

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of

Application of UltiSat Inc. for 60-Day)	
Special Temporary Authorization (“STA”))	Call Sign: N/A
to Operate Ku-band Earth Station Aboard)	
Aircraft (“ESAA”) Terminals)	File No. SES-STA-

APPLICATION FOR SPECIAL TEMPORARY AUTHORIZATION

UltiSat Inc. (“UltiSat”), pursuant to Section 25.120 of the Commission’s rules, 47 C.F.R. § 25.120, respectfully requests 60-day special temporary authorization (“STA”) to operate state-of-the-art earth stations aboard aircraft (“ESAA”) terminals to provide intelligence, surveillance, and reconnaissance (“ISR”) services supporting United States Government (“USG”) security operations. UltiSat requests this 60-day STA as an extension of its existing authority to operate up to 10 ESAA terminals – the Skytech Model BB45 (“BB45”) – in the 14.2-14.47 GHz (Earth-to-space)¹ and 11.7-12.2 GHz (space-to-Earth) bands to deliver mission-critical ISR support for USG customers.² As described in the following sections, grant of this request will serve the public interest and is consistent with Section 25.227 of the Commission’s rules, 47 C.F.R. § 25.227, governing ESAA operations.

UltiSat is concurrently filing an application for a Ku-band ESAA blanket license requesting long-term commercial authority to operate a large number of BB45 terminals

¹ UltiSat does not seek authority to operate in the 14.0-14.2 GHz band to ensure no harmful interference into existing NASA TDRSS facilities on Guam or White Sands, New Mexico. Similarly, UltiSat is not requesting authority to operate in the 14.47-14.5 GHz band in order to protect the radioastronomy observatories listed in Section 25.226(d)(2) of the Commission’s rules.

² See *UltiSat Inc.*, File No. SES-STA-20180621-01477 (“*Existing 60-Day STA*”).

consistent with the Commission’s ESAA rules.³ The instant application is filed out of an abundance of caution to ensure continuity of operations while giving the Commission sufficient time to process the *Blanket License Application*.

Based on previous consultations with the Commission staff, UltiSat understands that this timely filed extension request will effectively extend its existing temporary authority until the Commission acts on the request,⁴ affording sufficient time for processing this request and/or enabling the Commission to concurrently process long-term commercial authority requested in UltiSat’s *Blanket License Application*. To the extent affirmative grant of this STA application is contemplated rather than an auto-extension and focus on requested long-term authority, UltiSat notes that the *Existing 60-Day STA* expires on September 3, 2018 and would seek a follow-on grant by that date.

I. BACKGROUND

UltiSat, an existing FCC licensee that provides diverse satellite services for government and commercial customers, currently holds an experimental STA to evaluate the functionality and performance of the BB45 terminal,⁵ as well as a commercial 60-day STA to operate the BB45 terminal in the Ku-band with a limited number of U.S.-licensed and foreign-licensed geostationary satellite orbit (“GSO”) fixed-satellite service (“FSS”) satellites authorized by the Commission.⁶ The *Existing 60-Day STA* currently permits the full operation of the terminal to provide immediate mission support to its USG customers in advance of the pending *Blanket*

³ See Application of UltiSat Inc. for a Ku-band Earth Station Aboard Aircraft (“ESAA”) Blanket License, filed July 24, 2018 (“*Blanket License Application*”).

⁴ See 47 C.F.R. §§ 25.120, 25.161(b), 25.163(b); see also §1.955(b).

⁵ See *UltiSat Inc.*, File No. 0201-EX-ST-2018, WM9XHN (“*Experimental STA*”).

⁶ See *UltiSat Inc.*, File No. SES-STA-20180621-01477 (“*60-Day STA*”).

License Application for regular commercial authority to operate the terminal. The operations proposed herein are identical to those previously approved by the Commission in the *Existing 60-Day STA*, which have raised no potential interference or other issues, and will allow UltiSat to continue to support important national security missions.

Due to the highly sensitive nature and security implications of the proposed operations, UltiSat respectfully refers the Commission to certain information relating to its government contract and project scope provided in the *Experimental STA* docket, which has been treated as confidential.⁷ Along with the technical and operational description included in this STA application, the USG contract and operational scope information establishes the pressing need for continuing operating authority.

UltiSat provides FCC Form 312 Schedule B and Technical Appendix for information relating to the proposed ESAA operations. As demonstrated in these materials, UltiSat will operate the BB45 terminal consistent with Section 25.227 of the Commission's rules governing ESAA operations, 47 C.F.R. § 25.227, and will otherwise operate consistent with Commission policy.

II. DISCUSSION

A. Description of Temporary Operations

The operations described herein are identical to UltiSat's current operations, as approved by the Commission in the *Existing 60-Day STA*. The BB45 terminal is an airborne stabilized antenna system that provides high-quality broadband satellite communications for aeronautical application and is designed to operate in FSS frequencies to provide mission-critical delivery of voice, video and data communications. The antenna is mechanically steerable and is intended for tail or fuselage-mounting. UltiSat operates the BB45 ESAA terminal on certain U.S.-registered

⁷ See *Experimental STA*, Confidential Treatment Request & Exhibit 1.

aircraft for near-term, mission-critical ISR applications. This STA will allow UltiSat to continue commercial integration of the terminal into multiple aircraft and avoid disruption in services for U.S. government operations relating to national security and safety.

At all times, UltiSat operates the BB45 terminal within the off-axis EIRP spectral density (“ESD”) limits set forth in Section 25.227 of the Commission’s rules. Specifically, UltiSat operates the BB45 terminal at off-axis ESD levels that are compliant with the Commission’s two-degree spacing policy and thus it protects co-frequency operations from harmful interference.⁸ In addition, the BB45 terminal: (i) meets the pointing accuracy requirements of Section 25.227(a)(1)(ii)(A) with a pointing accuracy of less than or equal to 0.2° between the orbital location of the target satellite and the axis of the main lobe of the ESAA antenna; (ii) automatically ceases emissions within 100 milliseconds if the angle between the orbital location of the target satellite and the axis of the main lobe of the ESAA antenna exceeds 0.5°; and (iii) does not resume transmissions until such angle is less than or equal to 0.2°.

UltiSat operates the BB45 ESAA terminal with the following U.S.-licensed and U.S.-authorized GSO FSS satellites:

Table 1. List of Satellite Points of Communications

Satellite	FCC Call	Orbital	Licensing
AMC-21	S2676	124.9° W	Gibraltar
EUTELSAT 115WB	S2938	114.9° W	Mexico
EUTELSAT 117WA	S2873	116.8° W	Mexico
Intelsat-29e	S2913	50° W	U.S.
SES-2	S2826	87° W	U.S.
SES-15	S2951	129.15° W	Gibraltar
Sky B-1	S2922	43.15° W	U.S.

⁸ In the Technical Appendix, UltiSat provides off-axis ESD plots pursuant to Section 25.227 of the Commission’s rules, 47 C.F.R. § 25.227, demonstrating compliance with the Commission’s ESD mask for Ku-band ESAAs.

The operating parameters of each proposed satellite point of communications have been previously reviewed and approved by the Commission,⁹ and support UltiSat's operations throughout the United States for USG national security projects. Coverage maps for these satellites have been included in the attached Technical Appendix. UltiSat operates the terminals in U.S. and international airspace, and potentially foreign airspace subject to compliance with the regulations of overflown nations governing Ku-band ESAA operations.

UltiSat maintains control of all transmissions and will cease transmissions immediately upon request of the satellite operator or other notice of potential interference. The UltiSat point of contact with control over the proposed ESAA operations is:

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B. Public Interest Considerations

UltiSat's operations serve the public interest by permitting continuing support for national security missions and promoting real-world implementation of the solutions being developed under the *Experimental STA*. In addition, the authority granted by the Existing 60-Day STA allows integration of UltiSat's service and equipment with practical government applications and operations. The public interest will also be served by facilitating UltiSat's ability to continue to

⁹ Each of these satellites has been previously authorized by the Commission to operate in the United States. See Approved Space Station List, <http://transition.fcc.gov/ib/sd/se/ssal.xlsx> (last updated on June 29, 2018), available at: <https://www.fcc.gov/approved-space-station-list>.

provide advanced, versatile and easily deployable ESAA terminal solutions for U.S. government entities to the benefit of the U.S. public.

III. CONCLUSION

In view of the foregoing, the public interest would be served by a grant of the requested 60-day STA to allow UltiSat to operate the BB45 ESAA terminals to support USG customers, as an extension of the authority already conveyed in the *Existing 60-Day STA*.