EXHIBIT A

Ka band Aeronautical Antenna
Public Interest Statement and Waiver Requests

By this application, ViaSat, Inc. ("ViaSat") requests blanket authority to operate up to 4,000 technically identical transmit/receive earth stations to provide service in the United States using the 28.35-29.1 GHz and 29.5-30.0 GHz portions of the Ka band for uplink communications and the 18.3-19.3 GHz and 19.7-20.2 GHz portions for downlink communications. The terminals will be mounted on commercial and private aircraft and will be used to provide two-way, in-flight broadband communications, including Internet access, for passengers and flight crew. The terminals will communicate with Ka band satellites ViaSat-1 at 115.1º W.L., WildBlue-1 at 111.1º W.L., and ANIK-F2 at 111.1º W.L.

This application is consistent with the existing regulatory framework for the Ka band. Under that framework, the key element for ensuring compatibility with the Commission's two-degree spacing policy is: (i) compliance with the off-axis-EIRP density levels specified in Section 25.138 in the uplink direction, (ii) compliance with the power flux density (PFD) levels referenced in Section 25.138 in the downlink direction, and (iii) in the case of any exceedance of those levels, coordination with potentially affected satellite systems.

As detailed below, ViaSat's proposed operations (i) are fully consistent with the PFD levels referenced in 25.138, and (ii) are fully consistent with the off-axis-EIRP levels except with respect to a few exceedances that can be coordinated with potentially affected satellite systems. Moreover, the longstanding, co-primary MSS allocation in the upper 500 MHz of the Ka band (19.7-20.2 GHz, 29.5-30.0 GHz) contemplates mobile applications, and the Commission specifically acknowledged the likelihood of future licensing of mobile applications in the Ka band once technology existed that ensures compatibility with existing FSS applications of the Ka band. That technology exists today, and its efficacy has been proven over the past seven years.

More specifically, the same type of technology that successfully has enabled mobile applications of the Ku band enables the mobile uses of the Ka band proposed here. Namely, ViaSat will ensure that (i) these terminals remain pointed at the intended satellite with a maximum pointing error of +/-0.5º in the azimuth direction and +/-1.35º in the elevation direction, and (ii) the transmit output of the terminal will be inhibited in less than 100 milliseconds should these tolerances be exceeded (whether by the motion of the aircraft or otherwise), and will not resume until the pointing of the terminal is again within these tolerances. Within these tolerances, the off-axis EIRP density limits of Section 25.138 will be met in the GSO plane. Notably, because the 3σ pointing error is only ±0.27º in azimuth, as a practical matter, the system should never require the cessation of transmissions due to azimuth pointing errors. Elevation pointing errors should only cause the terminal to cease transmissions less than 0.27% of the time.

I. PUBLIC INTEREST STATEMENT

As the Commission has acknowledged, explosive growth in mobile broadband use is occurring in the United States, driven by the rapid proliferation of laptops, smartphones, tablets and other mobile computing devices, and increasing consumer demand for high-bandwidth applications.[1] Indeed, mobile broadband has gained prominence on the national stage, as illustrated by President Obama's directive to the Commission to take action aimed at promoting mobile broadband services.[2] Moreover, the upsurge in consumer use of mobile data and the wide availability of Wi-Fi networks are accompanied by growing consumer expectations that they can be connected to the Internet everywhere, including while on board aircraft. In response to this demand, commercial airlines are seeking technologies that will allow their passengers to remain connected while in flight. ViaSat has developed a technology solution that meets this demand.

ViaSat's innovative antenna technology leverages its existing Ka band broadband satellite infrastructure for mobile applications. Deploying mobile platforms using existing Ka band GSO satellites is the logical evolution of the deployment of mobile applications over GSO Ku band satellites over the past decade. Indeed, it is now well-established in the industry and in the Commission's precedent that flexible use of GSO FSS spectrum resources for mobile platforms can be accomplished without causing any more interference than a traditional fixed antenna.[3] Specifically, the Commission has permitted aeronautical applications of Ku band FSS

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1 *See* Federal Communications Commission, *Connecting America: The National Broadband Plan* at 76-77 (2010) ("*National Broadband Plan*").

2 President Barack Obama, Memorandum for the Heads of Executive Departments and Agencies, "Unleashing the Wireless Broadband Revolution" (June 28, 2010), *available at* http://www.whitehouse.gov/the-press-office/presidential-memorandum-unleashing-wireless-broadband-revolution.

3 *See Panasonic Avionics Corporation, Application for Authority to Operate Up to 50 Technically Identical Aeronautical Mobile-Satellite Service Aircraft Earth Stations in the 14.0-14.4 GHz and 11.7-12.2 GHz Frequency Bands*, 26 FCC Rcd 12557 (2011) ("*Panasonic AMSS Order*"); *Row 44, Inc., Application for Blanket Authority to Operate up to 1,000 Technically Identical Aeronautical Mobile Satellite Service Transmit/Receive Earth Stations Aboard Commercial and Private Aircraft*, 24 FCC Rcd 10223 (2009) ("*Row 44 AMSS Order*"); *ViaSat Inc., Application for Blanket Authority for Operation of Up to 1,000 Technical Identical Ku-Band Aircraft Earth Stations in the United States and Over Territorial Waters*, 22 FCC Rcd 19964 (2007) ("*ViaSat AMSS Order*"); *ARINC Incorporated Application for Blanket Authority for Operation of up to One Thousand Technically Identical Ku-Band Transmit/Receive Airborne Mobile States Aboard Aircraft Operating in the United States and Adjacent Waters*, 20 FCC Rcd 7553 (2005) ("*ARINC AMSS Order*"); *Boeing Company Application for Blanket Authority to Operate Up to Eight Hundred Technically-Identical Transmit and Receive Mobile Earth Stations Aboard Aircraft in the 14.0-14.5 GHz and 11.7-12.2 GHz Frequency Bands*, 16 FCC Rcd 22634 (2001) ("*Boeing AMSS Order*"); *see also Vehicle-Mounted Earth Stations in Certain Frequency Bands Allocated to the Fixed-Satellite Service*, 24 FCC Rcd 10414

spectrum where no service-specific rules exist, by waiving the U.S. Table of Frequency Allocations.[4] Further, the ITU has recognized the increased use of GSO FSS networks to provide services to earth stations mounted on mobile platforms, including in the Ka band.[5]

ViaSat has proven its ability to provide mobile applications of the FSS without creating any increased risk of interference to other satellite networks. ViaSat has deployed an AMSS network using Ku band FSS spectrum and has provided technology to support ESV applications using Ku band FSS spectrum.[6] That Ku band mobile network today has a coverage area that spans the globe to support satellite communications on private jets and government aircraft, as well as ships and other ocean-going vessels. Based in part on that heritage technology, ViaSat has developed a Ka band terminal for aircraft that is designed for the high-capacity ViaSat-1 network. Just as ViaSat-1 and the associated Ka band ground-system technology fundamentally altered the economics of consumer-based satellite broadband services, this new terminal technology will fundamentally alter the economics of aeronautical broadband by enabling service over ViaSat-1 at a lower cost-per-bit than previously possible. Because it leverages ViaSat's existing Ka band network, the proposed mobile application of this technology can be deployed as early as fall of this year.

Grant of ViaSat's request for authority to deploy these antennas would promote the public interest. Specifically, these terminals will be critical to meeting the rapidly growing consumer demand for high-speed mobile broadband services on aircraft to support high-bandwidth applications over a myriad of mobile, Wi-Fi-enabled devices. Thus, grant of this application will advance the Commission's goals of ubiquitous broadband deployment, as well as the Obama Administration's directive to promote mobile broadband.

II. TERMINAL PERFORMANCE

Details regarding the proposed terminal operations are contained in the Technical Description attached as Attachment 1. As discussed therein, the terminals employ low-profile antennas mounted on aircraft and operate on the capacity of ViaSat's existing Ka band satellite network. The terminals will communicate with (i) ViaSat-1 in the 18.3-19.3 GHz, 19.7-20.2 GHz, 28.35-29.1 GHz and 29.5-30.0 GHz portions of the Ka band; (ii) WildBlue-1 in the 19.7-20.2 GHz and 29.5-30.0 GHz portions of the Ka band; and (iii) ANIK-F2 in the 19.7-20.2 GHz

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(2009); *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 (2005).

4 *See id.; see also Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 05-20, Notice of Proposed Rulemaking, 20 FCC Rcd 2906 (2005).

5 *Technical and operational requirements for GSO FSS earth stations on mobile platforms in bands from 17.3 to 30.0 GHz*, Rep. ITU-R S.2223 (Oct. 2011).

6 *See ViaSat AMSS Order*, modified IBFS File No. SES-MFS-20090624-00789 (granted June 24, 2010).

and 29.5-30.0 GHz portions of the Ka band. Each of these satellites is already being used to provide service in the United States in these frequency bands.[7]

As illustrated by the antenna patterns contained in Exhibit B and Exhibit C and discussed in the Technical Description, the antenna is consistent with the Section 25.138(a)(1) off-axis EIRP density levels in the GSO plane. However, the antenna exceeds the Section 25.138 levels in certain parts of the elevation plane. Specifically, the off-axis EIRP density of the main lobe exceeds the Section 25.138(a)(2) mask in the elevation plane. In addition, the off-axis EIRP density exceeds the mask at four discrete "grating" lobes in the elevation plane far removed from the main lobe. These grating lobes could intersect the GSO arc when aircraft are operated in a limited number of geographic areas such that the antenna is oriented at a skewed angle, relative to the satellite, of approximately 25 degrees. An illustration of the potential impact of these grating lobes is included in Exhibit C. As discussed below, ViaSat has coordinated the potential exceedances of the Section 25.138 off-axis EIRP density levels with all potentially affected GSO and NGSO systems.

Furthermore, the power flux-density at the earth's surface produced by emissions from each of the satellite points of communication is within the -118 dBW/m^2/MHz limit set forth in Section 25.138(a)(6). In fact, the interference profile of the downlinks to the proposed terminals from the satellite points of communication is no different from that of the "traditional" VSAT terminals already authorized on these satellite networks for consumer broadband services.

III. PROTECTION OF KA BAND OPERATIONS AND WAIVER REQUESTS

ViaSat's proposed mobile terminal operations are consistent with the Ka band allocations in the U.S. Table of Frequency Allocations (the "U.S. Table"). As an initial matter, operation of the proposed mobile terminals in the 19.7-20.2 GHz and 29.5-30.0 GHz bands is consistent with the co-primary MSS allocation in the U.S. Table. Although there are no service rules for MSS in these bands, the requirements of Section 25.138 could be applied by analogy. By demonstrating compliance with the requirements of Section 25.138, the proposed terminals thus could be deemed compatible with adjacent Ka band FSS satellite operations.

Moreover, as the Commission has recognized in the context of Ku band, ViaSat's proposed mobile operations essentially are an application of the FSS, which is allocated on a primary basis in the 18.3-19.3 GHz, 19.7-20.2 GHz, 28.35-29.1 GHz and 29.5-30.0 GHz bands. As explained above, the mobile terminals will operate within ViaSat's existing Ka band FSS network. Using a highly accurate pointing mechanism, the emissions from the terminals effectively will be fixed toward the satellite points of communication and would be no more interfering than any FSS application. However, to the extent necessary, ViaSat requests a waiver of the U.S. Table in these frequency bands to permit the proposed mobile terminals to operate as described in this application. In addition, ViaSat requests a waiver to allow these terminals to

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[7] *See* WB Holdings 1, LLC, Call Sign E050033, as modified by IBFS File No. SES-MOD-20101101-01387 (granted July 29, 2011).

operate in the 18.8-19.3 GHz portion of the band in the absence of a GSO allocation in that band segment.[8]

"Good cause" exists for the Commission to grant the requested waivers.[9] As an initial matter, such grant "would better serve the public interest than strict adherence to the general rule,"[10] in that the requested waivers would facilitate ViaSat's ability to provide new and innovative high-data rate communications services to aircraft. Grant of the requested waivers also would allow ViaSat to make more efficient use of Ka band frequencies and existing FSS satellite infrastructure to promote aeronautical mobile applications and to satisfy increasing demand for ubiquitous Internet connectivity.

At the same time, grant of the requested waivers "would not undermine the policy objective of the rule in question and would otherwise serve the public interest."[11] The Commission has granted waivers for non-conforming spectrum uses where a demonstration is made that the non-conforming operations would not likely cause harmful interference into the services authorized in Section 2.106 and where the non-conforming operator accepts any interference from conforming spectrum users.[12]

As a general matter, operation of the proposed terminals in the 18.3-19.3 GHz and 19.7-20.2 GHz downlink bands and the 28.35-29.1 GHz and 29.5-30.0 GHz uplink bands is compatible with the operation of GSO systems and NGSO systems in these band segments, as well as co-primary terrestrial allocations in segments of the downlink bands. Notably, ViaSat has either coordinated the proposed antenna with, or has received confirmation that the proposed antenna can be coordinated with, (i) all operating Ka band GSO satellite networks within six degrees of ViaSat-1 at 115.1º W.L. and WildBlue-1 and ANIK-F2 at 111.1º W.L., (ii) all potentially affected Ka band GSO satellite networks outside of the six-degree range, and (iii) the one potentially affected Ka band NGSO network.[13] ViaSat expects the parties to complete the formal coordination arrangements shortly.

ViaSat has completed coordination with O3b, which is the only relevant commercial NGSO system in the 18.8-19.3 GHz and 28.6-29.1 GHz band segments.

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8 47 C.F.R. § 2.106.

9 *See* 47 C.F.R. § 1.3.

10 *See WAIT Radio v. FCC*, 418 F.2d 1153, 1157 (D.C. Cir. 1969).

11 *Northeast Cellular Tel. Co. v. FCC*, 897 F.2d 1166 (D.C. Cir. 1990); *see also Fugro-Chance, Inc.*, 10 FCC Rcd 2860, at ¶ 2 (1995) (waiver of U.S. Table of Frequency Allocations appropriate "when there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the non-conforming operator accepts any interference from authorized services.").

12 *See, e.g., Panasonic AMSS Order, Row 44 AMSS Order, ViaSat AMSS Order*.

13 *See, e.g., Panasonic AMSS Order* at ¶ 19; *Row 44 AMSS Order* at ¶¶ 22-23 (in each case, relying on coordination arrangements entered into by satellite operators to grant waivers of the U.S. Table to allow mobile operations in the Ku band).

Significantly, the Commission has approved operation of blanket licensed VSAT terminals in these band segments to communicate with the ViaSat-1 satellite.[14] Those authorizations allow the spacecraft to operate (i) in the 28.6-29.1 GHz band on a secondary basis, and (ii) in the 18.8-19.3 GHz band on a non-conforming basis pursuant to a waiver of Section 2.106 of the Commission's rules, and specifically footnote NG165 thereto.

As explained below, ViaSat would ensure that its proposed terminal operations would not cause harmful interference into primary operations in each of these bands. ViaSat also would accept any harmful interference into its operations caused by primary uses. Because the proposed operation are consistent with the existing downlink power levels of ViaSat-1 at 115.1º W.L. and WildBlue-1 and ANIK-F2 at 111.1º W.L., ViaSat does not believe that any further coordination is required under US334, but ViaSat stands ready to engage in that coordination if required.

A. GSO FSS Operations

Section 25.132(a)(2) provides that transmitting earth stations operating in the 20/30 GHz band must demonstrate compliance with Section 25.138.[15] While there are no rules for mobile operations in the Ka band, operating the proposed terminals consistent with the technical parameters of Section 25.138 would ensure compatibility with satellite systems operating in the Ka band.[16] This approach is consistent with the ITU's recommendation in Report ITU-R S.2223 that GSO FSS earth stations on mobile platforms in bands from 17.3-30.0 GHz comply with the off-axis e.i.r.p. limits coordinated with neighboring satellite networks.

The Commission has acknowledged the potential for mobile satellite services in the Ka band to be able to coexist with FSS. When the Commission designated the 19.7-20.2 GHz and 29.5-30.0 GHz bands for GSO FSS, it maintained the MSS co-primary allocation in the U.S. Table of Frequency Allocations because it believed "that the development of technology may enable these two different types of systems to co-exist in the same frequencies in the future."[17] As in the case of the Ku band, mobile systems can operate on FSS platforms in the Ka band without causing harmful interference to FSS operations. Moreover, as discussed above, ViaSat has coordinated the proposed antenna, or will soon complete such coordination, with all potentially impacted satellite operators. The Commission has found coordination to be adequate

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14 *See* File Nos. SAT-LOA-20110722-00132, as amended (granted Oct. 14, 2011); SAT-LOI-20080107-00006, as amended (granted Aug. 18, 2009) ("ViaSat-1 Authorization"); *see also* File Nos. SES-LIC-20101217-01585; SES-AMD-20110128-00074, Call Sign E100143 (granted Oct. 20, 2011) ("Ka band Blanket License").

15 47 C.F.R. § 25.132(a)(2).

16 *See, e.g., Row 44 AMSS Order* at ¶ 23 (applying an approach analogous to that set forth in Section 25.220 to evaluate a Ku band aeronautical earth station antenna).

17 *Rulemaking to Amend Parts 1, 2, 21, and 25 of the Commission's Rules to Redesignate the 27.5-29.5 GHz Frequency Band, to Reallocate the 29.5-30.0 GHz Frequency Band, to Establish Rules and Policies for Local Multipoint Distribution Service and for Fixed Satellite Services*, First Report and Order, 11 FCC Rcd 19005 ¶ 85 (1996).

in the context of Ku band mobile aeronautical operations and that such satellite operators are capable of assessing the potential interference impact of such mobile operations.[18]

ViaSat demonstrates in the Technical Description how the pointing mechanism and transmit power control make mobile operations possible in the 18.3-18.8 GHz, 19.7-20.2 GHz, 28.35-29.1 GHz and 29.5-30.0 GHz bands without causing harmful interference into adjacent networks. Thus, the proposed terminal operations are compatible with and will not cause harmful interference into FSS systems. As described above and in the Technical Description, the proposed antenna complies with the Section 25.138 EIRP spectral density limits in the GSO plane. Further, the antenna control unit and closed loop tracking system allow the terminal to be pointed accurately at the satellite while in motion, thereby protecting adjacent satellite operations. Namely, ViaSat will ensure that (i) these terminals remain pointed at the intended satellite with a maximum pointing error of +/-0.5º in the azimuth direction and +/-1.35º in the elevation direction, and (ii) the transmit output of the terminal will be inhibited in less than 100 milliseconds should these tolerances be exceeded (whether by the motion of the aircraft or otherwise), and will not resume until the pointing of the terminal is again within these tolerances. Within these tolerances, the off-axis EIRP density limits of Section 25.138 will be met in the GSO plane. Notably, because the 3σ pointing error is only ±0.27º in azimuth, as a practical matter, the system should never require the cessation of transmissions due to azimuth pointing errors. Elevation pointing errors should only cause the terminal to cease transmissions less than 0.27% of the time.[19]

The antenna does not comply with the Section 25.138(a)(2) EIRP spectral density limits in certain areas of the elevation plane. However, ViaSat satisfies the requirements of Section 25.138(b) to ensure that adjacent GSO systems are adequately protected from any higher power operations. The antenna pattern shows off-axis exceedances for the main lobe and four grating lobes along the elevation axis and well outside of the GSO. GSO FSS networks will never be impacted by the exceedance of the main lobe along the elevation axis, and the grating lobes would intersect the GSO arc only when the aircraft is traveling within certain geographic locations in which the GSO arc appears skewed with respect to the local horizon of the antenna, or when the aircraft is banking at certain angles while in flight. Due to the high speeds at which aircraft travel, any intersection of a grating lobe with the GSO arc likely would be fleeting. Moreover, due to the large off-axis angles where these grating lobes occur, the actual level of interference to any GSO satellite is well below the 6% delta T/T threshold that triggers satellite coordination.

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18 *Row 44 AMSS Order at* ¶¶ 22, 23 (declining to address concerns raised regarding adjacent satellite interference because Row 44 resolved interference issues through coordination with all potentially affected satellite operators, consistent with the Commission's general preference for licensing procedures that do not unreasonably interfere with business negotiations and market mechanisms).

19 The Commission has previously approved Ku band AMSS operations on systems that inhibited transmissions within 100 ms for pointing errors exceeding 0.5º. *See, e.g., Panasonic AMSS Order* at ¶ 6; *Row 44 AMSS Order* at ¶ 6.

Based on an analysis of worst-case assumptions, ViaSat determined that ViaSat-1 and AMC-16 (at 85º W.L.) are the only GSO FSS satellite networks that would be potentially affected by these grating lobes.[20] ViaSat has self-coordinated its own operations on ViaSat-1 and has coordinated with SES, the operator of AMC-16. Although the delta T/T for the AMC-16 satellite arising from the worst-case assumptions regarding these grating lobes is less than 2 percent, ViaSat is coordinating its operation of the terminals with the operations on AMC-16 out of an abundance of caution. SES has confirmed that the proposed terminal operations can be coordinated, and ViaSat expects the parties to complete the formal coordination arrangements shortly. But in any event, ViaSat is the lessee of all of the capacity on AMC-16 and is the only party that could be affected.

Also in accordance with Section 25.138(b), ViaSat provides in the Technical Description the link budget analysis of operations proposed that exceed the levels in Section 25.138. As shown by that analysis, there are no margin shortfalls for clear sky operations as a result of those higher power operations.

B. NGSO FSS Operations in the 18.8-19.3 GHz and 28.6-29.1 GHz bands

Pursuant to the terms of the Commission's authorization of ViaSat-1, operation of the GSO FSS system in the 28.6-29.1 GHz band is on a secondary allocation, and in the 18.8-19.3 GHz band is on a non-conforming basis.[21] The Commission has approved operation of the ViaSat-1 satellite in these bands, and has acknowledged that ViaSat can operate in these bands while protecting the primary NGSO FSS operations.[22] The same, previously-approved capability of ViaSat-1 to cease operations in these bands in the event of an in-line event between ViaSat's communications and the NGSO system's communications will also avoid interference from communications with proposed terminals into NGSO systems. Each of the proposed terminals will be dynamically controlled and can shut down operations in the bands in which NGSO systems have priority when an NGSO satellite is within the minimum line-of-sight separation angle established through coordination.

As discussed in the Technical Description and summarized above, while the sidelobes of the proposed antenna exceed the Section 25.138(a)(2) limits in the elevation plane at the main lobe and at the four discrete points identified. ViaSat has coordinated the operation of the proposed antenna with O3b, which currently is the only potentially impacted NGSO FSS system. ViaSat will coordinate its aeronautical terminal operations with any future potentially affected NGSO applicants.

C. Terrestrial Coordination

When the Commission adopted allocations for the Ka band, it established sunset provisions for the co-primary status of certain terrestrial users in the FSS downlink bands in

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20 *See* Technical Description for additional detail regarding the analysis.

21 *See* ViaSat-1 Authorization.

22 *See id.* at Attach. ¶ 5; *see also* Ka band Blanket License.

order to protect and facilitate deployment of FSS operations.[23] Terrestrial microwave users maintain co-primary status in the 18.3-18.58 GHz band until November 18, 2012.[24] In accordance with the blanket licensing rules, no coordination with terrestrial or other users is required on the GSO frequencies. The mobile nature of the proposed terminals does not change the satellite downlinks from ViaSat-1, WildBlue-1 and ANIK-F2. The power flux-density at the earth's surface produced by emissions from each of the satellite points of communication are within the -118 dBW/m^2/MHz limit set forth in Section 25.138(a)(6). Therefore, the RF environment in which the grandfathered terrestrial users operate will not change as a result of the proposed terminal operations.

Moreover, ViaSat may either accept any potential for interference from the co-primary terrestrial users until the sunset date, or relocate such users. ViaSat will accept the potential for interference from such users until the relevant sunset date.

IV. BLANKET LICENSING OF TERMINALS

Because ViaSat's proposed operations are consistent with the policies underlying Section 25.138, which establishes the requirements for routine processing of blanket-licensed Ka band terminals, a waiver of Section 25.138 is unnecessary for blanket licensing of the proposed terminals.[25] Moreover, blanket licensing as proposed here is fully consistent with the Commission's precedent. The Commission has implemented blanket licensing procedures on a case-by-case basis (and in the absence of service rules) where circumstances have warranted such an approach.[26] The Commission's policy justifications underlying its adoption of blanket

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23 *See*, *e.g.*, *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Serv. Use*, 16 FCC Rcd 19808, at ¶ 23 (2001)

24 *See id.*

25 *See The Boeing Company Application for Blanket Authority to Operate up to Eight Hundred Technically Identical Receive-Only Mobile Earth Stations Aboard Aircraft in the 11.7-12.2 GHz Frequency Band,* 16 FCC Rcd 5864, at ¶ 10 (2001) (concluding that a waiver was unnecessary for blanket licensing of Ku band aeronautical terminals that were consistent with the requirements for routine processing of VSAT networks).

26 For instance, the Commission granted blanket authority for an earth station fleet prior to the adoption of the Ku band blanket licensing rules in a scenario where significant burdens would have resulted if the prospective licensee were required to submit, and the Commission were required to process, hundreds of individual license requests. *See*, *e.g.*, *Applications of Schlumberger Tech. Corp.; For Authority to Construct and Operate a Fleet of 500 Transportable, Temporary Fixed Earth Stations, and to Construct Associated Fixed Earth Stations in the Domestic Fixed-Satellite Serv.*, Order and Authorization, File Nos. 1462-DSE-P/L-(500)-83, 1463-DSE-P-(50)-83, 1464-DSE-P-83, 1984 FCC LEXIS 2569 ¶ 14 (rel. June 7, 1984) ("*Schlumberger Blanket License*"). The Commission adopted blanket licensing procedures more than two years after it issued the

earth station licensing procedures in rulemaking proceedings and declaratory rulings are equally applicable to the subject application. Allowing processing flexibility in this case will promote the expanded use of spectrum and the rapid development and deployment of new technologies.[27] Such an approach serves the public interest by reducing administrative costs and delays and by accelerating system deployment, which facilitates the delivery of service to end users.[28] Blanket licensing of the proposed terminals will speed the delivery of mobile broadband services to consumers on commercial aircraft. Therefore, flexibility in processing this application is warranted and is consistent with recent precedent.[29]

V. RADIATION HAZARD ANALYSIS

A radiation hazard analysis for the proposed antenna is attached hereto as Exhibit D. As demonstrated by the results of the analysis, the maximum permissible exposure limits (MPE) for protection of both General Population/Uncontrolled Environment and Occupational/Controlled Environment exposures are met. The automatic shut-down capabilities described in the analysis, coupled with the terminal's use of uplink power control and non-continuous operation, ensures that the general population will not be exposed to harmful levels of electromagnetic radiation.

Schlumberger Blanket License. *See 12/14 GHz Blanket Licensing Order*, 1986 FCC LEXIS 3692.

27 *See*, *e.g.*, *Redesignation of the 17.7-19.7 GHz Frequency Band, Blanket Licensing of Satellite Earth Stations in the 17.7-20.2 GHz and 27.5-30.0 GHz Frequency Bands, and the Allocation of Additional Spectrum in the 17.3-17.8 GHz and 24.75-25.25 GHz Frequency Bands for Broadcast Satellite-Serv. Use*, Second Order On Reconsideration, 17 FCC Rcd 24248 ¶ 20 (2002) ("*Ka-Band Blanket Licensing Order*"); *Routine Licensing of Large Networks of Small Antenna Earth Stations Operating in the 12/14 GHz Frequency Bands*, Order, 1 FCC Rcd 1162 ¶¶ 3-5 (1986).

28 *See Ka-Band Blanket Licensing Order*, 17 FCC Rcd 24248 ¶ 20; *Routine Licensing of Large Networks of Small Antenna Earth Stations Operating in the 12/14 GHz Frequency Bands*, Declaratory Order, 1986 FCC LEXIS 3692 ¶ 6 (rel. Apr. 9, 1986) ("*12/14 GHz Blanket Licensing Order*").

29 *See, e.g.*, Ka Band Blanket License.