00404; SES-STA-20120815-00751, Call Sign E120075

Dear Ms. Dortch:

On October 11, 2012, Daryl Hunter of ViaSat, Inc. ("ViaSat") and John Janka and Elizabeth Park of Latham & Watkins LLP met with the following staff members of the International Bureau regarding the above-captioned application proceedings: Robert Nelson, Andrea Kelly, Stephen Duall, William Bell, Howard Griboff, Paul Blais, Joseph Hill and Byung Yi. The enclosed materials formed the basis for our discussion during the meeting.

Please contact the undersigned if you have any questions regarding this submission.

Respectfully yours,

/s/

John P. Janka Elizabeth R. Park

Enclosures

cc: Robert Nelson Andrea Kelly Stephen Duall William Bell Howard Griboff Paul Blais

## 

Joseph Hill Byung K. Yi David Keir, Counsel to Row 44, Inc.

### Summary of Potential Impact of ViaSat Aeronautical Antenna Operations on Other Spacecraft October 11, 2012

- Application Status
  - ViaSat filed an application for Ka band aeronautical terminals on April 27, 2012.
    - This application is not yet on Public Notice.
  - STA was requested on August 15, 2012.
    - Row 44 filed a Petition to Deny the STA request on September 5, 2012, which ViaSat opposed.
      - Row 44's Ku band operations are unaffected by this proposal.
      - No satellite operator has raised any concerns.
  - STA for market access trials and testing of commercial operations is now needed by November 1, 2012.
- Antenna conforms to the "default" Section 25.138 transmit EIRP parameters within +/- 6 degrees, under all expected operating conditions.
  - Antenna is compliant in the main beam with up to 60 degrees of skew.
  - The system will inhibit transmissions when the combined skew resulting from geography and banking (*i.e.*, pitch, yaw, roll) equals or exceeds 60 degrees.
  - Satellite operators within +/- 6 degrees have been informed and have no operational concerns.
- Transmit lobes exceed the default Section 25.138 EIRP parameters, at some points located on well-defined radii, measured from the main lobe.
  - Lobe locations and amplitude vary with transmit frequency.
  - Details of these excursions by frequency (including the amplitude of the lobe), depicted for skew angles where the worst case excursions occur, are contained in the *161 pages* of transmit EIRP density plots included in Exhibit C of the application.
  - Figure 3 of Exhibit A of the application is an exemplary composite of these data at a given frequency, and showing the GSO arc at three representative skew angles.

- ViaSat has coordinated the excursions outside the GSO plane with O3b.
- These excursions *potentially* affect a limited number of GSO spacecraft at defined longitudes, when skew from aircraft location/banking causes the grating lobes temporarily to intersect with the GSO arc.
  - Because the grating lobes exist at pre-defined radii (from the main lobe), potentially affected orbital locations are known with 100% certainty at the outset.
  - Whether the lobes actually intersect with these orbital locations during operation is a function of antenna orientation toward the GSO due to aircraft geographic location/banking.
  - Whether these lobes *actually* "affect" any spacecraft is a function of (i) whether the orbital location is occupied at Ka band, (ii) if occupied, whether the relevant transmit frequency that produces the excursion is used on the spacecraft there, (iii) if used, whether it is used on a co-pol, co-coverage basis, and (iv) if used on a co-pol, co-coverage basis, whether the impact is more than *de minimis*.
    - The net result is that few orbital locations actually present issues.
  - ViaSat successfully has coordinated with all potentially affected spacecraft that are operating currently or expected to be operating within the next few years, except for a recently authorized system that ViaSat is currently coordinating with the satellite operator.
    - As long as all potentially affected satellite operators have signed off, it is not material to the application under which range of skew angles within the geographic service area that these GSO arc intersections arc may occur.
      - Nor is it relevant to the application precisely in which portions of the geographic service area this intersecting skew can occur.
      - Row 44 is simply mistaken in focusing on these issues, which potentially could be a concern only for the affected satellite operator.
- Regulators in Europe are finalizing a licensing framework to treat earth stations on mobile platforms in the Ka band as an application of the FSS.

M40 QUAL1 LHCP Measured FCC 25.138 Exceedance, TX 30 GHz, Terminal EIRPo = 30.5dBW/40kH Center = 115.1 WL ViaSat-1 85 WL 89 WL θsinφ (°) -10 -20 -30 -40 -50 -60 -60 -50 -40 -30 -20 -10  $-\theta \cos\phi$  (°)



Mantarray M40 LHCP Measured Tx Antenna Pattern Cuts, Skew = 0, Freq = 30 GHz, Power = 30.5dBW/4



antarray M40 LHCP Measured Tx Antenna Pattern Cuts, Skew = 25, Freq = 30 GHz, Power = 30.5dBW/4





M40 QUAL1 LHCP Measured FCC 25.138 Exceedance, TX 28.35 GHz, Terminal EIRPo = 30.5dBW/40kHz



M40 QUAL1 LHCP Measured FCC 25.138 Exceedance, TX 28.6 GHz, Terminal EIRPo = 30.5dBW/40kHz











M40 QUAL1 LHCP Measured FCC 25.138 Exceedance, TX 29.75 GHz, Terminal EIRPo = 30.5dBW/40kHz



M40 QUAL1 LHCP Measured FCC 25.138 Exceedance, TX 30 GHz, Terminal EIRPo = 30.5dBW/40kHz



