

Applicant: Thales Avionics, Inc.
Call Sign: E170068
File No.: SES-STA-20210715-01049
Special Temporary Authority ("STA")

Thales Avionics, Inc. ("Thales") is granted STA for 60 days, commencing on July 23, 2021, to operate its 250 earth station aboard aircraft ("ESAA") Earth Station in Motion ("ESIM") authorized ACT-A terminals with satellites: Telstar 19V (Call sign S2955) at orbital location 63°W, AMC-15 (Call Sign S2180) at orbital location 105.05°W, and ECHOSTAR19 (formerly Jupiter 2) (Call Sign S2834) at orbital location 97.1°W. Temporary operation of ESAA ESIM antennas will be on 29500-30000 MHz (Earth-to-space) and 19700-20200 MHz (space-to-Earth) frequency bands with the following conditions:

1. Operations 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.
2. Operations shall comply with 47 C.F.R. § 25.218(i), specifically with respect to AMC-15, Thales shall limit their ESAA operation for the worst-case skew angle of 40° and elevation angle of 15° for off-axis EIRP emission in the GSO plane. The highest allowed power level of 10.5 dBW/4kHz (34.5 dBW/MHz). Thales system shall limit power to this level when at this position; with respect to Telstar 19V, Thales ESAA operation on Telstar 19V at 63° W.L. will utilize spot beams covering southern USA and the Caribbean. The worst-case skew angles will be around 50 degrees with a corresponding elevation angle of 50 degrees. Thales will maintain their uplink EIRP densities to comply with the limits set in §25.218(i)(1) or the coordination agreements set by their satellite operator. The highest power level for this operation is 16.7 dBW/4kHz (40.7 dBW/MHz); with respect to Jupiter-2, Thales will limit their ESAA operation to the worst-case skew performance at a skew angle of 35° and corresponding elevation angle of 55° for off-axis EIRP emission in the GSO plane. Thales will limit maximum EIRP Spectral Density to 17.5 dBW/4kHz (41.5 dBW/MHz) when operating at this position.
3. Operations shall comply with 47 C.F.R. § 25.220 with respect to Telstar 19V, AMC15, and ECHOSTAR19.
4. In the 17.8-20.2 GHz frequency range, in order to protect Federal satellite services, the licensee shall communicate only with satellites whose operator has completed an agreement with Federal operators pursuant to footnote US334 of the U.S. Table of Frequency Allocations, 47 C.F.R. § 2.106, and that agreement has been approved by both the Federal Communications Commission and the National Telecommunications and Information Administration. The licensee's operations pursuant to this authorization shall be consistent with such US334 agreements.

5. Thales must maintain a U.S. point of contact available 24 hours per day, seven days per week, with the authority and ability to terminate operations authorized herein. Network Operation Center: ThalesInFlytNOC@us.thalesgroup.com, phone: 949 754 6985.
6. Operation in the territory or airspace of any country other than the United States must comply with the applicable laws, regulations, and licensing procedures of that country, as well as with the conditions of this authorization.
7. Prior to operations within a foreign nation's airspace, the ESAA operator must ascertain whether the relevant administration has operations that could be affected by ESAA terminals, and must determine whether that administration has adopted specific requirements concerning ESAA operations. When the aircraft enters foreign airspace, the ESAA terminal must operate under the Commission's rules, or those of the foreign administration, whichever is more constraining. To the extent that all relevant administrations have identified geographic areas from which ESAA operations would not affect their radio operations, ESAA operators may operate within those identified areas without further action. To the extent that the foreign administration has not adopted requirements regarding ESAA operations, ESAA operators must coordinate their operations with any potentially affected operations.
8. Grant of this authorization is without prejudice to any determination that the Commission may make regarding Thales' FCC IBFS pending file number SES-MOD-20210715-01042 or future Thales applications.
9. Transmitter(s) must be turned off during antenna maintenance to ensure compliance with the FCC-specified safety guidelines for human exposure to radiofrequency radiation in the region between the antenna feed and the reflector. Appropriate measures must also be taken to restrict access to other regions in which the earth station's power flux density levels exceed the specified guidelines.
10. Thales must take all necessary measures to ensure that the operation authorized does not create potential exposure of humans to radiofrequency radiation in excess of the FCC exposure limits defined in 47 CFR 1.1307(b) and 1.1310. Measures must be taken to ensure compliance with limits for both occupational/controlled exposure and for general population/uncontrolled exposure, as defined in these rule sections. Requirements for restrictions can be determined by predictions based on calculations, modeling or by field measurements. The FCC's OET Bulletin 65 (available on-line at [ww.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)) provides information on predicting exposure levels and on methods for ensuring compliance, including the use of warning and alerting signs and protective equipment for workers.
11. Operations authorized pursuant to this license are operations by U.S.-registered aircraft anywhere within the coverage area/frequency bands identified in the application for the

satellites listed as points of communication. Operations authorized pursuant to this license also include operations by non-U.S.-registered aircraft within U.S. territory, including territorial waters.

12. Antenna elevation for all operations must be at least three (3) degrees above the geographic horizon while the aircraft is on the ground.
13. All operations shall be on a non-common carrier basis.
14. The licensee shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.
15. ESAAAs authorized herein 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 ESAA to determine if it is malfunctioning, and each ESAA must self-monitor and automatically cease transmission on detecting an operational fault that could cause harmful interference to a fixed-satellite service network.
16. Operations pursuant to this authorization must comply with the terms of the coordination agreements with operators of Ka-band geostationary space stations within thirty angular degrees of the target satellite Telstar 19V, AMC15, ECHOSTAR 19. In the event another GSO space station commences operation in the 29.5-30.0 GHz frequency band at a location within thirty degrees of any of the target satellites, ESAAAs operating pursuant to this authorization must cease transmitting to the target satellite(s) unless and until such operation has been coordinated with the new space station's operator or Thales demonstrates that such operation will not cause harmful interference to the new co-frequency space station.
17. Communications between Thales ESAAAs and Telstar 19V must comply with all existing and future space station coordination agreements reached between Brazil and other Administrations. In addition, communications between Thales ESAAAs and AMC15 and ECHOSTAR19 must comply with all existing and future space station coordination agreements reached between the U.S. and other Administrations.
18. When operating in airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have an allocation in the 28.35- 29.1 GHz or 29.5-30.0 GHz frequency bands, the ESAAAs must not exceed the following EIRP limits: +64 dBW in any 1 MHz band if Theta is less than or equal to 0° +64 + 3*Theta dBW in any 1 MHz

band if Theta is greater than 0° but less than or equal to 5° , where Theta is the angle of elevation of the horizon viewed from the center of radiation of the antenna of the earth station and measured in degrees as positive above the horizontal plane and negative below it.

19. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Thales's risk.
20. Stations authorized herein must not be used to provide air traffic control communications.
21. Any action taken or expense incurred as a result of operations pursuant to this STA is solely at Thales's risk.

This action is issued pursuant to Section 0.261 of the Commission's rules on delegated authority, 47 C.F.R. §0.261, and is effective upon release.