NTIA Space record data form For GEARRS-3 Satellite

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 (or to Globalstar Constellation) information. Part B is for all ground to space (or Globalstar constellation to the satellite) transmit links.

Part A: Space to Earth Space Downlink Data: Satellite Simplex and Duplex Transmitters

Satellite Globalstar Simplex Transmitter Data (Required for Each Frequency)

GEARRS-3 Simplex Transmitter

Transmit Frequency: 1616.25 MHz		
Satellite Name: GEARRS-3		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 0.078W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	2.5 MHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX JOF THE NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	1 MHz	
-20 dB bandwidth	2.5 MHz	
-40 dB bandwidth	4 MHz	
-60 dB bandwidth	5 MHz	
Modulation Type	BPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	100 bits/sec	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes □ No ⊠ FEC Type:, FEC Rate:,	
Total Symbol Rate	100 Symbols / sec	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Does transmitter have a beacon mode?	Yes □ No ⊠	BEACON MODE IS NORMALLY CONSIDERED A REGULAR AND PERIODIC SHORT DURATION TRANSMISSION THAT IS OFTEN USED TO ASSIST WITH TRACKING, DOPPLER COMPENSATION, OR SMALL SATELLITE IDENTIFICATION WHOSE TRANSMISSIONS ARE NOT LIMITED TO DURATIONS WHEN SUPPORTING GROUND STATIONS ARE VISIBLE.

If transmitter has	Vac 🗆	!
If transmitter has	Yes □	
a beacon mode,	No □	
can the beacon be		
commanded off?	Does not apply	
Transmit Antenna	XAP = H	POLARIZATIONS INCLUDE: H = HORIZONTAL,
Polarization (XAP)		V = VERTICAL,
	(Actually faces away from Earth when	S = HORIZONTAL AND VERTICAL,
	transmitting).	L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Transmit Antenna	XAZ = EC	NB= NARROWBEAM
Orientation (XAZ)		EC = EARTH COVERAGE
Transmit Antenna	ANTENNA GAIN4.31,	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI
Dimension (XAD)	BEAMWIDTH110,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH XAD01 16G030B
	XAD = XAD01 04G110B	AAD01 100030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)	71	GEOSTATIONARY OR NONGEOSTATIONARY
(City = Geo or		
Nongeo)		
110118007		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY,
Satellites	Longitude =	REPORT ITS LATITUDE AS 000000N (XLA
Satemites	Does not apply	AND/OR RLA) AND REPORT ITS LONGITUDE IN
For	INCLINATION ANGLE 45 ,	DDDMMSS FORMAT (XLG AND/OR RLG). IF ANY SATELLITES ARE NONGEOSTATIONARY,
	APOGEE IN KILOMETERS 500 ,	REPORT ITS INCLINATION ANGLE, APOGEE
Nongeostationary	·	IN KILOMETERS, PERIGEE IN KILOMETERS,
(Orbital Data)	PERIGEE IN KILOMETERS500,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF
	ORBITAL PERIOD IN HOURS1_AND	SATELLITES IN THE SYSTEM, THEN T01,
	FRACTIONS OF HOURS IN DECIMAL6,	EXAMPLE,
	THE NUMBER OF SATELLITES IN THE	REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT0
	SYSTEM1,	1, AND FOR SPACE-TO-SPACE
		COMMUNICATIONS WITH ANOTHER
	ORB =	NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL
	ORB,45.0IN00500AP00500PE001.60H01NRT01	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	ORB,52.0IN01414AP01414PE001.90H48NRR01	*ORB,72.9IN03209AP00655PE013.46H01NRR0
		1
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	(MLTAN) =	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary		EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits	Does Not Apply	
31.010		
Earth Station Data	Receiver) GlobalStar Satellite Constella	tion
State (RSC)	RSC = SPCE	
City Name (RAL)	RAL = NONGEO	
Latitude	Lat =	
(DDMMSS)	Does Not Apply	
		•

Longitude	Lon =	
(DDDMMSS)	Does Not Apply	
Receive Antenna Polarization (RAP)	RAP = RAP01 T	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
Receive Antenna	RAZ	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)	Does Not Apply	MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna	ANTENNA GAIN12,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH37,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE
		ELEVATION OF 357 METERS, AND ANTENNA
	RAD = 12G037B	HEIGHT ABOVE TERRAIN OF 6 METERS: RAD01 16G030B001-360A00357H006
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic	Does Not Apply	
Antennas)		
Number of	24	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN
Satellite Contacts		THE SPACE TO EARTH DIRECTION (DOWNLINKS)
Supported Per		EACH DAY
Day		AVES A CE SUBATION OF FACIL CONTACT
Expected	5 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		CATELLITE LIEALTH AND CTATHE TELEMETRY
Supported	Satellite Health and Status Data ⊠	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
Operations	Mission Payload Data ⊠	7.11.0/0.11.11.11.11.11.11.11.11.11.11.11.11.11
FCC notes:		
1. Use S-Note	e S945.	

2. REM AGN, Cubesat, GEARRS-3

Satellite Transmitter Data Globalstar Duplex Radio

Transmit Frequencies: 1615.65 MHz / 1616.88 MHz		
Satellite Name: GEARRS-3		
Data Field Data Answer Description/Comments		

Transmit Power (PWR)	PWR = 0.395W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	1.23 MHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX JOF THE NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	1.23 MHz	
-20 dB bandwidth	1.572 MHz	
-40 dB bandwidth	3.662 MHz	
-60 dB bandwidth	Below Spectrum Analyzer Floor	
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	2400 bits/second	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes □ No ⊠	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	4800 symbols / second	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Does transmitter have a beacon mode?	Yes □ No ⊠	BEACON MODE IS NORMALLY CONSIDERED A REGULAR AND PERIODIC SHORT DURATION TRANSMISSION THAT IS OFTEN USED TO ASSIST WITH TRACKING, DOPPLER COMPENSATION, OR SMALL SATELLITE IDENTIFICATION WHOSE TRANSMISSIONS ARE NOT LIMITED TO DURATIONS WHEN SUPPORTING GROUND STATIONS ARE VISIBLE.
If transmitter has a beacon mode,	Yes □ No □	
can the beacon be		
commanded off?	Does not apply	
Transmit Antenna Polarization (XAP)	XAP = H	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
Transmit Antenna	XAZ = EC	NB= NARROWBEAM
Orientation (XAZ)		EC = EARTH COVERAGE
	(Actually faces away from Earth when transmitting).	
Transmit Antenna	ANTENNA GAIN4.31,	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI
Dimension (XAD)	BEAMWIDTH110,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH XAD01 16G030B
	XAD = XAD01 04G110B	531 100000

Type of satellite (State = SPCE) (City = Geo or Nongeo)	Type = NONGEOSTATIONARY	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
For Geostationary Satellites	Longitude = Does not apply	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE IN DDDMMSS FORMAT (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE45, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS500, ORBITAL PERIOD IN HOURS1_AND FRACTIONS OF HOURS IN DECIMAL6, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB = ORB,45.0IN00500AP00500PE001.60H01NRT01 ORB,52.0IN01414AP01414PE001.90H48NRR01	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,98.0IN00510AP00510PE001.58H01NRT0 1, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR0
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = Does Not Apply	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)
Farth Station Dat	 a (Receiver) GlobalStar Satellite Constella	tion
State (RSC)	RSC = SPCE	
City Name (RAL)	RAL = NONGEO	
Latitude (DDMMSS) Longitude	Lat = Does Not Apply Lon =	
(DDDMMSS)	Does Not Apply	
Receive Antenna Polarization (RAP)	RAP = RAP01 T	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
Receive Antenna Orientation (RAZ)	RAZ Does Not Apply	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), VOO TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN12, BEAMWIDTH37, RAD = 12G037B	EXAMPLE ASSUMING NONGEOSTATIONARY, 16 DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357 METERS, AND ANTENNA HEIGHT ABOVE TERRAIN OF 6 METERS: RAD01 16G030B001-360A00357H006
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY, Does Not Apply	
Number of Satellite Contacts Supported Per Day	1	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY
Expected Duration of Each Contact	5 minutes	AVERAGE DURATION OF EACH CONTACT
Supported Operations FCC notes:	Satellite Health and Status Data ⊠ Mission Payload Data ⊠	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA

- 3. Use S-Note S945.
- 4. REM AGN, Cubesat, GEARRS-3

Part B: Earth Ground Station Uplink and GlobalStar Constellation Tx to GEARRS-3 Duplex Receiver, link data:

Earth Station Transmitter Data (Required for Each Frequency at Each Earth Station Location)

GlobalStar Constellation Tx to GEARRS-3 Duplex Receive

Transmit Frequency	/ (MHz):	
2484.39		
2485.62		
2486.85		
2488.08		
2489.31		
2490.54		
2491.77		
2493		
2494.23		
2495.46		
2496.69		
2497.92		
2499.15		
State (XSC)	XSC = SP	
City Name (XAL)	XAL = non	
Latitude	Lat = Does Not Apply	
(DDMMSS)		
Longitude	Lon = Does Not Apply	
(DDDMMSS)		
Transmit Power	PWR = Need to ask Globalstar	TRANSMIT POWER SUPPLIED TO THE
(PWR)		ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2
		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	1.23 MHz	THE WIDTH OF FREQUENCY BAND WHICH IS
Bandwidth		JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX J
		OF THE NTIA MANUAL.
RF Emissions Data	Refer to FCC Constellation HIBLEO-4	2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA
		ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	2400 b/s	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes □ No ⊠	
Correction Coding	FEC Type:,	
	FEC Rate:,	

Total Symbol Rate	4800 s/sec	DATA RATE COMBINED WITH FEC AND FRAME
,	·	OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP = XAP01 T	POLARIZATIONS INCLUDE:
Polarization (XAP)		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
Transmit Antenna	XAZ = XAZ01 NB	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)	70.12 70.1201110	MINIMUM OPERATING ANGLE OF
Offeritation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE,
		XAZ01 V00
Transmit Antenna	ANTENNA GAIN12,	EXAMPLE ASSUMING NONGEOSTATIONARY,
Dimensions (XAD)	BEAMWIDTH 37 ,	16 DBI GAIN, 30 DEGREE BEAMWIDTH,
	0.2	AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357 METERS, AND ANTENNA
	XAD = 12G037B	HEIGHT ABOVE TERRAIN OF 6 METERS:
	AAD - 120037B	XAD01 16G030B001-360A00357H006
Transmit Antenna	ANTENNA DIAMETER,	
Additional		
	ANTENNA EFFICIENCY,	
Information (For		
Parabolic	Does Not Apply	
Antennas)		
Number of	1	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE STATELLITE IN THE
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH
Supported Per		DAY
Day		
Expected	5 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = RAP01 L	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
		V = VERTICAL, S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	RAZ = NB	J = LINEAR POLARIZATION NB= NARROWBEAM
Orientation (RAZ)	140	EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN 4	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH 110	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD = 04G110B	RAD01 16G030B
Type of satellite	Type = SPCE Nongeo	CHOOSE EITHER:
(State = SPCE)	.,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
•		
Nongeo		

For Geostationary Satellites For Nongeostationary (Orbital Data)	Longitude = Does Not Apply INCLINATION ANGLE45	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE IN DDDMMSS FORMAT (XLG AND/OR RLG). 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,98.0IN00510AP00510PE001.58H01NRT 01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR 01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = Does Not Apply	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Earth Ground Station S Band Uplink

Transmit Frequency 2467 MHz		
State (XSC)	XSC = IN	
City Name (XAL)	XAL = UPLAND	
Latitude	Lat = 402533 N	
(DDMMSS)		
Longitude	Lon = 853030 W	
(DDDMMSS)		
Transmit Power	PWR = .04W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	22 MHz	THE WIDTH OF FREQUENCY BAND WHICH IS
Bandwidth		JUST SUFFICIENT TO SUCCESSFULLY TRANSFER
		DATA. FORMULAS CAN BE FOUND IN ANNEX J OF THE NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	24.0 Mhz	
-20 dB bandwidth	24.5 Mhz	
-40 dB bandwidth	27.0 Mhz	
-60 dB bandwidth	31 MHz	
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Rate	38.4 kbits/second	THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK. INFORMATION DATA RATE
Data Nate	30.4 KUILS/SECUTIO	

Forward Error	Is FEC used? Yes ⊠ No □	
Correction Coding	FEC Type:,	
	FEC Rate:,	
	,	
Total Symbol Rate	215 kbits/sec	DATA RATE COMBINED WITH FEC AND FRAME
		OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP = XAP01 J	POLARIZATIONS INCLUDE:
Polarization (XAP)		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
Transmit Antenna	XAZ = XAZ01 V60	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00
Transmit Antenna	ANTENNA GAIN 30,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)	BEAMWIDTH 5 ,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
Difficitions (AAD)	AZIMUTH 0001-360	RANGE FROM 001-360, SITE ELEVATION OF 357 METERS, AND ANTENNA HEIGHT ABOVE
	SITE ELEVATION 276	TERRAIN OF 6 METERS:
	HEIGHT ABOVE TERRAIN 2	XAD01 16G030B001-360A00357H006
	HEIGHT ABOVE TERRAIN 2	
	XAD01 30G005B001-360A00257H002	
Transmit Antenna	ANTENNA DIAMETER 2 Meter,	
Additional	ANTENNA EFFICIENCY VSWR < 1.5,	
Information (For	,	
Parabolic		
Antennas)		
Number of	Less than 1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		EARTH TO SPACE DIRECTION (OPINKS) EACH DAT
Day		
Expected	2 seconds	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = RAP01 J	POLARIZATIONS INCLUDE:
Polarization (RAP)	IVI - IVI OT I	H = HORIZONTAL,
i Olalization (NAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE

Receive Antenna Dimension (RAD) Type of satellite (State = SPCE) City = Geo or	ANTENNA GAIN2.5 BEAMWIDTH110 RAD = 02G110B Type = SPCE Nongeo	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH RAD01 16G030B CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
Nongeo For Geostationary Satellites	Longitude = Does Not Apply	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE IN DDDMMSS FORMAT (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE45, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS500, ORBITAL PERIOD IN HOURS1 AND FRACTIONS OF HOURS IN DECIMAL6, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB,45.0IN00500AP00500PE001.60H01NRR01	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, REMO4 *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
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = Does Not Apply	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)