

## **Exhibit A**

### **Frequency Coordination**

Per 47 C.F.R. Ch. 1 §25.130(b), attached is a “Frequency Coordination and Interference Analysis Report” performed pursuant to 47 C.F.R. Ch. 1 §25.203.

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**GCI Communications Corp.**  
**ANCHORAGE BP, AK**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
October 24, 2018

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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. Operation will be restricted to the bandwidth shown in Section 4 of this report.

## 2. SUMMARY OF RESULTS

A number of great circle interference cases were identified during the interference study of the proposed earth station. Each of the cases, which exceeded the interference objective on a line-of-sight basis, was profiled and the propagation losses estimated using NBS TN101 (Revised) techniques.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses and frequency separation are considered on the interfering paths, sufficient blockage or separation exists to negate harmful interference from occurring with the proposed transmit-receive earth station.

Company

Chugach Electric Association, Inc.  
State of Alaska

No other carriers reported potential interference cases.

### 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 10/02/2018.

#### Company

ACS Long Distance License Sub, Inc.  
ACS Wireless License Sub, Inc.  
ACS of Anchorage License Sub, Inc.  
AT&T Mobility Spectrum LLC - AK  
Alascom Inc  
Alaska Pipeline Company  
Alaska Public Telecommunications, Inc.  
Alaska Railroad Corporation  
Alaska Wireless Network, LLC  
Chugach Electric Association, Inc.  
Copper Valley Telephone Cooperative, Inc  
Copper Valley Wireless Inc  
Enstar Natural Gas Company  
GCI Communications Corp.  
Homer Electric Association  
MATANUSKA KENAI INC  
MTA Communications, LLC  
Matanuska Telephone Association, Inc.  
Matanuska-Susitna, Borough of  
New Cingular Wireless PCS LLC - Alaska  
Norstar Pipeline Company  
State of Alaska  
Verizon Wireless (VAW) LLC - Alaska

## **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: 10/24/2018  
Job Number: 181002COMSTC09

### Administrative Information

Call Sign E873414  
Licensee Code P3203  
Licensee Name GCI Communications Corp.

### Site Information ANCHORAGE BP, AK

Latitude (NAD 83) 61° 11' 33.3" N  
Longitude (NAD 83) 149° 51' 46.6" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 36.0 m / 118.1 ft

### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 90° W to 210° West Longitude  
Azimuth Range 117.0° to 243.3°  
Corresponding Elevation Angles 5.3° / 5.2°  
Antenna Centerline (AGL) 4.45 m / 14.6 ft

### Antenna Information

#### Receive - V40901

Manufacturer VERTEX COMMUNICATIONS  
Model 9 KPC  
Gain / Diameter 50.1 dBi / 9.0 m  
3-dB / 15-dB Beamwidth 0.55° / 1.20°

#### Transmit - V60901

Manufacturer VERTEX COMMUNICATIONS  
Model 9 KPC  
Gain / Diameter 53.5 dBi / 9.0 m  
0.40° / 0.80°

Max Available RF Power	(dBW/4 kHz)			45K0G7W - 108MG7W	
	(dBW/MHz)			<u>45K0D7W - 108MD7W</u>	
Maximum EIRP	(dBW/4 kHz)			-10.5	-18.29
	(dBW/MHz)			13.5	5.71
	(dBW)			43.0	35.21
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%

### Frequency Information

#### Receive 4.0 GHz

Emission / Frequency Range (MHz)  
45K0G7W - 108MG7W / 3700.0 - 4200.0  
45K0D7W - 108MD7W / 3700.0 - 4200.0

#### Transmit 6.1 GHz

45K0G7W - 108MG7W / 5960.3 - 6182.14  
45K0D7W - 108MD7W / 5960.3 - 6182.14  
45K0G7W - 108MG7W / 6212.34 - 6300.74  
45K0D7W - 108MD7W / 6212.34 - 6300.74  
45K0G7W - 108MG7W / 6330.94 - 6425.0  
45K0D7W - 108MD7W / 6330.94 - 6425.0

Max Great Circle Coordination Distance 662.7 km / 411.7 mi 319.8 km / 198.7 mi  
Precipitation Scatter Contour Radius 615.2 km / 382.2 mi 100.0 km / 62.1 mi



# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### ANCHORAGE BP, AK

Licensee Name GCI Communications Corp.  
Latitude (NAD 83) 61° 11' 33.3" N  
Longitude (NAD 83) 149° 51' 46.6" W  
Ground Elevation (AMSL) 36.0 m / 118.1 ft  
Antenna Centerline (AGL) 4.45 m / 14.6 ft  
Antenna Model VERTEX COMMUNICATIONS 9 KPC  
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 -10.5 (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	0.26	116.60	-19.90	223.56	-16.50	119.81
5	0.34	111.88	-17.40	227.73	-15.88	115.51
10	0.37	106.90	-15.90	231.25	-15.50	113.51
15	0.37	101.92	-15.90	231.96	-15.50	114.06
20	0.00	96.93	-15.90	250.54	-15.50	127.50
25	0.00	91.96	-15.90	250.54	-15.50	127.50
30	0.00	86.98	-15.90	250.54	-15.50	127.50
35	0.00	82.00	-15.90	250.54	-15.50	127.50
40	0.00	77.02	-15.90	250.54	-15.50	127.50
45	0.00	72.05	-15.90	250.54	-15.50	127.50
50	0.00	67.07	-15.90	250.54	-15.50	127.50
55	0.23	62.09	-14.90	252.84	-15.50	125.28
60	0.26	57.11	-14.32	251.77	-15.50	122.30
65	0.39	52.13	-13.33	243.00	-15.50	112.21
70	0.41	47.16	-12.33	246.28	-15.50	110.60
75	0.40	42.20	-11.34	252.93	-14.26	114.45
80	0.40	37.25	-9.25	265.18	-11.40	121.93
85	0.43	32.30	-6.82	278.00	-9.96	124.11
90	0.49	27.37	-5.90	276.36	-7.92	124.56
95	0.50	22.47	-5.90	274.91	-5.49	130.54
100	0.54	17.61	-5.90	272.14	-4.72	130.88
105	0.59	12.86	-4.76	276.82	-4.52	129.54
110	0.63	8.40	-1.30	297.60	-3.90	129.12
115	0.65	5.08	1.02	652.36	-1.58	313.45
120	0.69	5.50	0.60	560.62	-2.00	261.08
125	0.68	7.57	-0.47	436.36	-3.50	193.60
130	0.69	9.51	-2.41	321.42	-4.50	140.29
135	0.70	11.34	-3.24	279.27	-4.64	123.94
140	0.66	13.07	-4.90	270.70	-4.52	126.04
145	0.59	14.68	-5.58	271.06	-4.61	129.04
150	0.57	16.08	-5.90	270.57	-4.58	130.22
155	0.51	17.33	-5.90	274.23	-4.54	132.82
160	0.48	18.37	-5.90	278.02	-4.53	134.16
165	0.38	19.26	-5.90	289.91	-4.52	142.58
170	0.22	19.99	-5.90	309.82	-4.50	157.88
175	0.00	20.56	-5.90	313.33	-4.72	159.37
180	0.00	20.67	-5.90	313.33	-4.77	159.21
185	0.00	20.56	-5.90	313.33	-4.72	159.38

# COMSEARCH

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### Coordination Values

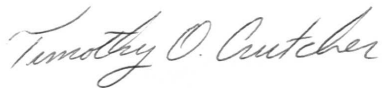
### ANCHORAGE BP, AK

Licensee Name GCI Communications Corp.  
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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 -10.5 (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	0.00	20.21	-5.90	313.33	-4.58	159.89
195	0.00	19.63	-5.90	313.33	-4.52	160.13
200	0.00	18.84	-5.90	313.33	-4.52	160.13
205	0.00	17.83	-5.90	313.33	-4.51	160.16
210	0.00	16.63	-5.90	313.33	-4.51	160.18
215	0.00	15.24	-5.90	313.33	-4.54	160.07
220	0.00	13.69	-4.90	320.39	-4.53	160.10
225	0.00	11.99	-3.89	327.64	-4.60	159.83
230	0.00	10.14	-2.90	367.52	-4.61	172.02
235	0.00	8.19	-1.09	449.16	-3.69	206.15
240	0.00	6.13	0.10	554.13	-2.63	259.95
245	0.00	5.49	0.61	662.68	-1.99	319.78
250	0.00	8.49	-1.39	346.03	-3.99	162.10
255	0.00	12.81	-4.71	321.77	-4.50	160.20
260	0.00	17.48	-5.90	313.33	-4.71	159.41
265	0.00	22.30	-5.90	313.33	-5.42	156.84
270	0.00	27.18	-5.90	313.33	-7.81	148.57
275	0.00	32.09	-6.74	306.88	-9.92	141.82
280	0.00	37.03	-9.12	290.96	-11.31	137.67
285	0.00	41.98	-11.30	277.18	-14.08	131.29
290	0.00	46.93	-12.29	271.15	-15.50	127.50
295	0.00	51.90	-13.28	265.28	-15.50	127.50
300	0.00	56.87	-14.27	259.56	-15.50	127.50
305	0.00	61.84	-14.90	256.04	-15.50	127.50
310	0.00	66.81	-15.90	250.54	-15.50	127.50
315	0.00	71.79	-15.90	250.54	-15.50	127.50
320	0.00	76.77	-15.90	250.54	-15.50	127.50
325	0.00	81.74	-15.90	250.54	-15.50	127.50
330	0.00	86.72	-15.90	250.54	-15.50	127.50
335	0.00	91.70	-15.90	250.54	-15.50	127.50
340	0.00	96.68	-15.90	250.54	-15.50	127.50
345	0.00	101.66	-15.90	250.54	-15.50	127.50
350	0.00	106.64	-15.90	250.54	-15.50	127.50
355	0.24	111.62	-17.20	238.64	-15.82	123.10

## 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.



Timothy O. Crutcher  
Frequency Planner  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147

DATED: October 24, 2018