

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Alaska Public Telecommunications, Inc.
ANCHORAGE, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
May 22, 2019

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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

The great circle interference cases identified during the interference study for this earth station were addressed in the previous coordination.

Due to the minor nature of these changes, no response is required for this notice.

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.

A minor modification for this earth station was sent to the below listed carriers with a letter dated 05/22/2019.

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
Chugach Electric Association, 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
Norstar Pipeline Company
State of Alaska
United Utilities, Inc.
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: 05/22/2019
Job Number: 190522COMSTC03

Administrative Information

Call Sign E180008
Licensee Code KAKMTV
Licensee Name Alaska Public Telecommunications, Inc.

Site Information ANCHORAGE, AK

Latitude (NAD 83) 61° 11' 24.8" N
Longitude (NAD 83) 149° 48' 33.7" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 50.29 m / 165.0 ft

Link Information

Satellite Type Geostationary
Mode TO - Transmit-Only
Modulation Digital
Satellite Arc 90° W to 177° West Longitude
Azimuth Range 117.0° to 210.4°
Corresponding Elevation Angles 5.4° / 17.1°
Antenna Centerline (AGL) 11.74 m / 38.5 ft

Antenna Information

Manufacturer SSE
Model SSE-45
Gain / Diameter 46.7 dBi / 4.5 m
3-dB / 15-dB Beamwidth 0.76° / 1.52°

Transmit

		<u>100KG7W - 18M0G7W - 36M0G7W</u>		
Max Available RF Power	(dBW/4 kHz)	-16.02	-16.02	-16.02
	(dBW/MHz)	7.98	7.98	7.98
Maximum EIRP	(dBW/4 kHz)	30.68	30.68	30.68
	(dBW/MHz)	30.68	54.68	54.68
	(dBW)	44.66	67.21	70.22
Interference Objectives:	Long Term	-154.0 dBW/4 kHz	20%	
	Short Term	-131.0 dBW/4 kHz	0.0025%	

Frequency Information

Emission / Frequency Range (MHz) 100KG7W - 18M0G7W / 6059.15 - 6078.45 Band Edges
100KG7W - 36M0G7W / 6108.45 - 6182.24 Band Edges
100KG7W - 36M0G7W / 6271.54 - 6330.49 Band Edges
100KG7W - 36M0G7W / 6360.49 - 6425.0 Band Edges

Transmit 6.1 GHz

Max Great Circle Coordination Distance 221.8 km / 137.8 mi
Precipitation Scatter Contour Radius 100.0 km / 62.1 mi

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Coordination Values

ANCHORAGE, AK

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Antenna Mode Transmit 6.1 GHz
Interference Objectives: Long Term -154.0 dBW/4 kHz 20%
Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -16.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	116.89	-10.00	127.50
5	0.00	111.91	-10.00	127.50
10	0.00	106.94	-10.00	127.50
15	0.00	101.96	-10.00	127.50
20	0.00	96.98	-10.00	127.50
25	0.00	92.01	-10.00	127.50
30	0.00	87.03	-10.00	127.50
35	0.00	82.05	-10.00	127.50
40	0.58	77.06	-10.00	100.00
45	0.58	72.08	-10.00	100.00
50	0.80	67.09	-10.00	100.00
55	1.04	62.10	-10.00	100.00
60	1.09	57.12	-10.00	100.00
65	1.09	52.14	-10.00	100.00
70	1.09	47.16	-9.84	100.00
75	1.20	42.18	-8.63	100.00
80	1.20	37.21	-7.27	100.00
85	1.63	32.21	-5.70	100.00
90	2.01	27.21	-3.87	100.00
95	2.26	22.22	-1.67	100.00
100	3.32	17.13	1.15	100.00
105	3.34	12.18	4.86	100.00
110	2.20	7.69	9.85	109.19
115	3.68	2.62	21.53	221.80
120	2.96	3.45	18.56	190.89
125	2.09	6.28	12.05	151.27
130	1.92	8.38	8.92	118.55
135	2.03	10.09	6.90	102.61
140	1.94	11.86	5.14	100.00
145	1.67	13.65	3.62	101.28
150	1.40	15.28	2.39	104.69
155	1.25	16.62	1.49	105.80
160	1.02	17.84	0.72	109.51
165	0.81	18.83	0.13	116.68
170	0.69	19.53	-0.27	121.24
175	0.52	20.04	-0.55	128.13
180	0.38	20.30	-0.69	137.41
185	0.36	20.20	-0.63	139.18

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Coordination Values

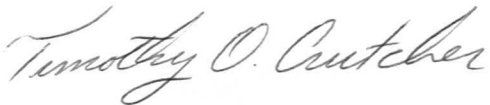
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Short Term -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -16.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	20.21	-0.64	154.27
195	0.00	19.64	-0.33	155.37
200	0.00	18.84	0.12	156.99
205	0.00	17.83	0.72	159.17
210	0.00	17.07	1.19	160.92
215	0.00	17.67	0.82	159.54
220	0.00	19.52	-0.26	155.60
225	0.00	22.33	-1.72	150.53
230	0.00	25.78	-3.28	145.38
235	0.00	29.65	-4.80	140.66
240	0.00	33.80	-6.22	136.49
245	0.00	38.12	-7.53	134.11
250	0.00	42.58	-8.73	130.89
255	0.00	47.12	-9.83	127.95
260	0.00	51.73	-10.00	127.50
265	0.00	56.39	-10.00	127.50
270	0.00	61.09	-10.00	127.50
275	0.00	65.81	-10.00	127.50
280	0.00	70.55	-10.00	127.50
285	0.00	75.31	-10.00	127.50
290	0.00	80.08	-10.00	127.50
295	0.00	84.86	-10.00	127.50
300	0.00	89.64	-10.00	127.50
305	0.00	94.42	-10.00	127.50
310	0.00	99.19	-10.00	127.50
315	0.00	103.96	-10.00	127.50
320	0.00	108.72	-10.00	127.50
325	0.00	113.47	-10.00	127.50
330	0.00	118.19	-10.00	127.50
335	0.00	122.90	-10.00	127.50
340	0.00	127.56	-10.00	127.50
345	0.00	131.79	-10.00	127.50
350	0.21	126.84	-10.00	126.56
355	0.00	121.86	-10.00	127.50

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.

A handwritten signature in cursive script that reads "Timothy O. Crutcher".

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

DATED: May 22, 2019