NTIA Space record data form

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

Part A: Space to Earth Downlink Data

Satellite Transmitter Data (Required for Each Frequency) (Using KSAT Earth Station and will be receive-only)

Transmit Frequency	<i>r</i> :	
8100 MHz		
Satellite Name:		
MyRadar1		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 2W	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	encoded superresolution image data	2-SIDED EMISSION BANDWIDTH VALUES
-3 dB bandwidth	100 MHz	
-20 dB bandwidth	< 100 MHz	
-40 dB bandwidth	< 100 MHz	
-60 dB bandwidth	< 100 MHz	
Modulation Type	2-PSK	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	100 Mbit/s	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes ⊠No □	
Correction Coding	FEC Type:Viterbi,	
	FEC Rate:,	
Total Symbol Rate	100 M/s	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 mode?	No ⊠	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.

	T	I
If transmitter has	Yes □	N/A
a beacon mode,	No □	
can the beacon be		
commanded off?		
Transmit Antenna	XAP =J	POLARIZATIONS INCLUDE:
Polarization (XAP)		H = HORIZONTAL,
1 010112011011 (70 11)		V = VERTICAL, S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antenna	XAZ = EC	J = LINEAR POLARIZATION NB= NARROWBEAM
	AAZ - LC	EC = EARTH COVERAGE
Orientation (XAZ)	ANTENNA CAIN 2.5 ID:	NTIA FORMAT (XAD), EXAMPLE, FOR 16 DBI
Transmit Antenna	ANTENNA GAIN2.5 dBi,	ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (XAD)	BEAMWIDTH80°,	XAD01 16G030B
	XAD = 03G080B	
Type of satellite	Type = nongeostationary	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
(State = SPCE)		GEOSTATIONARY OR NONGEOSTATIONARY
(City = Geo or		
Nongeo)		
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT
Satellites		ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satemites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT (XLG AND/OR RLG).
For	INCLINATION ANGLE-	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	97.4,	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	APOGEE IN	IN KILOMETERS, PERIGEE IN KILOMETERS,
(Orbital Data)		ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES
	KILOMETERS, PERIGEE	IN THE SYSTEM, THEN TO1, EXAMPLE,
	IN KILOMETERS550,	REM04
	ORBITAL PERIOD IN HOURS	*ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE
	1AND FRACTIONS OF HOURS IN	COMMUNICATIONS WITH ANOTHER
	DECIMAL59,	NONGEOSTATIONARY SATELLITE ADD AN
	THE NUMBER OF SATELLITES IN THE	ADDITIONAL
	SYSTEM1,	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
	ORB =	
	97.4IN00550AP00550PE001.59H01NRT01	
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	(MLTAN) = 12:00 (noon)	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary		EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits		
OTDIES		
Earth Station Date	 	<u> </u>
State (RSC)	a (Receiver) at Each Earth Station Location RSC = CA	
City Name (RAL)		
	RAL = Long Beach	
Latitude	Lat = 334927N	
(DDMMSS)		

Longitude (DDDMMSS)	Lon = 1180848W	
Receive Antenna Polarization (RAP)	RAP =R RAZ = TBD	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
Orientation (RAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01 V00
Receive Antenna Dimensions (RAD)	ANTENNA GAIN36.78, BEAMWIDTH0.7, AZIMUTHAL RANGETBD, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS5, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS24,	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 = 37G001B001-360A00005H024	
Receive Antenna Additional Information (For Parabolic Antennas)	ANTENNA DIAMETER3.7, ANTENNA EFFICIENCY,	
Number of Satellite Contacts Supported Per Day	2	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	30 sec	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	e S945.	

2. REM AGN, PocketQube, (MyRadar1)

	a (Receiver) at Each Earth Station Locati	on
State (RSC)	RSC = Norway	
City Name (RAL)	RAL = Svalbard	
Latitude	Lat = 781336N	
(DDMMSS)		
Longitude	Lon = 0152314E	
(DDDMMSS)		
Receive Antenna	RAP =R	POLARIZATIONS INCLUDE: H = HORIZONTAL,
Polarization (RAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Dani' a Aalaaa	DA7 TDD	J = LINEAR POLARIZATION THE EARTH STATION RECEIVER ANTENNA
Receive Antenna	RAZ = TBD	MINIMUM OPERATING ANGLE OF
Orientation (RAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
		V00
Receive Antenna	ANTENNA GAIN36.78,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH0.7,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357
, ,	AZIMUTHAL RANGETBD,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS:
	LEVEL IN METERS493,	RAD01 16G030B001-360A00357H006
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS24,	
	RAD = 37G001B001-360A00005H024	
Receive Antenna	ANTENNA	
Additional	DIAMETER3.7M,	
Information (For	ANTENNA EFFICIENCY,	
Parabolic		
Antennas)		
Number of		NUMBER OF TIMES THE SATELLITE WILL
Satellite Contacts		COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		
Expected		AVERAGE DURATION OF EACH CONTACT
Duration of Each		
Contact		
Supported	Satellite Health and Status Data \square	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
Operations	Mission Payload Data 🗵	ALLS, SICINISSION FALCAD DATA
FCC notes:		
1. Use S-Note	S945.	
2. REM AGN, PocketQube, (MyRadar1)		

Fouth Ctation Dat	(Passings) at Each Fauth Station Laset	<u> </u>
	a (Receiver) at Each Earth Station Locati	ion
State (RSC)	RSC = Chile	
City Name (RAL)	RAL = Punta Arenas Lat = 525606S	
Latitude (DDMMSS)	Lat = 5250005	
Longitude	Lon = 0705215W	
(DDDMMSS)	LOII = 0703213VV	
Receive Antenna	RAP =R	POLARIZATIONS INCLUDE:
Polarization (RAP)	TV V TV	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 = TBD	THE EARTH STATION RECEIVER ANTENNA MINIMUM OPERATING ANGLE OF
Orientation (RAZ)		ELEVATION (RAZ), V00 TO V90, EXAMPLE, RAZ01
		V00
Receive Antenna	ANTENNA GAIN36.78,	EXAMPLE ASSUMING NONGEOSTATIONARY, 16
Dimensions (RAD)	BEAMWIDTH0.7,	DBI GAIN, 30 DEGREE BEAMWIDTH, AZIMUTHAL RANGE FROM 001-360, SITE ELEVATION OF 357
	AZIMUTHAL RANGETBD,	METERS, AND ANTENNA HEIGHT ABOVE TERRAIN
	THE SITE ELEVATION ABOVE MEAN SEA	OF 6 METERS: RAD01 16G030B001-360A00357H006
	LEVEL IN METERS23	1000110005000013000033711000
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS24,	
	RAD = 37G001B001-360A00005H024	
Receive Antenna	ANTENNA	
Additional	DIAMETER,	
Information (For	ANTENNA EFFICIENCY,	
Parabolic		
Antennas)		
Number of		NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE
Satellite Contacts		SPACE TO EARTH DIRECTION (DOWNLINKS) EACH
Supported Per		DAY
Day		AVERAGE DURATION OF EACH CONTACT
Expected Duration of Each		AVERAGE BORATION OF EACH CONTACT
Contact		
Supported	Satellite Health and Status Data	SATELLITE HEALTH AND STATUS TELEMETRY
Operations		AND/OR MISSION PAYLOAD DATA
FCC notes:	Mission Payload Data 🗵	
1. Use S-Note	\$ \$945	
	PocketQube, (MyRadar1)	
2		

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

Earth Station Transmitter Data (Required for Each Frequency at Each Earth Station Location) DL1UAC

Transmit Frequency: UHF 437.075MHz		
State (XSC)	XSC =Germany	
City Name (XAL)	XAL =Altwindeck (within North Rhine-	
	Westphalia)	
Latitude	Lat = 504842N	
(DDMMSS)		
Longitude	Lon =0073427E	
(DDDMMSS)		
Transmit Power (PWR)	200W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE:
		W = WATT, K = KILOWATT,
Necessary	6KHz	M = MEGAWATT THE WIDTH OF FREQUENCY BAND WHICH IS JUST
Bandwidth	ONTIZ	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	6 kHz	
-20 dB bandwidth	7 kHz	
-40 dB bandwidth	33kHz	
-60 dB bandwidth	150 kHz	
Modulation Type	FSK	THE METHOD USED TO SUPERIMPOSE DATA ON
	1.445	THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	1 KBps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes \square No \boxtimes	
Correction Coding	FEC Type:,	
	FEC Rate:,	
Total Symbol Bata	129 per second	DATA RATE COMBINED WITH FEC AND FRAME
Total Symbol Rate	128 per second	OVERHEAD RESULTING IN THE TOTAL SYMBOL RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.
Transmit Antenna	XAP =R	POLARIZATIONS INCLUDE: H = HORIZONTAL,
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
Transmit Antonna	VAZ - VAZ01V00	J = LINEAR POLARIZATION THE EARTH STATION TRANSMITTER ANTENNA
Transmit Antenna	XAZ = XAZ01V00	MINIMUM OPERATING ANGLE OF
Orientation (XAZ)		ELEVATION (XAZ), V00 TO V90, EXAMPLE, XAZ01
		V00

Transmit Antenna Dimensions (XAD)	ANTENNA GAIN16 dB, BEAMWIDTH30 dB, AZIMUTHAL RANGE360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS140, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS8, XAD = xAD01 16G030B001-360A00140H008	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	
Additional	DIAMETER70cm,	
Information (For	ANTENNA EFFICIENCY,	
Parabolic		
Antennas)		
Number of	2	NUMBER OF TIMES THE EARTH STATION WILL COMMUNICATE WITH THE STATELLITE IN THE
Satellite Contacts		EARTH TO SPACE DIRECTION (UPINKS) EACH DAY
Supported Per		
Day Expected	30 seconds	AVERAGE DURATION OF EACH CONTACT
Duration of Each	30 300103	
Contact		
Satellite Receive Sp	pecifications	
_		
Receive Antenna	RAP = T	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 = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Orientation (RAZ)		
Receive Antenna	ANTENNA GAIN25.5dBi,	NTIA FORMAT(RAD), EXAMPLE, FOR 16 DBI ANTENNA GAIN AND 30 DEGREE BEAMWIDTH
Dimension (RAD)	BEAMWIDTH0.68°,	RAD01 16G030B
	RAD =RAD01 26G001B	
Type of satellite	Type = Nongeo	CHOOSE EITHER: GEOSTATIONARY OR NONGEOSTATIONARY
(State = SPCE)		SESSIATIONALL OR NONGEOSTATIONALL
City = Geo or		
Nongeo		
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND
Satellites		REPORT ITS LONGITUDE IN DDDMMSS FORMAT
		(XLG AND/OR RLG).

For Nongeostationary (Orbital Data)	INCLINATION ANGLE97.4, APOGEE IN KILOMETERS550, PERIGEE IN KILOMETERS550, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL59, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB = 97.4IN00550AP00550PE001.59H01NRT01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = 12:00 (noon)	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)