

**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 was 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).<sup>1</sup> By the present application, Astronics AeroSat respectfully requests authority to communicate with additional satellite points of communication, specifically: SES-6 at 40.5° W.L., Galaxy 16 at 99.0° W.L., Galaxy 17 at 91.0° W.L. and AMC-16 at 85.0° 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-6, Galaxy 16, Galaxy 17 and AMC-16 satellites 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

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<sup>1</sup> See File No. 0002-EX-ML-2015, expires September 01, 2016. Astronics AeroSat also notes that the answer to Form 442 Question 3(b) should be “File No. 0002-EX-ML-2015.”

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

context of communicating with the additional satellites identified herein. Importantly, these parameters are fully consistent with the Commission's two-degree spacing policies. Thus, access to new CONUS-coverage satellites 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

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<sup>3</sup> See File Nos. 0002-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:

extensive experience operating with GSO satellites on a non-interference basis. The intermittent experimental test and demonstration operations with the new satellites proposed herein will similarly be on a non-interference basis.

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

Astronics AeroSat notes that its current experimental license does not specify authorized satellite points of communications. However, its experimental license application was limited to communication with 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 new satellite points of communication. In addition, to the extent the satellite points of communication are expressly identified in the experimental license, Astronics AeroSat respectfully requests that the Commission include Eutelsat 113WA (formerly Satmex 6) as well as the new satellites proposed herein.

Astronics AeroSat will utilize commercial Ku-band satellite capacity for its proposed experimental operations. Specifically, capacity will be leased on the SES-6 satellite, located at the 113° W.L. orbital location; the Galaxy 16 satellite, located at the 99.0° W.L. orbit location; the Galaxy 17 satellite, located at the 91.0° W.L. orbital location; and the AMC-16 satellite, located at the 85.0° W.L. orbital location.

The SES-6 satellite has been previously approved by the Commission for use in a commercial ESAA system, and has even been approved to communicate with the

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Apstar 7, Galaxy 3C, Intelsat 14, Telstar 12, Eutelsat 115WA, Intelsat 22, Intelsat 19, Telstar 11N, Eutelsat 172WA and Telstar 14 (Estrela do Sul)).

HR6400 terminals for commercial use.<sup>5</sup> The Galaxy 17 has also been previously approved for ESAA terminal operations.<sup>6</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.

Each of the proposed satellites already has been authorized by the Commission to provide service in the U.S. market and thus their operating parameters have been previously reviewed and approved. In 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 satellites as authorized points 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 new satellite points 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.

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<sup>5</sup> See File No. SES-MFS-20140801-00625 (Call Sign E120106).

<sup>6</sup> See File No. SES-MFS-20130930-00845 (Call Sign E100089).