

NTIA Space record data form for DELPHI-1 Experimental Spacecraft

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 other satellite) information. Part B is for all ground to space (or from other satellite) transmit links.

DELPHI-1 Includes an Iridium modem transceiving with the Iridium constellation on L-Band, and a transceiver for S-Band up and down to 4 ground stations.

Part A: Space to Space Downlink Data

From DELPHI-1 to the Iridium Constellation

Satellite Transmitter Data Iridium 9603 Modem

Transmit Frequencies: 174 Channels, range from low end of low channel 1618.725 MHz to high end of high channel 1626.5 MHz, channel spacing 41.7 kHz.		
Satellite Name: DELPHI-1		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 1W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	35 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.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	NA	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	DQPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	50 kbps	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes ☒ No ☐ FEC Type: __BCH(32,21)_____, FEC Rate: _____50 kbps_____,	

Total Symbol Rate	25 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 ☒	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 ☐	
Polarization (XAP)	XAP = XAP01 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 = XAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN ____2____ BEAMWIDTH ____160____ XAD = XAD01 02G160B	(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).

For Nongeostationary (Orbital Data)	For DELPHI-1: INCLINATION ANGLE____97.5_____, APOGEE IN KILOMETERS____561_____, PERIGEE IN KILOMETERS____561_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_.595 __, THE NUMBER OF SATELLITES IN THE SYSTEM____1_____, For Iridium constellation: INCLINATION ANGLE____86.4_____, APOGEE IN KILOMETERS_780_____, PERIGEE IN KILOMETERS____780_____, ORBITAL PERIOD IN HOURS _1__AND FRACTIONS OF HOURS IN DECIMAL_.73____, THE NUMBER OF SATELLITES IN THE SYSTEM____66_____, ORB = ORB,97.5IN00561AP00561PE001.59H01NRT01 ORB,86.4IN00780AP00780PE001.73H66NRR01	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,72.9IN03209AP00655PE013.46H01NRT01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = 1000 For DELPHI-1	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

FCC notes:

1. Use S-Note S945.
2. REM AGN, DELPHI-1

Receiver Data Iridium Satellite

Iridium Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	RAP = RAP 01 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
Azimuth (RAZ)	RAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE

Receive Antenna Dimension (RAD)	ANTENNA GAIN_20____ BEAMWIDTH ____12____ RAD = RAD01 20G012B	(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)	For DELPHI-1: INCLINATION ANGLE____97.5____, APOGEE IN KILOMETERS____561____, PERIGEE IN KILOMETERS____561____, ORBITAL PERIOD IN HOURS __1__ AND FRACTIONS OF HOURS IN DECIMAL_.595 __, THE NUMBER OF SATELLITES IN THE SYSTEM____1____, For Iridium constellation: INCLINATION ANGLE____86.4____, APOGEE IN KILOMETERS_780____, PERIGEE IN KILOMETERS____780____, ORBITAL PERIOD IN HOURS _1_ AND FRACTIONS OF HOURS IN DECIMAL_.73____, THE NUMBER OF SATELLITES IN THE SYSTEM____66____, ORB,97.5IN00561AP00561PE001.59H01NRT01 ORB,86.4IN00780AP00780PE001.73H66NRR01	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
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	10 Seconds Max	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data ☒ Mission Payload Data ☒	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes: 1. Use S-Note S945. 2. REM AGN, DELPHI-1		

From DELPHI-1 to Earth

Part A: Space to Earth Downlink Data

Satellite Transmitter Data S-Band

Transmit Frequency: 2222.5 MHz		
Satellite Name: DELPHI-1		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 0.5W PWR01 W1	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	5 MHz	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		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	5 MHz	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	4.19 Mbits/sec	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes ☒ No ☐ FEC Type: _____ CC _____, FEC Rate: _____ 1/2 _____,	
Total Symbol Rate	5 Msymb/sec	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 ☐	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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN__6____, BEAMWIDTH __80____, XAD =	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	Longitude =	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__97.5____, APOGEE IN KILOMETERS__561____, PERIGEE IN KILOMETERS__561____, ORBITAL PERIOD IN HOURS __1__ AND FRACTIONS OF HOURS IN DECIMAL_.595 THE NUMBER OF SATELLITES IN THE SYSTEM__1____, ORB = ORB,97.5IN00561AP00561PE001.59H01NRT01	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
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =__1000____	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 (Receiver) at Each Earth Station Location		
State (RSC)	RSC = SPAIN	
City Name (RAL)	RAL = MASPALOMAS	
Latitude (DDMMSS)	Lat = 274602 N	
Longitude (DDDMMSS)	Lon = 0153811 W	

Receive Antenna Polarization (RAP)	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 = RAZ01 V05	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN__34.66_____, BEAMWIDTH__2.5_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __188_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __2_____, RAD = RAD01 34.7G003B001-360A00188H002	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__3.7_____, ANTENNA EFFICIENCY__39 PERCENT_	
Number of Satellite Contacts Supported Per Day	6	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	11	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data ☒ Mission Payload Data ☒	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes: 1. Use S-Note S945. 2. REM AGN, DELPHI-1		

State (RSC)	RSC = NORWAY ANTARCTICA	
City Name (RAL)	RAL = TROLL STATION	
Latitude (DDMMSS)	Lat = 720010 S	
Longitude (DDMMSS)	Lon = 0023131 E	
Receive Antenna Polarization (RAP)	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 = RAZ01 V05	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN__34.66_____, BEAMWIDTH__2.5_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS__484_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS__2_____, RAD = RAD01 34.7G003B001-360A00484H002	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__3.7_____, ANTENNA EFFICIENCY__39 PERCENT__	
Number of Satellite Contacts Supported Per Day	6	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	11	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data ☒ Mission Payload Data ☒	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes: 1. Use S-Note S945. 2. REM AGN, DELPHI-1		

State (RSC)	RSC = NORWAY	
City Name (RAL)	RAL = LONGYEARBYEN	
Latitude (DDMMSS)	Lat = 781353 N	
Longitude (DDDMMSS)	Lon = 0152440 E	
Receive Antenna Polarization (RAP)	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 = RAZ01 V05	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN__34.66_____, BEAMWIDTH__2.5_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS__484_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS__2_____, RAD = RAD01 34.7G003B001-360A00484H002	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__3.7_____, ANTENNA EFFICIENCY__39 PERCENT__	
Number of Satellite Contacts Supported Per Day	6	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	11	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data ☒ Mission Payload Data ☒	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes: 1. Use S-Note S945. 2. REM AGN, DELPHI-1		

State (RSC)	RSC = CHILE	
City Name (RAL)	RAL = PUNTA ARENAS	
Latitude (DDMMSS)	Lat = 525611 S	
Longitude (DDMMSS)	Lon = 0705212 W	
Receive Antenna Polarization (RAP)	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 = RAZ01 V05	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN__34.66_____, BEAMWIDTH__2.5_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS__186_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS__2_____, RAD = RAD01 34.7G003B001-360A00186H002	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__3.7_____, ANTENNA EFFICIENCY__39 PERCENT__	
Number of Satellite Contacts Supported Per Day	6	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	11	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data ☒ Mission Payload Data ☒	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes: 1. Use S-Note S945. 2. REM AGN, DELPHI-1		

Part B:**Iridium Constellation to DELPHI-1:****Satellite Transmitter Data to Iridium 9603 Modem**

Transmit Frequencies: 174 Channels spaced 41.6667 kHz apart, plus ring tone. Low end of low channel 1618.725 MHz, High end of High channel 1626.5 MHz.		
Satellite Name: IRIDIUM CONSTELLATION		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = XAP01 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
Orientation (XAZ)	XAZ = XAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_20_____ BEAMWIDTH ____12_____ XAD = XAD01 20G012B	(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).

For Nongeostationary (Orbital Data)	For Iridium constellation: INCLINATION ANGLE__86.4_____, APOGEE IN KILOMETERS_780_____, PERIGEE IN KILOMETERS__780_____, ORBITAL PERIOD IN HOURS _1_ AND FRACTIONS OF HOURS IN DECIMAL_.73_____, THE NUMBER OF SATELLITES IN THE SYSTEM__66_____, For DELPHI-1: INCLINATION ANGLE_____97.5_____, APOGEE IN KILOMETERS_____561_____, PERIGEE IN KILOMETERS_____561_____, ORBITAL PERIOD IN HOURS __1____ AND FRACTIONS OF HOURS IN DECIMAL_.595_____, THE NUMBER OF SATELLITES IN THE SYSTEM__1_____, ORB = ORB,86.4IN00780AP00780PE001.73H66NRT01 ORB,97.5IN00561AP00561PE001.59H01NRR01	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,72.9IN03209AP00655PE013.46H01NRT01
-------------------------------------	---	---

FCC notes:

1. Use S-Note S945.
2. REM AGN, DELPHI-1

Receiver Data DELPHI-1 Satellite Iridium Transceiver 9603 Receive from Iridium Constellation

Satellite Receive Specifications		
Polarization (RAP)	RAP = RAP 01 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
Azimuth (RAZ)	RAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN__2_____ BEAMWIDTH__160_____ RAD = RAD01 RAD01 02G160B	(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)	For Iridium constellation: INCLINATION ANGLE__86.4_____, APOGEE IN KILOMETERS_780_____, PERIGEE IN KILOMETERS__780_____, ORBITAL PERIOD IN HOURS _1_ AND FRACTIONS OF HOURS IN DECIMAL_.73_____, THE NUMBER OF SATELLITES IN THE SYSTEM__66_____, For DELPHI-1: INCLINATION ANGLE_____97.5_____, APOGEE IN KILOMETERS_____561_____, PERIGEE IN KILOMETERS_____561_____, ORBITAL PERIOD IN HOURS __1____ AND FRACTIONS OF HOURS IN DECIMAL_.595_____, THE NUMBER OF SATELLITES IN THE SYSTEM__1_____, ORB = ORB,86.4IN00780AP00780PE001.73H66NRT01 ORB,97.5IN00561AP00561PE001.59H01NRR01	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 to DELPHI-1

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

Transmit Frequency: 2067.5 MHz		
State (XSC)	XSC = SPAIN	
City Name (XAL)	XAL = MASAPALOMAS	
Latitude (DDMMSS)	Lat = 274602 N	
Longitude (DDDMMSS)	Lon = 0153811 W	
Transmit Power (PWR)	PWR = 10W PWR01 W10	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	119.047 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.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	119.047 kHz	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	100 kbits/sec	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes ☒ No ☐ FEC Type: _____ CC _____, FEC Rate: _____ 1/2 _____,	
Total Symbol Rate	119,047 Symbols/sec	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.
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 = XAZ01 V05	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN__34_____, BEAMWIDTH__2.71_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS__188_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS__2_____, XAD = XAD01 34G003B001-360A00188H002	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
Transmit Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER__3.7_____, ANTENNA EFFICIENCY__39 PERCENT_,	
Number of Satellite Contacts Supported Per Day	6	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE STATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Expected Duration of Each Contact	11	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN_6_____, BEAMWIDTH__80_____, RAD = RAD01 06G080B	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 =	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__97.5_____, APOGEE IN KILOMETERS__561_____, PERIGEE IN KILOMETERS__561_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_.595 THE NUMBER OF SATELLITES IN THE SYSTEM____1____, ORB = ORB,97.5IN00561AP00561PE001.59H01NRR01	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
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =_____1000_____	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2067.5 MHz		
State (XSC)	XSC = NORWAY ANTARCTICA	
City Name (XAL)	XAL = TROLL STATION	
Latitude (DDMMSS)	Lat = 720010 S	
Longitude (DDDMMSS)	Lon = 0023131 E	
Transmit Power (PWR)	PWR = 10W PWR01 W10	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	119.047 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.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	119.047 kHz	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	100 kbits/sec	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes ☒ No ☐ FEC Type: _____ CC _____, FEC Rate: _____ 1/2 _____,	
Total Symbol Rate	119,047 Symbols/sec	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.
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 = XAZ01 V05	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN__34_____, BEAMWIDTH__2.71_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __1365_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __2_____, XAD = XAD01 34G003B001-360A01365H002	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
Transmit Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER__3.7_____, ANTENNA EFFICIENCY__39 PERCENT_,	
Number of Satellite Contacts Supported Per Day	6	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE SATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Expected Duration of Each Contact	11	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN_6_____, BEAMWIDTH __80_____, RAD = RAD01 06G080B	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 =	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__97.5_____, APOGEE IN KILOMETERS__561_____, PERIGEE IN KILOMETERS__561_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_.595 THE NUMBER OF SATELLITES IN THE SYSTEM____1____, ORB = ORB,97.5IN00561AP00561PE001.59H01NRR01	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
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =_____1000_____	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2067.5 MHz		
State (XSC)	XSC = NORWAY	
City Name (XAL)	XAL = LONGYEARBYEN	
Latitude (DDMMSS)	Lat = 781353 N	
Longitude (DDDMMSS)	Lon = 0152440 E	
Transmit Power (PWR)	PWR = 10W PWR01 W10	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	119.047 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.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	119.047 kHz	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	100 kbits/sec	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes ☒ No ☐ FEC Type: _____ CC _____, FEC Rate: _____ 1/2 _____,	
Total Symbol Rate	119,047 Symbols/sec	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.
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 = XAZ01 V05	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN__34_____, BEAMWIDTH__2.71_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __484_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS __2_____, XAD = XAD01 34G003B001-360A00484H002	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
Transmit Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER__3.7_____, ANTENNA EFFICIENCY__39 PERCENT_,	
Number of Satellite Contacts Supported Per Day	6	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE SATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Expected Duration of Each Contact	11	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN_6_____, BEAMWIDTH __80_____, RAD = RAD01 06G080B	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 =	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__97.5_____, APOGEE IN KILOMETERS__561_____, PERIGEE IN KILOMETERS__561_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_.595 THE NUMBER OF SATELLITES IN THE SYSTEM____1____, ORB = ORB,97.5IN00561AP00561PE001.59H01NRR01	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
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =_____1000_____	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2067.5 MHz		
State (XSC)	XSC = CHILE	
City Name (XAL)	XAL = PUNTA ARENAS	
Latitude (DDMMSS)	Lat = 525611 S	
Longitude (DDDMMSS)	Lon = 0705212 W	
Transmit Power (PWR)	PWR = 10W PWR01 W10	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	119.047 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.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	119.047 kHz	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	QPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	100 kbits/sec	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes ☒ No ☐ FEC Type: _____ CC _____, FEC Rate: _____ 1/2 _____,	
Total Symbol Rate	119,047 Symbols/sec	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUT TO THE SYMBOL MAPPER/MODULATOR.
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 = XAZ01 V05	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN__34_____, BEAMWIDTH__2.71_____, AZIMUTHAL RANGE__001-360_____, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS __186_____, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS ____2_____, XAD = XAD01 34G003B001-360A00186H002	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
Transmit Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER__3.7_____, ANTENNA EFFICIENCY__39 PERCENT_,	
Number of Satellite Contacts Supported Per Day	6	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE SATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Expected Duration of Each Contact	11	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN_6_____, BEAMWIDTH __80_____, RAD = RAD01 06G080B	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 =	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__97.5_____, APOGEE IN KILOMETERS__561_____, PERIGEE IN KILOMETERS__561_____, ORBITAL PERIOD IN HOURS __1__AND FRACTIONS OF HOURS IN DECIMAL_.595 THE NUMBER OF SATELLITES IN THE SYSTEM____1____, ORB = ORB,97.5IN00561AP00561PE001.59H01NRR01	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
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =_____1000_____	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)