

Ka-Band Earth Station – Camp Smith, HI

Frequency Coordination Report

28 GHz



Prepared on Behalf of
O3b Networks USA, LLC

June 1, 2018



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1. Summary of Results

On behalf of Ob3 Networks, Comsearch performed a coordination notice for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Camp Smith, HI, which will transmit at 28 GHz¹. Prior-notification letters were sent to the licensees and a copy of the notification data is provided in section four of this report. The earth station coordination was finalized on June 1, 2018.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the incumbents was performed under the assumption that the earth station would be operating on a secondary basis to LMDS Block A operations and a contact at O3b Networks has been provided in case any concerns may arise in the future.

2. 28 GHz Common Carrier and LTTS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Camp Smith, HI was prior-coordinated by Comsearch. A notification letter and datasheets for this earth station were sent to the following 28 GHz common carrier fixed microwave licensees. These licensees are authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis or local basis.

Licensee	Authorized Geographic Area
Frontier Southwest Incorporated	Nationwide
Hawaiian Telcom, Inc	Statewide: Hawaii

A notification letter and datasheets for the Ka-Band earth station in Camp Smith, HI were also sent to the following 28 GHz local television transmission licensee. This licensee is authorized to operate temporary fixed operations from 27.5 – 29.5 GHz on a nationwide basis.

Licensee	Authorized Geographic Area
Information Super Station, LLC	Continental US

No objections were received from the common carrier or local television transmission service incumbents.

¹ The proposed earth station will operate in the 27.5 – 28.35 GHz portion of the Ka-Band.

3. 28 GHz LMDS Coordination

There were no 28 GHz LMDS licensees identified within the coordination area. The proposed earth station will operate on frequencies that overlap Block A of the LMDS service. The total frequency allocation for Block A of the LMDS spectrum appears below.

Block A: 27.500-28.350 GHz
29.100-29.250 GHz
31.075-31.225 GHz

4. Earth Station Coordination Data

This section presents the data pertinent to the proposed Ka-Band earth station in Camp Smith, HI. This data was circulated to all incumbent licensees in the shared 28 GHz frequency ranges.



COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
 (703)726-5662 <http://www.comsearch.com>

Date: 05/04/2018
 Job Number: <180504COMSDJ01>

Administrative Information

Status ENGINEER PROPOSAL
 Call Sign <PCNCallSign>
 Licensee Code O3BNET
 Licensee Name O3b Networks USA, LLC.

Site Information

CAMP SMITH, HI

Venue Name
 Latitude (NAD 83) 21° 22' 48.0" N
 Longitude (NAD 83) 157° 54' 0.0" W
 Climate Zone B
 Rain Zone 4
 Ground Elevation (AMSL) 168.88 m / 554.1 ft

Link Information

Satellite Type Medium Earth Orbit
 Mode TO - Transmit-Only
 Modulation Digital
 Minimum Elevation Angle 14.5°
 Azimuth Range 0.0° to 360°
 Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

Transmit - FCC32

Manufacturer AVL
 Model 2.4 meter
 Gain / Diameter 54.7 dBi / 2.4 m
 3-dB / 15-dB Beamwidth 0.14° / 0.32°

Max Available RF Power (dBW/4 kHz) -35.9
 (dBW/MHz) -11.9

Maximum EIRP (dBW/4 kHz) 18.8
 (dBW/MHz) 42.8

Interference Objectives: Long Term -151.0 dBW/4 kHz 20%
 Short Term -128.0 dBW/4 kHz 0.0025%

Frequency Information

Transmit 28.0 GHz

Emission / Frequency Range (MHz) 216MG7D / 27500.0 - 28350.0

Max Great Circle Coordination Distance 100.0 km / 62.1 mi
 Precipitation Scatter Contour Radius 100.0 km / 62.1 mi



COMSEARCH

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Coordination Values	CAMP SMITH, HI
Licensee Name	O3b Networks USA, LLC.
Latitude (NAD 83)	21° 22' 48.0" N
Longitude (NAD 83)	157° 54' 0.0" W
Ground Elevation (AMSL)	168.88 m / 554.1 ft
Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	AVL 2.4 meter
Antenna Mode	Transmit 28.0 GHz
Interference Objectives: Long Term	-151.0 dBW/4 kHz 20%
Short Term	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power	-35.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	72.66	-10.00	100.00
5	0.00	70.98	-10.00	100.00
10	0.00	69.44	-10.00	100.00
15	0.00	68.05	-10.00	100.00
20	0.00	66.82	-10.00	100.00
25	0.00	65.77	-10.00	100.00
30	0.00	64.90	-10.00	100.00
35	0.00	64.24	-10.00	100.00
40	0.00	63.78	-10.00	100.00
45	0.00	63.54	-10.00	100.00
50	0.00	63.52	-10.00	100.00
55	0.00	63.71	-9.40	100.00
60	0.00	64.11	-8.16	100.00
65	0.00	64.73	-6.77	100.00
70	0.00	65.55	-5.23	100.00
75	0.00	66.55	-3.42	100.00
80	0.00	67.74	-1.39	100.00
85	0.00	69.10	1.07	100.00
90	0.00	70.61	3.43	100.00
95	0.00	72.25	5.61	100.00
100	0.00	74.02	6.55	100.00
105	0.00	75.90	4.99	100.00
110	0.00	77.87	2.17	100.00
115	0.00	79.92	-0.09	100.00
120	0.00	82.04	-2.37	100.00
125	0.00	84.20	-4.30	100.00
130	0.00	86.40	-5.95	100.00
135	0.00	88.62	-7.39	100.00
140	0.00	90.85	-8.61	100.00
145	0.00	93.08	-9.64	100.00
150	0.00	95.28	-10.00	100.00
155	0.00	97.46	-10.00	100.00
160	0.00	99.59	-10.00	100.00
165	0.00	101.65	-10.00	100.00
170	0.00	103.64	-10.00	100.00
175	0.00	105.54	-10.00	100.00
180	0.00	107.34	-10.00	100.00
185	0.00	109.02	-10.00	100.00



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Antenna Model	AVL 2.4 meter
Antenna Mode	Transmit 28.0 GHz
Interference Objectives: Long Term	-151.0 dBW/4 kHz 20%
Short Term	-128.0 dBW/4 kHz 0.0025%
Max Available RF Power	-35.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	110.56	-10.00	100.00
195	0.00	111.95	-10.00	100.00
200	0.00	113.18	-10.00	100.00
205	0.00	114.23	-10.00	100.00
210	0.00	115.10	-10.00	100.00
215	0.00	115.76	-9.64	100.00
220	0.00	116.22	-8.62	100.00
225	0.00	116.46	-7.45	100.00
230	0.00	116.48	-6.11	100.00
235	0.00	116.29	-4.59	100.00
240	0.00	115.89	-2.92	100.00
245	0.00	115.27	-1.13	100.00
250	0.00	114.45	0.67	100.00
255	0.00	113.45	2.17	100.00
260	0.00	112.26	2.84	100.00
265	0.00	110.90	2.34	100.00
270	0.00	109.39	0.94	100.00
275	0.00	107.75	-0.84	100.00
280	0.00	105.98	-2.65	100.00
285	0.00	104.10	-4.34	100.00
290	0.00	102.13	-5.88	100.00
295	0.00	100.08	-7.25	100.00
300	0.00	97.96	-8.51	100.00
305	0.00	95.80	-9.65	100.00
310	0.00	93.60	-10.00	100.00
315	0.00	91.38	-10.00	100.00
320	0.00	89.15	-10.00	100.00
325	0.00	86.92	-10.00	100.00
330	0.00	84.72	-10.00	100.00
335	0.00	82.54	-10.00	100.00
340	0.00	80.41	-10.00	100.00
345	0.00	78.35	-10.00	100.00
350	0.00	76.36	-10.00	100.00
355	0.00	74.46	-10.00	100.00

5. Contact Information

For questions or information regarding the 28 GHz Frequency Coordination Report, please contact:

Contact person:	Dennis Jimeno
Title:	Engineer III, Telecommunications
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
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