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

Satellite Name: BlueWalker3		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = NB	NB= NARROWBEAM
Antenna Dimension (XAD)	ANTENNA GAIN BEAMWIDTH XAD = 45G001B	EC = EARTH COVERAGE (NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	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 REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURSAND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, ORB,97.4IN00516AP00436PE001.57H01NR	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Earth Station Loc	ations A and B (Receiver)	
State (RSC)	RSC = TX and HI	
City Name (RAL)	RAL = Midland and Kapolei	
Latitude (DDMMSS)	Lat = 315549N and 212011N	
Longitude (DDDMMSS)	Lon = 1021231W and 158518W	
Antenna Polarization (RAP)	RAP = T	POLARIZATIONS INCLUDE : H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Antenna Azimuth (RAZ)	RAZ = V10	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna Dimensions (RAD)	ANTENNA GAIN, BEAMWIDTH0.25, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS RAD = 57G000B000-360A00871H000	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006

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Part A: Space to Earth Downlink Data

Satellite Transmitter Data

Satellite Name: BlueWalker3		
Data Field	Data Answer	Description/Comments
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
Orientation (XAZ)	XAZ = NB	NB= NARROWBEAM
Antenna	ANTENNA GAIN	EC = EARTH COVERAGE (NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Dimension (XAD)	BEAMWIDTH	
DIMENSION (AAD)	XAD = 33G004B	
Type of satellite (State = SP) (City = geo or non)	Type = Nongeostationary	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OF RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURSAND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, ORB,97.4IN00516AP00436PE001.57H01NR	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRR01

Earth Station Loca	ation A (Receiver) – 891.5-894 MHz	
State (RSC)	RSC = TX	
City Name (RAL)	RAL = Midland	
Latitude (DDMMSS)	Lat = 315549N	
Longitude (DDDMMSS)	Lon = 1021231W	
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
Antenna Azimuth (RAZ)	RAZ = V45	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
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 = 00G360B360-360A00871H000	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
FCC notes:		1
1. Use S-Note	s945.	
	Cubesat, (insert name)	

Earth Station Loca	ation B (Receiver) – 890-891.5 MHz	
State (RSC)	RSC = HI	
City Name (RAL)	RAL = Kapolei	
Latitude	Lat = 212011N	
(DDMMSS)		
Longitude	Lon = 158518W	
(DDDMMSS)		
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
Antenna Azimuth (RAZ)	RAZ = V45	THE EARTH STATION RECEIVER ANTENNA AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00

Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY,
Dimensions (RAD)	BEAMWIDTH, AZIMUTHAL RANGE, THE SITE ELEVATION ABOVE MEAN SEA LEVEL IN METERS THE ANTENNA HEIGHT ABOVE TERRAIN IN METERS	RAD01 16G030B000-360A00357H006
	RAD = 00G360B360-360A00871H000	
FCC notes:		
1. Use S-Note	e S945.	
2. REM AGN,	Cubesat, (insert name)	

Earth Station Loca	ation C (Receiver) – 758-768 MHz	
State (RSC)	RSC = TX	
City Name (RAL)	RAL = Pine Springs	
Latitude	Lat = 313439N	
(DDMMSS)		
Longitude	Lon = 1042043W	
(DDDMMSS)		
Antenna	RAP = J	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,
A . I A I .		J = LINEAR POLARIZATION THE EARTH STATION RECEIVER ANTENNA
Antenna Azimuth	RAZ = V45	AZIMUTH (RAZ), THE MINIMUM ANGLE OF
(RAZ)		ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY,
Dimensions (RAD)	BEAMWIDTH,	RAD01 16G030B000-360A00357H006
	AZIMUTHAL RANGE,	
	THE SITE ELEVATION ABOVE MEAN SEA	
	LEVEL IN METERS	
	THE ANTENNA HEIGHT ABOVE TERRAIN IN	
	METERS	
	RAD = 00G360B360-360A00871H000	
FCC notes:		
1. Use S-Note		
2. REM AGN,	Cubesat, (insert name)	

Earth Station Location D (Receiver) – 758-768 MHz		
State (RSC)	RSC = TX	
City Name (RAL)	RAL = Silver	

Latitude	Lat = 32823N	
(DDMMSS)		
Longitude	Lon = 1005052W	
(DDDMMSS)		
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 THE EARTH STATION RECEIVER ANTENNA
Antenna Azimuth	RAZ = V45	AZIMUTH (RAZ), THE MINIMUM ANGLE OF
(RAZ)		ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
Antenna	ANTENNA GAIN,	EXAMPLE ASSUMING NONGEOSTATIONARY, RAD01 16G030B000-360A00357H006
Dimensions (RAD)	BEAMWIDTH,	KADUI 1000506000-500A00557H000
	AZIMUTHAL RANGE,	
	THE SITE ELEVATION ABOVE MEAN SEA	
	LEVEL IN METERS	
	THE ANTENNA HEIGHT ABOVE TERRAIN IN	
	METERS	
	RAD = 00G360B360-360A00871H000	
FCC notes:		1
1. Use S-Note	\$945	
	Cubesat, (insert name)	
2. NEW AUN, C		

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

Transmit Frequency: 400.15-401 MHz, 437-438 MHz		
Satellite Name: BlueWalker3		
Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = S	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
O_{μ}	X47 FC	NB= NARROWBEAM
Orientation (XAZ)	XAZ = EC	EC = EARTH COVERAGE
Antenna	ANTENNA GAIN	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Dimension (XAD)	BEAMWIDTH	
	XAD = 03G180B	
Type of satellite	Type = Nongeostationary	Choose either:
(State = SP)		Geostationary or Nongeostationary
(City = geo or		
non)		
liony		
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY,
For Geostationary		REPORT ITS LATITUDE AS 000000N (XLA AND/OR
		RLA) AND REPORT ITS LONGITUDE (XLG AND/OR
		RLG).
For	INCLINATION ANGLE,	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	APOGEE IN KILOMETERS,	REPORT ITS INCLINATION ANGLE, APOGEE
(Orbital Data)	PERIGEE IN KILOMETERS,	IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF
	ORBITAL PERIOD IN HOURS AND	HOURS IN DECIMAL, THE NUMBER OF
		SATELLITES IN THE SYSTEM, THEN TO1, EXAMPLE
	FRACTIONS OF HOURS IN DECIMAL,	REM04
	THE NUMBER OF SATELLITES IN THE	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	SYSTEM,	AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER
		NONGEOSTATIONARY SATELLITE ADD AN
	ORB,97.4IN00516AP00436PE001.57H01NR	ADDITIONAL
		*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
		*ORB,72.9IN03209AP00655PE013.46H01NRR01
Earth Station Dat	a (Receiver)	
		1
State (RSC)	BSC = TX	
State (RSC)	RSC = TX	
City Name (RAL)	RAL = Midland	
· · · ·		
City Name (RAL)	RAL = Midland	
City Name (RAL) Latitude (DDMMSS)	RAL = Midland	
City Name (RAL) Latitude (DDMMSS) Longitude	RAL = Midland Lat = 315549N	
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS)	RAL = Midland Lat = 315549N Lon = 1021231W	POLARIZATIONS INCLUDE :
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna	RAL = Midland Lat = 315549N	POLARIZATIONS INCLUDE : H = HORIZONTAL,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna	RAL = Midland Lat = 315549N Lon = 1021231W	H = HORIZONTAL, V = VERTICAL,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna	RAL = Midland Lat = 315549N Lon = 1021231W	H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna	RAL = Midland Lat = 315549N Lon = 1021231W	H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS)	RAL = Midland Lat = 315549N Lon = 1021231W	H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna	RAL = Midland Lat = 315549N Lon = 1021231W	H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna Polarization (RAP)	RAL = Midland Lat = 315549N Lon = 1021231W RAP = S	H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR,
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna Polarization (RAP) Antenna Azimuth	RAL = Midland Lat = 315549N Lon = 1021231W	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 AZIMUTH (RAZ), THE MINIMUM ANGLE OF
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna Polarization (RAP)	RAL = Midland Lat = 315549N Lon = 1021231W RAP = S	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
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna Polarization (RAP) Antenna Azimuth (RAZ)	RAL = Midland Lat = 315549N Lon = 1021231W RAP = S RAZ = V10	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 AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna Polarization (RAP) Antenna Azimuth (RAZ) Antenna	RAL = Midland Lat = 315549N Lon = 1021231W RAP = S RAZ = V10 ANTENNA GAIN,	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 AZIMUTH (RAZ), THE MINIMUM ANGLE OF
City Name (RAL) Latitude (DDMMSS) Longitude (DDDMMSS) Antenna Polarization (RAP) Antenna Azimuth (RAZ)	RAL = Midland Lat = 315549N Lon = 1021231W RAP = S RAZ = V10	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 AZIMUTH (RAZ), THE MINIMUM ANGLE OF ELEVATION, V00 TO V90, EXAMPLE, RAZ01 V00 EXAMPLE ASSUMING NONGEOSTATIONARY,

	THE SITE ELEVATION ABOVE MEAN SEA
	LEVEL IN METERS
	THE ANTENNA HEIGHT ABOVE TERRAIN IN
	METERS
	RAD = 13G084B360-360A00871H000
FCC notes:	
1. Use S-Note	e \$945.
2. REM AGN,	Cubesat, (insert name)