

**United States of America
FEDERAL COMMUNICATIONS COMMISSION
EXPERIMENTAL
SPECIAL TEMPORARY AUTHORIZATION**

EXPERIMENTAL

(Nature of Service)

XR FX

(Class of Station)

W12XQA

(Call Sign)

0636-EX-ST-2017

(File Number)

NAME Virginia Tech

This Special Temporary Authorization is granted upon the express condition that it may be terminated by the Commission at any time without advance notice or hearing if in its discretion the need for such action arises. Nothing contained herein shall be construed as a finding by the Commission that the authority herein granted is or will be in the public interest beyond the express terms hereof.

This Special Temporary Authorization shall not vest in the grantee any right to operate the station nor any right in the use of the frequencies designated in the authorization beyond the term hereof, nor in any other manner than authorized herein. Neither the authorization nor the right granted hereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934. This authorization is subject to the right of use of control the Government of the United States conferred by Section 706 of the Communications Act of 1934.

Special Temporary Authority is hereby granted to operate the apparatus described below:

Purpose Of Operation:

Our ionosonde data will allow us to track the evolution of the ionospheric plasma density prior to and during the total solar eclipse on 21 August 2017.

Station Locations

- (1) Blacksburg (MONTGOMERY), VA - NL 37-13-51; WL 80-24-57
- (2) Bend (DESCHUTES), OR - NL 44-14-19; WL 121-26-40
- (3) Sumter (SUMTER), SC - NL 33-49-59; WL 80-29-20
- (4) Holton (JACKSON), KS - NL 39-31-50; WL 95-43-27

Frequency Information

Blacksburg (MONTGOMERY), VA - NL 37-13-51; WL 80-24-57

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2-25 MHz	FX	100KW2N	60 W (ERP)	

This authorization effective August 14, 2017 and
will expire 3:00 A.M. EST August 24, 2017

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Bend (DESCHUTES), OR - NL 44-14-19; WL 121-26-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2-25 MHz	FX	100KFXN	61 W (ERP)	2.5E-6 %

Sumter (SUMTER), SC - NL 33-49-59; WL 80-29-20

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2-25 MHz	FX	100KFXN	61 W (ERP)	2.5E-6 %

Holton (JACKSON), KS - NL 39-31-50; WL 95-43-27

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2-25 MHz	FX	100KFXN	61 W (ERP)	2.5E-6 %

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) Virginia Tech must notch out the STANDARD FREQUENCY AND TIME SIGNAL bands: 2495kHz-2505kHz; 4995kHz-5005kHz; 9995kHz-10005kHz; 14990kHz-15010kHz; 19990kHz-20010kHz.

Special Conditions:

- (4) Virginia Tech must notch out the following Search and Rescue and International Distress (GMDSS) frequencies +/-1.4K:

K2174.5	K2182	K2183.4	K2187.5	K3023
K3024.4	K4125	K4126.4	K4177.5	K4207.5
K4209.5	K4210	K5680	K5681.4	K6215
K6216.4	K6268	K6312	K6314	K6502.4
K6517.4	K8291	K8292.4	K8376.5	K8414.5
K8416.5	K8765.4	K12290	K12291.4	K12520
K12577	K12579	K16420	K16421.4	K16684.5
K16685.5	K16687.5	K16692.5	K16695	K16804.5
K16806.5	K19680.5	K22376		

- (5) Virginia Tech must notch out the following frequencies +/-1.4K due to possible interference/safety of flight issues:

K2262.4	K10810
K3054.4	K10891
K3057.4	K10918
K3120.4	K11197.4
K3123.4	K11200.4
K4572.5	K11203.4
K4731.4	K13219.4
K4734.4	K13222.4
K4821	K13434
K4902	K16496
K4965	K14428.5
K5108	K14461
K5694.4	K14953
K5697.4	K15083.4
K5700.4	K15086.4
K6710.4	K15089.4
K6743.4	K17989.4
K7630.5	K17992.4
K7669.5	K20247.5
K7736	K20330
K7743	K20843
K7747	K20882.5
K7775	K20985
K7793	K23074
K7821	K23077
K8981.4	K23091
K8984.4	K23094
K9035.4	K23840.5
K9038.4	K24228.
K10540	K24792.5

Special Conditions:

- (6) Virginia Tech must notch out the following frequencies +/-1.5K due to possible interference to weather broadcasts for maritime mobile customers in partnership with Dept. of Commerce/NOAA:

K5107	K5108.5	K5110	K5215.5	K5217
K5221.5	K5223	K5224.5	K5264.5	K5266
K5267.5	K5270.5	K5272	K5418	K5419.5
K5421	K5931	K5934	K5941	K5942.5
K5944	K6961	K7439	K7577	K7617
K7626	K7754.5	K7845	K7884	K7909
K8459	K8503.9	K8682	K9110	K9169
K9291	K9332	K10297.5	K10338.5	K10354.5
K10378	K10675	K10759	K10788	K10929.5
K10935.5	K11024	K11045	K11157.5	

- (7) Virginia Tech must also notch out:

2850 - 3025 MHz
3400 - 3500 MHz
4650 - 4700 MHz
5450 - 5680 MHz
6525 - 6685 MHz
8815 - 8965 MHz
10005 - 10100 MHz
11275 - 11400 MHz
13260 - 13360 MHz
17900 - 17970 MHz
21924 - 22000 MHz