FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

RRsat America - Global Communications Network, Inc.
Hawley, Pennsylvania

Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
March 23, 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

None

No 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 March 7, 2012.

Company

AB Services LLC
ALGONQUIN GAS TRANSMISSION CO
Aerbender, LLC
Allentown SMSA Limited Partnership
Auburn Data Systems, LLC
BFI Licenses, LLC
Binghamton MSA Limited Partnership
CONSOLIDATED EDISON COMPANY OF NEW YORK
Cellco Partnership - (W-NY)
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
Coralinks
County of Warren
EASTERN PENNSYLVANIA EMS COUNCIL
ECW Wireless, LLC
EG Broadcast Newco Corp
EMS OF NORTHEAST PENNSYLVANIA
Essex County Sherrif Office
FELHC, Inc.
Fibertrack, LLC
Fleet Systems, LLC
Fundamental Broadcasting LLC
Geneva Communications, LLC
Goosetown Network Services, LLC
High Voltage Communications LLC
Jefferson Microwave, LLC
Jubatus, LLC
Kryptic Technologies
LACKAWANNA COMMUNICATIONS
Luzerne County Department of Public Sfty

Company (Continued)

MB Microwave, LLC
METROPOLITAN AREA NETWORKS, INC.
MVC Research. LLC
Meridian Microwave
Monroe County Control Center (PA)
NYNEX Mobile of New York LP
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 Communcations CO., Inc
New York State Police
Newgig Networks, LLC
Northeast Pennsylvania SMSA LTD Prtnrsh
Orange Poughkeepsie SMSA LTD Partnership
Orange and Rockland Utilities, Inc.
PENNSYLVANIA TURNPIKE COMMISSION
Penn Service Microwave Co., Inc.
Pike, County of PA
SBA Broadband Services
SW Networks
South Canaan Cellular Communications Co.
Stevens Institute of Technology
Texas Eastern Communications, Inc.
Turtle Networks 6384
Turtle Networks 6386
Velox Networks LLC
Verizon Wireless (VAW) LLC (NY)
Webline Holdings LLC
Wireless Internetwork LLC
World Class Wireless LLC
iSignal

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:	03/23/2012
Job Number:	120307COMSJC01

Administrative Information

Status	ENGINEER PROPOSAL
Call Sign	
Licensee Code	RRSATC
Licensee Name	RRsat America Global Comm. Inc

Site Information — HAWLEY, PENNSYLVANIA

Venue Name	
Latitude (NAD 83)	41° 27' 50.9" N
Longitude (NAD 83)	75° 7' 51.0" W
Climate Zone	A
Rain Zone	2
Ground Elevation (AMSL)	277.06 m / 909.0 ft

Link Information

Satellite Type	Geostationary
Mode	TR - Transmit-Receive
Modulation	Digital
Satellite Arc	10° W to 131° West Longitude
Azimuth Range	107.1° to 245.8°
Corresponding Elevation Angles	9.8° / 16.5°
Antenna Centerline (AGL)	3.05 m / 10.0 ft

Antenna Information	Receive	Transmit
Manufacturer	Suncom	Suncom
Model	450 FC	450 FC
Gain / Diameter	44.0 dBi / 4.5 m	47.3 dBi / 4.5 m
3-dB / 15-dB Beamwidth	0.62° / 1.09°	0.74° / 1.40°

				2M00G7W to 36M0G7W	
Max Available RF Power	(dBW/4 kHz)			-2.7	-13.5
	(dBW/MHz)			21.3	10.5
Maximum EIRP	(dBW/4 kHz)			44.6	33.8
	(dBW/MHz)			68.6	57.8
	(dBW)			71.6	73.3
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)	2M00G7W - 36M0G7W / 3700.0 - 4200.0	2M00G7W - 36M0G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	374.9 km / 232.9 mi	195.6 km / 121.5 mi
Precipitation Scatter Contour Radius	542.3 km / 336.9 mi	100.0 km / 62.1 mi

COMSEARCH
Earth Station Data Sheet
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Coordination Values	**HAWLEY, PA**			
Licensee Name	RRsat America Global Comm. Inc			
Latitude (NAD 83)	41° 27' 50.9" N			
Longitude (NAD 83)	75° 7' 51.0" W			
Ground Elevation (AMSL)	277.06 m / 909.0 ft			
Antenna Centerline (AGL)	3.05 m / 10.0 ft			
Antenna Model	Suncom 450 FC			
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	7.66	107.05	-10.00	107.32	-10.00	100.00
5	6.78	102.05	-10.00	116.66	-10.00	100.00
10	5.30	97.04	-10.00	131.96	-10.00	100.00
15	4.35	92.06	-10.00	142.56	-10.00	100.00
20	3.30	87.08	-10.00	162.72	-10.00	100.00
25	2.99	82.12	-10.00	171.76	-10.00	100.00
30	2.77	77.16	-10.00	176.82	-10.00	100.00
35	2.81	72.20	-10.00	175.82	-10.00	100.00
40	2.51	67.26	-10.00	182.74	-10.00	100.00
45	2.03	62.34	-10.00	193.82	-10.00	100.00
50	1.93	57.41	-10.00	196.40	-10.00	100.00
55	2.41	52.44	-10.00	185.24	-10.00	100.00
60	2.49	47.50	-9.92	183.71	-9.92	100.00
65	2.47	42.58	-8.73	189.96	-8.73	100.00
70	1.94	37.77	-7.43	205.56	-7.43	101.50
75	1.56	33.00	-5.96	223.84	-5.96	115.48
80	1.24	28.29	-4.29	244.18	-4.29	129.34
85	1.41	23.53	-2.29	250.85	-2.29	131.90
90	2.24	18.62	0.25	240.28	0.25	121.73
95	2.42	14.12	3.26	256.23	3.26	129.67
100	2.28	10.31	6.67	286.58	6.67	144.37
105	1.97	8.10	9.29	374.85	9.29	195.61
110	2.12	8.21	9.14	312.91	9.14	158.88
115	3.05	10.37	6.61	263.69	6.61	130.31
120	3.16	13.76	3.53	238.46	3.53	117.03
125	3.81	16.64	1.47	210.84	1.47	100.00
130	4.40	19.43	-0.21	194.10	-0.21	100.00
135	4.55	22.38	-1.75	183.24	-1.75	100.00
140	4.82	25.04	-2.97	172.01	-2.97	100.00
145	4.52	27.96	-4.16	170.57	-4.16	100.00
150	3.54	31.21	-5.36	183.23	-5.36	100.00
155	2.75	34.06	-6.31	195.55	-6.31	100.00
160	2.65	36.01	-6.91	194.85	-6.91	100.00
165	2.90	37.24	-7.28	187.39	-7.28	100.00
170	2.76	38.45	-7.62	188.77	-7.62	100.00
175	2.72	39.15	-7.82	188.70	-7.82	100.00
180	2.22	39.87	-8.02	198.83	-8.02	100.00
185	2.13	39.74	-7.98	201.09	-7.98	100.00

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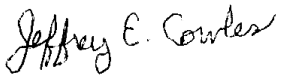
Antenna Mode	Receive 4.0 GHz		Transmit 6.1 GHz	
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	-154.0 dBW/4 kHz	20%
Short Term	-146.0 dBW/MHz	0.01%	-131.0 dBW/4 kHz	0.0025%
Max Available RF Power			-2.7 (dBW/4 kHz)	

			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	3.16	38.06	-7.51	180.38	-7.51	100.00
195	4.40	35.82	-6.85	156.59	-6.85	100.00
200	4.80	34.03	-6.30	152.92	-6.30	100.00
205	4.65	32.38	-5.76	158.03	-5.76	100.00
210	4.21	30.64	-5.16	170.55	-5.16	100.00
215	4.44	28.02	-4.19	171.76	-4.19	100.00
220	4.55	25.26	-3.06	176.13	-3.06	100.00
225	4.52	22.40	-1.76	183.75	-1.76	100.00
230	5.32	18.73	0.19	182.86	0.19	100.00
235	5.96	15.04	2.57	188.99	2.57	100.00
240	6.81	11.31	5.66	196.03	5.66	100.00
245	7.36	9.20	7.90	202.56	7.90	100.00
250	8.11	9.39	7.69	192.29	7.69	100.00
255	8.35	12.26	4.78	171.29	4.78	100.00
260	8.81	16.10	1.83	146.84	1.83	100.00
265	10.33	20.11	-0.59	123.60	-0.59	100.00
270	10.84	24.80	-2.86	110.10	-2.86	100.00
275	11.66	29.54	-4.76	100.00	-4.76	100.00
280	11.68	34.47	-6.44	100.00	-6.44	100.00
285	12.92	39.31	-7.86	100.00	-7.86	100.00
290	14.28	44.22	-9.14	100.00	-9.14	100.00
295	14.28	49.21	-10.00	100.00	-10.00	100.00
300	14.07	54.21	-10.00	100.00	-10.00	100.00
305	13.98	59.21	-10.00	100.00	-10.00	100.00
310	13.98	64.20	-10.00	100.00	-10.00	100.00
315	13.75	69.20	-10.00	100.00	-10.00	100.00
320	12.83	74.21	-10.00	100.00	-10.00	100.00
325	12.79	79.20	-10.00	100.00	-10.00	100.00
330	12.79	84.19	-10.00	100.00	-10.00	100.00
335	12.61	89.18	-10.00	100.00	-10.00	100.00
340	12.24	94.16	-10.00	100.00	-10.00	100.00
345	11.62	99.14	-10.00	100.00	-10.00	100.00
350	10.76	104.10	-10.00	100.00	-10.00	100.00
355	9.23	109.01	-10.00	100.00	-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.



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19700 Janelia Farm Boulevard
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DATED: March 23, 2012