

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
WTVE-TV/DT-51 READING BROADCASTING, INC.
READING, PA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
July 20, 2007

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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

Atlantic City Electric Company
Cellco Partnership- PA Region
MCI Communication Services, Inc.
New Cingular Wireless PCS of PA LLC
New Cingular Wireless PCS, LLC - PA
Wireless Strategies, Inc.

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 06/20/2007.

Company

AT&T CORP
Atlantic City Electric Company
Baltimore Gas and Electric Company
BorderComm Partners LP (XC)
Chester, County of
Columbia County
Commonwealth of Pennsylvania, Radio Proj.
Cellco Partnership - VA, MD, WV, DC
Cellco Partnership- PA Region
Cellco Partnership-Newark-Dallas Verizon
Cellco Prtnrshp - Phil. Tri-State Rgn
Cingular Pennsylvania, LLC
Conterra Ultra Broadband, LLC
County of York
Dauphin County Emergency Management
Delaware State - DTI
Delmarva Power & Light Company
Exelon Generation Company, L.L.C
FELHC, Inc.
LB Tower Company LLC
Luzerne, County of
MCI Communication Services, Inc.
MCIMetro Access Transmission Svcs LLC
Maryland, State of - Budget & Management
National Radio Astronomy Observatory
New Jersey State Police
New Cingular Wireless PCS LLC -NJ
New Cingular Wireless PCS LLC -NE Reg
New Cingular Wireless PCS of PA LLC
New Cingular Wireless PCS, LLC - PA
Northeast Pennsylvania SMSA LTD Prtnrsh
Pennsylvania Turnpike Commission
PSEG Services Corporation
Peco Energy Company
Penn Service Microwave Co., Inc.
Susquehanna Electric Company
Trinity Broadcasting Network Inc
WITF Inc.
Wireless Strategies, Inc.

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: 07/18/2007
Job Number: 070620COMSTC01

Administrative Information

Licensee Name WTVE-TV/DT-51 READING BROADCASTING, INC.

Site Information

READING, PA

Latitude (NAD 83) 40° 21' 41.2" N
Longitude (NAD 83) 75° 54' 54.4" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 90.53 m / 297.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 43° W to 139° West Longitude
Azimuth Range 135.0° to 251.8°
Corresponding Elevation Angles 32.4° / 11.7°
Antenna Centerline (AGL) 2.83 m / 9.3 ft

Antenna Information

Receive

Transmit

Manufacturer	Andrew Corporation	Andrew Corporation	
Model	ES45-T-T-1	ES45-T-T-1	
Gain / Diameter	43.8 dBi / 4.5 m	46.6 dBi / 4.5 m	
3-dB / 15-dB Beamwidth	1.20° / 2.40°	0.60° / 1.20°	
Max Available RF Power (dBW/4 kHz)		-13.89	
(dBW/MHz)		10.08	
Maximum EIRP (dBW/4 kHz)		32.71	
(dBW/MHz)		56.68	
(dBW)		65.63	
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)	7M84G7W / 3700.0 - 4200.0	7M84G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	341.1 km / 211.9 mi	152.4 km / 94.7 mi
Precipitation Scatter Contour Radius	532.2 km / 330.6 mi	100.0 km / 62.1 mi

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Coordination Values

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Latitude (NAD 83) 40° 21' 41.2" N
Longitude (NAD 83) 75° 54' 54.4" W
Ground Elevation (AMSL) 90.53 m / 297.0 ft
Antenna Centerline (AGL) 2.83 m / 9.3 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 -13.9 (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	1.29	107.89	-10.00	211.47	-10.00	100.00
5	1.51	112.82	-10.00	205.49	-10.00	100.00
10	1.78	117.75	-10.00	200.51	-10.00	100.00
15	2.02	115.56	-10.00	193.98	-10.00	100.00
20	2.73	111.55	-10.00	177.85	-10.00	100.00
25	3.63	107.45	-10.00	155.56	-10.00	100.00
30	3.70	103.13	-10.00	154.10	-10.00	100.00
35	2.52	98.67	-10.00	182.53	-10.00	100.00
40	2.39	94.34	-10.00	185.65	-10.00	100.00
45	2.34	90.01	-10.00	186.85	-10.00	100.00
50	3.82	85.63	-10.00	151.60	-10.00	100.00
55	4.41	81.20	-10.00	141.70	-10.00	100.00
60	4.76	76.76	-10.00	136.73	-10.00	100.00
65	3.82	72.54	-10.00	151.52	-10.00	100.00
70	4.83	68.02	-10.00	135.81	-10.00	100.00
75	5.65	63.50	-10.00	128.57	-10.00	100.00
80	6.20	59.05	-10.00	122.98	-10.00	100.00
85	6.33	54.76	-10.00	121.55	-10.00	100.00
90	6.64	50.47	-10.00	118.17	-10.00	100.00
95	7.08	46.20	-9.62	114.96	-9.62	100.00
100	7.38	42.11	-8.61	115.86	-8.61	100.00
105	7.69	38.15	-7.54	116.81	-7.54	100.00
110	8.17	34.30	-6.38	116.85	-6.38	100.00
115	8.51	30.81	-5.22	118.66	-5.22	100.00
120	8.40	28.10	-4.22	123.88	-4.22	100.00
125	8.40	25.92	-3.34	127.59	-3.34	100.00
130	8.24	24.68	-2.81	131.26	-2.81	100.00
135	7.93	24.50	-2.73	134.42	-2.73	100.00
140	7.57	25.32	-3.09	135.37	-3.09	100.00
145	7.52	26.72	-3.67	134.70	-3.67	100.00
150	6.81	29.42	-4.72	136.61	-4.72	100.00
155	5.73	32.49	-5.79	143.98	-5.79	100.00
160	4.47	35.46	-6.74	155.93	-6.74	100.00
165	3.28	38.05	-7.51	177.81	-7.51	100.00
170	2.26	40.15	-8.09	197.69	-8.09	100.00
175	2.18	40.91	-8.30	198.40	-8.30	100.00
180	1.74	41.58	-8.47	206.06	-8.47	100.00
185	0.48	42.60	-8.74	260.13	-8.74	114.33

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Short Term -146.0 dBW/MHz 0.01% -131.0 dBW/4 kHz 0.0025%
Max Available RF Power -13.9 (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	0.79	41.57	-8.47	240.47	-8.47	100.00
195	0.79	40.39	-8.16	242.25	-8.16	100.72
200	0.72	38.86	-7.74	249.14	-7.74	105.06
205	0.56	37.02	-7.21	263.04	-7.21	113.90
210	0.29	34.92	-6.58	296.05	-6.58	133.61
215	0.55	32.10	-5.66	273.59	-5.66	118.53
220	0.35	29.40	-4.71	301.34	-4.71	133.91
225	0.59	26.17	-3.44	285.59	-3.44	122.74
230	1.11	22.57	-1.84	264.63	-1.84	105.79
235	1.05	19.27	-0.12	278.86	-0.12	112.33
240	1.36	15.58	2.18	284.08	2.18	111.35
245	1.24	12.42	4.64	308.22	4.64	121.95
250	1.20	10.61	6.35	324.70	6.35	128.50
255	1.04	11.09	5.88	327.36	5.88	131.10
260	0.56	13.77	3.53	341.06	3.53	144.01
265	0.58	17.17	1.13	320.48	1.13	135.18
270	0.77	21.12	-1.12	289.48	-1.12	121.20
275	0.00	25.82	-3.30	331.93	-3.30	152.35
280	0.38	30.20	-5.00	295.31	-5.00	131.76
285	0.28	34.88	-6.57	297.03	-6.57	134.24
290	0.43	39.57	-7.94	269.74	-7.94	119.67
295	0.00	44.45	-9.20	290.45	-9.20	134.07
300	0.47	49.17	-10.00	252.70	-10.00	111.06
305	0.49	54.01	-10.00	251.19	-10.00	109.99
310	0.65	58.85	-10.00	240.21	-10.00	102.11
315	0.50	63.75	-10.00	249.46	-10.00	108.84
320	0.00	68.67	-10.00	285.28	-10.00	133.14
325	0.00	73.56	-10.00	285.28	-10.00	133.14
330	0.38	78.43	-10.00	262.76	-10.00	118.08
335	0.78	83.32	-10.00	232.57	-10.00	100.00
340	1.08	88.23	-10.00	217.92	-10.00	100.00
345	1.01	93.15	-10.00	219.85	-10.00	100.00
350	1.19	98.06	-10.00	214.55	-10.00	100.00
355	0.96	102.97	-10.00	222.44	-10.00	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
Ashburn, VA 20147

DATED: July 20, 2007