Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554

In the Matter of	)	
	)	
SpaceLink Corporation	)	File Nos.
	)	SAT-MOD-20211026-00135
Modification of Authorization for	)	SAT-AMD-2021____-_____
EOS Space Spectrum LLC NGSO Satellite	)	
System	)	
	)	

AMENDMENT TO APPLICATION FOR MODIFICATION

SpaceLink Corporation ("SpaceLink") by its undersigned attorneys hereby requests to amend its pending application for authority to modify its license held by EOS Space Spectrum LLC (Call Sign S2982) for a medium earth orbit ("MEO") non-geostationary satellite orbit ("NGSO") constellation (the "SpaceLink System") ("Modification Application").[1] The complementary Schedule S provided with the Modification Application inadvertently reflected incorrect maximum effective isotropic radiated power ("EIRP") density levels for certain Ka-band transmit beams identified below. The instant amendment associates an updated Schedule S with the Modification Application that corrects the maximum EIRP density levels, and corresponding power flux-density ("PFD") levels, for the affected beams. SpaceLink requests no further changes to the Modification Application.

[1] *See* Modification of Authorization for EOS Space Spectrum LLC NGSO Satellite System (Call Sign S2982), IBFS File No. SAT-MOD-20211026-00135 (filed Oct. 26, 2021) (pending) ("Modification Application").

I. DISCUSSION

In 2018, the Federal Communications Commission ("FCC" or "Commission") granted the SpaceLink License to develop and launch the SpaceLink System.[2] The SpaceLink License authorizes the construction, deployment, and operation of three MEO relay spacecraft, using certain V-band spectrum for feeder links between the relay spacecraft and its earth stations and between the relay spacecraft themselves, and using certain K- and Ka-band spectrum for service links between the relay spacecraft and user LEO spacecraft.[3]

In October 2021, SpaceLink filed the pending Modification Application seeking authority for discrete changes to the SpaceLink System to improve the redundancy of the constellation, reduce the possibility of interference into co-frequency systems, simplify the deployment of on-orbit and terrestrial assets, and better align its service frequencies with those of federal relay satellites that will cease operations at the end of the decade.[4]

Subsequent to the submission of the Modification Application to the FCC, SpaceLink identified elevated and incorrect maximum EIRP density levels affecting four (4) omnidirectional

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[2] *See Audacy Corp.*, 33 FCC Rcd. 5554 (2018) ("SpaceLink License"); Call Sign S2982 was transferred to SpaceLink Corporation's ultimate parent, Electro Optic Systems Ltd. in March 2020. *See In the Matter of Electro Optics Systems Ltd*., Transfer of Control, Grant of Authority SAT-T/C-20200124-00013, DA No. 20-240 (rel. March 26, 2020); SpaceLink retired the "Audacy" brand in December 2020. *See* letter from Timothy Bransford, Morgan, Lewis & Bockius LLP, to Marlene H. Dortch, IBFS File No. IBFS File Nos. SAT-LOA-20161115-00117 (filed Dec. 3, 2020).

[3] The SpaceLink System is authorized to use the 37.5-42.0 GHz, 47.2-50.2 GHz and 50.4-51.4 GHz bands for feeder links and the 22.55-23.18 GHz, 23.38-23.55 GHz, 24.45-24.75 GHz, 32.3-33.0 GHz, 54.25-56.9 GHz, 57.0-58.2 GHz, and 65.0-71.0 GHz bands for ISS operations. The SpaceLink System is also authorized to use the 19.7-20.2 GHz and 29.5-30.0 GHz bands for off-nominal telemetry, tracking, and command functions.

[4] *See* Modification Application, Legal Narrative at pg. 5.

Ka-band beams the SpaceLink System will use infrequently for off-nominal telemetry.[5] The updated Schedule S associated with the instant amendment corrects these levels.

The specific transmit beams with corrected maximum EIRP density levels in the updated Schedule S associated with the instant amendment follow below in **Table 1**:

Orig. Beam No.[6]	New Beam No.	Beam ID	Frequency (MHz)	Corrected Max. Transmit EIRP Density
22	13	GTRA	20190-20200	-68.0 dBW/Hz
21	14	GTLA	20190-20200	-68.0 dBW/Hz
1	18	GTR0	19700-19710	-68.0 dBW/Hz
2	19	GTL0	19700-19710	-68.0 dBW/Hz

Table 1 – Corrected Ka-band Max EIRP Density Figures

The maximum EIRP density levels, and corresponding PFD levels, reflected in the updated Schedule S associated with the instant amendment are consistent with the levels originally authorized in the SpaceLink License, and comply with equivalent power flux-density ("EPFD") limits for NGSO fixed-satellite systems transmitting space-to-Earth in the 10.7-30 GHz frequency range, including all EPFD limits established in Article 22, Section II, and Resolution 76 of the ITU Radio Regulations as incorporated by reference in the FCC's rules.[7] SpaceLink engineers confirmed compliance with Article 22 limits using Transfinite Systems validation software developed on behalf of the ITU for FSS operator use, and reasonably anticipate a "favorable" or

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[5] For example, off-nominal telemetry communications involving the affected Ka-band beams may occur during on-orbit testing prior to bringing a satellite into commercial service, in emergency situations where a spacecraft's directional antennas may be unable to accurately point toward a gateway earth station, and while maneuvering a retired spacecraft into an appropriate storage orbit.

[6] The corrected Schedule S accompanying the instant amendment reorders the affected beams, but beam IDs and frequencies are consistent between both versions of the Schedule S. SpaceLink has made no substantive change to the corrected Schedule S beyond revising the maximum transmit EIRP density, and corresponding PFD levels, with respect to Beam IDs GTRA, GTLA, GTR0 and GTL0 as reflected in Table 1.

[7] *See* 47 C.F.R. § 25.108.

"qualified favorable" finding by the ITU Radiocommunication Bureau, in accordance with Resolution 85 of the ITU Radio Regulation regarding EPFD limits with respect to the above-referenced beams.[8]

II. CONCLUSION

SpaceLink respectfully requests that the Commission amend the pending Modification Application to reflect corrected maximum EIRP density levels as provided herein and expeditiously grant the requested modification.

Respectfully submitted,

/s/

Ulises R. Pin
Timothy Bransford
Morgan, Lewis & Bockius LLP
1111 Pennsylvania Ave., NW
Washington, DC 20003
(202) 373-6000
ulises.pin@morganlewis.com
timothy.bransford@morganlewis.com

Counsel for SpaceLink Corporation

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[8] *See* 47 C.F.R. § 25.146(c), requiring NGSO FSS operators to obtain such a finding from the ITU Radiocommunications Bureau.

CERTIFICATION OF PERSON RESPONSIBLE FOR PREPARING ENGINEERING INFORMATION

I hereby certify that I am the technically qualified person responsible for preparation of the engineering information contained in this application, that I am familiar with Part 25 of the Commission's rules, that I have either prepared or reviewed the engineering information submitted in this application and that it is complete and accurate to the best of my knowledge and belief.

/s/ James Spicer
Principal Aerospace Engineer
December 16, 2021