

**United States of America  
FEDERAL COMMUNICATIONS COMMISSION  
EXPERIMENTAL  
RADIO STATION CONSTRUCTION PERMIT  
AND LICENSE**

EXPERIMENTAL

(Nature of Service)

XD      FX MO

(Class of Station)

WG2XOK

(Call Sign)

0062-EX-CR-2017

(File Number)

NAME Lockheed Martin Corporation

Subject to the provisions of the Communications Act of 1934, subsequent acts, and treaties, and all regulations heretofore or hereafter made by this Commission, and further subject to the conditions and requirements set forth in this license, the licensee hereof is hereby authorized to use and operate the radio transmitting facilities hereinafter described for radio communications in accordance with the program of experimentation described by the licensee in its application for license.

Operation: In accordance with Sec. 5.3(j) of the Commission's Rules

Station Locations

- (1) Patuxent River (ST MARYS), MD - NL 38-17-26; WL 76-24-33
- (2) Owego (TIOGA), NY - NL 42-05-49; WL 76-13-29; MOBILE: Owego, NY, within 100 km, centered around NL 42-05-49; WL 76-13-29
- (3) Bloomfield (HARTFORD), CT - NL 41-51-34; WL 72-42-34; MOBILE: Bloomfield, CT, within 100 km, centered around NL 41-51-34; WL 72-42-34
- (4) Blackstone (NOTTOWAY), VA - NL 37-02-30; WL 77-55-00; MOBILE: Blackstone, VA, within 10 km, centered around NL 37-02-30; WL 77-55-00
- (5) Quantico (FAUQUIER), VA - NL 38-33-54; WL 77-32-06; MOBILE: Quantico, within 100 km, centered around NL 38-33-54; WL 77-32-06
- (6) Cusseta (CHATTAHOOCHEE), GA - NL 32-22-14; WL 84-48-27; MOBILE: Cusseta, GA, within 100 km, centered around NL 32-22-14; WL 84-48-27
- (7) Rome (ONEIDA), NY - NL 43-14-12; WL 75-25-06; MOBILE: Rome, NY, within 100 km, centered around NL 43-14-12; WL 75-25-06
- (8) Fort Dix (BURLINGTON), NJ - NL 40-01-12; WL 74-27-00; MOBILE: Fort Dix, NJ, within 100 km

Frequency Information

Patuxent River (ST MARYS), MD - NL 38-17-26; WL 76-24-33

|             |               |                     |                  |                           |
|-------------|---------------|---------------------|------------------|---------------------------|
| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
| 29.5-30 GHz | FX            | 28M8G1W             | 1621810 W (ERP)  |                           |

This authorization effective April 01, 2017 and  
will expire 3:00 A.M. EST April 01, 2019

**FEDERAL  
COMMUNICATIONS  
COMMISSION**



## Frequency Information

Patuxent River (ST MARYS), MD - NL 38-17-26; WL 76-24-33

| Frequency   | Station Class | Emission Designator           | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|-------------------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 28M8G1W                       | 50118 W (ERP)    |                           |
| 29.5-30 GHz | FX            | 14M4G1W<br>7M20G1W<br>3M60G1W | 50118 W (ERP)    |                           |
| 29.5-30 GHz | MO            | 14M4G1W                       | 810905 W (ERP)   |                           |
| 29.5-30 GHz | MO            | 7M20G1W                       | 405452 W (ERP)   |                           |
| 29.5-30 GHz | FX            | 3M60G1W                       | 202726 W (ERP)   |                           |

Owego (TIOGA), NY - NL 42-05-49; WL 76-13-29; MOBILE: Owego, NY, within 100 km, centered around NL 42-05-49; WL 76

| Frequency   | Station Class | Emission Designator                      | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|------------------------------------------|------------------|---------------------------|
| 29.5-30 GHz | MO            | 28M8G1W<br>28M8G1W<br>28G8G1W<br>28M8G1W | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | FX            | 28M5G1W<br>14M4G1W<br>7M20G1W            | 50118 W (ERP)    |                           |

## Frequency Information

Owego (TIOGA), NY - NL 42-05-49; WL 76-13-29; MOBILE: Owego, NY, within 100 km, centered around NL 42-05-49; WL 76-13-29

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 3M60G1W             | 50118 W (ERP)    |                           |
| 29.5-30 GHz | FX            | 14M4G1W             | 810905 W (ERP)   |                           |
| 29.5-30 GHz | FX            | 7M20G1W             | 40542 W (ERP)    |                           |
| 29.5-30 GHz | FX            | 3M60G1W             | 202726 W (ERP)   |                           |

Bloomfield (HARTFORD), CT - NL 41-51-34; WL 72-42-34; MOBILE: Bloomfield, CT, within 100 km, centered around NL 41-51-34; WL 72-42-34

| Frequency   | Station Class | Emission Designator                      | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|------------------------------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 28M8G1W<br>28M8G1W<br>28M8G1W            | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | MO            | 28M8G1W<br>14M4G1W<br>7M20G1W<br>3M60G1W | 50118 W (ERP)    |                           |
| 29.5-30 GHz | FX            | 14M4G1W<br>7M20G1W                       | 405452 W (ERP)   |                           |

## Frequency Information

Bloomfield (HARTFORD), CT - NL 41-51-34; WL 72-42-34; MOBILE: Bloomfield, CT, within 100 km, centered around NL 41-5

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 3M60G1W             | 202726 W (ERP)   |                           |

Blackstone (NOTTOWAY), VA - NL 37-02-30; WL 77-55-00; MOBILE: Blackstone, VA, within 10 km, centered around NL 37-0

| Frequency   | Station Class | Emission Designator                      | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|------------------------------------------|------------------|---------------------------|
| 29.5-30 GHz | MO            | 28M8G1W<br>14M4G1W<br>7M20G1W<br>3M60G1W | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | FX            | 28M8G1W<br>14M4G1W<br>7M20G1W<br>3M60G1W | 50118 W (ERP)    |                           |

Quantico (FAUQUIER), VA - NL 38-33-54; WL 77-32-06; MOBILE: Quantico, within 100 km, centered around NL 38-33-54; W

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 28M8G1W             | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | FX            | 7M20G1W             | 405452 W (ERP)   |                           |
| 29.5-30 GHz | FX            | 14M4G1W             | 810905 W (ERP)   |                           |

## Frequency Information

Quantico (FAUQUIER), VA - NL 38-33-54; WL 77-32-06; MOBILE: Quantico, within 100 km, centered around NL 38-33-54; W

| Frequency   | Station Class | Emission Designator                      | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|------------------------------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 3M60G1W                                  | 202726 W (ERP)   |                           |
| 29.5-30 GHz | MO            | 28M8G1W<br>14M4G1W<br>7G20G1W<br>3M60G1W | 50118 W (ERP)    |                           |

Cusseta (CHATTAHOOCHEE), GA - NL 32-22-14; WL 84-48-27; MOBILE: Cusseta, GA, within 100 km, centered around NL 32-22-14; W

| Frequency   | Station Class | Emission Designator           | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|-------------------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 28M8G1W<br>28M8G1W            | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | FX            | 28M8G1W<br>14M4G1W<br>3G60G1W | 50118 W (ERP)    |                           |
| 29.5-30 GHz | MO            | 7M20G1W                       | 405452 W (ERP)   |                           |
| 29.5-30 GHz | FX            | 3M60G1W                       | 202726 W (ERP)   |                           |
| 29.5-30 GHz | MO            | 14M4G1W<br>14M4G1W            | 810905 W (ERP)   |                           |

## Frequency Information

Rome (ONEIDA), NY - NL 43-14-12; WL 75-25-06; MOBILE: Rome, NY, within 100 km, centered around NL 43-14-12; WL 75

| Frequency   | Station Class | Emission Designator           | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|-------------------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 28M8G1W                       | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | FX            | 14M4G1W                       | 810905 W (ERP)   |                           |
| 29.5-30 GHz | FX            | 7M20G1W                       | 405452 W (ERP)   |                           |
| 29.5-30 GHz | MO            | 28M8G1W                       | 50118 W (ERP)    |                           |
| 29.5-30 GHz | MO            | 14M4G1W<br>7M20G1W<br>28M8G1W | 50118 W (ERP)    |                           |

Fort Dix (BURLINGTON), NJ - NL 40-01-12; WL 74-27-00; MOBILE: Fort Dix, NJ, within 100 km

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 29.5-30 GHz | FX            | 28M8G1W             | 1621810 W (ERP)  |                           |
| 29.5-30 GHz | FX            | 14M4G1W             | 810905 W (ERP)   |                           |
| 29.5-30 GHz | FX            | 7M20G1W             | 405452 W (ERP)   |                           |

## Frequency Information

Fort Dix (BURLINGTON), NJ - NL 40-01-12; WL 74-27-00; MOBILE: Fort Dix, NJ, within 100 km

| Frequency   | Station Class | Emission Designator           | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|-------------------------------|------------------|---------------------------|
| 29.5-30 GHz | MO            | 28M8G1W                       | 50118 W (ERP)    |                           |
| 29.5-30 GHz | MO            | 14M4G1W<br>7M20G1W<br>28M8G1W | 50118 W (ERP)    |                           |

## Special Conditions:

- (1) Licensee should be aware that other stations may be licensed on these frequencies and if any interference occurs, the licensee of this authorization will be subject to immediate shut down.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) POINT OF COMMUNICATION: AMC-16.
- (4) The designated points-of-contact to terminate transmissions if interference occurs are: (607) 426-2525 and (607) 206-0097.
- (5) The licensee must maintain records of the following data for each operating earth station: location (latitude, longitude, altitude); aircraft attitude (pitch, yaw, roll); transmit frequency and occupied bandwidth; data rate; EIRP; and target satellite. This data must be recorded at intervals of no more than two minutes while an earth station is transmitting and every 30 seconds when aircraft roll angle is greater than 10 degrees. The licensee must also record instances when earth station pointing error exceeds 0.2 degrees. The licensee must make this data available upon request to a fixed-satellite service system operator or the Commission within 24 hours after receiving the request.
- (6) Operation of stations authorized herein are subject to any requirements the Commission may adopt in any future proceeding concerning operations in the 29.5-30.0 GHz band frequencies including, but not limited to, earth stations communicating with geostationary orbit space stations.
- (7) When operating in airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have an allocation in the 29.5-30.0 GHz frequency bands, the earth stations must not exceed the following EIRP limits: +64 dBW in any 1 MHz band for Theta is less than or equal to 0° +64 + 3\*Theta dBW in any 1 MHz band for Theta is greater than 0° but less than or equal to 5° where Theta is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.
- (8) Operation in the territory or airspace of any country other than the United States must be in compliance with the applicable laws, regulations, and licensing procedures of that country, as well as with the conditions of this authorization.

**Special Conditions:**

- (9) Stations authorized herein must not be used to provide air traffic control communications.
- (10) Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.
- (11) OET Bulletin 65 (available on-line at [www.fcc.gov/oet/lrfsafety](http://www.fcc.gov/oet/lrfsafety)) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers. The licensee shall ensure installation of terminals on aircraft by qualified installers who have an understanding of the antenna's radiation environment and the measures best suited to maximize protection of the general public and persons operating the aircraft and equipment. A terminal exhibiting radiation exposure levels exceeding 1.0 mW/cm<sup>2</sup> in accessible areas, such as at the exterior surface of the radome, shall have a label attached to the surface of the terminal warning about the radiation hazard and shall include thereon a diagram showing the regions around the terminal where the radiation levels could exceed 1.0 mW/cm<sup>2</sup>.