Waiver Requests

The Commission may waive any of its rules if there is "good cause" to do so.[1] In general, waiver is appropriate if (1) special circumstances warrant a deviation from the general rule; and (2) such deviation would better serve the public interest than would strict adherence to the rule.[2] Generally, the Commission will grant a waiver of its rules in a particular case if the relief requested would not undermine the policy objective of the rule in question and would otherwise serve the public interest.[3] Star Catcher submits that good cause exists to waive the following.

A. 2025-2110 MHz (Earth-to-space)

Star Catcher requests a waiver of the U.S. Table of Frequency Allocations for use of the 2025-2110 MHz band for space operations use from one U.S. earth station. The 2025-2110 MHz band is allocated to space operations, space research, and EESS, *inter alia*, in all ITU regions, but in the United States, space operations are limited to Federal operators.[4] Protostar will receive command signals in the 2025-2110 MHz band from multiple international earth stations and one U.S. earth station. Accordingly, the proposed use is consistent with the International Table of Frequency Allocations.

Use of this band will be coordinated ensuring that operations will not cause harmful interference to federal operators. Additionally, sharing of spectrum will be possible because the Protostar satellite will operate only for a short period of time, and other satellites using these frequencies transmit and receive only in short periods of time while visible to a

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[1] See 47 C.F.R. § 1.3; Northeast Cellular Tel. Co. v. FCC, 897 F.2d 1164 (D.C. Cir. 1990); WAIT Radio v. FCC, 418 F.2d 1153 (D.C. Cir. 1969).
[2] See Northeast Cellular, 897 F.2d at 1166.
[3] See WAIT Radio, 418 F.2d at 1157.
[4] See 47 C.F.R. § 2.106 n.US347.

receiving/transmitting earth station main beam. For harmful interference to occur, satellites belonging to different systems would have to be visible to the earth station and transmitting or receiving using the same frequencies at the exact same time. In such an unlikely event, the resulting inline interference could be avoided by coordinating with federal satellite transmissions so that they do not occur simultaneously. Accordingly, mutual exclusivity between the Protostar satellite and other systems using the same frequency band is unlikely. For the reasons above, Star Catcher requests a waiver of the U.S. Table of Frequency Allocations for use of this band for the U.S. earth station.

B. 8025 – 8400 MHz (space-to-Earth)

Star Catcher requests a waiver of the U.S. Table of Frequency Allocations for use of the 8025 – 8400 MHz band for space research service (SRS) on a non-confirming basis. Waivers of the U.S. Table of Frequency Allocations are generally granted "when there is little potential for interference into any service authorized under the Table of Frequency Allocations and when the nonconforming operator accepts any interference from authorized services."[5] The 8025-8400 MHz band is allocated for space-to-Earth transmissions for EESS, and is available to non-Federal operators on a case-by-case basis.[5] As discussed in the Experiment Description, the X-Band downlink will be used for payload and experiment data.

Use of this downlink for space research will serve the public interest by supporting Protostar's mission to demonstrate on-orbit optical power beaming, advancing U.S. technological progress and promoting U.S. leadership in space-based technologies. The

[5] The Boeing Company, Order and Authorization, 16 FCC Rcd. 22,645, at 22,651 12 & n.48 (IB & OET 2001) (citing Fugro-Chance, Inc., Order and Authorization, 10 FCC Rcd. 2860, at 2860 2 (IB 1995); Motorola Satellite Communications, Inc., Order and Authorization, 11 FCC Rcd. 13,952, at 13,956 11 (IB 1996)).

Commission has previously authorized non-conforming SRS missions to operate in the EESS band.[6] In addition, the operator will operate on an unprotected and noninterference basis, accepting any interference from existing and future systems authorized to use the X-band spectrum, and use of this band will be coordinated ensuring that operations will not cause harmful interference to federal operators. Accordingly, grant of a waiver to allow limited use of X-band frequencies for payload and experiment data, as proposed in this application, is warranted.

C. 47 C.F.R. § 5.115

Star Catcher respectfully requests a waiver for Section 5.115 of the Commission's Rules, which requires that experimental stations transmit the call sign at the end of each transmission in either clear voice or Morse code. The equipment does not have the ability to do so. Also, the equipment maximizes the full duration of the downlink communication time. Star Catcher understands the intent of the rule requiring station identification is a means to allow others to trace unwanted interference and assumes that Star Catcher's planned federal frequency coordination process will reduce the likelihood of unwanted interference. As such, Star Catcher submits a waiver is warranted here.

[6] See e.g. Grant, Turion Space Corp, File No. SAT-LOA-20240516-00104, Call Sign S3198 (Dec. 26, 2024).