

Description of Operations and Public Interest Statement

Pursuant to 47 CFR 25.120 of the Commission's Rules, Lockheed Martin Corporation ("Lockheed Martin") hereby requests Special Temporary Authority ("STA") for a period of thirty (30) days to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telemetry, tracking, and control ("TT&C") functions during the Launch and Early Operations Phase ("LEOP") period of operation, ranging, and propulsion monitoring for the Galaxy 36 satellite, which is authorized by the Federal Communications Commission.¹

Galaxy 36 is destined for in-service operation at 89.0° W.L. as a replacement satellite to provide C- and Ku-band video and television broadcast services in the United States. It is currently scheduled for launch on December 14, 2022, aboard an Ariane 5 rocket, from Kourou, French Guiana.

Lockheed Martin has been asked by the Galaxy 36 operator to assume the primary LEOP role for this mission. Accordingly, Lockheed Martin requests authority to begin communications by December 14, 2022, in support of LEOP operations.

1. Requested STA Operations

The LEOP TT&C and ranging signals will be transmitted in the standard C-band for which Lockheed Martin has authority under Call Sign E7541. As to the instant request for STA, Lockheed Martin seeks herein authority to communicate with Galaxy 36 as a point of communication on two C-band frequencies that fall outside of the currently authorized transmit frequencies for the earth station.

The proposed TT&C operations in support of the Galaxy 36 launch will be on a strictly non-harmful interference, non-protected basis. When no commands are being sent, a CW carrier that is within the emission of the licensed operation would be present. In the case of an anomaly, extraordinary measures, such as increasing power, may be necessary; if such measures are required during this STA period, Lockheed Martin will notify the FCC within seven (7) business days that such measures were needed.

Lockheed Martin incorporates by reference the radiation hazard study that was included with its most recent filings at the FCC. In addition, Lockheed Martin is submitting herewith a frequency coordination notification prepared by Comsearch.

¹ FCC Call Sign S3148 (File No. SAT-LOA-20220607-00058).

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to Galaxy 36 is to occur through the subject earth station. Mr. Usarzewicz can be reached at the following phone numbers:

(609) 865-2658 (cellular)
(908) 859-4050 (earth station desk)

2. Grant of the Requested Authority Will Serve the Public Interest

Lockheed Martin believes that the limited operations it proposes in support of the launch of the Galaxy 36 satellite serve the public interest. Lockheed Martin understands that the Galaxy 36 satellite will provide to provide satellite radio programming to consumers across North America.

Lockheed Martin's Carpentersville earth station will be part of a global network of control and ranging facilities that will be used solely to position the satellite as it progresses from transfer orbit to its final location and to calibrate electric propulsion. No end user service will be provided within the United States at any time. The safe and orderly use of the entire geostationary orbital resource and protection of the hundreds of satellites licensed by the U.S. and other countries that operate there depends in no small part on ensuring that the Galaxy 36 satellite is controlled while over North America en route to its final geostationary orbital position. In this regard, Lockheed Martin's earth station thus will serve a vital function.

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Lockheed Martin requests authority to operate its Carpentersville, NJ earth station antenna to provide critical TT&C and ranging services during the LEOP mission of the Galaxy 36 satellite, for a term of 30 days, commencing December 14, 2022.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: Galaxy 36
Orbital Location: 89.0° W.L.
Manufacturer: Maxar
Launch Vehicle: Arianespace Ariane 5

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Earth Station Characteristics

Antenna: 14.2-m TIW Systems
Antenna Location: 40°38' 39.1" N / 075° 11' 27.8" W
Telecommand Uplink Frequencies:
6422.5 MHz (RHCP)
6424.5 MHz (RHCP)
Telemetry Downlink Frequencies:
4197.80 MHz (LHCP)
4199.00 MHz (LHCP)
Antenna Gain: 57.5 dBi @ 6 GHz
Antenna Power: 34.0 dBW (into the flange)
Maximum EIRP: 91.5 dBW for all carriers
EIRP Density: 19.0 dBW/4kHz
Uplink Emission: 1M50F2D
Downlink Emission: 500KG2D