

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
GUSA Licensee, LLC
CLIFTON, TX
(CLF 7)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
September 19, 2014

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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.

The following companies reported potential great circle interference conflicts that did not meet the objectives on a line-of-sight basis. When over-the-horizon losses are considered on the interfering paths, sufficient blockage exists to negate harmful interference from occurring with the proposed transmit-receive earth station.

Company

KUVN License Partnership, L.P.

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 08/14/2014.

Company

ALAMO PUBLIC TELECOMMUNICATIONS COUNCIL
BlueStone License Holdings Inc.
CBS Stations Group of Texas, Inc
CENTRAL TEXAS COLLEGE
CHANNEL 49 ACQUISITION CORPORATION
CHELSEY BROADCASTING CO OF WICHITA FALLS
COMCORP OF TEXAS LICENSE CORP
COMCORP OF TYLER LICENSE CORP.
COMMUNITY TELEVISION EDUCATORS, INC
COMMUNITY TV EDUCATORS OF DFW
CORRIDOR TELEVISION, L.L.P.
Centex Television Limited Partnership
Circuit of the Americas
Comcorp of Bryan License Corp./KWKT
Community Educational Television, Inc.
DAIJ Media, LLC
Deerfield Media (San Antonio)License, LL
Far Eastern Telecasters
Fox Television Stations, Inc.
GRAY TELEVISION LICENSEE, INC (KXII)
Gray Television Licensee, LLC (KWTX-KBTX
HIC BROADCAST, INC.
Hoak Media of Wichita Falls License, LLC
ION MEDIA SAN ANTONIO LICENSE, INC.
KAKW LICENSE PARTNERSHIP, L.P.
KCEB License Company, LLC
KDAF, LLC
KENS-TV Inc
KEYE LICENSEE, LLC
KHOU-TV, INC
KIAH, LLC
KIDY/KXVA License Company, LLC
KLTV/KTRE License Subsidiary, LLC
KMOV-TV, Inc.
KPRC-TV
KSWO TELEVISION COMPANY, INC.
KTRK TV, Inc.
KUVN License Partnership, L.P.
KVUE TV Inc.
KWEX License Partnership LP
KXAN, Inc

KXAN, LLC
KXLN License Partnership, L..P.
KZJL License LLC
Kabb Licensee, LLC
Lieberman Television of Dallas License
Mission Broadcasting, Inc.
NBC Telemundo License LLC
NEXSTAR BROADCASTING, INC.
NRJ TV Houston License Co., LLC
NW Communications of Austin, Inc.
NW Communications of Texas, Inc.
Nexstar Broadcasting Group Inc - KTAB-TV
North Texas Public Broadcasting Inc.
Northstart Houston License, LLC
POST NEWSWEEK STATIONS SAN ANTONIO
Post-Newsweek Stations, Houston, Inc.
SAN ANTONIO COMMUNITY EDUCATIONAL TV INC
Saga Broadcasting, LLC
Station Venture Operations - Ft Worth TX
TEXOMA BROADCASTING, INC.
TUCK Properties, Inc.
Television Station KTXA L.P.
Trinity Broadcasting of Texas, Inc.
Unimas Dallas LLC
Unimas Partnership San Antonio
University of Houston System
WARWICK COMMUNICATIONS, INC.
WFAA-TV, L.P.
WOAI Licensee, LLC
WORD OF GOD FELLOWSHIP, 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: 09/19/2014
Job Number: 140814COMSGE01

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' 2.3" N
Longitude (NAD 83) 97° 36' 43.7" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 215.49 m / 707.0 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) 4.6 m / 15.1 ft

Antenna Information

Receive - FCC32

Transmit - FCC32

Manufacturer	Alcatel	Alcatel	
Model	9775	9775	
Gain / Diameter	50.2 dBi / 5.5 m	47.6 dBi / 5.5 m	
3-dB / 15-dB Beamwidth	1.00° / 1.98°	1.32° / 2.66°	
Max Available RF Power (dBW/4 kHz)		11.4	
(dBW/MHz)		35.4	
Maximum EIRP (dBW/4 kHz)		59.0	
(dBW/MHz)		83.0	
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
	N0N / 6900.0 - 7055.0	2M46G7W / 5096.0 - 5250.0
	2M46G2W - 2M46G7W / 6900.0 - 7055.0	40K0G2D / 5091.38 - 5091.62
	1M23G2W - 2M50G2D / 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' 2.3" N
Longitude (NAD 83) 97° 36' 43.7" W
Ground Elevation (AMSL) 215.49 m / 707.0 ft
Antenna Centerline (AGL) 4.6 m / 15.1 ft
Antenna Model Alcatel 5.5 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 11.4 (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	0.00	81.28	10.10	371.00	10.10	410.00
10	0.00	76.45	10.10	371.00	10.10	410.00
15	0.00	71.63	10.10	371.00	10.10	410.00
20	0.00	66.83	10.10	371.00	10.10	410.00
25	0.00	62.03	10.10	371.00	10.10	410.00
30	0.00	57.26	10.10	371.00	10.10	410.00
35	0.00	52.51	10.10	371.00	10.10	410.00
40	0.00	47.80	10.10	371.00	10.10	410.00
45	0.00	43.14	10.10	371.00	10.10	410.00
50	0.00	38.54	10.10	371.00	10.10	410.00
55	0.00	34.04	10.10	371.00	10.10	410.00
60	0.00	29.67	10.10	371.00	10.10	410.00
65	0.00	25.51	10.10	371.00	10.10	410.00
70	0.00	21.69	10.10	371.00	10.10	410.00
75	0.00	18.41	10.10	371.00	10.10	410.00
80	0.00	16.00	10.10	371.00	10.10	410.00
85	0.00	14.90	10.10	371.00	10.10	410.00
90	0.00	15.39	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	0.00	50.67	10.10	371.00	10.10	410.00
140	0.00	55.41	10.10	371.00	10.10	410.00
145	0.00	60.17	10.10	371.00	10.10	410.00
150	0.00	64.96	10.10	371.00	10.10	410.00
155	0.00	69.76	10.10	371.00	10.10	410.00
160	0.00	74.57	10.10	371.00	10.10	410.00
165	0.00	79.40	10.10	371.00	10.10	410.00
170	0.00	84.23	10.10	371.00	10.10	410.00
175	0.00	89.06	10.10	371.00	10.10	410.00
180	0.00	93.89	10.10	371.00	10.10	410.00
185	0.00	98.72	10.10	371.00	10.10	410.00

COMSEARCH

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Coordination Values

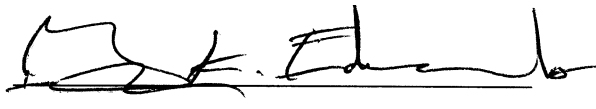
CLIFTON, TX

Licensee Name	GUSA Licensee, LLC			
Latitude (NAD 83)	31° 48' 2.3" N			
Longitude (NAD 83)	97° 36' 43.7" W			
Ground Elevation (AMSL)	215.49 m / 707.0 ft			
Antenna Centerline (AGL)	4.6 m / 15.1 ft			
Antenna Model	Alcatel 5.5 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			11.4 (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	103.55	10.10	371.00	10.10	410.00
195	0.00	108.37	10.10	371.00	10.10	410.00
200	0.00	113.17	10.10	371.00	10.10	410.00
205	0.00	117.97	10.10	371.00	10.10	410.00
210	0.00	122.74	10.10	371.00	10.10	410.00
215	0.00	127.49	10.10	371.00	10.10	410.00
220	0.00	132.20	10.10	371.00	10.10	410.00
225	0.00	136.86	10.10	371.00	10.10	410.00
230	0.00	141.46	10.10	371.00	10.10	410.00
235	0.00	145.96	10.10	371.00	10.10	410.00
240	0.00	150.33	10.10	371.00	10.10	410.00
245	0.00	154.49	10.10	371.00	10.10	410.00
250	0.00	158.31	10.10	371.00	10.10	410.00
255	0.00	161.59	10.10	371.00	10.10	410.00
260	0.00	164.00	10.10	371.00	10.10	410.00
265	0.00	165.10	10.10	371.00	10.10	410.00
270	0.00	164.61	10.10	371.00	10.10	410.00
275	0.00	162.66	10.10	371.00	10.10	410.00
280	0.00	159.67	10.10	371.00	10.10	410.00
285	0.00	156.02	10.10	371.00	10.10	410.00
290	0.00	151.98	10.10	371.00	10.10	410.00
295	0.00	147.68	10.10	371.00	10.10	410.00
300	0.00	143.23	10.10	371.00	10.10	410.00
305	0.00	138.66	10.10	371.00	10.10	410.00
310	0.00	134.02	10.10	371.00	10.10	410.00
315	0.00	129.33	10.10	371.00	10.10	410.00
320	0.00	124.59	10.10	371.00	10.10	410.00
325	0.00	119.83	10.10	371.00	10.10	410.00
330	0.00	115.04	10.10	371.00	10.10	410.00
335	0.00	110.24	10.10	371.00	10.10	410.00
340	0.00	105.43	10.10	371.00	10.10	410.00
345	0.00	100.60	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: September 19, 2014