

Description of Application

Astro Digital US, Inc. (Astro Digital) hereby requests authority to operate a satellite earth station at 840 Del Rey Avenue, Sunnyvale, CA 94085. The earth station will be used to communicate with satellites of the *Landmapper* constellation as filed in SAT-LOA-20170508-00071. The earth station application is expected to be operational by the end of December 2017.¹

As discussed in our space station application,² Astro Digital requires the use of a 40 kHz signal and can accept an assignment for a command link (Earth-to-space) and a telemetry link (space-to-Earth) in any of the following bands (including the same band for both links):³

- 399.90 – 400.05 MHz
- 400.05 – 400.15 MHz
- 400.15 – 401.00 MHz
- 401.00 – 402.00 MHz
- 402.00 – 403.00 MHz

The coordination discussions with NASA, NOAA and other government agencies, which operate in these bands, regarding the specific earth station operating frequencies are ongoing. As a default, Astro Digital requests that it be assigned the 402-403 MHz (with a center frequency of 402.6 MHz) for a command link (Earth-to-space), and the 400.15-401 MHz (with a center frequency of 400.175 MHz) for a telemetry link (space-to-Earth). Alternatively, Astro Digital requests that it be assigned the 400.05-400.15 MHz band (with a center frequency of 400.09 MHz) for both command and telemetry links. Astro Digital has requested waivers in its space station application, as necessary, to use the above frequency bands and incorporates those waiver requests herein by reference.⁴ Astro Digital commits to operating on an unprotected and non-interference basis, as required.

¹ Astro Digital expects to launch its first Landmapper satellite on December 20, 2017. Accordingly, Astro Digital is contemporaneously filing an application for Special Temporary Authority (“STA”) to communicate with its Landmapper satellite from an existing earth station facility pending approval of this application for regular authority. As discussed in the STA application, Astro Digital also has a pending experimental application (ELS File No. 0021-EX-CM-2016) regarding a satellite to be launched on November 28, 2017 and does not object to including that satellite as part of its Part 25 satellite license.

² SAT-LOA-20170508-00071, Exhibit 43 at page 10.

³ The parameters of our system, as represented in this application, remain sufficiently accurate (as expressed in Form 312) over the 399.900 to 403.000 MHz frequency range.

⁴ *Ibid*, Section 3.0, page 45.

At a later time (Phases 2 & 3 of our program), Astro Digital anticipates operating a command transmission link in the band 2025 – 2110 MHz, as stated in our space station application.⁵ At the appropriate time, we will file an earth station application to include these frequencies, which we recognize will need to be coordinated with terrestrial users.

⁵ *Ibid*, Section I.d.1, page 14.

Technical Certification

I, Jan A. King, hereby declare under penalty of perjury that I am familiar with Part 25 of the Commission's Rules (47 C.F.R. Part 25) and that I have either prepared or reviewed the technical information submitted in this earth station application, including the attachments, and found it to be complete and accurate to the best of my knowledge and belief.

/s/ Jan A. King

Jan A. King

Chief Technical Officer

Astro Digital US, Inc.