

MICROSOFT INFRASTRUCTURE GROUP

Modification of Call Sign E202212

Microsoft Infrastructure requests Special Temporary Authority to add a new point of communication to its earth station at Quincy, Washington (call sign E202212): MuSat-1 (call sign WN2XEC). Microsoft submitted an application to modify its license to add this point of communication on a permanent basis on March 14, 2023, which remains pending under ICFS File No. SES-MOD-20230314-00283. The requested STA is necessary to allow communications between the Microsoft earth station and MuSat-1 in support of the satellite's upcoming launch for a period of 30 days beginning on June 8, 2023.¹

This amendment does not reflect any change to the facilities of the Microsoft earth station referenced above. Characteristics such as antenna model, transmit EIRP, and coordinated frequencies/arc remain unchanged. To the extent necessary, attachments and other materials associated with that authorization are incorporated by reference hereto.

Detailed information relating to the MuSat-1 spacecraft is included in the materials submitted in support of that space station application (particularly the Technical Attachment). However, pertinent information from the MuSat-1 space-station application, as well as consolidated technical details relating to earth station operations, are included below for ease of reference.

Uplink Beams:

Antenna size	6.1 m
Antenna Manufacturer/Model	Comtech Ground Systems T355
Center Frequency	2062.5 MHz (primary), 2067.5 MHz (secondary)
Bandwidth	3.5 MHz
Emission Designator	3M50G1D
Polarization	RHCP/LHCP
Transmit Gain	36.5 dBi (at 2.025GHz)
Maximum Total EIRP (All Carriers)	53.5 dBW
Maximum EIRP per Carrier	25.4 dBW
Maximum EIRP Density per Carrier	10.2 dBW/4kHz
Location (NAD83)	Lat. 47° 14' 22.0"N Lon. 119° 53' 5.5"W
Site Elevation (AMSL)	406.05 m

Downlink Beams:

Center Frequency	8385 MHz (primary), 8390 MHz (secondary)
Bandwidth	3.5 MHz

¹ Transmissions from the Microsoft earth station will comply with all applicable conditions of the Muon Space license relating to uplink operations. See Experimental Authorization, ELS File No. 1334-EX-ST 2022 (granted May 4, 2022).

Emission Designator	3M50G1D
Polarization	RHCP/LHCP
Transmit Gain	2 dBi
Maximum EIRP per Carrier	-5.2 dBW
Maximum EIRP Density per Carrier	-70.6 dBW/Hz
Site Elevation (AMSL)	406.05 m
Rx Location (NAD83)	Lat. 47 ° 14' 22.0 "N Lon. 119 ° 53' 5.5 "W
Rx Site Elevation (AMSL)	406.05 m
Rx Antenna Gain	52.9 dBi (at 8.2125 GHz)

Point(s) of Communication:

Satellite	MuSat-1
Call Sign	WN2XEC
Orbit Type	NGSO
Orbital Parameters	Apogee: 525-575 km Perigee: 525-575 km Inclination: 97-98 degrees LTAN: 13:30 degrees Orbital Period: 95 minutes Argument of Perigee: 0.0 degrees