

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

EXPERIMENTAL

(Nature of Service)

XC      FX

(Class of Station)

WH2XWF

(Call Sign)

0191-EX-RR-2016

(File Number)

NAME Atmospheric & Space Technology Research Associates (ASTRA), LLC.

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(b) of the Commission's Rules

Station Locations

- (1) Cross City (DIXIE), FL - NL 29-37-46; WL 83-06-28
- (2) Hawthorne (PUTNAM), FL - NL 29-39-42; WL 81-57-26
- (3) Inverness (CITRUS), FL - NL 28-47-58; WL 82-18-58
- (4) Homosassa (CITRUS), FL - NL 28-44-55; WL 82-33-19
- (5) Keystone (HILLSBOROUGH), FL - NL 29-50-40; WL 82-02-24

Frequency Information

Cross City (DIXIE), FL - NL 29-37-46; WL 83-06-28

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 4.442965-4.443035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0007878 %               |
| 4.646965-4.647035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.00075317 %              |
| 6.768965-6.769035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005171 %               |

This authorization effective July 01, 2016 and  
will expire 3:00 A.M. EST July 01, 2017

**FEDERAL  
COMMUNICATIONS  
COMMISSION**



## Frequency Information

Cross City (DIXIE), FL - NL 29-37-46; WL 83-06-28

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 6.992965-6.993035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005005 %               |

Hawthorne (PUTNAM), FL - NL 29-39-42; WL 81-57-26

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 4.442965-4.443035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0007878 %               |

|                       |    |         |             |              |
|-----------------------|----|---------|-------------|--------------|
| 4.646965-4.647035 MHz | FX | 35H0N0N | 164 W (ERP) | 0.00075317 % |
|-----------------------|----|---------|-------------|--------------|

|                       |    |         |             |             |
|-----------------------|----|---------|-------------|-------------|
| 6.768965-6.769035 MHz | FX | 35H0N0N | 164 W (ERP) | 0.0005171 % |
|-----------------------|----|---------|-------------|-------------|

|                       |    |         |             |             |
|-----------------------|----|---------|-------------|-------------|
| 6.992965-6.993035 MHz | FX | 35H0N0N | 164 W (ERP) | 0.0005005 % |
|-----------------------|----|---------|-------------|-------------|

Inverness (CITRUS), FL - NL 28-47-58; WL 82-18-58

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 4.442965-4.443035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0007878 %               |

|                       |    |         |             |              |
|-----------------------|----|---------|-------------|--------------|
| 4.646965-4.647035 MHz | FX | 35H0N0N | 164 W (ERP) | 0.00075317 % |
|-----------------------|----|---------|-------------|--------------|

## Frequency Information

Inverness (CITRUS), FL - NL 28-47-58; WL 82-18-58

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 6.768965-6.769035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005171 %               |
| 6.992965-6.993035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005005 %               |

Homosassa (CITRUS), FL - NL 28-44-55; WL 82-33-19

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 4.442965-4.443035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0007878 %               |
| 4.646965-4.647035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.00075317 %              |
| 6.768965-6.769035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005171 %               |
| 6.992965-6.993035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005005 %               |

Keystone (HILLSBOROUGH), FL - NL 29-50-40; WL 82-02-24

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 4.442965-4.443035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0007878 %               |

## Frequency Information

Keystone (HILLSBOROUGH), FL - NL 29-50-40; WL 82-02-24

| Frequency             | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-----------------------|---------------|---------------------|------------------|---------------------------|
| 4.646965-4.647035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.00075317 %              |
| 6.768965-6.769035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005171 %               |
| 6.992965-6.993035 MHz | FX            | 35H0N0N             | 164 W (ERP)      | 0.0005005 %               |