NTIA Space Record Data Form

(Note: Apex recognizes its frequency plan's complexity and, therefore, has summarized all inputs in its application's <u>technical annex</u> (table 1 and table 2) for convenience. Apex also notes no U.S.-based earth stations will communicate with the Apex Aries 1 satellite; in other words, no space-to-Earth or Earth-to-space transmissions will occur inside the United States.)

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:400.5 MHz		
Satellite Name: Apex Aries 1		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 1.2 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	2.64 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	3 kHz	
-20 dB bandwidth	17.5 kHz	
-40 dB bandwidth	25 kHz	
-60 dB bandwidth	40 kHz	
Modulation Type	2GFSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	1.2 kbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗌 No 🖂	
Correction Coding	FEC Type:, FEC Rate:,	
Total Symbol Rate	1.2 ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.

Does transmitter	Yes 🖂	BEACON MODE IS NORMALLY CONSIDERED A
have a beacon	No 🗔	REGULAR AND PERIODIC SHORT DURATION
mode?		WITH TRACKING, DOPPLER COMPENSATION, OR
		SMALL SATELLITE IDENTIFICATION WHOSE
		TRANSMISSIONS ARE NOT LIMITED TO
		DURATIONS WHEN SUPPORTING GROUND
If transmitter has	Yes 🖂	
a beacon mode,	No 🗆	
can the beacon be		
commanded off?		
Transmit Antenna	XAP = J	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL,
		S = HORIZONTAL AND VERTICAL.
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Transmit Antenna	XAZ = EC	NB= NARROWBEAM
Orientation (XAZ)		EC = EARTH COVERAGE
Transmit Antenna	ANTENNA GAIN <u>0</u> dBi ,	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI
Dimension (XAD)	BEAMWIDTH 360 ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	XAD = 0G360B	XADUI 16G030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
(City = Geo or		
Nongeo)		
Nongeoy		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemes		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
For	INCLINATION ANGLE 97.4deg	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS 525 km	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS 525 km	IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND ERACTIONS OF
(Orbital Data)	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
		IN THE SYSTEM, THEN TO1, EXAMPLE,
		REM04 *ORB 98 0IN00510AP00510PE001 58H01NRT01
		AND FOR SPACE-TO-SPACE
	SVSTEM 1	COMMUNICATIONS WITH ANOTHER
		ADDITIONAL
	ORB -	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	97 /INIO5254P00525PE001 58H01T01	*ORB,72.9IN03209AP00655PE013.46H01NRR01
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	(M TAN) = 12.00	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary	(WEIGN)15.00	EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits		
Earth Station Date	a (Receiver) at Each Earth Station Location	
State (RSC)	RSC = South Africa	-

City Name (RAL)	RAL = Pretoria	
Latitude	Lat = -255136	
(DDMMSS)		
Longitude	Lon = 0282700	
(DDDMMSS)		
Receive Antenna	RAP = J	
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	BA7 = BA7V00	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)		MINIMUM OPERATING ANGLE OF
		V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16 DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
Dimensions (RAD)	BEAMWIDTH,	RANGE FROM 001-360, SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
		RAD01 16G030B001-360A00357H006
	IN METERS	
	,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	4	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	Average Duration of Each Contact
Duration of Each		
Supported	Satallita Health and Status Data M	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Davland Data	AND/OR MISSION PAYLOAD DATA
operations		
Farth Station Date	 a (Receiver) at Each Earth Station Locativ	
State (RSC)	BSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude	Lat = 654800	
(DDMMSS)		
Longitude	Lon = 0214048	
(DDDMMSS)		

Receive Antenna Polarization (RAP) Receive Antenna Orientation (RAZ)	RAP = J RAZ = RAZV00	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 THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF
onentation (NA2)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
Number of Satellite Contacts Supported Per Day	11	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Earth Station Data	□ a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Southern Australia	
City Name (RAL)	RAL = Peterborough	
Latitude (DDMMSS)	Lat = -325743	
Longitude (DDDMMSS)	Lon = 1385058	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Western Australia	
City Name (RAL)	RAL = Nangetty	
Latitude (DDMMSS)	Lat = -290037	
Longitude (DDDMMSS)	Lon = 1152030	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	
Longitude (DDDMMSS)	Lon = 492908	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Bulgaria	
City Name (RAL)	RAL = Plana	
Latitude (DDMMSS)	Lat = 422858	
Longitude (DDDMMSS)	Lon = 0232643	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Spain	
City Name (RAL)	RAL = Puertollano	
Latitude (DDMMSS)	Lat = 384026	
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Azores, Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Date	(Receiver) at Each Earth Station Location	on
State (BSC)	BSC = United Kingdom	
City Name (RAL)	RAI = Unst. Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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

Transmit Frequency:401.5 MHz		
Satellite Name: Ape	ex Aries 1	
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 1.2 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	2.64 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	3 kHz	
-20 dB bandwidth	17.5 kHz	
-40 dB bandwidth	25 kHz	
-60 dB bandwidth	40 kHz	
Modulation Type	2GFSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.

Data Rate	1.2 kbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No \boxtimes	
Correction Coding	FEC Type:	
	FEC Rate:	
Total Symbol Rate	1.2 ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Does transmitter	Yes 🖂	BEACON MODE IS NORMALLY CONSIDERED A
have a beacon	No 🗆	TRANSMISSION THAT IS OFTEN USED TO ASSIST
mode?		WITH TRACKING, DOPPLER COMPENSATION, OR
		TRANSMISSIONS ARE NOT LIMITED TO
		DURATIONS WHEN SUPPORTING GROUND
16		STATIONS ARE VISIBLE.
If transmitter has	Yes 🖂	
a beacon mode,	No 🗆	
can the beacon be		
commanded off?		
Transmit Antenna	XAP = J	H = HORIZONTAL,
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antonna		J = LINEAR POLARIZATION NB= NARROWBEAM
Orientation (XAZ)	XAZ = EC	EC = EARTH COVERAGE
		NTIA FORMAT (XAD) EXAMPLE FOR 16 DBI
Dimension (VAD)	ANTENNA GAIN <u>0 dBi</u> ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (XAD)	BEANIWIDTH <u>300</u> ,	XAD01 16G030B
Type of satellite	Type = NONGEOSTATIONARY	GEOSTATIONARY OR NONGEOSTATIONARY
(State = SPCE)		
(City = Geo or		
Nongeo)		
For Geostationary	Longitude =	ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
For		IF ANY SATELLITES ARE NONGEOSTATIONARY.
Nongeostationary	APOGEE IN KILOMETERS 525 km	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS 525 km	IN KILOMETERS, PERIGEE IN KILOMETERS,
		HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,
	DECIMAL 0.58	*ORB,98.0IN00510AP00510PE001.58H01NRT01.
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM 1	COMMUNICATIONS WITH ANOTHER
	,	ADDITIONAL
	ORB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	97.4IN00525AP00525PE001.58H01T01	UND, 12.311003203AP00055PE013.40H011NKKUI

For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	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	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = South Africa	-
City Name (RAL)	RAL = Pretoria	
Latitude (DDMMSS)	Lat = -255136	
Longitude (DDDMMSS)	Lon = 0282700	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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

Earth Station Data (Receiver) at Each Earth Station Location		
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude	Lat = 654800	
(DDMMSS)		
Longitude	Lon = 0214048	
(DDDMMSS)		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	RANGE FROM 001-360, SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS: RAD01 16G030B001-360A00357H006
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD -	
Receive Antenna		
Additional	ANTENNA EFFICIENCY	
Information (For		
Parabolic		
Antennas)		
Number of Satellite Contacts Supported Per Day	11	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Earth Station Dat	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Southern Australia	
City Name (RAL)	KAL = Peterborough	
Latitude	Lat = -325/43	
	Lon - 1205050	
(DDDMMSS)	LON = 1385058	

Receive Antenna	RAP = I	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
FOIDI ZOUT (NAF)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)		FIEVATION (BAZ) VOO TO V90 EXAMPLE BAZ01
		V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	RANGE FROM 001-360. SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS	RAD01 16G030B001-360A00357H006
	IN METERS,	
	242	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Day	9 minutos	AVERAGE DURATION OF FACH CONTACT
Expected	8 minutes	
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🛛	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/ON WISSION FAILOAD DATA
Earth Station Data	a (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Western Australia	
City Name (RAL)	RAL = Nangetty	
	$1_{2} = -290037$	
	Lat = -230037	
	1152020	
Longitude	LON = 1152030	
(DDDMMSS)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		V = VERTICAL.
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND LIFET HAND CIRCULAR,

Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	
Longitude (DDDMMSS)	Lon = 492908	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Bulgaria	
City Name (RAL)	RAL = Plana	
Latitude (DDMMSS)	Lat = 422858	
Longitude (DDDMMSS)	Lon = 0232643	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Spain	
City Name (RAL)	RAL = Puertollano	
Latitude (DDMMSS)	Lat = 384026	
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Azores. Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Earth Station Location	n n
State (RSC)	BSC = United Kingdom	
City Name (RAL)	RAL = Unst. Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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

Transmit Frequency:400.5 MHz		
Satellite Name: Apex Aries 1		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 2 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	65.28 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	68.28 kHz	
-20 dB bandwidth	82.3 kHz	
-40 dB bandwidth	92 kHz	
-60 dB bandwidth	105 kHz	

Modulation Type	2GFSK	THE METHOD USED TO SUPERIMPOSE DATA ON
Data Rate	1.2 kbps	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes □ No ⊠ FEC Type:, FEC Rate:,	
Total Symbol Rate	1.2 ksps	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, can the beacon be commanded off?	Yes ⊠ No □	
Transmit Antenna Polarization (XAP)	XAP = 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
Transmit Antenna Orientation (XAZ)	XAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN <u>0 dBi</u> , BEAMWIDTH <u>360</u> , XAD = 0G360B	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0</u> . <u>58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary Orbits	(WEIAN) <u>13.00</u>	EXPRESSED AS UNIT OF TIME (HH:MM)
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
(DDMMSS)	Lat = -255136	
Longitude (DDDMMSS)	Lon = 0282700	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA EFFICIENCY,	

Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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
Farth Station Data	(Receiver) at Fach Farth Station Location	on and a second s
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude (DDMMSS)	Lat = 654800	
Longitude (DDDMMSS)	Lon = 0214048	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	11	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY

Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🖂	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Pavload Data 🛛	AND/OR MISSION PAYLOAD DATA
Earth Station Data	a (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Southern Australia	-
City Name (RAL)	RAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude	Lon = 1385058	
(DDDMMSS)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL
		S = HORIZONTAL AND VERTICAL,
		T = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF
Orientation (RAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
		V00
Receive Antenna	ANTENNA GAIN .	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH ,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	AZIMUTHAL RANGE ,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS,	RAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE FARTH STATION IN THE
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \boxtimes	AND/OR MISSION PAYLOAD DATA
Operations	Mission Payload Data 🛛	

Earth Station Data (Receiver) at Each Earth Station Location			
State (RSC)	RSC = Western Australia		
City Name (RAL)	RAL = Nangetty		
Latitude	Lat = -290037		
(DDMMSS)			
Longitude	Lon = 1152030		
(DDDMMSS)			
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:	
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL	
		S = HORIZONTAL AND VERTICAL,	
		L = LEFT HAND CIRCULAR,	
		T = RIGHT AND LEFT HAND CIRCULAR,	
Receive Antenna	RAZ = RAZV00	MINIMUM OPERATING ANGLE OF	
Orientation (RAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01	
		V00	
Receive Antenna	ANTENNA GAIN	EXAMPLE ASSUMING NONGEOSTATIONARY, 16	
Dimensions (RAD)	BEAMWIDTH	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL	
	AZIMUTHAL RANGE	METERS. AND ANTENNA HEIGHT ABOVE TERRAIN	
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:	
	LEVEL IN METERS ,	RAD01 16G030B001-360A00357H006	
	THE ANTENNA HEIGHT ABOVE TERRAIN		
	IN METERS,		
	RAD =		
Receive Antenna	ANTENNA DIAMETER,		
Additional	ANTENNA EFFICIENCY,		
Information (For			
Parabolic			
Antennas)			
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL	
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH	
Supported Per		DAY	
Day			
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT	
Duration of Each			
Contact		SATELLITE HEALTH AND STATUS TELEMETRY	
Supported	Satellite Health and Status Data	AND/OR MISSION PAYLOAD DATA	
Operations	Mission Payload Data		
Earth Station Data (Receiver) at Each Earth Station Location			
State (RSC)	RSC = Azerbaijan		
City Name (RAL)	RAL = Absheron		
Latitude	Lat = 402758		
(DDMMSS)			
Longitude	Lon = 492908		
---------------------------	---	---	
(DDDMMSS)			
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:	
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL	
		S = HORIZONTAL AND VERTICAL,	
		L = LEFT HAND CIRCULAR,	
		R = RIGHT HAND CIRCULAR,	
		I = RIGHT AND LEFT HAND CIRCULAR,	
Receive Antenna	$BA7 = BA7 \sqrt{00}$	THE EARTH STATION RECEIVER ANTENNA	
Orientation $(R\Delta 7)$		MINIMUM OPERATING ANGLE OF	
		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01	
		V00	
Receive Antenna	ANTENNA GAIN ,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16	
Dimensions (RAD)	BEAMWIDTH	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL	
	AZIMUTHAI BANGE	METERS AND ANTENNA HEIGHT ABOVE TERRAIN	
		OF 6 METERS:	
		RAD01 16G030B001-360A00357H006	
	IN METERS,		
Dessive Automas			
Receive Antenna			
Additional	ANTENNA EFFICIENCY,		
Information (For			
Parabolic			
Antennas)			
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL	
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH	
Supported Per		DAY	
Day			
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT	
Duration of Each			
Contact			
Supported	Satellite Health and Status Data 🛛	SATELLITE HEALTH AND STATUS TELEMETRY	
Operations	Mission Payload Data	AND/OR MISSION PAYLOAD DATA	
Farth Station Date	 a (Receiver) at Each Earth Station Location	nn i i i i i i i i i i i i i i i i i i	
State (BSC)	BSC = Bulgaria		
City Name (RAL)	RAI = Plana		
	lat = 422858		
(DDMMSS)			
Longitude	lon = 0.0000000000000000000000000000000000		

Receive Antenna Polarization (RAP) Receive Antenna Orientation (RAZ)	RAP = J RAZ = RAZV00	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 THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
		V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Farth Station Date	 a (Receiver) at Each Earth Station Location	0n
State (RSC)	RSC = Spain	
City Name (RAL)	RAL = Puertollano	
Latitude	Lat = 384026	
(DDMMSS)		
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Azores. Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Date	(Receiver) at Each Earth Station Location	on
State (BSC)	BSC = United Kingdom	
City Name (RAL)	RAL = Unst. Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data $oxtimes$ Mission Payload Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes:	S945	1
2. REM AGN, (Cubesat, (Apex Aries 1)	

Transmit Frequency:401.5 MHz		
Satellite Name: Ape	ex Aries 1	
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 2 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	65.28 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	68.28 kHz	
-20 dB bandwidth	82.3 kHz	

-40 dB bandwidth	92 kHz	
-60 dB bandwidth	105 kHz	
Modulation Type	2GFSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	1.2 kbps	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes □ No ⊠ FEC Type:, FEC Rate:,	
Total Symbol Rate	1.2 ksps	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, can the beacon be commanded off?	Yes ⊠ No □	
Transmit Antenna Polarization (XAP)	XAP = 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
Transmit Antenna Orientation (XAZ)	XAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN <u>0 dBi</u> , BEAMWIDTH <u>360</u> , XAD = 0G360B	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0</u> . <u>58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN. OFTEN
SunSynchronous	(MLIAN) = <u>13:00</u>	EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits		
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
(DDMMSS)	Lat = -255136	
Longitude (DDDMMSS)	Lon = 0282700	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	

Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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
Farth Station Data	(Receiver) at Fach Farth Station Location	on and a second s
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude (DDMMSS)	Lat = 654800	
Longitude (DDDMMSS)	Lon = 0214048	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	11	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY

Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🗵	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/OR MISSION PAYLOAD DATA
Earth Station Data	a (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Southern Australia	
City Name (RAL)	RAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude	Lon = 1385058	
(DDDMMSS)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR, B = BIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Describe Astronom		J = LINEAR POLARIZATION
Receive Antenna	RAZ = RAZVUU	MINIMUM OPERATING ANGLE OF
Orientation (RAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
		V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE FLEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS: RAD01 16G030B001-360A00357H006
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
Describe Astronom		
Receive Antenna		
	ANTENNA EFFICIENCY,	
Information (For		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts	· •	COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🛛	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data	AND/OR MISSION PAYLOAD DATA
· · · ·		

Earth Station Data (Receiver) at Each Earth Station Location		
State (RSC)	RSC = Western Australia	
City Name (RAL)	RAL = Nangetty	
Latitude	Lat = -290037	
(DDMMSS)		
Longitude	Lon = 1152030	
(DDDMMSS)		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Supported	Satellite Health and Status Data $oxtimes$	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/ON MISSION FAILOAD DATA
Earth Station Dat	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	

Longitude	Lon = 492908	
(DDDMMSS)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		I = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	$BA7 = BA7 \sqrt{00}$	THE EARTH STATION RECEIVER ANTENNA
Orientation $(R\Delta 7)$		MINIMUM OPERATING ANGLE OF
		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
		V00
Receive Antenna	ANTENNA GAIN ,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	AZIMUTHAI BANGE	METERS AND ANTENNA HEIGHT ABOVE TERRAIN
		OF 6 METERS:
		RAD01 16G030B001-360A00357H006
	IN METERS,	
Dessive Automas		
Receive Antenna		
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🛛	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data	AND/OR MISSION PAYLOAD DATA
Farth Station Date	 a (Receiver) at Each Earth Station Location	n n
State (BSC)	BSC = Bulgaria	
City Name (RAL)	RAI = Plana	
	lat = 422858	
(DDMMSS)		
Longitude	lon = 0.0000000000000000000000000000000000	

Receive Antenna Polarization (RAP) Receive Antenna Orientation (RAZ)	RAP = J RAZ = RAZV00	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 THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Farth Station Date	 a (Receiver) at Each Earth Station Location	on line line line line line line line lin
State (RSC)	RSC = Snain	
City Name (RAL)	RAL = Puertollano	
Latitude (DDMMSS)	Lat = 384026	
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Azores. Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Earth Station Location	n n
State (RSC)	BSC = United Kingdom	
City Name (RAL)	RAL = Unst. Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data $oxtimes$ Mission Payload Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notes:	1	1
1. Use S-Note	e S945.	
2. REM AGN,	Cubesat, (Apex Aries 1)	

Transmit Frequency:2287.5 MHz		
Satellite Name: Ape	ex Aries 1	
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 0.143 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	168.8 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	170 kHz	
-20 dB bandwidth	200 kHz	

-40 dB bandwidth	240 kHz	
-60 dB bandwidth	400 kHz	
Modulation Type	BPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	54.7 kBps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes $oxtimes$ No \Box	
Correction Coding	FEC Type: <u>Reed-Solomon and ½ CC</u> ,	
	FEC Rate:,	
Total Symbol Rate	125 ksps	DATA RATE COMBINED WITH FEC AND FRAME
		OVERHEAD RESULTING IN THE TOTAL SYMBOL
		MAPPER/MODULATOR.
Does transmitter	Yes 🗆	BEACON MODE IS NORMALLY CONSIDERED A
have a beacon	No 🗵	TRANSMISSION THAT IS OFTEN USED TO ASSIST
mode?		WITH TRACKING, DOPPLER COMPENSATION, OR
		SMALL SATELLITE IDENTIFICATION WHOSE
		DURATIONS WHEN SUPPORTING GROUND
	_	STATIONS ARE VISIBLE.
If transmitter has	Yes 🗆	
a beacon mode,	No 🗆	
can the beacon be		
commanded off?		
Transmit Antenna	XAP = L	POLARIZATIONS INCLUDE: H = HORIZONTAL,
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antonna	XA7 - EC	J = LINEAR POLARIZATION NB= NARROWBEAM
Orientation (XA7)	XAZ – EC	EC = EARTH COVERAGE
	ANTENNA GAIN 6 dBi	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI
Dimension $(X\Delta D)$	BEAMWIDTH 70	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (XXD)	XAD = 6G070B	XAD01 16G030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
(City = Geo or		
Nongeo)		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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
SunSynchronous Nongeostationary	(MLTAN) = <u>13:00</u>	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits		
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
Latitude (DDMMSS)	Lat = -255136	
Longitude (DDDMMSS)	Lon = 0282700	
Receive Antenna Polarization (RAP)	RAP = 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
Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	

Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude (DDMMSS)	Lat = 654800	
Longitude (DDDMMSS)	Lon = 0214048	
Receive Antenna Polarization (RAP)	RAP = 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
Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	11	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY

Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \boxtimes	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data	AND/OR MISSION PAYLOAD DATA
Earth Station Date	 a (Pacaivar) at Each Earth Station Location	<u> </u>
	BSC - Australia	
City Name (DAL)	RSC – Australia	
	Lat = -340224	
	Lan - 1504612	
Longitude	Lon = 1504612	
Receive Antenna	RAP = J	H = HORIZONTAL,
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Pocoivo Antonno	PAZ = PAZVOO	J = LINEAR POLARIZATION THE EARTH STATION RECEIVER ANTENNA
Oriontation (PAZ)	RAZ = RAZVOO	MINIMUM OPERATING ANGLE OF
Onentation (NAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH ,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	AZIMUTHAL RANGE ,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS,	RAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🖂	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Pavload Data	AND/OR MISSION PAYLOAD DATA
-		

Earth Station Data (Receiver) at Each Earth Station Location		
State (RSC)	RSC = Bahrain	
City Name (RAL)	RAL = Zallaq	
Latitude	Lat = 260300	
(DDMMSS)		
Longitude	Lon = 0503000	
(DDDMMSS)		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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 EFFICIENCY	
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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Supported	Satellite Health and Status Data $oxtimes$	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	
Fouth Chation Date	(Reseiver) at Fach Fauth Station Land:	
	a (Receiver) at Each Earth Station Location	
Sidle (KSC)	RAL - Dublin	
Latitude		
(DDMMSS)	Lat = 532400	

Longitude	Lon = -0061312	
Receive Antenna	RAP = J	H = HORIZONTAL.
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)		MINIMUM OPERATING ANGLE OF
		V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH ,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	AZIMUTHAL RANGE	METERS. AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
		RAD01 16G030B001-360A00357H006
	IN IVIETERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Day		
Exported	9 minutos	AVERAGE DURATION OF FACH CONTACT
Expected	8 minutes	
Contact		
Supported	Satellite Health and Status Data 🖂	AND/OR MISSION PAYLOAD DATA
Operations	Mission Payload Data 🗌	
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Southern Australia	
City Name (RAL)	RAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude	Lon = 1385058	
(DDDMMSS)		

Receive Antenna Polarization (RAP) Receive Antenna Orientation (RAZ)	RAP = J RAZ = RAZV00	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 THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Dessive Antonno		
Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS,	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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Farth Station Date	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Western Australia	
City Name (RAL)	RAL = Nangetty	
Latitude (DDMMSS)	Lat = -290037	
Longitude (DDDMMSS)	Lon = 1152030	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	
Longitude (DDDMMSS)	Lon = 492908	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = Bulgaria	
City Name (RAL)	RAL = Plana	
Latitude (DDMMSS)	Lat = 422858	
Longitude (DDDMMSS)	Lon = 0232643	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,		
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	8 minutes	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	
Farth Station Data (Receiver) at Each Farth Station Location			
State (RSC)	RSC = Spain		
City Name (RAL)	RAL = Puertollano		
Latitude (DDMMSS)	Lat = 384026		
Longitude (DDDMMSS)	Lon = -0040943		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00	

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,		
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	8 minutes	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	
Farth Station Data (Receiver) at Each Earth Station Location			
State (RSC)	BSC = Iceland		
City Name (RAL)	RAL = Blönduós		
Latitude (DDMMSS)	Lat = 653850		
Longitude (DDDMMSS)	Lon = -0201445		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00	
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	
--	---	--	
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,		
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	8 minutes	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	
Earth Station Data	A (Receiver) at Each Earth Station Location	on	
State (RSC)	BSC = Italy		
City Name (RAL)	RAL = Vimercate		
Latitude (DDMMSS)	Lat = 453536		
Longitude (DDDMMSS)	Lon = 0092144		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00	

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = Azores, Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	BSC = United Kingdom	
City Name (RAL)	RAL = Unst. Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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 2. REM AGN, (s945. Subesat, (Apex Aries 1)	

Transmit Frequency:2287.5 MHz		
Satellite Name: Ape	ex Aries 1	
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 0.85 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	1 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	1.02 MHz	
-20 dB bandwidth	1.08 MHz	

-40 dB bandwidth	1.14 MHz	
-60 dB bandwidth	1.20 MHz	
Modulation Type	BPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	54.7 kBps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes $oxtimes$ No \Box	
Correction Coding	FEC Type: <u>Reed-Solomon and ½ CC</u> ,	
	FEC Rate: <u>0.563</u> ,	
Total Symbol Rate	125 ksps	DATA RATE COMBINED WITH FEC AND FRAME
rotar symbol nate		OVERHEAD RESULTING IN THE TOTAL SYMBOL
		MAPPER/MODULATOR.
Does transmitter	Yes 🗆	BEACON MODE IS NORMALLY CONSIDERED A
have a beacon	No 🖂	REGULAR AND PERIODIC SHORT DURATION TRANSMISSION THAT IS OFTEN USED TO ASSIST
mode?		WITH TRACKING, DOPPLER COMPENSATION, OR
		SMALL SATELLITE IDENTIFICATION WHOSE
		DURATIONS WHEN SUPPORTING GROUND
		STATIONS ARE VISIBLE.
If transmitter has	Yes 🗆	
a beacon mode,	No 🗆	
can the beacon be		
commanded off?		
Transmit Antenna	XAP = L	POLARIZATIONS INCLUDE: H = HORIZONTAL.
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antonna	XA7 - EC	J = LINEAR POLARIZATION NB= NARROWBEAM
Orientation (XAZ)	XAZ = EC	EC = EARTH COVERAGE
Transmit Antenna	ANTENNA GAIN 5 dBi ,	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI
Dimension (XAD)	BEAMWIDTH <u>70</u> ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	XAD = 5G070B	
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
(City = Geo or		
Nongeo)		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
		(XLG AND/OR RLG).

For Nongeostationary (Orbital Data)	INCLINATION ANGLE <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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	Mean Local Time of Ascending Node (MITAN) = 13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary Orbits	(EXPRESSED AS UNIT OF TIME (HH:MM)
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
(DDMMSS)	Lat = -255136	
Longitude (DDDMMSS)	Lon = 0282700	
Receive Antenna Polarization (RAP)	RAP = 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
Receive Antenna Orientation (RAZ)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	

Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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
Farth Station Data	(Receiver) at Fach Farth Station Location	on series and s
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude (DDMMSS)	Lat = 654800	
Longitude (DDDMMSS)	Lon = 0214048	
Receive Antenna Polarization (RAP)	RAP = 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
Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	11	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY

Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \boxtimes	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data	AND/OR MISSION PAYLOAD DATA
Earth Station Date	 a (Pacaivar) at Each Earth Station Location	<u> </u>
	BSC - Australia	
City Name (DAL)	RSC – Australia	
	Lat = -340224	
	1 = 1504612	
Longitude	Lon = 1504612	
Receive Antenna	RAP = J	H = HORIZONTAL,
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Pocoivo Antonno	PAZ = PAZVOO	J = LINEAR POLARIZATION THE EARTH STATION RECEIVER ANTENNA
Oriontation (PAZ)	RAZ = RAZVOO	MINIMUM OPERATING ANGLE OF
Unentation (NAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH ,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	AZIMUTHAL RANGE ,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS ,	RAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🖂	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Pavload Data	AND/OR MISSION PAYLOAD DATA

Earth Station Data (Receiver) at Each Earth Station Location		
State (RSC)	RSC = Bahrain	
City Name (RAL)	RAL = Zallaq	
Latitude	Lat = 260300	
(DDMMSS)		
Longitude	Lon = 0503000	
(DDDMMSS)		
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER	
Additional Information (For Parabolic Antennas)	ANTENNA EFFICIENCY,	
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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Supported	Satellite Health and Status Data 🛛	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	
Fouth Chation Date	(Reseiver) at Fach Forth Station Locati	
	a (Receiver) at Each Earth Station Location	
Sidle (KSC)	RAL - Dublin	
Latitude		
(DDMMSS)	Lat = 532400	

Longitude	Lon = -0061312	
(אוואוטטט)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE: H = HORIZONTAL
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA
Orientation (RA7)		MINIMUM OPERATING ANGLE OF
		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
		100
Receive Antenna	ANTENNA GAIN	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
		RANGE FROM 001-360, SITE ELEVATION OF 357
		OF 6 METERS:
		RAD01 16G030B001-360A00357H006
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satallita Contacto		COMMUNICATE WITH THE EARTH STATION IN THE
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🖂	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Pavload Data	AND/OR MISSION PAYLOAD DATA
Earth Station Data	a (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Southern Australia	
City Name (RAL)	RAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude	lon = 1385058	
נכנויוויוססט		

Receive Antenna	RAP = I	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
FOIDTIZACION (NAF)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)		FIEVATION (RAZ) VOO TO V90 EXAMPLE RAZO1
		V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	RANGE FROM 001-360. SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS	RAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN WETERS,	
	242	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Por		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
		DAY
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🖂	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data	AND/OR MISSION PAYLOAD DATA
Farth Station Date	a (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Western Australia	
City Name (PAL)	RAL - Nangetty	
Latituda	1 -+ - 200027	
	Lat = -290037	
Longitude	Lon = 1152030	
(DDDMMSS)		
Receive Antenna	RAP = J	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 = LINEAK POLAKIZATION

Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	
Longitude (DDDMMSS)	Lon = 492908	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Bulgaria	
City Name (RAL)	RAL = Plana	
Latitude (DDMMSS)	Lat = 422858	
Longitude (DDDMMSS)	Lon = 0232643	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Spain	
City Name (RAL)	RAL = Puertollano	
Latitude (DDMMSS)	Lat = 384026	
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Azores. Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Date	(Receiver) at Each Earth Station Location	on
State (BSC)	BSC = United Kingdom	
City Name (RAL)	RAL = Unst. Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE FLEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS,	NADUI 1000308001-300A0033711000
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🖂	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/OR MISSION PAYLOAD DATA
FCC notes:		
1. Use S-Note	s945.	
2. REM AGN, Cubesat, (Apex Aries 1)		

Transmit Frequency:8212.5 MHz			
Satellite Name: Ape	Satellite Name: Apex Aries 1		
Data Field	Data Answer	Description/Comments	
Transmit Power (PWR)	PWR = 1 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT	
Necessary Bandwidth	13.5 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	65 MHz		
-20 dB bandwidth	75 MHz		
-40 dB bandwidth	85 MHz		
-60 dB bandwidth	100 MHz		

Modulation Type	16APSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER EXAMPLE BPSK OPSK GMSK
Data Rate	103 Mbps	INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes \boxtimes No \square FEC Type: <u>LDPC 2/3</u> , FEC Rate: <u>0.67</u> ,	
Total Symbol Rate	69.01 Mbps	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, can the beacon be commanded off?	Yes 🗆 No 🗆	
Transmit Antenna Polarization (XAP)	XAP = 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
Transmit Antenna Orientation (XAZ)	XAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN <u>17 dBi</u> , BEAMWIDTH <u>18</u> , XAD = 17G018B	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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
SunSynchronous Nongeostationary	(MLTAN) = <u>13:00</u>	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits		
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
Latitude (DDMMSS)	Lat = -255136	
Longitude (DDDMMSS)	Lon = 0282700	
Receive Antenna Polarization (RAP)	RAP = C	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 = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	

Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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
Farth Station Data	(Receiver) at Fach Farth Station Location	n n
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude (DDMMSS)	Lat = 654800	
Longitude (DDDMMSS)	Lon = 0214048	
Receive Antenna Polarization (RAP)	RAP = C	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 = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive 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, 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
	RAD =	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	11	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY

Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🗵	AND/OR MISSION PAYLOAD DATA

Transmit Frequency:8212.5 MHz Satellite Name: Apex Aries 1		
Transmit Power (PWR)	PWR = 2 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	100 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	65 MHz	
-20 dB bandwidth	75 MHz	
-40 dB bandwidth	85 MHz	
-60 dB bandwidth	100 MHz	
Modulation Type	16APSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	103 Mbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🛛 No 🗌	
Correction Coding	FEC Type: <u>LDPC 2/3</u> , FEC Rate: <u>0.67</u> ,	
Total Symbol Rate	69.01 Mbps	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, can the beacon be commanded off?	Yes 🗆 No	

Transmit Antenna	XAP = L	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL,
		V = VERTICAL, S = HORIZONITAL AND VERTICAL
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antonna		J = LINEAR POLARIZATION NB= NARROWBEAM
Transmit Antenna	XAZ = EC	EC = EARTH COVERAGE
Orientation (XAZ)		
Transmit Antenna	ANTENNA GAIN <u>17 dBi</u> ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (XAD)	BEAMWIDTH <u>18</u> ,	XAD01 16G030B
	XAD = 17G018B	
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
(City = Geo or		
Nongeo)		
0,		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
For		IF ANY SATELLITES ARE NONGEOSTATIONARY.
Nongoostationany	ADOCEE IN KILOMETERS E2E km	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)		IN KILOMETERS, PERIGEE IN KILOMETERS,
(Orbital Data)	PERIGEE IN KILOWETERS 525 Km ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS <u>1</u> AND	IN THE SYSTEM, THEN TO1, EXAMPLE,
	FRACTIONS OF HOURS IN	REM04
	DECIMAL <u>0.58</u> ,	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM,	NONGEOSTATIONARY SATELLITE ADD AN
		ADDITIONAL
	ORB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	97.4IN00525AP00525PE001.58H01T01	
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	(MITAN) = 13.00	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary	(inclusion)13.00	EXPRESSED AS UNIT OF TIME (HH:MM)
Orhits		
Fouth Ctatles D. 1		
Earth Station Data	a (Receiver) at Each Earth Station Locatio	
State (RSC)	RSC = South Africa	
City Name (RAL)	RAL = Pretoria	
Latitude	Lat = -255136	
(DDMMSS)		
Longitude	Lon = 0282700	
(DDDMMSS)		
Receive Antenna	RAP = C	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 Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
Number of Satellite Contacts Supported Per Day	4	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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Sweden	
City Name (RAL)	RAL = Boden	
Latitude (DDMMSS)	Lat = 654800	
Longitude (DDDMMSS)	Lon = 0214048	
Receive Antenna Polarization (RAP)	RAP = C	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 = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS,	KADUI 1000308001-300A00337H000
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	11	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/OR MISSION PATLOAD DATA
Earth Station Data (Receiver) at Each Earth Station Location		

Transmit Frequency:8212.5 MHz			
Satellite Name: Ape	Satellite Name: Apex Aries 1		
Data Field	Data Answer	Description/Comments	
Transmit Power (PWR)	PWR = 1 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT	
Necessary Bandwidth	13.5 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	65 MHz		
-20 dB bandwidth	75 MHz		
-40 dB bandwidth	85 MHz		
-60 dB bandwidth	100 MHz		
Modulation Type	16APSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.	
Data Rate	103 Mbps	INFORMATION DATA RATE	

Forward Error	Is FEC used? Yes ⊠ No □	
Correction Coding	FEC Type: <u>LDPC 2/3</u> ,	
	FEC Rate: 0.67 ,	
Total Symbol Rate	69.01 Mbps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Does transmitter	Yes 🗆	BEACON MODE IS NORMALLY CONSIDERED A
have a beacon	No 🖂	TRANSMISSION THAT IS OFTEN USED TO ASSIST
mode?		WITH TRACKING, DOPPLER COMPENSATION, OR
		TRANSMISSIONS ARE NOT LIMITED TO
		DURATIONS WHEN SUPPORTING GROUND
If transmitter has		STATIONS ARE VISIBLE.
a beacon mode		
can the beacon be		
commanded off?		
Transmit Antenna	XAP = L	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL,
		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)		
Transmit Antenna	ANTENNA GAIN <u>17 dBi</u> ,	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (XAD)	BEAMWIDTH <u>18</u> ,	XAD01 16G030B
	XAD = 17G018B	
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
(State = SPCE)		
(City = Geo or		
Nongeo)		
	Longitudo -	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
For	INCLINATION ANGLE 97 4 deg	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS 525 km	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS 525 km	IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN T01, EXAMPLE, RFM04
	DECIMAL <u>0.58</u>	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM,	NONGEOSTATIONARY SATELLITE ADD AN
		ADDITIONAL
	ORB =	*URB FUR IT ENDING IN R01, EXAMPLE, REM05 *ORB.72.9IN03209AP00655PF013.46H01NRR01
	97.4IN00525AP00525PE001.58H01T01	

For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	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	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Australia	-
City Name (RAL)	RAL = Currans Hill	
Latitude (DDMMSS)	Lat = -340224	
Longitude (DDDMMSS)	Lon = 1504612	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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

Earth Station Data (Receiver) at Each Earth Station Location				
State (RSC)	RSC = Bahrain			
City Name (RAL)	RAL = Zallaq			
Latitude	Lat = 260300			
(DDMMSS)				
Longitude	Lon = 0503000			
(DDDMMSS)				
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00		
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER			
Additional Information (For Parabolic Antennas)	ANTENNA EFFICIENCY,			
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	8 minutes	AVERAGE DURATION OF EACH CONTACT		
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY		
Operations	Mission Payload Data 🛛			
Earth Station Data (Receiver) at Each Earth Station Location				
State (RSC)	KSC = Ireland			
City Name (RAL)	RAL = Dublin			
Latitude (DDMMSS)	Lat = 532400			

Longitude	Lon = -0061312			
(DDDMMSS)				
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:		
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL		
		S = HORIZONTAL AND VERTICAL,		
		L = LEFT HAND CIRCULAR,		
		R = RIGHT HAND CIRCULAR,		
		I = RIGHT AND LEFT HAND CIRCULAR,		
Receive Antenna	$B\Delta 7 = B\Delta 7 1/00$	THE EARTH STATION RECEIVER ANTENNA		
Orientation $(R\Lambda7)$		MINIMUM OPERATING ANGLE OF		
		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01		
		100		
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16		
Dimensions (RAD)	BEAMWIDTH ,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL		
	AZIMUTHAL RANGE	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN		
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:		
	LEVEL IN METERS	RAD01 16G030B001-360A00357H006		
	THE ANTENNA HEIGHT ABOVE TERRAIN			
	IN METERS			
	RAD =			
Receive Antenna	ANTENNA DIAMETER,			
Additional	ANTENNA EFFICIENCY ,			
Information (For				
Parabolic				
Antennas)				
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL		
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE		
Supported Per		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH		
Day				
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT		
Duration of Each	o minutes			
Contact				
Currented	Catallita Usalth and Status Data	SATELLITE HEALTH AND STATUS TELEMETRY		
Supported		AND/OR MISSION PAYLOAD DATA		
Operations	Mission Payload Data 🗵			
Fourth Station Data (Desciver) at Fach Fourth Station Leastion				
	BSC - Southorn Australia			
City Name (PAL)	RAL - Deterborough			
	12t - 225742			
	Lal323/43			
	Lan. 1205050			
Longitude	LON = 1385058			
(DDDMMSS)				
Receive Antenna	RAP = I	POLARIZATIONS INCLUDE:		
---------------------	---	---		
Polarization (RAP)		H = HORIZONTAL,		
r olarization (NAF)		V = VERTICAL,		
		S = HORIZONTAL AND VERTICAL,		
		R = RIGHT HAND CIRCULAR.		
		T = RIGHT AND LEFT HAND CIRCULAR,		
		J = LINEAR POLARIZATION		
Receive Antenna	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA		
Orientation (RAZ)		FIEVATION (BAZ) VOO TO V90 EXAMPLE BAZ01		
		V00		
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16		
Dimensions (RAD)	BEAMWIDTH,	RANGE FROM 001-360. SITE ELEVATION OF 357		
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN		
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:		
	LEVEL IN METERS	RAD01 16G030B001-360A00357H006		
	IN METERS,			
	242			
	RAD =			
Receive Antenna	ANTENNA DIAMETER,			
Additional	ANTENNA EFFICIENCY,			
Information (For				
Parabolic				
Antennas)				
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL		
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE		
Supported Per		DAY		
Day				
Expected	9 minutor	AVERAGE DURATION OF FACH CONTACT		
Expected	8 minutes			
Duration of Each				
Contact				
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY		
Operations	Mission Payload Data 🛛	AND/ON WISSION FAILOAD DATA		
Earth Station Data	a (Receiver) at Each Earth Station Locati	on		
State (RSC)	RSC = Western Australia			
City Name (RAL)	RAL = Nangetty			
	$1_{2} = -290037$			
	Lat = -230037			
	452020			
Longitude	LON = 1152030			
(DDDMMSS)				
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:		
Polarization (RAP)		V = VERTICAL.		
		S = HORIZONTAL AND VERTICAL,		
		L = LEFT HAND CIRCULAR,		
		R = RIGHT HAND CIRCULAR,		
1		I = RIGHI AND LEFI HAND CIKCULAK,		

Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	
Longitude (DDDMMSS)	Lon = 492908	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Bulgaria	
City Name (RAL)	RAL = Plana	
Latitude (DDMMSS)	Lat = 422858	
Longitude (DDDMMSS)	Lon = 0232643	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = Spain	
City Name (RAL)	RAL = Puertollano	
Latitude (DDMMSS)	Lat = 384026	
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	BSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azores, Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = United Kingdom	
City Name (RAL)	RAL = Unst, Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE EROM 001-360, SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS,	KADOT 1000200001-200A002210000
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/OR MISSION PAYLOAD DATA
FCC notes:	·	
1. Use S-Note	S945.	
2. REM AGN, O	Cubesat, (Apex Aries 1)	

Transmit Frequency:8212.5 MHz		
Satellite Name: Apex Aries 1		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 2 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	100MHz	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	65 MHz	
-20 dB bandwidth	75 MHz	
-40 dB bandwidth	85 MHz	
-60 dB bandwidth	100 MHz	
Modulation Type	16APSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.

Data Rate	103 Mbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗵 No 🗆	
Correction Coding	FEC Type:LDPC 2/3 ,	
	FEC Rate: 0.67 ,	
Total Symbol Rate	69.01 Mbps	DATA RATE COMBINED WITH FEC AND FRAME
		OVERHEAD RESULTING IN THE TOTAL SYMBOL
		MAPPER/MODULATOR.
Does transmitter	Yes 🗆	BEACON MODE IS NORMALLY CONSIDERED A
have a beacon	No 🗵	REGULAR AND PERIODIC SHORT DURATION
mode?		WITH TRACKING, DOPPLER COMPENSATION, OR
		SMALL SATELLITE IDENTIFICATION WHOSE
		DURATIONS WHEN SUPPORTING GROUND
		STATIONS ARE VISIBLE.
If transmitter has	Yes 🗆	
a beacon mode,	No 🗆	
can the beacon be		
commanded off?		
Transmit Antenna	XAP = L	POLARIZATIONS INCLUDE:
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Transmit Antenna	XAZ = EC	NB= NARROWBEAM FC = FARTH COVERAGE
Orientation (XAZ)		
Transmit Antenna	ANTENNA GAIN <u>17 dBi</u> ,	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (XAD)	BEAMWIDTH <u>18</u> ,	XAD01 16G030B
	XAD = 17G018B	
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		
(City = Geo or		
Nongeo)		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
		(XLG AND/OR RLG).
For	INCLINATION ANGLE <u>97.4deg</u> ,	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE APOGEE
Nongeostationary	APOGEE IN KILOMETERS <u>525 km</u> ,	IN KILOMETERS, PERIGEE IN KILOMETERS,
(Orbital Data)	PERIGEE IN KILOMETERS <u>525 km</u> ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS <u>1</u> AND	IN THE SYSTEM, THEN TO1, EXAMPLE,
	FRACTIONS OF HOURS IN	REM04
	DECIMAL,	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	COMMUNICATIONS WITH ANOTHER
	SYSTEM,	NONGEOSTATIONARY SATELLITE ADD AN
		ADDITIONAL *ORB FOR IT ENDING IN R01, FXAMPLE REMOS
	ORB =	*ORB,72.9IN03209AP00655PE013.46H01NRR01
	97.4IN00525AP00525PE001.58H01T01	

For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = <u>13:00</u>	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	a (Receiver) at Each Earth Station Locatio	on
Earth Station Data	a (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Australia	
City Name (RAL)	RAL = Currans Hill	
Latitude	Lat = -340224	
(DDMMSS)		
Longitude (DDDMMSS)	Lon = 1504612	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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

Earth Station Dat	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Bahrain	
City Name (RAL)	RAL = Zallag	
Latitude	Lat = 260300	
(DDMMSS)		
Longitude	Lon = 0503000	
(DDDMMSS)		
Receive Antenna	RAP = J	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	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)		ELEVATION (RAZ), VOO TO V90, EXAMPLE, RAZO1
		V00
Pocoivo Antonno		EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (PAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
		RANGE FROM 001-360, SITE ELEVATION OF 357
		OF 6 METERS:
		RAD01 16G030B001-360A00357H006
	THE ANTENNIA HEIGHT ABOVE TERRAIN	
	IN METERS	
	,	
	RAD =	
Receive Antenna	ANTENNA DIAMETER ,	
Additional	ANTENNA EFFICIENCY ,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data	AND/OK MISSION PAYLOAD DATA
Earth Station Dat	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Ireland	
City Name (RAL)	RAL = Dublin	
Latitude	Lat = 532400	
(DDMMSS)		

Longitude	Lon = -0061312	
(DDDMMSS)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL, V = VERTICAL
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		I = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA
Orientation (RA7)		MINIMUM OPERATING ANGLE OF
		ELEVATION (RAZ), VOO TO V90, EXAMPLE, RAZOI
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL BANGE FROM 001-360, SITE FLEVATION OF 357
	AZIMUTHAL RANGE ,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS ,	RAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		DAY
Dav		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🗌	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data \square	AND/OR MISSION PAYLOAD DATA
operations		
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Southern Australia	
City Name (RAL)	RAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude	Lon = 1385058	
(DDDMMSS)		

Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
r olarization (NAF)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR.
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA
Orientation (RAZ)		FIEVATION (BAZ) VOO TO V90 EXAMPLE BAZ01
		V00
Receive Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH,	RANGE FROM 001-360. SITE ELEVATION OF 357
	AZIMUTHAL RANGE,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS	RAD01 16G030B001-360A00357H006
	IN METERS,	
	242	
	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE
Supported Per		DAY
Day		
Expected	9 minutor	AVERAGE DURATION OF FACH CONTACT
Expected	8 minutes	
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \Box	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/ON WISSION FAILOAD DATA
Earth Station Data	a (Receiver) at Each Earth Station Locati	on
State (RSC)	RSC = Western Australia	
City Name (RAL)	RAL = Nangetty	
	$1_{2} = -290037$	
	Lat = -230037	
	1452020	
Longitude	LON = 1152030	
(DDDMMSS)		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		V = VERTICAL.
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
1		I = RIGHI AND LEFI HAND CIKCULAK,

Receive Antenna Orientation (RAZ)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azerbaijan	
City Name (RAL)	RAL = Absheron	
Latitude (DDMMSS)	Lat = 402758	
Longitude (DDDMMSS)	Lon = 492908	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Bulgaria	
City Name (RAL)	RAL = Plana	
Latitude (DDMMSS)	Lat = 422858	
Longitude (DDDMMSS)	Lon = 0232643	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Spain	
City Name (RAL)	RAL = Puertollano	
Latitude (DDMMSS)	Lat = 384026	
Longitude (DDDMMSS)	Lon = -0040943	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Iceland	
City Name (RAL)	RAL = Blönduós	
Latitude (DDMMSS)	Lat = 653850	
Longitude (DDDMMSS)	Lon = -0201445	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Vimercate	
Latitude (DDMMSS)	Lat = 453536	
Longitude (DDDMMSS)	Lon = 0092144	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZVOO	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	on
State (RSC)	RSC = Italy	
City Name (RAL)	RAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Sri Lanka	
City Name (RAL)	RAL = Kandy	
Latitude (DDMMSS)	Lat = 071627	
Longitude (DDDMMSS)	Lon = 0804329	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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
Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
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	8 minutes	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
Earth Station Data	A (Receiver) at Each Earth Station Location	Dn
State (RSC)	RSC = New Zealand	
City Name (RAL)	RAL = Awarua	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Earth Station Data	a (Receiver) at Each Earth Station Locatio	on
State (RSC)	RSC = Azores, Portugal	
City Name (RAL)	RAL = Santa Maria	
Latitude (DDMMSS)	Lat = 365951	
Longitude (DDDMMSS)	Lon = 0250814	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, RAD =	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,	
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	8 minutes	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
Farth Station Data	A (Receiver) at Each Farth Station Location	on
State (RSC)	RSC = United Kingdom	
City Name (RAL)	RAL = Unst, Shetland	
Latitude (DDMMSS)	Lat = 604452	
Longitude (DDDMMSS)	Lon = -0005128	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = RAZV00	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00

Receive 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, 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
-	RAD =	
Receive Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data 🗆	SATELLITE HEALTH AND STATUS TELEMETRY
Operations	Mission Payload Data 🛛	AND/OR MISSION PAYLOAD DATA
FCC notes:	· · · · ·	
1. Use S-Note S945.		
2. REM AGN, Cubesat, (Apex Aries 1)		

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

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = South Africa	
City Name (XAL)	XAL = Pretoria	
Latitude	Lat = -255136	
(DDMMSS)		
Longitude	Lon = 0282700	
(DDDMMSS)		
Transmit Power	PWR = 0.12 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes □ No ⊠	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP =	POLARIZATIONS INCLUDE:
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR.
		T = RIGHT AND LEFT HAND CIRCULAR,
		
Transmit Antenna	XAZ =	MINIMUM OPERATING ANGLE OF
Urientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		VOU

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

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	4	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , 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, 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 *OBB 72 9IN03209AP00655PE013 46H01NRR01
	ORB = 97.4IN00525AP00525PE001.58H01T01	*ORB,72.9IN03209AP00655PE013.46H01NRR01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Sweden	
City Name (XAL)	XAL = Boden	
Latitude	Lat = 654800	
(DDMMSS)		
Longitude	Lon = 0214048	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		FORMULAS CAN BE FOUND IN ANNEX J OF THE
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		-
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $oxtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Transmit Antenna Polarization (XAP)	XAP =	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, P = PICHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Transmit Antenna Orientation (XAZ)	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS,	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 Antonna		
Additional		
	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	11	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = J	POLAKIZATIONS INCLUDE: H = HORIZONTAL
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EAKTH COVERAGE
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	101001 1000300

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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) = <u>13:00</u>	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	/: 402.7 MHz	
State (XSC)	XSC = Southern Australia	
City Name (XAL)	XAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude (DDDMMSS)	Lon = 1385058	
Transmit Power (PWR)	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT,
Necessary	5 76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth	5.70 KH2	SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
Banamatin		FORMULAS CAN BE FOUND IN ANNEX J OF THE NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE

Forward Error	Is FEC used? Yes \Box No \boxtimes	
Correction Coding	FEC Type:	
0	FEC Bate:	
Total Symbol Rate	1.2ksps	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 =	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 =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		ELEVATION (XAZ), VOO TO V90, EXAMPLE, XAZO1 V00
Transmit Antenna	ANTENNA GAIN16.2 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357
	BEAMWIDTH,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE,	OF 6 METERS:
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 16G0308001-360A00357H006
	LEVEL IN METERS ,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER .	
Additional	ANTENNA FEFICIENCY	
Information (For	,	
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE
Sunnorted Per		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Dav		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each	o minutes	
Contact		
Satellite Receive Sr	ecifications	
Satellite Receive Sp		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		т = кіднт and left hand circular, J = LINEAR POLARIZATION

Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) = <u>13:00</u>	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 402.7 MHz			
State (XSC)	XSC = Western Australia		
City Name (XAL)	XAL = Nangetty		
Latitude	Lat = -290037		
(DDMMSS)			
Longitude	Lon = 1152030		
(DDDMMSS)			
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA	
(PWR)		TRANSMIT POWER UNITS INCLUDE:	
		W = WATT,	
		K = KILOWATT,	
		M = MEGAWATT	
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST	
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.	
		NTIA MANUAL.	
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES	
-3 dB bandwidth			

-20 dB bandwidth				
-40 dB bandwidth		1		
-60 dB bandwidth		1		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON		
		THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.		
Data Rate				
Forward Error	Is FEC used? Yes \Box No $igtimes$			
Correction Coding	FEC Type:,			
	FEC Rate:,			
Total Symbol Rate	1.2ksps	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 =	POLARIZATIONS INCLUDE:		
Polarization (XAP)		H = HORIZONTAL, V = VERTICAL,		
		S = HORIZONTAL AND VERTICAL,		
		L = LEFT HAND CIRCULAR, B = BIGHT HAND CIRCULAR		
		T = RIGHT AND LEFT HAND CIRCULAR,		
T	VA7	J = LINEAR POLARIZATION		
Transmit Antenna	XAZ =	MINIMUM OPERATING ANGLE OF		
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01		
		V00		
Transmit Antenna	ANTENNA GAIN 16.2 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16		
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL		
	BEAMWIDTH ,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN		
	AZIMUTHAL RANGE,	OF 6 METERS:		
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 16G030B001-360A00357H006		
	LEVEL IN METERS,			
	THE ANTENNA HEIGHT ABOVE TERRAIN			
	IN METERS,			
	XAD =			
Transmit Antenna	ANTENNA DIAMETER,			
Additional	ANTENNA EFFICIENCY,			
Information (For				
Parabolic				
Antennas)				
Number of	>1			
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY		
Supported Per				
Day				
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT		
Duration of Each				
Contact				
Satellite Receive Specifications				
Receive Antenna	RAP = J	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	RAZ = EC	NB= NARROWBEAM		
Orientation (RAZ)		EC = EARTH COVERAGE		
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI		
Dimension (RAD)	BEAMWIDTH,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH		
	RAD =			
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:		
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY		
City = Geo or				
Nongeo				
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT		
Catallitas		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND		
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT		
		(XLG AND/OR RLG).		
For	INCLINATION ANGLE <u>97.4deg</u> ,	IF ANY SATELLITES ARE NONGEOSTATIONARY,		
Nongeostationary	APOGEE IN KILOMETERS <u>525 km</u> ,	IN KILOMETERS. PERIGEE IN KILOMETERS.		
(Orbital Data)	PERIGEE IN KILOMETERS 525 km ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF		
	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES		
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,		
	DECIMAL 0.58	*ORB,98.0IN00510AP00510PE001.58H01NRT01,		
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE		
	SYSTEM 1	COMMUNICATIONS WITH ANOTHER		
	<u> </u>	ADDITIONAL		
	OBB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05		
	97 /INIO0525 APO0525 PEO01 58 H01T01	*ORB,72.9IN03209AP00655PE013.46H01NRR01		
For	Moon Loool Time of According Node	MITAN IS THE ANGLE BETWEEN AN ORBIT'S		
	wiean Local Time of Ascending Node	ASCENDING NODE AND THE MEAN SUN, OFTEN		
SunSynchronous	(MLTAN) = 13:00	EXPRESSED AS UNIT OF TIME (HH:MM)		
Nongeostationary				
Orbits				

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Azerbaijan	
City Name (XAL)	XAL = Absheron	
Latitude	Lat = 402758	
(DDMMSS)		
Longitude	Lon = 492908	
(DDDMMSS)		

Transmit Power (PWR)	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	5.76 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		
-20 dB bandwidth		-
-40 dB bandwidth		-
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $igtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna Polarization (XAP)	XAP =	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 =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA DIAMETER	
Additional	ANTENNA EFFICIENCY	
Information (For		
Parabolic		
Antennas)		

Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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
SunSynchronous Nongeostationary Orbits	(MLTAN) = <u>13:00</u>	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	: 402.7 MHz	
State (XSC)	XSC = Bulgaria	

City Name (XAL)	XAL = Plana	
Latitude	Lat = 422858	
(DDMMSS)		
Longitude	Lon = 0232643	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗌 No 🖂	
Correction Coding	FEC Type:	
	FEC Rate:	
Total Symbol Rate	1.2ksps	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 =	POLARIZATIONS INCLUDE:
Polarization (XAP)		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 =	MINIMUM OPERATING ANGLE OF
Unentation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00
Transmit Antenna	ANTENNA GAIN16.2 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)	,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360. SITE ELEVATION OF 357
	BEAMWIDTH,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE,	OF 6 METERS: XAD01 1660308001-360400357H006
	THE SITE ELEVATION ABOVE MEAN SEA	
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	

Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE
Supported Per		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Dav		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sn	pecifications	I
Satemite Necewe Sp		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		
		S = HORIZONTAL AND VERTICAL.
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN ,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH .	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	RADUI 16G030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
outenites		(XLG AND/OR RLG).
For	INCLINATION ANGLE 97.4deg .	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS 525 km	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS 525 km	IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF
(0.0.000 2.000)	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,
	DECIMAL 0.58	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM 1	COMMUNICATIONS WITH ANOTHER
	<u> </u>	ADDITIONAL
	ORB -	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE013.46H01NRR01
For	Moon Local Time of According Node	MI TAN IS THE ANGLE BETWEEN AN ORBIT'S
FUI		ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongoostationary	(IVILIAN) =13:00	EXPRESSED AS UNIT OF TIME (HH:MM)
Nongeostationary		
Urbits		

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Spain	
City Name (XAL)	XAL = Puertollano	
Latitude	Lat = 384026	
(DDMMSS)		
Longitude	Lon = -0040943	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT, K = KILOWATT
		M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		FORMULAS CAN BE FOUND IN ANNEX J OF THE
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		_
-20 dB bandwidth		_
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes □ No ⊠	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP =	POLARIZATIONS INCLUDE: H = HORIZONTAL
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antenna	XA7 -	J = LINEAR POLARIZATION THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XA7)		MINIMUM OPERATING ANGLE OF
		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , 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, 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
	97.4IN00525AP00525PE001.58H01T01	OKB, 72.51103205AF00055FL015.401101111101
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Iceland	
City Name (XAL)	XAL = Blönduós	
Latitude	Lat = 653850	
(DDMMSS)		
Longitude	Lon = -0201445	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		_
-20 dB bandwidth		_
-40 dB bandwidth		_
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER EXAMPLE BPSK OPSK GMSK
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $igtriangleup$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Transmit Antenna Polarization (XAP)	XAP =	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR.
Transmit Antonna	VA7_	T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION THE FARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)	XAZ =	MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS,	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 Antonna		
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE
Supported Per		EARTH TO SPACE DIRECTION (OPINKS) EACH DAT
Dav		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Fach	8 minutes	
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = I	POLARIZATIONS INCLUDE:
Polarization (RAP)	· · · · ·	H = HORIZONTAL,
		V = VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Dessive Antonio		J = LINEAR POLARIZATION
Receive Antenna	KAZ = EL	EC = EARTH COVERAGE
Urientation (RAZ)		
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH,	RAD01 16G030B
	RAD =	

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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Italy	
City Name (XAL)	XAL = Vimercate	
Latitude	Lat = 453536	
(DDMMSS)		
Longitude	Lon = 0092144	
(DDDMMSS)		
Transmit Power (PWR)	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		FORMULAS CAN BE FOUND IN ANNEX J OF THE NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE

Forward Error	Is FEC used? Yes \Box No \boxtimes	
Correction Coding	FEC Type:	
_	FEC Rate:	
Total Symbol Rate	1.2ksps	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 =	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 =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna	ANTENNA GAIN16.2 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360. SITE ELEVATION OF 357
	BEAMWIDTH,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE,	OF 6 METERS:
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 1000308001-300A00337H000
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		J = LINEAR POLARIZATION

Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Italy	
City Name (XAL)	XAL = Lomazzo	
Latitude (DDMMSS)	Lat = 454150	
Longitude (DDDMMSS)	Lon = 0090205	
Transmit Power (PWR)	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	5.76 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]
-20 dB bandwidth		
-40 dB bandwidth		

-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Pata		THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Dala Rale		
Forward Error		
Correction Couling	FEC Type:,	
	FEC Rate:,	
Total Symbol Bate	1 Okens	DATA RATE COMBINED WITH FEC AND FRAME
Total Symbol Nate	1.2.1305	OVERHEAD RESULTING IN THE TOTAL SYMBOL
		RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna	XAP =	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR.
		J = LINEAR POLARIZATION
Transmit Antenna	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00
Transmit Antenna	ANTENNA GAIN 16.2 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	BEAMWIDTH	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE ,	OF 6 METERS:
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 16G030B001-360A00357H006
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	COMMUNICATE WITH THE STATELLITE IN THE
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day		
Expected	o minutes	
Duration of Each		
Satallita Basaiya Sr	 	
Satemite Neterve Specifications		

Receive Antenna	RAP = J	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	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Catallitas		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
		(XLG AND/OR RLG).
For	INCLINATION ANGLE <u>97.4deg</u> ,	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS <u>525_km</u> ,	IN KILOMETERS. PERIGEE IN KILOMETERS.
(Orbital Data)	PERIGEE IN KILOMETERS 525 km ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,
	DECIMAL 0.58	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SVSTEM 1	COMMUNICATIONS WITH ANOTHER
	5151LIM,	ADDITIONAL
	OBB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE013.46H01NRR01
-		
For	Mean Local Time of Ascending Node	ASCENDING NODE AND THE MEAN SUN. OFTEN
SunSynchronous	(MLTAN) = <u>13:00</u>	EXPRESSED AS UNIT OF TIME (HH:MM)
Nongeostationary		
Orbits		

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Sri Lanka	
City Name (XAL)	XAL = Kandy	
Latitude	Lat = 071627	
(DDMMSS)		
Longitude	Lon = 0804329	
(DDDMMSS)		

Transmit Power (PWR)	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	5.76 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		
-20 dB bandwidth		_
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $igtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna Polarization (XAP)	XAP =	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 =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA FEFICIENCY	
Information (For		
Parabolic		
Antennas)		

Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	becifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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
SunSynchronous Nongeostationary Orbits	(MLTAN) = <u>13:00</u>	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	: 402.7 MHz	
State (XSC)	XSC = New Zealand	

City Name (XAL)	XAL = Awarua	
Latitude	Lat = -463141	
(DDMMSS)		
Longitude	Lon = 1682245	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗌 No 🖂	
Correction Coding	FEC Type:	
0	FEC Rate:	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		OVERHEAD RESULTING IN THE TOTAL SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP =	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,
Transmit Antenna	XAZ =	MINIMUM OPERATING ANGLE OF
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00
Transmit Antenna	ANTENNA GAIN 16.2 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)	,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	BEAMWIDTH,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE,	OF 6 METERS:
	THE SITE ELEVATION ABOVE MEAN SEA	VADAT T000200001-20090032/H000
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	

Additional ANTENNA EFFICIENCY
Information (For Parabolic Antennas)
Parabolic Antennas) Number of Satellite Contacts >1 Supported Per Day >1 NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE STATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY Expected 8 minutes AVERAGE DURATION OF EACH CONTACT Duration of Each AVERAGE DURATION OF EACH CONTACT
Antennas) Number of Number of >1 Satellite Contacts >1 Supported Per Day Expected 8 minutes Duration of Each 8 minutes
Number of Satellite Contacts >1 Supported Per Day >1 Expected 8 minutes Duration of Each AVERAGE DURATION OF EACH CONTACT
Satellite Contacts COMMUNICATE WITH THE STATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY Supported Per Day Expected 8 minutes Duration of Each AVERAGE DURATION OF EACH CONTACT
Supported Per Day Expected 8 minutes AVERAGE DURATION OF EACH CONTACT
Day AVERAGE DURATION OF EACH CONTACT Duration of Each AVERAGE DURATION OF EACH CONTACT
Expected 8 minutes AVERAGE DURATION OF EACH CONTACT Duration of Each
Duration of Each
Bullation of Each
Contact
Satellite Receive Specifications
Receive Antenna RAP = J POLARIZATIONS INCLUDE:
Polarization (RAP)
S = HORIZONTAL AND VERTICAL,
L = LEFT HAND CIRCULAR,
R = RIGHT HAND CIRCULAR,
J = LINEAR POLARIZATION
Receive Antenna RAZ = EC NB= NARROWBEAM
Orientation (RAZ)
Receive Antenna ANTENNA GAIN , NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD) BEAMWIDTH
RAD =
Type of satellite Type = NONGEOSTATIONARY CHOOSE EITHER:
(State = SPCE) GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or
Nongeo
For Geostationary Longitude = IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites
(XLG AND/OR RLG).
For INCLINATION ANGLE 97.4deg IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary APOGEE IN KILOMETERS 525 km, REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data) PERIGEE IN KILOMETERS 525 km , ORBITAL PERIOD IN HOURS AND FRACTIONS OF
ORBITAL PERIOD IN HOURS 1 AND HOURS IN DECIMAL, THE NUMBER OF SATELLITES
FRACTIONS OF HOURS IN REMO4
DECIMAL 0.58 , *ORB,98.0IN00510AP00510PE001.58H01NRT01,
THE NUMBER OF SATELLITES IN THE
SYSTEM 1 . COMMUNICATIONS WITH ANOTHER
ADDITIONAL
ORB = *ORB FOR IT ENDING IN R01, EXAMPLE, REM05
97.4IN00525AP00525PE001.58H01T01
For Mean Local Time of Ascending Node MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous (MITAN) = 13:00
Nongeostationary

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = Portugal	
City Name (XAL)	XAL = Santa Maria, Azores	
Latitude	Lat = 365951	
(DDMMSS)		
Longitude	Lon = 0250814	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		FORMULAS CAN BE FOUND IN ANNEX J OF THE
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		_
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER. EXAMPLE, BPSK, QPSK, GMSK,
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗆 No 🖂	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP =	POLARIZATIONS INCLUDE: H = HORIZONTAL.
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antenna	XA7 =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XA7)		MINIMUM OPERATING ANGLE OF
		ELEVATION (XAZ), VOU TO V90, EXAMPLE, XAZO1

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , 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, 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
	97.4IN00525AP00525PE001.58H01T01	OKB, 72.91103209AP00033FE013.4000111KK01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 402.7 MHz		
State (XSC)	XSC = United Kingdom	
City Name (XAL)	XAL = Unst, Shetland	
Latitude	Lat = 604452	
(DDMMSS)		
Longitude	Lon = -0005128	
(DDDMMSS)		
Transmit Power	PWR = 0.12W	
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	5.76 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		_
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, OPSK, GMSK,
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗆 No 🖂	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Transmit Antenna Polarization (XAP) Transmit Antenna Orientation (XAZ)	XAP = XAZ =	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 THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16.2 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp		
Receive Antenna Polarization (RAP)	RAP = 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	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Drientation (RAZ) Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Australia	
City Name (XAL)	XAL =	
Latitude	Lat = 34.04° S	
(DDMMSS)		
Longitude	Lon = 150.77° E	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT,
		M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
		THE CARKIER, EXAMPLE, BESK, QESK, GMSK.
Data Rate		

Forward Error	Is FEC used? Yes \Box No $igtriangleup$	
Correction Coding	FEC Type: ,	
_	FEC Rate:	
Total Symbol Rate	1.2ksps	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 =	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 Orientation (XAZ)	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna	ANTENNA GAIN 39.4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)	BEAMWIDTH	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	AZIMUTH28AL BANGE	METERS. AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS	XAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER	
Additional	ANTENNA FEFICIENCY	
Information (For		
Parabolic		
Antennas)		
Number of	<1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE
Supported Per		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Expected	8 minutos	AVERAGE DURATION OF EACH CONTACT
Duration of Each	8 minutes	
Satellite Pacaiva Sr	ecifications	
Satellite Receive 5		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR.
		T = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Orientation (RAZ)		

Receive Antenna Dimension (RAD) Type of satellite (State = SPCE) City = Geo or Nongeo	ANTENNA GAIN, BEAMWIDTH, RAD = Type = NONGEOSTATIONARY	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH RAD01 16G030B 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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Bahrain	
City Name (XAL)	XAL = Zallaq	
Latitude	Lat = 260300	
(DDMMSS)		
Longitude	Lon = 0503000	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT,
Nococcany		THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Development of the	130 KHZ	SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
Bandwidth		FORMULAS CAN BE FOUND IN ANNEX J OF THE
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		

-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error Correction Coding	Is FEC used? Yes □ No ⊠ FEC Type:, FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna Polarization (XAP)	XAP =	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 =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	<1	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 Satellite Receive Sr	8 minutes Decifications	AVERAGE DURATION OF EACH CONTACT

Receive Antenna	RAP = J	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	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	100030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Catallitas		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
		(XLG AND/OR RLG).
For	INCLINATION ANGLE <u>97.4deg</u> ,	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS <u>525_km</u> ,	IN KILOMETERS. PERIGEE IN KILOMETERS.
(Orbital Data)	PERIGEE IN KILOMETERS 525 km ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,
	DECIMAL 0.58	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SVSTEM 1	COMMUNICATIONS WITH ANOTHER
	,	ADDITIONAL
	OBB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE013.46H01NRR01
-		
For	Nean Local Time of Ascending Node	ASCENDING NODE AND THE MEAN SUN. OFTEN
SunSynchronous	(MLTAN) = <u>13:00</u>	EXPRESSED AS UNIT OF TIME (HH:MM)
Nongeostationary		
Orbits		

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Ireland	
City Name (XAL)	XAL = Dublin	
Latitude	Lat = 532400	
(DDMMSS)		
Longitude	Lon = -0061312	
(DDDMMSS)		

Necessary 150 kHz The WIDTH OF FRQUERY RAND WHICH is JU SUFFICIENT TO SUCCESSFULT TRANSFER DATA PORMULAS CAN BE FOUND IN ANNEX J OF THE NTA MANUAL. RF Emissions Data 2-3 dB bandwidth	Transmit Power (PWR)	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
RF Emissions Data 2-SIDED EMISSION BANDWIDTH VALUES -3 dB bandwidth -20 dB bandwidth -40 dB bandwidth -60 dB bandwidth -60 dB bandwidth -70 dB bandwidth Data Rate INFORMATION DATA BATE Forward Error Is FEC used? Yes □ No ⊠ Correction Coding FEC Type:	Necessary Bandwidth	150 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.
-3 dB bandwidth -20 dB bandwidth -40 dB bandwidth -60 dB bandwidth Modulation Type Data Rate Forward Error Correction Coding FEC Type: FEC Rate: Ortal Symbol Rate 1.2ksps Data Rate Total Symbol Rate 1.2ksps Optimization (XAP) Polarization (XAP) XAP = Polarization (XAP) Transmit Antenna Orientation (XAZ) Transmit Antenna AXZ = The Staff HAND CERCULAR, FERSULTION TRANSMITTER ANTENNA MERCULAR, F = Right HAND CIRCULAR, F = RIGHT HAN	RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-20 dB bandwidth -40 dB bandwidth -60 dB bandwidth Modulation Type The Karles, EXAMPLE, BPSK, QPSK, GMSK. Data Rate Forward Error Correction Coding FEC Type: FC Rate: Total Symbol Rate 1.2ksps Data Rate not suppressed at the suppression of the symbol Rate Transmit Antenna Polarization (XAP) XAP = Polarization (XAP) Transmit Antenna Drientation (XAZ) Transmit Antenna Dimensions (XAD) ANTENNA GAIN39.4 dBi Dimensions (XAD) The SITE LEVATION ABOVE MEAN SEA LEVEL IN METERS THE ANTENNA HEIGHT ABOVE TERRAIN NAD = Transmit Antenna AAT = Dimensions (XAD) ADTERERS ADTENNA GAIN	-3 dB bandwidth		
-40 dB bandwidth -60 dB bandwidth Modulation Type The METHOD USED TO SUPERIMPOSE DATA OF THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK. Data Rate Forward Error Is FEC used? Yes □ No ⊠ Correction Coding FEC Type:	-20 dB bandwidth		
-60 dB bandwidth	-40 dB bandwidth		
Modulation Type THE METHOD USED TO SUPERIMPOSE DATA ON Data Rate INFORMATION DATA RATE Forward Error Is FEC used? Yes □ No ⊠ Correction Coding FEC Type:	-60 dB bandwidth		
Data Rate INFORMATION DATA RATE Forward Error Is FEC used? Yes □ No ⊠ Correction Coding FEC Type:	Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Forward Error Is FEC used? Yes INo Image: Sec Type:	Data Rate		INFORMATION DATA RATE
Total Symbol Rate 1.2ksps DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR. Transmit Antenna Polarization (XAP) XAP = POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, L = LEFT HAND CIRCULAR, T = RIGHT HAND CIRCULAR, I = LINERA POLARIZATION Transmit Antenna Orientation (XAZ) XAZ = THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO 90, EXAMPLE, XAZ0 V00 Transmit Antenna Dimensions (XAD) ANTENNA GAIN39.4 dBi, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD = EXAMPLE ASSUMING NONGEOSTATIONARY, 16 DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHA RAGE FROM 001-360, STE ELEVATION OF 357 METERS, AND ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD = Transmit Antenna Additional Information (For Parabolic ANTENNA EFFICIENCY,	Forward Error Correction Coding	Is FEC used? Yes □ No ⊠ FEC Type:, FEC Rate:,	
Transmit Antenna XAP = Polarization (XAP) XAP = Polarization (XAP) Yetrical, Yetrical, Yetrical, <	Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna Orientation (XAZ) XAZ = THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ0 V00 Transmit Antenna Dimensions (XAD) ANTENNA GAIN39.4 dBi, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD = EXAMPLE ASSUMING NONGEOSTATIONARY, 16 DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHA RANGE FROM 001-360, SITE ELEVATION OF 357 METERS, AND ANTENNA HEIGHT ABOVE TERRA OF 6 METERS: XAD01 16G030B001-360A00357H006 Transmit Antenna Additional Information (For Parabolic ANTENNA DIAMETER, ANTENNA EFFICIENCY,	Transmit Antenna Polarization (XAP)	XAP =	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 ANTENNA GAIN39.4 dBi, EXAMPLE ASSUMING NONGEOSTATIONARY, 16 Dimensions (XAD) BEAMWIDTH, BEAMWIDTH, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA BEAMWIDTH ABOVE TERRAIN BEAMWIDTH ABOVE TERRAIN IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD = Transmit Antenna ANTENNA DIAMETER, ANTENNA EFFICIENCY, ANTENNA EFFICIENCY, Information (For Parabolic ANTENNA EFFICIENCY, ANTENNA EFFICIENCY,	Transmit Antenna Orientation (XAZ)	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna ANTENNA DIAMETER, Additional ANTENNA EFFICIENCY, Information (For Parabolic	Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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
Antennas)	Transmit Antenna Additional Information (For Parabolic	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	

Number of Satellite Contacts Supported Per Day	<1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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) For	INCLINATION ANGLE <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01 Mean Local Time of Ascending Node	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 MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous Nongeostationary Orbits	(MLTAN) =13:00	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

State (XSC)	XSC = Southern	
	Australia	
City Name (XAL)	XAL = Peterborough	
Latitude	Lat = -325743	
(DDMMSS)		
Longitude	Lon = 1385058	
(DDDMMSS)		
Transmit Power (PWR)	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT,
Nacassany	150 kHz	M = MEGAWATT THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		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		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $oxtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	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 =	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,
Iransmit Antenna	XAZ =	MINIMUM OPERATING ANGLE OF
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		VOO

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , 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, 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
	97.4IN00525AP00525PE001.58H01T01	*ORB,72.9IN03209AP00655PE013.46H01NRR01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Nangetty	
City Name (XAL)	XAL = Western Australia	
Latitude	Lat = -290037	
(DDMMSS)		
Longitude	Lon = 1152030	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER EXAMPLE BPSK OPSK GMSK
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes □ No ⊠	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Transmit Antenna Polarization (XAP)	XAP =	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,
Transmit Antenna Orientation (XAZ)	XAZ =	T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF
Unentation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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)		
Number of	>1	NUMBER OF TIMES THE FARTH STATION WILL
Satallita Contacta	>1	COMMUNICATE WITH THE STATELLITE IN THE
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN .	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH .	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	

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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Absheron	
City Name (XAL)	XAL = Azerbaijan	
Latitude	Lat = 402758	
(DDMMSS)		
Longitude	Lon = 492908	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT,
		M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Data		ΙΠΕ CARRIER, ΕΛΑΙΥΙΡΙΕ, ΒΡΟΝ, ΟΡΟΝ, ΟΙΝΙΟΚ.
Data Rate		

Forward Error	Is FEC used? Yes \Box No \boxtimes	
Correction Coding	FEC Type:	
	FEC Rate:	
Total Symbol Rate	1.2ksps	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 =	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 =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		ELEVATION (XAZ), VOO TO V90, EXAMPLE, XAZO1 VOO
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16 DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357
		OF 6 METERS:
		XAD01 16G030B001-360A00357H006
	IN METERS,	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of Satellite Contacts Supported Per	>1	COMMUNICATE WITH THE EARTH STATION WILL COMMUNICATE WITH THE STATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HOKIZONTAL, V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		K = KIGHT 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)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz			
State (XSC)	XSC = Plana		
City Name (XAL)	XAL = Bulgaria		
Latitude	Lat = 422858		
(DDMMSS)			
Longitude	Lon = 0232643		
(DDDMMSS)			
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA	
(PWR)		TRANSMIT POWER UNITS INCLUDE:	
		W = WATT,	
		K = KILOWATT,	
		M = MEGAWATT	
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST	
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.	
		NTIA MANUAL.	
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES	
-3 dB bandwidth			
-20 dB bandwidth			
----------------------	--------------------------------------	--	
-40 dB bandwidth		1	
-60 dB bandwidth		1	
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON	
		THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.	
Data Rate			
Forward Error	Is FEC used? Yes \Box No $igtimes$		
Correction Coding	FEC Type:,		
	FEC Rate:,		
Total Symbol Rate	1.2ksps	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 =	POLARIZATIONS INCLUDE:	
Polarization (XAP)		H = HORIZONTAL,	
		S = HORIZONTAL AND VERTICAL,	
		L = LEFT HAND CIRCULAR,	
		T = RIGHT AND LEFT HAND CIRCULAR,	
		J = LINEAR POLARIZATION	
Transmit Antenna	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA	
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01	
		V00	
Transmit Antenna	ANTENNA GAIN 39 4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16	
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL	
	BEAMWIDTH	METERS. AND ANTENNA HEIGHT ABOVE TERRAIN	
	AZIMUTHAL RANGE	OF 6 METERS:	
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 16G030B001-360A00357H006	
	LEVEL IN METERS		
	THE ANTENNA HEIGHT ABOVE TERRAIN		
	IN METERS,		
	XAD =		
Transmit Antenna	ANTENNA DIAMETER,		
Additional	ANTENNA EFFICIENCY,		
Information (For			
Parabolic			
Antennas)			
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL	
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY	
Supported Per			
Day			
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT	
Duration of Each			
Contact			
Satellite Receive Sp	pecifications		
1			

Receive Antenna	RAP = J	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	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	100030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satallitor		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
		(XLG AND/OR RLG).
For	INCLINATION ANGLE97.4deg,	REPORT ITS INCLINATION ANGLE APOGEE
Nongeostationary	APOGEE IN KILOMETERS <u>525 km</u> ,	IN KILOMETERS, PERIGEE IN KILOMETERS,
(Orbital Data)	PERIGEE IN KILOMETERS <u>525 km</u> ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,
	DECIMAL 0.58 ,	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM 1	
	,	ADDITIONAL
	OBB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	97 /INIO05250P005250F001 58H01T01	*ORB,72.9IN03209AP00655PE013.46H01NRR01
		MITAN IS THE ANGLE BETWEEN AN ORBIT'S
FOR	wiean Local Time of Ascending Node	ASCENDING NODE AND THE MEAN SUN, OFTEN
SunSynchronous	(MILIAN) = <u>13:00</u>	EXPRESSED AS UNIT OF TIME (HH:MM)
Nongeostationary		
Orbits		

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Puertollano	
City Name (XAL)	XAL = Spain	
Latitude	Lat = 384026	
(DDMMSS)		
Longitude	Lon = -0040943	
(DDDMMSS)		

Transmit Power (PWR)	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	150 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		
-20 dB bandwidth		-
-40 dB bandwidth		-
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $igtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna Polarization (XAP)	XAP =	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 =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA DIAMETER ,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		

Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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
SunSynchronous Nongeostationary Orbits	$(MLTAN) = \underline{13:00}$	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	r: 2049 MHz	
State (XSC)	XSC = Blönduós	

City Name (XAL)	XAL = Iceland	
Latitude	Lat = 653850	
(DDMMSS)		
Longitude	Lon = -0201445	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Pata		THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Dala Rale		
Forward Error		
Correction Couling	FEC Type:,	
	, FEC Rate,	
Total Symbol Bate	1 2ksns	DATA RATE COMBINED WITH FEC AND FRAME
Total Symbol Nate	1.2.13.05	OVERHEAD RESULTING IN THE TOTAL SYMBOL
		RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR
Transmit Antenna	XAP =	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR.
		J = LINEAR POLARIZATION
Transmit Antenna	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		ELEVATION (XAZ), VOO TO V90, EXAMPLE, XAZO1
		V00
Transmit Antenna	ANTENNA GAIN 39 4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	BEAMWIDTH	KANGE FROM 001-360, SITE ELEVATION OF 357 METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE .	OF 6 METERS:
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 16G030B001-360A00357H006
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	

Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE
Supported Per		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Dav		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Fach		
Contact		
Satellite Receive Sr	pecifications	
Succince Accelve Sp		
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		
		S = HORIZONTAL AND VERTICAL.
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN ,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	RADUI 16G030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
		(XLG AND/OR RLG).
For	INCLINATION ANGLE 97.4deg ,	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS 525 km ,	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS 525 km ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
, ,	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	IN THE SYSTEM, THEN TO1, EXAMPLE,
	DECIMAL 0.58 ,	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM 1 .	COMMUNICATIONS WITH ANOTHER
	,	ADDITIONAL
	OBB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	97.4IN00525AP00525PE001.58H01T01	*ORB,72.9IN03209AP00655PE013.46H01NRR01
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	$(M T\Delta N) = 13.00$	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary	10121AN/13.00	EXPRESSED AS UNIT OF TIME (HH:MM)
Orbite		
UIDILS		

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Vimercate	
City Name (XAL)	XAL = Italy	
Latitude	Lat = 453536	
(DDMMSS)		
Longitude	Lon = 0092144	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2
(PVVR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT, K = KILOWATT.
		M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		FORMULAS CAN BE FOUND IN ANNEX J OF THE
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		_
-20 dB bandwidth		_
-40 dB bandwidth		_
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes □ No ⊠	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP =	POLARIZATIONS INCLUDE: H = HORIZONTAL.
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antenna	XA7 -	J = LINEAR POLARIZATION THE EARTH STATION TRANSMITTER ANTENNA
Orientation (VA7)		MINIMUM OPERATING ANGLE OF
		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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	ANTENNA DIAMETER, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , 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, 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
	97.4IN00525AP00525PE001.58H01T01	OKB, 72.91103209AP00033PE013.40H0111KK01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Lomazzo	
City Name (XAL)	XAL = Italy	
Latitude	Lat = 454150	
(DDMMSS)		
Longitude	Lon = 0090205	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER EXAMPLE BPSK OPSK GMSK
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $igtriangleup$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Transmit Antenna Polarization (XAP)	XAP =	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 =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS,	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 Antonna		
Additional		
Information (For	ANTENNA EFFICIENCI,	
Darabalic		
Antennas)	>1	NUMBER OF TIMES THE FARTH STATION WILL
Number of	>1	COMMUNICATE WITH THE STATELLITE IN THE
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAD - I	POLARIZATIONS INCLUDE:
Delarization (DAD)		H = HORIZONTAL,
POIdTIZACIOTI (KAP)		V = VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Receive Antenna	$B\Delta 7 = FC$	NB= NARROWBEAM
Orientation $(R\Delta 7)$		EC = EARTH COVERAGE
Receive Antenna		NTIA FORMAT(RAD). EXAMPLE. FOR 16 DBI
Dimension (PAD)		ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
		RAD01 16G030B
1	KAU =	

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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	/: 2049 MHz	
State (XSC)	XSC = Kandy	
City Name (XAL)	XAL = Sri Lanka	
Latitude	Lat = 071627	
(DDMMSS)		
Longitude	Lon = 0804329	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT,
		M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
		THE CARKIER, EXAMPLE, BESK, QESK, GMSK.
Data Rate		

Forward Error	Is FEC used? Yes \Box No \boxtimes	
Correction Coding	FEC Type:	
	FEC Rate:	
Total Symbol Rate	1.2ksps	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 =	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 =	THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		ELEVATION (XAZ), VOO TO V90, EXAMPLE, XAZO1 VOO
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16 DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357
		OF 6 METERS:
		XAD01 16G030B001-360A00357H006
	IN METERS,	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of Satellite Contacts Supported Per	>1	COMMUNICATE WITH THE EARTH STATION WILL COMMUNICATE WITH THE STATELLITE IN THE EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HOKIZONTAL, V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		K = KIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR
		J = LINEAR POLARIZATION

Receive Antenna	RAZ = EC	
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	/: 2049 MHz	
State (XSC)	XSC = Awarua	
City Name (XAL)	XAL = New Zealand	
Latitude (DDMMSS)	Lat = -463141	
Longitude (DDDMMSS)	Lon = 1682245	
Transmit Power (PWR)	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	150 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		

-20 dB bandwidth		
-40 dB bandwidth		-
-60 dB bandwidth		-
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		
Forward Error	Is FEC used? Yes \Box No $igtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	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 =	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL, V = VERTICAL.
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antenna	XAZ =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00
Transmit Antenna	ANTENNA GAIN 39.4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)		DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL
	BEAMWIDTH	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE ,	OF 6 METERS:
	THE SITE ELEVATION ABOVE MEAN SEA	XAD01 16G030B001-360A00357H006
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	XAD =	
Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sp	pecifications	

Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		H = HORIZONTAL,
		V = VERTICAL,
		I = I FFT 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,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH,	RADO1 16G030B
	RAD =	
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
		(XLG AND/OR RLG).
For	INCLINATION ANGLE <u>97.4deg</u> ,	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS 525 km ,	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS 525 km	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
(0.0.00.00.00.00)		HOURS IN DECIMAL, THE NUMBER OF SATELLITES
		IN THE SYSTEM, THEN TO1, EXAMPLE,
		REMU4 *ORB.98.0IN00510AP00510PE001.58H01NRT01.
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SVSTEM 1	COMMUNICATIONS WITH ANOTHER
	5151LIM,	ADDITIONAL
	OBB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE013.46H01NRR01
For	Iviean Local Time of Ascending Node	ASCENDING NODE AND THE MEAN SUN. OFTEN
SunSynchronous	(MLIAN) = <u>13:00</u>	EXPRESSED AS UNIT OF TIME (HH:MM)
Nongeostationary		
Orbits		

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Santa Maria, Azores	
City Name (XAL)	XAL = Portugal	
Latitude	Lat = 365951	
(DDMMSS)		
Longitude	Lon = 0250814	
(DDDMMSS)		

Transmit Power (PWR)	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	150 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		
-20 dB bandwidth		-
-40 dB bandwidth		-
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No $igtimes$	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Rate	1.2ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.
Transmit Antenna Polarization (XAP)	XAP =	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 =	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN39.4 dBi , BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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, ANTENNA EFFICIENCY,	

Number of Satellite Contacts Supported Per Day	>1	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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
SunSynchronous Nongeostationary Orbits	(MLTAN) = <u>13:00</u>	ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency	: 2049 MHz	
State (XSC)	XSC = United Kingdom	

City Name (XAL)	XAL = Unst, Shetland	
Latitude	Lat = 604452	
(DDMMSS)		
Longitude	Lon = -0005128	
(DDDMMSS)		
Transmit Power	PWR = 39.8 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type		THE METHOD USED TO SUPERIMPOSE DATA ON
Data Rate		INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \Box No \boxtimes	
Correction Coding	FEC Type:	
	FEC Rate:	
Total Symbol Rate	1.2ksps	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 =	
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR
		T = RIGHT AND LEFT HAND CIRCULAR,
T		J = LINEAR POLARIZATION
Transmit Antenna	XAZ =	MINIMUM OPERATING ANGLE OF
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00
Transmit Antenna	ANTENNA GAIN39.4 dBi	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (XAD)	,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360. SITE ELEVATION OF 357
	BEAMWIDTH,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	AZIMUTHAL RANGE,	OF 6 METERS: XAD01 1660308001-360400357H006
	THE SITE ELEVATION ABOVE MEAN SEA	
	LEVEL IN METERS,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS,	
	VAD	
	XAD =	

Transmit Antenna	ANTENNA DIAMETER,	
Additional	ANTENNA EFFICIENCY,	
Information (For		
Parabolic		
Antennas)		
Number of	>1	NUMBER OF TIMES THE EARTH STATION WILL
Satellite Contacts		COMMUNICATE WITH THE STATELLITE IN THE
Supported Per		EARTH TO SPACE DIRECTION (OPINKS) EACH DAY
Dav		
Expected	8 minutes	AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Satellite Receive Sc	pecifications	
Receive Antenna	RAP = J	POLARIZATIONS INCLUDE:
Polarization (RAP)		
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Receive Antenna	RAZ = EC	NB= NARROWBEAM
Orientation (RAZ)		EC = EARTH COVERAGE
Receive Antenna	ANTENNA GAIN,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI
Dimension (RAD)	BEAMWIDTH ,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
	RAD =	NAD01 100030B
Type of satellite	Type = NONGEOSTATIONARY	CHOOSE EITHER:
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
City = Geo or		
Nongeo		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
		(XLG AND/OR RLG).
For	INCLINATION ANGLE97.4deg,	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS <u>525 km</u> ,	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS <u>525 km</u> ,	ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS <u>1</u> AND	HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	FRACTIONS OF HOURS IN	REM04
	DECIMAL <u>0.58</u> ,	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	THE NUMBER OF SATELLITES IN THE	AND FOR SPACE-TO-SPACE
	SYSTEM,	NONGEOSTATIONARY SATELLITE ADD AN
		ADDITIONAL
	ORB =	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB 72 QIN03200A0006550F013 46H01NBR01
	97.4IN00525AP00525PE001.58H01T01	GU2, 2.51105205A1 00055FE015.40110110ARUT
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	(MLTAN) = 13:00	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationarv	· · · · · · · · · · · · · · · · · · ·	
Orbits		

HL HL HL

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = Sweden	
City Name (XAL)	XAL = Boden	
Latitude	Lat = 654800	
(DDMMSS)		
Longitude	Lon = 0214048	
(DDDMMSS)		
Transmit Power	PWR = 100 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type	BPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	54.7 kbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗵 No \Box	
Correction Coding	FEC Type: <u>Reed-Solomon and 1/2CC</u> ,	
	FEC Rate:,	
Total Symbol Rate	125 ksps	DATA RATE COMBINED WITH FEC AND FRAME
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Transmit Antenna Polarization (XAP)	XAP = L XAZ = V00	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 THE EARTH STATION TRANSMITTER ANTENNA
Orientation (XAZ)		MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN_40 dBi, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	11	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	8 minutes	AVERAGE DURATION OF EACH CONTACT
Satellite Receive Sp	pecifications	
Receive Antenna Polarization (RAP)	RAP = 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
Receive Antenna Orientation (RAZ)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
For Nongeostationary (Orbital Data)	INCLINATION ANGLE <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001 58H01T01	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) = <u>13:00</u>	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

Transmit Frequency: 2049 MHz		
State (XSC)	XSC = South Africa	
City Name (XAL)	XAL = Pretoria	
Latitude	Lat = -255136	
(DDMMSS)		
Longitude	Lon = 0282700	
(DDDMMSS)		
Transmit Power	PWR = 100 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT, M = MEGAWATT
Necessary	150 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth		SUFFICIENT TO SUCCESSFULLY TRANSFER DATA.
		NTIA MANUAL.
RF Emissions Data		2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth		
-20 dB bandwidth		
-40 dB bandwidth		
-60 dB bandwidth		
Modulation Type	BPSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	54.7 kbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes 🗵 No 🗌	
Correction Coding	FEC Type: <u>Reed-Solomon and 1/2CC</u> ,	
	FEC Rate:,	

Total Symbol Rate	125 ksps	DATA RATE COMBINED WITH FEC AND FRAME OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL MAPPER/MODULATOR.	
Transmit Antenna Polarization (XAP)	XAP = 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	
Transmit Antenna Orientation (XAZ)	XAZ = V00	THE EARTH STATION TRANSMITTER ANTENNA MINIMUM OPERATING ANGLE OF ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01 V00	
Transmit Antenna Dimensions (XAD)	ANTENNA GAIN40 dBi, BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS, XAD =	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, ANTENNA EFFICIENCY,		
Number of Satellite Contacts Supported Per Day	4	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	8 minutes	AVERAGE DURATION OF EACH CONTACT	
Satellite Receive Specifications			
Receive Antenna Polarization (RAP)	RAP = 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	
Receive Antenna Orientation (RAZ)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE	
Receive Antenna Dimension (RAD)	ANTENNA GAIN, BEAMWIDTH, RAD =	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 <u>97.4deg</u> , APOGEE IN KILOMETERS <u>525 km</u> , PERIGEE IN KILOMETERS <u>525 km</u> , ORBITAL PERIOD IN HOURS <u>1</u> AND FRACTIONS OF HOURS IN DECIMAL <u>0.58</u> , THE NUMBER OF SATELLITES IN THE SYSTEM <u>1</u> , ORB = 97.4IN00525AP00525PE001.58H01T01	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) =13:00	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)