

**Astronics AeroSat Corporation**

***Application to Modify Experimental  
License (Call Sign: WH2XJQ)***

Astronics AeroSat Corporation (“Astronics AeroSat”) hereby seeks modification of its existing experimental license, Call Sign WH2XJQ. Astronics AeroSat has been granted authority to test and demonstrate up to five (5) aircraft earth stations (“AESs”) – Astronics AeroSat HR6400 Ku-band antennas – in the 14.0-14.5 GHz band with the Eutelsat 113WA (formerly Satmex 6), SES-6, Galaxy 16, Galaxy 17, and AMC-16 satellites.<sup>1</sup> By the present application, Astronics AeroSat respectfully requests authority to communicate with an additional satellite point of communication, specifically SES-1 at 101° W.L. Experimental testing and demonstration operations will be conducted within the contiguous United States (“CONUS”) and adjacent international waters until September 1, 2016, as stated in the subject license.

**I. Introduction**

Astronics AeroSat’s HR6400 Ku-band antenna system provides a worldwide in-flight communications solution for the connected traveler. Astronics AeroSat seeks to test and demonstrate the existing terminals with the SES-1 satellite in compliance with its existing authorization. Accordingly, Astronics AeroSat fully incorporates by reference the information included as part of the previous application,<sup>2</sup> including the information in the Technical Appendix, and certifies that the terminal parameters of the authorized experimental operations will not change in the context of communicating with the additional satellite identified herein. Importantly, these parameters are fully consistent with the Commission’s two-degree spacing

---

<sup>1</sup> See File No. 0146-EX-ML-2015, expires September 01, 2016 (modifying Call Sign WH2XJQ by adding SES-6, Galaxy 16, Galaxy 17, and AMC-16 as satellite points of communication).

<sup>2</sup> *Id.*

policies. Thus, access to a new CONUS-coverage satellite will not increase the potential for interference from Astronics AeroSat's experimental operations.

## **II. Protection of Users in the 14.0-14.5 GHz Band**

Astronics AeroSat recognizes and accepts that operations under this experimental license are conducted on an unprotected, non-interference basis only and that they will be conditioned upon protection of co-frequency operations. Astronics AeroSat notes that there have been no reported cases of interference relating to its operations under its existing experimental or commercial licenses<sup>3</sup> and, given the limited testing operations under the subject experimental license, it is unlikely that interference will occur. Astronics AeroSat, however, will immediately cease operations to the extent harmful interference is caused to another user of the 14.0-14.5 GHz band.

Astronics AeroSat further certifies that it will comply with Commission rules for ESAA terminals in Section 25.227, 47 C.F.R. § 25.227, including the Commission's well-settled two-degree satellite spacing requirements and ensure protection for other co-frequency operations, even though it seeks authority in the present application under the Commission's Part 5 experimental licensing rules.

Astronics AeroSat notes that it also has an existing commercial license to operate the HR6400 terminals with various satellite points of communication,<sup>4</sup> and thus has extensive experience operating with GSO satellites on a non-interference basis. The intermittent

---

<sup>3</sup> See File Nos. 0146-EX-ML-2015 & SES-LIC-20140902-00688.

<sup>4</sup> See File No. SES-LIC-20140902-00688 (Call Sign: E140087) (Under its commercial license, Astronics AeroSat has authority to communicate with the following satellites: Apstar 7, Galaxy 3C, Intelsat 14, Telstar 12, Eutelsat 115WA, Intelsat 22, Intelsat 19, Telstar 11N, Eutelsat 172WA and Telstar 14 (Estrela do Sul)).

experimental test and demonstration operations with the new satellites proposed herein will similarly be on a non-interference basis.

### **III. New Satellite Point of Communication**

Under its current experimental license, Astronics AeroSat was recently granted authority by the Commission to communicate with SES-6, Galaxy 16, Galaxy 17, and AMC-16, in addition to Eutelsat 113WA (formerly Satmex 6). Although the technical parameters of the HR6400 terminal operations will not change, out of an abundance of caution Astronics AeroSat seeks explicit FCC authority to communicate with this new satellite point of communication. In addition, to the extent satellite points of communication are expressly identified in the experimental license, Astronics AeroSat respectfully requests that the Commission include Eutelsat 113WA (formerly Satmex 6), SES-6, Galaxy 16, Galaxy 17, AMC-16, as well as the new satellite proposed herein.

Astronics AeroSat will utilize leased commercial Ku-band satellite capacity for its proposed experimental operations on the SES-1 satellite, located at the 101° W.L. orbital location.

The SES-1 satellite is a U.S. licensed satellite that has been previously approved by the Commission for use in a commercial ESAA system.<sup>5</sup> Regardless of prior ESAA licensing status, however, the proposed satellite points of communication can be used for intermittent testing and demonstration of ESAA terminals consistent with Commission rules and policies.

SES-1 has already been authorized by the Commission to provide service in the U.S. market and thus its operating parameters has been previously reviewed and approved. In

---

<sup>5</sup> See File No. SES-STA-20120727-00698 (Call Sign E120106) (Aug. 29, 2012); see also File No. SES-STA-20121009-00908 (Call Sign E120106) (Oct. 24, 2012).

addition, it is the terminal's non-interfering operational characteristics, rather than the specific satellite supporting testing and demonstration, that enables the Commission to add the new satellite as an authorized point of communication without increasing the potential for interference. Of course, Astronics AeroSat will provide any additional information that may be appropriate for the Commission to consider the instant request.

#### **IV. Conclusion**

Astronics AeroSat respectfully requests that the Commission expeditiously grant its application for modification of its experimental license to add SES-1 as a new satellite point of communication. Granting the modification would serve the public interest by allowing Astronics AeroSat to continue to test and demonstrate HR6400 terminal performance with new satellites and potential service applications.