

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

EXPERIMENTAL

(Nature of Service)

XT FX

(Class of Station)

WQ9XXU

(Call Sign)

1150-EX-ST-2020

(File Number)

NAME Massachusetts Institute of Technology Lincoln Laboratory (MITLL)

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:

The goal of the testing is to improve HF System performance. The objective of this frequency authorization request is to provide ionospheric channel information.

Station Locations

- (1) Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40
- (2) Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2505-2850 kHz	FX	98K0F7N	200 W (ERP)	0.001 %
		24K0D1D		
		24K0G1D		
		49K0D1D		
		98K0F7E		
		98K0F7D		
		3K00G1D		

This authorization effective August 20, 2020 and
will expire 3:00 A.M. EST February 21, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
3025-3400 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	200 W (ERP)	0.001 %
3500-4100 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
4210-4650 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
4700-4995 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D	200 W (ERP)	0.001 %

Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
4700-4995 kHz	FX	3K00G1D	200 W (ERP)	0.001 %
5005-5450 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
5680-5900 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
6320-6525 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
6685-7200 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D	200 W (ERP)	0.001 %

Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
6685-7200 kHz	FX	98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
7450-8250 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
8970-9400 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
9900-9995 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
10101-11275 kHz	FX	98K0F7N 24K0D1D	200 W (ERP)	0.001 %

Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
10101-11275 kHz	FX	24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
11400-11600 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
12100-12200 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	200 W (ERP)	0.001 %
13500-13570 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %

Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
13870-14990 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	200 W (ERP)	0.001 %
15010-15100 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
15800-16000 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	200 W (ERP)	0.001 %
16000-17480 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D	200 W (ERP)	0.001 %

Frequency Information

Las Cruces (DONA ANA), NM - NL 32-20-26; WL 106-24-40

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
16000-17480 kHz	FX	3K00G1D	200 W (ERP)	0.001 %
17970-18900 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	200 W (ERP)	0.001 %
19020-19995 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
20010-21450 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
21850-21924 kHz	FX	24K0D1D 24K0G1D 49K0D1D	200 W (ERP)	0.001 %

Frequency Information

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Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
21850-21924 kHz	FX	3K00G1D	200 W (ERP)	0.001 %
22000-24490 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %
25010-25550 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	200 W (ERP)	0.001 %
26100-28000 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	200 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
2505-2850 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
3025-3400 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	20 W (ERP)	0.001 %
3500-4100 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
4210-4650 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
4210-4650 kHz	FX	3K00G1D	20 W (ERP)	0.001 %
4700-4995 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
5005-5450 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
5680-5900 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
6320-6525 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
6320-6525 kHz	FX	98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
6685-7200 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
7450-8250 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
8970-9400 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
9900-9995 kHz	FX	98K0F7N 24K0D1D	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
9900-9995 kHz	FX	24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
10101-11275 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
11400-11600 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
12100-12200 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
13500-13570 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
13870-14990 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	20 W (ERP)	0.001 %
15010-15100 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
15800-16000 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
15800-16000 kHz	FX	98K0F7N	20 W (ERP)	0.001 %
16000-17480 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
17970-18900 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	20 W (ERP)	0.001 %
19020-19995 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
20010-21450 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
20010-21450 kHz	FX	98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
21850-21924 kHz	FX	24K0D1D 24K0G1D 49K0D1D 3K00G1D	20 W (ERP)	0.001 %
22000-24490 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E 98K0F7D 3K00G1D	20 W (ERP)	0.001 %
25010-25550 kHz	FX	3K00G1D 98K0F7D 98K0F7E 49K0D1D 24K0G1D 24K0D1D 98K0F7N	20 W (ERP)	0.001 %
26100-28000 kHz	FX	98K0F7N 24K0D1D 24K0G1D 49K0D1D 98K0F7E	20 W (ERP)	0.001 %

Frequency Information

Key West (HILLSBOROUGH), FL - NL 24-34-31; WL 81-40-31

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
26100-28000 kHz	FX	98K0F7D 3K00G1D	20 W (ERP)	0.001 %

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) For MIT Lincoln Laboratory operations in New Mexico must be scheduled as a White Sands Missile Range (WSMR) mission, through their WSMR sponsor. Final authority to radiate is contingent upon successful scheduling and de-confliction of both airspace and spectrum with other area operations by the WSMR ISM who reserves the right to impose additional constraints.

Special Conditions:

(4) MIT Lincoln Laboratory must notch out the following:

2660.4 kHz (+/-1.4 kHz)
2679.4 kHz (+/-1.4 kHz)
2749.4 kHz (+/-1.4 kHz)
3054.4 kHz (+/-1.4 kHz)
3057.4 kHz (+/-1.4 kHz)
3120.4 kHz (+/-1.4 kHz)
3123.4 kHz (+/-1.4 kHz)
4572.5 kHz (+/-1.4 kHz)
4576.4 kHz (+/-1.4 kHz)
4731.4 kHz (+/-1.4 kHz)
4734.4 kHz (+/-1.4 kHz)
4821 kHz (+/-1.4 kHz)
4902 kHz (+/-1.4 kHz)
4965 kHz (+/-1.4 kHz)
5107 kHz (+/-1.5 kHz)
5108 kHz (+/-1.4 kHz)
5108.5 kHz (+/-1.5 kHz)
5110 kHz (+/-1.5 kHz)
5215.5 kHz (+/-1.5 kHz)
5217 kHz (+/-1.5 kHz)
5221.5 kHz (+/-1.5 kHz)
5223 kHz (+/-1.5 kHz)
5224.5 kHz (+/-1.5 kHz)
5264.5 kHz (+/-1.5 kHz)
5266 kHz (+/-1.5 kHz)
5267.5 kHz (+/-1.5 kHz)
5270.5 kHz (+/-1.5 kHz)
5272 kHz (+/-1.5 kHz)
5418 kHz (+/-1.5 kHz)
5419.5 kHz (+/-1.5 kHz)
5421 kHz (+/-1.5 kHz)
5681.4 kHz (+/-1.4 kHz)
5694.4 kHz (+/-1.4 kHz)
5697.4 kHz (+/-1.4 kHz)
5700.4 kHz (+/-1.4 kHz)
5885 kHz (+/-1.4 kHz)
6502.4 kHz (+/-1.4 kHz)
6517.4 kHz (+/-1.4 kHz)
6710.4 kHz (+/-1.4 kHz)
6743.4 kHz (+/-1.4 kHz)
6961 kHz (+/-1.5 kHz)
7577 kHz (+/-1.5 kHz)
7617 kHz (+/-1.5 kHz)
7626 kHz (+/-1.5 kHz)
7630.5 kHz (+/-1.4 kHz)
7669.5 kHz (+/-1.4 kHz)
7736 kHz (+/-1.4 kHz)
7743 kHz (+/-1.4 kHz)
7747 kHz (+/-1.4 kHz)
7754.5 kHz (+/-1.5 kHz)
7775 kHz (+/-1.4 kHz)

Speciæ7793 kHz (+/-1.4 kHz)
7821 kHz (+/-1.4 kHz)
7845 kHz (+/-1.5 kHz)
7884 kHz (+/-1.5 kHz)
7909 kHz (+/-1.5 kHz)
8981.4 kHz (+/-1.4 kHz)
8984.4 kHz (+/-1.4 kHz)
9035.4 kHz (+/-1.4 kHz)
9038.4 kHz (+/-1.4 kHz)
9110 kHz (+/-1.5 kHz)
9169 kHz (+/-1.5 kHz)
9291 kHz (+/-1.5 kHz)
9332 kHz (+/-1.5 kHz)
10297.5 kHz (+/-1.5 kHz)
10338.5 kHz (+/-1.5 kHz)
10354.5 kHz (+/-1.5 kHz)
10378 kHz (+/-1.5 kHz)
10540 kHz (+/-1.4 kHz)
10675 kHz (+/-1.5 kHz)
10759 kHz (+/-1.5 kHz)
10774 kHz (+/-1.4 kHz)
10788 kHz (+/-1.5 kHz)
10810 kHz (+/-1.4 kHz)
10891 kHz (+/-1.4 kHz)
10918 kHz (+/-1.4 kHz)
10929.5 kHz (+/-1.5 kHz)
10935.5 kHz (+/-1.5 kHz)
11024 kHz (+/-1.5 kHz)
11045 kHz (+/-1.5 kHz)
11157.5 kHz (+/-1.5 kHz)
11197.4 kHz (+/-1.4 kHz)
11200.4 kHz (+/-1.4 kHz)
11203.4 kHz (+/-1.4 kHz)
14428.5 kHz (+/-1.4 kHz)
14461 kHz (+/-1.4 kHz)
15083.4 kHz (+/-1.4 kHz)
15086.4 kHz (+/-1.4 kHz)
15089.4 kHz (+/-1.4 kHz)
16027.5 kHz (+/-1.4 kHz)
16421.4 kHz (+/-1.4 kHz)
16695 kHz (+/-1.4 kHz)
16804.5 kHz (+/-1.4 kHz)
17922.4 kHz (+/-1.4 kHz)
17989.4 kHz (+/-1.4 kHz)
18186.5 kHz (+/-1.4 kHz)
20137 kHz (+/-1.4 kHz)
20247.5 kHz (+/-1.4 kHz)
20330 kHz (+/-1.4 kHz)
20843 kHz (+/-1.4 kHz)
20882.5 kHz (+/-1.4 kHz)
20985 kHz (+/-1.4 kHz)
23074 kHz (+/-1.4 kHz)
23077 kHz (+/-1.4 kHz)

Specific
23091 kHz (+/-1.4 kHz)
23094 kHz (+/-1.4 kHz)
23840.5 kHz (+/-1.4 kHz)
24228.5 kHz (+/-1.4 kHz)
26582.5 kHz (+/-1.4 kHz)
26640.5 kHz (+/-1.4 kHz)
27590.5 kHz (+/-1.4 kHz)