

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

EXPERIMENTAL

(Nature of Service)

XC MO

(Class of Station)

WG2XFP

(Call Sign)

0378-EX-CR-2021

(File Number)

NAME Raytheon Company

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(c) of the Commission's Rules

Station Locations

- (1) MOBILE: Delaplane, within 5 km, centered around NL 38-59-32; WL 77-57-53
- (2) MOBILE: Mercersburg, PA, within 3 km, centered around NL 39-44-29; WL 77-56-03
- (3) MOBILE: OakGrove Park, Arlington, VA, within 3.5 km, centered around NL 38-53-26; WL 77-06-33
- (4) MOBILE: Alexandria, VA, within 4 km, centered around NL 38-46-29; WL 77-06-15
- (5) MOBILE: St Louis Park, within 15 km, centered around NL 44-58-08; WL 93-21-14
- (6) MOBILE: Fort Story, VA, within 2 km, centered around NL 36-55-27; WL 76-00-18

Frequency Information

MOBILE: Delaplane, within 5 km, centered around NL 38-59-32; WL 77-57-53

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 176-215 MHz | MO            | 10M0J0N<br>10M0J1N  | 0.5 W (ERP)      |                           |
| 460-608 MHz | MO            | 1M00J0N<br>20M0J1N  | 0.5 W (ERP)      |                           |

This authorization effective May 01, 2021 and  
will expire 3:00 A.M. EST May 01, 2023

**FEDERAL  
COMMUNICATIONS  
COMMISSION**



## Frequency Information

MOBILE: Delaplane, within 5 km, centered around NL 38-59-32; WL 77-57-53

| Frequency       | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------|---------------|---------------------|------------------|---------------------------|
| 941.725-960 MHz | MO            | 1M00J0N<br>20M0J1N  | 0.5 W (ERP)      |                           |
| 2605-2645 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 5625-5675 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 7900-8000 MHz   | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |
| 12.9-13 GHz     | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 17.9-18 GHz     | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |

MOBILE: Mercersburg, PA, within 3 km, centered around NL 39-44-29; WL 77-56-03

| Frequency   | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 176-215 MHz | MO            | 10M0J0N<br>10M0J1N  | 0.5 W (ERP)      |                           |
| 460-608 MHz | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |

## Frequency Information

MOBILE: Mercersburg, PA, within 3 km, centered around NL 39-44-29; WL 77-56-03

| Frequency     | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 460-608 MHz   | MO            | 20M0J1N             | 0.5 W (ERP)      |                           |
| 614-664 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 2550-2605 MHz | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 2605-2645 MHz | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 5560-5595 MHz | MO            | 35M0J0N<br>35M0J1N  | 5 W (ERP)        |                           |
| 5610-5685 MHz | MO            | 35M0J0N<br>35M0J1N  | 5 W (ERP)        |                           |
| 7900-8000 MHz | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |
| 12.9-13 GHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 17.9-18 GHz   | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |

## Frequency Information

MOBILE: OakGrove Park, Arlington, VA, within 3.5 km, centered around NL 38-53-26; WL 77-06-33

| Frequency       | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------|---------------|---------------------|------------------|---------------------------|
| 176-215 MHz     | MO            | 10M0J0N<br>20M0J1N  | 0.5 W (ERP)      |                           |
| 460-608 MHz     | MO            | 1M00J0N<br>20M0J1N  | 0.5 W (ERP)      |                           |
| 941.725-960 MHz | MO            | 20M0J1N<br>1M00J0N  | 0.5 W (ERP)      |                           |
| 2605-2645 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 5625-5675 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 7900-8000 MHz   | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |
| 12.9-13 GHz     | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 17.9-18 GHz     | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |

## Frequency Information

MOBILE: Alexandria, VA, within 4 km, centered around NL 38-46-29; WL 77-06-15

| Frequency       | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------|---------------|---------------------|------------------|---------------------------|
| 176-215 MHz     | MO            | 10M0J0N<br>10M0J1N  | 0.5 W (ERP)      |                           |
| 460-608 MHz     | MO            | 1M00J0N<br>20M0J1N  | 0.5 W (ERP)      |                           |
| 941.725-960 MHz | MO            | 1M00J0N<br>18M0J1N  | 0.5 W (ERP)      |                           |
| 2605-2645 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 5625-5675 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 7900-8000 MHz   | MO            | 1M00J0N             | 0.5 W (ERP)      |                           |
| 12.9-13 GHz     | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |

MOBILE: St Louis Park, within 15 km, centered around NL 44-58-08; WL 93-21-14

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------|---------------|---------------------|------------------|---------------------------|
| 945 MHz   | MO            | 30M0J0N             | 1 W (ERP)        |                           |

## Frequency Information

MOBILE: St Louis Park, within 15 km, centered around NL 44-58-08; WL 93-21-14

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------|---------------|---------------------|------------------|---------------------------|
| 945 MHz   | MO            | 30M0J1N             | 1 W (ERP)        |                           |

MOBILE: Fort Story, VA, within 2 km, centered around NL 36-55-27; WL 76-00-18

| Frequency     | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 460-608 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 614-664 MHz   | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 2550-2645 MHz | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 5560-5595 MHz | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |
| 5610-5685 MHz | MO            | 35M0J0N<br>35M0J1N  | 0.5 W (ERP)      |                           |

## Special Conditions:

- (1) The station identification requirements of Section 5.115 of the Commission's Rules are waived.
- (2) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.

**Special Conditions:**

- (3) 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.
- (4) Operation is subject to prior coordination with the local Society of Broadcast Engineers, Inc. (SBE) frequency coordinator. Consult the list at <http://sbe.org/wp-content/uploads/freqcoor.pdf> to find the appropriate coordinator.
- (5) Operation is subject to prior coordination with affected existing Fixed Microwave Service licensees in accordance with 47 CFR, Part 101.103(d).
- (6) No operation is permitted in frequency band 932.675 - 941.725 MHz in the Delaplane, VA and Arlington, VA areas due to possibility of harmful interference to the federal operations.
- (7) Operation subject to notification of narrowband PCS licensees (901-902 MHz), and paging licensees in 931 MHz UHF frequency.
- (8) Licensee shall understand that equipment will not be developed for operational use in the band 7900-8000 MHz.
- (9) Due to anticipated harmful interference to the federal operations, frequency band 17.9-18 GHz is not permitted at Alexandria, VA location.
- (10) Operation is subject to prior coordination with affected Educational Broadband Service/Broadband Radio Service (EBS/BRS) licensees in the band 2550-2645 MHz.
- (11) Operation is not permitted in 5595-5610 MHz band for Mercersburg, PA.
- (12) Operation is subject to consent of the following within 50 miles of the test area:
  - o All Cellular licensees (824-849 MHz/869-894 MHz)
  - o Commercial Air-Ground licensee (849-851 MHz/894-896 MHz)
  - o SMR licensees (896-901 MHz/935-940 MHz)
- (13) Coordinate with the Fixed Microwave Service licensees in accordance with 47 CFR, Part 101.103(d).
- (14) Operation is subject to notification of the following within 50 miles of the test area:
  - o Narrowband PCS licensees (901-902 MHz)
  - o Location & Monitoring Service licensees (902-928 MHz)
- (15) Operation is subject to prior coordination with affected existing and future licensees in 614-664 MHz band.
- (16) This authorization is issued for the express purpose of conducting experimental operations described in the related application and required by the U.S. Government; contract numbers: FA8650-18-D-1102, FA8650-15-C-7534, and HR0011-14-C-0066. The use of this radio station in any other manner or for any other purpose will constitute a violation of the privileges herein authorized. Except as subsequently authorized by the Commission, this radio station shall not be operated after the expiration date of the contract designated in the related application and enumerated above.