

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

EXPERIMENTAL

(Nature of Service)

WN9XBH

(Call Sign)

XT FX MO

(Class of Station)

0239-EX-ST-2019

(File Number)

NAME O3b Limited

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:

O3b is requesting renewed special temporary authority to conduct on-the-ground tests of the GetSat Microsat for fixed and short range mobile operations at its testing facility in Manassas, VA

Station Locations

- (1) Manassas, VA - NL 38-47-00; WL 77-34-19; MOBILE: Within a 1 mile radius of the coordinates, within 1.6 km, centered around NL 38-47-00; WL 77-34-19

Frequency Information

Manassas, VA - NL 38-47-00; WL 77-34-19; MOBILE: Within a 1 mile radius of the coordinates, within 1.6 km, centered around

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
27.5-30 GHz	MO		22138905.78 mW (ERP)	0.0003 %
		50M0G7D		
		6M00G7D		

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 May 07, 2019 and
will expire 3:00 A.M. EST August 18, 2019

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Special Conditions:

- (3) This authorization is without prejudice to any determination that the Commission may make regarding pending or future experimental satellite earth station applications.
- (4) Licensee shall coordinate with the Fixed Microwave Service licensees in accordance with 47 CFR.Part 101.103(d) prior to commencing the test operations.
- (5) All customers participating in the experiment shall be informed that this operation is for experimental purposes only and can be cancelled at any time.
- (6) The stop buzzer contact for this project is Will Lewis, Phone: 202-813-4033, Email: will.lewis@ses.com

Special Conditions:

- (7) Licensee is authorized to operate 2 units of 0.2 meter GetSat antenna to conduct on-the-ground tests using the 27.5-30 GHz frequency band. The operations are subject to the following conditions:
- a. POINT OF COMMUNICATION: O3b Limited's NGSO (non-geostationary orbit space stations) satellites.
 - b. The authorized 0.2 meter GetSat stations must be in compliance with the off-axis EIRP power spectral density ("PSD") standards (the "off-axis mask") set forth in 25.138(a) of the Commission's Rules.
 - c. Operations in the 27.5-28.6 and 29.5-30 GHz frequency bands must be in compliance with the equivalent power Flux-density limit (-162 dBW/m²/40 KHz) in Article 22.5D of the ITU Radio Regulations. (see condition d)
 - d. The authorized GetSat antenna is located at the SES testing facility around 37.8N, 77.5W (Manassas,VA) and pointing to an O3b satellite at 55W. GetSat antenna's maximum gain in the direction of the GSO arc is 9.7 dBi and the maximum input power is 20 watts. Therefore, operations in the 27.5-28.6 and 29.5-30 GHz frequency bands must be in compliance with the following:
- | Frequency | Emission Designator | Maximum Authorized Power |
|---------------------------|---------------------|--------------------------|
| 27.5-28.6 and 29.5-30 GHz | 50M0G7D | 113.8W (ERP) |
| Maximum | | |
| 27.5-28.6 and 29.5-30 GHz | 6M00G7D | 93W (ERP) |
| Maximum | | |
- e. Operations in the 27.5-28.35 GHz frequency band are secondary with respect to Upper Microwave Flexible Use Service (UMFUS) operations, except for FSS operations associated with earth stations authorized pursuant to 47 CFR § 25.136, and will comply with any determinations set forth in the Spectrum Frontiers Proceeding (GN Docket 14-177).
 - f. Operations in the 28.35-28.6 GHz and 29.5-30 GHz frequency bands are on a secondary basis with respect to GSO FSS operations.
 - g. Operations in the 29.1-29.3 GHz frequency band must be coordinated with any previously authorized NGSO MSS systems. Until any coordination agreement required under Section 25.250 is obtained, transmissions to or from O3b Limited's NGSO satellites shall not be conducted in this frequency band. Sharing of the 29.1-29.5 GHz frequency band with other NGSO FSS authorized operators will be subject to Section 25.261 of the Commission's Rules.
 - h. Prior to commencement of operations with each O3b NGSO satellite pursuant to this experimental license, O3b Limited shall obtain a certification regarding the notification of all GSO satellite operators with co-frequency operations within 6 degrees longitude of each satellite, generally describing the experimental operations authorized herein, including the term thereof, and providing a point of contact for the purpose of resolving any complaints of interference. O3b Limited shall obtain a similar certification if, during the term of this experimental license, any of the

Special satellites move orbit locations, or if a satellite operator commences co-frequency operations within 6 degrees longitude of each of the satellites. If the point of contact receives a complaint of harmful interference, the party receiving the complaint (if not O3b Limited) will notify O3b Limited, and O3b Limited shall immediately cease such operations or adjust such operations to avoid harmful interference. O3b Limited will submit a copy of these certification(s) to the Commission for incorporation into the record of this file.

i. Operation pursuant to this authorization must be in compliance with the terms of coordination agreements with operators of geostationary orbit Fixed Satellite Service space stations operating in the 28.35-28.6 GHz and 29.5-30 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.

j. O3b Limited's earth stations on-the-ground authorized herein must be in compliance with the terms of coordination agreements with operators of non-geostationary orbit Fixed Satellite Service space stations operating in the 28.6-29.1 GHz frequency band. In the event another NGSO system commences operations in the U.S. market in the 28.6-29.1 GHz frequency bands, maritime earth stations operating pursuant to this authorization must cease operation unless and until such operation has been coordinated with the new NGSO system operator or O3b Limited demonstrates that such operation will not cause harmful interference to the new NGSO system.

k. Communications between authorized station(s) and the O3b NGSO space stations 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.

- (8) The authorized stations must be in compliance with the Federal Aviation Administration (FAA) requirements as set forth in Section 17.4 of the Commission's Rules.
- (9) The authorized stations must be in compliance with environmental requirement set forth in Section 1.1307 of the Commission's Rules.
- (10) 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.