## NTIA Space record data form for Gluon Experiment

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.

## Part A: Space to Space Downlink Data

## From Gluon to the Iridium Constellation

#### **Satellite Transmitter Data**

Data Field	Data Answer	Description/Comments
Satellite Name: Gluon		
channel spacing 41.	channel spacing 41.6667 kHz.	
•	Transmit Frequencies: 174 Channels, range from low end of low channel 1618.75 MHz to high end of high channel 1626 MHz,	

	T	TRANSMIT POWER CURRUED TO THE ANTENNA
Transmit Power	PWR = 1.25 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2
(PWR)		TRANSMIT POWER UNITS INCLUDE:
		W = WATT,
		K = KILOWATT,
		M = MEGAWATT
Necessary	35 kHz	THE WIDTH OF FREQUENCY BAND WHICH IS
Bandwidth		JUST SUFFICIENT TO SUCCESSFULLY TRANSFER DATA. FORMULAS CAN BE FOUND IN ANNEX J
		OF THE NTIA MANUAL.
RF Emissions		2-SIDED EMISSION BANDWIDTH VALUES
Data		
-3 dB bandwidth	NA	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	DQPSK	THE METHOD USED TO SUPERIMPOSE DATA ON
D. I. D. I.	50.11	THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK. INFORMATION DATA RATE
Data Rate	50 kbps	IN ORMATION DATA NATE
Forward Error	Is FEC used? Yes $oxtimes$ No $oxtimes$	
Correction	FEC Type:BCH(32,21),	
Coding	FEC Rate:50 kbps,	
Total Symbol Rate	25 ksps	DATA RATE COMBINED WITH FEC AND FRAME
		OVERHEAD RESULTING IN THE TOTAL SYMBOL
		RATE AT THE INPUTE TO THE SYMBOL
		MAPPER/MODULATOR.

Does transmitter have a beacon mode?	Yes □ No 図	BEACON MODE IS NORMALLY CONSIDERED A REGULAR AND PERIODIC SHORT DURATION TRANSMISSION THAT IS OFTEN USED TO ASSIST WITH TRACKING, DOPPLER COMPENSATION, OR SMALL SATELLITE IDENTIFICATION WHOSE TRANSMISSIONS ARE NOT LIMITED TO DURATIONS WHEN SUPPORTING GROUND STATIONS ARE VISIBLE.
If transmitter has a beacon mode, can the beacon be commanded off?	Yes □ No □	
Polarization (XAP)	XAP = XAP01 R	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Transmit Antenna Orientation (XAZ)	XAZ = XAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN3.7 BEAMWIDTH80 XAD = XAD01 3.7G080B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).

For Nongeostationary (Orbital Data)	For Gluon: INCLINATION ANGLE97.4	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 TO1, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRT01
	·	
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = 22:00 For Gluon	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, Gluon

## **Receiver Data Iridium Satellite**

Iridium Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	RAP = RAP 01 R	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = NB	NB= NARROWBEAM

Azimuth (RAZ) RAZ = NB REC = EARTH COVERAGE

Receive Antenna Dimension (RAD)	ANTENNA GAIN_20 BEAMWIDTH12 RAD = RAD01 20G012B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	For Gluon: INCLINATION ANGLE97.4, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS500, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL594, THE NUMBER OF SATELLITES IN THE SYSTEM1, For Iridium constellation: INCLINATION ANGLE86.4, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL73, THE NUMBER OF SATELLITES IN THE SYSTEM66, ORB = ORB,97.4IN00500AP00500PE001.59H01NRR01 ORB,86.4IN00780AP00780PE001.73H66NRR01	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN TO1, 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
Number of Satellite Contacts Supported Per	N/A for ISL	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY

Number of Satellite Contacts Supported Per Day	N/A for ISL	NUMBER OF TIMES THE SATELLITE WILL COMMUNICATE WITH THE EARTH STATION IN THE SPACE TO EARTH DIRECTION (DOWNLINKS) EACH DAY
Expected Duration of Each Contact	10 Seconds Max	AVERAGE DURATION OF EACH CONTACT
Supported Operations	Satellite Health and Status Data ⊠ Mission Payload Data ⊠	SATELLITE HEALTH AND STATUS TELEMETRY AND/OR MISSION PAYLOAD DATA
FCC notos:		

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, Gluon

## Gluon to Meson: WiFi

#### **Satellite Transmitter Data**

If transmitter has

a beacon mode,

can the beacon be commanded

off?

Yes 🗆

No 🗆

Transmit Frequencies: 2400.00 - 2500.00 MHz  Satellite Name: Gluon		
Transmit Power (PWR)	PWR = 1.26 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT
Necessary Bandwidth	20 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	NA	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	WiFi (802.11)	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	50 Mbps	INFORMATION DATA RATE
Forward Error Correction	Is FEC used? Yes ⊠ No ☐ FEC Type:LDPC,	
Coding	FEC Rate:5/6,	
Total Symbol Rate	50 Msps	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, OF SMALL SATELLITE IDENTIFICATION WHOSE TRANSMISSIONS ARE NOT LIMITED TO DURATIONS WHEN SUPPORTING GROUND

Polarization (XAP)  Transmit Antenna Orientation (XAZ)	XAP = XAP01 J  XAZ = XAZ01 NB	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 NB= NARROWBEAM EC = EARTH COVERAGE
Transmit Antenna Dimension (XAD)	ANTENNA GAIN5.8 BEAMWIDTH360 XAD = XAD01 5.8G360B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	For Gluon: INCLINATION ANGLE97.4, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS500, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL594, THE NUMBER OF SATELLITES IN THE SYSTEM	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,72.9IN03209AP00655PE013.46H01NRT01
For SunSynchronous Nongeostationary Orbits	Mean Local Time of Ascending Node (MLTAN) = 22:00 For Meson	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S ASCENDING NODE AND THE MEAN SUN, OFTEN EXPRESSED AS UNIT OF TIME (HH:MM)

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, Meson

# **Receiver Data Meson Satellite (WiFI)**

Meson Satellite Receive Specifications		
Receive Antenna Polarization (RAP)	RAP = RAP 01 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
Λ -im u+b (D Λ 7)	DAZ – ND	NR= NARROWREAM

Azimuth (RAZ) RAZ = NB NB= NARROWBEAM EC = EARTH COVERAGE

Receive Antenna Dimension (RAD)	ANTENNA GAIN_5.8 BEAMWIDTH360 RAD = RAD01 5.8G360B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	For Meson: INCLINATION ANGLE97.4, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS500, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL594, THE NUMBER OF SATELLITES IN THE SYSTEM1, For Gluon constellation: INCLINATION ANGLE97.4, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS1AND FRACTIONS OF HOURS IN DECIMAL594, THE NUMBER OF SATELLITES IN THE SYSTEM1,	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

ORB = ORB,97.4IN00500AP00500PE001.59H01NRR01 ORB,97.4IN00500AP00500PE001.59H01NRT01	

Number of Satellite Contacts Supported Per Day	N/A due to ISL	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	N/A due to ISL	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

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, Meson

## Part B:

## **Iridium Constellation to Gluon:**

## **Satellite Transmitter Data**

Transmit Frequencies: 174 Channels spaced 41.6667 kHz apart, plus ring tone. Low end of low channel 1618.75 MHz, High end of

High channel 1626.2912 MHz.

Satellite Name: IRIDIUM CONSTELLATION

Data Field	Data Answer	Description/Comments
Polarization (XAP)	XAP = XAP01 R	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Orientation (XAZ)	XAZ = XAZ01 NB	NB= NARROWBEAM EC = EARTH COVERAGE
Antenna Dimension (XAD)	ANTENNA GAIN_20 BEAMWIDTH12 XAD = XAD01 20G012B	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Type of satellite (State = SP) (City = geo or non)	Type = non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).

For Nongeostationary (Orbital Data)	For Iridium constellation: INCLINATION ANGLE86.4	IF ANY SATELLITES ARE NONGEOSTATIONARY, REPORT ITS INCLINATION ANGLE, APOGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS OF HOURS IN DECIMAL, THE NUMBER OF SATELLITES IN THE SYSTEM, THEN T01, EXAMPLE, REM04 *ORB,98.0IN00510AP00510PE001.58H01NRT01, AND FOR SPACE-TO-SPACE COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN ADDITIONAL *ORB FOR IT ENDING IN R01, EXAMPLE, REM05 *ORB,72.9IN03209AP00655PE013.46H01NRT01

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, [Gluon

## Receiver Data Gluon Satellite Iridium Transceiver Receive from Iridium Constellation

Satellite Receive Specifications		
Polarization (RAP)	RAP = RAP 01 R	POLARIZATIONS INCLUDE: H = HORIZONTAL, V = VERTICAL, S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR, R = RIGHT HAND CIRCULAR, T = RIGHT AND LEFT HAND CIRCULAR, J = LINEAR POLARIZATION
Azimuth (RAZ)	RAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Dimension (RAD)	ANTENNA GAIN3.7 BEAMWIDTH080 RAD = RAD01 RAD01 02G080B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)

Type of satellite (State = SP) City = G/No	Type = Non	Choose either: Geostationary or Nongeostationary
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For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT ITS LATITUDE AS 000000N (XLA AND/OR RLA) AND REPORT ITS LONGITUDE (XLG AND/OR RLG).
For Nongeostationary (Orbital Data)	For Iridium constellation: INCLINATION ANGLE86.4, APOGEE IN KILOMETERS780, PERIGEE IN KILOMETERS780, ORBITAL PERIOD IN HOURS _1AND FRACTIONS OF HOURS IN DECIMAL73, THE NUMBER OF SATELLITES IN THE SYSTEM66, For Gluon: INCLINATION ANGLE97.4, APOGEE IN KILOMETERS500, PERIGEE IN KILOMETERS	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

## From Meson to Gluon

atellite Transmitter Data		
Transmit Frequencies: 2400.00 - 2500.00 MHz		
Satellite Name: Meson		
Data Field	Data Answer	Description/Comments
Transmit Power (PWR)	PWR = 1.26 W	TRANSMIT POWER SUPPLIED TO THE ANTENNA INPUT TERMINAL, EXAMPLE, PWR01 W2 TRANSMIT POWER UNITS INCLUDE: W = WATT, K = KILOWATT, M = MEGAWATT

Necessary Bandwidth	20 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	NA	
-20 dB bandwidth	NA	
-40 dB bandwidth	NA	
-60 dB bandwidth	NA	
Modulation Type	WiFi (802.11)	THE METHOD USED TO SUPERIMPOSE DATA ON THE CARRIER, EXAMPLE, BPSK, QPSK, GMSK.
Data Rate	50 Mbps	INFORMATION DATA RATE
Forward Error	Is FEC used? Yes ⊠ No □	
Correction	FEC Type:LDPC,	
Coding	FEC Rate:5/6,	
Total Symbol Rate	50 Msps	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.
If transmitter has	Yes □	
a beacon mode,	No □	
can the beacon		
be commanded		
off?		
	T	DOLADIZATIONS INCLUDE:
Polarization (XAP)	XAP = XAP01 J	POLARIZATIONS INCLUDE : H = HORIZONTAL,
		V = VERTICAL,
		S = HORIZONTAL AND VERTICAL, L = LEFT HAND CIRCULAR,
		R = RIGHT HAND CIRCULAR,
		T = RIGHT AND LEFT HAND
Transmit Antones	VA7 - VA701 ND	CIRCULAR, J = LINEAR POLARIZATION  NB= NARROWBEAM
Transmit Antenna Orientation (XAZ)	XAZ = XAZ01 NB	EC = EARTH COVERAGE
Transmit Antenna	ANTENNA GAIN 5.8	(NTIA format (XAD), EXAMPLE, XAD01 16G030B)
Dimension (XAD)	BEAMWIDTH 360	
	XAD = XAD01 5.8G360B	

	<u></u>	Character (March
Type of satellite	Type = non	Choose either: Geostationary or
(State = SP)		Nongeostationary
(City = geo or		,
non)		
•		
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	For Meson:	IF ANY SATELLITES ARE NONGEOSTATIONARY,
Nongeostationary	INCLINATION ANGLE97.4,	REPORT ITS INCLINATION ANGLE, APOGEE IN
(Orbital Data)	APOGEE IN KILOMETERS500,	KILOMETERS, PERIGEE IN KILOMETERS, ORBITAL PERIOD IN HOURS AND FRACTIONS
(Orbital Data)	PERIGEE IN KILOMETERS 500 ,	OF
	ORBITAL PERIOD IN HOURS 1 AND	HOURS IN DECIMAL, THE NUMBER OF
		SATELLITES IN THE SYSTEM, THEN TO1,
	FRACTIONS OF HOURS IN DECIMAL594,	EXAMPLE, REM04
	THE NUMBER OF SATELLITES IN THE	*ORB,98.0IN00510AP00510PE001.58H01NRT01,
	SYSTEM1,	AND FOR SPACE-TO-SPACE
		COMMUNICATIONS WITH ANOTHER NONGEOSTATIONARY SATELLITE ADD AN
	For Gluon constellation:	ADDITIONAL
	INCLINATION ANGLE97.4,	*ORB FOR IT ENDING IN R01, EXAMPLE, REM05
	APOGEE IN KILOMETERS_500,	*ORB,72.9IN03209AP00655PE013.46H01NRT01
	PERIGEE IN KILOMETERS500,	
	ORBITAL PERIOD IN HOURS _1AND	
	FRACTIONS OF HOURS IN DECIMAL .594 ,	
	THE NUMBER OF SATELLITES IN THE	
	SYSTEM1,	
	ORB =	
	ORB,97.4IN00500AP00500PE001.59H01NRT01	
	ORB,97.4IN00500AP00500PE001.59H01NRR01	
	5.1.5,57.1111005567.1105567.110567.11057.11	
For	Mean Local Time of Ascending Node	MLTAN IS THE ANGLE BETWEEN AN ORBIT'S
SunSynchronous	(MLTAN) = 22:00 For Meson	ASCENDING NODE AND THE MEAN SUN, OFTEN
Nongeostationary	(	EXPRESSED AS UNIT OF TIME (HH:MM)
Orbits		
CIDICS		

- 1. Use S-Note S945.
- 2. REM AGN, Cubesat, Meson

# **Receiver Data Gluon Satellite**

**Gluon Satellite Receive Specifications** 

Receive Antenna Polarization (RAP)	RAP = RAP 01 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
Azimuth (RAZ)	RAZ = NB	NB= NARROWBEAM EC = EARTH COVERAGE
Receive Antenna Dimension (RAD)	ANTENNA GAIN_5.8 BEAMWIDTH360 RAD = RAD01 5.8G360B	(NTIA format (RAD), EXAMPLE, RAD01 16G030B)
Type of satellite (State = SP) City = G/No	Type = Non	Choose either: Geostationary or Nongeostationary
For Geostationary	Longitude =	IF ANY SATELLITES ARE GEOSTATIONARY, REPORT

For Meson constellation:

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

ITS LATITUDE AS 000000N (XLA AND/OR RLA)

REPORT ITS LONGITUDE (XLG AND/OR RLG).

IF ANY SATELLITES ARE NONGEOSTATIONARY,

REPORT ITS INCLINATION ANGLE, APOGEE IN

ORBITAL PERIOD IN HOURS AND FRACTIONS

HOURS IN DECIMAL, THE NUMBER OF SATELLITES

KILOMETERS, PERIGEE IN KILOMETERS,

IN THE SYSTEM, THEN TO1, EXAMPLE,

INCLINATION ANGLE \_\_\_\_\_97.4\_\_\_\_\_,
APOGEE IN KILOMETERS\_\_500\_\_\_\_\_,
PERIGEE IN KILOMETERS\_\_\_\_500\_\_\_\_\_,
ORBITAL PERIOD IN HOURS \_1\_\_ AND
FRACTIONS OF HOURS IN DECIMAL\_.594\_\_\_,
THE NUMBER OF SATELLITES IN THE
SYSTEM\_\_\_1\_\_\_\_,
ORB =

ORB,97.4IN00500AP00500PE001.59H01NRR01 ORB,97.4IN00500AP00500PE001.59H01NRT01

Number of
Satellite Contacts
Supported Per
Day

N/A due to ISL

NUMBER OF TIMES THE SATELLITE WILL
COMMUNICATE WITH THE EARTH STATION IN
THE SPACE TO EARTH DIRECTION (DOWNLINKS)
EACH DAY

Expected	N/A due to ISL	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, Meson		