

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for

Globecomm Systems, Inc.
Laurel, Maryland

Satellite Earth Station

Prepared By:
COMSEARCH

19700 Janelia Farm Boulevard
Ashburn, Virginia 20147
September 29, 2010

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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 September 22, 2010.

Company

ACCELACOM-BALTIMORE LLC
ALLEGANY COLLEGE OF MARYLAND
ART Licensing Corp.
AT&T COMMUNICATIONS OF MARYLAND INC
AT&T COMMUNICATIONS OF VIRGINIA INC
AT&T CORP
Airband Communications Inc
Albermarle, County of, Virginia
Allegheny Power Service Corporation
Allentown SMSA Limited Partnership
Alltel Communications of Virginia #1 LLC
Alltel Communications of Virginia, Inc.
Atlantic Broadband (Delmar), LLC
Atlantic Broadband (Penn), LLC
BALTIMORE CITY DEPARTMENT OF PUBLIC WORK
BAY BROADBAND COMMUNICATIONS LLC
BEDFORD COUNTY 911
Baltimore County of Maryland
Baltimore Gas and Electric Company
Believe Wireless, LLC
Berks, County of
Blaze Broadband
Bucks, County of
CHESTER, COUNTY OF
COMMONWEALTH OF PENNSYLVANIA,RADIO PROJ.
Cambria, County of
Cape May County Municipal Utilities Auth
Cape May County, MIS Department
Cellco Partnership - Southern Virginia
Cellco Partnership- PA Region
Cellco Partnership-Newark-Dallas Verizon
Cellco Prtnrshp - Phil. Tri-State Rgn
Chesterfield, County of
City of Laurel
City of Ocean City, MD

Company (Continued)

Clearwire Spectrum Holdings II, LLC
Clearwire Spectrum Holdings III, LLC
Clearwire Spectrum Holdings LLC
Conterra Ultra Broadband, LLC
County of Burlington
County of Stafford
Cricket Communications, Inc
Cumberland, County of
D&E Communications, Inc.
DELAWARE STATE - DTI
Eduro Networks LLC
Enoch Pratt Free Library
Exelon Generation Company, L.L.C
FiberTower Network Services Corp.
Franklin County Dept. of Emergency Servi
Frederick County
GEORGE MASON UNIVERSITY INSTR FNDTION
GETWIRELESS.NET
Gannett Company, Inc.
Globecom Systems, Inc.
HANOVER COUNTY
HENRICO COUNTY
Hampton Roads Planning District Commissi
Hardy Cellular Telephone Company
Harrisonburg-Rockingham ECC
Huntingdon County of
International Communications Group, Inc.
JUNIATA COUNTY OF
Kent County Levy Court
LANCASTER COUNTY OF
LB Tower Company LLC
LOWER SHORE BROADBAND COOPERATIVE
Last Mile Inc.
Lehigh, County of
Loudoun County Public Schools
Loudoun Wireless LLC
Loudoun, County of
M&T Bank
METROPOLITAN AREA NETWORKS, INC.
MIFFLIN COUNTY
MIT LINCOLN LABORATORY
Maryland Port Administration
Maryland Public Broadcasting Commission
Maryland State Highway Administration
Maryland, State of - Budget & Management
Middle East Broadcasting Networks, Inc.
Montgomery, County of
NEW JERSEY STATE POLICE
NOROC Broadband LLC
National Radio Astronomy Observatory
Netrepid, Inc.

Company (Continued)

New Cingular Wireless PCS - VA/DC/MD
New Cingular Wireless PCS LLC - DC
New Cingular Wireless PCS of PA LLC
New Cingular Wireless PCS, LLC - PA
New Cingular Wireless PCS, LLC - WV/VA
New Jersey Turnpike Authority
New Jersey Turnpike Authority-Pkwy Div
New Jersey, State of -NJ Transit
New Kent County
Nextlink Wireless, Inc
Northern Virginia Electric Cooperative
ORBCOMM GLOBAL LP
Open Range Communications
PENNSYLVANIA MICROWAVE NETWORK INC.
PENNSYLVANIA TURNPIKE COMMISSION
Petersburg Cellular Partnership
Petersburg Police Department
Philly Sports Wireless
Pontis Communications, Inc.
Port Networks, LLC
Public Broadcasting Service
QUALCOMM INC.
RAYTHEON COMPANY
RCTC Wholesale Corporation - Verizon
Roadstar Internet, Inc.
Rural Broadband Network Services LLC
SCHUYLKILL, COUNTY OF
SCTF NET
SECOM NET
SOUTHEASTERN PENNSYLVANIA TRANSIT AUTH
Salem County Information Technology
Somerset County, Maryland
State of Maryland, MIEMSS
Synergy Telecommunications Corp
Telecom Transport Management, Inc
UNION, COUNTY OF
UNIVERSITY OF MARYLAND
USCOC of Cumberland, Inc.
USCOC of Virginia RSA #3, Inc.
Verizon New Jersey, Inc.
Verizon Virginia, Inc.
Virginia Broadband, LLC
Virginia Electric & Power Company
Virginia RSA #7, Inc.
WASHINGTON SUBURBAN SANITARY COMMISSION
WEST VIRGINIA RADIO CORPORATION
WHYY, INC.
WICOMICO BOARD OF EDUCATION
Warrenton Fauquier Joint Communications
Washington Gas Light Company
Western PA Internet Access, Inc.
York County
York County Dept of Emergency Services

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: 09/28/2010
Job Number: 100922COMSJC03

Administrative Information

Status: ENGINEER PROPOSAL
Call Sign: E020288
Licensee Code: SWSITE
Licensee Name: Globecom Systems, Inc.

Site Information LAUREL, MARYLAND

Venue Name
Latitude (NAD 83): 39° 6' 47.0" N
Longitude (NAD 83): 76° 49' 53.0" W
Climate Zone: A
Rain Zone: 2
Ground Elevation (AMSL): 73.15 m / 240.0 ft

Link Information

Satellite Type: Geostationary
Mode: TR - Transmit-Receive
Modulation: Digital
Satellite Arc: 15° W to 143° West Longitude
Azimuth Range: 108.7° to 254.4°
Corresponding Elevation Angles: 13.0° / 9.7°
Antenna Centerline (AGL): 3.66 m / 12.0 ft

Antenna Information

Receive
Manufacturer: Andrew Corporation
Model: 5.6 Meter
Gain / Diameter: 55.7 dBi / 5.6 m
3-dB / 15-dB Beamwidth: 0.40° / 0.80°

Transmit

Andrew Corporation
5.6 Meter
57.1 dBi / 5.6 m
0.20° / 0.60°

Max Available RF Power (dBW/4 kHz): -14.0
(dBW/MHz): 10.0

Maximum EIRP (dBW/4 kHz): 43.1
(dBW/MHz): 67.1

Interference Objectives: Long Term -156.0 dBW/MHz 20% -151.0 dBW/4 kHz 20%
Short Term -144.0 dBW/MHz 0.01% -128.0 dBW/4 kHz 0.0025%

Frequency Information

Emission / Frequency Range (MHz)

Receive 11.0 GHz

578KG7W - 36M0G7W / 10950.0 - 11200.0
578KG7W - 36M0G7W / 11450.0 - 12200.0

Transmit 14.0 GHz

578KG7W - 36M0G7W / 13750.0 - 14500.0

Max Great Circle Coordination Distance: 356.5 km / 221.5 mi 167.8 km / 104.3 mi
Precipitation Scatter Contour Radius: 542.3 km / 336.9 mi 100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
(703)726-5500 <http://www.comsearch.com>

Coordination Values

LAUREL, MD

Licensee Name	Globecom Systems, Inc.		
Latitude (NAD 83)	39° 6' 47.0" N		
Longitude (NAD 83)	76° 49' 53.0" W		
Ground Elevation (AMSL)	73.15 m / 240.0 ft		
Antenna Centerline (AGL)	3.66 m / 12.0 ft		
Antenna Model	Andrew Corporation 5.6 Meter		
Antenna Mode	Receive 11.0 GHz		Transmit 14.0 GHz
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%
	Short Term	-144.0 dBW/MHz	0.01%
Max Available RF Power			-14.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
0	0.35	105.36	-10.00	208.88	-10.00	103.93
5	0.35	103.33	-10.00	209.18	-10.00	104.20
10	0.29	98.45	-10.00	214.19	-10.00	108.54
15	0.27	93.58	-10.00	216.67	-10.00	110.64
20	0.21	88.70	-10.00	222.25	-10.00	115.29
25	0.25	83.83	-10.00	217.84	-10.00	111.63
30	0.00	78.96	-10.00	222.88	-10.00	115.80
35	0.00	74.10	-10.00	222.88	-10.00	115.80
40	0.00	69.24	-10.00	222.88	-10.00	115.80
45	0.00	64.39	-10.00	222.88	-10.00	115.80
50	0.00	59.56	-10.00	222.88	-10.00	115.80
55	0.00	54.74	-10.00	222.88	-10.00	115.80
60	0.00	49.95	-10.00	222.88	-10.00	115.80
65	0.00	45.19	-9.38	225.48	-9.38	117.36
70	0.00	40.47	-8.18	230.59	-8.18	120.36
75	0.00	35.82	-6.85	236.46	-6.85	123.72
80	0.00	31.25	-5.37	243.25	-5.37	127.51
85	0.00	26.83	-3.71	251.29	-3.71	130.56
90	0.00	22.62	-1.86	260.49	-1.86	135.67
95	0.00	18.79	0.15	270.94	0.15	141.70
100	0.00	15.59	2.18	281.86	2.18	148.24
105	0.00	13.51	3.73	290.57	3.73	153.61
110	0.00	13.08	4.09	292.58	4.09	154.87
115	0.00	14.45	3.01	286.47	3.01	151.07
120	0.00	17.19	1.12	276.08	1.12	144.76
125	0.00	20.67	-0.88	265.51	-0.88	138.54
130	0.30	23.90	-2.46	246.74	-2.46	126.77
135	0.00	27.43	-3.96	250.12	-3.96	129.93
140	0.00	30.58	-5.14	244.49	-5.14	128.11
145	0.00	33.53	-6.13	239.72	-6.13	125.55
150	0.00	36.23	-6.98	235.89	-6.98	123.40
155	0.00	38.65	-7.68	232.77	-7.68	121.62
160	0.00	40.74	-8.25	230.28	-8.25	120.18
165	0.00	42.43	-8.69	228.37	-8.69	119.07
170	0.00	43.69	-9.01	227.03	-9.01	118.28
175	0.00	44.46	-9.20	226.22	-9.20	117.80
180	0.00	44.72	-9.26	225.95	-9.26	117.64
185	0.00	44.46	-9.20	226.22	-9.20	117.80

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Coordination Values

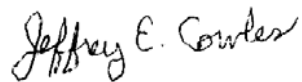
LAUREL, MD

Licensee Name: Globecom Systems, Inc.
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Antenna Mode: Receive 11.0 GHz
Interference Objectives: Long Term: -156.0 dBW/MHz 20%
Short Term: -144.0 dBW/MHz 0.01%
Transmit 14.0 GHz: -151.0 dBW/4 kHz 20%
-128.0 dBW/4 kHz 0.0025%
Max Available RF Power: -14.0 (dBW/4 kHz)

Azimuth (°)	Horizon Elevation (°)	Antenna Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Horizon Gain (dBi)	Coordination Distance (km)	Horizon Gain (dBi)	Coordination Distance (km)
190	0.00	43.69	-9.01	227.02	-9.01	118.27
195	0.00	42.43	-8.69	228.38	-8.69	119.07
200	0.00	40.74	-8.25	230.28	-8.25	120.18
205	0.00	38.65	-7.68	232.77	-7.68	121.62
210	0.00	36.23	-6.98	235.89	-6.98	123.40
215	0.00	33.53	-6.14	239.72	-6.14	125.55
220	0.00	30.58	-5.14	244.49	-5.14	128.12
225	0.00	27.43	-3.96	250.12	-3.96	129.92
230	0.00	24.12	-2.56	256.99	-2.56	133.70
235	0.00	20.67	-0.88	265.50	-0.88	138.54
240	0.00	17.11	1.17	276.35	1.17	144.92
245	0.25	13.32	3.89	286.10	3.89	149.18
250	0.29	10.39	6.58	294.53	6.58	154.83
255	0.43	9.28	7.81	356.51	7.81	167.80
260	0.43	10.80	6.16	280.12	6.16	139.99
265	0.48	13.99	3.35	259.11	3.35	128.64
270	0.45	18.05	0.59	247.84	0.59	123.60
275	0.41	22.49	-1.80	239.82	-1.80	120.53
280	0.45	27.09	-3.82	226.67	-3.82	112.35
285	0.48	31.80	-5.56	215.80	-5.56	105.22
290	0.39	36.62	-7.09	217.81	-7.09	108.66
295	0.45	41.43	-8.43	206.62	-8.43	100.30
300	0.64	46.27	-9.63	193.30	-9.63	100.00
305	0.57	51.17	-10.00	195.63	-10.00	100.00
310	0.46	56.08	-10.00	202.75	-10.00	100.00
315	0.40	61.00	-10.00	205.08	-10.00	100.55
320	0.49	65.91	-10.00	200.27	-10.00	100.00
325	0.61	70.83	-10.00	193.35	-10.00	100.00
330	0.62	75.76	-10.00	193.11	-10.00	100.00
335	0.47	80.70	-10.00	201.51	-10.00	100.00
340	0.55	85.63	-10.00	196.42	-10.00	100.00
345	0.44	90.57	-10.00	204.31	-10.00	100.00
350	0.37	95.50	-10.00	207.17	-10.00	102.43
355	0.33	100.43	-10.00	210.54	-10.00	105.39

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.



Jeffrey E. Cowles
Engineer III, Telecommunications
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, Va. 20147

DATED: September 29, 2010