

Required Supplemental Information

The following additional information is provided pursuant to the Office of Engineering and Technology's Public Notice, "Guidance on Obtaining Experimental Authorizations for Commercial Space Launch Activities," DA: 13-446 (OET, released March 15, 2013):

a. Technical information including frequency, power, emission, latitude and longitude coordinates of the launch site or test operations.

See foregoing STA Form for technical parameters. For telemetry transmission, two S-band antennas are used, mounted 180° apart on a 200 inch diameter, to achieve nearly spherical coverage. Coordinates for SLC-41 launch site are: Latitude 28° 35' 00.4414" North; longitude 80° 34' 58.3806" West. The launch pad altitude is 22.2 feet above mean sea level.

b. An overview of the proposed launch or testing including, if appropriate, identifying the launch facility and the overall mission.

See "Purpose of Operation" on Main STA Form.

c. The anticipated orbital parameters or range of orbital parameters (altitude, inclination) in which the launch vehicle or related spacecraft will operate.

The Nominal Morelos-3 Trajectory State Vector data uses the EFG Geodetic Coordinate System. The EFG Coordinate System is Right Handed, Earth Centered and Earth Fixed. Positive G corresponds to the North Polar Axis. E and F are in the Equatorial Plane with Positive E intersecting the Prime Meridian and Positive F, the 90-degree East Meridian.

d. A 24-hour contact for interference issues.

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e. If the applicant is also requesting authorization to operate an earth station to communicate with the launch vehicle or spacecraft, it should provide the frequency, power, emission, latitude and longitude coordinates for the earth station. If the applicant is planning to communicate with an earth station operated by another company, the United States government, or one located outside the United States, its territories and possessions, the

applicant should include technical parameters of the earth station in an exhibit to the application for reference purposes only.

TDRSS, Air Force Satellite Control Network (AFSCN) and the Eastern Range (ER) TLM ground stations, located at and down range from CCAFS, will provide coverage throughout the flight.

Station	Geodetic Latitude (deg N)	Geodetic Longitude (deg W)	Geodetic Altitude (ft)	Antenna Gain (dB)	Noise Temperature (K)	G/T (dB/K)
TEL-4	28.46	80.65	-35.17	41.6	257	
JDMTA	26.98	80.11	-36.48	48.9	202	
REEF A	-7.2700	287.6300	-191.9751			21.5
GUAM A	13.6152	215.1439	709.0748			26
TDRS 041(F12)¹	±6.56	41.31	117409829.5			9.5 – 12.3
TDRS 046(F6)¹	±13.35	46.00	117409303.1			9.5 – 11.5
TDRS 171(F11)¹	±6.12	171.05	117409538.4			9.5 – 12.3
TDRS 174(F10)¹	±3.95	174.29	117409543.7			9.5 – 12.3

(1) TDRS operates in a daily “figure 8” pattern. Location values (latitude/east longitude/altitude) are taken from the average over the 18 month ephemeris with the exception of latitude which is the average min/max of the latitudes observed over the 18 month ephemeris. The space-to-space link G/T varies with the amount of earth albedo, and is calculated in the link margin program (from GFSC CLASS Analysis)