

**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 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 a state-of-the-art earth station aboard aircraft (“ESAA”) terminal to provide intelligence, surveillance, and reconnaissance (“ISR”) services supporting United States Government (“USG”) security operations. UltiSat seeks this STA for a period of 60 days, commencing on June 26, 2018 or as soon as practicable thereafter, to operate up to 10 ESAA terminals – the Skytech Model BB45 (“BB45”) – in the 14.2-14.47 GHz (Earth-to-space)<sup>1</sup> and 11.7-12.2 GHz bands to deliver immediate, mission-critical ISR support for USG customers. 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.

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<sup>1</sup> 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 does not seek 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.

## 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 in the Ku-band with certain U.S.-licensed and foreign-licensed geostationary satellite orbit (“GSO”) fixed-satellite service (“FSS”) satellites licensed and/or authorized by,<sup>2</sup> in compliance with the Commission’s ESAA rules and two-degree spacing policies.. As a result of successful tests and demonstrations of the BB45, UltiSat seeks the instant 60-day STA to permit full operation of the terminal to provide immediate mission support to its USG customers, and plans to file an application for long-term ESAA blanket license authority shortly. The operations proposed herein are identical to those previously approved by the Commission in the *Experimental STA*, which have caused no interference issues, and will allow UltiSat to provide near-term support for 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 that has been treated as confidential.<sup>3</sup> Along with the technical and operational description included in this STA application, the USG contract and operational scope information establishes the pressing need for near-term operating authority.

UltiSat provides a draft 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

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<sup>2</sup> See *UltiSat Inc.*, File No. 0201-EX-ST-2018, WM9XHN (“*Experimental STA*”).

<sup>3</sup> See *Experimental STA*, Confidential Treatment Request & Exhibit 1.

governing ESAA operations, 47 C.F.R. § 25.227, and will otherwise operate consistent with Commission policy.

## **II. DISCUSSION**

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 seeks to operate the BB45 ESAA terminal on certain U.S.-registered aircraft for near-term, mission-critical ISR applications. This STA will allow UltiSat to begin commercial integration of the terminal into multiple aircraft and immediately commence services for U.S. government operations relating to national security and safety.

At all times, UltiSat will operate 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 will operate the BB45 terminal at off-axis ESD levels that are compliant with the Commission’s two-degree spacing policy and thus it will protect co-frequency operations from harmful interference.<sup>4</sup> In addition, the BB45 terminal proposed herein: (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

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<sup>4</sup> In the Technical Appendix, UltiSat provides off-axis ESD plots pursuant to Section 25.115(g)(1) of the Commission’s rules, 47 C.F.R. § 25.115(g)(1), demonstrating compliance with the Commission’s ESD mask.

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

**Table 1. List of Proposed Satellites**

Satellite	FCC Call Sign	Orbital Location	Licensing Administration
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.

The operating parameters of each proposed satellite point of communication have been previously reviewed and approved by the Commission,<sup>5</sup> and will support UltiSat’s operations throughout the United States for USG national security projects. Coverage maps for these satellite have been included in the attached Technical Appendix. UltiSat seeks to operate the terminals in U.S. and international airspace, and potentially foreign airspace subject to compliance with the regulations of overflowed nations governing Ku-band ESAA operations.

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<sup>5</sup> 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 May 11, 2018), available at: <https://www.fcc.gov/approved-space-station-list>.

UltiSat will maintain 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:

NOC, UltiSat, Inc.  
Attn: Tim Wiegand  
708 Quince Orchard Rd., Suite 120  
Gaithersburg, MD, 20878, USA  
[NOC@ultisat.com](mailto:NOC@ultisat.com)  
+1.240.243.5138 (Office)  
+1 240.949.6011 (Skype)

#### **A. STA Request & Public Internet Considerations**

UltiSat respectfully requests this 60-day STA pursuant to Section 25.120 of the Commission's rules, 47 C.F.R. §25.120. Section 25.120(a) provides that STA requests should be filed at least three working days prior to the date of commencement of the proposed operations. Here, UltiSat seeks a commencement date of June 26, 2018. Further, UltiSat believes this application involves "extraordinary circumstances" (i.e., the immediate need for a USG customers to commence mission-critical ISR operations after successful demonstration and testing), and requests that the Commission authorize operations under this STA at the earliest practicable time.<sup>6</sup>

The unique circumstances here, including that the proposed operations are currently authorized in the *Experimental STA*, warrant temporary authority for near-term BB45 operations. Additionally, the Commission may grant a 60-day STA if the STA request has not been placed on public notice and the applicant plans to file a request for regular authority for the operations.

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<sup>6</sup> See 47 C.F.R. § 25.120(a). The Commission may authorize UltiSat to commence operations under this STA sooner than three working days "upon due showing of extraordinary reasons for the delay." As discussed herein, given the unique and unpredictable circumstances of this request an expedited grant of this STA is warranted.

UltiSat plans to file an application for long-term authority to permit regular commercial operation of the BB45 terminal.

UltiSat proposed operations will serve the public interest by permitting the immediate support for national security missions and promote real-world implementation of the solutions being developed under the *Experimental STA*. In addition, grant of the requested authority will allow UltiSat and its government partners to begin transitioning BB45 operations to commercial applications, and allow integration of its service and equipment with practical government applications and operations. The public interest will also be served by facilitating UltiSat's ability to 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, commencing on June 26, 2018, or as soon as practicable thereafter.