

Ka-Band Earth Station – North Ridge, CA

Frequency Coordination Report

28 GHz



Prepared on Behalf of
O3b Networks USA, LLC

September 13, 2018



Table of Contents

1.	Summary of Results	- 1 -
2.	28 GHz Common Carrier and LTTS Coordination	- 1 -
3.	28 GHz UMFUS Coordination	- 2 -
4.	Earth Station Coordination Data	- 3 -
5.	Contact Information	- 7 -

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 North Ridge, CA, 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 September 12, 2018.

No objections were received from any of the incumbent 28 GHz licensees. Our notification to the UMFUS incumbents was performed under the assumption that the earth station would be operating on a secondary basis to UMFUS L1 & L2 Block 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 North Ridge, CA 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
M.U.T. Licensing, LLC	California

A notification letter and datasheets for the Ka-Band earth station in North Ridge, CA 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 27.6 – 28.35 GHz portion of the Ka-Band.

3. 28 GHz UMFUS Coordination

A Notification letter was sent to the following 28 GHz UMFUS licensees. The proposed earth station will operate on frequencies that overlap Channel L1 & L2 of the UMFUS service. The total frequency allocation for Channels L1 & L2 of the UMFUS spectrum appears below.

Channel: **L1** 27.500 - 27.925 GHz
 L2 27.925 - 28.350 GHz

Licensee	Channel	Market	Market Name
T-Mobile ²	L1, L2	BTA262	Los Angeles, CA
TPx Communications ²	L2	BTA262	Los Angeles, CA
Verizon	L1, L2	BTA262 BTA406	Los Angeles, CA Santa Barbara-Santa Maria, CA

No objections were received from the UMFUS incumbents.

² Leased from Verizon
Comsearch Proprietary

4. Earth Station Coordination Data

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

Date: 08/28/2018
Job Number: 180828COMSDJ01

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: O3BNET
Licensee Name: O3b Networks USA, LLC.

Site Information

NORTHRIDGE, CA

Venue Name:
Latitude (NAD 83): 34° 13' 26.9" N
Longitude (NAD 83): 118° 29' 58.3" W
Climate Zone: A
Rain Zone: 4
Ground Elevation (AMSL): 247.3 m / 811.4 ft

Link Information

Satellite Type: Medium Earth Orbit
Mode: TO - Transmit-Only
Modulation: Digital
Minimum Elevation Angle: 7.0°
Azimuth Range: 0.0° to 360°
Antenna Centerline (AGL): 2.74 m / 9.0 ft

Antenna Information

Transmit - FCC32

Manufacturer: AVL
Model: 85CM-O3B
Gain / Diameter: 46.0 dBi / 0.8 m
3-dB / 15-dB Beamwidth: 0.90° / 1.60°

Max Available RF Power (dBW/4 kHz): -34.6
(dBW/MHz): -10.6

Maximum EIRP (dBW/4 kHz): 11.4
(dBW/MHz): 35.4

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 / 27600.0 - 28350.0

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

Coordination Values		NORTHRIDGE, CA
Licensee Name		O3b Networks USA, LLC.
Latitude (NAD 83)		34° 13' 26.9" N
Longitude (NAD 83)		118° 29' 58.3" W
Ground Elevation (AMSL)		247.3 m / 811.4 ft
Antenna Centerline (AGL)		2.74 m / 9.0 ft
Antenna Model		AVI 0.85 meters
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	-34.6 (dBW/4 kHz)	

Transmit 28.0 GHz				
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	75.46	-10.00	100.00
5	0.00	71.23	-10.00	100.00
10	0.00	67.04	-10.00	100.00
15	0.00	62.91	-10.00	100.00
20	0.00	58.86	-10.00	100.00
25	0.00	54.90	-10.00	100.00
30	0.00	51.05	-10.00	100.00
35	0.00	47.37	-10.00	100.00
40	0.00	43.87	-10.00	100.00
45	0.00	40.63	-10.00	100.00
50	0.00	37.69	-10.00	100.00
55	0.00	35.16	-9.73	100.00
60	0.00	33.11	-8.52	100.00
65	0.00	31.64	-7.17	100.00
70	0.00	30.84	-5.63	100.00
75	0.00	30.77	-3.87	100.00
80	0.00	31.42	-1.79	100.00
85	0.00	32.75	0.72	100.00
90	0.00	34.68	3.78	100.00
95	0.00	37.13	7.35	100.00
100	0.00	39.99	10.12	100.00
105	0.00	43.17	9.05	100.00
110	0.00	46.62	5.55	100.00
115	0.00	50.27	2.32	100.00
120	0.00	54.08	-0.16	100.00
125	0.00	58.02	-2.13	100.00
130	0.00	62.06	-3.76	100.00
135	0.00	66.18	-5.13	100.00
140	0.00	70.35	-6.30	100.00
145	0.00	74.57	-7.30	100.00
150	0.00	78.83	-8.15	100.00
155	0.00	83.11	-8.87	100.00
160	0.00	87.40	-9.46	100.00
165	0.00	91.70	-9.92	100.00
170	0.00	96.00	-10.00	100.00
175	0.00	100.28	-10.00	100.00
180	0.00	104.54	-10.00	100.00
185	0.00	108.77	-10.00	100.00

Coordination Values		NORTHRIDGE, CA
Licensee Name		O3b Networks USA, LLC.
Latitude (NAD 83)		34° 13' 26.9" N
Longitude (NAD 83)		118° 29' 58.3" W
Ground Elevation (AMSL)		247.3 m / 811.4 ft
Antenna Centerline (AGL)		2.74 m / 9.0 ft
Antenna Model		AVI 0.85 meters
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	-34.6 (dBW/4 kHz)	

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 28.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	112.96	-10.00	100.00
195	0.00	117.09	-9.92	100.00
200	0.00	121.14	-9.46	100.00
205	0.00	125.10	-8.87	100.00
210	0.00	128.95	-8.15	100.00
215	0.00	132.63	-7.30	100.00
220	0.00	136.13	-6.30	100.00
225	0.00	139.37	-5.13	100.00
230	0.00	142.31	-3.76	100.00
235	0.00	144.84	-2.13	100.00
240	0.00	146.89	-0.16	100.00
245	0.00	148.36	2.32	100.00
250	0.00	149.16	5.55	100.00
255	0.00	149.23	9.05	100.00
260	0.00	148.58	10.12	100.00
265	0.00	147.25	7.35	100.00
270	0.00	145.32	3.78	100.00
275	0.00	142.87	0.72	100.00
280	0.00	140.01	-1.78	100.00
285	0.00	136.83	-3.87	100.00
290	0.00	133.38	-5.64	100.00
295	0.00	129.73	-7.17	100.00
300	0.00	125.92	-8.52	100.00
305	0.00	121.98	-9.72	100.00
310	0.00	117.94	-10.00	100.00
315	0.00	113.82	-10.00	100.00
320	0.00	109.65	-10.00	100.00
325	0.00	105.43	-10.00	100.00
330	0.00	101.17	-10.00	100.00
335	0.00	96.89	-10.00	100.00
340	0.00	92.60	-10.00	100.00
345	0.00	88.30	-10.00	100.00
350	0.00	84.00	-10.00	100.00
355	0.00	79.72	-10.00	100.00



5. Contact Information

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

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