

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
America's Collectibles Network, Inc. d/b/a Jewelry Television
KNOXVILLE, TN
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
September 07, 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

Norfolk Southern Railway
US Cellular Telephone Co-Grtr Knoxville
Verizon Wireless Tennessee 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.

Company

Advantage Cellular Systems, Inc.
Alltel Communications , LLC - Tennessee
BLOUNT COUNTY EMERGENCY COMMUNICATIONS
Cellco Partnership - Kentucky
Cincinnati New Orleans and Texas Pacific
City of Chattanooga
Conterra Ultra Broadband, LLC
Ion Media of Knoxville, Inc.
KENTUCKY UTILITIES COMPANY
Norfolk Southern Railway
North Carolina RSA 1 Partnership
TENNESSEE DEPARTMENT OF SAFETY
TWIN LAKES TELEPHONE COOPERATIVE CORP
Tennessee RSA #3 Limited Partnership
UNIVERSITY OF NORTH CAROLINA
US Cellular Operating Co. of Knoxville
US Cellular Telephone Co-Grtr Knoxville
Verizon Wireless (VAW) LLC-NC,SC, TN
Verizon Wireless Tennessee Partnership

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: 09/07/2012
Job Number: 120829COMSTC05

Administrative Information

Licensee Name America's Collectibles Network, Inc. d/b/a Jewelry Television

Site Information

KNOXVILLE, TN

Latitude (NAD 83) 35°58' 0.2" N
Longitude (NAD 83) 84°7' 31.1" W
Climate Zone A
Rain Zone 1
Ground Elevation (AMSL) 290.0 m / 951.4 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 60°W to 143°West Longitude
Azimuth Range 142.7° to 250.5°
Corresponding Elevation Angles 41.1° / 16.4°
Antenna Centerline (AGL) 2.74 m / 9.0 ft

Antenna Information

Receive - C40551

Transmit - C60551

Manufacturer	COMTECH ANTENNA SYSTEMS	COMTECH ANTENNA SYSTEMS
Model	5 METER OFFSAT	5 METER OFFSAT
Gain / Diameter	42.0 dBi / 5.5 m	45.9 dBi / 5.5 m
3-dB / 15-dB Beamwidth	1.00° / 2.00°	0.60° / 1.60°

		<u>4M00G7W - 36M0G7W</u>			
Max Available RF Power	(dBW/4 kHz)	-13.0	-13.0		
	(dBW/MHz)	11.0	11.0		
Maximum EIRP	(dBW/4 kHz)	32.9	32.9		
	(dBW/MHz)	56.9	56.9		
	(dBW)	62.9	72.43		
Interference Objectives:	Long Term	-144.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
	Short Term	-134.0 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)	4M00G7W - 36M0G7W / 3700.0 - 4200.0	4M00G7W - 36M0G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	255.4 km / 158.7 mi	147.0 km / 91.3 mi
Precipitation Scatter Contour Radius	559.8 km / 347.8 mi	100.0 km / 62.1 mi

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Coordination Values

KNOXVILLE, TN

Licensee Name America's Collectibles Network, Inc. d/b/a Jewelry Television
 Latitude (NAD 83) 35°58' 0.2" N
 Longitude (NAD 83) 84°7' 31.1" W
 Ground Elevation (AMSL) 290.0 m / 951.4 ft
 Antenna Centerline (AGL) 2.74 m / 9.0 ft
 Antenna Model COMTECH ANTENNA SYSTEMS 5 METER OFFSAT
 Antenna Mode Receive 4.0 GHz Transmit 6.1 GHz
 Interference Objectives: Long Term -144.0 dBW/MHz 20% -154.0 dBW/4 kHz 20%
 Short Term -134.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
 Max Available RF Power -13.0 (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	1.13	108.81	-9.76	162.96	-11.15	100.00
5	0.83	113.57	-10.71	173.81	-13.53	100.00
10	1.02	118.37	-12.35	154.82	-14.10	100.00
15	1.14	117.95	-12.18	151.69	-14.10	100.00
20	0.98	114.39	-10.88	163.22	-13.86	100.00
25	1.03	110.83	-10.17	164.32	-12.43	100.00
30	0.72	107.09	-9.42	185.79	-9.77	101.88
35	0.54	103.34	-8.67	198.39	-8.14	114.34
40	0.48	99.59	-8.08	204.64	-8.11	117.91
45	0.51	95.82	-8.09	202.42	-8.25	115.53
50	0.70	92.04	-8.03	192.93	-8.15	107.15
55	0.75	88.23	-8.08	189.95	-8.21	104.58
60	0.70	84.43	-8.01	193.19	-8.24	107.07
65	0.95	80.61	-8.01	179.60	-8.23	100.00
70	1.72	76.69	-8.01	153.06	-8.18	100.00
75	2.14	72.81	-8.04	142.32	-8.14	100.00
80	2.46	68.98	-8.07	135.61	-8.14	100.00
85	2.88	65.15	-8.10	129.04	-8.28	100.00
90	2.97	61.50	-8.12	127.35	-8.27	100.00
95	1.72	58.62	-8.08	152.64	-8.11	100.00
100	1.88	55.26	-8.07	148.20	-8.12	100.00
105	4.36	50.62	-8.11	104.11	-8.23	100.00
110	3.36	48.25	-8.00	120.64	-8.21	100.00
115	3.05	45.76	-8.10	125.92	-8.15	100.00
120	3.98	42.61	-8.04	109.64	-8.10	100.00
125	3.77	40.72	-8.05	113.17	-8.16	100.00
130	3.13	39.70	-8.07	124.58	-8.10	100.00
135	3.49	38.25	-8.07	118.17	-8.11	100.00
140	3.80	37.35	-8.07	112.57	-8.20	100.00
145	3.44	37.70	-8.06	119.10	-8.15	100.00
150	4.37	37.33	-8.05	104.23	-9.05	100.00
155	4.17	38.63	-8.73	104.43	-9.10	100.00
160	3.77	40.59	-9.12	109.34	-10.01	100.00
165	4.25	41.83	-9.37	100.85	-10.99	100.00
170	2.50	44.72	-9.94	129.27	-11.95	100.00
175	1.38	46.61	-10.32	152.80	-12.10	100.00
180	0.95	47.30	-10.46	166.53	-12.10	100.00
185	2.33	45.66	-10.13	131.71	-12.10	100.00

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Coordination Values

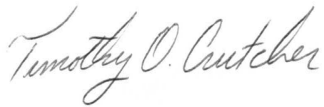
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Max Available RF Power					-13.0 (dBW/4 kHz)

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	2.18	45.02	-10.00	135.00	-12.10	100.00
195	2.55	43.40	-9.68	129.27	-11.78	100.00
200	1.84	42.27	-9.45	143.64	-11.55	100.00
205	2.23	39.75	-8.95	136.85	-11.00	100.00
210	1.76	37.57	-8.51	149.80	-10.13	100.00
215	1.55	34.86	-8.00	157.99	-9.04	100.00
220	1.40	31.85	-8.00	162.73	-7.84	100.00
225	1.40	28.52	-7.41	165.48	-7.10	100.00
230	1.22	25.14	-6.06	179.18	-7.10	100.00
235	0.27	22.20	-4.88	237.32	-5.98	139.84
240	0.22	19.18	-3.35	250.84	-5.10	146.99
245	0.38	16.90	-1.52	243.33	-5.10	133.29
250	0.42	15.97	-0.78	242.26	-5.10	130.74
255	0.28	16.72	-1.38	255.39	-5.10	141.78
260	0.35	18.59	-2.87	238.72	-5.10	135.30
265	0.63	21.31	-4.52	208.81	-5.62	117.15
270	0.74	24.83	-5.93	199.66	-7.03	108.20
275	1.06	28.67	-7.47	177.64	-7.10	100.00
280	0.88	33.03	-8.00	183.59	-8.12	100.00
285	1.02	37.40	-8.05	176.22	-8.14	100.00
290	1.30	41.86	-8.06	165.45	-8.15	100.00
295	1.16	46.54	-8.06	171.73	-8.17	100.00
300	0.90	51.28	-8.08	182.18	-8.18	100.00
305	1.35	55.92	-8.06	163.88	-8.12	100.00
310	1.07	60.72	-8.03	174.75	-8.19	100.00
315	1.07	65.50	-8.02	174.90	-8.17	100.00
320	0.98	70.30	-8.02	178.35	-8.22	100.00
325	0.96	75.10	-8.04	178.91	-8.20	100.00
330	1.15	79.90	-8.01	172.21	-8.11	100.00
335	1.24	84.72	-8.06	169.28	-8.12	100.00
340	1.30	89.55	-8.04	165.53	-8.19	100.00
345	1.10	94.37	-8.04	173.84	-8.18	100.00
350	1.35	99.20	-8.03	164.02	-8.19	100.00
355	1.45	104.03	-8.81	157.53	-8.17	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
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DATED: September 07, 2012