

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
CLEAR CHANNEL SATELLITE SERVICES
SAN ANTONIO, TX
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
January 25, 2008

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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

Bluebonnet Electric Cooperative, Inc.
Enterprise Products Operating LLC
San Antonio MTA, L.P.
Texas RSA 18 Limited Partnership

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 01/02/2008.

Company

AT&T Mobility Texas LLC - S TX

Austin City Texas

Austin Energy

Advanced Tel-Com Systems Corporation

Bexarmet Water District

Bluebonnet Electric Cooperative, Inc.

BorderComm Partners LP (XC)

CGKC&H Rural Cellular Partnership

City Public Service

Cingular Wireless of Texas RSA #16 Ltd

Dobson Cellular Systems, Inc.

Enterprise Products Operating LLC

Electric Reliability Council of Texas

Guadalupe Valley Electric Cooperative

Guadalupe Valley Telephone Coop., Inc.

International Communications Group, Inc.

Lower Colorado River Authority

Medina Electric Cooperative Inc

Pedernales Electric Cooperative Inc

San Antonio MTA, L.P.

T-Mobile License LLC

Texas Electronic Transport Company

Texas RSA 18 Limited Partnership

Texas RSA 19 Ltd Partnership

Texas RSA 20B1 Ltd Partnership

Time Warner Entertnmnt-Advance/Newhouse

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: 01/25/2008
Job Number: 080102COMSTC05

Administrative Information

Licensee Name CLEAR CHANNEL SATELLITE SERVICES

Site Information

SAN ANTONIO, TX

Latitude (NAD 83) 29° 38' 50.0" N
Longitude (NAD 83) 98° 27' 14.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 338.33 m / 1110.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 60° W to 143° West Longitude
Azimuth Range 121.9° to 243.3°
Corresponding Elevation Angles 35.8° / 30.8°
Antenna Centerline (AGL) 3.35 m / 11.0 ft

Antenna Information

Receive

Manufacturer Suman
Model SM-T4.5R
Gain / Diameter 43.6 dBi / 4.5 m
3-dB / 15-dB Beamwidth 1.50° / 3.00°

Transmit

Suman
SM-T4.5R
47.3 dBi / 4.5 m
0.80° / 1.60°

				<u>128KG1D</u>	<u>2M00G1D</u>	<u>11M0G1D</u>
Max Available RF Power	(dBW/4 kHz)			-14.1	-14.1	-14.12
	(dBW/MHz)			9.9	9.9	9.88
Maximum EIRP	(dBW/4 kHz)			33.2	33.2	33.18
	(dBW/MHz)			57.2	57.2	57.18
	(dBW)			48.25	60.2	67.57
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%	
	Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%	

Frequency Information

Receive 4.0 GHz

Emission / Frequency Range (MHz)
128KG1D / 3700.0 - 4200.0
2M00G1D / 3700.0 - 4200.0
11M0G1D / 3700.0 - 4200.0

Transmit 6.1 GHz

128KG1D / 5925.0 - 6425.0
2M00G1D / 5925.0 - 6425.0
11M0G1D / 5925.0 - 6425.0

Max Great Circle Coordination Distance 305.9 km / 190.1 mi 140.1 km / 87.0 mi
Precipitation Scatter Contour Radius 488.5 km / 303.5 mi 100.0 km / 62.1 mi

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Coordination Values

SAN ANTONIO, TX

Licensee Name CLEAR CHANNEL SATELLITE SERVICES
Latitude (NAD 83) 29° 38' 50.0" N
Longitude (NAD 83) 98° 27' 14.0" W
Ground Elevation (AMSL) 338.33 m / 1110.0 ft
Antenna Centerline (AGL) 3.35 m / 11.0 ft
Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
Interference Objectives: Long Term -156.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -14.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	2.07	113.19	-10.00	192.86	-10.00	100.00
5	1.90	112.06	-10.00	197.31	-10.00	100.00
10	1.76	108.01	-10.00	200.97	-10.00	100.00
15	1.59	103.92	-10.00	205.71	-10.00	100.00
20	1.22	99.79	-10.00	213.61	-10.00	100.00
25	1.19	95.69	-10.00	214.55	-10.00	100.00
30	1.24	91.58	-10.00	213.01	-10.00	100.00
35	0.91	87.48	-10.00	225.41	-10.00	100.00
40	0.71	83.40	-10.00	236.65	-10.00	100.00
45	0.63	79.35	-10.00	241.51	-10.00	102.47
50	0.40	75.36	-10.00	260.59	-10.00	115.97
55	0.29	71.40	-10.00	273.73	-10.00	124.91
60	0.39	67.46	-10.00	262.45	-10.00	117.26
65	0.35	63.62	-10.00	266.53	-10.00	120.05
70	0.00	60.01	-10.00	285.28	-10.00	132.52
75	0.33	56.23	-10.00	269.00	-10.00	121.73
80	0.34	52.72	-10.00	268.47	-10.00	121.36
85	0.35	49.39	-10.00	266.96	-10.00	120.34
90	0.30	46.33	-9.65	275.61	-9.65	125.64
95	0.30	43.50	-8.96	279.95	-8.96	127.49
100	0.20	41.07	-8.34	295.91	-8.34	135.71
105	0.00	39.15	-7.82	299.53	-7.82	137.30
110	0.00	37.53	-7.36	302.64	-7.36	138.64
115	0.00	36.42	-7.03	304.84	-7.03	139.60
120	0.00	35.89	-6.88	305.93	-6.88	140.07
125	0.00	35.96	-6.90	305.79	-6.90	140.01
130	0.00	36.63	-7.10	304.43	-7.10	139.42
135	0.00	37.86	-7.45	301.99	-7.45	138.36
140	0.00	39.60	-7.94	298.71	-7.94	136.95
145	0.00	41.78	-8.52	294.84	-8.52	135.29
150	0.00	44.34	-9.17	290.61	-9.17	133.51
155	0.00	47.22	-9.85	286.22	-9.85	132.92
160	0.00	49.95	-10.00	285.28	-10.00	132.52
165	0.00	52.24	-10.00	285.28	-10.00	132.52
170	0.25	53.75	-10.00	278.79	-10.00	128.27
175	0.25	54.82	-10.00	278.79	-10.00	128.27
180	0.25	55.18	-10.00	278.79	-10.00	128.27
185	1.15	53.95	-10.00	215.82	-10.00	100.00

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Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -14.1 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 4.0 GHz		Transmit 6.1 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	1.15	52.94	-10.00	215.82	-10.00	100.00
195	1.43	51.06	-10.00	207.57	-10.00	100.00
200	1.43	48.88	-10.00	207.52	-10.00	100.00
205	1.35	46.28	-9.63	211.53	-9.63	100.00
210	1.35	43.24	-8.90	215.17	-8.90	100.00
215	0.98	40.20	-8.11	231.13	-8.11	100.00
220	0.98	37.19	-7.26	236.06	-7.26	100.00
225	0.98	34.55	-6.46	240.53	-6.46	100.00
230	0.36	32.98	-5.96	292.23	-5.96	130.74
235	0.64	31.19	-5.35	269.04	-5.35	114.27
240	0.79	30.19	-4.99	261.66	-4.99	108.55
245	0.85	30.00	-4.93	258.21	-4.93	106.01
250	0.75	30.73	-5.19	263.10	-5.19	109.89
255	0.45	32.33	-5.74	282.17	-5.74	123.78
260	0.48	34.23	-6.36	274.56	-6.36	119.74
265	0.47	36.68	-7.11	270.86	-7.11	118.48
270	0.35	39.63	-7.95	279.58	-7.95	125.67
275	0.75	42.56	-8.73	241.14	-8.73	100.21
280	1.12	45.84	-9.53	218.91	-9.53	100.00
285	1.59	49.32	-10.00	205.58	-10.00	100.00
290	1.88	53.10	-10.00	197.75	-10.00	100.00
295	2.04	57.08	-10.00	193.68	-10.00	100.00
300	1.81	61.29	-10.00	199.76	-10.00	100.00
305	1.63	65.54	-10.00	204.53	-10.00	100.00
310	1.54	69.80	-10.00	204.50	-10.00	100.00
315	1.79	74.05	-10.00	200.08	-10.00	100.00
320	1.95	78.36	-10.00	195.79	-10.00	100.00
325	2.12	82.71	-10.00	191.73	-10.00	100.00
330	2.23	87.09	-10.00	189.26	-10.00	100.00
335	2.68	91.49	-10.00	178.83	-10.00	100.00
340	2.74	95.90	-10.00	177.63	-10.00	100.00
345	3.02	100.32	-10.00	171.02	-10.00	100.00
350	2.74	104.67	-10.00	177.63	-10.00	100.00
355	2.53	108.99	-10.00	182.32	-10.00	100.00

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.



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

DATED: January 25, 2008