FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
AT&T Corp - Extended C-Band Sites
ROARING CREEK, PA
(13.1 meter)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
June 20, 2011

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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

Allentown SMSA Limited Partnership
Appalachian Broadcasting
Cellco Partnership- PA Region
Cellco Prtnrshp - Phil. Tri-State Rgn
Commonwealth of Pennsylvania-Radio Proj.
Coral Reef Tecnologies Ltd
DAUPHIN COUNTY EMERGENCY MANAGEMENT
Juniata County Emergency Services
Kryptic Technologies
New Cingular Wireless PCS, LLC - PA
Northeast Pennsylvania SMSA LTD Prtnrsh
Open Range Communications
Penn Service Microwave Co., 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 06/01/2011.

Company
AB Services LLC
AT&T CORP
Allentown SMSA Limited Partnership
Appalachian Broadcasting
Auburn Data Systems, LLC
Bedford, County of
Berks, County of
Binghamton MSA Limited Partnership
Borough of Huntingdon
Cellco Partnership - Bridgeville, PA
Cellco Partnership- PA Region
Cellco Partnership-Newark-Dallas Verizon
Cellco Prtnrshp - Phil. Tri-State Rgn
Commonwealth of Pennsylvania-Radio Proj.
Comprehensive Wireless LLC
Conterra Ultra Broadband, LLC
Coral Reef Tecnologies Ltd
County of Tioga
County of Warren
DAUPHIN COUNTY EMERGENCY MANAGEMENT
Direct Broadcast Services, Inc.
EASTERN PENNSYLVANIA EMS COUNCIL
EMS OF NORTHEAST PENNSYLVANIA
Essex County Sherrif's Office
FELHC, Inc.
Fibertrack, LLC
Fundamental Broadcasting LLC
Juniata County Emergency Services
Kryptic Technologies
Last Mile Inc.
Luzerne County Department of Public Sfty
MCI Communications Services Inc.
METROPOLITAN AREA NETWORKS, INC.
Monroe County Control Center (PA)
NEW JERSEY TRANSIT RAIL OPERATIONS,INC
NYNEX Mobile of New York LP
National Radio Astronomy Observatory
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 - NY
New Cingular Wireless PCS, LLC - PA
New Jersey, State of -NJ Transit
New York RSA #3 Cellular Partnership
Northeast Pennsylvania SMSA LTD Prtnrsh
Open Range Communications
Orange Poughkeepsie SMSA LTD Partnership
PENNSYLVANIA TURNPIKE COMMISSION
POTTER, COUNTY OF
PSEG Services Corporation
Penn Service Microwave Co., Inc.
Pennsylvania 3 Sector 2, L.P.
SBA Broadband Services
SCTF NET
South Canaan Cellular Communications Co.
Stevens Institute of Technology
Sullivan, County of
Texas Eastern Communications, Inc.
Thought Transmissions, LLC
Tompkins County Dept. of Emergency Respo
Upstate Cellular Network
WITF 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: 06/20/2011
Job Number: 110601COMSGE01

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	P1175P
Licensee Name	AT&T Corp -

Site Information — ROARING CRK, PA

Venue Name	
Latitude (NAD 83)	40° 53' 34.1" N
Longitude (NAD 83)	76° 26' 23.1" W
Climate Zone	A
Rain Zone	2
Ground Elevation (AMSL)	294.74 m / 967.0 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	10° W to 139° West Longitude
Azimuth Range	105.9° to 251.2°
Corresponding Elevation Angles	9.0° / 11.9°
Antenna Centerline (AGL)	5.49 m / 18.0 ft

Antenna Information		Receive - FCC32		Transmit - FCC32	
Manufacturer		Vertex		Vertex	
Model		13.1 Meter		13.1 Meter	
Gain / Diameter		53.5 dBi / 13.1 m		56.8 dBi / 13.1 m	
3-dB / 15-dB Beamwidth		0.38° / 0.76°		0.26° / 0.52°	
Max Available RF Power	(dBW/4 kHz)			-2.7	
	(dBW/MHz)			21.3	
Maximum EIRP	(dBW/4 kHz)			54.1	
	(dBW/MHz)			78.1	
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)	44K8G7W - 36M0G7W / 3700.0 - 4200.0	44K8G7W - 36M0G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	460.6 km / 286.2 mi	252.8 km / 157.1 mi
Precipitation Scatter Contour Radius	551.8 km / 342.8 mi	100.0 km / 62.1 mi

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Coordination Values	**ROARING CRK, PA**			
Licensee Name	AT&T Corp -			
Latitude (NAD 83)	40° 53' 34.1" N			
Longitude (NAD 83)	76° 26' 23.1" W			
Ground Elevation (AMSL)	294.74 m / 967.0 ft			
Antenna Centerline (AGL)	5.49 m / 18.0 ft			
Antenna Model	Vertex 13.1 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)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.00	105.73	-10.00	285.28	-10.00	170.66
5	1.40	100.84	-10.00	208.44	-10.00	107.31
10	2.32	95.89	-10.00	187.27	-10.00	100.00
15	2.58	90.93	-10.00	181.23	-10.00	100.00
20	2.29	85.96	-10.00	187.98	-10.00	100.00
25	2.15	81.00	-10.00	191.16	-10.00	100.00
30	1.96	76.04	-10.00	195.65	-10.00	100.00
35	1.56	71.10	-10.00	206.44	-10.00	103.26
40	1.33	66.16	-10.00	210.49	-10.00	109.17
45	1.05	61.24	-10.00	218.65	-10.00	116.25
50	1.13	56.30	-10.00	216.16	-10.00	114.13
55	1.07	51.38	-10.00	218.27	-10.00	115.93
60	1.29	46.43	-9.67	212.96	-9.67	110.95
65	1.02	41.57	-8.47	227.73	-8.47	121.81
70	0.54	36.78	-7.14	264.32	-7.14	146.76
75	0.40	31.99	-5.63	289.25	-5.63	165.07
80	0.28	27.26	-3.89	316.95	-3.89	186.03
85	0.36	22.57	-1.84	321.87	-1.84	186.48
90	0.36	18.07	0.57	340.17	0.57	196.33
95	1.10	13.46	3.78	306.61	3.78	164.34
100	1.70	9.40	7.68	315.88	7.68	163.96
105	2.12	6.94	10.96	460.62	10.96	252.79
110	2.23	7.89	9.57	313.33	9.57	158.51
115	2.14	11.26	5.71	282.82	5.71	143.26
120	1.82	15.00	2.60	269.83	2.60	138.36
125	1.64	18.55	0.29	259.85	0.29	134.09
130	1.74	21.79	-1.45	244.56	-1.45	126.63
135	2.04	24.71	-2.82	226.84	-2.82	114.66
140	2.37	27.44	-3.96	212.68	-3.96	104.06
145	2.66	29.97	-4.92	204.13	-4.92	100.00
150	3.08	32.11	-5.67	191.44	-5.67	100.00
155	3.61	33.86	-6.24	177.01	-6.24	100.00
160	4.02	35.32	-6.70	163.72	-6.70	100.00
165	3.76	37.04	-7.22	166.86	-7.22	100.00
170	3.63	38.23	-7.56	169.52	-7.56	100.00
175	3.52	38.99	-7.77	170.97	-7.77	100.00
180	3.38	39.35	-7.87	173.59	-7.87	100.00
185	3.27	39.24	-7.84	176.31	-7.84	100.00

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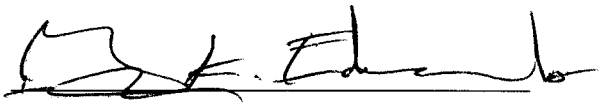
Antenna Model	Vertex 13.1 Meter			
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power			-2.7 (dBW/4 kHz)	

			Receive 4.0 GHz		Transmit 6.1 GHz	
Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	2.90	38.95	-7.76	185.08	-7.76	100.00
195	2.78	37.96	-7.48	188.99	-7.48	100.00
200	2.63	36.60	-7.09	194.30	-7.09	100.00
205	2.40	34.92	-6.58	201.84	-6.58	100.00
210	2.35	32.73	-5.88	206.06	-5.88	100.00
215	2.24	30.31	-5.04	210.11	-5.04	102.83
220	1.92	27.79	-4.10	223.02	-4.10	112.87
225	1.88	24.83	-2.88	231.21	-2.88	118.13
230	1.49	21.97	-1.55	252.83	-1.55	132.50
235	1.01	19.00	0.03	281.82	0.03	150.48
240	1.05	15.55	2.21	296.60	2.21	158.82
245	1.29	12.26	4.79	307.11	4.79	163.01
250	2.05	9.90	7.11	297.23	7.11	151.34
255	2.63	9.98	7.02	278.90	7.02	138.48
260	2.71	12.66	4.44	256.66	4.44	128.65
265	2.00	16.89	1.31	254.17	1.31	130.34
270	0.94	21.63	-1.38	276.22	-1.38	148.10
275	0.62	26.16	-3.44	283.35	-3.44	156.68
280	0.33	30.82	-5.22	300.75	-5.22	175.75
285	0.48	35.43	-6.73	271.86	-6.73	152.25
290	0.46	40.16	-8.10	265.27	-8.10	148.96
295	0.37	44.96	-9.32	268.65	-9.32	153.60
300	0.00	49.84	-10.00	285.28	-10.00	170.66
305	0.00	54.67	-10.00	285.28	-10.00	170.66
310	0.00	59.52	-10.00	285.28	-10.00	170.66
315	0.00	64.38	-10.00	285.28	-10.00	170.66
320	0.00	69.25	-10.00	285.28	-10.00	170.66
325	0.00	74.13	-10.00	285.28	-10.00	170.66
330	0.00	79.02	-10.00	285.28	-10.00	170.66
335	0.00	83.91	-10.00	285.28	-10.00	170.66
340	0.00	88.80	-10.00	285.28	-10.00	170.66
345	0.00	93.70	-10.00	285.28	-10.00	170.66
350	0.00	98.59	-10.00	285.28	-10.00	170.66
355	0.00	103.48	-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.

BY: _ 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: June 23, 2011