

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
KRBK-TV
SPRINGFIELD, MO
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
February 28, 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. 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

Alltel Communications LLC - Missouri Mkt
BNSF Railway Company
New Cingular Wireless PCS, LLC - KS/MO
USCOC of Greater Missouri, 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 01/13/2012.

Company

Alltel Communications LLC - Missouri Mkt
Alltel Communications, LLC - Arkansas
Alltel New License Sub LLC-Arkansas
Arkansas State Police
BNSF Railway Company
CoxCom, Inc. - Arkansas
Embarq Missouri, Inc.
Empire District Electric Company
Great Plains Energy, Inc.
JOPLIN BEEPERS
KCP&L Greater Missouri Operations Compan
Kansas #15 Limited Partnership
Missouri #15 Rural Cellular, Inc
Missouri RSA #15 LP
Missouri RSA 9B1 Ltd Partnership
New Cingular Wireless PCS, LLC - AR
New Cingular Wireless PCS, LLC - KS/MO
New Cingular Wireless PCS, LLC - OK
Ozark Cellular Company LLC
SOUTHWESTERN ELECTRIC POWER COMPANY
USCOC of Greater Missouri, LLC
USCOC of Greater Oklahoma, LLC
Verizon Wireless (VAW) LLC (KS,MO,MN,OK)
WWC License L.L.C - Kansas & Missouri

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: 02/28/2012
Job Number: 120113COMSTC04

Administrative Information

Licensee Name KRBK-TV

Site Information

SPRINGFIELD, MO

Latitude (NAD 83) 37° 10' 58.0" N
Longitude (NAD 83) 93° 15' 6.9" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 410.31 m / 1346.2 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 43°W to 139°West Longitude
Azimuth Range 116.7° to 239.5°
Corresponding Elevation Angles 22.6° / 26.0°
Antenna Centerline (AGL) 2.6 m / 8.5 ft

Antenna Information

Receive

Transmit

Manufacturer	Prodelin	Prodelin
Model	1385	1385
Gain / Diameter	41.9 dBi / 3.8 m	45.9 dBi / 3.8 m
3-dB / 15-dB Beamwidth	1.60° / 3.20°	0.80° / 1.60°
Max Available RF Power (dBW/4 kHz)		-15.01
(dBW/MHz)		8.97
Maximum EIRP (dBW/4 kHz)		30.89
(dBW/MHz)		54.87
(dBW)		64.41
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)	9M00G7F / 3700.0 - 4200.0	9M00G7F / 5925.0 - 6425.0
Max Great Circle Coordination Distance	342.4 km / 212.7 mi	153.4 km / 95.3 mi
Precipitation Scatter Contour Radius	499.1 km / 310.1 mi	100.0 km / 62.1 mi

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Coordination Values

SPRINGFIELD, MO

Licensee Name KRBK-TV
Latitude (NAD 83) 37° 10' 58.0" N
Longitude (NAD 83) 93° 15' 6.9" W
Ground Elevation (AMSL) 410.31 m / 1346.2 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 -15.0 (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	114.50	-10.00	285.28	-10.00	130.16
5	0.00	109.95	-10.00	285.28	-10.00	130.16
10	0.00	105.37	-10.00	285.28	-10.00	130.16
15	0.00	100.78	-10.00	285.28	-10.00	130.16
20	0.36	96.19	-10.00	265.60	-10.00	117.08
25	0.36	91.56	-10.00	265.58	-10.00	117.08
30	0.21	86.94	-10.00	283.54	-10.00	129.03
35	0.28	82.31	-10.00	275.14	-10.00	123.50
40	0.48	77.68	-10.00	251.61	-10.00	107.37
45	0.52	73.07	-10.00	248.15	-10.00	105.00
50	0.42	68.50	-10.00	258.88	-10.00	112.47
55	0.42	63.95	-10.00	258.88	-10.00	112.47
60	0.42	59.43	-10.00	259.23	-10.00	112.71
65	0.50	54.94	-10.00	249.50	-10.00	105.97
70	0.62	50.50	-10.00	242.21	-10.00	100.70
75	0.48	46.22	-9.62	253.89	-9.62	108.41
80	0.27	42.12	-8.61	284.86	-8.61	127.80
85	0.00	38.22	-7.56	301.28	-7.56	135.53
90	0.00	34.43	-6.42	309.06	-6.42	138.81
95	0.00	30.92	-5.26	317.86	-5.26	142.32
100	0.00	27.83	-4.11	326.03	-4.11	145.93
105	0.00	25.30	-3.08	333.54	-3.08	149.33
110	0.00	23.52	-2.29	339.39	-2.29	152.02
115	0.00	22.66	-1.88	342.39	-1.88	153.42
120	0.00	22.83	-1.96	341.79	-1.96	153.14
125	0.00	24.01	-2.51	337.74	-2.51	151.26
130	0.00	26.05	-3.40	331.23	-3.40	148.27
135	0.00	28.78	-4.48	323.40	-4.48	144.76
140	0.00	31.97	-5.62	315.31	-5.62	141.22
145	0.00	35.05	-6.62	307.72	-6.62	138.23
150	0.00	37.89	-7.46	301.93	-7.46	135.80
155	0.00	40.44	-8.17	297.19	-8.17	133.84
160	0.00	42.64	-8.75	293.38	-8.75	133.53
165	0.00	44.44	-9.20	290.45	-9.20	132.32
170	0.00	45.78	-9.52	288.37	-9.52	131.46
175	0.00	46.61	-9.71	287.12	-9.71	130.94
180	0.00	46.89	-9.78	286.71	-9.78	130.76
185	0.00	46.61	-9.71	287.12	-9.71	130.94

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19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Coordination Values

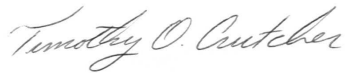
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Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -15.0 (dBW/4 kHz)

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	45.78	-9.52	288.37	-9.52	131.46
195	0.00	44.44	-9.19	290.45	-9.19	132.32
200	0.00	42.64	-8.75	293.38	-8.75	133.53
205	0.00	40.44	-8.17	297.19	-8.17	133.84
210	0.00	37.89	-7.46	301.94	-7.46	135.81
215	0.00	35.05	-6.62	307.72	-6.62	138.24
220	0.00	32.06	-5.65	315.08	-5.65	141.12
225	0.00	29.49	-4.74	321.51	-4.74	143.92
230	0.00	27.53	-4.00	326.87	-4.00	146.30
235	0.00	26.32	-3.51	330.40	-3.51	147.90
240	0.00	25.97	-3.36	331.49	-3.36	148.39
245	0.00	26.50	-3.58	329.89	-3.58	147.66
250	0.00	27.86	-4.13	325.93	-4.13	145.89
255	0.00	29.95	-4.91	320.31	-4.91	143.39
260	0.00	32.63	-5.84	313.75	-5.84	140.54
265	0.00	35.75	-6.83	306.23	-6.83	137.61
270	0.00	39.22	-7.84	299.41	-7.84	134.76
275	0.00	42.94	-8.82	292.88	-8.82	133.32
280	0.00	46.86	-9.77	286.74	-9.77	130.78
285	0.00	50.93	-10.00	285.28	-10.00	130.16
290	0.00	55.11	-10.00	285.28	-10.00	130.16
295	0.00	59.38	-10.00	285.28	-10.00	130.16
300	0.00	63.71	-10.00	285.28	-10.00	130.16
305	0.00	68.10	-10.00	285.28	-10.00	130.16
310	0.00	72.53	-10.00	285.28	-10.00	130.16
315	0.00	76.98	-10.00	285.28	-10.00	130.16
320	0.00	81.46	-10.00	285.28	-10.00	130.16
325	0.00	85.95	-10.00	285.28	-10.00	130.16
330	0.00	90.44	-10.00	285.28	-10.00	130.16
335	0.00	94.94	-10.00	285.28	-10.00	130.16
340	0.00	99.42	-10.00	285.28	-10.00	130.16
345	0.00	103.89	-10.00	285.28	-10.00	130.16
350	0.00	108.34	-10.00	285.28	-10.00	130.16
355	0.00	112.76	-10.00	285.28	-10.00	130.16

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: February 28, 2012