

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.
BARROW, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
September 06, 2019

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10

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

There were no great circle interference cases identified during the interference study of the proposed earth station

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 09/06/2019.

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: 09/06/2019
Job Number: 190906COMSTC01

Administrative Information

Call Sign E960388
Licensee Code P3203
Licensee Name GCI Communications Corp.

Site Information BARROW, AK

Venue Name
Latitude (NAD 83) 71° 16' 17.2" N
Longitude (NAD 83) 156° 46' 16.6" W
Climate Zone B
Rain Zone 2
Ground Elevation (AMSL) 16.4 m / 53.8 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 115° W to 194° West Longitude
Azimuth Range 136.7° to 218.7°
Corresponding Elevation Angles 5.2° / 6.2°
Antenna Centerline (AGL) 4.57 m / 15.0 ft

Antenna Information

Receive - S40911

Manufacturer SCIENTIFIC-ATLANTA, INC
Model 8009A 9.1 METER
Gain / Diameter 50.3 dBi / 9.1 m
3-dB / 15-dB Beamwidth 0.52° / 1.06°

Transmit - S60911

SCIENTIFIC-ATLANTA, INC
8009A 9.1 METER
53.8 dBi / 9.1 m
0.36° / 0.72°

		6K72G7W - 36M0G7W		6K72D7W - 36M0D7W	
Max Available RF Power	(dBW/4 kHz)	-5.0	-15.82		
	(dBW/MHz)	-2.75	8.18		
Maximum EIRP	(dBW/4 kHz)	48.8	37.98		
	(dBW/MHz)	48.8	61.96		
	(dBW)	51.05	77.52		
Interference Objectives:	Long Term	-150.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-130.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%

Frequency Information

Receive 4.0 GHz

Emission / Frequency Range (MHz)
6K72G7W - 36M0G7W / 3700.0 - 4200.0
6K72D7W - 36M0D7W / 3700.0 - 4200.0

Transmit 6.1 GHz

6K72G7W - 36M0G7W / 5925.0 - 6425.0
6K72D7W - 36M0D7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance 472.2 km / 293.4 mi 379.1 km / 235.6 mi
Precipitation Scatter Contour Radius 450.2 km / 279.7 mi 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

BARROW, AK

Licensee Name GCI Communications Corp.
Latitude (NAD 83) 71° 16' 17.2" N
Longitude (NAD 83) 156° 46' 16.6" W
Ground Elevation (AMSL) 16.4 m / 53.8 ft
Antenna Centerline (AGL) 4.57 m / 15.0 ft
Antenna Model SCIENTIFIC-ATLANTA, INC 8009A 9.1 METER
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
Interference Objectives: Long Term -150.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
Short Term -130.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -5.0 (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	0.00	136.43	-15.70	223.56	-17.20	153.24
5	0.00	131.47	-15.70	223.56	-17.20	153.24
10	0.00	126.50	-15.70	223.56	-17.20	153.24
15	0.00	121.53	-15.70	223.56	-17.20	153.24
20	0.00	116.56	-12.26	246.13	-17.20	153.24
25	0.00	111.59	-10.70	257.00	-13.10	171.81
30	0.00	106.61	-10.70	257.00	-11.36	180.52
35	0.00	101.63	-10.70	257.00	-11.35	180.59
40	0.00	96.65	-10.70	257.00	-11.32	180.75
45	0.00	91.67	-10.70	257.00	-11.27	181.00
50	0.00	86.69	-10.70	257.00	-11.20	181.34
55	0.00	81.71	-10.70	257.00	-11.43	180.15
60	0.00	76.73	-10.70	257.00	-11.44	180.10
65	0.00	71.76	-10.70	257.00	-11.34	180.62
70	0.00	66.78	-10.70	257.00	-11.24	181.16
75	0.00	61.81	-10.70	257.00	-11.42	180.20
80	0.00	56.83	-10.70	257.00	-11.43	180.17
85	0.00	51.86	-10.45	258.81	-11.32	180.73
90	0.00	46.90	-9.08	267.24	-10.72	183.85
95	0.00	41.94	-8.09	274.77	-8.59	195.38
100	0.00	36.99	-6.50	287.44	-7.00	204.81
105	0.00	32.06	-5.11	299.04	-5.61	212.96
110	0.00	27.14	-4.13	307.60	-4.06	222.40
115	0.00	22.26	-2.61	321.40	-3.20	227.74
120	0.00	17.45	-1.70	329.90	-1.67	237.53
125	0.00	12.77	0.53	350.39	1.03	255.52
130	0.00	8.45	5.39	404.77	5.35	285.55
135	0.00	5.46	10.39	472.20	9.89	379.14
140	0.00	5.78	9.74	461.36	9.24	362.88
145	0.00	6.77	7.76	437.29	8.03	338.36
150	0.00	7.64	6.66	420.42	6.51	317.81
155	0.00	8.40	5.50	406.03	5.40	302.95
160	0.00	9.03	4.27	392.84	4.77	293.13
165	0.00	9.53	3.77	386.26	4.27	286.11
170	0.00	9.88	3.42	381.92	3.92	281.94
175	0.00	10.10	3.20	379.20	3.70	279.21
180	0.00	10.17	3.13	378.35	3.63	278.37
185	0.00	10.10	3.20	379.26	3.70	279.30

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

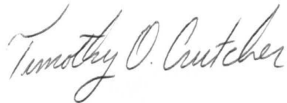
BARROW, AK

Licensee Name GCI Communications Corp.
Latitude (NAD 83) 71° 16' 17.2" N
Longitude (NAD 83) 156° 46' 16.6" W
Ground Elevation (AMSL) 16.4 m / 53.8 ft
Antenna Centerline (AGL) 4.57 m / 15.0 ft
Antenna Model SCIENTIFIC-ATLANTA, INC 8009A 9.1 METER
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
Interference Objectives: Long Term -150.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
Short Term -130.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -5.0 (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	9.88	3.42	381.77	3.92	281.71
195	0.00	9.52	3.78	386.28	4.28	286.45
200	0.00	9.03	4.27	393.23	4.77	293.67
205	0.00	8.40	5.49	406.33	5.40	303.75
210	0.00	7.65	6.65	420.34	6.50	316.30
215	0.00	6.78	7.74	435.57	8.02	336.29
220	0.00	6.29	8.72	452.08	8.51	354.40
225	0.00	8.78	4.74	396.93	5.02	282.99
230	0.00	12.82	0.48	349.85	0.98	255.16
235	0.00	17.36	-1.70	329.90	-1.62	237.86
240	0.00	22.10	-2.54	322.01	-3.20	227.74
245	0.00	26.93	-4.09	307.98	-3.97	222.94
250	0.00	31.80	-5.06	299.48	-5.56	213.27
255	0.00	36.71	-6.38	288.36	-6.88	205.46
260	0.00	41.64	-8.03	275.25	-8.53	195.72
265	0.00	46.58	-9.02	267.72	-10.46	185.20
270	0.00	51.53	-10.31	259.77	-11.41	180.28
275	0.00	56.48	-10.70	257.00	-11.51	179.75
280	0.00	61.44	-10.70	257.00	-11.20	181.33
285	0.00	66.41	-10.70	257.00	-11.32	180.75
290	0.00	71.37	-10.70	257.00	-11.42	180.19
295	0.00	76.34	-10.70	257.00	-11.45	180.08
300	0.00	81.31	-10.70	257.00	-11.22	181.25
305	0.00	86.28	-10.70	257.00	-11.31	180.78
310	0.00	91.25	-10.70	257.00	-11.39	180.38
315	0.00	96.23	-10.70	257.00	-11.45	180.05
320	0.00	101.20	-10.70	257.00	-11.50	179.80
325	0.00	106.17	-10.70	257.00	-11.41	180.27
330	0.00	111.13	-10.70	257.00	-12.56	174.47
335	0.00	116.10	-11.80	249.31	-17.20	153.24
340	0.00	121.06	-15.70	223.56	-17.20	153.24
345	0.00	126.02	-15.70	223.56	-17.20	153.24
350	0.00	130.97	-15.70	223.56	-17.20	153.24
355	0.00	135.92	-15.70	223.56	-17.20	153.24

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: September 06, 2019

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
GCI Communication Corporation
BARROW, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 13, 2007

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	6
5. CERTIFICATION.....	10

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

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 losses were found to be sufficient to reduce the signal levels to acceptable magnitudes in every case.

No 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 carriers with a letter dated 06/07/2007.

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: 06/13/2007
Job Number: 070607COMSTC04

Administrative Information

Licensee Name GCI Communication Corporation

Site Information

BARROW, AK

Latitude (NAD 83) 71° 15' 43.5" N
Longitude (NAD 83) 156° 45' 18.0" W
Climate Zone B
Rain Zone 2
Ground Elevation (AMSL) 16.4 m / 53.8 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 115° W to 194° West Longitude
Azimuth Range 136.6° to 218.8°
Corresponding Elevation Angles 5.2° / 6.2°
Antenna Centerline (AGL) 4.57 m / 15.0 ft

Antenna Information

Receive

Transmit

Manufacturer	ANDREW CORPORATION	ANDREW CORPORATION
Model	ES73-1	ES73-1
Gain / Diameter	48.5 dBi / 7.3 m	51.5 dBi / 7.3 m
3-dB / 15-dB Beamwidth	0.60° / 1.22°	0.44° / 0.88°

Max Available RF Power	(dBW/4 kHz)			6K72G7W - 36M0G7W	
	(dBW/MHz)			6K72D7W - 36M0D7W	
Maximum EIRP	(dBW/4 kHz)			-2.7	-13.52
	(dBW/MHz)			21.3	10.48
	(dBW)			48.8	37.98
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

Transmit 6.1 GHz

Emission / Frequency Range (MHz)	6K72G7W - 36M0G7W / 3700.0 - 4200.0	6K72G7W - 36M0G7W / 5925.0 - 6425.0
	6K72D7W - 36M0D7W / 3700.0 - 4200.0	6K72D7W - 36M0D7W / 5925.0 - 6425.0

Max Great Circle Coordination Distance	782.7 km / 486.3 mi	380.2 km / 236.2 mi
Precipitation Scatter Contour Radius	616.0 km / 382.7 mi	101.5 km / 63.1 mi

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

BARROW, AK

Licensee Name GCI Communication Corporation
Latitude (NAD 83) 71° 15' 43.5" N
Longitude (NAD 83) 156° 45' 18.0" W
Ground Elevation (AMSL) 16.4 m / 53.8 ft
Antenna Centerline (AGL) 4.57 m / 15.0 ft
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	0.00	136.35	-15.50	350.05	-20.50	149.12
5	0.00	131.39	-15.50	350.05	-20.50	149.12
10	0.00	126.42	-15.50	350.05	-20.50	149.12
15	0.00	121.45	-15.50	350.05	-20.50	149.12
20	0.00	116.48	-13.39	372.51	-16.98	164.36
25	0.00	111.50	-11.10	398.80	-12.00	189.27
30	0.00	106.52	-10.50	406.05	-10.50	197.94
35	0.00	101.55	-10.50	406.05	-10.50	197.94
40	0.00	96.57	-10.50	406.05	-10.50	197.94
45	0.00	91.59	-9.82	414.47	-10.50	197.94
50	0.00	86.61	-9.62	416.88	-10.50	197.94
55	0.00	81.63	-9.62	416.90	-10.50	197.94
60	0.00	76.65	-9.58	417.50	-10.50	197.94
65	0.00	71.67	-9.51	418.31	-10.50	197.94
70	0.00	66.69	-9.53	418.02	-10.50	197.94
75	0.00	61.72	-9.58	417.45	-10.50	197.94
80	0.00	56.75	-9.63	416.81	-10.50	197.94
85	0.00	51.78	-9.55	417.84	-10.50	197.94
90	0.00	46.81	-8.23	434.83	-10.50	197.94
95	0.00	41.86	-6.24	461.62	-10.50	197.94
100	0.00	36.91	-4.26	489.37	-10.50	197.94
105	0.00	31.97	-2.29	519.43	-10.50	197.94
110	0.00	27.06	-0.32	551.11	-10.50	197.94
115	0.00	22.18	2.19	594.19	-10.50	197.94
120	0.00	17.36	4.56	636.60	-7.86	213.26
125	0.00	12.68	6.50	674.06	-3.18	242.65
130	0.00	8.38	7.50	694.06	3.99	293.09
135	0.00	5.42	11.66	782.66	10.66	380.18
140	0.00	5.79	10.92	766.24	9.92	366.36
145	0.00	6.78	8.17	707.81	7.95	343.69
150	0.00	7.65	7.50	694.06	6.20	324.43
155	0.00	8.41	7.50	694.06	3.87	306.05
160	0.00	9.04	7.50	694.06	1.35	288.14
165	0.00	9.53	7.50	694.06	-0.63	273.63
170	0.00	9.89	7.50	694.06	-2.06	264.88
175	0.00	10.11	7.50	694.06	-2.50	260.40
180	0.00	10.18	7.50	694.06	-2.50	259.68
185	0.00	10.11	7.50	694.06	-2.50	260.49

COMSEARCH

Earth Station Data Sheet

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

Coordination Values

BARROW, AK

Licensee Name GCI Communication Corporation
Latitude (NAD 83) 71° 15' 43.5" N
Longitude (NAD 83) 156° 45' 18.0" W
Ground Elevation (AMSL) 16.4 m / 53.8 ft
Antenna Centerline (AGL) 4.57 m / 15.0 ft
Antenna Mode Receive 4.0 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20%
Short Term -146.0 dBW/MHz 0.01%
Max Available RF Power

Transmit 6.1 GHz
-154.0 dBW/4 kHz 20%
-131.0 dBW/4 kHz 0.0025%
-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	0.00	9.89	7.50	694.06	-2.06	264.44
195	0.00	9.53	7.50	694.06	-0.63	273.92
200	0.00	9.04	7.50	694.06	1.35	288.52
205	0.00	8.41	7.50	694.06	3.86	306.51
210	0.00	7.66	7.50	694.06	6.19	325.10
215	0.00	6.78	8.15	707.26	7.93	341.35
220	0.00	6.33	9.50	735.58	8.83	357.85
225	0.00	8.86	7.50	694.06	2.08	278.03
230	0.00	12.90	6.50	674.06	-3.40	241.20
235	0.00	17.45	4.52	635.95	-7.95	212.74
240	0.00	22.18	2.19	594.12	-10.50	197.94
245	0.00	27.01	-0.30	551.41	-10.50	197.94
250	0.00	31.89	-2.26	519.95	-10.50	197.94
255	0.00	36.80	-4.22	490.03	-10.50	197.94
260	0.00	41.72	-6.19	462.35	-10.50	197.94
265	0.00	46.66	-8.17	435.62	-10.50	197.94
270	0.00	51.61	-9.56	417.71	-10.50	197.94
275	0.00	56.57	-9.62	416.90	-10.50	197.94
280	0.00	61.53	-9.57	417.57	-10.50	197.94
285	0.00	66.49	-9.52	418.20	-10.50	197.94
290	0.00	71.46	-9.55	417.81	-10.50	197.94
295	0.00	76.43	-9.63	416.82	-10.50	197.94
300	0.00	81.40	-9.61	417.10	-10.50	197.94
305	0.00	86.37	-9.58	417.42	-10.50	197.94
310	0.00	91.34	-9.77	415.09	-10.50	197.94
315	0.00	96.31	-10.50	406.05	-10.50	197.94
320	0.00	101.28	-10.50	406.05	-10.50	197.94
325	0.00	106.25	-10.50	406.05	-10.50	197.94
330	0.00	111.22	-10.99	400.17	-11.72	190.82
335	0.00	116.18	-13.21	374.48	-16.68	165.73
340	0.00	121.14	-15.50	350.05	-20.50	149.12
345	0.00	126.10	-15.50	350.05	-20.50	149.12
350	0.00	131.05	-15.50	350.05	-20.50	149.12
355	0.00	136.00	-15.50	350.05	-20.50	149.12

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: June 13, 2007