

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

In the Matter of
Amendment to Application of Panasonic
Avionics Corporation to Modify its Earth
Stations Aboard Aircraft (“ESAA”)
Blanket License

Call Sign E100089
File Nos. SES-MFS-20200513-00528,
SES-AMD-_____

Amendment of Application to Modify ESAA Blanket License

Pursuant to Section 25.116(a) of the Federal Communications Commission’s (“Commission”) rules,¹ Panasonic Avionics Corporation (“Panasonic”) hereby amends its pending application² to modify its existing earth stations aboard aircraft (“ESAA”) blanket license, Call Sign E100089 (“*ESAA Blanket License*”),³ to operate its previously licensed ESAA terminals with the NSS-12 satellite at the 57° E.L. orbit location, which will replace the Yamal-401 satellite in the Panasonic network to provide coverage in the Eastern Europe and Central Asia regions.

Grant of this amendment and underlying modification are necessary to ensure Panasonic’s ability to provide in-flight broadband connectivity to U.S. airline passengers and crew members. The attached Form 312 Schedule B and Technical Appendix include information relating to the proposed operations with the NSS-12, and no other information provided in the *ESAA Modification Application* will change as a result of this amendment.

¹ See 47 C.F.R. § 25.116(a).

² See Panasonic Avionics Corporation, File No. SES-MFS-20200513-00528, Call Sign E100089 (“*2020 Modification Application*”).

³ See Panasonic Avionics Corporation, File No. SES-LIC-20100805-00992, Call Sign E100089, and subsequent filings and modifications (“*ESAA Blanket License*”). ESAAAs are now included in a broader category of broadband satellite mobility terminals called earth stations in motion (“ESIMs”) and governed by Section 25.228 of the Commission’s rules, 47 C.F.R. § 25.228.

I. BACKGROUND

Panasonic provides advanced aeronautical broadband satellite services that enable in-flight communications connectivity to passengers and crew using Ku-band ESAA terminals and a global network of U.S. and foreign satellites and gateway earth stations. Panasonic has fully described its system in prior submissions and hereby incorporates by reference the technical showings regarding the control functionality and other operational characteristics submitted in connection with such prior applications.⁴ Panasonic's *ESAA Blanket License*, which supports its global ESAA operations on U.S.-registered aircraft (and non-U.S.-registered aircraft traversing U.S. airspace), must be regularly modified to reflect adjustments to Panasonic's global network resulting from technological developments and changes in customer demand. Most recently, it was modified to add three new satellites as authorized points of communication.⁵

II. DISCUSSION

Panasonic seeks to amend its pending application for modification of its *ESAA Blanket License* for its Single Panel Antenna ("SPA") and Panasonic Phased Array ("PPA") terminals to communicate with the NSS-12 satellite, as provided in Table 1, below. The Panasonic terminals will operate consistent with the coordinated parameters of the NSS-12 satellite and the Commission's rules governing Ku-Band ESAAs.⁶ Grant of this amendment will allow Panasonic to ensure essential satellite capacity along critical international flight routes is appropriately transitioned following the replacement of the Yamal-401 satellite by the NSS-12 satellite in the Panasonic network.

⁴ See *ESAA Blanket License*.

⁵ See *2020 Modification Application*.

⁶ See 47 C.F.R. § 25.228.

A. Proposed New Satellite Point of Communication

The following table provides an overview of the basic parameters of ESAA operations with the NSS-12 satellite. The satellite is licensed by the Netherlands, a member country of the World Trade Organization (“WTO”), for services covered under the WTO Basic Telecommunications Agreement.⁷ Panasonic seeks to operate the NSS-12 satellite with the SPA and PPA terminals only.

Table 1 - Proposed Satellite Point of Communication⁸

Satellite	License Admin.	Orbital Location	Downlink Freq. (GHz)	ITU Region	Serves U.S.
NSS-12	Netherlands	57° E	10.95-12.75	1, 3	No

Section 25.228 of the Commission’s rules requires that ESAA transmissions comply with the applicable EIRP density limits in §25.218, unless coordinated pursuant to the requirements in §25.220.⁹ Panasonic will communicate with the NSS-12 satellite at previously approved off-axis EIRP spectral density (“ESD”) levels, consistent with its satellite coordination agreements with all adjacent satellite networks within six degrees of orbital separation from the NSS-12 satellite.¹⁰ Panasonic provides information regarding the operational characteristics of the ESAA

⁷ See 47 C.F.R. § 25.137(a)(2); see also *Amendment of the Commission’s Regulatory Policies to Allow Non-U.S. Licensed satellites Providing Domestic and International Service in the United States*, Report and Order, IB Docket No. 96-111, 12 FCC Rcd 24094, ¶ 39 (1997) (“We adopt our proposal to apply a presumption in favor of entry in considering applications to access non-U.S. satellites licensed by WTO members to provide services covered by the ... WTO Basic Telecom Agreement.”); *Id.*, ¶ 64 (“[W]e will not evaluate the effective competitive opportunities in the route market for non-U.S. satellites licensed by a WTO member providing WTO covered services. Thus, we will not perform an ECO-Sat test on any route, whether a WTO route market or a non-WTO route market.”).

⁸ The ESAA terminals will operate in the uplink direction within the 14.0-14.5 GHz band consistent with satellite coordination agreements, the Commission’s rules, and applicable international requirements. See attached FCC Form 312 Schedule B for an overview of Panasonic’s ESAA transmit operations.

⁹ See C.F.R. § 25.228(a).

¹⁰ See C.F.R. §§ 25.220(d)(1); Technical Appendix at I.1 (Satellite Operator Certification Letter).

terminals in the FCC Form 312 Schedule B and incorporates by reference the performance information and off-axis ESD data previously submitted for the SPA and PPA.¹¹ Accordingly, Panasonic will operate its terminals at all times consistent with the provisions governing Ku-band ESAA operations.

The NSS-12 satellite has not previously been authorized to communicate with U.S.-licensed ESAA terminals. Panasonic will only operate PPA and SPA terminals with NSS-12 outside of U.S. territory (*i.e.*, the satellite is neither providing service in U.S. airspace nor communicating with a U.S.-licensed gateway earth station). Consistent with Commission precedent,¹² Panasonic provides relevant operational parameters, along with orbital debris mitigation and satellite end-of-life information, rather than a full U.S. market access demonstration under Section 25.137(d) of the Commission's rules. Panasonic also provides a coverage map and link budgets for the satellite in the attached Technical Appendix.¹³

B. Remote Control Point

Network control and monitoring of the ESAAs in the Panasonic system will continue to be provided by the Panasonic Customer Performance Center ("CPC") in Lake Forest, California, on a 24/7 basis. The CPC makes use of a network management system ("NMS") to provide complete control and visibility to all components the Panasonic system. The NMS system has the capability of shutting down any component in the system that is malfunctioning. The primary

¹¹ See Panasonic Avionics Corporation, File No. SES-MFS-20120913-00818, Call Sign E100089 at Technical Appendix (off-axis ESD plots for the PPA terminal) and File No. SES-MFS-20160819-00730, Call Sign E100089 at Technical Appendix (off-axis ESD plots for the SPA terminal).

¹² See 47 C.F.R. § 25.137(d); *see also* AC BidCo LLC, File No. SES-MFS-20151022-00735, Call Sign E120106.

¹³ Panasonic notes that the power levels provided in the example link budgets are maximums and Panasonic will operate the terminals at or below the levels provided in the Schedule B at all times.

points of contract at Panasonic's CPC facility are provided below and in the FCC Form 312, Schedule B.

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C. Non-Conforming ESAA Receive Operations

The Commission's Table of Frequency Allocations ("Table of Allocations") contemplates use of the 10.95-11.7 GHz (space-to-Earth) bands by ESAA terminals on an unprotected basis only and permits such operations in the 11.7-12.2 GHz (space-to-earth) and 14-14.5 GHz (Earth-to-space) bands on a primary basis.¹⁴ As described in Table 1, the NSS-12 satellite also supports operations in the 12.2-12.75 GHz downlink band. Use of this available Ku-band downlink spectrum is essential to Panasonic's in-flight broadband connectivity offering.

Panasonic will operate in the 11.2-11.45 GHz and 12.2-12.75 GHz bands on an unprotected, non-harmful interference basis outside the United States. In addition, the NSS-12 satellite will operate consistent with ITU regulations and there is no potential for interference from Panasonic's receive-only operations in the subject bands. Thus, Panasonic requests that the Commission permit ESAA operations with NSS-12 in these bands consistent with its practice of

¹⁴ See 47 C.F.R. § 2.106, n. NG52 and n. NG527A; 47 C.F.R. § 25.228. Note also that ESAA receive operations in all downlink bands will be conducted only outside of the United States.

permitting ESAA terminals to operate outside the United States on a non-conforming, non-interference basis.¹⁵

D. Public Interest Statement

Grant of the requested modification, including this amendment, will serve the public interest by ensuring access to satellite capacity in the Eastern Europe and Central Asia regions and improving the operational capabilities of the Panasonic ESAA system through the replacement of the Yamal-401 satellite. This will provide a direct benefit to U.S. consumers who will be able to access improved in-flight broadband applications and will further enhance competition and U.S. leadership in aeronautical broadband services. These benefits will be achieved consistent with the Commission's rules and policies for ESAA operations.

III. CONCLUSION

Based on the foregoing, Panasonic respectfully requests that the Commission grant the pending application to modify its *ESAA Blanket License*, as amended herein, by permitting its previously licensed PPA and SPA terminals to communicate with the NSS-12 satellite.

¹⁵ See *ESAA Blanket License*.