

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

In the Matter of)	
)	
Row 44, Inc.)	
)	
Application For Authority To Operate Up)	FCC File No. SES-LIC-20080508-00570
To 1,000 Technically-Identical)	Call Sign: E080100
Aeronautical-Mobile Satellite Service)	
Transmit/Receive Earth Stations)	
Aboard Commercial And Private Aircraft)	
)	

REPLY OF VIASAT, INC.

FILED/ACCEPTED

AUG - 7 2008

Federal Communications Commission
Office of the Secretary

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August 7, 2008

Summary

ViaSat's Petition to Deny demonstrates that Row 44's application for authority to provide aeronautical-mobile satellite service ("AMSS") in the Ku-band is materially incomplete and incompatible with a two-degree spacing environment. Specifically, ViaSat's Petition explains that Row 44 has not adequately demonstrated how its secondary and non-conforming AMSS system would protect the Fixed Satellite Service (FSS) systems for which the Ku-band is allocated on a primary basis. Row 44's Opposition fails to address these issues.

As an initial matter, (i) ViaSat is a "party of interest" entitled to participate in this proceeding, (ii) the Application is not entitled to streamlined processing under Section 25.220 of the Commission's rules, which is inapplicable to AMSS license applications, and (iii) the Commission's acceptance of the Application for filing does not signify that it is "substantially complete" – as the Commission's request for additional information from Row 44, released earlier today, vividly illustrates. The Commission is obligated to carefully review Row 44's Application to ensure that grant of the required waivers would not undermine the rules with which Row 44 would not comply.

More fundamentally, Row 44's Application remains defective, as Row 44 (i) has failed to include representative link budgets for both the transmit and receive functions of its AMSS terminals, over the expected service area of the three different spacecraft that Row 44 proposes to use, (ii) has failed to provide all of the transmit elevation patterns required by Section 25.132(b) of the Commission's rules, and (iii) has failed to explain how its untested antenna would adequately account for all of the dynamics of a moving aircraft. Neither the Commission nor the public can fully evaluate the Application in the absence of this information.

Moreover, Row 44 again fails to demonstrate that its proposed operations would be compatible with a two-degree operating environment. Specifically: (i) while Row 44 now claims for the first time that its proposed system would use spread spectrum modulation, the parameters specified in the Application are inconsistent with the use of such modulation, (ii) Row 44 fails to demonstrate that its proposed system would meet the tracking accuracy specified in Section 25.222 of the Commission's rules, and (iii) Row 44 has misstated the antenna gain of its terminals, artificially depressing transmit antenna gain and suggesting that the proposed antenna would comply with the requirements of Section 25.209 of the Commission's rules – when in fact it would not.

For these reasons, among others, ViaSat respectfully requests that the Commission dismiss or deny the Application. If the Commission does grant the Application, the Commission should, consistent with previous grants of AMSS license applications, (i) require Row 44 to track its terminal locations to facilitate the enforcement of the requirement that Row 44 operate on a secondary, non-interference basis, and (ii) require Row 44 to file a report with the Bureau one year after commencing commercial operations addressing installed equipment configurations, EIRP compliance, and compliance with assigned bandwidth/emission designators, and including a table of reported interference events.

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REPLY OF VIASAT, INC.

ViaSat, Inc. (“ViaSat”) replies to the Opposition filed by Row 44, Inc. (“Row 44”) on July 23, 2008 in this proceeding. Row 44 filed its Opposition in response to ViaSat’s Petition to Deny (“Petition”) Row 44’s application for authority to provide aeronautical-mobile satellite service (“AMSS”) in the Ku-band (“Application”).¹ Row 44’s Application is a “non-routine” application that relies on waivers of the Commission’s rules. As detailed in ViaSat’s Petition, Row 44’s Application is materially incomplete and does not demonstrate that its proposed operations are compatible with a two-degree spacing environment. Further, Row 44’s Opposition fails to address the issues that ViaSat has raised. Accordingly, the Commission should dismiss or deny the Application.

¹ ViaSat filed its Petition on June 27, 2008. Accordingly, Row 44 should have filed its Opposition no later than July 10, 2008. *See* 47 C.F.R. §§ 25.154(c). Instead, on that date Row 44 filed a letter claiming that its Opposition was in fact due July 28, 2008. *See* Letter from David S. Keir to Marlene H. Dortch, Secretary, Federal Communications Commission (Jul. 10, 2008). Since replies are due within five business days “after the time for filing oppositions has expired,” exclusive of the three additional business days applicable where (as here) an opposition is served by mail, this Reply is timely. *See* 47 C.F.R. §§ 25.154(d) and 1.4(h).

I. ROW 44'S PROCEDURAL CLAIMS ARE MERITLESS

Row 44's Opposition contains a number of baseless procedural claims. First, Row 44 claims that ViaSat has no basis to participate in this proceeding because ViaSat has not shown that it would suffer interference from Row 44's non-compliant network.² However, Section 25.154(a)(4) of the Commission's rules plainly provides that ViaSat need only present facts sufficient to establish that it is a "party of interest."³ As explained in the Petition, ViaSat has substantial business interests in the operations of "traditional" Ku-band VSAT networks, as well as the developing Ku-band AMSS industry, and also holds a Commission license to provide AMSS services in the Ku-band.⁴ Moreover, ViaSat currently uses capacity on the Horizons-1 satellite for its managed broadband service, and plans to use capacity on the AMC-21 satellite, located two degrees from Row 44's proposed operations. As such, ViaSat has a distinct interest in ensuring that no authorized AMSS system poses an interference risk to existing Ku-band satellite operations, and ViaSat is a party of interest to this proceeding.⁵

Second, Row 44 incorrectly asserts, without foundation, that its Application is subject to processing pursuant to Section 25.220 of the Commission's rules.⁶ Contrary to Row 44's assertion, the Commission has repeatedly noted that FSS service rules such as Section

² Opposition at 2 ("Contrary to the requirements of Section 25.154(a)(4) . . . ViaSat nowhere provides any specific basis for its objections in terms of potential claimed interference to those cited operations.").

³ See 47 C.F.R. § 25.154(a)(4).

⁴ See *ViaSat, Inc. Application for Blanket Authority for Operation of 1,000 Technically Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters*, 22 FCC Rcd 19964 (2007) ("*ViaSat AMSS Order*").

⁵ Accordingly, and as ViaSat notes in its Petition, ViaSat has standing. See *FCC v. Sanders Brothers Radio Station*, 309 U.S. 470 (1940).

⁶ See, e.g., Opposition at 1 n.1.

25.220 are not directly applicable to AMSS license applications, such as Row 44's Application.⁷ Further, Section 25.220 expressly does not apply in the analogous case of an ESV applicant that proposes to operate in an FSS band.⁸

The Commission has an obligation to carefully review the Application to ensure that Row 44's proposed operations do not cause harmful interference into any other Commission licensee, particularly given (i) Row 44's request for a waiver of Section 2.106 of the Commission's rules to permit it to provide AMSS on a non-harmful interference basis, (ii) the absence of *any* AMSS service rules, (iii) the nascent nature of AMSS, and (iv) the still-developing nature of AMSS technologies. The Commission may not, as Row 44, suggests, simply rely on the certifications of two satellite operators.⁹ Rather, the Commission *must* closely review the Application based on the information in the record, including the inconsistencies and deficiencies that ViaSat has identified. Any expedited review that may be appropriate in a "Section 25.220" case¹⁰ is simply inapplicable where an applicant seeks waivers to operate a new class of service.

Third, Row 44 asserts that "the fact that the FCC has accepted the Application for filing as substantially complete" demonstrates that the Application is not defective.¹¹ That statement is not only factually inaccurate, but also is flatly inconsistent with Section 25.150 of

⁷ See *ViaSat AMSS Order* at ¶ 11 (noting that "the Commission's rules for Fixed-Satellite Service (FSS) earth stations" are "not directly applicable to AESs . . ."). As ViaSat has noted, the Commission does look to its FSS earth station rules for guidance in ensuring that AMSS operations do not pose an interference threat.

⁸ 47 C.F.R. § 25.220(a)(1) ("This section applies to earth station applications other than ESV and 17/24 GHz BSS feeder link applications . . .").

⁹ See *Opposition* at 1-2.

¹⁰ See *id.* at 2 n.5.

¹¹ *Id.* at 3-4.

the Commission's rules, and with a series of Commission decisions that have dismissed defective applications after they have appeared on public notice.¹²

II. THE APPLICATION IS DEFECTIVE

ViaSat's Petition establishes that Row 44's Application is incomplete, and as such should be dismissed by the Commission.¹³ Row 44 still has not provided all of the information that would be needed before the Commission could grant the waivers that Row 44 requires due to the non-compliant nature of its service and equipment.

A. Row 44's Failure to Include Representative Link Budgets

ViaSat's Petition demonstrates that Row 44's Application fails to provide representative link budgets for both segments of the proposed communications link.¹⁴ In response, Row 44 admits that it has not provided a link budget for the satellite-to-airplane portion of the proposed service, and then asserts that it is under no obligation to submit *any* link budgets.¹⁵ Particularly in the case where an applicant seeks a waiver of the Commission's rules, that applicant is obligated to provide sufficient data to facilitate meaningful review of its Application by the Commission and the public, and to allow the Commission to ensure that grant of the requested waiver would not undermine Commission policy. It is incumbent on Row 44 to

¹² See 47 C.F.R. § 25.150 ("Neither the assignment of a file number and/or other identifier nor the listing of the application on public notice as received for filing indicates that the application has been found acceptable for filing or precludes the subsequent return or dismissal of the application if it is found to be defective or not in accordance with the Commission's rules."). See also, e.g., *WTL Communications, Inc.*, 23 FCC Rcd 2475 at ¶ 7 (2008) ("Thus, we find that the RVCR application must be dismissed as having been inadvertently accepted for filing."); *Telenor Satellite, Inc.*, DA 07-1360 (Mar. 20, 2007) (dismissing earth station application previously accepted for filing by public notice).

¹³ The Commission has already acknowledged the incomplete nature of the Application. See Letter from Scott A. Kotler, Chief, Systems Analysis Branch, Satellite Division, International Bureau to David S. Keir (Aug. 7, 2008).

¹⁴ Petition at 3.

¹⁵ Opposition at 4.

provide that information here, as (i) Row 44's antennas would require a waiver of the Commission's Section 25.209 antenna mask, (ii) Row 44's service would be provided on a secondary, non-interfering basis pursuant to a waiver of the Table of Frequency Allocations, and (iii) the parameters included in link budgets must be evaluated in considering whether such waivers are justified. Such a showing would be consistent with the type of data the Commission required to be submitted in non-complaint FSS VSAT applications for over 15 years, before the Commission and industry developed experience with the interference potential of non-compliant FSS VSAT antennas.¹⁶

Row 44 admits that link budgets are normally submitted "as a good faith demonstration that the power assumptions underlying the application are correct and that operation is feasible."¹⁷ It is therefore inconceivable why Row 44 will not make such a "good faith demonstration," which is central to the proper evaluation of the Application. In particular, the missing forward link budgets are critical because the Application seeks more than "transmitting authority," despite Row 44's contrary claim.¹⁸ The Application clearly anticipates operations in the "receive" portion of the Ku-band, and Row 44 admits when seeking a waiver that the downlink signal to the airplane would exceed the EIRP spectral density limits specified in Section 25.134(g)(2) of the Commission's rules.¹⁹ Yet, Row 44 provides almost no other

¹⁶ Notably, the Commission's original rules for non-compliant VSATs explicitly required earth station applicants to submit link budgets, demonstrating that the Commission expects to review such information in considering non-routine earth station applications. *See Routine Licensing of Large Networks of Small Antenna Earth Stations Operating in the 12/14 GHz Frequency Bands*, 6 FCC Rcd 7372, at ¶ 13 (1991) ("We will also require that link budget analyses be included in each Category 2 application . . .").

¹⁷ Opposition at 4.

¹⁸ *See id.* at 5.

¹⁹ *See* Application, Row 44 AMSS Network System Description and Technical Information, at 7-8. *See also* 47 C.F.R. § 25.134(g)(2).

meaningful information with respect to the forward link of its proposed AMSS system from the satellite to the airplane, or whether that link would sustain a viable service on a secondary, non-interference basis.²⁰ While Row 44 claims that “providing information concerning this link would be superfluous” because the hub station that Row 44 proposes to use is already licensed,²¹ the terms of that license would address, at most, only the parameters of the link between the hub station and the satellite, as opposed to the portion of the link between the satellite and Row 44’s proposed user terminals on airplanes.

Further, Row 44 does not deny that (i) Row 44 has failed to provide link budgets for two of the three points of communication proposed in the Application (AMC-2 and AMC-9), or that (ii) due to the unique characteristics of AMC-2 and AMC-9, the partial Horizons-1 link budgets may not be representative of links with AMC-2 or AMC-9. Similarly, Row 44 does not deny that it has not provided link budgets reflecting differences in the coverage pattern of Horizons-1 (or AMC-2 or AMC-9) over North America. While Row 44 concedes that the link characteristics of Horizons-1 would vary over the proposed coverage area, and that “there are some potential flight paths where G/T would be too low to close the inroute link,”²² Row 44 fails to describe what these flight paths would be, or to describe in any form those areas in which Row 44 actually would be able to provide service in a manner consistent with its link budgets.²³

²⁰ Exhibit C of the System Description and Technical Information included in the Application contains link budgets only for the return, or “inroute” link from the airplane to the hub. *Cf.* Opposition at 5 (claiming that the Application includes both “inroute” and “outroute” link budgets).

²¹ *Id.*

²² *Id.* at 7 n.11.

²³ Given this failure, it is far from “pure conjecture” to suggest that power increases above what is stated in the Application may be necessary to sustain a viable service. *See id.*

In desperation, perhaps, Row 44 mistakenly claims that ViaSat’s AMSS license application “included the same quantum of link budget information as Row 44’s application.”²⁴ Unlike Row 44, ViaSat’s application included both forward and return link budgets, and satellite contours for the expected service area over CONUS.²⁵ Row 44 should not be held to a lesser standard. ViaSat therefore urges the Commission to require Row 44 to provide similar information.

B. Row 44’s Failure to Provide All Required Transmit Elevation Patterns

ViaSat’s Petition demonstrates that Row 44’s Application fails to provide the transmit elevation patterns required by Section 25.132(b) of the Commission’s rules.²⁶ In response, Row 44 claims that the Application includes the required transmit elevation patterns for 14.3 GHz.²⁷ However, Section 25.132(b) clearly provides that measures “shall be made at the bottom, middle and top of each allocated frequency band and submitted to the Commission[.]”²⁸ Row 44 seeks authority to operate in the 14.05 GHz – 14.47 GHz band, and therefore is obligated also to submit transmit elevation patterns for the bottom and top of this band (a requirement that Row 44 has satisfied with respect to its transmit azimuth patterns).

Row 44’s continued failure to provide a full set of transmit elevation patterns is conspicuous and troubling. Row 44 admits that its antenna does not comply with Section 25.209 in the elevation plane, but neither the Commission nor ViaSat knows the full extent of Row 44’s

²⁴ *Id.* at 5 n.7.

²⁵ ViaSat, Inc., Application for Blanket Authority for Operation of 1,000 Technically Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters, File No. SES-LIC-20051028-01494, at Exhibit B (“ViaSat AMSS License Application”).

²⁶ Petition at 4.

²⁷ Opposition at 3.

²⁸ 47 C.F.R. § 25.132(b).

non-compliance, particularly at the band edges where antennas often vary most significantly from the Section 25.209 mask. Here, understanding performance in the elevation plane is essential to ascertaining the potential for interference from the proposed system into two-degree-spaced adjacent spacecraft. The reason is simple – if an airplane were, for example, to bank to make a turn, the elevation plane of the Row 44 antenna would be “tilted” towards adjacent spacecraft in the geostationary arc. Without the missing elevation data, it therefore is impossible to assess whether the proposed antenna would be capable of operating on a moving platform with significant pitch, yaw, and roll without causing harmful interference into adjacent satellite operations.

Even after Row 44 provides that data, it would be incumbent on Row 44 to explain how its antenna – which has not been extensively tested – would actually account for all of the relevant flight dynamics of an airplane. While Row 44 claims that its user terminal would constantly monitor the “skew angle” between the terminal and the satellite to which it is transmitting, and would cease transmissions if this angle exceeds +/- 25 degrees, Row 44 has not addressed whether its calculation of this angle would be based simply on the aircraft’s longitude and latitude, or whether, as it should, Row 44 also would account for pitch, yaw, and roll as a result of aircraft maneuvers. Because the elevation plane of the Row 44 antenna would be “tilted” towards adjacent spacecraft in the geostationary arc when an airplane is making certain maneuvers, any failure to adequately account for pitch, yaw and roll could result in interference into adjacent spacecraft due to the non-compliance of Row 44’s antenna in the elevation plane.²⁹

²⁹ Petition at 4 n.8.

III. THE APPLICATION DOES NOT DEMONSTRATE COMPATIBILITY WITH A TWO-DEGREE SPACING ENVIRONMENT

ViaSat's Petition demonstrates that Row 44's Application is incompatible with a two-degree spacing environment. Row 44 responds by providing new information that is inconsistent with other aspects of its pending application, and fails to explain how it will comply with Commission rules.

A. Row 44's Incompatibility with Applicable Power Density Limits

ViaSat's Petition establishes that the parameters specified in Row 44's Application do not comply with Section 25.134(g)(1) of the Commission's rules, which limits the maximum transmitter power density of routinely-processed VSATs.³⁰ In response, Row 44 (i) asserts that ViaSat's critique "fails to take into account the appropriate spectral spreading factor,"³¹ and (ii) provides new information about Row 44's system design that is not contained in the Application itself. While Row 44 is free to modify its system design to incorporate spectral spreading, its Application contains information that is not consistent with the use of spread spectrum modulation. Notably, Row 44's link budgets specify carrier noise bandwidths of 256 kHz and 512 kHz, without qualification or suggestion of spreading, as opposed to the more than 1 MHz of bandwidth that would be occupied by a spread signal. Moreover, these link budgets specify a carrier spacing factor of 6.25 – a number which bears no relationship to the spreading factors of 2 and 4 that Row 44 provides for the first time in its Opposition.³²

³⁰ *Id.* at 4-5. *See also* 47 C.F.R. § 25.134(g)(1).

³¹ Opposition at 6.

³² *See* Opposition Technical Annex at 1-2. Row 44 fails to explain how it has selected these spreading factors, or why its unspread 256 kbps and 512 kbps signals would occupy 400 kHz and 800 kHz, respectively. As ViaSat demonstrated in its Petition, the actual occupied bandwidths of the unspread carriers would be significantly lower. *See* Petition Technical Annex at 3.

These deficiencies and inconsistencies, among others, suggest that Row 44's Application, as originally filed, either (i) did not anticipate the use of spread spectrum modulation or (ii) is now incomplete and underspecified. In either case, the Commission must evaluate the Application on the basis of the information contained therein, and necessarily conclude that the operations proposed in the Application would not comply with Section 25.134(g)(1) of the Commission's rules, for these reasons and those specified in ViaSat's Petition. As the Commission has noted repeatedly, Section 25.112 of the Commission's rules "requires the Commission to return, as unacceptable for filing, any earth station application that . . . contains internal inconsistencies . . ." ³³ Therefore, the Commission should dismiss the Application; neither the Commission nor the public should be forced to speculate in order to cure Row 44's ambiguities or reconcile Row 44's inconsistencies.

B. Row 44's Noncompliance with Applicable Antenna Pointing Requirements

ViaSat's Petition establishes that Row 44's proposed system would not comply with Section 25.222(a)(6) of the Commission's rules, which requires a pointing error of less than 0.2 degrees. ³⁴ Specifically, although the Commission's rules require Row 44 to demonstrate that its system would meet a tracking accuracy of 0.2 degrees *peak*, Row 44 claims only that its system would meet a tracking accuracy of 0.2 degrees *root mean square* (RMS). Row 44 does not respond to this criticism – and indeed, cannot. Instead, Row 44 merely asserts that "[t]his performance is equivalent to that reported by ViaSat in its own AMSS license application." ³⁵

As an initial matter, the substance of ViaSat's AMSS license application is irrelevant to an evaluation of Row 44's Application and whether Row 44's proposed system

³³ *Telenor Satellite, Inc.*, DA 07-1360, at 1 (Mar. 20, 2007). *See also* 47 C.F.R. § 25.112.

³⁴ 47 C.F.R. § 25.222(a)(6).

³⁵ Opposition at 8.

would meet a tracking accuracy of 0.2 degrees peak – a requirement that Row 44 does not challenge. The Commission should view Row 44’s non-response for what it is: an attempt to distract from the fundamental and inescapable fact that Row 44’s Application does not comply with the Commission’s rules.

Further, ViaSat’s application was filed in 2005 and premised on ITU-R M.1643, which does not specify an explicit pointing accuracy requirement. In contrast, Row 44’s Application was filed in 2008, and explicitly (but wrongly) claims compliance with Section 25.222 of the Commission’s rules, which incorporates the technical parameters established in ITU Resolution 902.³⁶ In short, Row 44’s Application is subject to different requirements than ViaSat’s, fails to meet those requirements, and fails to seek any waiver of those requirements. In any event, though, the low power density of ViaSat’s signal would allow ViaSat’s antennas to be mispointed by 2 degrees (or more) without exceeding the OAED mask, and without adversely affecting adjacent networks.³⁷ As discussed below, that is not the case with the higher-powered Row 44 system.

In evaluating the performance of Row 44’s proposed antenna, the Commission should recognize that pointing accuracy limits are intended to protect adjacent users by ensuring that individual antennas operate at power density levels that do not exceed the applicable OAED mask in the direction of the adjacent satellite, even when mispointed. For the reasons noted above, Row 44’s system likely would need to increase input power in portions of the aircraft’s

³⁶ The Commission has made clear its intent to make Section 25.222(a)(6) “consistent with the technical parameters contained in Resolution 902,” which requires a tracking accuracy within 0.2 degrees peak. *See Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/ 11.7-12.2 GHz Bands*, 20 FCC Rcd 674, at ¶ 104 and n.271 (2005).

³⁷ *See Reply Comments of ViaSat, Inc., Exhibit A at 6-12, IB Docket No. 05-20 (Aug. 3, 2005).*

flight path (at least up to the Section 25.134(g)(1) limit) in order to ensure continuous service during a significant number of flights.³⁸ During such periods, any mispointing would exacerbate the potential for harmful interference into adjacent operations. Since Row 44 has not provided complete link budgets or antenna patterns, however, neither the Commission nor the public can properly evaluate just how serious the impact of such mispointing would be. As such, it is critical that Row 44's system meet a tracking accuracy of 0.2 degrees peak – as opposed to 0.2 degrees RMS, which is significantly less restrictive.

C. Row 44's Improper Antenna Gain Calculation

ViaSat's Petition notes that the antenna gain Row 44 specifies in the 14 GHz transmit band does not correspond, as a matter of physics, with the antenna gain Row 44 specifies in the 11 GHz receive band. ViaSat's Petition proceeds to question whether Row 44's Application incorrectly calculates transmit gain, and thus the compliance of its antenna with the requirements of Section 25.209.³⁹ Row 44 addresses this discrepancy by explaining that it has not measured gain from the input of the antenna, but rather has taken the unorthodox approach of "backing out" of a true antenna gain calculation certain expected losses between the power amplifier inside the plane and the antenna on top of the fuselage.⁴⁰

³⁸ Incredibly, Row 44 suggests that the way to ensure continuous service where G/T is too low to close the link "is to avoid the affected flight paths, not to increase power." Opposition at 7 n.11. Based on ViaSat's extensive experience with manufacturing and implementing in-flight communications systems (e.g., Connexion by Boeing), it is highly unlikely that any operator would alter an aircraft's flight path in order to maintain a communications link; given the high cost of fuel and the need for regulatory clearances, such an alteration would be a clear case of the tail wagging the dog.

³⁹ Petition at 5 n.13. The Application specifies antenna gains of 31.8 dBi in the 11.7 GHz receive band, but only 28.6 dBi in the 14.47 GHz transmit band, which is inconsistent with the typical increase in antenna gain with an increase in the frequency range.

⁴⁰ Opposition Technical Annex at 3.

Row 44's approach has the effect of artificially depressing the antenna gain reported in the Application. As shown in Exhibit 1, when calculated using the standard methodology based on specifications published by the manufacturer of the proposed antenna (Aerosat), Row 44's transmit antenna gain is not compliant with the Section 25.209 antenna mask.⁴¹ Notably, Row 44 seeks no waiver of Section 25.209. Further, to the extent that Row 44 seeks to rely on this "line loss" to reduce the expected power level that would be input to the antenna, Row 44 fails to explain whether this line loss is representative of each application of its technology, or whether the length of the "transmit flexible-waveguide structure" that produces this loss would vary among the different aircraft types that may utilize the Row 44 system.

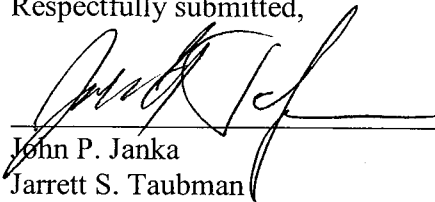
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As explained above and in ViaSat's Petition, Row 44's Application is incomplete and fails to demonstrate that the proposed system would be two-degree compatible. Accordingly, ViaSat respectfully requests that the Commission dismiss or deny the Application. If the Commission does grant the Application, the Commission should, consistent with previous grants of AMSS license applications, (i) require Row 44 to track its terminal locations to facilitate the enforcement of the requirement that Row 44 operate on a secondary, non-interference basis, and (ii) require Row 44 to file a report with the Bureau one year after commencing commercial operations addressing installed equipment configurations, EIRP compliance, and compliance with assigned bandwidth/emission designators, and including a table of reported interference events.⁴²

⁴¹ The 4.7 dB adjustment value in Exhibit 1 is the difference between the 33.3 dBi gain specified in Aerosat marketing materials and the 28.6 dBi gain provided by Row 44 in the Application.

⁴² See, e.g., *The Boeing Company*, 6 FCC Rcd 22645, at ¶ 19 (2001); *ARINC Incorporated*, 20 FCC Rcd 7553, at ¶ 56 (2005); *ViaSat AMSS Order* at ¶ 28.

Respectfully submitted,



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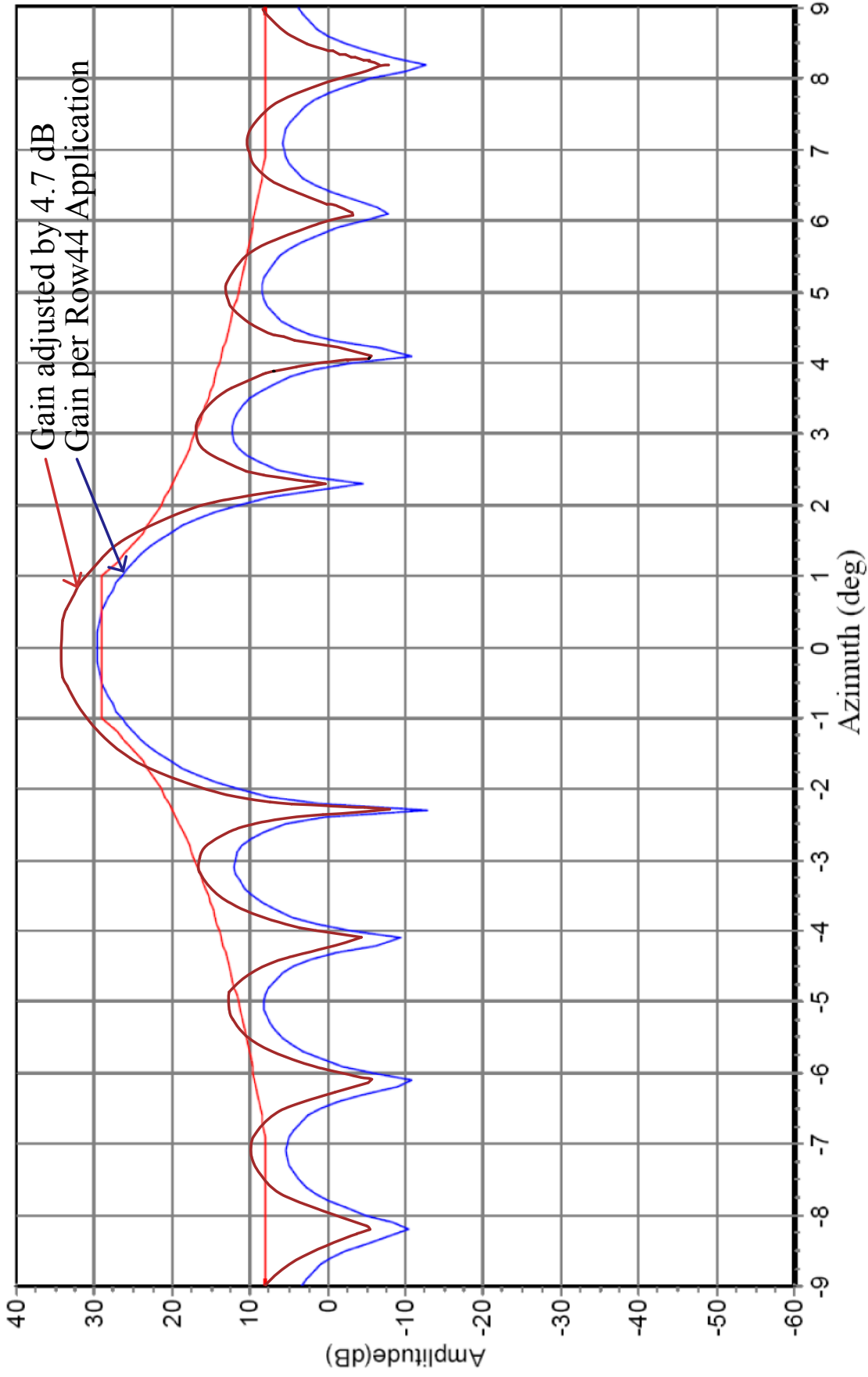
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August 7, 2008

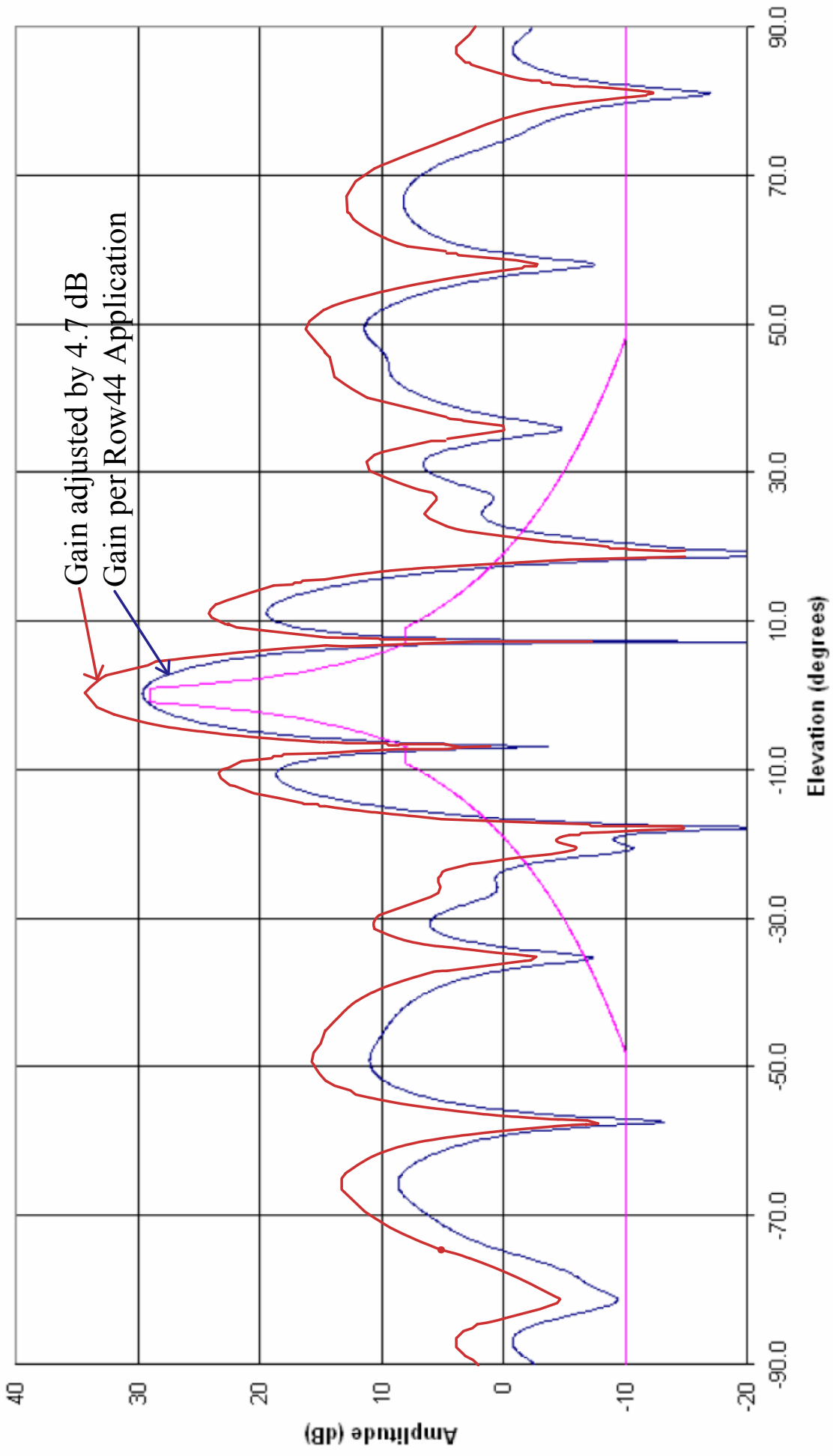
EXHIBIT 1

Two-Way Fuselage Mount Antenna Transmit Gain



The 4.7 dB adjustment value is the difference between the 33.3 dBi gain specified in marketing materials released by the manufacturer (Aerosat) and the 28.6 dBi gain provided by Row 44 in the Application.

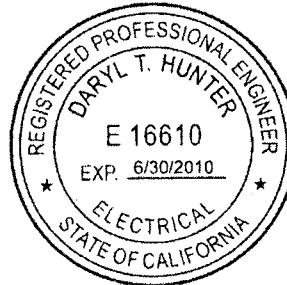
14.3 GHz Elevation Vertical Polarization



The 4.7 dB adjustment value is the difference between the 33.3 dBi gain specified in marketing materials released by the manufacturer (Aerosat) and the 28.6 dBi gain provided by Row 44 in the Application.

ENGINEERING INFORMATION CERTIFICATION

I hereby certify that I am the technically qualified person responsible for reviewing the engineering information contained in the foregoing submission, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this pleading, and that it is complete and accurate to the best of my knowledge and belief.



A handwritten signature in cursive script that reads "Daryl T. Hunter".

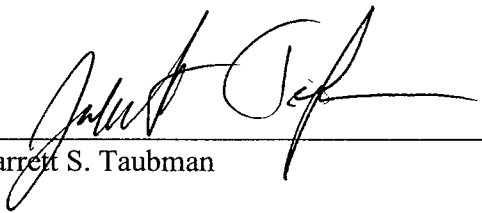
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Dated: August 7, 2008

CERTIFICATE OF SERVICE

I, Jarrett S. Taubman, hereby certify that on this 7th day of August, 2008, I served a true copy of the foregoing Reply of ViaSat, Inc. by first class mail, postage pre-paid upon the following:

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