Approved by OMB
3060–0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATIONEnter a description of this application to identify it on the main menu:
Carpentersville TT&C STA for HellasSat 4 (2.4m dishes) – 2019–03 (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		

FEDERAL COMMUNICATIONS COMMISSION
GRANTED
International Bureau

File # SES-STA-20190310-00313
Call Sign E7541 Grant Date 3-15-19
(or other identifier)
Term Dates
From: 3-15-19 To: 4-14-19
Approved:

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 SESSTA2019012900022 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 03/15/2019	
7. CityCarpentersville	8. Latitude (dd mm ss.s h) 40 38 41.0 N

9. State NJ	10. Longitude (dd mm ss.s h) 75 11 28.0 W

11. Please supply any need attachments.

Attachment 1: STA Extension Attachment 2: Coordination 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 extension of its Special Temporary Authority, beginning March 15, 2019, to operate two Prodelin 2.4m temporary-fixed, transmit-only earth stations immediately adjacent to its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telecommand functions during the Electric Orbit Raising (EOR)

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 ( ) No

14. Name of Person Signing Jennifer A. 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).

FCC NOTICE REQUIRED BY THE PAPERWORK REDUCTION ACT

The public reporting for this collection of information is estimated to average 2 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the required data, and completing and reviewing the collection of information. If you have any comments on this burden estimate, or how we can improve the collection and reduce the burden it causes you, please write to the Federal Communications Commission, AMD–PERM, Paperwork Reduction Project (3060–0678), Washington, DC 20554. We will also accept your comments regarding the Paperwork Reduction Act aspects of this collection via the Internet if you send them to PRA@fcc.gov. PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

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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.

12. Description

Lockheed Martin Corporation hereby requests extension of its Special Temporary Authority, beginning March 15, 2019, to operate two Prodelin 2.4m temporary-fixed, transmit-only earth stations immediately adjacent to its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide telecommand functions during the Electric Orbit Raising (EOR) phase of operation for the HellasSat 4 satellite.

Applicant: Lockheed Martin Corporation
Call Sign: E7541
File No.: SES-STA-20190310-00313
Special Temporary Authority ("STA")

Lockheed Martin Corporation is granted extension of STA to operate, for 30 days, its earth station Call Sign E7541 located at geographic coordinates 40° 38' 41"N/ 75° 11' 28"W in Carpentersville, New Jersey to provide command functions during the electric propulsion monitoring for the HellasSat 4/SaudiGeoSat 1 ("HS4") satellite at orbital location 39.0°E on center frequencies: 5949.22 MHz, 5950.67MHz, 5963.03 MHz, 5964.49 MHz (Earth-to-space). Operations are authorized under the following conditions:

1. Operations will not exceed the operational power levels and parameters requested:

Maximum EIRP: 55.3 dBW for all carriers
EIRP Density: 19.0 dBW/4kHz
Uplink emissions: 1M44G7W

2. All operations under this grant of STA shall be on an unprotected and non-harmful interference basis. Lockheed Martin Corporation shall not cause harmful interference to, and shall not claim protection from interference caused to it by, any other lawfully operating radio communication system.

3. In the event of any harmful interference Lockheed Martin Corporation shall cease operations immediately upon notification of such interference, and shall immediately inform the Commission, in writing, of such an event.

4. A 24x7 point of contact must be available to resolve interference issues. The 24x7 contact information for the HS4 satellite mission is as follows: Cell Phone: (609) 865-2658 and/or earth station desk number (908) 859-4050. Request to speak with Michael Usarzewicz.

5. Grant of this STA is without prejudice to any determination that the Commission may make regarding pending or future Lockheed Martin Corporation applications.

6. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Lockheed Martin Corporation LLC's risk.

This grant is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. § 0.261, and is effective upon release.

GRANTED
International Bureau

File # SES-STA-20190310-00313
E7541
Call Sign _____ Grant Date 3-15-19
(or other identifier)
Term Dates
From: 3-15-19 To: 4-14-19
Approved: [signature]

INTELSAT.
Envision. Connect. Transform.

March 8, 2019

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Request for Special Temporary Authority to Operate a 1 meter Ku-band Antenna

Dear Ms. Dortch:

Intelsat License LLC ("Intelsat") herein requests a grant of Special Temporary Authority ("STA")[1] for 60 days, beginning March 20, 2018, to allow Intelsat to utilize a transportable 1 meter Ku-band antenna in the contiguous-lower 48 states to communicate with Intelsat satellites in order to provide customer demonstrations.[2] Intelsat intends to file an application seeking permanent authority for this antenna.

The proposed communication services will be performed in the following frequency bands: 14.0-14.5 GHz (Earth-to-space), and 11.7-12.2 GHz (space-to-Earth). The proposed operations will be consistent with Intelsat's coordination agreements. The 24x7 contact information for the proposed operations is as follows:

Ph.: (703) 559-7701 – East Coast Operations Center (primary)
(310) 525-5591 – West Coast Operations Center (back-up)

Request to speak with Harry Burnham or Kevin Bell.

In support of this request, Intelsat is attaching a radiation hazard report as Exhibit A.

Grant of this STA request services the public interest by enabling Intelsat to provide customer demonstrations for a new service.

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1 Intelsat has filed its STA request, an FCC Form 159, a $210.00 filing fee, and this supporting letter electronically via the International Bureau's Filing System ("IBFS").

2 Intelsat is simultaneously filing an identical request for the use of a second, identical antenna.

Please direct any questions regarding this STA request to the undersigned at (703) 559-6949.

Respectfully submitted,

/s/ Cynthia J. Grady

Cynthia J. Grady
Senior Counsel
Intelsat US LLC

cc: Paul Blais

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 two temporary-fixed transmit-only earth station antennas within the perimeter of its Carpentersville, New Jersey fixed earth station (Call Sign E7541) to provide supplemental command functionality functions during the Electric Orbit Raising ("EOR") period of operation, ranging, and electric propulsion monitoring for the HellasSat 4/ SaudiGeoSat 1 ("HS4") satellite, which Lockheed Martin has manufactured.

HS4 is destined for in-service operation at 39.0° E.L. The HS4 satellite was successfully launched on February 5, 2019, aboard an Ariane 5 ECA rocket, from Guiana Space Center. The spacecraft is currently undergoing its EOR milestones.

The all-electric propulsion system of HS4 requires extended support for the completion of the mission. Accordingly, Lockheed Martin is requesting herein extension of its current authority request for an additional thirty (30) days, from March 15, 2019, to continue its support of EOR and in-orbit testing being conducted by the launch provider.[1]

1. Requested STA Operations

Overall, the TT&C operations that support the HS4 launch are conducted 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 is submitting herewith a Frequency Coordination and Interference Analysis Report prepared by Comsearch. Lockheed Martin notes that the Comsearch Report reflects an extended coordination term accounting for the extended operations contemplated by this extension request and, as necessary, future extension requests, given the lengthy period of EOR operations.

Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to HS4 is to occur through the subject earth station. Mr. Usarzewicz can be reached at the following phone numbers:

(609) 865-2658 (cellular)

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[1] STA for this extended mission was most recently granted under FCC File No. SES-STA-20190129-00022.

(908) 859-4050 (earth station desk)

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

Lockheed Martin believes that these limited operations in support of the HS4 mission serve the public interest. Lockheed Martin understands that the HS4 satellite will provide to provide in-orbit backup, redundancy services for HellasSat 3 and further expansion over Europe and Southern Africa, through increased Ku-band capacity.

Lockheed Martin's Carpentersville earth station facility is 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 is being or 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 HS4 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 the subject earth station antennas to provide critical services during the EOR mission of the HellasSat 4/SaudiGeoSat 1 satellite, for a term of 30 days, from March 15, 2019.

TECHNICAL DETAILS OF SPECIAL TEMPORARY AUTHORITY

Satellite Characteristics

Satellite: HellasSat 4/ SaudiGeoSat 1 Electric Orbit Raising

Orbital Location: 39.0° E.L.

Manufacturer: Lockheed Martin Corporation

Launch Vehicle: Ariane 5 ECA

* * *

Earth Station Characteristics

Antenna: 2.4-m Prodelin

Antenna Location: 40°38' 41" N / 075° 11' 28" W

Telecommand Uplink Frequencies:
5949.22 MHz (LHCP/RHCP)
5950.67 MHz (LHCP/RHCP)
5963.03 MHz (LHCP/RHCP)
5964.49 MHz (LHCP/RHCP)

Antenna Gain: 42.0 dBi @ 6 GHz

Antenna Power: 13.3 dBW (into the flange)

Maximum EIRP: 55.3 dBW for all carriers

EIRP Density: 19.0 dBW/4kHz

Uplink Emission: 1M44G7W

COMSEARCH
An Andrew Company
19700 Janelia Farm Blvd.
Ashburn, Va 20147
(703)-726-5500 Fax: (703)-726-5600
http://www.comsearch.com

December 20, 2018

Re: Lockheed Martin Corporation-Phillipsburg
CARPENTERSVI, NJ
Temporary Transmit-Only Earth Station
Operation Dates: 02/05/2019 - 09/01/2019
Job Number: 181220COMSGE02

Dear Frequency Coordinator:

On behalf of Lockheed Martin Corporation-Phillipsburg, we are forwarding the attached coordination data for a Temporary Transmit-Only Earth Station to be located at the site referenced above.

This earth station will transmit only on the satellite(s) and frequency or frequencies as described in the attached data. Please do not report cases involving 4 GHz facilities or problems involving non-active paths or frequencies outside the specified range.

If there are any questions concerning this coordination notice, please contact Comsearch.

Sincerely,

COMSEARCH

Gary K. Edwards
Senior Manager
gedwards@comsearch.com

Enclosure(s)

Date:	12/20/2018
Job Number:	181220COMSGE02

Administrative Information	
Status	TEMPORARY (Operation from 02/05/2019 to 09/01/2019)
Call Sign	TEMP09
Licensee Code	RCASTR
Licensee Name	Lockheed Martin Corporation-Phillipsburg

Site Information	**CARPENTERSVILLE, NJ**
Venue Name	
Latitude (NAD 83)	40° 38' 41.0" N
Longitude (NAD 83)	75° 11' 28.0" W
Climate Zone	A
Rain Zone	2
Ground Elevation (AMSL)	54.86 m / 180.0 ft

Link Information	
Satellite Type	Geostationary
Mode	TO - Transmit-Only
Modulation	Digital
Satellite Arc	4° W to 147° West Longitude
Azimuth Range	102.5° to 257.9°
Corresponding Elevation Angles	5.5° / 5.0°
Antenna Centerline (AGL)	2.74 m / 9.0 ft

Antenna Information		**Transmit - FCC32**	
Manufacturer		Prodelin	
Model		2.4 meter	
Gain / Diameter		42.0 dBi / 2.4 m	
3-dB / 15-dB Beamwidth		1.20° / 2.40°	
Max Available RF Power	(dBW/4 kHz)	-10.7	
	(dBW/MHz)	13.3	
Maximum EIRP	(dBW/4 kHz)	31.3	
	(dBW/MHz)	55.3	
Interference Objectives:	Long Term	-154.0 dBW/4 kHz	20%
	Short Term	-131.0 dBW/4 kHz	0.0025%

Frequency Information	**Transmit 6.1 GHz**
Emission / Frequency Range (MHz)	1M44G7W / 5949.22
	1M44G7W / 5950.67
	1M44G7W / 5963.03
	1M44G7W / 5964.49
Max Great Circle Coordination Distance	234.8 km / 145.9 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi

Coordination Values	**CARPENTERSVI, NJ**		
Licensee Name	Lockheed Martin Corporation-Phillipsburg		
Latitude (NAD 83)	40° 38' 41.0" N		
Longitude (NAD 83)	75° 11' 28.0" W		
Ground Elevation (AMSL)	54.86 m / 180.0 ft		
Antenna Centerline (AGL)	2.74 m / 9.0 ft		
Antenna Model	Prodelin 2.4 meter		
Antenna Mode	Transmit 6.1 GHz		
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%	
Short Term	-131.0 dBW/4 kHz	0.0025%	
Max Available RF Power	-10.7 (dBW/4 kHz)		

			Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
0	4.46	102.08	-10.00	100.00
5	5.06	97.51	-10.00	100.00
10	5.23	92.51	-10.00	100.00
15	4.76	87.51	-10.00	100.00
20	4.23	82.51	-10.00	100.00
25	4.21	77.51	-10.00	100.00
30	4.42	72.51	-10.00	100.00
35	4.18	67.52	-10.00	100.00
40	4.30	62.52	-10.00	100.00
45	4.47	57.52	-10.00	100.00
50	4.61	52.52	-10.00	100.00
55	4.37	47.52	-9.92	100.00
60	4.17	42.53	-8.72	100.00
65	4.02	37.54	-7.36	100.00
70	3.78	32.55	-5.81	100.00
75	3.54	27.58	-4.01	100.00
80	3.66	22.58	-1.84	100.00
85	3.99	17.57	0.88	100.00
90	3.93	12.61	4.48	100.00
95	3.91	7.68	9.87	100.00
100	3.92	2.97	20.20	135.15
105	3.72	3.06	19.86	165.73
110	3.69	6.71	11.33	106.65
115	3.87	10.17	6.81	100.00
120	4.09	13.51	3.73	100.00
125	4.03	16.96	1.27	100.00
130	3.78	20.43	-0.76	100.00
135	3.03	24.14	-2.57	100.00
140	2.49	27.53	-4.00	100.00
145	2.46	30.33	-5.05	100.00
150	2.32	32.98	-5.96	100.00
155	2.03	35.47	-6.75	100.00
160	2.25	37.19	-7.26	100.00
165	2.66	38.33	-7.59	100.00
170	2.59	39.51	-7.92	100.00
175	2.01	40.77	-8.26	100.00
180	1.99	41.01	-8.32	100.00
185	1.98	40.80	-8.27	100.00

Coordination Values	**CARPENTERSVI, NJ**		
Licensee Name	Lockheed Martin Corporation-Phillipsburg		
Latitude (NAD 83)	40° 38' 41.0" N		
Longitude (NAD 83)	75° 11' 28.0" W		
Ground Elevation (AMSL)	54.86 m / 180.0 ft		
Antenna Centerline (AGL)	2.74 m / 9.0 ft		
Antenna Model	Prodelin 2.4 meter		
Antenna Mode	Transmit 6.1 GHz		
Interference Objectives: Long Term	-154.0 dBW/4 kHz	20%	
Short Term	-131.0 dBW/4 kHz	0.0025%	
Max Available RF Power	-10.7 (dBW/4 kHz)		

			Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
190	1.38	40.69	-8.24	100.00
195	1.50	39.43	-7.90	100.00
200	2.43	37.03	-7.21	100.00
205	1.81	35.66	-6.81	100.00
210	1.97	33.28	-6.05	100.00
215	3.07	29.84	-4.87	100.00
220	3.33	26.88	-3.73	100.00
225	4.21	23.23	-2.15	100.00
230	5.09	19.44	-0.22	100.00
235	4.41	16.69	1.44	100.00
240	4.48	13.23	3.96	100.00
245	3.57	10.38	6.60	100.00
250	2.47	7.56	10.04	124.05
255	2.40	3.93	17.14	178.76
260	3.26	2.74	21.05	234.85
265	3.80	7.19	10.58	101.82
270	2.81	12.28	4.77	100.00
275	2.70	17.24	1.09	100.00
280	3.02	22.17	-1.64	100.00
285	3.29	27.14	-3.84	100.00
290	4.00	32.10	-5.66	100.00
295	4.78	37.08	-7.23	100.00
300	5.47	42.09	-8.60	100.00
305	5.74	47.09	-9.82	100.00
310	5.93	52.09	-10.00	100.00
315	5.57	57.09	-10.00	100.00
320	5.04	62.08	-10.00	100.00
325	4.01	67.09	-10.00	100.00
330	3.56	72.09	-10.00	100.00
335	3.37	77.09	-10.00	100.00
340	3.30	82.09	-10.00	100.00
345	3.21	87.09	-10.00	100.00
350	3.47	92.08	-10.00	100.00
355	3.65	97.08	-10.00	100.00