

Request for Special Temporary Authority

O3b Limited ("O3b") hereby requests Special Temporary Authority ("STA") for 180 days beginning on August 10, 2012 to conduct on-site testing and integration of the earth station in Hawaii for which it has sought a Commission license (the "Hawaii Earth Station"). See FCC File No. SES-LIC-20100723-00952 (the "Hawaii Application"). O3b filed the Hawaii Application on July 23, 2010 and that application remains pending at the Commission.

Public Interest Statement. The requested STA will serve the public interest by permitting O3b to conduct antenna pattern verification, RF chain performance verification, as well as other tests of the Hawaii Earth Station to establish performance standards and to resolve any issues in preparation for the launch of its NGSO Ka-band service in 2013.¹ O3b hereby confirms that it will operate the Hawaii Earth Station on a non-interference basis only and will cease operations immediately if alerted to any interference events. Accordingly, O3b respectfully requests that the Commission grant this STA request as expeditiously as possible, but in any event before August 10, 2012.

Technical Parameters of Proposed Testing. O3b proposes to test its gateway antennas using the following range of transmit and receive frequencies.

Downlink Frequency	Ka-Band Plan
17.8-18.3 GHz	FS
18.3-18.6 GHz	GSO FSS down
18.8-19.3 GHz	NGSO FSS down
Uplink Frequency	Ka-Band Plan
27.6-28.35 GHz	LMDS fss (secondary)
28.35-28.4 GHz	GSO FSS up ngso fss up (secondary)
28.6-29.1 GHz	NGSO FSS up gso fss up (secondary)

In addition, O3b offers the following technical information concerning its proposed operations during the STA period (which is consistent with the information set forth in the Hawaii Application where applicable):

1. Maximum Transmit EIRP: 92.17 dBW for all carriers, each antenna.
87.29 dBW for a single carrier.
2. Maximum Transmit EIRP Density: 72.13 dBW/4 kHz.

¹ O3b is simultaneously filing a request for STA for 60 days to commence no later than June 11, 2012, which is the date on which testing is currently scheduled to begin.

3. Avoidance of Harmful Interference into the Geostationary Arc During Transmission Tests:

The minimum angular separation between the O3b orbit and the GSO orbit as seen from Hawaii will be greater than 7.1 degrees, which could only occur in the extreme case of zero elevation angle to the O3b satellite. As explained in the Hawaii Application, no interference into co-frequency geostationary satellites can be expected from O3b's 7.3 meter antennas even in that extreme case.² Moreover, O3b test procedures specify pointing the system to 90 degrees elevation, which provides 25.4 degrees of separation from the GSO arc, further reducing the risk of any interference.

4. Avoidance of Harmful Interference into Terrestrial Stations During Transmission Tests:

During testing, O3b will not transmit in the FS or LMDS bands less than 5.1 degrees above the horizon, which in a worst case scenario would yield a maximum EIRP density towards the horizon of 27.81 dBW/4kHz.³

5. Target Satellite for Receive Tests:

Receive testing of the O3b gateways will involve pointing the O3b gateway at the geostationary arc. ViaSat-1 will be the primary target for testing the gateway receivers (but other satellites may be used as needed). ViaSat also happens to be the vendor of the O3b gateway antennas. O3b claims no protection from interference during receive testing. To be clear, O3b gateways will not be transmitting when pointed at the geostationary arc during receive tests.

6. Protection of Other NGSO Ka-Band Satellite Networks:

O3b is not aware of any other NGSO satellites capable of receiving in O3b's transmit frequencies. O3b will operate on a non-interference basis during testing, and will

² See Legal Narrative to Hawaii Application, Attachment A, p. 25.

³ See Hawaii Application, Form 312, at E.28.

therefore shut down transmissions in the event of any reports of interference.

7. O3b Contacts in the Event of Interference:

Primary: Gary Mattie
(720) 480-9371

Secondary: Brian Mathews
(303) 591-3247

Tertiary: Matt Lucero
(571) 239-3812

Waivers Requested. O3b respectfully requests all necessary waivers of the FCC's Ka-Band Plan, the U.S. Table of Allocations, and the Commission's rules for it to conduct transmission and receive tests of its Hawaii Earth Station antennas. Waivers are warranted in the present circumstances because they will enable O3b to verify the operation of its Hawaii Earth Station antennas prior to the launch of the O3b satellites, and will not cause harmful interference to any other lawfully authorized user of the spectrum.⁴

All testing will be conducted on a non-conforming, non-protected, and non-harmful interference basis. Because the O3b NGSO system is not yet operational, transmission tests will not be to any particular O3b or other satellite. O3b's transmit tests will involve pointing the antennas at a 90 degree elevation, which provides more than 25 degrees of separation from the geostationary arc. No harmful interference to any geostationary satellites is therefore expected. O3b is also not aware of any Ka-band NGSO satellites that could be affected during transmit testing, but will shut down in the event of any reports of harmful interference. O3b's receive testing will involve pointing its gateway antennas at a geostationary satellite (primarily ViaSat-1). O3b will claim no protection from interference during receive testing, and no transmissions will take place while O3b's gateways are pointed at the geostationary arc.

⁴ The Commission may waive a rule for good cause shown. 47 C.F.R. § 1.3. *See also WAIT Radio v. FCC*, 418 F.2d 1153 (D.C. Cir. 1969); *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990). A waiver is appropriate if special circumstances warrant a deviation from the general rule and such deviation would better serve the public interest than would strict adherence to the rule. *See Northeast Cellular*, 897 F.2d at 1166. Generally, the Commission may grant a waiver of a rule if the relief requested would not undermine the policy objective of the rule and would otherwise serve the public interest. *See WAIT Radio*, 418 F.2d at 1157.