

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

EXPERIMENTAL

(Nature of Service)

XT FX

(Class of Station)

WH2XRV

(Call Sign)

0219-EX-CR-2019

(File Number)

NAME O3b Limited

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(j) of the Commission's Rules

Station Locations

- (1) US and territories, US
- (2) US and territories, US

Frequency Information

US and territories, US

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
27.6-28.4 GHz	FX	216MG7D	3350 W (ERP)	0.0003 %
28.6-29.1 GHz	FX	216MG7D	745 kW (ERP)	0.0003 %

This authorization effective May 01, 2019 and
will expire 3:00 A.M. EST May 01, 2021

**FEDERAL
COMMUNICATIONS
COMMISSION**



Frequency Information

US and territories, US

Frequency	Station Class	Emission Designator	Authorized Power	Frequency Tolerance (+/-)
27.6-28.4 GHz	FX	216MG7D	3350 W (ERP)	0.0003 %
28.6-29.1 GHz	FX	216MG7D	70.79 MW (ERP)	0.0003 %

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) The occupied bandwidth of the emission shall not extend beyond the band limits set forth above.
- (3) License must successfully coordinate with the Fixed Microwave Service licensees in accordance with 47 CFR, Part 101.103(d) prior to operation in the proposed frequency bands..
- (4) The stop buzzer contact for this project is Name: Suzanne Malloy
Phone: 202-813-4026 E-mail: Suzanne.malloy@o3bnetworks.com

Special Conditions:

- (5) O3b Limited is authorized to operate AvL 0.85m and AvL 2.4m Ka-band antennas to conduct on-the-ground tests using the 27.6-28.4 GHz and 28.6-29.1 GHz frequency bands. The operations are subject to the following conditions:
- a. POINT OF COMMUNICATION: O3b Limited's NGSO (non-geostationary orbit space stations) satellites.
 - b. Operations in the 27.6-28.4 GHz frequency band must be in compliance with the equivalent power Fluxdensity limit (-162 dBW/m²/40 KHz) in Article 22.5D of the ITU Radio Regulations. (see condition c)
 - c. Operations in the 27.6-28.4 GHz frequency band must be in compliance with the following:

Frequency	:	27.6-28.4 GHz
Emission Designator	:	216MG7D
Maximum Authorized Power	:	3350W (ERP) Maximum
Maximum EIRP	:	37.4 dBW
 - d. Prior to testing/operation, when the earth stations will transmit in spectrum bands shared with terrestrial operators, O3b Limited must notify the terrestrial operators and complete frequency coordination with terrestrial operators.
 - e. Operations must comply with the Sections 25.203 (Choice of sites and frequencies) and 25.277 (Temporary fixed earth station operations) of the Commission's Rules.2
 - a. Operations in the 27.6-28.4 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).
 - b. Operations in the 27.6-28.4 frequency band are on a secondary basis with respect to GSO FSS operations.
 - c. 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 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.

Special Condition d. 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 27.6-28.4 GHz and 28.6-29.1 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.

e. 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 27.6-28.4 GHz and/or 28.6-29.1 GHz frequency bands. In the event another NGSO system commences operations in the U.S. market in the 27.6-28.4 GHz and/or 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.

f. 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.

- (6) 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.
- (7) All customers participating in the experiment shall be informed that this operation is for experimental purposes only and can be cancelled at any time.