

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
Carpentersville LEOP TT&C STA for JCSat 16 - July 2016 (30-Day STA)

1. Applicant

Name: Lockheed Martin Corporation Phone Number: 703-413-5747  
DBA Name: Fax Number: 703-413-5908  
Street: 2121 Crystal Drive E-Mail: ryan.n.terry@lmco.com  
Suite 100  
City: Arlington State: VA  
Country: USA Zipcode: 22202  
Attention: Ryan N. Terry



File # SESSTA20160713-00647  
E7541 Grant Date 8-10-16  
Call Sign (or other identifier)  
Term Dates From: 8-10-16 To: 9-9-16  
Approved: [Signature]



File # SES-STA-20160713-00647  
E7541  
Call Sign E7541 Grant Date 8-5-16  
(or other identifier)  
Term Dates  
From: 8-10-16 To: 9-9-16  
Approved: Paul E. Blais

Applicant: Lockheed Martin Corporation  
File No.: SES-STA-20160713-00647  
Call Sign: E7541  
Special Temporary Authority

Lockheed Martin Corporation is granted a Special Temporary Authority, under the following conditions, for 30 days, beginning August 10, 2016, to operate its fixed earth stations in Carpentersville, New Jersey, call-sign E7541, to provide telemetry, tracking and control (“TT&C”) functions during the post-launch and early orbit phases (“LEOP”) of operation for the JCSAT-16 satellite at 150° E.L. licensed by Japan, which is expected to be launched in August 10, 2016.

1. Lockheed Martin will perform the operations in the uplink frequencies (Earth-to-space): 13751MHz and 13753 MHz and the downlink frequencies (space-to-Earth): 12201.50 MHz and 12203.50 MHz within coordinated emission, antenna size and power limits. The maximum EIRP shall not exceed 85 dBW per NTIA manual US 356.
2. All operators of satellites will be provided with an emergency phone number where the licensee can be reached in the event that harmful interference occurs, currently the 24x7 contact information for the JCSAT-16 mission is as follows: Mr. Michael Usarzewicz at (609) 865-2658 (cellular) or (908) 859-4050.
3. Operations, shall not cause harmful interference to or claim protection from other lawfully operating stations and it shall cease transmission(s) immediately upon notice of such interference.
4. In the event of any harmful interference under this grant of STA, Lockheed Martin E7541 must cease operations immediately upon notification of such interference, and must inform the Commission, in writing, immediately of such an event.
5. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Lockheed Martin applications.
6. Any action taken or expense incurred as a result of operations pursuant to this STA is solely 'at Lockheed Martin's risk.
7. Operations in the 13.75-14.00 GHz band may only exceed 85 dBW/carrier if an emergency situation exists and the applicant must notify FCC OperationCenter@fcc.gov of the situation with a copy to [paul.blais@fcc.gov](mailto:paul.blais@fcc.gov) and [jimmy.nguyen@us.af.mil](mailto:jimmy.nguyen@us.af.mil).
8. This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. §0.261, and is effective immediately.

**2. Contact**

**Name:** Ryan N. Terry      **Phone Number:** 703-413-5747  
**Company:** Lockheed Martin Corporation      **Fax Number:** 703-413-5908  
**Street:** 2121 Crystal Drive      **E-Mail:** ryan.n.terry@lmco.com  
Suite 100  
**City:** Washington      **State:** DC  
**Country:** USA      **Zipcode:** 22202 -  
**Attention:**      **Relationship:** Same

(If your application is related to an application filed with the Commission, enter either the file number or the IB Submission ID of the related application. Please enter only one.)

3. Reference File Number SESLIC2008110301443 or Submission ID

4a. Is a fee submitted with this application?

If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).

Governmental Entity     Noncommercial educational licensee

Other (please explain):

4b. Fee Classification    CGX - Fixed Satellite Transmit/Receive Earth Station

5. Type Request

Use Prior to Grant

Change Station Location

Other

6. Requested Use Prior Date

08/10/2016

7. City Carpentersville

8. Latitude

(dd mm ss.s h)    40 38 39.1 N

9. State NJ	10. Longitude (dd mm ss.s h) 75 11 27.8 W
11. Please supply any need attachments. Attachment 1: STA Attachment 2: Attachment 3:	
12. Description. (If the complete description does not appear in this box, please go to the end of the form to view it in its entirety.) Lockheed Martin Corporation hereby requests Special Temporary Authority beginning August 10, 2016, to operate its Carpentersville, New Jersey fixed earth station (Call Sign E7451) to provide telemetry, tracking and control (TT&C) functions during the post-launch and early orbit phases (LEOP) of operation for the JCSAT-16 satellite.	
13. By checking Yes, the undersigned certifies that neither applicant nor any other party to the application is subject to a denial of Federal benefits that includes FCC benefits pursuant to Section 5301 of the Anti-Drug Act of 1988, 21 U.S.C. Section 862, because of a conviction for possession or distribution of a controlled substance. See 47 CFR 1.2002(b) for the meaning of "party to the application"; for these purposes.  Yes <input checked="" type="radio"/> No <input type="radio"/>	
14. Name of Person Signing Jennifer Warren	15. Title of Person Signing Vice President, Technology Policy & Regulation
WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT (U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION (U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).	

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**THE FOREGOING NOTICE IS REQUIRED BY THE PAPERWORK REDUCTION ACT OF 1995, PUBLIC LAW 104-13, OCTOBER 1, 1995, 44 U.S.C. SECTION 3507.**

### **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 E7451) to provide telemetry, tracking and control ("TT&C") functions during the post-launch and early orbit phases ("LEOP") of operation for the JCSAT-16 satellite.

JCSAT-16 is destined for in-service operation at 150.0° E.L., and is currently scheduled for launch by mid-August aboard a Falcon 9 launch vehicle from Cape Canaveral, Florida.

Accordingly, Lockheed Martin requests to begin test transmissions on August 10, 2016 in preparation for the launch.<sup>1</sup> Further, Lockheed Martin is requesting that the duration of this STA be a total of thirty (30) days to cover any slippage in the anticipated dates of the various phases of operation; it nonetheless expects that all Carpentersville operations in support of the launch will be completed within fourteen (14) days after the JCSAT-16 satellite is launched.

#### **1. Requested STA Operations**

Lockheed Martin specifically seeks authority to transmit telecommand signals at the center frequencies 13751.0 MHz and 13753.0 MHz for in transit telecommand communications (Earth-to-space), and to receive telemetry signals from the satellite (space-to-Earth) at the center frequencies 12201.5 MHz and 12203.5 MHz.

The proposed TT&C operations in support of the JCSAT-16 launch will be on a strictly non-harmful interference, non-protected basis. Lockheed Martin's proposed transmissions will use total input power and emissions for Ku-band telecommand that will fall below the highest input power, EIRP, EIRP density, and bandwidth prescribed for the telecommand carriers in its above-referenced FCC license. When no commands are being sent, a CW carrier that is within the emission of the licensed operation would be present. However, 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 and Schedule B information that were included with its most recent filings at the FCC.

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<sup>1</sup> The proposed test transmissions would occur over a period of approximately two to three days. During these tests, the earth station would not be communicating with any satellite; instead, the transmissions will be made with the antenna at zenith to verify RF functionality.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, JCSAT-16 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 JCSAT-16 satellite serve the public interest. Lockheed Martin understands that the JCSAT-16 satellite has been licensed by the Japanese administration for the provision of communications services to Japanese satellite operator SKY Perfect JSAT. Lockheed Martin's Carpentersville earth station will be part of a global network of control facilities that will be used solely to position the satellite as it progresses from transfer orbit to its final location. 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 JCSAT-16 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.

\* \* \* \* \*

Lockheed Martin requests authority to operate its Carpentersville, NJ earth station antenna to provide critical TT&C services during the launch and early operations phase of the JCSAT-16 satellite, for a term of 30 days, commencing August 10, 2016.



<b>Frequency</b>		
<b>TC2 Bandwidth</b>	<i>TC2 carrier maximum occupied RF bandwidth in kHz</i>	1000
<b>TC2 Start Frequency</b>	<i>Calculated start frequency for TC2 carrier</i>	13750.50
<b>TC2 End Frequency</b>	<i>Calculated end frequency for TC2 carrier</i>	13751.50
<b>TC2 Polarization</b>	<i>Polarization for TC2 carrier</i>	LHCP
<b>Data Rate</b>	<i>Data rate for command carriers</i>	1 kbps
<b>Modulation Type(s)</b>	<i>Type(s) of modulation for command carriers (i.e. FM, BPSK etc.)</i>	1000bps, NRZ-L/BPSK/FM
<b>Emission Designator(s)</b>	<i>ITU standard code to represent bandwidth and modulation of a carrier (i.e. 800KF8D). See Emission Designator tab for more information</i>	1M00F2DAN
<b>Ranging Uplink</b>		
<b>Bandwidth</b>	<i>Ranging carrier maximum occupied RF bandwidth in kHz</i>	1000
<b>Modulation Type</b>	<i>Type of modulation (i.e. FM, QPSK, 16QAM, etc.)</i>	CW-FM
<b>Emission Designator(s)</b>	<i>ITU standard code to represent bandwidth and modulation of a carrier (i.e. 800KF8D). See Emission Designator tab for more information</i>	1M00F8XJN
<b>Telemetry downlink</b>		
<b>TM1 Center Frequency</b>	<i>Center frequency of TM1 in MHz</i>	12201.50
<b>TM1 Bandwidth</b>	<i>TM1 carrier maximum occupied RF bandwidth in kHz</i>	1500
<b>TM1 Start Frequency</b>	<i>Calculated start frequency for TM1 carrier</i>	12200.75
<b>TM1 End Frequency</b>	<i>Calculated end frequency for TM1 carrier</i>	12202.25
<b>TM1 Polarization</b>	<i>Polarization for TM1 carrier</i>	HP
<b>TM2 Center Frequency</b>	<i>Center frequency of TM2 in MHz</i>	12203.50
<b>TM2 Bandwidth</b>	<i>TM2 carrier maximum occupied RF bandwidth in kHz</i>	1500
<b>TM2 Start Frequency</b>	<i>Calculated start frequency for TM2 carrier</i>	12202.75
<b>TM2 End Frequency</b>	<i>Calculated end frequency for TM2 carrier</i>	12204.25
<b>TM2 Polarization</b>	<i>Polarization for TM2 carrier</i>	HP
<b>Data Rate</b>	<i>Data rate for command carriers</i>	16 kbps
<b>Modulation Type(s)</b>	<i>Type(s) of modulation (i.e. FM, BPSK, etc.)</i>	PM, BPSK PCM/NRZ-L
<b>Emission Designator(s)</b>	<i>ITU standard code to represent bandwidth and modulation of a carrier (i.e. 800KF8D). See Emission Designator tab for more information</i>	1M00G8DAN