

NTIA Space record data form For GEARRS-3

FCC Application 0312-EX-CN-2019

Note: All Beams are between GEARRS-3 and the Globalstar Constellation

NTIA requires the following data for space related experiments using government shared spectrum. For each transmit frequency, please provide the data for both ends of the transmit-receive link. Use Part A to describe the satellite to ground information. Part B is for all ground to space transmit links.

Part A: Space to Earth Downlink Data

Satellite Transmitter Data

Transmit Frequency: 1616.25 MHz		
Satellite Name: GEARRS-3		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = XAP01 L	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN ____ 5 ____ BEAMWIDTH ____ 100 ____ XAD = XAD01 05G100B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).

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For Nongeostationary (Orbital Data)	INCLINATION ANGLE _____ 90 _____, APOGEE IN KILOMETERS _____ 550 _____, PERIGEE IN KILOMETERS _____ 550 _____, ORBITAL PERIOD IN HOURS _____ 1 _____ AND FRACTIONS OF HOURS IN DECIMAL _____ .6 _____, THE NUMBER OF SATELLITES IN THE SYSTEM _____ 1 _____, ORB = ORB,90in00550AP00550PE001.60H01NRR01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0in00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9in03209AP00655PE013.46H01NRR01

Earth Station Data (Receiver) GlobalStar Constellation		
State (RSC)	RSC =	
City Name (RAL)	RAL =	
Latitude (DDMMSS)	Lat =	
Longitude (DDMMSS)	Lon =	
Antenna Polarization (RAP)	RAP =	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ =	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN _____, BEAMWIDTH _____, AZIMUTHAL RANGE _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

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	RAD =	
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (GEARRS-3)		

Transmit Frequency: 1615.65 MHz / 1616.88 MHz		
Satellite Name: GEARRS-3		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = XAP02 L	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ02 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN ____ 4.31 ____ BEAMWIDTH ____ 110 ____ XAD = XAD02 04.31G110B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = Non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).

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For Nongeostationary (Orbital Data)	INCLINATION ANGLE _____ 90 _____, APOGEE IN KILOMETERS _____ 550 _____, PERIGEE IN KILOMETERS _____ 550 _____, ORBITAL PERIOD IN HOURS _____ 1 _____ AND FRACTIONS OF HOURS IN DECIMAL _____ .6 _____, THE NUMBER OF SATELLITES IN THE SYSTEM _____ 1 _____, ORB = ORB,90in00550AP00550PE001.60H01NRR01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0in00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9in03209AP00655PE013.46H01NRR01

Earth Station Data (Receiver) GlobalStar Constellation		
State (RSC)	RSC =	
City Name (RAL)	RAL =	
Latitude (DDMMSS)	Lat =	
Longitude (DDMMSS)	Lon =	
Antenna Polarization (RAP)	RAP =	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ =	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN _____, BEAMWIDTH _____, AZIMUTHAL RANGE _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

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	RAD =	
FCC notes: 1. Use S-Note S945. 2. REM AGN, Cubesat, (GEARRS-3)		

Part B: ~~Ground Stations, Earth~~ GlobalStar Contellation to GEARRS-3 link data:

~~Earth Station~~ GlobalStar Constellation Transmitter

Transmit Frequency: 2491.77 MHz		
State (XSC)	XSC =	
City Name (XAL)	XAL =	
Latitude (DDMMSS)	Lat =	
Longitude (DDDMMSS)	Lon =	
Antenna Polarization (XAP)	XAP = XAP01 L	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ =	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00

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Antenna Dimensions (XAD)	ANTENNA GAIN _____, BEAMWIDTH _____, AZIMUTHAL RANGE _____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS _____ THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS _____ XAD =	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
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Satellite Receive Specifications

Polarization (RAP)	RAP = RAP 01 L	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN ____ 4 ____ BEAMWIDTH ____ 110 ____ RAD =	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Non	Choose either: Geostationary or Nongeostationary

For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE ____ 90 ____ APOGEE IN KILOMETERS ____ 550 ____ PERIGEE IN KILOMETERS ____ 550 ____ ORBITAL PERIOD IN HOURS ____ 1 ____ AND FRACTIONS OF HOURS IN DECIMAL ____ .6 ____ THE NUMBER OF SATELLITES IN THE SYSTEM ____ 1 ____ ORB,90in00550AP00550PE001.60H01NRR01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

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