

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

EXPERIMENTAL

(Nature of Service)

XT MO

(Class of Station)

WJ2XSO

(Call Sign)

0220-EX-CM-2018

(File Number)

NAME Thales Avionics, Inc.

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(h) of the Commission's Rules

Station Locations

- (1) MOBILE: CONUS and US territorial waters
- (2) MOBILE: Gulf of Mexico, Atlantic Ocean, Caribbean Sea

Frequency Information

MOBILE: CONUS and US territorial waters

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
28.438-28.563 GHz	MO	8M19G7D	53.83 kW (ERP)	0.00001 %
28.438-28.563 GHz	MO	6M14G7D	40.36 kW (ERP)	0.00001 %
29.3-30 GHz	MO	8M19G7D	53.83 kW (ERP)	0.00001 %
29.3-30 GHz	MO	6M14G7D	40.36 kW (ERP)	0.00001 %

This authorization effective December 12, 2018 and
will expire 3:00 A.M. EST October 01, 2020

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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) Operation is subject to prior coordination with the Fixed Microwave Service licensees around each test site in accordance with 47 C.F.R, Part 101.103(d).
- (4) Experimental station shall use the minimum power level necessary to establish communications links to minimize potential interference to licensed users.
- (5) POINT OF COMMUNICATION: Geostationary-satellite orbit (GSO) Satellites:
Echostar XVII (Jupiter-1) (S2753),
Jupiter-2 (S2968)
AMC-15 (S2180)
AMC-16 (S2181)
- (6) Stop Buzzer: Martin Matura 321-292-0878 or Thales Network Operation Center 949-754-6985.
- (7) The operations must be in compliance with EIRP density as defined in §25.138 of the Commission's Rules.

Special Conditions:

- (8) The aircraft earth stations (ESAAs) are authorized, on a non-protected and non-harmful interference basis, to transmit to the geostationary-orbit space stations using the 28.438-28.563 GHz and 29.3-30 GHz frequency bands that are authorized by the Commissions. The aircraft earth 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 28.438-28.563 GHz and 29.3-30 GHz frequency bands. The aircraft earth stations authorized herein cannot claim protection from harmful interference from any radio system lawfully operating in the 28.438-28.563 GHz and 29.3-30 GHz frequency bands.
- (9) Operation pursuant to this authorization must be in compliance with the terms of coordination agreements between the proposed operators operating in the 28.438-28.563 GHz and 29.3-30 GHz frequency bands and operators of other Ka-band geostationary space stations within six angular degrees of those space stations. In the event that another GSO FSS space station commences operation in the Ka-band at a location within six degrees of any of these space stations, earth stations 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.
- (10) Communications between ESAAs and the Ka-band geostationary space stations must be in compliance with all existing and future space station coordination agreements reached between the Ka-GSO operators and other administrations.
- (11) Licensee's ESAAs 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.
- (12) Licensee's ESAAs 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.
- (13) 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.
- (14) Operations must comply with the Section 25.203(e), (f), and (g) and Section 25.277 of the Commission's Rules.
- (15) ESAAs authorized herein must not be used for air traffic control communications.
- (16) Aircraft operations are limited to U.S.-registered aircraft.
- (17) ESAAs must be in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules.

Special Conditions:

- (18) ESAAs must be in compliance with environmental requirement set forth in Section 1.1307 of the Commission's Rules.
- (19) This authorization is without prejudice to any determination that the Commission may make regarding pending or future experimental satellite earth station applications.
- (20) 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.
- (21) Operations in the area of the other countries must be in compliance with the applicable laws, regulations, and licensing procedures of other countries, as well as with the conditions of this authorization.