

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

In the Matter of

Application of Panasonic Avionics Corporation for a 60-Day Special Temporary Authorization (“STA”) to Operate Up to 100 Technically Identical Earth Stations Aboard Aircraft (“ESAA”) Terminals in the Ku-Band)
Call Sign E100089)
File No. _____)

APPLICATION FOR SPECIAL TEMPORARY AUTHORIZATION

Panasonic Avionics Corporation (“Panasonic”), pursuant to Section 25.120(b)(3) of the Commission’s Rules, 47 C.F.R. § 25.120(b)(3), seeks a 60-day special temporary authorization (“STA”) to permit operation of up to 100 previously authorized Ku-band earth stations aboard aircraft (“ESAA”) terminals – Panasonic’s Single-Panel Antenna (“SPA”) terminal – with its licensed “eXConnect” System¹ during the pendency of a recently filed modification application for authority to operate this terminal.² Panasonic currently has temporary authority for operation of up to 25 SPA terminals,³ but is requesting authority to increase the number of terminals to 100 out of an abundance of caution to accommodate additional aircraft that are being installed with the SPA terminal during pendency of its underlying Modification Application.

¹ See Panasonic Avionics Corporation, File No. SES-MFS-20130930-00845 (Call Sign E100089) and other associated file numbers (“*Panasonic ESAA License*”); *Panasonic Avionics Corporation Application for Authority to Operate Up to 50 Technically Identical Aeronautical Mobile-Satellite Service Aircraft Earth Stations in the 14.0-14.4 GHz and 11.7-12.2 GHz Frequency Bands, Order and Authorization*, DA 11-1480 (rel. Aug. 31, 2011) (“*Panasonic Order*”).

² See Application of Panasonic Avionics Corporation to Modify its Existing Ku-band Earth Stations Aboard Aircraft (“ESAA”) Blanket License, File No. SES-MFS-20160819-00730 (Call Sign E100089) (filed on August 19, 2016) (“*Modification Application*”).

³ See Panasonic Avionics Corporation, File No. SES-STA-20160218-00143 (Call Sign E100089) (expires on October 24, 2016) (“*180-Day STA*”).

Panasonic seeks continuing authority to operate its SPA ESAA terminal onboard Canadian-based WestJet Airlines when such aircraft are present within the United States and requests grant of this short-term STA no later than September 2, 2016, or as soon as practicable thereafter. Other than the number of terminals, no other aspect of the operations will change and Panasonic acknowledges that the operations will continue to be conducted on a non-interference basis and without prejudice to the Commission's consideration of Panasonic's pending modification application for long-term commercial operating authority. It is also important to note that Panasonic's SPA terminals transmit on individually assigned frequencies and time slots so an increase in the number of authorized SPA terminals will not increase the potential for interference from the proposed operations.

The SPA terminal is fully certified for operation on the subject aircraft and, as discussed herein and in the associated application materials, the terminal will operate in accordance with the terms of the *Panasonic Order*, the *Panasonic ESAA License*, and Section 25.227 of the Commission's rules governing ESAA operations. Like prior grant of temporary authority to operate the SPA terminal, grant of this short-term STA application will serve the public interest.

I. DISCUSSION

A. SPA Terminal Operations

1. The SPA Terminal and the eXConnect System

The SPA terminal is a single-panel variant of the dual-panel PPA terminal and utilizes the same proven antenna and positioner technologies. Panasonic has developed the SPA terminal as a lighter, less-costly ESAA terminal that can be installed on smaller aircraft that has performance

characteristics equal to or better than the PPA terminal. The SPA terminal has been tested extensively pursuant to experimental authority granted by the Commission.⁴

As set forth in the Technical Appendix, the SPA terminal transmits within the same operational envelope as the PPA terminal and complies with the requirements set forth in 25.227 of the Commission's rules. In particular, the SPA terminal operates in accordance with the coordination agreements of proposed satellite points of communications, complies with the Commission's two-degree spacing policies, has a pointing accuracy of 0.2° and will automatically cease transmissions if point offset is 0.5° or greater, and otherwise will comply with the Panasonic ESAA license. Thus, grant of STA authority will not increase the potential for interference from eXConnect System operations in the United States.

Panasonic has fully described the eXConnect System in prior submissions and hereby incorporates by reference the technical showing regarding the control functionality and other operational characteristics submitted in connection with prior applications.⁵ The Technical Appendix contains relevant information relating to the technical parameters, antenna performance information, satellite operator certifications, radiation hazard analysis and general antenna specifications for the SPA terminal.⁶ Panasonic seeks to operate the SPA terminal on

⁴ See Panasonic Avionics Corporation, Experimental Radio Station License, Call Sign WF2XMD, File No. 0184-EX-ML-2013; *see also* Letter from Carlos Nalda, Legal Counsel, Panasonic Avionics Corporation, to Nnake Nweke, Chief, Experimental Licensing Branch (March 6, 2014).

⁵ See, e.g., Panasonic Avionics Corporation, File No. SES-LIC-20100805-00992 (Call Sign E100089) (granted August 31, 2011) and subsequent amendment and modification applications.

⁶ Panasonic notes that because it is relying on satellite operator certifications to demonstrate compatibility with other Ku-band operations, it need not submit the full range of technical data required in the absence of such certifications under Section 25.227. Nonetheless, Panasonic is submitting substantial technical detail that provides the Commission and interested parties with a comprehensive understanding of the operational characteristics of the SPA terminal.

foreign-registered aircraft only. Thus, authority is sought for SPA terminal communications with the AMC-16, Galaxy 16, Galaxy 17 and Eutelsat 172A satellites serving U.S. territory.

2. Satellite Points of Communication

In the instant STA request, Panasonic seeks authority for the SPA terminals to communicate with the following four (4) points of communication and downlink frequency ranges.⁷

Table 1. Satellites and Downlink Frequencies (SPA)

Satellite	Orbital Location	Downlink Frequencies	ITU Region	Service To U.S.
AMC-16	85° W	11.7-12.2 GHz	2	Yes
Galaxy 16	99° W	11.7-12.2 GHz	2	Yes
Galaxy 17	91° W	11.7-12.2 GHz	2	Yes
Eutelsat 172A	172° E	10.95-11.2 GHz; 11.45-11.7 GHz	2	Yes

Because Panasonic requests authority for the SPA terminal onboard foreign aircraft, only those satellites with U.S. coverage that will be accessed by WestJet aircraft are included in this STA application. All of these proposed satellite points of communication are U.S.-licensed satellites with technical parameters that are well known to the Commission. The operators of each satellite identified above have reviewed the technical characteristics of Panasonic’s SPA ESAA terminal operations and confirmed that such operations are consistent with their coordination agreements and will not result in unacceptable interference to other satellites within +/- 6 degrees of the subject satellite. Attached hereto are letters confirming that the power levels

⁷ Panasonic SPA terminals will operate in the uplink direction within the 14.0-14.5 GHz band and consistent with its coordination agreements with co-frequency users, the Commission’s rules and applicable international requirements.

associated with Panasonic's SPA ESAA terminal operations have been coordinated with operators of adjacent satellites.⁸

3. SPA Terminal Performance

The SPA terminal fully complies with the provisions governing Ku-band AMSS operations embodied in Recommendation ITU-R M.1643, as well as other applicable FCC rules and policies governing ESAA operations. The SPA terminal has been tested extensively under experimental Call Sign WF2XMD and the fundamental operational characteristics of the eXConnect System have been approved by the Commission in the prior application proceedings.

Interference will be avoided principally by controlling off-axis EIRP spectral density of emissions along the GSO arc to protect adjacent FSS satellites. As noted, Panasonic's serving satellite operators have confirmed that the proposed operations are consistent with the coordinated parameters of their satellites. In addition, the SPA terminal operates in a manner that avoids interference to other co-frequency systems and services, and complies with the coordination agreements Panasonic has entered into with the National Science Foundation to protect radio astronomy operations and with NASA to protect TDRSS operations. Finally, Panasonic's SPA terminals will transmit on individually assigned frequencies and time slots and only one terminal transmits at a time and there will be no increase in the potential for interference from ESAAs communicating with the eXConnect System. The transmission and other principal operational characteristics of the SPA terminal are described more fully in the attached Technical Appendix.

⁸ See Technical Appendix, II. (Operator Certification Letters).

4. 60-Day STA Request and FCC Precedent

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, Panasonic is proposing to commence operations on Friday, September 2, 2016. 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 service. Panasonic has a pending request for regular authority to operate the SPA terminal under its ESAA License⁹ and this STA request only seeks add additional terminals during the pendency of its Modification Application.

The Commission has previously granted Panasonic authority to operate on short-term STA authority during the pendency of longer-term authorization requests. Panasonic was granted short-term STA authority to operate the PPA terminal (then also known as the Aura LE) in advance of receiving longer-term operating authority.¹⁰ Most recently, Panasonic was granted a 60-day STA¹¹ and a 180-day STA¹² for the identical SPA operations proposed herein. In addition to prior grants to Panasonic for operation of its ESAA terminals, Row 44 has been granted several STAs during the pendency of applications for regular authority.¹³ Thus, grant of

⁹ See File No. SES-MFS-20160819-00730 (Call Sign E100089).

¹⁰ See Panasonic Avionics Corporation, Special Temporary Authority, Call Sign E100089, File No. SES-STA-20130516-00395 (granted July 24, 2013).

¹¹ See Panasonic Avionics Corporation, File No. SES-STA-20160218-00142 (Call Sign E100089) (expired on April 28, 2016) (“60-Day STA”).

¹² See Panasonic Avionics Corporation, File No. SES-STA-20160218-00143 (Call Sign E100089) (expires on October 24, 2016) (“180-Day STA”).

¹³ See Row 44, Inc., Special Temporary Authority, Call Sign E080100, File Nos. SES-STA-20150928-00639 (granted October 7, 2015) and SES-STA-20150319-00172 (granted March 24, 2015). In both cases, the Commission expeditiously granted Row 44’s request for 60-day special temporary authority to allow for near-term commencement of operations.

the instant application for short-term STA authority during the pendency of an application for longer-term authority is consistent with prior Commission precedent.

II. GRANT OF THE REQUESTED STA WILL SERVE THE PUBLIC INTEREST

Grant of the requested 60-day STA will serve the public interest by enabling the expansion of the SPA terminal on additional WestJet Airlines aircraft, which serves many U.S.-Canada routes, and thus expanding availability of Panasonic's GCS offering to U.S.-based passengers. Panasonic acknowledges that any action on the requested STA will not affect the Commission's ultimate determination with respect to the pending Modification Application. Panasonic also acknowledges and accepts that any authorization granted by the Commission will be conditioned upon compliance with relevant requirements in Section 25.227 of the Commission's rules and adopted in the *ESAA Order*.¹⁴

Although SPA terminal operations will affect a limited number of foreign aircraft temporarily located in U.S. territory, it will provide direct benefits to U.S. consumers that will be able to access new in-flight mobile broad applications and will further enhance U.S. leadership in in-flight mobile broadband services. Authority to operate additional SPA terminals also will enable further expansion of service onboard U.S.-Canada routes, which will allow Panasonic to better compete with foreign carriers that are already offering in-flight connectivity. Finally,

¹⁴ *Revisions to Parts 2 and 25 of the Commission's Rules to Govern the Use of Earth Stations Aboard Aircraft Communicating with Fixed-Satellite Service Geostationary-Orbit Space Stations Operating in the 10.95-11.2 GHz, 11.45-11.7 GHz, 11.7-12.2 GHz and 14.0-14.5 GHz Frequency Bands Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*, IB Docket No. 12-376; *Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service*; IB Docket No. 05-20, Notice of Proposed Rulemaking and Report and Order, FCC 12-161, ¶ 112 (rel. Dec. 28, 2012) ("ESAA Order").

operation of additional SPA terminals will not increase the potential for interference to other spectrum users. Accordingly, grant of the requested 60-day STA will serve the public interest.

III. CONCLUSION

Based on the foregoing, the public interest would be served by a grant of the requested 60-day STA to allow Panasonic to operate up to 100 SPA terminals by September 2, 2016 or at the earliest practicable time thereafter.