



Exhibit A

Description of Application for Ka-band

By this application, Viasat, Inc. ("Viasat") seeks a license to deploy ten-thousand 1.2 m, 0.6 m, and 0.65 m (each) temporary fixed earth station antennas to operate in the 28.35 – 29.1 GHz, 29.5 – 30 GHz, 17.7 – 19.3 GHz, and 19.7 – 20.2 GHz portions of the Ka band.

1. Network

Viasat will deploy the new temporary fixed earth stations on existing Ka-band networks with Ka-band space stations that have been previously authorized by the Commission. The earth stations will communicate with Viasat's currently operational Ka-band satellite fleet, comprised on ViaSat-1, ViaSat-2, WildBlue-1, Anik-F2, and Galaxy 28. Viasat also seeks authority to include ViaSat-3 as a point of communication.¹ The Commission has already authorized each of these satellites to serve the United States.

2. Request to Add Three New Temporary Fixed Earth Stations

The HAWKEYE™ III LITE ("Hawkeye") is a 1.2 m parabolic VSAT. The Viasat AN/TSC-241 Multi-mission Terminal ("MMT") is an offset fed 0.6 m circular aperture antenna. The Taranis AutoAQYR™ ("Taranis") SATCOM terminal is a 0.65 m Gregorian dual optics antenna, auto positioner, and integrated RF components.

Viasat requests to operate the Hawkeye, MMT, and Taranis satellite terminals on Viasat's existing Ka-band satellite networks. The antennas may be used by the government as well as expanded use for commercial capabilities.

Each earth station antenna complies with Section 25.218. Exhibit B includes the antenna EIRP patterns, which demonstrate compliance with the applicable off-axis EIRP density levels. The input power in Hawkeye and Taranis terminals type will not exceed 25 W and is reduced to 10 W for MMT to avoid exceedances. Therefore, the antennas are compliant.

The radiation hazard analysis, attached as Exhibit C, demonstrates the operation of the proposed earth stations will satisfy the maximum permissible exposure limit (MPE) for /Controlled environments, as the power densities are below 5 mW/cm² average over a 6-minute period with the exception of at the antennas' surfaces. The antennas will be operated in controlled environments only. Additionally, a fail-safe feature greatly reduces the chance of human exposure between the feed and the reflector surface.

¹ VIASAT-3 (Call Sign S2917) and VIASAT-89US (Call Sign S3050), are collectively referred to as "ViaSat-3."

3. Satellite Points of Communication and Geographic Service Area

Viasat seeks to include the following satellites as points of communication for these antennas. All satellites are authorized by the Commission, either U.S.-licensed or authorized to serve the U.S. in the all or a portion of the Ka-band frequencies included in this application.

- ViaSat-1², located at 115.1° W.L., at 18.3-19.3 GHz and 19.7-20.2 GHz (downlink) and 28.35-29.1 GHz and 29.5-30 GHz (uplink).
- ViaSat-2³, located at 69.9° W.L., at 17.7-19.3 GHz and 19.7-20.2 GHz (downlink) and 28.35-29.1 GHz and 29.5-30 GHz (uplink).
- WildBlue-1 and Anik-F2⁴, located at 111.1° W.L., at 19.7-20.2 GHz (downlink) and 29.5-30 GHz (uplink).
- Galaxy 28⁵, located at 89.0° W.L., at 19.7-20.2 GHz (downlink) and 29.5-30 GHz (uplink).
- ViaSat-3⁶, which will be located at 88.9° W.L., at 17.7-19.3 GHz and 19.7-20.2 GHz (downlink) and 28.35-29.1 GHz and 29.5-30 GHz (uplink).

Each earth station type may be deployed at fixed locations throughout the coverage area of the specified satellite points of communication, including CONUS, Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands.

4. Compatibility with Co-Frequency Operations

a. GSO Operations

The Hawkeye, MMT, and Taranis earth station types comply with the off-axis EIRP density envelopes in Section 25.218 of the FCC's rules, as demonstrated by the patterns provided in Exhibit B, in accordance with Section 25.115(g)(1) of the FCC's rules. Therefore, the earth stations are fully two-degree compliant in each of the requested bands.

b. NGSO Operations

The ViaSat-1, ViaSat-2 and ViaSat-3 satellites are authorized to operate in the 18.8-19.3 GHz and 28.6-29.1 GHz frequency bands on a secondary basis with respect to NGSO FSS systems. NGSO systems are designated as primary in the U.S. in these frequencies. Viasat has provided extensive technical analyses demonstrating that Viasat earth station operations in the Shared Bands would not

² See Call Sign S2747; IBFS File Nos. SAT-LOA-20110722-00132; SAT-LOI-20080107-0006, as amended.

³ See Call Sign S2902; IBFS File Nos. SAT-LOI-20130319-00040; SAT-MOD-20141105-00121; SAT-AMD-0150105-00002; SAT-MOD-20160527-00053 ("ViaSat-2 Authorization").

⁴ See Call Sign E050033; IBFS File Nos. SES-LIC-20050207-00154 (authorizing earth stations to communicate at 19.7-20.2 GHz and 29.5-30 GHz with Anik-F2); SES-MFS-20060811-01347 (authorizing earth stations to communicate at 19.7-20.2 GHz and 29.5-30.0 GHz with WildBlue-1).

⁵ See Call Sign S2160; IBFS File Nos. SAT-MOD-20050422-00089; SAT-ASG-201305 15-00070 (assigning authorization for Ka band payload of Galaxy 28 to ViaSat).

⁶ See Call Sign S2917, IBFS File Nos. SAT-LOI-20140204-00013, SAT-AMD-20140218-00023 (granted June 18, 2014); SAT-MOD-20150618-00037 (granted Oct. 21, 2015); SAT-MOD-20190617-00047 (granted May 28, 2020); Call Sign S3050, IBFS File No. SAT-LOA-20190617-00048 (granted May 27, 2020). VIASAT-3 (Call Sign S2917) and VIASAT-89US (Call Sign S3050), are collectively referred to as "ViaSat-3."

cause harmful interference to NGSO systems operating within their expected parameters.⁷ Consistent with those analyses, the earth station operations proposed in this application would not cause harmful interference into NGSO systems in the 18.8-19.3 GHz downlink band and the associated 28.6-29.1 GHz uplink band.

Consistent with existing authorizations⁸, Viasat GSO operations at 18.8 - 19.3 GHz shall not cause harmful interference to, nor claim protection from, present and future Federal, non-Federal, GSO and NGSO systems or any non-conforming services previously authorized on a non-harmful interference basis.

c. Fixed Service and BSS

The 17.7-18.3 GHz band segment is allocated on a primary basis for fixed services. The 17.8-18.3 GHz portion of this band segment is allocated for FSS on a secondary basis with respect to fixed services. The 17.7-17.8 GHz portion of the band segment is allocated to FSS on a co-primary basis, but this FSS allocation is limited by footnote US271 to broadcasting-satellite service ("BSS") feeder links in the Earth-to-space direction.⁹

In seeking market access for ViaSat-2 and ViaSat-3, Viasat demonstrated that its FSS downlinks in the 17.7-18.3 GHz band segment are compatible with primary fixed service operations and neighboring BSS operations.¹⁰ More specifically, Viasat demonstrated that downlink transmissions from ViaSat-2 and ViaSat-3 will be within the power-flux density limits at the earth's surface set forth in Article 21 of the ITU Radio Regulations and would not cause harmful interference into primary fixed service operations throughout the 17.7-18.3 GHz band segment.¹¹

Because the 17.7-17.8 GHz band segment is not allocated for the FSS downlinks proposed in the application, Viasat requests a waiver of the U.S. Table to the extent necessary to permit communications in this band segment on a non-conforming basis.¹² Viasat notes that the Commission has sought comment on a proposal to adopt an allocation for GSO FSS (space-to-Earth) in the 17.7-17.8 GHz band

⁷ See Petition for Partial Reconsideration of Viasat, Inc., IBFS File No. SES-LIC-20170401-00357, Exh.1 (Dec. 11, 2017); Reply of Viasat, Inc., IBFS File No. SES-LIC-20170401-00357, Att. 1 (Jan. 8, 2018); Consolidated Opposition to Petition and Response to Comments of Viasat, Inc., IBFS File No. SES-MOD-20200923-01031, Technical Annex (filed Apr. 29, 2021)

⁸ See Call Sign S2747, IBFS File Nos. SAT-LOI-20080107-00006, SAT-AMD-20080623-00131, and SAT-AMD20090213-00023 (ViaSat-1 granted, with conditions, on Aug. 18, 2009); Call Sign S2902, IBFS File No. SAT-MOD-20160527-00053 (ViaSat-2 granted, with conditions, on Jan. 12, 2017); Call Sign S2917, IBFS File No. SAT-MOD-20190617-00047 (ViaSat-3 granted, with conditions, on May. 28, 2020).

⁹ See 47 C.F.R. § 2.106 n.US271

¹⁰ See Viasat, Inc., File No. SAT-MOD-20160527-00053, Call Sign S2902, Technical Annex at 7-10 (filed May 27, 2016) ("ViaSat-2 Technical Attachment"); Viasat, Inc., IBFS File No. SAT-MOD-20190617-00047, Call Sign S2917, Attachment A, at 13-16 (granted May 28, 2020) ("ViaSat-3 Technical Attachment").

¹¹ See ViaSat-2 Technical Attachment at 7-8; ViaSat-3 Technical Attachment at 6-7.

¹² The Commission granted a similar waiver in authorizing ViaSat-2 and ViaSat-3 after Viasat demonstrated that downlinks at 17.7-17.8 GHz would not cause harmful interference into primary fixed service operations or neighboring BSS spacecraft. There is "good cause" for a corresponding waiver to allow the earth station at issue here to receive those same downlinks, as such waiver would have no impact on the authorized RF environment and otherwise would be consistent with the Commission's prior decision. See 47 C.F.R. § 1.3; *Fugro-Chance, Inc.*, 10 FCC Rcd 2860, at ¶ 2 (1995) (waiver of U.S. Table appropriate "when there is little potential for interference" into conforming services and "the non-conforming operator accepts any interference from [such] services").

on a secondary basis with respect to fixed services,¹³ and requests authority to operate in this band consistent with any allocation that the Commission may adopt for GSO FSS in that proceeding.

¹³ See *Amendment of Parts 2 and 25 of the Commission's Rules to Enable GSO Fixed-Satellite Service (Space-to-Earth) Operations in the 17.3-18.8 GHz Band, to Modernize Certain Rules Applicable to 17/24 GHz BSS Space Stations, and to Establish Off-Axis Uplink Power Limits for Extended Ka-Band FSS Operations*, Notice of Proposed Rulemaking, 35 FCC Rcd 13239, at ¶ 20 (2020).