

 **SES SATELLITES  
(GIBRALTAR) LIMITED**

14 May 2009

Federal Communications Commission  
International Bureau  
445 12<sup>th</sup> Street, S.W.  
Washington, DC 20554

Subject: Engineering Certification of SES Satellites (Gibraltar) Ltd.

To whom it may concern:

This letter certifies that SES Satellites (Gibraltar) Ltd. ("SES Gibraltar") is aware that SES Americom, Inc. ("SES Americom") will be amending its pending application for a License to operate a network of fixed hub stations and Earth Stations on Vessels ("ESV") in the Ku-band frequencies, call sign E060335, to: (1) substitute KVH Industries, Inc. ("KVH") as applicant, and (2) add the AMC-21 satellite as a point of communication. The AMC-21 satellite at 124.9° W.L. is licensed by Gibraltar/United Kingdom and is on the FCC Permitted Space Station List to serve the United States (ITU Designation AM-SAT 125W). KVH will be operating transmit/receive ESV antennas with AMC-21 within the frequency range having center downlink frequency 11.72 GHz, center uplink frequency 14.020 GHz, 36 MHz bandwidth, horizontal polarization in the downlink, and vertical polarization in the uplink.

Specifically, KVH will be deploying ESV antennas with a diameter of 60 cm that in some respects do not comply with Section 25.222 of the FCC's rules. .

The nominal pointing accuracy for this installed antenna will be less than or equal to +/- 0.6 degrees. All emissions from the ESV shall automatically cease within 100 ms if the angle between the orbital location of AMC-21 and the axis of the main lobe of the ESV antenna exceeds 1 degree and transmission will not resume until such angle is equal to or less than 0.6 degrees. The 1 degree and 0.6 degree values do not conform to Sections 25.222(a)(6) and (a)(7) of the FCC ESV rules. Otherwise, the ESV terminals will operate in compliance with the technical, operational and performance requirements of the FCC's ESV rules and any requirements set forth in the license granted by the FCC for the above antennas.

The ESV terminals operate with a CDMA transmission scheme such that the aggregate uplink interference into neighboring satellites results from the combined effects of multiple transmitting earth station antennas. Importantly, the ESV terminals also employ a spread spectrum modulation scheme that significantly reduces the maximum off-axis EIRP density produced by

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individual terminals. Thus, even taking into account the maximum pointing error of the terminals (0.6°), the aggregate transmissions from the ESV terminals still comply with the off-axis EIRP density mask set forth in Section 25.222(a)(1) with N=1. Actually, pointing errors as large as 1° may occur before emissions cease. However, calculating aggregate interference based on the maximum pointing error of 0.6° is acceptable because, at any point in time, there will be multiple simultaneous transmitting antennas with the different pointing errors.

The satellite EIRP density of the carriers will not exceed 10 dBW/4KHz.

Furthermore, except as described above, these antennas will be installed in compliance with the technical, operational and performance requirements of Part 25 of the FCC rules and any requirements set forth in the licenses granted by the FCC for the above antennas.

SES Gibraltar and KVH acknowledge that the use of the above non-conforming antennas has the potential to cause unacceptable interference into adjacent satellites in accordance with the FCC's 2-degree spacing policy and will not seek any additional protection compared to the case of an earth station employing an antenna that fully conforms to the FCC rules. However, under the conditions defined above, satellites at 2° spacing or more will not experience unacceptable interference.

Furthermore, KVH states that if the use of this antenna should cause unacceptable interference into other systems, KVH will terminate transmissions immediately upon notice from the affected parties.

Finally, SES Gibraltar acknowledges that it will include the subject non-conforming earth station operations in all future satellite network coordinations.

Sincerely,



Krish Jonnalagadda  
Manager, Spectrum Development  
SES Americom  
4 Research Way  
Princeton NJ 08540  
Tel: (609) 987 4194

Acceptance by KVH Industries, Inc.


KVH testifies that the information provided to SES and reflected in this Affidavit letter is true and accurate to best of KVH's knowledge.

  
Felise Feingold  
Vice President, General Counsel  
KVH Industries, Inc

May 28, 2009  
Date

Acceptance by INTELSAT:

Intelsat agrees to operation of the above antenna with the technical parameters described herein with respect to Galaxy-18 at 123°W, and Galaxy-27 at 129°W longitudes which have a nominal geocentric separation of two (2) degrees and four (4) degrees, respectively, from AMC-21.

  
Jose Albuquerque  
Senior Director, Spectrum Engineering  
INTELSAT

Date: 14 May 2009

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Specifically, KVH will be deploying ESV antennas with a diameter of 60 cm that in some respects do not comply with Section 25.222 of the FCC's rules.

The nominal pointing accuracy for this installed antenna will be less than or equal to +/- 0.6 degrees. All emissions from the ESV shall automatically cease within 100 ms if the angle between the orbital location of AMC-21 and the axis of the main lobe of the ESV antenna exceeds 1 degree and transmission will not resume until such angle is equal to or less than 0.6 degrees. The 1 degree and 0.6 degree values do not conform to Sections 25.222(a)(6) and (a)(7) of the FCC ESV rules. Otherwise, the ESV terminals will operate in compliance with the technical, operational and performance requirements of the FCC's ESV rules and any requirements set forth in the license granted by the FCC for the above antennas.

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(0.6°), the aggregate transmissions from the ESV terminals still comply with the off-axis EIRP density mask set forth in Section 25.222(a)(1) with N=1. Actually, pointing errors as large as 1° may occur before emissions cease. However, calculating aggregate interference based on the maximum pointing error of 0.6° is acceptable because, at any point in time, there will be multiple simultaneous transmitting antennas with the different pointing errors.

The satellite EIRP density of the carriers will not exceed 10 dBW/4KHz.

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Furthermore, KVH states that if the use of this antenna should cause unacceptable interference into other systems, KVH will terminate transmissions immediately upon notice from the affected parties.

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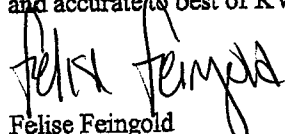
Sincerely,



Krish Jonnalagadda  
Manager, Spectrum Development  
SES Americom  
4 Research Way  
Princeton NJ 08540  
Tel: (609) 987 4194

Acceptance by KVH Industries, Inc.


KVH testifies that the information provided to SES and reflected in this Affidavit letter is true and accurate to best of KVH 's knowledge.

  
Felise Feingold  
Vice President, General Counsel  
KVH Industries, Inc

May 28, 2009  
Date

Acceptance by Horizons-1 Satellite LLC:

Horizons-1 Satellite agrees to operation of the above antenna with the technical parameters described herein with respect to Horizons 1 at 127°W longitude which has a nominal geocentric separation of two (2) degrees from AMC-21.

  
For Jose Albuquerque  
for Horizons-1 Satellite LLC

Date: 05.25.09