Ka-Band Earth Station – Brewster, WA

Frequency Coordination Report

28 GHz

Prepared on Behalf of
KUIPER SYSTEMS, LLC

October 14, 2024

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A CommScope Company

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1. Summary of Results

On behalf of KUIPER SYSTEMS, LLC, Comsearch performed a coordination notice under Section 25.203(c) and Section 25.136(a)(4) of the FCC's rules for all existing and proposed terrestrial licenses within the coordination contours of their proposed Ka-Band earth station in Brewster, WA, which will transmit at 28 GHz[1]. 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 October 14, 2024.

There were no reported objections from any of the incumbent 28 GHz licensees.

2. 28 GHz Common Carrier and LMDS Coordination

In accordance with FCC Rules and Regulations, the Ka-Band earth station in Brewster, WA 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
None Identified	

A notification letter and datasheets for the Ka-Band earth station in Brewster, WA were also sent to the following 28 GHz LMDS licensee. This licensee is authorized to operate temporary fixed operations from 29.1 – 29.25 GHz on a market basis.

Licensee	Authorized Geographic Area
None Identified	

No objections were received from the common carrier or LMDS incumbents.

[1] The proposed earth station will operate in the 27.5 – 30.0 GHz portion of the Ka-Band.

3. 28 GHz UMFUS Coordination

There were two 28 GHz UMFUS licensees identified within the coordination distance of the proposed earth station. 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	Authorized Geographic Area
DISH Network	Market Based
Verizon	Market Based

There were no objections from the UMFUS incumbents within coordination distance.

4. Earth Station Coordination Data

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

Job Number:	240923COMSGE01

Administrative Information	
Status	ENGINEER PROPOSAL
Call Sign	<PCNCallSign>
Licensee Code	KUIPER
Licensee Name	Kuiper Systems LLC.

Site Information	**BREWSTER, WA**
Venue Name	
Latitude (NAD 83)	48° 8' 45.7" N
Longitude (NAD 83)	119° 42' 2.3" W
Climate Zone	A
Rain Zone	5
Ground Elevation (AMSL)	384.03 m / 1259.9 ft

Link Information	
Satellite Type	Low Earth Orbit
Mode	TO - Transmit-Only
Modulation	Digital
Minimum Elevation Angle	20.0°
Azimuth Range	0.0° to 360°
Antenna Centerline (AGL)	2.74 m / 9.0 ft

Antenna Information		**Transmit - FCC32**
Manufacturer		Kuiper
Model		Model 24001
Gain / Diameter		53.8 dBi / 2.4 m
3-dB / 15-dB Beamwidth		0.32° / 1.17°
Max Available RF Power	(dBW/4 kHz)	-41.0
	(dBW/MHz)	-17.0
Maximum EIRP	(dBW/4 kHz)	12.8
	(dBW/MHz)	36.8
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)	1H00N0N - 1G00D7W / 27500.0 - 30000.0
Max Great Circle Coordination Distance	25.0 km / 15.5 mi
Precipitation Scatter Contour Radius	100.0 km / 62.1 mi

Coordination Values	BREWSTER, WA		
Licensee Name	Kuiper Systems LLC.		
Latitude (NAD 83)	48° 8' 45.7" N		
Longitude (NAD 83)	119° 42' 2.3" W		
Ground Elevation (AMSL)	384.03 m / 1259.9 ft		
Antenna Centerline (AGL)	2.74 m / 9.0 ft		
Antenna Model	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	-41.0 (dBW/4 kHz)		

Transmit 28.0 GHz

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	69.62	-0.50	25.00
5	0.00	65.27	-0.50	25.00
10	0.00	60.97	-0.50	25.00
15	0.00	56.73	-0.50	25.00
20	0.00	52.58	-0.50	25.00
25	0.00	48.54	-0.50	25.00
30	0.00	44.65	-0.50	25.00
35	0.00	40.94	-0.50	25.00
40	0.00	37.47	-0.50	25.00
45	0.00	34.32	-0.50	25.00
50	0.00	31.59	-0.50	25.00
55	0.00	29.40	-0.50	25.00
60	0.00	27.87	-0.50	25.00
65	0.00	27.11	-0.50	25.00
70	0.00	27.20	-0.50	25.00
75	0.00	28.12	-0.50	25.00
80	0.00	29.80	-0.50	25.00
85	0.00	32.12	-0.50	25.00
90	0.00	34.94	-0.50	25.00
95	0.00	38.16	-0.50	25.00
100	0.00	41.68	-0.50	25.00
105	0.00	45.44	-0.50	25.00
110	0.00	49.37	-0.50	25.00
115	0.00	53.43	-0.50	25.00
120	0.00	57.60	-0.50	25.00
125	0.00	61.85	-0.50	25.00
130	0.00	66.16	-0.50	25.00
135	0.00	70.52	-0.50	25.00
140	0.00	74.92	-0.50	25.00
145	0.00	79.34	-0.50	25.00
150	0.00	83.78	-0.50	25.00
155	0.00	88.23	-0.50	25.00
160	0.00	92.69	-0.50	25.00
165	0.00	97.13	-0.50	25.00
170	0.00	101.57	-0.50	25.00
175	0.00	105.99	-0.50	25.00
180	0.00	110.38	-0.50	25.00
185	0.00	114.73	-0.50	25.00

Coordination Values	BREWSTER, WA
Licensee Name	Kuiper Systems LLC.
Latitude (NAD 83)	48° 8' 45.7" N
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Ground Elevation (AMSL)	384.03 m / 1259.9 ft
Antenna Centerline (AGL)	2.74 m / 9.0 ft
Antenna Model	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	-41.0 (dBW/4 kHz)

			Transmit 28.0 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	119.03	-0.50	25.00
195	0.00	123.27	-0.50	25.00
200	0.00	127.42	-0.50	25.00
205	0.00	131.46	-0.50	25.00
210	0.00	135.35	-0.50	25.00
215	0.00	139.06	-0.50	25.00
220	0.00	142.53	-0.50	25.00
225	0.00	145.68	-0.50	25.00
230	0.00	148.41	-0.50	25.00
235	0.00	150.60	-0.50	25.00
240	0.00	152.13	-0.50	25.00
245	0.00	152.89	-0.50	25.00
250	0.00	152.80	-0.50	25.00
255	0.00	151.88	-0.50	25.00
260	0.00	150.20	-0.50	25.00
265	0.00	147.88	-0.50	25.00
270	0.00	145.06	-0.50	25.00
275	0.00	141.84	-0.50	25.00
280	0.00	138.32	-0.50	25.00
285	0.00	134.56	-0.50	25.00
290	0.00	130.63	-0.50	25.00
295	0.00	126.57	-0.50	25.00
300	0.00	122.40	-0.50	25.00
305	0.00	118.15	-0.50	25.00
310	0.00	113.84	-0.50	25.00
315	0.00	109.48	-0.50	25.00
320	0.00	105.08	-0.50	25.00
325	0.00	100.66	-0.50	25.00
330	0.00	96.22	-0.50	25.00
335	0.00	91.77	-0.50	25.00
340	0.00	87.31	-0.50	25.00
345	0.00	82.87	-0.50	25.00
350	0.00	78.43	-0.50	25.00
355	0.00	74.01	-0.50	25.00

5. Contact Information

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

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