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

Transmit Frequency: 2280 MHz		
Satellite Name: Slingshot-1		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ =EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_8.5 BEAMWIDTH _omni XAD01 = 09G090B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non-geostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 45.0 deg, APOGEE IN KILOMETERS 500 km, PERIGEE IN KILOMETERS 500 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL_0.58, THE NUMBER OF SATELLITES IN THE SYSTEM 1 ORB,45.0IN00500AP00500PE001.58H01NRT	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 01

Earth Station Data	Earth Station Data (Receiver)		
State (RSC)	RSC = California		
City Name (RAL)	RAL = Vandenberg AFB		
Latitude (DDMMSS)	Lat = 343855N		
Longitude (DDDMMSS)	Lon = 1203653W		
Antenna Polarization (RAP)	RAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION	
Antenna Azimuth (RAZ)	RAZ01 V02	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00	
Antenna Dimensions (RAD)	ANTENNA GAIN 30, BEAMWIDTH 6, AZIMUTHAL RANGE 360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 25, THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 2	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006	
FCC meteor	RADUI 300000000-300A00025H002		
FCC notes:			

Transmit Frequency: 2055 MHz		
State (XSC)	XSC = California	
City Name (XAL)	XAL = Vandenberg	
Latitude	Lat = 343855N	
(DDMMSS)		
Longitude	Lon = 1203653W	
(DDDMMSS)		
Antenna	XAP = R	POLARIZATIONS INCLUDE :
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Antenna Azimuth	XAZ01 V02	THE EARTH STATION Transmitter ANTENNA
(XAZ)		ELEVATION. V00 TO V90. EXAMPLE. XAZ01 V00
Antenna	ANTENNA GAIN 30, BEAMWIDTH 6,	EXAMPLE ASSUMING NONGEOSTATIONARY,
Dimensions (XAD)	AZIMUTHAL RANGE 360,	XADUI 1000308000-300A0033711000
	THE SITE ELEVATION ABOVE MEAN SEA	
	LEVEL IN METERS 25,	
	THE ANTENNA HEIGHT ABOVE TERRAIN	
	IN METERS 2	
	RAD01 30G006B000-360A00025H002	
Satellite Receive Sp	pecifications	
Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE :
		H = HORIZONTAL, V = VERTICAL
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR, T = RIGHT AND LEET HAND CIRCULAR
		J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = EC	NB= NARROWBEAM
		EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN 8.5	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
	BEAMWIDTH Omni	
	RAD01 09G090B	
Type of satellite	Type = non-geostationary	Choose either:
(State = SP)		Geostationary or
City = G/No		ויטוופכטגנמנוטוומרץ
0,110		

For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE_45.0 deg, APOGEE IN KILOMETERS 500 km, PERIGEE IN KILOMETERS 500 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL_0.58, THE NUMBER OF SATELLITES IN THE SYSTEM 1 ORB,45.0IN00500AP00500PE001.58H01NR	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 01

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

Transmit Frequency: 914.7 MHz		
Satellite Name: Slingshot-1		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP =V	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ =EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_3 BEAMWIDTH _omni XAD01 = 03G090B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non-geostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE 45.0 deg, APOGEE IN KILOMETERS 500 km, PERIGEE IN KILOMETERS 500 km, ORBITAL PERIOD IN HOURS 1 AND FRACTIONS OF HOURS IN DECIMAL 0.58, THE NUMBER OF SATELLITES IN THE SYSTEM 1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

Earth Station Data (Receiver)		
State (RSC)	RSC = Texas	
City Name (RAL)	RAL = Bryan	
Latitude (DDMMSS)	Lat = 303835N	
Longitude (DDDMMSS)	Lon = 0962821W	
Antenna Polarization (RAP)	RAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ02 V02	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN 23 , BEAMWIDTH 12 , AZIMUTHAL RANGE 360 , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 107 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 2 RAD02 23G012B000-360A00107H002	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes:		
1. Use S-Note	2 S945.	
2. REM AGN,	Cubesat, (Slingshot-1)	

Transmit Frequency: 914.7 MHz		
State (XSC)	XSC = Texas	
City Name (XAL)	XAL = Bryan	
Latitude	Lat = 303835N	
(DDMMSS)		
Longitude	Lon = 0962821W	
(DDDMMSS)		
Antenna	XAP = R	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
Antenna Azimuth	XAZ02 V02	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF
(XAZ)		ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna	ANTENNA GAIN_23,	XAD01 16G030B000-360A00357H006
Dimensions (XAD)	BEAMWIDTH12,	
	AZIMUTHAL RANGE360,	
	THE SITE ELEVATION ABOVE MEAN SEA	
	LEVEL IN METERS107	
	THE ANTENNA HEIGHT ABOVE	
	TERRAIN IN METERS2	
	XAD02 23G012B000-360A00107H002	
Satellite Receive Sp	pecifications	•
Polarization (RAP)	RAP = V	POLARIZATIONS INCLUDE :
		H = HORIZONTAL, V = VERTICAL
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR.
		J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = EC	NB= NARROWBEAM
		EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN_3	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
	BEAMWIDTHOmni	
	RAD01 03G090B	
Type of satellite	Type = non-geostationary	Choose either: Geostationary or
(State = SP)		Nongeostationary
City = G/No		

For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE45.0 deg, APOGEE IN KILOMETERS500 km, PERIGEE IN KILOMETERS500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL0.58_, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

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

Transmit Frequency: 914.7 MHz		
Satellite Name: Slingshot-1		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP =V	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ =EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_3 BEAMWIDTH _omni XAD01 03G090B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non-geostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE_45.0 deg, APOGEE IN KILOMETERS_500 km, PERIGEE IN KILOMETERS_500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL_0.58, THE NUMBER OF SATELLITES IN THE SYSTEM_1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

Earth Station Data	a (Receiver)	
State (RSC)	RSC = Florida	
City Name (RAL)	RAL = Gainesville	
Latitude (DDMMSS)	Lat = 293737N	
Longitude (DDDMMSS)	Lon = 0822139W	
Antenna Polarization (RAP)	RAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ03 V02	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN 23 , BEAMWIDTH 12 , AZIMUTHAL RANGE 360 , THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS 36 , THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS 2 RAD03 23G012B000-360A00036H002	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes:		
1. Use S-Note	2 S945.	
2. REM AGN,	Cubesat, (Slingshot-1)	

Transmit Frequency: 914.7 MHz		
State (XSC)	XSC = Florida	
City Name (XAL)	XAL = Gainesville	
Latitude	Lat = 293737N	
(DDMMSS)		
Longitude	Lon = 0822139W	
(DDDMMSS)		
Antenna	XAP = R	POLARIZATIONS INCLUDE :
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFI HAND CIRCULAR, R = RIGHT HAND CIRCULAR.
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Antenna Azimuth	XAZ03 V02	AZIMUTH (XAZ), THE MINIMUM ANGLE OF
(XAZ)		ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna	ANTENNA GAIN_23,	XAD01 16G030B000-360A00357H006
Dimensions (XAD)	BEAMWIDTH,	
	AZIMUTHAL RANGE360,	
	THE SITE ELEVATION ABOVE MEAN	
	SEA LEVEL IN METERS36	
	THE ANTENNA HEIGHT ABOVE	
	TERRAIN IN METERS2	
	XAD03 23G012B000-360A00036H002	
Satellite Receive Sp	becifications	1
Polarization (RAP)	RAP = V	POLARIZATIONS INCLUDE :
		H = HORIZONTAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = EC	NB= NARROWBEAM
		EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN_3	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
	BEAMWIDTHOmni	
	RAD01 03G090B	
Type of satellite	Type = non-geostationary	Choose either:
(State = SP)		Nongeostationary
City = G/No		

For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE45.0 deg, APOGEE IN KILOMETERS500 km, PERIGEE IN KILOMETERS500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL0.58_, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

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

Transmit Frequency: 5020 MHz		
Satellite Name: Slingshot-1		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ =EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_8 BEAMWIDTH _omni XAD01 08G090B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non-geostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE_45.0 deg, APOGEE IN KILOMETERS_500 km, PERIGEE IN KILOMETERS500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL_0.58, THE NUMBER OF SATELLITES IN THE SYSTEM_1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

Earth Station Data (Receiver)		
State (RSC)	RSC = California	
City Name (RAL)	RAL = El Segundo	
Latitude (DDMMSS)	Lat = 335452N	
Longitude (DDDMMSS)	Lon = 1182247W	
Antenna Polarization (RAP)	RAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ03 V02	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN26, BEAMWIDTH8, AZIMUTHAL RANGE360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS31 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS1 RAD03 26G012B000-360A00031H001	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes:		
1. Use S-Note	s 945.	
2. REM AGN,	Cubesat, (Slingshot-1)	

Transmit Frequency: 5020 MHz		
State (XSC)	XSC =	
City Name (XAL)	XAL =	
Latitude	Lat =	
(DDMMSS)		
Longitude	Lon =	
(DDDMMSS)		
Antenna	XAP =	POLARIZATIONS INCLUDE :
Polarization (XAP)		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL,
		L = LEFI HAND CIRCULAR, R = RIGHT HAND CIRCULAR.
		T = RIGHT AND LEFT HAND CIRCULAR,
Antenna Azimuth	XAZ V	AZIMUTH (XAZ), THE MINIMUM ANGLE OF
(XAZ)		ELEVATION, VOO TO V90, EXAMPLE, XAZ01 V00
Antonno		EXAMPLE ASSUMING NONGEOSTATIONARY
Dimonsions (VAD)		XAD01 16G030B000-360A00357H006
Dimensions (AAD)		
	XAD	
Satellite Receive Sp	becifications	1
Polarization (RAP)	RAP =	POLARIZATIONS INCLUDE :
		H = HORIZONTAL, V = VERTICAL.
		S = HORIZONTAL AND VERTICAL,
		L = LEFT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND CIRCULAR,
		J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ =	NB= NARROWBEAM
		(NTIA format (RAD) EVANADLE RADOL 160000)
Dimension (RAD)	ANTENNA GAIN	
Turne of estallity		Choose either:
iype of satellite	iype =	Geostationary or
(State = SP)		Nongeostationary
City = G/NO		

For Geostationary Lor For INC Nongeostationary AP((Orbital Data) PEF OR FRA THI SYS	CLINATION ANGLE, POGEE IN KILOMETERS, ERIGEE IN KILOMETERS, RBITAL PERIOD IN HOURSAND ACTIONS OF HOURS IN DECIMAL, HE NUMBER OF SATELLITES IN THE STEM, RB,	IT ANT SATELETTES ARE GEOSTATIONANT, REPORT ITS LATITUDE AS 00000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG). IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, 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
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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

Transmit Frequency: 2250 MHz		
Satellite Name: Slingshot-1		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ =EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_6 BEAMWIDTH _omni XAD01 06G090B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non-geostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE_45.0 deg, APOGEE IN KILOMETERS_500 km, PERIGEE IN KILOMETERS500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL_0.58, THE NUMBER OF SATELLITES IN THE SYSTEM_1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

Earth Station Data	Earth Station Data (Receiver)		
State (RSC)	RSC = Spain		
City Name (RAL)	RAL = Puertollano		
Latitude (DDMMSS)	Lat = 384124N		
Longitude (DDDMMSS)	Lon = 0040636W		
Antenna Polarization (RAP)	RAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION	
Antenna Azimuth (RAZ)	RAZ03 V02	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00	
Antenna Dimensions (RAD)	ANTENNA GAIN36, BEAMWIDTH3, AZIMUTHAL RANGE360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS703 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS5 RAD03 36G003B000-360A00703H005	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006	
FCC notes:	504F		
1. USE S-NOTE	2343. Cubesat (Slingshot-1)		

Transmit Frequency: 2080 MHz		
State (XSC)	XSC = Spain	
City Name (XAL)	XAL = Puertollano	
Latitude	Lat = 384124N	
(DDMMSS)		
Longitude (DDDMMSS)	Lon = 0040636W	
Antenna Polarization (XAP)	XAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ03 V02	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN_36, BEAMWIDTH3, AZIMUTHAL RANGE360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS703 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS5 XAD03 36G003B000-360A00703H005	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Sp	pecifications	
Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN_6 BEAMWIDTHOmni RAD01 06G090B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = non-geostationary	Choose either: Geostationary or Nongeostationary

For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE45.0 deg, APOGEE IN KILOMETERS500 km, PERIGEE IN KILOMETERS500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL0.58_, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

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

Transmit Frequency: 2250 MHz		
Satellite Name: Slingshot-1		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ =EC	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_6 BEAMWIDTH _omni XAD01 06G090B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non-geostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE_45.0 deg, APOGEE IN KILOMETERS_500 km, PERIGEE IN KILOMETERS_500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL_0.58, THE NUMBER OF SATELLITES IN THE SYSTEM_1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01

Earth Station Dat	Earth Station Data (Receiver)		
State (RSC)	RSC = South Africa		
City Name (RAL)	RAL = Hartebeesthoek		
Latitude (DDMMSS)	Lat = 253824S		
Longitude (DDDMMSS)	Lon = 0284048E		
Antenna Polarization (RAP)	RAP =R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION	
Antenna Azimuth (RAZ)	RAZ03 V02	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00	
Antenna Dimensions (RAD)	ANTENNA GAIN36, BEAMWIDTH3, AZIMUTHAL RANGE360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS1288 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS5 RAD03 36G003B000-360A01288H005	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006	
FCC notes: 1. Use S-Note	s945.		
2. REM AGN,	Cubesat, (Slingshot-1)		

Transmit Frequency: 2080 MHz		
State (XSC)	XSC = South Africa	
City Name (XAL)	XAL = Hartebeesthoek	
Latitude	Lat = 253824S	
(DDMMSS)		
Longitude (DDDMMSS)	Lon = 0280448E	
Antenna Polarization (XAP)	XAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (XAZ)	XAZ03 V02	THE EARTH STATION Transmitter ANTENNA AZIMUTH (XAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, XAZ01 V00
Antenna Dimensions (XAD)	ANTENNA GAIN_36, BEAMWIDTH3, AZIMUTHAL RANGE360, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS1288 THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS5 XAD03 36G003B000-360A01288H005	EXAMPLE ASSUMING NONGEOSTATIONARY, XAD01 16G030B000-360A00357H006
Satellite Receive Sp	pecifications	
Polarization (RAP)	RAP = R	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = EC	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN_6 BEAMWIDTHOmni RAD01 06G090B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = non-geostationary	Choose either: Geostationary or Nongeostationary

For Geostationary	Longitude = N/A	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE45.0 deg, APOGEE IN KILOMETERS500 km, PERIGEE IN KILOMETERS500 km, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL0.58_, THE NUMBER OF SATELLITES IN THE SYSTEM1, ORB,45.0IN00500AP00500PE001.58H01NR	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 T01