FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

KSBJ Educational Foundation
Humble, Texas

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
February 15, 2012

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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, based upon the restrictions noted in the Summary of Results (Section 2).

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 most cases.

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 and frequency separation are considered on the interfering paths, sufficient losses exist to negate harmful interference from occurring with the proposed transmit-receive earth station. Further, the transmit spectrum will be limited to frequencies 5925.0 to 6388.7 MHz and 6421.0 to 6425.0 MHz.

Company

Centerpoint Energy, Inc.
GTE Mobilnet of Texas RSA #17, Ltd. Partnership
Houston, City of
GTE Mobilnet of South Texas, Ltd. Partners
New Cingular Wireless PCS LLC – S. Texas
San Antonio MTA, L.P.
Transcontinental Gas Pipeline Corp.
Verizon Wireless Texas, LLC

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.

Expedited coordination data for this earth station was emailed and sent to the below listed carriers with a letter dated January 27, 2012.

Company

American National Insurance Company
Austin Energy
BLUEBONNET ELECTRIC COOPERATIVE INC
Bell Atlantic Mobile Allentown-Verizon W
CENTERPOINT ENERGY INC
Central Telephone Company of Texas
Cequel III Communications I, LLC
Cingular Wireless of Texas RSA #16 LP
Dallas MTA, L.P.
Dobson Cellular Systems, Inc.
ENTERPRISE PRODUCTS OPERATING LLC
ERF Wireless Bundled Services, Inc.
Equistar Chemicals, LP
GTE Mobilnet of South Texas LTD Partners
GTE Mobilnet of Texas RSA #17 LTD Prtnsh
Great Western Communications, LLC
Greater Harris County 911 Emergency Net
Harris County ITC
Houston, City of
International Communications Group, Inc.
JASPER NEWTON ELECTRIC COOPERATIVE
LOWER COLORADO RIVER AUTHORITY
MCI Communications Services Inc.
METROPOLITAN AREA NETWORKS, INC.
New Cingular Wireless PCS LLC - N Texas
New Cingular Wireless PCS LLC - S Texas
RAYTHEON COMPANY
SAN BERNARD ELECTRIC COOPERATIVE INC
Sam Houston Electric Cooperative
San Antonio MTA, L.P.
Sprintcom, Inc
Stratos Offshore Services Company

Company (Continued)

T-MOBILE USA, INC.
TEXAS NEW MEXICO POWER COMPANY
Texas Eastern Communications, Inc.
Texas RSA 18 Limited Partnership
Transcontinental Gas Pipeline Corp.
Trunkline Gas Company, LLC
Union Pacific Railroad Company
Verizon Wireless Texas LLC - Houston GC
Verizon Wireless Texas, LLC
Verizon Wireless(VAW) LLC-AZ/CO/NM/NV/UT

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:	02/15/2012
Job Number:	120127COMSJC03

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	ZKSBJE
Licensee Name	KSBJ EDUCATIONAL FOUNDATION

Site Information — HUMBLE, TEXAS

Venue Name	
Latitude (NAD 83)	29° 59' 37.7" N
Longitude (NAD 83)	95° 14' 57.7" W
Climate Zone	B
Rain Zone	2
Ground Elevation (AMSL)	24.38 m / 80.0 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	70° W to 139° West Longitude
Azimuth Range	136.7° to 242.4°
Corresponding Elevation Angles	45.5° / 31.3°
Antenna Centerline (AGL)	2.44 m / 8.0 ft

Antenna Information		Receive		Transmit	
Manufacturer		Prodelin		Prodelin	
Model		3.8 Meter		3.8 Meter	
Gain / Diameter		41.8 dBi / 3.8 m		46.2 dBi / 3.8 m	
3-dB / 15-dB Beamwidth		1.35° / 2.84°		0.87° / 1.83°	
Max Available RF Power	(dBW/4 kHz)			-13.2	
	(dBW/MHz)			3.8	
Maximum EIRP	(dBW/4 kHz)			33.0	
	(dBW/MHz)			50.0	
	(dBW)			50.0	
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	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	200KG1D / 3700.0 - 4200.0	200KG1D / 5925.0 - 6388.7 200KG1D / 6421.0 - 6425.0
Max Great Circle Coordination Distance	472.6 km / 293.6 mi	169.3 km / 105.2 mi
Precipitation Scatter Contour Radius	488.2 km / 303.3 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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(703)726-5500 http://www.comsearch.com

Coordination Values	**HUMBLE, TX**			
Licensee Name	KSBJ EDUCATIONAL FOUNDATION			
Latitude (NAD 83)	29° 59' 37.7" N			
Longitude (NAD 83)	95° 14' 57.7" W			
Ground Elevation (AMSL)	24.38 m / 80.0 ft			
Antenna Centerline (AGL)	2.44 m / 8.0 ft			
Antenna Model	Prodelin 3.8 Meter			
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			-13.2 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	113.30	-10.00	412.20	-10.00	149.12
5	0.00	117.39	-10.00	412.20	-10.00	149.12
10	0.00	114.75	-10.00	412.20	-10.00	149.12
15	0.00	111.60	-10.00	412.20	-10.00	149.12
20	0.00	108.34	-10.00	412.20	-10.00	149.12
25	0.00	105.01	-10.00	412.20	-10.00	149.12
30	0.00	101.60	-10.00	412.20	-10.00	149.12
35	0.00	98.15	-10.00	412.20	-10.00	149.12
40	0.00	94.67	-10.00	412.20	-10.00	149.12
45	0.00	91.17	-10.00	412.20	-10.00	149.12
50	0.00	87.67	-10.00	412.20	-10.00	149.12
55	0.00	84.17	-10.00	412.20	-10.00	149.12
60	0.00	80.70	-10.00	412.20	-10.00	149.12
65	0.00	77.26	-10.00	412.20	-10.00	149.12
70	0.00	73.88	-10.00	412.20	-10.00	149.12
75	0.00	70.57	-10.00	412.20	-10.00	149.12
80	0.00	67.34	-10.00	412.20	-10.00	149.12
85	0.00	64.22	-10.00	412.20	-10.00	149.12
90	0.00	61.24	-10.00	412.20	-10.00	149.12
95	0.00	58.42	-10.00	412.20	-10.00	149.12
100	0.00	55.78	-10.00	412.20	-10.00	149.12
105	0.00	53.36	-10.00	412.20	-10.00	149.12
110	0.00	51.20	-10.00	412.20	-10.00	149.12
115	0.00	49.34	-10.00	412.20	-10.00	149.12
120	0.00	47.80	-9.99	412.37	-9.99	149.17
125	0.00	46.63	-9.72	415.72	-9.72	150.27
130	0.00	45.86	-9.54	418.00	-9.54	151.01
135	0.00	45.50	-9.45	419.06	-9.45	151.36
140	0.00	45.58	-9.47	418.85	-9.47	151.29
145	0.00	46.07	-9.59	417.37	-9.59	150.81
150	0.00	46.98	-9.80	414.72	-9.80	149.94
155	0.00	48.27	-10.00	412.20	-10.00	149.12
160	0.00	49.92	-10.00	412.20	-10.00	149.12
165	0.00	51.88	-10.00	412.20	-10.00	149.12
170	0.00	53.60	-10.00	412.20	-10.00	149.12
175	0.00	54.67	-10.00	412.20	-10.00	149.12
180	0.00	55.04	-10.00	412.20	-10.00	149.12

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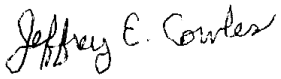
Antenna Model	Prodelin 3.8 Meter			
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power			-13.2 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
185	0.00	54.67	-10.00	412.20	-10.00	149.12
190	0.00	53.60	-10.00	412.20	-10.00	149.12
195	0.00	51.88	-10.00	412.20	-10.00	149.12
200	0.00	49.62	-10.00	412.20	-10.00	149.12
205	0.00	46.91	-9.78	414.91	-9.78	150.00
210	0.00	43.84	-9.05	424.20	-9.05	153.05
215	0.00	40.68	-8.23	434.73	-8.23	156.51
220	0.00	37.83	-7.45	445.17	-7.45	159.97
225	0.00	35.39	-6.72	454.99	-6.72	163.23
230	0.00	33.44	-6.11	463.49	-6.11	166.07
235	0.00	32.08	-5.66	469.20	-5.66	168.19
240	0.00	31.39	-5.42	472.58	-5.42	169.33
245	0.00	31.40	-5.42	472.53	-5.42	169.31
250	0.00	32.12	-5.67	469.04	-5.67	168.14
255	0.00	33.50	-6.12	463.26	-6.12	165.99
260	0.00	35.46	-6.74	454.71	-6.74	163.14
265	0.00	37.91	-7.47	444.86	-7.47	159.87
270	0.00	40.77	-8.26	434.41	-8.26	156.41
275	0.00	43.94	-9.07	423.87	-9.07	152.94
280	0.00	47.38	-9.89	413.58	-9.89	149.57
285	0.00	51.01	-10.00	412.20	-10.00	149.12
290	0.00	54.80	-10.00	412.20	-10.00	149.12
295	0.00	58.72	-10.00	412.20	-10.00	149.12
300	0.00	62.73	-10.00	412.20	-10.00	149.12
305	0.00	66.83	-10.00	412.20	-10.00	149.12
310	0.00	70.98	-10.00	412.20	-10.00	149.12
315	0.00	75.18	-10.00	412.20	-10.00	149.12
320	0.00	79.41	-10.00	412.20	-10.00	149.12
325	0.00	83.66	-10.00	412.20	-10.00	149.12
330	0.00	87.93	-10.00	412.20	-10.00	149.12
335	0.00	92.20	-10.00	412.20	-10.00	149.12
340	0.00	96.47	-10.00	412.20	-10.00	149.12
345	0.00	100.72	-10.00	412.20	-10.00	149.12
350	0.00	104.95	-10.00	412.20	-10.00	149.12
355	0.00	109.15	-10.00	412.20	-10.00	149.12

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.



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19700 Janelia Farm Boulevard
Ashburn, Va. 20147

DATED: February 15, 2012