

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
GCI Communications Corp.
KING COVE, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
April 21, 2022

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1. CONCLUSIONS

An interference study considering all existing, proposed and prior coordinated microwave facilities within the coordination contours of the proposed earth station demonstrates that this site will operate satisfactorily with the common carrier microwave environment. Further, there will be no restrictions of its operation due to interference considerations.

2. SUMMARY OF RESULTS

No great circle interference cases were identified during the interference study of the proposed earth station.

3. SUPPLEMENTAL SHOWING

Pursuant to Part 25.203(c) of the FCC Rules and Regulations, the satellite earth station proposed in this application was coordinated by Comsearch using computer techniques and in accordance with Part 25 of the FCC Rules and Regulations.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 04/04/2022.

Company

4. EARTH STATION COORDINATION DATA

This section presents the data pertinent to frequency coordination of the proposed earth station that was circulated to all carriers within its coordination contours.

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Date: 04/21/2022
Job Number: 220404COMSGE05

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign:
Licensee Code: P3203
Licensee Name: GCI Communications Corp.

Site Information

Venue Name: KING COVE, AK
Latitude (NAD 83): 55° 2' 54.1" N
Longitude (NAD 83): 162° 17' 43.4" W
Climate Zone: A
Rain Zone: 2
Ground Elevation (AMSL): 26.9 m / 88.3 ft

Link Information

Satellite Type: Geostationary
Mode: TR - Transmit-Receive
Modulation: Digital
Satellite Arc: 97° W to 227° West Longitude
Azimuth Range: 110.7° to 248.8°
Corresponding Elevation Angles: 5.2° / 5.5°
Antenna Centerline (AGL): 2.74 m / 9.0 ft

Antenna Information

		Receive - FCC32	Transmit - FCC32
Manufacturer		CPI High Wind	CPI High Wind
Model		2385	2385
Gain / Diameter		42.0 dBi / 3.8 m	46.5 dBi / 3.8 m
3-dB / 15-dB Beamwidth		1.40° / 2.80°	1.00° / 2.00°
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)		-2.7 21.3
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)		43.8 67.8
Interference Objectives:	Long Term Short Term	-156.0 dBW/MHz -146.0 dBW/MHz	20% 0.01%
			-154.0 dBW/4 kHz 20% -131.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	45K0G7W - 108MG7W / 3700.0 - 4200.0 60K0D7W - 108MD7W / 3700.0 - 4200.0	45K0G7W - 108MG7W / 5925.0 - 6425.0 45K0D7W - 108MD7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	562.2 km / 349.3 mi	329.9 km / 205.0 mi
Precipitation Scatter Contour Radius	615.8 km / 382.6 mi	101.5 km / 63.1 mi

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Coordination Values

KING COVE, AK

Licensee Name GCI Communications Corp.
Latitude (NAD 83) 55° 2' 54.1" N
Longitude (NAD 83) 162° 17' 43.4" W
Ground Elevation (AMSL) 26.9 m / 88.3 ft
Antenna Centerline (AGL) 2.74 m / 9.0 ft
Antenna Model CPI High Wind 3.8 meter
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -2.7 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	15.65	110.30	-10.00	100.00	-10.00	100.00
5	12.16	105.54	-10.00	100.00	-10.00	100.00
10	12.28	100.58	-10.00	100.00	-10.00	100.00
15	10.70	95.64	-10.00	100.00	-10.00	100.00
20	9.38	90.66	-10.00	100.00	-10.00	100.00
25	8.41	85.67	-10.00	100.22	-10.00	100.00
30	6.21	80.66	-10.00	122.90	-10.00	100.00
35	5.21	75.66	-10.00	132.80	-10.00	100.00
40	6.02	70.66	-10.00	125.04	-10.00	100.00
45	6.09	65.67	-10.00	124.20	-10.00	100.00
50	6.24	60.67	-10.00	122.54	-10.00	100.00
55	8.26	55.72	-10.00	101.51	-10.00	100.00
60	10.13	50.84	-10.00	100.00	-10.00	100.00
65	10.00	45.86	-9.54	100.00	-9.54	100.00
70	9.33	40.84	-8.28	100.00	-8.28	100.00
75	7.52	35.73	-6.83	121.53	-6.83	100.00
80	5.01	30.66	-5.17	155.28	-5.17	100.00
85	2.54	25.79	-3.29	212.27	-3.29	103.06
90	2.07	20.89	-1.00	236.86	-1.00	120.53
95	5.09	15.66	2.13	196.54	2.13	100.00
100	7.38	10.88	6.08	191.40	6.08	100.00
105	6.57	5.83	12.86	242.67	12.86	108.47
110	5.37	0.69	36.07	562.20	36.07	329.90
115	9.31	1.32	28.98	438.35	28.98	230.47
120	12.56	1.65	26.59	314.95	26.59	145.92
125	14.67	1.21	29.97	281.20	29.97	119.28
130	12.15	3.36	18.83	221.11	18.83	100.00
135	10.35	7.05	10.79	188.54	10.79	100.00
140	10.27	9.08	8.04	172.05	8.04	100.00
145	8.55	12.47	4.61	166.15	4.61	100.00
150	6.04	16.43	1.61	182.32	1.61	100.00
155	4.55	19.29	-0.13	192.17	-0.13	100.00
160	2.81	22.18	-1.65	215.05	-1.65	103.91
165	1.93	24.01	-2.51	231.82	-2.51	118.23
170	0.93	25.72	-3.26	264.18	-3.26	141.36
175	0.47	26.60	-3.62	293.77	-3.62	165.63
180	0.00	27.23	-3.87	327.75	-3.87	194.31
185	0.87	26.20	-3.46	266.14	-3.46	143.10

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Coordination Values

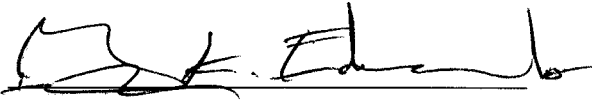
KING COVE, AK

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Antenna Centerline (AGL)	2.74 m / 9.0 ft		
Antenna Model	CPI High Wind 3.8 meter		
Antenna Mode	Receive 4.0 GHz		
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	Transmit 6.1 GHz -154.0 dBW/4 kHz 20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz 0.0025%
Max Available RF Power	-2.7 (dBW/4 kHz)		

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	1.25	25.40	-3.12	251.30	-3.12	133.11
195	0.00	25.90	-3.33	331.68	-3.33	196.38
200	0.00	24.90	-2.90	334.82	-2.90	198.02
205	0.00	23.64	-2.34	338.98	-2.34	200.18
210	0.00	22.14	-1.63	344.27	-1.63	202.89
215	0.00	20.42	-0.75	350.88	-0.75	204.60
220	0.00	18.50	0.32	359.07	0.32	208.75
225	0.00	16.41	1.63	369.20	1.63	213.98
230	0.00	14.17	3.22	381.83	3.22	220.65
235	0.00	11.78	5.22	397.52	5.22	229.46
240	0.00	9.29	7.80	425.48	7.80	242.83
245	0.00	6.70	11.34	488.83	11.34	277.61
250	1.16	4.51	15.65	547.10	15.65	318.94
255	2.81	6.74	11.28	309.23	11.28	153.30
260	3.83	11.30	5.67	236.59	5.67	112.99
265	5.23	16.18	1.78	192.88	1.78	100.00
270	7.01	21.23	-1.17	151.13	-1.17	100.00
275	6.42	26.19	-3.45	146.97	-3.45	100.00
280	7.21	31.22	-5.36	130.89	-5.36	100.00
285	7.32	36.22	-6.97	123.03	-6.97	100.00
290	7.53	41.22	-8.38	115.11	-8.38	100.00
295	6.96	46.19	-9.61	116.32	-9.61	100.00
300	6.89	51.19	-10.00	115.50	-10.00	100.00
305	8.81	56.24	-10.00	100.00	-10.00	100.00
310	8.81	61.23	-10.00	100.00	-10.00	100.00
315	10.79	66.28	-10.00	100.00	-10.00	100.00
320	13.49	71.37	-10.00	100.00	-10.00	100.00
325	15.32	76.38	-10.00	100.00	-10.00	100.00
330	16.38	81.34	-10.00	100.00	-10.00	100.00
335	18.32	86.27	-10.00	100.00	-10.00	100.00
340	18.93	91.14	-10.00	100.00	-10.00	100.00
345	19.69	95.99	-10.00	100.00	-10.00	100.00
350	18.92	100.87	-10.00	100.00	-10.00	100.00
355	17.68	105.80	-10.00	100.00	-10.00	100.00

5. CERTIFICATION

I HEREBY CERTIFY THAT I AM THE TECHNICALLY QUALIFIED PERSON RESPONSIBLE FOR THE PREPARATION OF THE FREQUENCY COORDINATION DATA CONTAINED IN THIS APPLICATION, THAT I AM FAMILIAR WITH PARTS 101 AND 25 OF THE FCC RULES AND REGULATIONS, THAT I HAVE EITHER PREPARED OR REVIEWED THE FREQUENCY COORDINATION DATA SUBMITTED WITH THIS APPLICATION, AND THAT IT IS COMPLETE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: April 21, 2022