

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

In the Matter of

Application of Astronics AeroSat)	
Corporation for 60-Day Special Temporary)	Call Sign: E140087
Authorization (“STA”) to Conduct Earth)	
Stations Onboard Aircraft (“ESAA”))	File No.:
Operations with Permitted List Satellites)	

APPLICATION FOR SPECIAL TEMPORARY AUTHORIZATION

Astronics AeroSat Corporation (“Astronics AeroSat”), 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 its previously authorized earth stations onboard aircraft (“ESAA”) terminals – the HR129 and HR6400 – with any U.S.-licensed or non-U.S. licensed satellite on the Commission’s Permitted Space Station List (“Permitted List”) in the 14.0-14.5 GHz band (Earth-to-space), 10.95-11.2 GHz band (space-to-Earth) and 11.45-12.2 GHz band (space-to-Earth). Astronics AeroSat seeks this STA to timely address unanticipated changes in available satellite transponder capacity and to enhance operational flexibility commencing on March 9, 2017, or as soon as practicable thereafter.

Astronics AeroSat plans to file an application for regular authority to communicate with Permitted List satellites under to its *ESAA Blanket License*¹ as soon as possible. As discussed herein, grant of the requested authority is otherwise consistent with the *ESAA*

¹ See Astronics AeroSat, File No. SES-MFS-20161003-00823 (Call Sign E10087) (“*ESAA Blanket License*”).

Blanket License, is in accordance with the Commission's rules and policies, and will strongly serve the public interest.

I. BACKGROUND

The requested short-term Permitted List authority will support Astronics AeroSat's FliteStream™ system, an ESAA system that is well-known to the Commission and has been fully described in previous applications.² Additionally, the Commission recently granted Astronics AeroSat's request to modify its *ESAA Blanket License* to add satellite points of communication for its previously licensed HR6400 terminal and add the HR129 terminal for long-term commercial operations.³ The points of communication in the *ESAA Blanket License* include several satellites which operate pursuant to the two-degree spacing provisions embodied in the Commission's ESAA rules (i.e., consistent with the off-axis EIRP levels specified in Section 25.227(a)(1)(i)), but Permitted List authority has not yet been added. Astronics AeroSat will continue to operate in accordance with the terms of the *ESAA Blanket License* and Section 25.227 of the Commission's rules governing ESAA operations and, under this requested 60-day STA, will operate the ESAA terminals at two-degree compliant levels in all circumstances while communicating with Permitted List satellites. As noted, Astronics AeroSat will file an underlying earth station modification

² See Astronics AeroSat Corporation, File No. SES-LIC-20140902-00688 (Call Sign E140087), Technical Appendix. Both the HR6400 and HR129 ESAA terminals are fully certified for operation on commercial aircraft in the United States and are authorized to communicate with various U.S.-licensed and non-U.S. licensed satellites pursuant to Section 25.227(a)(2) of the Commission's rules.

³ See Astronics AeroSat, File No. SES-MFS-20161003-00823 (Call Sign E140087) (granted on February 28, 2016).

application for the Permitted List operations proposed herein, which serves as its request for regular authority pursuant to Section 25.120(b)(3) of the Commission's rules.

II. DISCUSSION

Astronics AeroSat is requesting this STA to communicate with any satellite on the Commission's Permitted List pursuant to Section 25.227(a)(12) of the Commission's rules, which permits an ESAA system that complies with the off-axis EIRP spectral density limits in Section 25.227(a)(1)(i) to request such authority. Astronics AeroSat proposes to operate in permissible portions of the 14.0-14.5 GHz band (Earth-to-space), the 10.95-11.2 GHz band (space-to-Earth) and the 11.45- and 12.2 GHz band (space-to-Earth).

Astronics AeroSat's existing *ESAA Blanket License* authorizes its ESAA operations pursuant to Section 25.227(a)(2) of the Commission's rules because Astronics AeroSat operates the ESAA terminals with certain satellite points of communication at off-axis EIRP spectral density levels in excess of those specified in Section 25.227(a)(1) on U.S.-registered aircraft while present in international airspace (*i.e.*, two-degree vs. three-degree spacing environments). Accordingly, Astronics AeroSat previously provided satellite operator certifications and other technical information required by Section 25.227(b)(2).

Here, however, Astronics AeroSat has also previously provided the Commission with detailed plot demonstration demonstrating compliance with Section 25.227(a)(1)(i) of the Commission's rules for operations within the United States at various operational skew angles.⁴ Thus, the off-axis EIRP spectral density of the ESAA terminals will comply with

⁴ See Astronics AeroSat Corporation, File No. SES-LIC-20140902-00688 (Call Sign E140087), Technical Appendix (providing off-axis EIRP plots for the HR6400 terminal); File No. SES-MFS-20161003-00823 (Call Sign E140087), Technical Appendix (providing off-axis EIRP plots for the HR129 terminal).

the Commission's two-degree spacing policies while accessing Permitted List satellites in United States territory. The maximum input power into the antenna has been selected to ensure compliance at the maximum skew angle. Of course, the general performance characteristics of the previously licensed ESAA terminals will not change.

As the Commission is aware, Astronics AeroSat controls off-axis EIRP spectral density emissions from the ESAA terminals through limitations on the transmit power spectral density and control of pointing error. In the attached draft FCC Form 312 and Schedule B, Astronics AeroSat provides representative operational parameters of its proposed Permitted List operations under this STA (*i.e.*, emission designators and power levels).⁵ In the event that the operational parameters are expanded upon in the underlying regular authority application, Astronics AeroSat will remain compliant with the FCC's off-axis EIRP spectral density mask for operations within CONUS.

B. STA Request and Public Interest Considerations

Section 25.120(a) of the Commission's rules require that an STA request "must contain the full particulars of the proposed operation including all facts sufficient to justify the temporary authority sought and the public interest therein."⁶ The particulars of Astronics AeroSat's system operations are well-known to the Commission and it has provided additional information relevant to its proposed Permitted List operations in the attached FCC Form 312 and Schedule B.

⁵ The maximum EIRP levels proposed in this STA request are consistent with the levels currently authorized in Astronics AeroSats *ESAA Blanket License* and ensure two-degree spacing compliance.

⁶ See 47 C.F.R. § 25.120(a).

Additionally, Section 25.120(a) provides that STA requests should be filed at least three business days prior to commence of proposed operations absent a finding of extraordinary reasons for the delay in submitting the request which could not have been earlier foreseen by the applicant. Although Astronics AeroSat has timely filed this request so that the Commission may permit operations by March 9, 2017, out of an abundance of caution, Astronics AeroSat respectfully requests expedited processing of this STA request. Expedited processing is warranted here because Astronics AeroSat only recently received information about changes to available satellite transponder capacity that proximately affects Astronics AeroSat's ability to serve its customers in and around the United States. In order to continue providing uninterrupted broadband satellite services to aircraft in the U.S., Astronics AeroSat requires this interim Permitted List authority while it finalizes its long-term commercial strategy. Given the unique circumstances of this request, including the existing FCC authorization for HR6400 and HR129 ESAA terminal operations, Astronics AeroSat respectfully request expedited processing of this request.

Grant of this request would serve the public interest because it will allow Astronics AeroSat to timely address the above-described capacity changes so that there is no lapse essential services and to facilitate additional ESAA terminal operations. Additionally, the ability to access Permitted List satellites will provide Astronics AeroSat with the operational flexibility to continue servicing customers using the FliteStream™ system, ensure that Astronics AeroSat has sufficient bandwidth to meet demand and prevent the in-flight user experience from being degraded.

III. CONCLUSION

In view of the foregoing, including the unique circumstances requiring this request, the public interest would be served by a grant of a 60-day STA to allow Astronics AeroSat to conduct ESAA operations within the United States while communicating with Permitted List satellites commencing March 9, 2017, or at the earliest practicable time thereafter.