

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

EXPERIMENTAL

(Nature of Service)

WN9XAL

(Call Sign)

XT FX MO

(Class of Station)

1175-EX-ST-2018

(File Number)

NAME The Boeing Company

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:

This requirement supports the development of the GetSAT MicroSAT antenna system over the air mobile ground flight test communicating with EchoStar 9.

Station Locations

- (1) Boardman (MORROW), OR - NL 45-44-54; WL 119-47-01; MOBILE: Flight Test, Bombing Range (R2501), Boardman, OR, within 2 km, centered around NL 45-44-54; WL 119-47-01

Frequency Information

Boardman (MORROW), OR - NL 45-44-54; WL 119-47-01; MOBILE: Flight Test, Bombing Range (R2501), Boardman, OR, wi

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29.5-30 GHz	MO	10M0G7D	39811 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.

This authorization effective July 20, 2018 and
will expire 3:00 A.M. EST January 21, 2019

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Special Conditions:

- (3) Experimental station shall use the minimum power level necessary to establish communications links to minimize potential interference to licensed users.
- (4) POINT OF COMMUNICATION: Geostationary-satellite orbit (GSO) Satellite: EchoStar 9 (S2143)
- (5) Stop Buzzer: Allen Lindsay, Phone: (425)237-9168, Email: allen.s.lindsay@boeing.com
- (6) The operations must be in compliance with EIRP density as defined in §25.138 of the Commission's Rules.
- (7) The aircraft earth station (ESAA) is authorized, on a non-protected and non-harmful interference basis, to transmit to the geostationary-orbit space station using the 29.5-30 GHz frequency band that is authorized by the Commissions. The aircraft earth station authorized herein must immediately terminate operations upon notification that such operation is causing harmful interference to any other radio system lawfully operating in the 29.5-30 GHz frequency band. The aircraft earth station authorized herein cannot claim protection from harmful interference from any radio system lawfully operating in the 29.5-30 GHz frequency band.
- (8) Operation pursuant to this authorization must be in compliance with the terms of coordination agreements between the Echostar 9 satellite operator operating in the 29.5-30 GHz frequency band and operators of other Ka-band geostationary space stations within six angular degrees of Echostar 9 space station. In the event that another GSO FSS space station commences operation in the Ka-band at a location within six degrees of EchoStar 9 space station, earth station operating pursuant to this temporary authority shall cease transmitting to that space station unless and until such operation has been coordinated with the new space station's operator or Licensee demonstrates that such operation will not cause harmful interference to the new co-frequency space station.
- (9) Communications between ESAA and the Ka-band geostationary space station must be in compliance with all existing and future space station coordination agreements reached between the Ka-GSO operators and other administrations.
- (10) Licensee's ESAA must employ a tracking algorithm that is resistant to capturing and tracking adjacent satellite signals, and each station must be capable of inhibiting its own transmission in the event it detects unintended satellite tracking.
- (11) Licensee's ESAA must be monitored and controlled by a ground-based network control and monitoring center. Such station must be able to receive "enable transmission" and "disable transmission" commands from the network control center and must cease transmission immediately after receiving a "parameter change" command until receiving an "enable transmission" command from the network control center. The network control center must monitor operation of each earth station to determine if it is malfunctioning, and each earth station must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed satellite service network.
- (12) Licensee must maintain a point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein, for discussing interference concerns with other licensees, and must submit a letter to be included in its license file with the name and telephone number of the point of contact prior to commencing operation.
- (13) Operations must comply with the Section 25.203(e), (f), and (g) and Section 25.277 of the Commission's Rules.

Special Conditions:

- (14) ESAA authorized herein must not be used for air traffic control communications.
- (15) Aircraft operations are limited to U.S.-registered aircraft.
- (16) ESAA must be in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules.
- (17) ESAA must be in compliance with environmental requirement set forth in Section 1.1307 of the Commission's Rules.
- (18) This authorization is without prejudice to any determination that the Commission may make regarding pending or future experimental satellite earth station applications.
- (19) Operations are on a non-interference basis (NIB) and shall not cause harmful interference to, and shall not claim protection from, interference caused to it by any other lawfully operating station and it shall cease transmission(s) immediately upon notice of such interference and notify the FCC in writing.
- (20) The Boeing Company must coordinate with the affected Fixed Microwave Service licensees in adjacent bands, 27.5-29.5 GHz prior to commencing the test operations.