

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

EXPERIMENTAL

(Nature of Service)

WP9XPI

(Call Sign)

XT MO

(Class of Station)

1934-EX-ST-2019

(File Number)

NAME UltiSat Inc.

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:

Evaluate and demonstrate a new ESAA terminal on ground and in flight.

Station Locations

(1) MOBILE: Various Fixed and Mobile Locations (See Exhibit 1)

Frequency Information

MOBILE: Various Fixed and Mobile Locations (See Exhibit 1)

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
29000-30000 MHz	MO	7M20G1D	138 kW (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 November 12, 2019 and
will expire 3:00 A.M. EST May 11, 2020

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Special Conditions:

- (3) The licensee must coordinate with the Fixed Microwave Service licensees in accordance with 47 C.F.R, Part 101.103(d) prior to operation in 29000-30000 MHz band.
- (4) POINT OF COMMUNICATION: INMARSAT 5F2 satellite @ 55 degrees W.L. (U. K. licensed).
- (5) Operations must be in compliance with the applicable ESAAs requirements set forth in Section 25.227 of the Commission's Rules and the off-axis EIRP power spectral density ("PSD") standards (the "off-axis mask") set forth in Section 25.138(a).
- (6) ESAA on the ground must not transmit at elevation angles less than three degrees. There is no minimum angle of antenna elevation for ESAA while airborne.
- (7) The stations are authorized, on a non-protected and non-harmful interference basis, to transmit to the non-geostationary-orbit space stations using the 29-30 GHz frequency band that is authorized by the Commissions. The stations authorized herein must immediately terminate operations upon notification that such operation is causing harmful interference to any other radio system lawfully operating in the 29-30 GHz frequency band. The stations authorized herein cannot claim protection from harmful interference from any radio system lawfully operating in the 29-30 GHz frequency band.
- (8) Communications between authorized station(s) and the INMARSAT 5F2 space station must comply with all existing and future coordination agreements reached between the United Kingdom and other Administrations, including all coordination agreements reached between the United Kingdom and the United States. In the absence of a coordination agreement, such communications must comply with applicable provisions of ITU Radio Regulations.
- (9) Operations of the authorized ESAA stations must be in compliance with the following additional conditions:
 - a. 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.
 - b. Licensee's ESAA must be monitored and controlled by a ground-based network control and monitoring center. Such stations 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.
 - c. 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.
- (10) Further requests for extension of the authority granted herein must be filed on Form 442, "Application for New or Modified Radio Station Authorization under Part 5 of FCC Rules - Experimental Radio Service." Future STA requests to extend this authorization will not be considered.