



**Application for Experimental Authority  
Call Sign WL9XAF**

**NARRATIVE STATEMENT**

Astranis Space Technologies Corp. (“Astranis”) hereby requests experimental special temporary authorization (“STA”) for a period of six (6) months, commencing on June 15, 2018, to continue to conduct previously authorized tests and demonstrations.<sup>1</sup> Although Astranis currently holds experimental STA to conduct the identical operations sought herein and has been successful in its operations to date, more time is necessary to gather data, analyze additional information, and further demonstrate the innovative satellite technology being developed by Astranis.<sup>2</sup>

The Demosat-2 satellite was originally scheduled to be launched on approximately October 1, 2017, but the satellite was ultimately launched on January 12, 2018.<sup>3</sup> Shortly after launch of the Astranis Demosat-2 satellite, Astranis began conducting the experimental tests and demonstrations as planned and as previously described to the Commission.<sup>4</sup> The data that Astranis

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<sup>1</sup> See Astranis Space Technologies Corp., File No. 0113-EX-ST-2017, Call Sign WL9XAF (authorization effective from October 1, 2017 to April 2, 2018) (“*First Astranis Experimental STA*”); See also Astranis Space Technologies Corp., File No. 1624-EX-ST-2017, Call Sign WL9XAF (authorization effective from December 15, 2017 to June 15, 2018) (“*Second Astranis Experimental STA*”).

<sup>2</sup> Astranis is not seeking a two-year experimental license because it believes that its experimental operations need not continue beyond the additional six-month period requested herein.

<sup>3</sup> See *Second Astranis Experimental STA*, Launch Notification (filed Mar. 20, 2018).

<sup>4</sup> Astranis hereby incorporates by reference the information previously submitted in support of the *First* and *Second Astranis Experimental STA* applications, including the satellite and earth station parameters, spectrum compatibility study, and description of the experimental testing; See



has garnered has been extremely beneficial; however, further study is necessary. Astranis seeks this experimental license in order to ensure sufficient time to continue its demonstrations and tests of components, software design, and operational concepts that are integral to Astranis' plans to provide the next generation of smaller, lower-cost telecommunications satellites.

The requested experimental authority will enable Astranis to collect additional data on the radiation tolerance of a number of components on the spacecraft. The Astranis Demosat-2 is in an orbit that is ideal for these studies as the spacecraft regularly transits through the South Atlantic Anomaly, an area with heightened radiation fluence. Astranis will share this radiation effects data with the vendors of these components (subject to the necessary export controls restrictions), allowing a benefit to other small spacecraft developers. In addition, the Astranis Demosat-2 has a star camera onboard and software has been in development to determine spacecraft attitude by imaging a star field. Extending Astranis's authority would allow them to complete development and testing of the Astranis prototype star tracker.

This application is filed in accordance with time frames established by the Commission for consideration of extension of previously granted experimental authority.<sup>5</sup> Moreover, grant of the requested experimental authority is fully consistent with the Commission's guidance, policy, and experimental licensing rules.<sup>6</sup> Astranis will fully comply with the terms of its existing

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*First Astranis Experimental STA*, Updated Narrative and Attachments (filed Aug. 8, 2017); *see also Second Astranis Experimental STA*, Narrative and Attachments (filed Nov. 7, 2017).

<sup>5</sup> *See* 47 C.F.R. §5.61(c).

<sup>6</sup> *See, e.g.*, Guidance on Obtaining Licenses for Small Satellites, Public Notice, DA 13-445 (Mar. 15, 2013)



authorization and will continue to adhere to the special conditions included in the *Second Astranis Experimental STA*. Grant of this application will afford Astranis uninterrupted authority to effectively test its operational concepts, materials, and software, and an opportunity to collect other valuable information that may be used to improve industry practices and knowledge.

In conclusion, grant of this request will serve the public interest by facilitating the growth and development of next-generation satellite technology and the sharing of important space operational information for the benefit of U.S. satellite industry participants. Accordingly, Astranis respectfully requests that the Commission grant this application for an experimental license to conduct the previously authorized tests and operations without interruption for an additional six-month period, commencing on June 15, 2018.