

GUSA Licensee LLC
Response to FCC Form 312, Schedule B, Question E18
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Attachment 1: Comsearch Frequency Coordination and Interference Analysis Report

Attachment 2: Information on Microwave Landing System Sites

ATTACHMENT 1

**FREQUENCY COORDINATION AND INTERFERENCE
ANALYSIS REPORT**

Prepared for
GUSA Licensee, LLC
WASILLA 3, AK
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
February 15, 2021

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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

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.

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 01/13/2021.

Company

Alaska Public Telecommunications, Inc.
Coastal Television Broadcasting Company
Cordova Telephone Cooperative Inc.
Gray Television Licensee, LLC - KTUU TV

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: 02/15/2021
Job Number: 210113COMSGE03

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code ZAIRSA
Licensee Name GUSA Licensee, LLC

Site Information

WASILLA 3, AK
Venue Name WSLA3
Latitude (NAD 83) 61° 35' 24.9" N
Longitude (NAD 83) 149° 29' 9.6" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 139.14 m / 456.5 ft

Link Information

Satellite Type Low Earth Orbit
Mode TR - Transmit-Receive
Modulation Analog and Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 8.69 m / 28.5 ft

Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	Cobham Satcom	Cobham Satcom
Model	Seatel Tracker T6000	Seatel Tracker T6000
Gain / Diameter	51.2 dBi / 6.0 m	47.5 dBi / 6.0 m
3-dB / 15-dB Beamwidth	0.44° / 0.88°	0.60° / 2.00°
Max Available RF Power (dBW/4 kHz) (dBW/MHz)		10.9 20.9
Maximum EIRP (dBW/4 kHz) (dBW/MHz)		58.5 68.5
Interference Objectives:	Long Term -153.0 dBW/MHz 20% Short Term -143.0 dBW/MHz 0.01%	-140.0 dBW/4 kHz 20% -103.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 7.0 GHz	Transmit 5.1 GHz
Emission / Frequency Range (MHz)	2M50G7D / 6900.0 - 7055.0 1M23G7W - 1M23XXX / 6900.0 - 7055.0 200KG7D / 6900.0 - 7055.0 70K0G7D / 6875.9 - 6879.1 50K0N0N / 6900.0 - 7055.0 7K00G1D / 6875.9 - 6879.1	4M50G7D / 5096.0 - 5250.0 1M23G7W - 1M23XXX / 5096.0 - 5250.0 76K0F2D / 5091.0 - 5092.0 50K0N0N / 5091.0 - 5092.0 40K0G2D / 5091.0 - 5092.0
Max Great Circle Coordination Distance	226.0 km / 140.4 mi	285.0 km / 177.1 mi
Precipitation Scatter Contour Radius	471.4 km / 292.9 mi	100.0 km / 62.1 mi

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Earth Station Data Sheet

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Coordination Values

WASILLA 3, AK

Licensee Name GUSA Licensee, LLC
Latitude (NAD 83) 61° 35' 24.9" N
Longitude (NAD 83) 149° 29' 9.6" W
Ground Elevation (AMSL) 139.14 m / 456.5 ft
Antenna Centerline (AGL) 8.69 m / 28.5 ft
Antenna Model Seatel Tracker - 6 meter
Antenna Mode Receive 7.0 GHz Transmit 5.1 GHz
Interference Objectives: Long Term -153.0 dBW/MHz 20% -140.0 dBW/4 kHz 20%
Short Term -143.0 dBW/MHz 0.01% -103.0 dBW/4 kHz 0.0025%
Max Available RF Power 10.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 7.0 GHz		Transmit 5.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.36	45.19	10.40	226.00	10.40	285.00
5	0.00	41.74	10.40	226.00	10.40	285.00
10	0.24	39.00	10.40	226.00	10.40	285.00
15	0.00	36.28	10.40	226.00	10.40	285.00
20	0.00	34.20	10.40	226.00	10.40	285.00
25	0.00	32.69	10.40	226.00	10.40	285.00
30	0.00	31.81	10.40	226.00	10.40	285.00
35	0.00	31.62	10.40	226.00	10.40	285.00
40	0.24	32.38	10.40	226.00	10.40	285.00
45	0.21	33.52	10.40	226.00	10.40	285.00
50	0.21	35.30	10.40	226.00	10.40	285.00
55	0.00	37.42	10.40	226.00	10.40	285.00
60	0.00	40.15	10.40	226.00	10.40	285.00
65	0.00	43.22	10.40	226.00	10.40	285.00
70	0.00	46.56	10.40	226.00	10.40	285.00
75	0.00	50.12	10.40	226.00	10.40	285.00
80	0.00	53.86	10.40	226.00	10.40	285.00
85	0.00	57.72	10.40	226.00	10.40	285.00
90	0.00	61.70	10.40	226.00	10.40	285.00
95	0.00	65.75	10.40	226.00	10.40	285.00
100	0.00	69.87	10.40	226.00	10.40	285.00
105	0.00	74.05	10.40	226.00	10.40	285.00
110	0.00	78.25	10.40	226.00	10.40	285.00
115	0.00	82.49	10.40	226.00	10.40	285.00
120	0.00	86.74	10.40	226.00	10.40	285.00
125	0.00	91.00	10.40	226.00	10.40	285.00
130	0.00	95.25	10.40	226.00	10.40	285.00
135	0.00	99.50	10.40	226.00	10.40	285.00
140	0.00	103.72	10.40	226.00	10.40	285.00
145	0.00	107.92	10.40	226.00	10.40	285.00
150	0.00	112.07	10.40	226.00	10.40	285.00
155	0.00	116.16	10.40	226.00	10.40	285.00
160	0.00	120.18	10.40	226.00	10.40	285.00
165	0.00	124.10	10.40	226.00	10.40	285.00
170	0.00	127.91	10.40	226.00	10.40	285.00
175	0.00	131.57	10.40	226.00	10.40	285.00
180	0.00	135.03	10.40	226.00	10.40	285.00
185	0.00	138.26	10.40	226.00	10.40	285.00

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Coordination Values

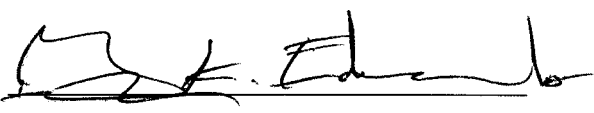
WASILLA 3, AK

Licensee Name GUSA Licensee, LLC
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Interference Objectives: Long Term -153.0 dBW/MHz 20% -140.0 dBW/4 kHz 20%
Short Term -143.0 dBW/MHz 0.01% -103.0 dBW/4 kHz 0.0025%
Max Available RF Power 10.9 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 7.0 GHz		Transmit 5.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	141.18	10.40	226.00	10.40	285.00
195	0.00	143.72	10.40	226.00	10.40	285.00
200	0.00	145.80	10.40	226.00	10.40	285.00
205	0.00	147.31	10.40	226.00	10.40	285.00
210	0.00	148.19	10.40	226.00	10.40	285.00
215	0.00	148.38	10.40	226.00	10.40	285.00
220	0.00	147.86	10.40	226.00	10.40	285.00
225	0.00	146.68	10.40	226.00	10.40	285.00
230	0.00	144.89	10.40	226.00	10.40	285.00
235	0.00	142.58	10.40	226.00	10.40	285.00
240	0.00	139.85	10.40	226.00	10.40	285.00
245	0.00	136.78	10.40	226.00	10.40	285.00
250	0.00	133.44	10.40	226.00	10.40	285.00
255	0.00	129.88	10.40	226.00	10.40	285.00
260	0.00	126.14	10.40	226.00	10.40	285.00
265	0.00	122.28	10.40	226.00	10.40	285.00
270	0.00	118.30	10.40	226.00	10.40	285.00
275	0.00	114.25	10.40	226.00	10.40	285.00
280	0.00	110.13	10.40	226.00	10.40	285.00
285	0.00	105.95	10.40	226.00	10.40	285.00
290	0.00	101.75	10.40	226.00	10.40	285.00
295	0.00	97.51	10.40	226.00	10.40	285.00
300	0.00	93.26	10.40	226.00	10.40	285.00
305	0.00	89.00	10.40	226.00	10.40	285.00
310	0.00	84.75	10.40	226.00	10.40	285.00
315	0.00	80.50	10.40	226.00	10.40	285.00
320	0.00	76.28	10.40	226.00	10.40	285.00
325	0.00	72.08	10.40	226.00	10.40	285.00
330	0.00	67.93	10.40	226.00	10.40	285.00
335	0.00	63.84	10.40	226.00	10.40	285.00
340	0.00	59.82	10.40	226.00	10.40	285.00
345	0.20	55.98	10.40	226.00	10.40	285.00
350	0.42	52.29	10.40	226.00	10.40	285.00
355	0.25	48.57	10.40	226.00	10.40	285.00

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: February 15, 2021

ATTACHMENT 2

Information on Microwave Landing System Sites

For GUSA Licensee LLC’s (together with its parent Globalstar, Inc., “Globalstar’s”) gateway site in Wasilla, Alaska, there are four potential Microwave Landing System (“MLS”) sites, including two Category III airports (ANC & FAI), within the 213 nautical mile transmit coordination distance. The Wasilla site is located at 61-35-24.9 N, 149-29-9.6 W. The airports are:

ANC	Ted Stevens Anchorage International Airport, approximately 29 nautical miles from Wasilla
VDZ	Valdez Airport, approximately 97 nautical miles away
HOM	Homer Airport, approximately 131 nautical miles away
FAI	Fairbanks International Airport, approximately 199 nautical miles away

Only the ANC airport falls within the 39.8 nautical mile maximum trigger distance for MLS/MSS (Mobile Satellite Service) coordination. Based on a directory used for MLS coordination purposes, and to the best of its knowledge, Globalstar believes that MLS is not active at ANC.