

MICROSOFT INFRASTRUCTURE GROUP

Request for Special Temporary Authority for Earth Station Communications

Microsoft Infrastructure hereby requests Special Temporary Authority to communicate with the satellite YAM-3 operated by Loft Orbital Solutions Inc. (call sign S3072) for a period of 30 days starting from the date of authorization.

These operations will occur in Quincy, WA using the facilities referenced in application file no. SES-LIC-20201230-01436. These communications will be consistent with the physical and operational characteristics of the earth station as described in that application, with the addition of the uplink and downlink beams described below.¹ Detailed information relating to the YAM-3 spacecraft is included in the materials submitted in support of that space station application (particularly Form 312 Schedule S).² However, pertinent information from the YAM-3 space station application is included below for convenience, as well as technical details relating to earth station operations.

Uplink Beams:

Antenna size	6.1 m
Antenna Manufacturer/Model	Comtech Ground Systems T355
Center Frequency	2071.875 MHz
Bandwidth	132 kHz
Emission Designator	132KG1D
Polarization	RHCP
Transmit Gain	36.5 dBi (at 2.025GHz)
Maximum EIRP per Carrier	72.6 dBW
Maximum EIRP Density per Carrier	48.6 dBW/4kHz
Location (NAD83)	Lat. 47° 14' 22.0"N Lon. 119° 53' 5.5"W
Site Elevation (AMSL)	406.05 m

Antenna size	6.1 m
Antenna Manufacturer/Model	Comtech Ground Systems T355
Center Frequency	2071.875 MHz
Bandwidth	132 kHz
Emission Designator	132KG1D
Polarization	LHCP
Transmit Gain	36.5 dBi (at 2.025 GHz)
Maximum EIRP per Carrier	72.6 dBW
Maximum EIRP Density per Carrier	48.6 dBW/4kHz
Location (NAD83)	Lat. 47° 14' 22.0"N Lon. 119° 53' 5.5"W

¹ See Application of Microsoft Infrastructure Group, IBFS File No. SES-LIC-20201230-01436 (filed Dec. 30, 2020)

² See Application of Loft Orbital Solutions, Inc., IBFS File No. SAT-LOA-20200907-00105 (filed Sep. 7, 2020).

Site Elevation (AMSL)	406.05 m
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Downlink Beams:

Center Frequency	8125 MHz
Bandwidth	100 MHz
Emission Designator	100MG1D
Polarization	RHCP
Transmit Gain	16.2 dBi
Maximum EIRP per Carrier	23.2 dBW
Maximum EIRP Density per Carrier	-56.8 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	YAM-3
Call Sign	S3072
Orbit Type	NGSO
Orbital Parameters	Apogee: 525.0 km Perigee: 525.0 km Inclination: 97.6 degrees RAAN: 108.7 degrees Orbital Period: 5708.0 seconds Argument of Perigee: 0.0 degrees