## NTIA Space Record Data Form

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 (Required for Each Frequency)

Transmit Frequency	: 401.50 MHz	
Satellite Name: CTC-	-0	
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 0.9W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	25 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX J OF THE NTIA MANUAL.
<b>RF</b> Emissions Data	Telemetry and telecommand	2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	< 25 kHz	
-20 dB bandwidth	< 25 kHz	
-40 dB bandwidth	< 50 kHz	
-60 dB bandwidth	< 50 kHz	
Modulation Type	2GFSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	<9600 bps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗌 No V	
Correction Coding	FEC Type: n/a	
Total Symbol Rate	9600 sps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.

Does transmitter have a beacon mode?	Yes V 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, can the beacon be commanded off?	Yes V No	
Transmit Antenna Polarization (XAP)	XAP = 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
Transmit Antenna Orientation (XAZ)	XAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN 0 dBi, BEAMWIDTH 360°, XAD = 00G360B	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH XAD01 16G030B
Type of satellite (State = SPCE) (City = Geo or Nongeo)	Type = NONGEOSTATIONARY	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
For Geostationary Satellites	N/A	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 ANGLE 45 deg, APOGEE IN KILOMETERS 550 km, PERIGEE IN KILOMETERS 550 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL .594, THE NUMBER OF SATELLITES IN THE SYSTEM, 1 ORB = ORB,45.0IN00550AP00550PE001H.594NRT01	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,98.0IN00510AP00510PE001.58H0 1NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H0 1NRR01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = N/A	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)
Earth Station Data (R	eceiver) at Each Earth Station Location	
State (RSC)	<ol> <li>RSC = Scotland</li> <li>RSC = Bulgaria</li> </ol>	
City Name (RAL)	<ol> <li>RAL = Dundee (RBC Signals)</li> <li>RAL = Plana (EnduroSat)</li> </ol>	
Latitude (DDMMSS)	1) Lat = 562416.25 (56° 24' 16.25'' N) 2) Lat = 422858.6 (42° 28' 58.6'' N)	
Longitude (DDDMMSS)	<ol> <li>Lon = 0031032.94 (3° 10' 32.94'' W)</li> <li>Lon = 0232643.0 (23° 26' 43.0'' E)</li> </ol>	

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Receive Antenna Polarization (RAP)	RAP = 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	RAZ1 = V05	THE EARTH STATION RECEIVER
Orientation (RAZ)	RAZ2 = V05	ANTENNA MINIMUM OPERATING ANGLE OF
		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna	1) RAD1 = 14G035B001-360A00005H008	
Dimensions (RAD)	2) RAD2 = 14G035B001-360A00194H007	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 1.8 meters ANTENNA EFFICIENCY 65% (for all stations)	NOTE: ~1.8m long Yagi antenna, not a dish
Number of Satellite Contacts Supported Per Day	Up to 2 contacts per Earth station location per day	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	10 minutes	AVERAGE DURATION OF EACH
Supported Operations	SATELLITE HEALTH AND STATUS TELEMETRY AND MISSION PAYLOAD DATA	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes:		

Transmit Frequency:	2240.5 MHz	
Satellite Name: CTC-0		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 0.2W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	62.5 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX J OF THE NTIA MANUAL.
<b>RF Emissions Data</b>	Telemetry and telecommand	2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	<62.5 kHz	-
-20 dB bandwidth	<125 kHz	-
-40 dB bandwidth	<250 kHz	
-60 dB bandwidth	<250 kHz	
Modulation Type	4FSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	<62.5 kbps	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes V No □ FEC Type: Convolutional encoding with Viterbi decoding FEC Rate: ½ rate	
Total Symbol Rate	<62.5 ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.
Does transmitter have a beacon mode?	Yes 🗆 No V	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, can the beacon be commanded off?	Yes 🗆 No 🗆	

Transmit Antenna Polarization (XAP)	XAP = R	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 Orientation (XAZ)	XAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN = 3.5 dBi BEAMWIDTH = 180° XAD = 03.5G180B	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH XAD01 16G030B
Type of satellite (State = SPCE) (City = Geo or Nongeo)	Type = NONGEOSTATIONARY	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
For Geostationary Satellites		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 ANGLE 45 deg, APOGEE IN KILOMETERS 550 km, PERIGEE IN KILOMETERS 550 km, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL583, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB =	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,
	ORB,45.0IN00550AP00550PE001H.583NRT01	EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H0 1NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H0 1NRR01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = N/A	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

State (RSC)	3) RSC = Scotland	
State (NSC)	4) RSC = Bulgaria	
	5) RSC = Portugal	
City Name (RAL)	3) RAL = Dundee (RBC Signals)	
	4) RAL = Plana (EnduroSat)	
	5) RAL = Santa Maria, Azores (Leaf	
	Space)	
Latitude (DDMMSS)	3) Lat = 562416.25 (56° 24' 16.25'' N)	
	4) Lat = $422858.6 (42^{\circ} 28' 58.6'' N)$	
	5) Lat = $365951.2$ ( $36^{\circ} 59' 51.2'' N$ )	
Longitude	3) Lon = 0031032.94 (3° 10' 32.94'' W)	
(DDDMMSS)	4) Lon = $0232643.0 (23^{\circ} 26' 43.0'' E)$	
	5) Lon = $0250814.3 (25^{\circ} 8' 14.3'' W)$	
Receive Antenna	RAP = R	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,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ1 = V05	THE EARTH STATION RECEIVER
Orientation (RAZ)	RAZ2 = V05	ANTENNA MINIMUM OPERATING
	RAZ3 = V05	ANGLE OF
		ELEVATION (RAZ), V00 TO V90,
		EXAMPLE, RAZO1 VOO
Receive Antenna	3) RAD1 = 35G002B001-360A00005H008	
Dimensions (RAD)	4) RAD2 = 34.6G002.4B001-360A00194H007	EXAMPLE ASSUMING
	5) RAD3 = 35.8G002.2B001-360A01250H005	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	ANTENNA DIAMETER 3.7 meters	
Additional	ANTENNA EFFICIENCY 65%	
Information (For	(for all stations)	
Parabolic Antennas)		
Number of Satellite	Up to 2 contacts per Earth station location per	NUMBER OF TIMES THE SATELLITE WILL
Contacts Supported	day	COMMUNICATE WITH THE EARTH
Per Day		STATION IN THE SPACE TO EARTH
		DIRECTION (DOWNLINKS) EACH DAY
Expected Duration	10 minutes	AVERAGE DURATION OF EACH
of Each Contact		CONTACT
Supported	SATELLITE HEALTH AND STATUS TELEMETRY	SATELLITE HEALTH AND STATUS
Operations	AND MISSION PAYLOAD DATA	TELEMETRY AND/OR MISSION PAYLOAD
		DATA
FCC notes:		
2.		

Satellite Name: CTC-	Satellite Name: CTC-0		
Data Field	Data Answer	Description/Comments	
Transmit Power (PWR)	PWR = 6W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT	
Necessary Bandwidth	200KHz, 100KHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX J OF THE NTIA MANUAL.	
RF Emissions Data	5G-NTN NR, 3GPP standard	2-SIDED EMISSION BANDWIDTH VALUES	
-3 dB bandwidth	<200 kHz		
-20 dB bandwidth	<400 kHz		
-40 dB bandwidth	<800 kHz	7	
-60 dB bandwidth	<800 kHz	7	
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM (OFDM for multiplexing)	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.	
Data Rate	Estimated 200kbps at 200KHz bandwidth	INFORMATION DATA RATE	
Forward Error Correction Coding	Is FEC used? Yes V No □ FEC Type: LDPC and Polar Codes FEC Rate: Variable (ACM)		
Total Symbol Rate	Estimated 200ksps, 100ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.	
Does transmitter have a beacon mode?	Yes □ No V	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	

	Yes 🗆	
f transmitter has a beacon mode, can		
the beacon be		
commanded off?		
Fransmit Antenna	XAP = R	POLARIZATIONS INCLUDE:
	AAP - N	
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
Fransmit Antenna	XAZ = EC	NB= NARROWBEAM
Orientation (XAZ)		EC = EARTH COVERAGE
Fransmit Antenna	ANTENNA GAIN = 8 dBi	NTIA FORMAT (XAD), EXAMPLE, FOR 16
Dimension (XAD)	BEAMWIDTH = 70°	DBI ANTENNA GAIN AND 30 DEGREE
	XAD = 08G070B	BEAMWIDTH
		XAD01 16G030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR
City = Geo or		NONGEOSTATIONARY
Nongeo)		Nondeostationalit
Voligeo)		
For Geostationary	N/A	IF ANY SATELLITES ARE
Satellites		GEOSTATIONARY, REPORT ITS LATITUDE
Atemites		AS 000000N (XLA AND/OR RLA) AND
or		
Orbital Data)		
	SYSTEM1,	
	-	
	ORB,45.0IN00550AP00550PE001H.583NRT01	REM04
		*ORB,98.0IN00510AP00510PE001.58H0
		1NRT01, AND FOR SPACE-TO-SPACE
		COMMUNICATIONS WITH ANOTHER
		NONGEOSTATIONARY SATELLITE ADD
		AN ADDITIONAL
		*ORB FOR IT ENDING IN R01, EXAMPLE,
		REM05
		*ORB,72.9IN03209AP00655PE013.46H0
		1NRR01
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 45 deg, APOGEE IN KILOMETERS 550 km, PERIGEE IN KILOMETERS 550 km, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL583, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB = ORB,45.0IN00550AP00550PE001H.583NRT01	REPORT ITS LONGITUDE IN DDDMM 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 TO EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.5 1NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHEF NONGEOSTATIONARY SATELLITE AD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMI

For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = N/A	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)
Earth Station Data (R	Leceiver) at Each Earth Station Location	
State (RSC)	6) RSC = Nigeria 7) RSC = Nigeria	
City Name (RAL)	6) RAL = Lagos 7) RAL = Mobile	
Latitude (DDMMSS)	6) Lat = 062542.05 (6° 25' 42.05'' N) 7) Lat = N/A	
Longitude (DDDMMSS)	6) Lon = 032535.79 (3° 25' 35.79" E) 7) Lon = N/A	
Receive Antenna Polarization (RAP)	RAP06 = T RAP07 = J	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)	RAZ06 = V05 RAZ07 = V45	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	6) RAD6 = 35G002B001-360A00005H008 7) RAD7 = N/A MSS	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	ANTENNA DIAMETER 3.7 meters (Lagos) ANTENNA EFFICIENCY 65%	
Parabolic Antennas)	N/A MSS	
Number of Satellite Contacts Supported Per Day	Up to 2 contacts per Earth station location per day	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	2 Minutes	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Mission Payload Data, 5G-NTN NR	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA

## Part B: Ground Stations, Earth to Space link data:

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

Transmit Frequency:		
402.50 MHz		
State (XSC)	1) XSC1 = Scotland	
. ,	2) XSC2 = Bulgaria	
City Name (XAL)	1) XAL1 = Dundee	
, , ,	2) XAL2 = Plana	
Latitude (DDMMSS)	1) Lat1 = 562416.25 (56° 24' 16.25'' N)	
( , , , , , , , , , , , , , , , , , , ,	2) Lat2 = 422858.6 (42° 28' 58.6'' N)	
Longitude	1) Lon1 = 031032.94 (3° 10' 32.94'' W)	
(DDDMMSS)	2) Lon2 = 0232643.0 (23° 26' 43.0'' E)	
Transmit Power	1) PWR1 = 0.2W	TRANSMIT POWER SUPPLIED
(PWR)	2) PWR2 = 0.2W	TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2
		TRANSMIT POWER UNITS
		INCLUDE:
		W = WATT,
		K = KILOWATT,
		M = MEGAWATT
Necessary	1) 25 KHz	THE WIDTH OF FREQUENCY
Bandwidth	2) 25 KHz	BAND WHICH IS JUST
		SUFFICIENT TO SUCCESSFULLY
		TRANSFER DATA. FORMULAS
		CAN BE FOUND IN ANNEX J OF
		THE NTIA MANUAL.
<b>RF</b> Emissions Data		2-SIDED EMISSION
-3 dB bandwidth	1) <25 KHz	BANDWIDTH VALUES
	2) <25 KHz	
-20 dB bandwidth	1) <25 KHz	
	2) <25 KHz	
-40 dB bandwidth	1) <50 KHz	
	2) <50 KHz	
-60 dB bandwidth	1) <50 KHz	
	2) <50 KHz	
Modulation Type	1) 2GFSK	THE METHOD USED TO
71	2) 2GFSK	SUPERIMPOSE DATA ON THE
	,	CARRIER, EXAMPLE, BPSK,
		QPSK, GMSK.
Data Rate	1) 9600bps	INFORMATION DATA RATE
	2) 9600bps	
	,	

2)       9600sps       FEC AN RESULD SYMBG. Transmit Antenna         Polarization (XAP)       1)       XAP = T       POLAR POlarization (XAP)         2)       XAP = T       POLAR V = VE S = HOI VERTIC L = LEF R = RIG T = RIG CIRCUL J = LINE Orientation (XAZ)       POLAR POLAR         Transmit Antenna Orientation (XAZ)       1)       XAZ1 = V05       THE EA CIRCUL J = LINE CIRCUL J = LINE CIRCUL	
2) 9600sps       FEC AN RESULT SYMBG TO THE MAPPE         Transmit Antenna Polarization (XAP)       1) XAP = T       POLAR POLAR         2) XAP = T       H = HO V = VEI S = HOI VERTIC L = LEF R = RIG T = RIG CIRCUL J = LINNA         Transmit Antenna Orientation (XAZ)       1) XAZ1 = V05       THE EA CIRCUL J = LINNA         Transmit Antenna Dimensions (XAD)       ANTENNA GAIN       EXAMP         Transmit Antenna Dimensions (XAD)       ANTENNA GAIN       EXAMP         Transmit Antenna Dimensions (XAD)       ANTENNA GAIN       EXAMP         THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS       EXAMP         1) XAD1 = 14G035B001-360A00005H008       XAD01 360A00         2) XAD2 = 14G035B001-360A0005H008       XAD01 360A00         2) XAD2 = 14G035B001-360A0009H007       360A00         Transmit Antenna Additional Information (For Parabolic Antennas)       ANTENNA DIAMETER 1.8M ANTENNA EFFICIENCY 65% (all)       NOTE: antenn         Number of Satellite Contacts Supported       Up to 2 contacts per Earth station location per day       NUMBR	
2) 9600sps       FEC AN RESULT SYMBG TO THE MAPPE         Transmit Antenna Polarization (XAP)       1) XAP = T       POLAR POLAR         2) XAP = T       H = HO V = VEI S = HOI VERTIC L = LEF R = RIG T = RIG CIRCUL J = LINA         Transmit Antenna Orientation (XAZ)       1) XAZ1 = V05       THE EA R = RIG CIRCUL J = LINA         Transmit Antenna Dimensions (XAD)       1) XAZ1 = V05       THE EA R = RIG CIRCUL J = LINA         Transmit Antenna Dimensions (XAD)       ANTENNA GAIN BEAMWIDTHdeg       EXAMP EXAMP         THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS THE ANTENNA DIAMETER 1.8M ANTENNA DIAMETER 1.8M ANTENNA DIAMETER 1.8M ANTENNA DIAMETER 1.8M ANTENNA DIAMETER 1.8M ANTENNA EFFICIENCY 65% (all)       NOTE: antenna         Transmit Antenna Additional Information (For Parabolic Antennas)       ANTENNA DIAMETER 1.8M ANTENNA EFFICIENCY 65% (all)       NOTE: antenna	
Transmit Antenna       1)       XAP = T       POLAR         Polarization (XAP)       2)       XAP = T       H = HO         2)       XAP = T       H = HO       V = VERTIC         L       L = LEF       R = RIG       T = RIG         Transmit Antenna       1)       XAZ1 = V05       THE EA         Orientation (XAZ)       2)       XAZ2 = V05       TRANS         Transmit Antenna       ANTENNA GAIN       EXAMP         Dimensions (XAD)       ANTENNA GAIN       EXAMP         Transmit Antenna       ANTENNA GAIN       EXAMP         Dimensions (XAD)       ANTENNA GAIN       EXAMP         NONGG       AZIMUTHAL RANGEdeg       NONGG         THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN       BEAMW         METERSm       ANDA        m       THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS       ELEVAT        m       1)       XAD1 = 14G035B001-360A00005H008       XAD01         2)       XAD2 = 14G035B001-360A00194H007       360A00       360A00         Transmit Antenna       ANTENNA DIAMETER 1.8M       ANTENNA EFFICIENCY 65%       antenn         Information (For       (all)       VID to 2 contacts per Earth station location per day	RATE COMBINED WITH ND FRAME OVERHEAD TING IN THE TOTAL OL RATE AT THE INPUTE E SYMBOL ER/MODULATOR.
Orientation (XAZ)2) XAZ2 = V05TRANSI MINIM OF ELEVAT EXAMPTransmit Antenna Dimensions (XAD)ANTENNA GAIN, BEAMWIDTHdeg_, AZIMUTHAL RANGEdeg_, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERSm_, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ELEVAT I NAD1 = 14G035B001-360A00005H008 2) XAD2 = 14G035B001-360A0009H007EXAMP NONGE GAIN, 3 BEAMV RANGE ELEVAT BEAMV RANGE antenna AND AI TERRAI 1) XAD1 = 14G035B001-360A00005H008 2) XAD2 = 14G035B001-360A00194H007NOTE: antenna AND AI TERRAI NOTE: antenna Parabolic AntennasNumber of Satellite Contacts SupportedUp to 2 contacts per Earth station location per day STATIONUMBI STATIO	RIZATIONS INCLUDE: DRIZONTAL, RTICAL, PRIZONTAL AND CAL, FT HAND CIRCULAR, GHT HAND CIRCULAR, GHT AND LEFT HAND
Dimensions (XAD)BEAMWIDTHdeg_, AZIMUTHAL RANGEdeg_, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS m, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS Imm, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS Imm, AND AI TERRAI 2) XAD1 = 14G035B001-360A00005H008 2) XAD2 = 14G035B001-360A00194H007NONGE AND AI TERRAI XAD01 360A002Transmit Antenna Additional Information (For Parabolic Antennas)ANTENNA EFFICIENCY 65% (all)NONTE: ANTENNA Second antenna AUTENNA Second antenna STATIONumber of Satellite Contacts SupportedUp to 2 contacts per Earth station location per day STATIONUMBI STATIO	ARTH STATION SMITTER ANTENNA 1UM OPERATING ANGLE TION (XAZ), V00 TO V90, PLE, XAZ01 V00
AdditionalANTENNA EFFICIENCY 65%antennInformation (For Parabolic Antennas)(all)-Number of SatelliteUp to 2 contacts per Earth station location per dayNUMBER STATION	PLE ASSUMING EOSTATIONARY, 16 DBI 30 DEGREE WIDTH, AZIMUTHAL E FROM 001-360, SITE TION OF 357 METERS, NTENNA HEIGHT ABOVE IN OF 6 METERS: L 16G030B001- 0357H006
Contacts Supported STATIO	~1.8m long Yagi na, not a dish
(UPINK	ER OF TIMES THE EARTH DN WILL COMMUNICATE THE SATELLITE IN THE I TO SPACE DIRECTION KS) EACH DAY
Expected Duration10 minutesAVERAof Each ContactCONTA	AGE DURATION OF EACH

Receive Antenna	1) RAP = T	POLARIZATIONS INCLUDE:
Polarization (RAP)	2) RAP = T	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 = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN 0 dBi	NTIA FORMAT(RAD), EXAMPLE,
Dimension (RAD)	BEAMWIDTH 360 deg	FOR 16 DBI ANTENNA GAIN
	1) RAD1 = 0G360B	AND 30 DEGREE BEAMWIDTH
	2) RAD2 = 0G360B	RAD01 16G030B
Type of satellite	Type = Nongeostationary	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR
City = Geo or		NONGEOSTATIONARY
Nongeo		
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE
Satellites		GEOSTATIONARY, REPORT ITS
		LATITUDE AS 000000N (XLA
		AND/OR RLA) AND REPORT ITS
		LONGITUDE IN DDDMMSS
		FORMAT (XLG AND/OR RLG).
For	INCLINATION ANGLE 45 deg,	IF ANY SATELLITES ARE
Nongeostationary	APOGEE IN KILOMETERS 550 km,	NONGEOSTATIONARY, REPORT
(Orbital Data)	PERIGEE IN KILOMETERS 550 km,	ITS INCLINATION ANGLE,
(Orbital Data)	ORBITAL PERIOD IN HOURS 1	APOGEE
	AND FRACTIONS OF HOURS IN DECIMAL .594,	IN KILOMETERS, PERIGEE IN
	THE NUMBER OF	KILOMETERS, ORBITAL PERIOD
	SATELLITES IN THE SYSTEM, 1	IN HOURS AND FRACTIONS OF
		HOURS IN DECIMAL, THE
	ORB = ORB,45.0IN00550AP00550PE001H.594NRT01	NUMBER OF SATELLITES IN THE
		SYSTEM, THEN T01, EXAMPLE,
		REM04
		*ORB,98.0IN00510AP00510PE0
		01.58H01NRT01, AND FOR
		SPACE-TO-SPACE
		COMMUNICATIONS WITH
		ANOTHER
		NONGEOSTATIONARY
		SATELLITE ADD AN
		ADDITIONAL
		*ORB FOR IT ENDING IN R01,
		EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE0
		13.46H01NRR01
1		

For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE
SunSynchronous	(MLTAN) = N/A	BETWEEN AN ORBIT'S
Nongeostationary		ASCENDING NODE AND THE
Orbits		MEAN SUN, OFTEN EXPRESSED
		AS UNIT OF TIME (HH:MM)

Transmit Frequency:		
2067.5 MHz State (XSC)	3) XSC3 = Scotland	
	<ul><li>4) XSC4 = Bulgaria</li><li>5) XSC5 = Portugal</li></ul>	
City Name (XAL)	3) XAL3 = Dundee	
, , ,	4) XAL4 = Plana	
	5) XAL5 = Santa Maria, Azores	
Latitude (DDMMSS)	3) Lat3 = 562416.25 (56° 24' 16.25'' N)	
	4) Lat4 = 422858.6 (42° 28' 58.6" N)	
	5) Lat5 = 365951.2 (36° 59' 51.2" N)	
Longitude	3) Lon3 = 031032.94 (3° 10' 32.94'' W)	
(DDDMMSS)	<ul> <li>4) Lon4 = 0232643.0 (23° 26' 43.0" E)</li> <li>5) Lon5 = 250814.3 (25° 8' 14.3" W)</li> </ul>	
Transmit Power	3) PWR3 = 20W	TRANSMIT POWER SUPPLIED
(PWR)	4) PWR4 = 20W	TO THE ANTENNA INPUT
(,	5) PWR5 = 20W	TERMINAL, EXAMPLE, PWR01 W2
		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT,
•	2) 62 5 101	M = MEGAWATT
Necessary Bandwidth	3) 62.5 KHz 4) 62.5 KHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Balluwiutii	5) 62.5 KHz	SUFFICIENT TO SUCCESSFULLY
		TRANSFER DATA. FORMULAS
		CAN BE FOUND IN ANNEX J OF
		THE NTIA MANUAL.
<b>RF Emissions Data</b>		2-SIDED EMISSION
-3 dB bandwidth	3) 62.5 KHz	BANDWIDTH VALUES
	4) 62.5 KHz	
	5) 62.5 KHz	
-20 dB bandwidth	3) 125 KHz	
	4) 125 KHz	
	5) 125 KHz	
-40 dB bandwidth	3) 250 KHz	
	4) 250 KHz	
	5) 250 KHz	
-60 dB bandwidth	3) 250 KHz	
	4) 250 KHz	
	5) 250 KHz	

Modulation Type	3) 4FSK	THE METHOD USED TO
	4) 4FSK	SUPERIMPOSE DATA ON THE
	5) 4FSK	CARRIER, EXAMPLE, BPSK,
	5) 465K	
<b>D</b> + <b>D</b> +	2) 42511	QPSK, GMSK.
Data Rate	3) <125kbps	INFORMATION DATA RATE
	4) <125kbps	
	5) <125kbps	
Forward Error	Is FEC used? Yes V No $\Box$	
Correction Coding	FEC Type: Convolutional encoding with Viterbi	
	decoding	
	FEC Rate: ½ rate	
Total Symbol Rate	3) 62.5ksps	DATA RATE COMBINED WITH
Total Symbol Nate	4) 62.5ksps	FEC AND FRAME OVERHEAD
		RESULTING IN THE TOTAL
	5) 62.5ksps	
		SYMBOL RATE AT THE INPUTE
		TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	3) XAP = R	POLARIZATIONS INCLUDE:
Polarization (XAP)	4) XAP = R	H = HORIZONTAL,
	5) XAP = R	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	3) XAZ3 = V05	THE EARTH STATION
Orientation (XAZ)	4) XAZ4 = V05	TRANSMITTER ANTENNA
· · ·	5) XAZ5 = V05	MINIMUM OPERATING ANGLE
	,	OF
		ELEVATION (XAZ), V00 TO V90,
		EXAMPLE, XAZ01 V00
Transmit Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING
Dimensions (XAD)	BEAMWIDTHdeg_,	NONGEOSTATIONARY, 16 DBI
	AZIMUTHAL RANGEdeg,	GAIN, 30 DEGREE
	THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN	BEAMWIDTH, AZIMUTHAL
	METERS m,	RANGE FROM 001-360, SITE
	THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS	ELEVATION OF 357 METERS,
	m,	AND ANTENNA HEIGHT ABOVE
		TERRAIN OF 6 METERS:
	3) XAD3 = 35G002.2B001-360A00005H008	XAD01 16G030B001-
	4) XAD4 = 34.6G002.76B001-360A00194H007	360A00357H006
	5) XAD5 = 35.8G002.2B001-360A01250H005	
Transmit Antenna	ANTENNA DIAMETER 3.7M	
Additional	ANTENNA EFFICIENCY 65%	
Information (For	(all)	
Parabolic Antennas)		
r al abolic Allellids)		

Number of Satellite	Up to 2 contacts per Earth station location per day	NUMBER OF TIMES THE EARTH
Contacts Supported	op to 2 contacts per cartifistation location per day	STATION WILL COMMUNICATE
• •		WITH THE SATELLITE IN THE
Per Day		_
		EARTH TO SPACE DIRECTION
		(UPINKS) EACH DAY
Expected Duration	10 minutes	AVERAGE DURATION OF EACH
of Each Contact		CONTACT
Satellite Receive Spe	cifications	
Receive Antenna	3) RAP = R	POLARIZATIONS INCLUDE:
Polarization (RAP)	4) RAP = R	H = HORIZONTAL,
	5) RAP = R	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	RA7 = FC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN 4 dBi	NTIA FORMAT(RAD), EXAMPLE,
Dimension (RAD)		FOR 16 DBI ANTENNA GAIN
Dimension (RAD)	BEAMWIDTH 180 deg,	AND 30 DEGREE BEAMWIDTH
	3) RAD3 = 4G180B	
	4) $RAD4 = 4G180B$	RAD01 16G030B
<b>T</b> ( ) 111	5) RAD5 = 4G180B	
Type of satellite	Type = Nongeostationary	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR
City = Geo or		NONGEOSTATIONARY
Nongeo		
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE
Satellites		GEOSTATIONARY, REPORT ITS
		LATITUDE AS 000000N (XLA
		AND/OR RLA) AND REPORT ITS
		LONGITUDE IN DDDMMSS
		FORMAT (XLG AND/OR RLG).

-		
For	INCLINATION ANGLE 45 deg,	IF ANY SATELLITES ARE
Nongeostationary	APOGEE IN KILOMETERS 550 km,	NONGEOSTATIONARY, REPORT
(Orbital Data)	PERIGEE IN KILOMETERS 550 km,	ITS INCLINATION ANGLE,
	ORBITAL PERIOD IN HOURS 1	APOGEE
	AND FRACTIONS OF HOURS IN DECIMAL .594,	IN KILOMETERS, PERIGEE IN
	THE NUMBER OF	KILOMETERS, ORBITAL PERIOD
	SATELLITES IN THE SYSTEM, 1	IN HOURS AND FRACTIONS OF
		HOURS IN DECIMAL, THE
	ORB = ORB,45.0IN00550AP00550PE001H.594NRT01	NUMBER OF SATELLITES IN THE
		SYSTEM, THEN T01, EXAMPLE,
		REM04
		*ORB,98.0IN00510AP00510PE0
		01.58H01NRT01, AND FOR
		SPACE-TO-SPACE
		COMMUNICATIONS WITH
		ANOTHER
		NONGEOSTATIONARY
		SATELLITE ADD AN
		ADDITIONAL
		*ORB FOR IT ENDING IN R01,
		EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE0
		13.46H01NRR01
		13.46110110101
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE
SunSynchronous	(MLTAN) = N/A	BETWEEN AN ORBIT'S
Nongeostationary		ASCENDING NODE AND THE
Orbits		MEAN SUN, OFTEN EXPRESSED
		AS UNIT OF TIME (HH:MM)

Transmit Frequency: 1995.0 MHz			
State (XSC)	6)	XSC6 = Nigeria	
	7)	XSC7 = Nigeria	
City Name (XAL)	6)	XAL6 = Lagos	
	7)	XAL7 = Mobile	
Latitude (DDMMSS)	6)	Lat6 = 062542.05 (6° 25' 42.05'' N)	
	7)	La7 – N/A	
Longitude	6)	Lon6 = 032535.79 (3° 25' 35.79'' E)	
(DDDMMSS)	7)	Lon7 = N/A	
Transmit Power	6)	PWR6 = 20W	TRANSMIT POWER SUPPLIED
(PWR)	7)	PWR7 = up to 2W (MSS)	TO THE ANTENNA INPUT
			TERMINAL, EXAMPLE, PWR01
			W2
			TRANSMIT POWER UNITS
			INCLUDE:
			W = WATT,
			K = KILOWATT,
			M = MEGAWATT

Necessary	6) 100 KHz and 200 KHz	THE WIDTH OF FREQUENCY
Bandwidth	7) 100 kHz and 200 kHz	BAND WHICH IS JUST
banawiath		SUFFICIENT TO SUCCESSFULLY
		TRANSFER DATA. FORMULAS
		CAN BE FOUND IN ANNEX J OF
		THE NTIA MANUAL.
RF Emissions Data	5G-NTN NR, 3GPP standard	2-SIDED EMISSION
-3 dB bandwidth	6) 200 KHz	BANDWIDTH VALUES
	7) 200 KHz	
-20 dB bandwidth	6) 400 KHz	
-40 dB bandwidth	7) 400 KHz 6) 800 KHz	
	7) 800 KHz	
-60 dB bandwidth	6) 800 KHz	
	7) 800 KHz	
Modulation Type	QPSK, 16QAM, 64QAM, 256QAM (OFDM for	THE METHOD USED TO
	multiplexing)	SUPERIMPOSE DATA ON THE
		CARRIER, EXAMPLE, BPSK,
		QPSK, GMSK.
Data Rate	6) 200kbps 7) 200kbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes V No 🗆	
Correction Coding	FEC Type: LDPC and Polar Codes	
correction counts	FEC Rate: Variable (ACM)	
Tatal Course al Data	() 200hm	
Total Symbol Rate	6) 200ksps	DATA RATE COMBINED WITH
	7) 200ksps	FEC AND FRAME OVERHEAD
		RESULTING IN THE TOTAL
		SYMBOL RATE AT THE INPUTE
		TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna	6) XAP6 = R	POLARIZATIONS INCLUDE:
Polarization (XAP)	7) $XAP7 = J$	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	6) XAZ6 = V45	THE EARTH STATION
Orientation (XAZ)	7) XAZ7 = V45	TRANSMITTER ANTENNA
		MINIMUM OPERATING ANGLE OF
		ELEVATION (XAZ), V00 TO V90,
		EXAMPLE, XAZ01 V00

Transmit Antenna Dimensions (XAD) Transmit Antenna Additional	ANTENNA GAIN, BEAMWIDTHdeg_, AZIMUTHAL RANGEdeg, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS m, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS m, 6) XAD6 = 35G002.2B001-360A01250H005 7) XAD7 = N/A MSS ANTENNA DIAMETER 3.7M ANTENNA EFFICIENCY 65%	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: XAD01 16G030B001- 360A00357H006
Information (For Parabolic Antennas)	N/A for MSS terminal	
Number of Satellite Contacts Supported Per Day	Up to 2 contacts per Earth station location per day	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE SATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Expected Duration	2 minutes	AVERAGE DURATION OF EACH
of Each Contact Satellite Receive Spe		CONTACT
Satellite Receive Spe	cincacions	
Receive Antenna Polarization (RAP)	6) RAP = R 7) RAP = R	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 = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN 8 dBi BEAMWIDTH 100 deg 6) RAD6 = 8G100B 7) RAD7 = 8G100B	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH RAD01 16G030B
Type of satellite (State = SPCE) City = Geo or Nongeo	Type = Nongeostationary	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
For Geostationary Satellites	Longitude = N/A	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).

<b></b>		
For	INCLINATION ANGLE 45 deg,	IF ANY SATELLITES ARE
Nongeostationary	APOGEE IN KILOMETERS 550 km,	NONGEOSTATIONARY, REPORT
(Orbital Data)	PERIGEE IN KILOMETERS 550 km,	ITS INCLINATION ANGLE,
	ORBITAL PERIOD IN HOURS 1	APOGEE
	AND FRACTIONS OF HOURS IN DECIMAL .594,	IN KILOMETERS, PERIGEE IN
	THE NUMBER OF	KILOMETERS, ORBITAL PERIOD
	SATELLITES IN THE SYSTEM, 1	IN HOURS AND FRACTIONS OF
		HOURS IN DECIMAL, THE
	ORB = ORB,45.0IN00550AP00550PE001H.594NRT01	NUMBER OF SATELLITES IN THE
		SYSTEM, THEN T01, EXAMPLE,
		REM04
		*ORB,98.0IN00510AP00510PE0
		01.58H01NRT01, AND FOR
		SPACE-TO-SPACE
		COMMUNICATIONS WITH
		ANOTHER
		NONGEOSTATIONARY
		SATELLITE ADD AN
		ADDITIONAL
		*ORB FOR IT ENDING IN R01,
		EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE0
		13.46H01NRR01
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE
SunSynchronous	(MLTAN) = N/A	BETWEEN AN ORBIT'S
Nongeostationary		ASCENDING NODE AND THE
Orbits		MEAN SUN, OFTEN EXPRESSED
		AS UNIT OF TIME (HH:MM)