

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
CLIFTON, TX
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 02, 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 04/13/2020.

Company

Alamo Public Telecommunications Council
CBS Stations Group of Texas, Inc
Central Texas College
Channel 49 Acquisition Corporation
Community TV Educators of Dfw
Corridor Television, LLP
DAIJ Media, LLC
Deerfield Media (San Antonio)License, LL
Fox Television Stations, LLC
Graham Media Group, Houston, Inc
Graham Media Group, San Antonio, Inc
Gray Television Licensee, Inc. (KXII)
Gray Television Licensee, LLC
Gray Television Licensee, LLC
Gray Television Licensee, LLC (KWTX-KBTX)
HC2 Station Group, Inc
Ion Television License, LLC
KABB Licensee, LLC
KAKW License Partnership, L.P.
KAUZ License Subsidiary, LLC
KDAF, LLC
KENS-TV, Inc
KEYE Licensee, LLC
KHOU-TV, Inc.
KUVN License Partnership, L.P.
KVUE Television, Inc.
KWEX License Partnership LP
KXLN License Partnership, L..P.
KZJL License LLC
Ktrk TV, Inc.
LSB Broadcasting, Inc.
Lieberman Television of Dallas License
Mission Broadcasting, Inc.
NBC Telemundo License LLC
NEXSTAR BROADCASTING, INC.
NW Communications of Austin, Inc.
NW Communications of Texas, Inc.
Nexstar Broadcasting Group Inc - KTAB-TV
Nexstar Broadcasting Inc. KWKT TV
North Texas Public Broadcasting Inc.

QueenB Television of Texas, LLC
RNN National, LLC
Scripps Broadcasting Holdings, LLC,
Sinclair Media Licensee, LLC
Station Venture Operations - Ft Worth TX
Station Venture Operations, LP
Television Station KTXA L.P.
Tribune Media Company
Trinity Broadcasting of Texas, Inc.
Unimas Dallas LLC
Unimas Partnership San Antonio
University of Houston System
WFAA-TV, L.P.
WOAI Licensee, LLC
Warwick Communications, Inc.

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: 06/02/2020
Job Number: 200413COMSGE01

Administrative Information

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

Site Information

CLIFTON, TX

Venue Name
Latitude (NAD 83) 31° 48' 2.1" N
Longitude (NAD 83) 97° 36' 44.4" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 219.64 m / 720.6 ft

Link Information

Satellite Type Low Earth Orbit
Mode TR - Transmit-Receive
Modulation Digital
Minimum Elevation Angle 5.0°
Azimuth Range 0.0° to 360°
Antenna Centerline (AGL) 5.69 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)	7K00G1D / 6875.0 - 6879.1	76K0F2D / 5091.0 - 5092.0
	1M23G7W - 1M23XXX / 6900.0 - 7055.0	1M23G7W - 1M23XXX / 5096.0 - 5250.0
	50K0N0N / 6900.0 - 7055.0	50K0N0N / 5096.0 - 5250.0
	2M46G2W - 2M46G7W / 6900.0 - 7055.0	2M46G7W / 5096.0 - 5250.0
	1M23G2W - 2M50G2D / 6900.0 - 7055.0	40K0G2D / 5091.38 - 5091.62
	N0N / 6900.0 - 7055.0	1M23G2W / 5096.0 - 5250.0
Max Great Circle Coordination Distance	371.0 km / 230.5 mi	410.0 km / 254.7 mi
Precipitation Scatter Contour Radius	471.4 km / 292.9 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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Coordination Values

CLIFTON, TX

Licensee Name GUSA Licensee, LLC
Latitude (NAD 83) 31° 48' 2.1" N
Longitude (NAD 83) 97° 36' 44.4" W
Ground Elevation (AMSL) 219.64 m / 720.6 ft
Antenna Centerline (AGL) 5.69 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	0.00	86.11	10.10	371.00	10.10	410.00
5	0.86	81.31	10.10	371.00	10.10	410.00
10	0.62	76.49	10.10	371.00	10.10	410.00
15	1.24	71.75	10.10	371.00	10.10	410.00
20	0.61	66.90	10.10	371.00	10.10	410.00
25	0.40	62.09	10.10	371.00	10.10	410.00
30	0.39	57.33	10.10	371.00	10.10	410.00
35	0.39	52.59	10.10	371.00	10.10	410.00
40	0.47	47.91	10.10	371.00	10.10	410.00
45	0.30	43.22	10.10	371.00	10.10	410.00
50	0.34	38.65	10.10	371.00	10.10	410.00
55	0.33	34.17	10.10	371.00	10.10	410.00
60	0.35	29.84	10.10	371.00	10.10	410.00
65	0.35	25.71	10.10	371.00	10.10	410.00
70	0.32	21.90	10.10	371.00	10.10	410.00
75	0.33	18.67	10.10	371.00	10.10	410.00
80	0.27	16.25	10.10	371.00	10.10	410.00
85	0.29	15.19	10.10	371.00	10.10	410.00
90	0.23	15.62	10.10	371.00	10.10	410.00
95	0.00	17.34	10.10	371.00	10.10	410.00
100	0.00	20.33	10.10	371.00	10.10	410.00
105	0.00	23.98	10.10	371.00	10.10	410.00
110	0.00	28.02	10.10	371.00	10.10	410.00
115	0.00	32.32	10.10	371.00	10.10	410.00
120	0.00	36.77	10.10	371.00	10.10	410.00
125	0.00	41.34	10.10	371.00	10.10	410.00
130	0.00	45.98	10.10	371.00	10.10	410.00
135	0.32	50.74	10.10	371.00	10.10	410.00
140	0.36	55.47	10.10	371.00	10.10	410.00
145	0.58	60.26	10.10	371.00	10.10	410.00
150	0.72	65.05	10.10	371.00	10.10	410.00
155	1.08	69.87	10.10	371.00	10.10	410.00
160	1.61	74.70	10.10	371.00	10.10	410.00
165	1.43	79.47	10.10	371.00	10.10	410.00
170	1.70	84.28	10.10	371.00	10.10	410.00
175	1.54	89.07	10.10	371.00	10.10	410.00
180	1.69	93.86	10.10	371.00	10.10	410.00
185	1.63	98.65	10.10	371.00	10.10	410.00

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Earth Station Data Sheet

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Coordination Values

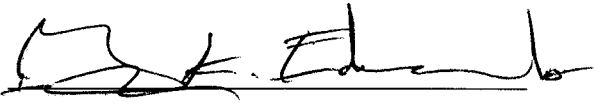
CLIFTON, TX

Licensee Name GUSA Licensee, LLC
Latitude (NAD 83) 31° 48' 2.1" N
Longitude (NAD 83) 97° 36' 44.4" W
Ground Elevation (AMSL) 219.64 m / 720.6 ft
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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	1.38	103.45	10.10	371.00	10.10	410.00
195	1.34	108.24	10.10	371.00	10.10	410.00
200	1.56	112.99	10.10	371.00	10.10	410.00
205	1.60	117.73	10.10	371.00	10.10	410.00
210	1.88	122.40	10.10	371.00	10.10	410.00
215	1.65	127.13	10.10	371.00	10.10	410.00
220	1.67	131.78	10.10	371.00	10.10	410.00
225	2.06	136.24	10.10	371.00	10.10	410.00
230	2.07	140.73	10.10	371.00	10.10	410.00
235	2.34	144.98	10.10	371.00	10.10	410.00
240	2.23	149.23	10.10	371.00	10.10	410.00
245	2.18	153.21	10.10	371.00	10.10	410.00
250	1.70	157.14	10.10	371.00	10.10	410.00
255	1.52	160.36	10.10	371.00	10.10	410.00
260	1.62	162.49	10.10	371.00	10.10	410.00
265	1.67	163.43	10.10	371.00	10.10	410.00
270	1.65	163.01	10.10	371.00	10.10	410.00
275	1.53	161.34	10.10	371.00	10.10	410.00
280	1.12	158.85	10.10	371.00	10.10	410.00
285	0.00	156.02	10.10	371.00	10.10	410.00
290	0.65	151.65	10.10	371.00	10.10	410.00
295	0.69	147.39	10.10	371.00	10.10	410.00
300	0.61	143.01	10.10	371.00	10.10	410.00
305	0.54	138.50	10.10	371.00	10.10	410.00
310	0.75	133.83	10.10	371.00	10.10	410.00
315	1.04	129.09	10.10	371.00	10.10	410.00
320	1.05	124.39	10.10	371.00	10.10	410.00
325	0.96	119.68	10.10	371.00	10.10	410.00
330	0.93	114.92	10.10	371.00	10.10	410.00
335	0.89	110.15	10.10	371.00	10.10	410.00
340	0.75	105.37	10.10	371.00	10.10	410.00
345	0.37	100.58	10.10	371.00	10.10	410.00
350	0.00	95.77	10.10	371.00	10.10	410.00
355	0.00	90.94	10.10	371.00	10.10	410.00

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: June 02, 2020

ATTACHMENT 2

Information on Microwave Landing System Sites

For the proposed Clifton, Texas, GUSA Licensee LLC (“Globalstar”) gateway earth station antenna, there are four potential microwave landing system (“MLS”) sites (i.e., Category III airports) within the 200 nautical mile coordination distance. The proposed Clifton earth station antenna is located at 31-48 2.1 N, 97-36 44.3 W. The airports are:

IAH	Houston – George Bush International Airport, approximately 163 nautical miles from Clifton
AUS	Austin – Bergstrom International Airport, approximately 91 nautical miles away
DFW	Dallas/Ft. Worth International Airport, approximately 71 nautical miles away
AFW	Ft. Worth Alliance Field, approximately 68 nautical miles away

These airport sites fall outside the 39.8 nautical mile maximum trigger distance for MLS/MSS coordination. In addition, based on a directory used for MLS coordination purposes, and to the best of its knowledge, Globalstar believes that MLS is not active at any of these airport sites.