

Approved by OMB
3060-0678

APPLICATION FOR EARTH STATION SPECIAL TEMPORARY AUTHORITY

APPLICANT INFORMATION Enter a description of this application to identify it on the main menu:
STA Extension for Intelsat 18 May 2016

I. Applicant

Name:	Gogo LLC	Phone Number:	202-870-7220
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Attention:	Mr William J Gordon		



File # SES-STA-20160524-00448
Call Sign E120106 Grant Date 6-2-16
(Or other identifier)
Term Dates
From: 6-2-16 To: 8-1-16
Approved: [Signature]

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1. Operations are on an unprotected and non-harmful interference basis. Gogo must cease operations immediately upon notification of such interference and must immediately inform the Commission, in writing, of such an event.
2. Operation pursuant to this authorization must be in compliance with the terms of Gogo's coordination agreements with the National Science Foundation and the National Aeronautics and Space Administration pertaining to operation of ESA in the Ku-Band.
3. Operations for the Aerosat model HR6400 antennas will not exceed the maximum input power into the antenna flange of 35.48 W.
4. Operation pursuant to this authorization outside the United States in the 14.0-14.5 GHz band must be in compliance with the provisions of Annex 1, Part C of Recommendation ITU-R M.1643, with respect to any radio astronomy station performing observations in the 14.47-14.5 GHz band.
5. When operating in international airspace within line-of-sight of the territory of a foreign administration where Fixed Service networks have a primary allocation in the 14.0-14.5 GHz band, an ESA must not operate in a manner that would produce predicted ground-level power flux density (pfd) in such territory in excess of the following values unless the foreign administration has imposed other conditions for protecting its FS stations: $-132 + 0.5 \times \text{THETA}$ dB(W/(m² MHz)) for $\text{THETA} \leq 40^\circ$; -112 dB(W/(m² MHz)) for $40^\circ < \text{THETA} \leq 90^\circ$. Where: THETA is the angle of arrival of the radio-frequency wave in degrees above the horizontal, and the aforementioned limits relate to the pfd and angles of arrival that would be obtained under free space propagation conditions.
6. Operation pursuant to this authorization must conform to the terms of coordination agreements between the operator or Intelsat 18 and operators of other Ku-band geostationary satellites within six angular degrees of Intelsat 18. In the event that another GSO Fixed-Satellite Service (FSS) space station commences operation in the 14.0-14.5 GHz band at a location within six degrees of this space station, ESA 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 Gogo demonstrates that such operation will not cause harmful interference to the new co-frequency space station.

Gogo LLC (Gogo) is granted extension of special temporary authority for a period of 60 days to operate up to 200 earth station aboard aircraft (ESAA) terminals (0.24 meter Aerosat model HR6400 and 0.74 meter Thinkom model 2ku) to communicate with Intelsat 18 (Call Sign S817), a U.S.-licensed spacecraft located at 180.0° E.L. Operations are authorized using the 14.0-14.5 GHz (Earth-to-space) and 11.7-12.2 GHz (space-to-Earth) frequency bands. Operations must be in accordance with the technical 18.25-12.75 GHz specifications contained in Gogo's application, including those incorporated by reference from its pending application, IBFS File No. SES-MFS-20151022-00735, and are subject the following conditions:

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7. Gogo must operate in accordance with the off-axis EIRP spectral densities supplied to Intelsat in obtaining the satellite operator certification for Intelsat 18, attached as exhibits to Gogo's pending application, IBFS File No. SES-MFS-20151022-00735. Gogo shall automatically cease emissions within 100 milliseconds if the ESAA transmitter exceeds the off-axis EIRP spectral densities supplied to the target satellite operator and transmission shall not resume until Gogo conforms to the off-axis EIRP spectral densities supplied to the target satellite operator.
8. Gogo 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 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. The licensee shall ensure installation of terminals on aircraft by qualified installers who have an understanding of the antenna's radiation environment and the measures best suited to maximize protection of the general public and persons operating the aircraft and equipment. A terminal exhibiting radiation exposure levels exceeding 1.0 mW/cm² in accessible areas, such as at the exterior surface of the radome, shall have a label attached to the surface of the terminal warning about the radiation hazard and shall include thereon a diagram showing the regions around the terminal where the radiation levels could exceed 1.0 mW/cm².
9. Gogo must maintain a U.S. point of contact available 24 hours per day, seven days per week, at +1 866-943-4662 and the e-mail address is noc@gogogair.com.
10. ESAA authorized herein 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. ESAA 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 aircraft 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. Stations authorized herein must not be used to provide air traffic control communications.
13. For each ESAA transmitter Gogo shall maintain records of the following data for each operating ESAA, a record of the aircraft location (i.e., latitude/longitude/altitude), transmit frequency, channel bandwidth and satellite used shall be time annotated and maintained for a period of not less than one year. Records shall be recorded at time intervals no greater than one (1) minute while the ESAA is transmitting. The ESAA operator shall make this data available, in the form of a comma delimited electronic spreadsheet, within 24 hours of a request from the Commission, NTIA, or a frequency

records.
14. Antenna elevation for all operations must be at least 5 degrees above the geographic horizon while the aircraft is on the ground.

15. Gogo shall comply with any pertinent limits established by the International Telecommunication Union to protect other services allocated internationally.

16. In connection with the provision of service in any particular country, Gogo is obliged to comply with the applicable laws, regulations, rules, and licensing procedures of that country.

17. Grant of this authorization is without prejudice to any determination that the Commission may make regarding pending application, IBFS File No. SES-MFS-20151022-00735.

18. Any action taken or expense incurred as a result of operations pursuant to this special temporary authority is solely at Gogo's risk.

19. 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 immediately. Petitions for reconsideration under Section 1.106 or applications for review under Sections 1.115 of the Commission's rules, 47 C.F.R. §§ 1.106, 1.115, may be filed within thirty days of the date of the public notice indicating that this action was taken.

20. Operations from 05/27/2016 to grant of this

authorization where authorized by Commission Rule 95.1.617
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