

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

In the Matter of)	Call Sign _____
)	
Application of Speedcast Communications Inc. for a Fixed Earth Station License)	File No. SES-LIC-_____
)	

APPLICATION FOR A FIXED EARTH STATION LICENSE

Pursuant to Section 25.115 of the rules of the Federal Communications Commission (the “Commission”),¹ Speedcast Communications Inc. (“Speedcast”) respectfully seeks a fixed earth station license to operate a 2.4m earth station in the 5925 – 6425 MHz (Earth-to-space) and the 3700 – 4200 MHz bands (space-to-Earth) bands with the Commission’s Permitted Space Station List (“Permitted List”).² The 2.4m earth station (AvL Technologies Model 2410) will provide critical emergency communications restoration services in Puerto Rico if severe weather events adversely affect existing communications infrastructure.

Grant of this application will serve the public interest because it will enable Speedcast to deliver critical emergency restoration services following a weather event or other natural disaster, which is particularly important given the risk of communications outages during hurricane season and the increased reliance on communications connectivity as Puerto Rico continues to address the impacts of the COVID-19 pandemic. The 2.4m earth station will serve as a backup backhaul link for terrestrial cellular operators during disaster recovery activities to ensure vital communications services can be provided for residents, emergency personnel, government agencies, and businesses.

¹ 47 C.F.R. § 25.115. Speedcast previously filed an application for special temporary authority related to this requested regular authority. *See* Application of Speedcast Communications, Inc. for 60-day Special Temporary Authorization (“STA”), File No. SES-STA-20210601-00877 (filed June 1, 2021).

² Satellites on the Permitted List which communicate with earth stations in contiguous United States (“CONUS”), will restrict operations in the uplink band to correspond with restrictions on downlink operations in the C-band to 4000-4200 MHz, as discussed in more detail below.

I. DISCUSSION

A. Antenna Performance

In accordance with Section 25.212(d) of the Commission's rules, earth stations may be routinely licensed for digital transmission in the C-band if the application certifies compliance with §25.209(a) and (b), and power density into the antenna will not exceed -2.7 dBW/4 kHz.³ Speedcast hereby certifies that the off-axis gain of the transmitting antenna located in San Juan, Puerto Rico will not exceed the relevant levels specified in §25.209(a) and §25.209(b).⁴ Likewise, Speedcast certifies that the maximum input power spectral density into the antenna will not exceed -16.23 dBW/MHz, which is less than the -2.7 dBW/4kHz limit given in §25.212(d).⁵

Speedcast has engaged Micronet Communications Inc. ("Micronet") to ensure that operations requested under the application will not cause interference to U.S.-licensed fixed service operators and to facilitate coordination of Speedcast's long-term operations with all potentially affected operators in the 2.4m earth station's transmit bands, as needed.⁶ Pursuant to Sections 25.115(c)(2)(ii) and 25.203 of the Commission's rules,⁷ Micronet has conducted a coordination analysis of Speedcast's proposed operations at the relevant site (highlighted below in green). Micronet has identified two sites of potential interference at maximum transmit power: Neptunomedia, Inc. (Call Sign WQEQ866, 5.6 dB exceedance) and ICOMM NET (Call Sign WRCZ226, 4.7 dB exceedance) (highlighted below in red).

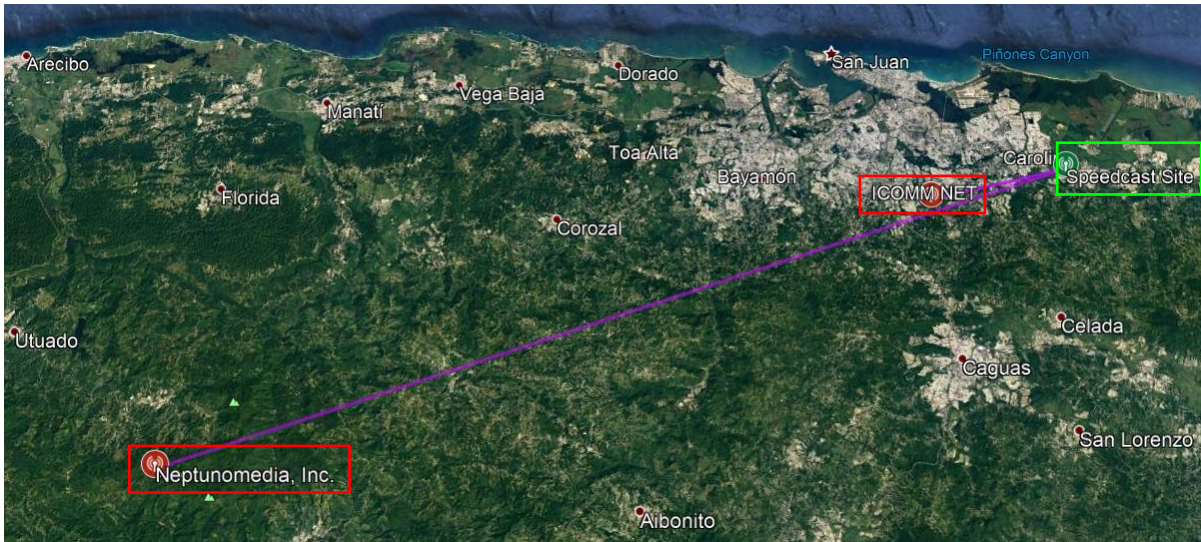
³ See 47 C.F.R. § 25.212(d).

⁴ See 47 C.F.R. § 25.209.

⁵ See 47 C.F.R. § 25.212(d).

⁶ Speedcast is in the process of coordinating with potentially impacted operators and will supplement this application with a complete interference and coordination report consistent with the requirements of 47 C.F.R. §§ 25.115(a)(6), 25.203.

⁷ See 47 C.F.R. §§ 25.115(c)(2)(ii) and 25.203. Pursuant to § 25.203(i) Speedcast has also notified the Interference Office, Arecibo Observatory, of the technical parameters of this proposal concurrently with the filing of this application.



Speedcast is constructing radiofrequency (“RF”) fencing/screening which will limit ESD toward the terrestrial stations and thus mitigate any interference caused by its proposed operations. Specifically, Speedcast intends to install shielding curtains made of tightly woven silver, copper, and nickel fabric which offers average attenuation of -80 dB between 1 GHz and 11 GHz.⁸

Speedcast will work with identified terrestrial microwave stations for which it must either reduce its maximum proposed transmit power until such screening is in place, or otherwise coordinate its higher-power operations. Speedcast certifies it will operate with a sufficiently reduced power level than that requested to clear all interference cases (*i.e.*, at the maximum reduction of 5.6 dB) until it installs appropriate RF screening or otherwise concludes coordination with affected terrestrial licensees to permit operation at the maximum power level. Speedcast also notes that its proposed operations will only be during intermittent and temporary disaster recovery activities.

⁸ See Select Fabricators, <https://www.select-fabricators.com/wp-content/uploads/2019/08/shielding-curtains.pdf>.

B. Radiation Hazard Report

Speedcast has taken proper mitigation procedures to ensure it meets the guidelines specified in 47 C.F.R. § 1.1310.⁹ The antenna will be located on the roof of a commercial building that is not accessible by the general public. Only professional trained installers and service technicians will perform any work on the antenna, and Speedcast is constructing RF screening which will further protect other non-members of the public (*e.g.*, building maintenance personnel) that may access the roof. Accordingly, the measures taken by Speedcast will ensure safe operations of the 2.4m earth station.

C. FAA Notification

The proposed antenna is exempt from notification to the FAA under Section 17.7(e)(1) of the Commission's rules because the antenna will be effectively shielded by existing structures of greater overall height and the antenna structure will be less than 6.1 m in height.¹⁰

D. C-band Order

In the C-band Order, the Commission directed the International Bureau to begin processing earth station applications filed in the 3.7-4.2 GHz band outside the CONUS and lifted the filing freeze that was previously in effect with regard to these areas.¹¹ Speedcast will operate the proposed earth station in compliance with C-band Order by limiting its operations in the 3.7-4.2 GHz band to Puerto Rico, which is outside the CONUS, at all times.¹² In removing the FSS allocation in the 3.7-4.0 GHz band within the contiguous United States, the Commission noted that “locations outside of the contiguous United States, many of which are remote, have a greater

⁹ See Technical Appendix, § A.2 (Radiation Hazard Report).

¹⁰ See 47 C.F.R. § 25.115(j); see also 47 C.F.R. § 17.7(e).

¹¹ Expanding Flexible Use of the 3.7 to 4.2 GHz Band, GN Docket No. 18-122, *Report and Order and Order of Proposed Modification*, FCC 20-22, 35 FCC Rcd 2343 (2020), at ¶ 149 (“C-Band Order”).

¹² See C-Band Order ¶ 132 (finding that, “authorizations for FSS operations outside of the contiguous United States may continue to operate in the entire 3.7-4.2 GHz band”).

need for a wide variety of C-band services”¹³ and thus maintained the FSS allocation in those regions. As an emergency backup backhaul earth station, Speedcast seeks to provide exactly the type of critical C-band services contemplated by the Commission.

II. PUBLIC INTEREST CONSIDERATIONS

In Puerto Rico, hurricane season is beginning and, having been the victim of severe weather incidents many times in recent years, is especially in need of this backup backhaul link. After Hurricane Maria in 2017, for example, approximately 95% of Puerto Rico’s terrestrial cellular sites were out of service. Because terrestrial wireless companies often rely on satellite services for backup and emergency restoration services and continuing efforts to address the impacts of the COVID-19 pandemic, grant of this application will strongly serve the public interest by allowing Speedcast to implement the 2.4m earth station so it is ready to be used in the event of additional severe weather events. The residents and business of Puerto Rico will directly benefit from the operations of the Speedcast site as requested in this application.

Moreover, this application will allow Speedcast to provide more efficient and flexible services in the United States and promote next-generation commercial deployments. In addition, operation of the antenna will be fully consistent with the Commission’s spectrum management policies, including two-degree satellite spacing, and will not adversely affect the operations of other spectrum users.

III. WAIVER REQUEST

Speedcast respectfully requests a limited waiver of the requirements under 47 C.F.R. §§ 25.115(a)(6), 25.115(c)(2), and 25.203 to the extent necessary to permit Speedcast to file a coordination analysis for frequency bands shared between terrestrial and space services as soon as

¹³ *Id.*

the report becomes available.¹⁴ The Commission may waive any of its rules if there is “good cause” to do so.¹⁵ In general, a waiver is appropriate if: (i) special circumstances warrant a deviation from the general rule; and (ii) such deviation will better serve the public interest than will strict adherence to the general rule.¹⁶ Generally, the Commission will grant a waiver of its rules if the relief requested will not undermine the policy objective of the rule in question and will otherwise serve the public interest.¹⁷

Grant of a limited waiver in this case will serve the public interest by ensuring Speedcast can move forward with deployment of the earth station and construction of additional shielding as described above, in order to provide reliable backup backhaul during temporary disaster emergencies in Puerto Rico. The coordination analysis required by the foregoing rules has been initiated as of the date of filing and is anticipated to be completed in the near future. Speedcast will submit the coordination report as an exhibit to the application as soon as it become available. Accordingly, a limited waiver of the rules to ensure the application may be efficiently processed, pending the coordination, report does not undermine the purpose of the rules and is consistent with the public interest.

IV. CONCLUSION

Based on the foregoing, the public interest would be served by a grant of Commission authority to Speedcast to operate the 2.4m earth station with the Eutelsat 113 WA satellite in the 5925 – 6425 MHz band and the 3700 – 4200 MHz bands to provide emergency restoration services in Puerto Rico.

¹⁴ See 47 C.F.R. § 1.3.

¹⁵ See *id.*; *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).

¹⁶ See *Northeast Cellular*, 897 F.2d at 1166.

¹⁷ See *WAIT Radio*, 418 F.2d at 1157.