

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

EXPERIMENTAL
(Nature of Service)

WH2XLE
(Call Sign)

XT FX MO
(Class of Station)

0655-EX-PL-2014
(File Number)

NAME Virginia Tech Electrical and Computer Engineering

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(i) of the Commission's Rules

Station Locations

- (1) Blacksburg (MONTGOMERY), VA - NL 37-13-51; WL 80-25-29
- (2) Blacksburg (MONTGOMERY), VA - NL 37-13-55; WL 80-25-24
- (3) Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-25-19
- (4) Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-24
- (5) Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-34
- (6) Blacksburg (MONTGOMERY), VA - NL 37-13-43; WL 80-25-35
- (7) Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-09
- (8) Blacksburg (MONTGOMERY), VA - NL 37-13-56; WL 80-25-33
- (9) Blacksburg (MONTGOMERY), VA - NL 37-13-33; WL 80-25-23
- (10) Blacksburg (MONTGOMERY), VA - NL 37-13-45; WL 80-25-46
- (11) Blacksburg (MONTGOMERY), VA - NL 37-13-40; WL 80-25-28
- (12) Blacksburg (MONTGOMERY), VA - NL 37-13-41; WL 80-25-27
- (13) Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-26-22
- (14) Blacksburg (MONTGOMERY), VA - NL 37-13-52; WL 80-25-28
- (15) MOBILE: Virginia Tech Campus, Blacksburg, VA, within 5 km, centered around NL 37-13-40; WL 80-25-28

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-51; WL 80-25-29

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 450-512 MHz | FX | NON | 0.5 W (ERP) | |

This authorization effective October 16, 2014 and will expire 3:00 A.M. EST November 01, 2016

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-51; WL 80-25-29

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | 25K0F3E 25K0F1D 1M40W7W 25K0D7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-51; WL 80-25-29

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 3400-3555 MHz | FX | N0N 3M00P0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |

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|---------------|----|--|-------------|--|
| 3550-3650 MHz | FX | N0N 3M00P0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |
|---------------|----|--|-------------|--|

Blacksburg (MONTGOMERY), VA - NL 37-13-55; WL 80-25-24

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |

| | | | | |
|-------------|----|---|-------------|--|
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
|-------------|----|---|-------------|--|

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-55; WL 80-25-24

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-55; WL 80-25-24

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3550-3650 MHz | FX | 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-25-19

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |

| | | | | |
|-------------|----|---|-------------|--|
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
|-------------|----|---|-------------|--|

| | | | | |
|-------------|----|---|-------------|--|
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
|-------------|----|---|-------------|--|

| | | | | |
|-------------|----|--------------------------------------|-------------|--|
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W | 0.5 W (ERP) | |
|-------------|----|--------------------------------------|-------------|--|

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-25-19

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 902-928 MHz | FX | 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-24

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------------|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-24

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-54; WL 80-25-24

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 3400-3555 MHz | FX | 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-34

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-34

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 869-894 MHz | FX | 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-34

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3550-3650 MHz | FX | 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-43; WL 80-25-35

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |

| | | | | |
|-------------|----|---|-------------|--|
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
|-------------|----|---|-------------|--|

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|-------------|----|---|-------------|--|
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
|-------------|----|---|-------------|--|

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|-------------|----|--------------------------------------|-------------|--|
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W | 0.5 W (ERP) | |
|-------------|----|--------------------------------------|-------------|--|

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-43; WL 80-25-35

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 902-928 MHz | FX | 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-09

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------------|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-09

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-42; WL 80-25-09

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3400-3555 MHz | FX | 25K0F1D | 0.5 W (ERP) | |
| | | 25K0D7W | | |
| | | 40M0W7W | | |
| | | 3M00P0N | | |
| 3550-3650 MHz | FX | N0N | 0.5 W (ERP) | |
| | | 25K0F3E | | |
| | | 25K0F1D | | |
| | | 25K0D7W | | |
| | | 40M0W7W | | |
| | | 3M00P0N | | |

Blacksburg (MONTGOMERY), VA - NL 37-13-56; WL 80-25-33

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 450-512 MHz | FX | N0N | 0.5 W (ERP) | |
| | | 25K0F3E | | |
| | | 25K0F1D | | |
| | | 25K0D7W | | |
| | | 1M40W7W | | |
| 764-862 MHz | FX | N0N | 0.5 W (ERP) | |
| | | 25K0F3E | | |
| | | 25K0F1D | | |
| | | 25K0D7W | | |
| | | 1M40W7W | | |
| 869-894 MHz | FX | N0N | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-56; WL 80-25-33

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 869-894 MHz | FX | 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-56; WL 80-25-33

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3550-3650 MHz | FX | 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-33; WL 80-25-23

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-33; WL 80-25-23

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 902-928 MHz | FX | 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-45; WL 80-25-46

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------------|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-45; WL 80-25-46

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-45; WL 80-25-46

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 3400-3555 MHz | FX | 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-40; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-40; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 869-894 MHz | FX | 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-40; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3550-3650 MHz | FX | 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-41; WL 80-25-27

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-41; WL 80-25-27

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 902-928 MHz | FX | 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-26-22

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------------|------------------|---------------------------|
| 450-512 MHz | FX | N0N 25K0F3E 25K0F1D | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-26-22

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | FX | 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-48; WL 80-26-22

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3400-3555 MHz | FX | 25K0F1D | 0.5 W (ERP) | |
| | | 25K0D7W | | |
| | | 40M0W7W | | |
| | | 3M00P0N | | |
| 3550-3650 MHz | FX | N0N | 0.5 W (ERP) | |
| | | 25K0F3E | | |
| | | 25K0F1D | | |
| | | 25K0D7W | | |
| | | 40M0W7W | | |
| | | 3M00P0N | | |

Blacksburg (MONTGOMERY), VA - NL 37-13-52; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---------------------|------------------|---------------------------|
| 450-512 MHz | FX | N0N | 0.5 W (ERP) | |
| | | 25K0F3E | | |
| | | 25K0F1D | | |
| | | 25K0D7W | | |
| | | 1M40W7W | | |
| 764-862 MHz | FX | N0N | 0.5 W (ERP) | |
| | | 25K0F3E | | |
| | | 25K0F1D | | |
| | | 25K0D7W | | |
| | | 1M40W7W | | |
| 869-894 MHz | FX | N0N | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-52; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 869-894 MHz | FX | 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W | 0.5 W (ERP) | |

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-52; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|---------------------|------------------|---------------------------|
| 3550-3650 MHz | FX | 3M00P0N | 0.5 W (ERP) | |

MOBILE: Virginia Tech Campus, Blacksburg, VA, within 5 km, centered around NL 37-13-40; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|-------------|---------------|---|------------------|---------------------------|
| 450-512 MHz | MO | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 764-862 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 869-894 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 1M40W7W | 0.5 W (ERP) | |
| 902-928 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W | 0.5 W (ERP) | |

Frequency Information

MOBILE: Virginia Tech Campus, Blacksburg, VA, within 5 km, centered around NL 37-13-40; WL 80-25-28

| Frequency | Station Class | Emission Designator | Authorized Power | Frequency Tolerance (+/-) |
|---------------|---------------|--|------------------|---------------------------|
| 902-928 MHz | FX | 1M40W7W | 0.5 W (ERP) | |
| 2000-2100 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 10M0W7W | 0.5 W (ERP) | |
| 3400-3555 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |
| 3550-3650 MHz | FX | N0N 25K0F3E 25K0F1D 25K0D7W 40M0W7W 3M00P0N | 0.5 W (ERP) | |

Special Conditions:

- (1) In lieu of frequency tolerance, the occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (2) 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.
- (3) FirstNet can request the FCC to order the licensee to cease operations within 24 hours.
- (4) The designated point-of-contact to terminate transmissions if interference occurs is Vuk Marojevic at (540) 231-2970 or (540) 231-2971.

Special Conditions:

- (5) The applicant must get consent of ALL Cellular licensees within 25 miles of the locations of the test.
- (6) The applicant must provide notification to the following licensees within 25 miles of the locations of the test:
 - Paging licenses in 454 MHz and 459 MHz
 - General Aviation Air-Ground licensees in 454 MHz and 459 MHz
- (7) The applicant must obtain consents from the Advanced Wireless Service licensees prior to accessing to 2020-2025 MHz.
- (8) The applicant must coordinate with the local Society of Broadcast Engineer frequency coordinator prior to operation in 450-512 MHz and 2025-2110 MHz.
- (9) Operation under this license is for testing purposes only. No mission critical operations are permitted under this authorization.