

Exhibit A

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

**FEDERAL AVIATION ADMINISTRATION
OKLAHOMA CITY, OKLAHOMA**

Satellite Earth Station

Prepared By:

COMSEARCH

19700 Janelia Farm Boulevard

Ashburn, Virginia 20147

August 10, 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 from 5925.0 to 6359.0 MHz and 6391.5 to 6425.0 MHz.

Company

Alltel Communications LLC – Oklahoma
New Cingular Wireless PCS, LLC - OK
Oklahoma Department of Transportation
Oklahoma Gas and Electric Company
Oklahoma RSA 3 Limited Partnership
Oklahoma RSA 9 Limited Partnership
Western Farmers Electric Cooperative

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 June 28, 2012.

Company

AMERICAN ELECTRIC POWER SERVICE CORP.
Alltel Communications LLC - Oklahoma
BNSF Railway Company
CHOICE WIRELESS LC
Cellular Network Partnership, A Ltd Prtn
Conterra Ultra Broadband, LLC
ENBRIDGE ENERGY COMPANY, INC.
GRAND RIVER DAM AUTHORITY
KAMO Electric Cooperative Inc.
New Cingular Wireless PCS LLC - N Texas
New Cingular Wireless PCS LLC - S Texas
New Cingular Wireless PCS, LLC - OK
Oklahoma City SMSA Limited Partnership
Oklahoma Department of Transportation
Oklahoma Gas and Electric Company
Oklahoma Independent RSA 7 Partnership
Oklahoma RSA 3 Limited Partnership
Oklahoma RSA 9 Limited Partnership
PUBLIC SERVICE COMPANY OF OKLAHOMA
Pioneer Long Distance Inc.
RAYTHEON COMPANY
Redlands Community College
Texahoma Cellular Limited Partnership
US Cellular Telephone of Greater Tulsa
USCOC of Greater Oklahoma, LLC
USCOC of Oklahoma RSA #10, Inc.
Verizon Wireless (VAW) LLC (KS,MO,MN,OK)
WILSON PUBLIC SCHOOLS
WWC License L.L.C.- Oklahoma
WWC Texas RSA Limited Partnership
Western Farmers Electric Cooperative

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: 08/10/2012
Job Number: 120628COMSJC05

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	FEDFAA
Licensee Name	FEDERAL AVIATION ADMINISTRATION

Site Information **OKLAHOMA CITY, OKLAHOMA**

Venue Name	
Latitude (NAD 83)	35° 23' 42.0" N
Longitude (NAD 83)	97° 37' 23.0" W
Climate Zone	A
Rain Zone	2
Ground Elevation (AMSL)	389.23 m / 1277.0 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	72° W to 139° West Longitude
Azimuth Range	140.4° to 236.7°
Corresponding Elevation Angles	40.7° / 30.2°
Antenna Centerline (AGL)	3.05 m / 10.0 ft

Antenna Information

Manufacturer	Superior Satellite
Model	4.5 Meter
Gain / Diameter	43.6 dBi / 4.5 m
3-dB / 15-dB Beamwidth	1.10° / 1.90°

Receive**Transmit**

Superior Satellite
4.5 Meter
46.7 dBi / 4.5 m
0.76° / 1.43°

Max Available RF Power	(dBW/4 kHz)
	(dBW/MHz)

-2.7
10.8

Maximum EIRP	(dBW/4 kHz)
	(dBW/MHz)
	(dBW)

44.0
57.5
57.5

Interference Objectives:	Long Term	-156.0 dBW/MHz	20%
	Short Term	-146.0 dBW/MHz	0.01%

-154.0 dBW/4 kHz	20%
-131.0 dBW/4 kHz	0.0025%

Frequency Information

Emission / Frequency Range (MHz)	90K0G7W / 3700.0 - 4200.0
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Receive 4.0 GHz**Transmit 6.1 GHz**

90K0G7W / 5925.0 - 6359.0
90K0G7W / 6391.5 - 6425.0

Max Great Circle Coordination Distance	318.2 km / 197.7 mi
Precipitation Scatter Contour Radius	489.0 km / 303.8 mi

189.1 km / 117.5 mi
100.0 km / 62.1 mi

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Earth Station Data Sheet

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Coordination Values

OKLAHOMA CITY, OK

Licensee Name	FEDERAL AVIATION ADMINISTRATION				
Latitude (NAD 83)	35° 23' 42.0" N				
Longitude (NAD 83)	97° 37' 23.0" W				
Ground Elevation (AMSL)	389.23 m / 1277.0 ft				
Antenna Centerline (AGL)	3.05 m / 10.0 ft				
Antenna Model	Superior Satellite 4.5 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			-2.7 (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	118.35	-10.00	285.28	-10.00	170.66
5	0.00	122.41	-10.00	285.28	-10.00	170.66
10	0.00	119.40	-10.00	285.28	-10.00	170.66
15	0.00	116.02	-10.00	285.28	-10.00	170.66
20	0.00	112.53	-10.00	285.28	-10.00	170.66
25	0.00	108.95	-10.00	285.28	-10.00	170.66
30	0.00	105.30	-10.00	285.28	-10.00	170.66
35	0.00	101.59	-10.00	285.28	-10.00	170.66
40	0.00	97.84	-10.00	285.28	-10.00	170.66
45	0.00	94.07	-10.00	285.28	-10.00	170.66
50	0.00	90.28	-10.00	285.28	-10.00	170.66
55	0.00	86.50	-10.00	285.28	-10.00	170.66
60	0.00	82.72	-10.00	285.28	-10.00	170.66
65	0.00	78.97	-10.00	285.28	-10.00	170.66
70	0.00	75.26	-10.00	285.28	-10.00	170.66
75	0.00	71.59	-10.00	285.28	-10.00	170.66
80	0.00	68.00	-10.00	285.28	-10.00	170.66
85	0.00	64.50	-10.00	285.28	-10.00	170.66
90	0.00	61.10	-10.00	285.28	-10.00	170.66
95	0.00	57.84	-10.00	285.28	-10.00	170.66
100	0.00	54.74	-10.00	285.28	-10.00	170.66
105	0.00	51.84	-10.00	285.28	-10.00	170.66
110	0.00	49.17	-10.00	285.28	-10.00	170.66
115	0.00	46.79	-9.75	286.85	-9.75	171.62
120	0.00	44.73	-9.27	289.99	-9.27	173.51
125	0.00	43.06	-8.85	292.69	-8.85	175.12
130	0.00	41.80	-8.53	294.80	-8.53	176.37
135	0.00	41.02	-8.32	296.16	-8.32	177.16
140	0.00	40.73	-8.25	296.67	-8.25	177.46
145	0.00	40.94	-8.30	296.29	-8.30	177.24
150	0.00	41.66	-8.49	295.05	-8.49	176.52
155	0.00	42.84	-8.80	293.05	-8.80	175.34
160	0.00	44.46	-9.20	290.43	-9.20	173.77
165	0.00	46.30	-9.64	287.58	-9.64	172.06
170	0.00	47.72	-9.97	285.48	-9.97	170.78
175	0.00	48.60	-10.00	285.28	-10.00	170.66
180	0.00	48.90	-10.00	285.28	-10.00	170.66

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Earth Station Data Sheet

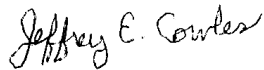
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Antenna Mode		Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term		-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term		-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power		-2.7 (dBW/4 kHz)			

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)
185	0.00	48.60	-10.00	285.28	-10.00	170.66
190	0.00	47.72	-9.97	285.48	-9.97	170.78
195	0.00	46.30	-9.64	287.58	-9.64	172.06
200	0.00	44.40	-9.18	290.52	-9.18	173.83
205	0.00	42.08	-8.60	294.34	-8.60	176.09
210	0.00	39.40	-7.89	299.07	-7.89	178.86
215	0.00	36.57	-7.08	304.55	-7.08	181.99
220	0.00	34.11	-6.32	309.75	-6.32	184.90
225	0.00	32.18	-5.69	314.80	-5.69	187.34
230	0.20	30.67	-5.17	318.21	-5.17	189.13
235	0.25	30.00	-4.93	313.71	-4.93	185.21
240	0.26	30.11	-4.97	311.75	-4.97	184.22
245	0.35	30.89	-5.25	298.29	-5.25	173.74
250	0.41	32.38	-5.76	286.61	-5.76	163.02
255	0.44	34.51	-6.45	278.40	-6.45	157.23
260	0.39	37.18	-7.26	279.41	-7.26	159.42
265	0.34	40.24	-8.12	279.52	-8.12	160.92
270	0.29	43.59	-8.99	280.28	-8.99	163.00
275	0.31	47.15	-9.84	272.13	-9.84	157.34
280	0.27	50.92	-10.00	276.64	-10.00	161.48
285	0.22	54.84	-10.00	282.58	-10.00	168.30
290	0.21	58.85	-10.00	284.52	-10.00	170.00
295	0.23	62.94	-10.00	281.09	-10.00	165.36
300	0.21	67.12	-10.00	283.66	-10.00	169.25
305	0.24	71.34	-10.00	280.53	-10.00	164.88
310	0.34	75.59	-10.00	267.80	-10.00	153.92
315	0.42	79.89	-10.00	258.96	-10.00	146.60
320	0.44	84.21	-10.00	256.22	-10.00	144.38
325	0.39	88.55	-10.00	262.32	-10.00	149.35
330	0.35	92.89	-10.00	266.72	-10.00	153.01
335	0.30	97.21	-10.00	273.03	-10.00	158.36
340	0.29	101.53	-10.00	274.01	-10.00	159.21
345	0.30	105.82	-10.00	273.03	-10.00	158.36
350	0.24	110.07	-10.00	279.64	-10.00	164.09
355	0.00	114.21	-10.00	285.28	-10.00	170.66

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.



Jeffrey E. Cowles
Engineer III, Telecommunications
COMSEARCH
19700 Janelia Farm Boulevard
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DATED: August 10, 2012