

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
RENO - REN2, NV
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 16, 2020

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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 09/14/2020.

Company

Bennett Kessler II Trust
California TV License Company, LLC
California, State of
Channel 33, Inc.
DeerField Media (Reno) Licensee, LLC
Elko Television District
Gray Television Licensee LLC
Hearst Stations, Inc. (KCRA)
Humboldt County
KRXI Licensee, LLC
KTVU, Fox Television Stations Inc.
KUVS License Partnership, G.P.
KVIE, Inc.
KXTV, LLC
Maxair Media, LLC
NBC Telemundo License Co. - KNTV
NBC Telemundo License LLC
Paradise (KCUV-TV) License, Inc
Sacramento Television Stations, Inc
Sarkes Tarzian, Inc.
Serestar Communications Corporation
Sierra Communications, LLC
Sinclair-California Licensee, LLC
Southern California Edison Company
State of Nevada, Enterprise IT Services
Tribune Media Company
Unimas Sacramento LLC

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: 10/16/2020
Job Number: 200914COMSGE02

Administrative Information

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

Site Information RENO - REN2, NV

Venue Name
Latitude (NAD 83) 39° 33' 16.9" N
Longitude (NAD 83) 119° 29' 52.0" W
Climate Zone A
Rain Zone 3
Ground Elevation (AMSL) 1348.33 m / 4423.6 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) 5.7 m / 18.7 ft

Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	Seatel	Seatel
Model	Tracker T 6000	Tracker T 6000
Gain / Diameter	49.4 dBi / 6.0 m	47.6 dBi / 6.0 m
3-dB / 15-dB Beamwidth	0.44° / 0.88°	0.60° / 2.00°
Max Available RF Power (dBW/4 kHz)		10.9
(dBW/MHz)		20.9
Maximum EIRP (dBW/4 kHz)		58.5
(dBW/MHz)		68.5
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%

Frequency Information

	Receive 7.0 GHz	Transmit 5.1 GHz
Emission / Frequency Range (MHz)	2M50G7D / 6900.0 - 7055.0	4M50G7D / 5096.0 - 5250.0
	1M23G7W - 1M23XXX / 6900.0 - 7055.0	1M23G7W - 1M23XXX / 5096.0 - 5250.0
	200KG7D / 6900.0 - 7055.0	76K0F2D / 5091.0 - 5092.0
	70K0G7D / 6875.9 - 6879.1	50K0N0N / 5091.0 - 5092.0
	50K0N0N / 6900.0 - 7055.0	40K0G2D / 5091.0 - 5092.0
	7K00G1D / 6875.9 - 6879.1	

Max Great Circle Coordination Distance 226.0 km / 140.4 mi 285.0 km / 177.1 mi
Precipitation Scatter Contour Radius 349.2 km / 217.0 mi 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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Coordination Values

RENO - REN2, NV

Licensee Name GUSA Licensee, LLC
Latitude (NAD 83) 39° 33' 16.9" N
Longitude (NAD 83) 119° 29' 52.0" W
Ground Elevation (AMSL) 1348.33 m / 4423.6 ft
Antenna Centerline (AGL) 5.7 m / 18.7 ft
Antenna Model Seatel 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	5.89	74.03	10.40	226.00	10.40	285.00
5	6.29	70.19	10.40	226.00	10.40	285.00
10	5.95	66.22	10.40	226.00	10.40	285.00
15	4.94	62.04	10.40	226.00	10.40	285.00
20	4.59	58.13	10.40	226.00	10.40	285.00
25	4.21	54.28	10.40	226.00	10.40	285.00
30	3.46	50.33	10.40	226.00	10.40	285.00
35	2.64	46.42	10.40	226.00	10.40	285.00
40	2.57	43.14	10.40	226.00	10.40	285.00
45	1.67	39.52	10.40	226.00	10.40	285.00
50	2.75	37.75	10.40	226.00	10.40	285.00
55	2.65	35.52	10.40	226.00	10.40	285.00
60	2.86	34.09	10.40	226.00	10.40	285.00
65	4.06	34.25	10.40	226.00	10.40	285.00
70	3.87	33.72	10.40	226.00	10.40	285.00
75	3.20	33.36	10.40	226.00	10.40	285.00
80	1.92	33.09	10.40	226.00	10.40	285.00
85	1.29	34.16	10.40	226.00	10.40	285.00
90	1.35	36.41	10.40	226.00	10.40	285.00
95	1.61	39.26	10.40	226.00	10.40	285.00
100	2.64	42.95	10.40	226.00	10.40	285.00
105	3.18	46.50	10.40	226.00	10.40	285.00
110	2.37	49.47	10.40	226.00	10.40	285.00
115	2.22	53.05	10.40	226.00	10.40	285.00
120	2.06	56.78	10.40	226.00	10.40	285.00
125	2.33	60.80	10.40	226.00	10.40	285.00
130	2.71	64.92	10.40	226.00	10.40	285.00
135	2.73	68.98	10.40	226.00	10.40	285.00
140	2.45	73.04	10.40	226.00	10.40	285.00
145	2.58	77.22	10.40	226.00	10.40	285.00
150	2.81	81.43	10.40	226.00	10.40	285.00
155	3.45	85.66	10.40	226.00	10.40	285.00
160	3.79	89.84	10.40	226.00	10.40	285.00
165	3.51	94.02	10.40	226.00	10.40	285.00
170	4.21	98.11	10.40	226.00	10.40	285.00
175	4.37	102.20	10.40	226.00	10.40	285.00
180	5.03	106.14	10.40	226.00	10.40	285.00
185	4.39	110.30	10.40	226.00	10.40	285.00

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Coordination Values

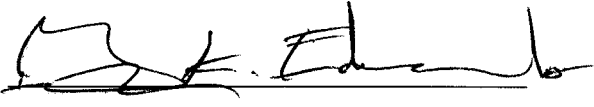
RENO - REN2, NV

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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	4.25	114.31	10.40	226.00	10.40	285.00
195	5.20	117.86	10.40	226.00	10.40	285.00
200	6.57	121.01	10.40	226.00	10.40	285.00
205	7.30	124.17	10.40	226.00	10.40	285.00
210	8.95	126.53	10.40	226.00	10.40	285.00
215	9.42	129.25	10.40	226.00	10.40	285.00
220	8.92	132.37	10.40	226.00	10.40	285.00
225	8.60	135.12	10.40	226.00	10.40	285.00
230	7.80	137.99	10.40	226.00	10.40	285.00
235	6.57	140.94	10.40	226.00	10.40	285.00
240	5.51	143.38	10.40	226.00	10.40	285.00
245	4.80	145.01	10.40	226.00	10.40	285.00
250	3.91	146.24	10.40	226.00	10.40	285.00
255	2.73	147.10	10.40	226.00	10.40	285.00
260	1.95	146.87	10.40	226.00	10.40	285.00
265	1.57	145.59	10.40	226.00	10.40	285.00
270	2.33	142.78	10.40	226.00	10.40	285.00
275	1.72	140.66	10.40	226.00	10.40	285.00
280	1.86	137.58	10.40	226.00	10.40	285.00
285	1.60	134.46	10.40	226.00	10.40	285.00
290	1.99	130.74	10.40	226.00	10.40	285.00
295	2.48	126.83	10.40	226.00	10.40	285.00
300	2.61	122.99	10.40	226.00	10.40	285.00
305	3.21	118.88	10.40	226.00	10.40	285.00
310	2.72	115.07	10.40	226.00	10.40	285.00
315	3.23	110.89	10.40	226.00	10.40	285.00
320	3.71	106.71	10.40	226.00	10.40	285.00
325	3.30	102.67	10.40	226.00	10.40	285.00
330	3.90	98.46	10.40	226.00	10.40	285.00
335	3.98	94.31	10.40	226.00	10.40	285.00
340	4.39	90.16	10.40	226.00	10.40	285.00
345	5.10	86.06	10.40	226.00	10.40	285.00
350	5.48	82.01	10.40	226.00	10.40	285.00
355	5.94	78.03	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: October 16, 2020

ATTACHMENT 2

Information on Microwave Landing System Sites

For the Reno, Nevada, Globalstar gateway site, there is one MLS site, i.e., Category III airport, within the 213 nautical mile transmit coordination distance. The Reno site is located at 39-33-16.9 N, 119-29-52 W. The airport is:

Travis AFB	Travis Airforce Base, Fairfield, CA approximately 165 nautical miles from Reno
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This site falls outside the 39.8 nautical mile maximum trigger distance for MLS/MSS coordination.