

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Board of Supervisors of LSU/A&M College**  
**SHREVEPORT, LA**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
October 01, 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. This earth station will be limited to operations of the bandwidths shown in Section 4 of this report.

## 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

Centerpoint Energy Field Services  
Central Louisiana License Co., LLC  
Louisiana Dept. of Transportation and Dev  
New Cingular Wireless PCS, LLC - LA, GM  
Wireless Infrastructure Partners, 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.

Coordination data for this earth station was sent to the below listed carriers with a letter dated 07/27/2012.

#### Company

Allied Wireless Communications Corp.  
Alltel Comm., of Southwest Arkansas  
Alltel Wireless of Alexandria, LLC  
Alltel Comm of Arkansas RSA #12 Cell L P  
Alltel Comm of N Louisiana Cellular LP  
Alltel Communications Wireless Inc. -AR  
Alltel Communications Wireless Inc.- CTX  
Alltel Communications Wireless of LA, In  
American Electric Power Service Corp.  
Centerpoint Energy Field Services  
Central Louisiana License Co., LLC  
Cleco Power LLC  
Conterra Ultra Broadband, LLC  
Encana Oil & Gas (USA) Inc.  
Entergy Services Inc  
Etex Communications, L.P.  
KN Telecommunications, Inc.  
LaSalle Parish School District  
Longview, City of  
Louisiana Dept. of Transportation and Dev  
New Cingular Wireless PCS LLC - N Texas  
New Cingular Wireless PCS, LLC - AR  
New Cingular Wireless PCS, LLC - LA, GM  
Nexus Systems, Inc.  
Northeast Texas Consortium(NETnet)  
PUBLIC SERVICE COMPANY OF OKLAHOMA  
SOUTHWESTERN ELECTRIC POWER COMPANY  
TX-10 Licensee Co., LLC  
Texas RSA 11B Limited Partnership  
Texas RSA 7B2 Limited Partnership  
Trunkline Gas Company, LLC  
Tyler-Longview-Marshall MSA Ltd Partners  
UNITED WEHCO INC.  
Verizon Wireless (VAW) LLC (CA)  
Verizon Wireless (VAW) LLC - Arkansas  
Verizon Wireless (VAW) LLC-Central Texas  
Verizon Wireless Personal Comm LP-LA/MS  
Verizon Wireless(VAW) LLC-AZ/CO/NM/NV/UT  
WWC Texas RSA Limited Partnership  
Wireless Infrastructure Partners, 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: 10/01/2012  
Job Number: 120727COMSTC02

### Administrative Information

Licensee Name Board of Supervisors of LSU/A&M College

### Site Information

#### SHREVEPORT, LA

Latitude (NAD 83) 32° 25' 28.0" N  
Longitude (NAD 83) 93° 42' 24.7" W  
Climate Zone A  
Rain Zone 1  
Ground Elevation (AMSL) 49.23 m / 161.5 ft

### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 37.5°W to 139°West Longitude  
Azimuth Range 109.7° to 242.0°  
Corresponding Elevation Angles 19.8° / 28.8°  
Antenna Centerline (AGL) 2.6 m / 8.5 ft

### Antenna Information

#### Receive

Manufacturer/Model Prodelin 1385  
Gain / Diameter 41.9 dBi / 3.8 m  
3-dB / 15-dB Beamwidth 1.60° / 3.20°

#### Transmit

Prodelin 1385  
45.9 dBi / 3.8 m  
0.80° / 1.60°

				<u>154KG7W</u>	<u>230KG7W</u>
Max Available RF Power	(dBW/4 kHz)			-12.83	-14.08
	(dBW/MHz)			11.14	9.9
Maximum EIRP	(dBW/4 kHz)			33.07	31.82
	(dBW/MHz)			57.04	55.80
	(dBW)			50.67	47.66
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)  
154KG7W / 3700.0 - 4200.0  
230KG7W / 3700.0 - 4200.0

#### Transmit 6.1 GHz

154KG7W / 5925.0 - 6078.35  
230KG7W / 5925.0 - 6078.35  
154KG7W / 6108.55 - 6271.09  
230KG7W / 6108.55 - 6271.09  
154KG7W / 6301.29 - 6330.39  
230KG7W / 6301.29 - 6330.39  
154KG7W / 6360.59 - 6425.0  
230KG7W / 6360.59 - 6425.0

Max Great Circle Coordination Distance 353.3 km / 219.5 mi 168.6 km / 104.7 mi  
Precipitation Scatter Contour Radius 580.0 km / 360.3 mi 100.0 km / 62.1 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### SHREVEPORT, LA

Licensee Name Board of Supervisors of LSU/A&M College  
Latitude (NAD 83) 32°25' 28.0" N  
Longitude (NAD 83) 93°42' 24.7" W  
Ground Elevation (AMSL) 49.23 m / 161.5 ft  
Antenna Centerline (AGL) 2.6 m / 8.5 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 -12.8 (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	0.00	108.53	-10.00	285.28	-10.00	134.86
5	0.00	103.85	-10.00	285.28	-10.00	134.86
10	0.00	99.16	-10.00	285.28	-10.00	134.86
15	0.00	94.46	-10.00	285.28	-10.00	134.86
20	0.00	89.76	-10.00	285.28	-10.00	134.86
25	0.00	85.06	-10.00	285.28	-10.00	134.86
30	0.00	80.36	-10.00	285.28	-10.00	134.86
35	0.00	75.67	-10.00	285.28	-10.00	134.86
40	0.00	70.99	-10.00	285.28	-10.00	134.86
45	0.00	66.33	-10.00	285.28	-10.00	134.86
50	0.00	61.70	-10.00	285.28	-10.00	134.86
55	0.00	57.11	-10.00	285.28	-10.00	134.86
60	0.00	52.56	-10.00	285.28	-10.00	134.86
65	0.00	48.07	-10.00	285.28	-10.00	134.86
70	0.00	43.67	-9.00	291.69	-9.00	137.69
75	0.00	39.37	-7.88	299.12	-7.88	141.03
80	0.00	35.23	-6.67	307.32	-6.67	144.77
85	0.00	31.31	-5.39	316.91	-5.39	148.95
90	0.00	27.69	-4.06	326.42	-4.06	153.50
95	0.00	24.52	-2.74	336.03	-2.74	158.21
100	0.00	22.00	-1.56	344.79	-1.56	162.61
105	0.00	20.36	-0.72	351.13	-0.72	165.84
110	0.00	19.82	-0.43	353.33	-0.43	168.60
115	0.00	20.48	-0.78	350.64	-0.78	165.59
120	0.00	22.22	-1.67	343.97	-1.67	162.19
125	0.00	24.82	-2.87	335.06	-2.87	157.73
130	0.00	28.05	-4.20	325.42	-4.20	153.02
135	0.00	31.68	-5.52	316.01	-5.52	148.53
140	0.00	35.28	-6.69	307.23	-6.69	144.73
145	0.00	38.69	-7.69	300.40	-7.69	141.60
150	0.00	41.87	-8.55	294.69	-8.55	139.03
155	0.00	44.76	-9.27	289.95	-9.27	136.91
160	0.00	47.29	-9.87	286.11	-9.87	135.22
165	0.00	49.38	-10.00	285.28	-10.00	134.86
170	0.00	50.95	-10.00	285.28	-10.00	134.86
175	0.00	51.93	-10.00	285.28	-10.00	134.86
180	0.00	52.27	-10.00	285.28	-10.00	134.86
185	0.00	51.93	-10.00	285.28	-10.00	134.86

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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			-12.8 (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	0.00	50.95	-10.00	285.28	-10.00	134.86
195	0.00	49.38	-10.00	285.28	-10.00	134.86
200	0.00	47.29	-9.87	286.12	-9.87	135.22
205	0.00	44.76	-9.27	289.95	-9.27	136.92
210	0.26	41.69	-8.50	287.21	-8.50	133.89
215	0.00	38.70	-7.69	300.38	-7.69	141.59
220	0.00	35.69	-6.81	306.35	-6.81	144.33
225	0.00	33.10	-6.00	312.66	-6.00	146.96
230	0.00	31.03	-5.29	317.60	-5.29	149.28
235	0.21	29.39	-4.70	320.37	-4.70	150.20
240	0.23	28.65	-4.43	319.66	-4.43	149.12
245	0.22	28.74	-4.46	321.22	-4.46	150.35
250	0.23	29.58	-4.78	317.56	-4.78	148.24
255	0.00	31.36	-5.41	316.77	-5.41	148.89
260	0.30	33.29	-6.06	299.03	-6.06	137.85
265	0.27	36.01	-6.91	296.65	-6.91	137.68
270	0.28	39.10	-7.80	288.98	-7.80	133.98
275	0.22	42.54	-8.72	290.64	-8.72	136.53
280	0.25	46.17	-9.61	281.91	-9.61	133.31
285	0.21	50.02	-10.00	283.63	-10.00	133.76
290	0.22	53.98	-10.00	282.21	-10.00	134.08
295	0.22	58.07	-10.00	282.36	-10.00	134.18
300	0.24	62.23	-10.00	279.81	-10.00	132.50
305	0.00	66.52	-10.00	285.28	-10.00	134.86
310	0.00	70.80	-10.00	285.28	-10.00	134.86
315	0.00	75.12	-10.00	285.28	-10.00	134.86
320	0.00	79.47	-10.00	285.28	-10.00	134.86
325	0.00	83.83	-10.00	285.28	-10.00	134.86
330	0.00	88.21	-10.00	285.28	-10.00	134.86
335	0.00	92.59	-10.00	285.28	-10.00	134.86
340	0.00	96.97	-10.00	285.28	-10.00	134.86
345	0.00	101.33	-10.00	285.28	-10.00	134.86
350	0.00	105.67	-10.00	285.28	-10.00	134.86
355	0.00	109.98	-10.00	285.28	-10.00	134.86

## 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: October 01, 2012