

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:  
Carpentersville TT&C 30-Day LEOP STA for ABS-3A - March 2015

1. Applicant

<b>Name:</b>	Lockheed Martin Corporation	<b>Phone Number:</b>	703-413-5970
<b>DBA Name:</b>		<b>Fax Number:</b>	703-413-5908
<b>Street:</b>	2121 Crystal Drive Suite 100	<b>E-Mail:</b>	Jennifer.Warren@lmco.com
<b>City:</b>	Arlington	<b>State:</b>	VA
<b>Country:</b>	USA	<b>Zipcode:</b>	22202
<b>Attention:</b>	Ms Jennifer Warren		

SES-STA-20150304-00110

E7541


Call Sign (or other identifier)

Grant Date 3-6-15

Term Dates To: 3-6-15

From 3-7-15

Approved: *Paul E. Hales*



GRANTED  
International Business Commission

Applicant: Lockheed Martin Corporation  
File No.: SES-STA-20150304-00110  
Call Sign: E7541

Lockheed Martin Corporation is granted special temporary authority, for 30 days, beginning March 7, 2015, to operate its fixed earth station, Call Sign E7541, located in, Carpentersville, NJ, to provide launch and early orbit phase services for the ABS-3 satellite, licensed and registered by Papua New Guinea, as it travels to its permanent orbital location 3.0° W.L. Communications will be on the following center frequencies: 6420.0 MHz and 6425.0 MHz in the (Earth-to-space), and 4194.5 MHz and 4197.0 MHz in the (space-to-Earth) and under the following conditions:

1. Lockheed Martin will coordinate with operators of co-frequency satellites in the drift path.
2. Operations in the uplink frequencies will be within the coordinated parameters of the antenna's current license and the coordination report submitted under IBFS File No. SES-STA-20150304-00111.
3. Operations, shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference.
4. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending or future Lockheed Martin Corporation's applications.
5. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Lockheed Martin Corporation's risk.

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.


SES-STA-20150304-00110

E7541

Call Sign E7541 Grant Date 3-6-15  
(or other identifier)

From 3-7-15 Term Dates 3-6-15  
To 4-6-15

Approved: Paul E. Hieb



GRANTED  
International Bureau

<b>2. Contact</b>	
<b>Name:</b> David S. Keir	<b>Phone Number:</b> (202) 429-8970
<b>Company:</b> Lerman Senter PLLC	<b>Fax Number:</b> (202) 293-7783
<b>Street:</b> 2000 K Street, NW Suite 600	<b>E-Mail:</b> dkeir@lermansenter.com
<b>City:</b> Washington	<b>State:</b> DC
<b>Country:</b> USA	<b>Zipcode:</b> 20006 - 1809
<b>Attention:</b>	<b>Relationship:</b> Legal Counsel
(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 or Submission ID IB2015000408	
4a. Is a fee submitted with this application?	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159. If No, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other (please explain):	
4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station	
5. Type Request	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
6. Requested Use Prior Date 03/07/2015	
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: 180-Day STA Request 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.) <div style="border: 1px solid black; padding: 5px;"> <p>Lockheed Martin Corporation requests emergency Special Temporary Authority (STA) on an expedited basis for a 30-day period, commencing no later than 3/07/2015, to use the C-band antenna at its Carpentersville, NJ earth station (Call Sign E7541) to support post-launch/early-orbit operations TT&amp;C for the ABS-3A satellite, which was successfully</p> </div>	
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 &quot;party to the application&quot;; for these purposes. <p style="text-align: right;">Yes <input checked="" type="radio"/> No <input type="radio"/></p>	
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).	

**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.

Remember – You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

**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 requests emergency Special Temporary Authority (STA) on an expedited basis for a 30-day period, commencing no later than 3/07/2015, to use the C-band antenna at its Carpentersville, NJ earth station (Call Sign E7541) to support post-launch/early-orbit operations TT&C for the ABS-3A satellite, which was successfully launched on March 1, 2015. The attached request for this same authority for a 180-day period has been filed concurrently with this one. See Attachment. Because Public Notice is required by statute for this underlying request, however, interim operation is necessary as the satellite is on its way to its transfer orbit and actual LEOP operations must commence later this week. Accordingly, Lockheed Martin is seeking herein an interim 30-day STA to commence operations as outlined in the attached STA Request in advance of final action on the request for an STA of maximum duration.

**FCC IBFS - Electronic Filing**

**Submission\_id :IB2015000408**

**Successfully filed on :Mar 4 2015 2:59:54:106PM**

[Return to Main Menu](#)

**APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY**

**APPLICANT INFORMATION**

Enter a description of this application to identify it on the main menu:  
Carpentersville TT&C 180-Day LEOP STA for ABS-3A - March 2015

<b>1. Applicant</b>	
Name: Lockheed Martin Corporation	Phone Number: 703-413-5970
DBA Name:	Fax Number: 703-413-5908
Street: 2121 Crystal Drive Suite 100	E-Mail: Jennifer.Warren@lmco.com
City: Arlington	State: VA
Country: USA	Zipcode: 22202 -
Attention: Ms Jennifer Warren	
<b>2. Contact</b>	
Name: David S. Keir	Phone Number: (202) 429-8970
Company: Lerman Senter PLLC	Fax Number: (202) 293-7783
Street: 2000 K Street, NW Suite 600	E-Mail: dkeir@lermansenter.com
City: Washington	State: DC
Country: USA	Zipcode: 20006 -1809
Attention:	Relationship: Legal Counsel
(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.)	
<b>3. Reference File Number or Submission ID</b>	
<b>4a. Is a fee submitted with this application?</b>	
<input checked="" type="radio"/> If Yes, complete and attach FCC Form 159.	
If No, indicate reason for fee exemption (see 47 C.F.R.Section 1.1114).	
<input type="radio"/> Governmental Entity <input type="radio"/> Noncommercial educational licensee	
<input type="radio"/> Other(please explain):	
<b>4b. Fee Classification CGX - Fixed Satellite Transmit/Receive Earth Station</b>	
<b>5. Type Request</b>	
<input type="radio"/> Use Prior to Grant <input type="radio"/> Change Station Location <input checked="" type="radio"/> Other	
<b>6. Requested Use Prior Date</b> 03/07/2015	
<b>7. City</b> Carpentersville	<b>8. Latitude</b> (dd mm ss.s h) 40 38 39.1 N
<b>9. State</b> NJ	<b>10. Longitude</b> (dd mm ss.s h) 75 11 27.8 W



11. Please supply any need attachments.		
Attachment 1: Narrative	Attachment 2: Coordination Report	Attachment 3:
12. Description. Lockheed Martin Corporation requests expedited Special Temporary Authority for a 180-day period, commencing as soon as possible, to use the C-band antenna at its Carpentersville, NJ earth station (Call Sign E7541) to support post-launch/early-orbit operations TT&C for the ABS-3A satellite, which was launched on March 1, 2015. Authority to commence transmissions is needed no later than March 7, 2015, which is earlier than could be granted under the FCC's Rules and the Communications Act. Accordingly, a request for an interim 30-day STA is also being submitted contemporaneously with this STA Request. See Attached Narrative.		
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. <i>See 47 CFR 1.2002(b) for the meaning of "party to the application" for these purposes.</i>		
14. Name of Person Signing Jennifer Warren		15. Title of Person Signing Vice President, Technology Policy & Regulation
<b>WILLFUL FALSE STATEMENTS MADE ON THIS FORM ARE PUNISHABLE BY FINE AND / OR IMPRISONMENT</b> <b>(U.S. Code, Title 18, Section 1001), AND/OR REVOCATION OF ANY STATION AUTHORIZATION</b> <b>(U.S. Code, Title 47, Section 312(a)(1)), AND/OR FORFEITURE (U.S. Code, Title 47, Section 503).</b>		

#### 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](mailto:PRA@fcc.gov). PLEASE DO NOT SEND COMPLETED FORMS TO THIS ADDRESS.

Remember - You are not required to respond to a collection of information sponsored by the Federal government, and the government may not conduct or sponsor this collection, unless it displays a currently valid OMB control number or if we fail to provide you with this notice. This collection has been assigned an OMB control number of 3060-0678.

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**

Lockheed Martin Corporation (“Lockheed Martin”) hereby requests replacement special temporary authority (“STA”) on an expedited, emergency basis to operate its Carpentersville, New Jersey C/Ku-band fixed earth station (FCC 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 ABS-3A satellite. Authority for almost identical operation was previously granted to Lockheed Martin under FCC File Nos. SES-STA-20150108-00005 (30-day interim STA) and SES-STA-20150108-00004 (180-day long-term STA); however, different frequencies than authorized in those two STAs are now required for the ABS-3A LEOP operation.

ABS-3A is a Boeing Model 702SP satellite using all-electric propulsion and licensed by Papua New Guinea for operation at the 3° West Longitude orbital location (3° W.L.). It was launched on March 1, 2015 aboard a SpaceX Falcon 9 launch vehicle from Cape Canaveral, Florida, making the need for immediate LEOP authority acute.<sup>1</sup> Accordingly, Lockheed Martin will need to begin transmissions no later than this Saturday, March 7, 2015, well before this request for new 180-day authority can be placed on FCC Public Notice and made subject to the statutory 30-day public comment period under the FCC’s Rules and the Communications Act of 1934, as amended.<sup>2</sup> While Lockheed Martin respectfully requests that this request be placed on Public Notice at the earliest possible date, it is also filing concurrently a request for an interim 30-day STA for these same operations to allow testing and LEOP operations to commence on a timely basis in advance of grant of the longer term authority requested. This was the same approach employed in connection with the previously granted STAs.

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

Lockheed Martin specifically seeks authority to transmit telecommand signals at the center frequencies 6420 MHz and 6425 MHz for in transit communications (in lieu of the frequencies 6020 MHz and 6025 MHz, which were previously granted), and to receive telemetry signals from the satellite on the 4194.5 MHz and 4197 MHz frequencies. Additional technical parameters for the STA operation are set forth in the table that is the final page of this attachment and in the Comsearch Frequency Coordination and Interference Analysis Report (“Comsearch Report”) that is also attached to this request. Lockheed Martin is requesting STA for a total of one-hundred and eighty (180) days commencing no later than March 7, 2015. As previously

---

<sup>1</sup> See William Harwood, “SpaceX Rocket Boosts 2 Satellites toward Orbit,” CBS News, posted March 2, 2015 (“The ABS 3A satellite was released from the Falcon 9 second stage a half hour after launch”), available at <http://www.cbsnews.com/news/spacex-flight-features-money-saving-satellite-boosting-tech/> (last visited 3/03/2015).

<sup>2</sup> As detailed below, the nature of these operations requires at least 180 days of operational authority. See 47 U.S.C. §309(c)(2)(G) (non-broadcast special temporary authorizations limited to thirty days where no application for regular operation is contemplated unless public notice is provided under Section 309(b) of the Act); 47 C.F.R. § 25.120(b)(2).

acknowledged, this duration is significantly longer than has been typical for satellite LEOP operations because the satellite employs an all-electric propulsion system. An all-electric satellite allows a much lighter payload, as heavy chemical fuel tanks are not required. The trade-off, however, is that it takes a matter of months, rather than a few weeks, for an all-electric satellite to reach its final, on-orbit operating position.<sup>3</sup> Given this lengthy period for LEOP maneuvers, Lockheed Martin anticipates that it will require an additional STA to extend operations beyond the initial 180-day period.<sup>4</sup>

Lockheed Martin's proposed transmissions will use total input power and emissions for telecommand as stated in the Comsearch Report. When no commands are being sent, a CW carrier that is within the emission of Lockheed Martin's E7541 operation would be present, as provided for in its license. The authority requested in this application is very similar to that previously granted to Lockheed Martin to perform LEOP services on several previous occasions within the past two years,<sup>5</sup> and almost identical to the previously-granted STAs under FCC File Nos. SES-STA-20150108-00005 and SES-STA-20150108-00004. A radiation hazard study with respect non-ionizing radiation for the antenna at higher power operation was part of Lockheed Martin's original application for this facility under FCC File No. SES-LIC-20081103-01443, and that report is hereby incorporated by reference.

All of Lockheed Martin's proposed TT&C operations in support of the ABS-3A launch will be on a strictly non-harmful interference, non-protected basis as the requested transmit frequencies do not fall fully within Lockheed Martin's current C-band authority for the Carpentersville site. Lockheed Martin designates Michael Usarzewicz to be the contact person that will be available whenever transmission to, or reception from, ABS-3A is to occur through the subject earth station. Mr. Usarzewicz can be reached at the following cell phone number: (609)-865-2658 and/or station number: (908) 859-4050.

---

<sup>3</sup> See Peter B. de Selding, "Electric-propulsion Satellites Are All the Rage, Space News, June 30, 2013, available at <http://spacenews.com/35894electric-propulsion-satellites-are-all-the-rage/#sthash.xxbDwHS1.dpuf> (last visited March 3, 2015); see also Ex Parte Letter from Sam Black, Acting President, Satellite Industry Association, to Ms. Marlene Dortch, Secretary, FCC, GN Dkt No. 13-114, RM-11640, at 2 (dated Oct. 29, 2014) ("satellites with all-electric propulsion that promise to improve satellite economics – will result in LEOP operations being conducted over a period of many months (early plans indicate that the LEOP for all-electric propulsion satellites may take between 200 and 320 days)").

<sup>4</sup> "The Commission may grant a temporary authorization for a period not to exceed 180 days, *with additional periods not exceeding 180 days*, if the Commission has placed the [original] special temporary authority (STA) request on public notice." 47 C.F.R. § 25.120(b)(2) (emphasis added).

<sup>5</sup> See, e.g., Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of AM4R, SES-STA-20140425-00315 (granted May 6, 2014); Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of ABS-2, SES-STA-20140103-00005 (granted Jan. 28, 2014); Request of Lockheed Martin Corp. for STA to operate Carpentersville, NJ earth station in support of launch of Satmex 8, File No. SES-STA-20130319-00280 (granted March 22, 2013).

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

Lockheed Martin believes that the operations it proposes in support of the launch of the ABS-3A satellite are required in furtherance of the public interest. Operations have been coordinated with all potentially affected entities that operate communications systems in compliance with the Table of Frequency Allocations, and a copy of the coordination report is attached to this application. ABS-3A will be located in geostationary orbit at 3° W.L. providing C- and Ku-band capacity to connect the Americas, Europe, Africa and the Middle East. Three C-band beams will cover the Americas, the Middle East and Africa along with a global beam, and four Ku-band beams will cover Europe, the Middle East, Africa, and the Americas. The satellite will support VSAT services, TV distribution, IP trunking, cellular backhaul and maritime services.

Lockheed Martin's Carpentersville earth station will be part of a global network of control facilities that will be used to position the satellite as it progresses from transfer orbit over a period of months to its final location.<sup>6</sup> 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 ABS-3A satellite is controlled while over North America; Lockheed Martin's earth station thus will serve a vital function.

\* \* \* \* \*

As outlined above, Lockheed Martin requests authority to operate its Carpentersville, NJ C-band earth station antenna to provide critical TT&C services during the launch and early operations phase of the ABS-3A satellite, for a term of 180 days commencing no later than March 7, 2015.

---

<sup>6</sup> The spacecraft will be controlled throughout the launch and transfer orbit phases by The Boeing Company, which is the manager of the LEOP portion of the mission.

**Operating Parameters for Proposed Carpentersville, NJ C-Band TT&C LEOP STA**

SITE NAME (or identifier):	Carpentersville, NJ – Call Sign E7541
----------------------------	---------------------------------------

*Antenna Characteristics (size & gain)*

Size	14.2
Antenna Manufacturer	TIW

Satellites Desired: ABS-3A LEOP

Uplink Carrier Parameters

Type of Service (Broadcast Data TTC)	TTC
Polarization:	LHCP and RHCP
Occupied Bandwidth	850 kHz
Emission Designators	850KFXD

Prepared By

## COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

Prepared For

### Lockheed Martin Corporation Carpentersville, New Jersey

Temporary Transmit-Only Earth Station  
Operation Dates: 03/07/2015 - 09/07/2015

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations. Verbal and written coordination was conducted with the below listed carriers on March 3, 2015.

#### Company

256Q Networks  
AB Services LLC  
ALGONQUIN GAS TRANSMISSION, LLC  
AT&T Corporation  
AWC Networks  
Adams County Department of Emergency Svc  
Affiniti PA, LLC  
Allentown SMSA Limited Partnership  
Appalachia Engineering Services  
Appalachian Broadcasting  
Atlantic City Electric Company  
Auburn Data Systems, LLC  
BFI Licenses, LLC  
Beaver Springs Faith Baptist Church, Inc  
Bedford, County of  
Berks County Department of Emergency Ser  
Blue Ridge Carriers  
Blueline Communications  
Bucks County Dept. of Emergency Communic  
CNG Transmission Corporation  
CONSOLIDATED EDISON COMPANY OF NEW YORK  
CTAB Holdings LLC  
Capital Communications of America  
Carbon, County of 911 Center  
Cellco Partnership - Bridgeville, PA/WV  
Cellco Partnership- PA Region  
Cellco Prtnrshp - Phil. Tri-State Rgn  
Chester, County of  
China Cat Productions LLC

Company (Continued)

City of New York  
Commonwealth of Pennsylvania-Radio Proj.  
Comprehensive Wireless LLC  
Conterra Ultra Broadband, LLC  
Converge Towers LLC  
Coral Reef Technologies Ltd  
Coralinks  
County of Burlington, Public Safety Cntr  
County of Camden  
County of Fayette  
County of Warren, NJ  
County of York  
DAUPHIN COUNTY EMERGENCY MANAGEMENT  
Delaware County (PA) Emergency Services  
Delaware Division of Communications  
Delmarva Power and Light Company  
Direct Broadcast Services, Inc.  
ECW Wireless, LLC  
EG Broadcast Newco Corp  
EMS OF NORTHEAST PENNSYLVANIA  
Eastern MLG LLC  
Eastern Pennsylvania EMS Council  
Electric Railroad, LLC  
Essex County Sheriff's Office (NJ)  
Exelon Generation Company, LLC  
FELHC, INC  
Federal Communications Commission  
Fundamental Broadcasting LLC  
Garden State Transmissions  
Geodesic Networks LLC  
Gloucester, County of  
Green Line Networks  
Greene, County of (PA)  
Hardy Cellular Telephone Company  
High Voltage Communications LLC  
Highway Networks, LLC  
Huntingdon, County of  
Jefferson Microwave, LLC  
Juniata County Emergency Services  
Kryptick Technologies  
Lackawanna, County of  
Lancaster County-Wide Communications  
Luzerne County Department of Public Sfty  
MONMOUTH, COUNTY OF  
MVC Research. LLC  
Mahwah Communications  
Maryland Public Broadcasting Commission  
Mifflin Mobilecom  
Monroe County Control Center (PA)  
Montgomery County Of  
Morris, County of

Company (Continued)

Nassau County Police Department  
National Tower Company LLC  
NeXXCom Wireless LLC  
New Cingular Wireless PCS LLC -NJ  
New Cingular Wireless PCS - Maryland  
New Cingular Wireless PCS LLC- WV/NC/SC  
New Cingular Wireless PCS LLC-DE/NH/RI  
New Cingular Wireless PCS of PA LLC  
New Cingular Wireless PCS, LLC - PA  
New Jersey State Police  
New Jersey Transit Rail Operations, Inc.  
New Jersey Turnpike Authority-Pkwy Div  
New Jersey, State of -NJ Transit  
New York, City of (Police Department)  
Norfolk Southern Railway  
Northeast Pennsylvania SMSA LTD Prtnrsh  
Northumberland, County of  
OCEAN, COUNTY OF  
Ocean, County of - Div of Wireless Tech.  
Office of Emergency Telecom Services, NJ  
Old Dominion LLC  
Orange Poughkeepsie SMSA LTD Partnership  
Orange and Rockland Utilities, Inc.  
PEG Bandwidth, LLC  
PSEG Services Corporation  
Peco Energy Company  
Penn Service Microwave Co., Inc.  
Pennsylvania Turnpike Commission  
Pike, County of PA  
Pitt Power  
Pittsburgh SMSA Limited Partnership  
Port Authority of New York & New Jersey  
Qconcept Holdings LLC  
Rendezvous Communications LLC  
SCS Networks  
SCTF NET  
SOMERSET COUNTY  
SW Networks  
State of Maryland, MIEMSS  
Stevens Institute of Technology  
Texas Eastern Communications, LLC  
Thought Transmissions, LLC  
Transwave Communication Systems, Inc.  
Turtle Networks 6559  
Turtle Networks 6562  
USCOC of Cumberland, Inc.  
USOC of Pennsylvania RSA No 10 B2 Inc.  
Velox Networks LLC  
Verizon Wireless (VAW) LLC - Delaware/NJ  
Verizon Wireless (VAW) LLC - Maryland  
Verizon Wireless (VAW) LLC-Pennsylvania



Company (Continued)

Virginia Electric & Power Company  
WITF Inc.  
WYOMING, COUNTY OF  
Weblin Holdings LLC  
Wireless Internetwork LLC  
World Class Wireless, LLC  
YAB Mobile  
Zen Networks, Inc  
iSignal

There are no unresolved interference objections with the stations contained in these applications.

The following section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

**COMSEARCH**  
**Earth Station Data Sheet**

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

Date: 03/04/2015  
Job Number: 150303COMSJC03

---

**Administrative Information**

Status: TEMPORARY (Operation from 03/07/2015 to 09/07/2015)  
Call Sign: TEMP09  
Licensee Code: RCASTR  
Licensee Name: Lockheed Martin Corporation

---

**Site Information** **CARPENTERSVILLE, NEW JERSEY**

Venue Name  
Latitude (NAD 83): 40° 38' 39.4" N  
Longitude (NAD 83): 75° 11' 27.6" 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): 9.14 m / 30.0 ft

---

**Antenna Information**

Manufacturer: TIW  
Model: 14.2 Meter  
Gain / Diameter: 57.5 dBi / 14.2 m  
3-dB / 15-dB Beamwidth: 0.20° / 0.50°

**Transmit**

Max Available RF Power	(dBW/4 kHz)	7.2
	(dBW/MHz)	31.2
Maximum EIRP	(dBW/4 kHz)	64.7
	(dBW/MHz)	88.7
	(dBW)	88.0
Interference Objectives:	Long Term	-154.0 dBW/4 kHz 20%
	Short Term	-131.0 dBW/4 kHz 0.0025%

---

**Frequency Information**

Emission / Frequency Range (MHz): **Transmit 6.1 GHz**  
850KFXD / 6420.0  
850KFXD / 6425.0

Max Great Circle Coordination Distance: 566.1 km / 351.7 mi  
Precipitation Scatter Contour Radius: 434.7 km / 270.1 mi

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

<b>Coordination Values</b>	<b>CARPENTERSVILLE, NJ</b>		
Licensee Name	Lockheed Martin Corporation		
Latitude (NAD 83)	40° 38' 39.4" N		
Longitude (NAD 83)	75° 11' 27.6" W		
Ground Elevation (AMSL)	54.86 m / 180.0 ft		
Antenna Centerline (AGL)	9.14 m / 30.0 ft		
Antenna Model	TIW 14.2 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	7.2 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	3.52	102.08	-10.00	100.00
5	4.01	97.51	-10.00	100.00
10	4.15	92.51	-10.00	100.00
15	2.87	87.51	-10.00	108.36
20	2.87	82.52	-10.00	108.42
25	3.07	77.52	-10.00	104.78
30	3.50	72.52	-10.00	100.00
35	3.79	67.52	-10.00	100.00
40	3.82	62.52	-10.00	100.00
45	3.86	57.53	-10.00	100.00
50	3.66	52.53	-10.00	100.00
55	3.45	47.54	-9.93	100.00
60	3.33	42.56	-8.72	104.82
65	3.16	37.57	-7.37	112.99
70	2.88	32.61	-5.83	124.18
75	3.16	27.60	-4.02	125.69
80	3.14	22.63	-1.87	133.98
85	3.07	17.67	0.82	145.02
90	3.08	12.74	4.37	162.01
95	2.95	7.93	9.52	192.78
100	2.73	3.74	17.67	240.61
105	2.74	3.71	17.75	368.41
110	2.60	7.45	10.20	203.67
115	2.77	10.94	6.02	179.26
120	2.69	14.50	2.96	163.75
125	2.32	18.20	0.50	160.32
130	1.61	22.03	-1.57	171.33
135	2.18	24.78	-2.85	148.08
140	2.74	27.34	-3.92	133.78
145	2.33	30.44	-5.09	135.93
150	2.25	33.04	-5.98	134.18
155	1.92	35.57	-6.78	137.91
160	2.20	37.24	-7.28	131.46
165	2.65	38.35	-7.59	121.70
170	2.47	39.64	-7.95	123.79
175	1.94	40.84	-8.28	133.10
180	1.90	41.11	-8.35	133.62

# COMSEARCH

## Earth Station Data Sheet

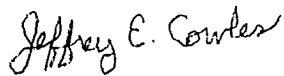
19700 Janelia Farm Boulevard, Ashburn, VA 20147  
(703)726-5500 <http://www.comsearch.com>

<b>Coordination Values</b>	<b>CARPENTERSVILLE, NJ</b>	
Licensee Name	Lockheed Martin Corporation	
Latitude (NAD 83)	40° 38' 39.4" N	
Longitude (NAD 83)	75° 11' 27.6" W	
Ground Elevation (AMSL)	54.86 m / 180.0 ft	
Antenna Centerline (AGL)	9.14 m / 30.0 ft	
Antenna Model	TIW 14.2 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	7.2 (dBW/4 kHz)	

			Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
185	1.86	40.92	-8.30	133.67
190	1.24	40.83	-8.27	150.23
195	1.32	39.60	-7.94	149.37
200	2.35	37.10	-7.24	128.68
205	1.72	35.75	-6.83	142.81
210	1.78	33.44	-6.11	144.38
215	2.16	30.58	-5.14	139.18
220	3.42	26.81	-3.71	122.18
225	3.60	23.70	-2.37	123.93
230	4.84	19.63	-0.32	113.44
235	4.35	16.73	1.41	126.85
240	4.47	13.24	3.95	134.19
245	3.78	10.22	6.76	158.23
250	2.48	7.55	10.05	205.66
255	2.26	4.02	16.89	393.03
260	2.60	3.21	19.35	566.09
265	3.20	7.32	10.39	191.75
270	3.30	12.21	4.84	159.38
275	2.81	17.22	1.10	151.78
280	2.82	22.19	-1.65	139.71
285	3.08	27.15	-3.84	127.86
290	3.59	32.11	-5.67	112.00
295	4.24	37.09	-7.23	100.00
300	5.02	42.08	-8.60	100.00
305	5.51	47.09	-9.82	100.00
310	5.46	52.09	-10.00	100.00
315	5.56	57.09	-10.00	100.00
320	4.72	62.08	-10.00	100.00
325	3.93	67.09	-10.00	100.00
330	3.38	72.09	-10.00	100.00
335	3.19	77.09	-10.00	102.55
340	3.12	82.09	-10.00	103.84
345	3.01	87.09	-10.00	105.90
350	3.24	92.08	-10.00	101.54
355	3.48	97.08	-10.00	100.00

## Certification

I hereby certify that I am the technically qualified person responsible for the preparation of the frequency coordination data contained in this report. I am familiar with Parts 101 and 25 of the FCC Rules and Regulations and I have either prepared or reviewed the frequency coordination data submitted with this report, and that it is complete and correct to the best of my knowledge and belief.



Jeffrey E. Cowles  
Engineer III, Telecommunications  
COMSEARCH  
19700 Janelia Farm Blvd.  
Ashburn, Virginia 20147

DATED: March 4, 2015