

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Globecomm Systems, Inc.
HAUPPAUGE, NY
(E990402)
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
October 29, 2013

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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.

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 09/25/2013.

Company

256Q Networks
ALBANY, COUNTY OF
ALGONQUIN GAS TRANSMISSION CO
AMFM RADIO LICENSES, LLC
ART Licensing Corp.
AT&T Corporation
AWC Networks
Aerbender, LLC
Airband Communications Inc
Allentown SMSA Limited Partnership
Appalachian Broadcasting
Archdiocese of New York Dept of Educatio
Atlantic Telecommunications
Auburn Data Systems, LLC
BFI Licenses, LLC
BJ'S Wholesale Club, Inc
Bergen, County of
Buckeye Partners
Bucks County Dept. of Emergency Communic
Business Only Broadband, LLC
CAMDEN COUNTY
CBS Communications Services Inc.
CHESTER, COUNTY OF
CMEEC
COMMUNITY PRODUCTS, LLC
CONNECTICUT STATE OF
Capital Communications of America
Cellco Partnership - (W-NY)
Cellco Partnership - CT, W-MA, VT
Cellco Partnership - E-MA, NH, RI
Cellco Partnership-Newark-Dallas Verizon
China Cat Productions LLC
City of Bristol Mayor's Office
City of New Haven Police Services
City of New York
City of Providence RI Public Safety Comm
Clarity Connect, Inc.
Clearwire Spectrum Holdings III, LLC
Comprehensive Wireless LLC
Connecticut State Police Department
Conterra Ultra Broadband, LLC

Converge Towers LLC
Coralinks
County of Burlington
County of Mercer
County of Rensselaer
County of Warren, NJ
Delaware Division of Communications
Direct Broadcast Services, Inc.
EAST HAMPTON TOWN POLICE DEPARTMENT
ECW Wireless, LLC
EG Broadcast Newco Corp
East Brunswick, Township of, NJ
Eastern MLG LLC
Electric Railroad, LLC
Essex County Sherrif Office (NJ)
Exelon Generation Company, L.L.C
FORDHAM UNIVERSITY(WFUV)
FiberTower Network Services Corp.-DIP
First State Communications LLC
Fundamental Broadcasting LLC
GAW High Speed Internet
GREATER PHILADELPHIA RADIO INC
Garden State Transmissions
Global Crossing Telecommunications, Inc.
Gloucester Township
Goosetown Network Services, LLC
Greater Boston Police Council
Greenwich, Town of (CT)
High Voltage Communications LLC
Highway Networks, LLC
Holy Name Hosptial
Hopewell Radiology Group
Hudson County MIS Department
Hudson County Prosecutor's Office
Industrial Tower and Wireless, LLC
Jefferson Microwave, LLC
Kreider Networks
Kryptic Technologies
LACKAWANNA, COUNTY OF
Lehigh, County of
Local Media TV Philadelphia
MB Microwave, LLC
MONMOUTH, COUNTY OF
MVC Research. LLC
Mahwah Communications
Manchester, Township of
Massachusetts Department of State Police
Massachusetts Water Resources Authority
Massachusetts, Commonwealth of
Metro Networks Communications, Inc.
MetroPCS AWS, LLC
Metropolitan Broadband Systems, LLC
Mid-Hudson Data Corp
Mifflin Mobilecom
Monroe County Control Center (PA)
Morris, County of

NBC TELEMUNDO LICENSE LLC
NSTAR Electric Company
NY Dept of Health and Mental Hygiene
NYC DOT Staten Island Ferry
NYNEX Mobile Limited Partnership 2
Nassau County Police Department
National Grid USA Service Company, Inc
National Tower Company
Nep Cellcorp Inc
New Britain, City of
New Cingular Wireless PCS LLC -NJ
New Cingular Wireless PCS LLC - MA
New Cingular Wireless PCS LLC-DE/NH/RI
New Cingular Wireless PCS of PA LLC
New Cingular Wireless PCS, LLC (NY)
New Cingular Wireless PCS, LLC - PA
New Jersey State Dept of Transportation
New Jersey State Police
New Jersey Transit Rail Operations, Inc.
New Jersey Turnpike Authority-Pkwy Div
New Jersey, State of -NJ Transit
New York Communcations Co., Inc
New York SMSA LP (Northern NJ)
New York SMSA Limited Partnership
New York State Police
New York, City of (Police Department)
Newgig Networks, LLC
Norcom Communications Corp.
Northeast Pennsylvania SMSA LTD Prtnrsh
Northeast Utilities Services Company
Northrop Grumman Information Technology
Northrop Grumman Systems Corporation Inc
Norton, Douglas R
Ocean, County of-Div of Wireless Tech.
Office of Emergency Telecom Services, NJ
OpenCape Corporation
Orange Poughkeepsie SMSA LTD Partnership
Orange and Rockland Utilities, Inc.
Orangetown, Town of NY
PEG Bandwidth
PENNSYLVANIA TURNPIKE COMMISSION
PISCATAWAY, TOWNSHIP OF
PSEG Services Corporation
Peco Energy Company
PhillieCo, L.P.
Philly Sports Wireless
Pines Pantry, Inc.
Pitt Power
Port Authority of New York & New Jersey
QUALCOMM INC.
Qoncept Holdings LLC
Rockland, County of
SANOFI PASTEUR
SCS Networks
SECOM NET
SOUTHEASTERN PENNSYLVANIA TRANSIT AUTH

STAMFORD, CITY OF
STATE OF NEW JERSEY - OFFICE OF PUBLIC
SUFFOLK, COUNTY OF
SW Networks
Salem County Information Technology
San Juan Wireless
Saratoga County Office of Emergency Svcs
Somerset, County of - Emergency Managemen
Spot On Networks
Sprint Spectrum L.P
Stafford Township
Standard Backhaul Communications LLC
Stevens Institute of Technology
Suffolk, County of
T-Mobile License LLC
THE BROOKLYN HOSPITAL CENTER
TOWNSQUARE MEDIA ATLANTIC CITY LICENSE,
TRF SERVICES LLC
Telecom Transport Management, Inc
Thacher, Proffitt & Wood LLP
Thought Transmissions, LLC
Towerstream Corp
Town of Narragansett, Rhode Island
Town of Woodbridge, Police Department
Township of Jackson
Townsquare Media Monmouth-Ocean License
Transcontinental Gas Pipeline Corp.
Turtle Networks 6386
Turtle Networks 6423
Turtle Networks 6444
Turtle Networks 6457
Turtle Networks 6465
Turtle Networks 6467
Turtle Networks 6559
Union County New Jersey
Velox Networks LLC
Verizon New England Inc.
Verizon New Jersey, Inc.
Verizon Wireless (VAW) LLC (NY)
Verizon Wireless (VAW) LLC - NJ
Verizon Wireless (VAW) LLC-Pennsylvania
WESTCHESTER, COUNTY OF
WHYY, INC.
Wayne, County of
Wayne, Township of
Weblin Holdings LLC
White Rabbit Networks
Wireless Holdings Network, LLC
Wireless Internetwork LLC
World Class Wireless LLC
Zen Networks, Inc
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: 10/29/2013
Job Number: 130925COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign E990402
Licensee Code SWSITE
Licensee Name Globecom Systems, Inc.

Site Information HAUPPAUGE, NY

Venue Name AOT 7
Latitude (NAD 83) 40° 48' 54.1" N
Longitude (NAD 83) 73° 14' 17.8" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 33.5 m / 109.9 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Analog
Satellite Arc 2° W to 130° West Longitude
Azimuth Range 102.5° to 246.8°
Corresponding Elevation Angles 5.4° / 16.2°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Vertex		Vertex	
Model		9.3 KPK		9.3 KPK	
Gain / Diameter		59.3 dBi / 9.3 m		60.8 dBi / 9.3 m	
3-dB / 15-dB Beamwidth		0.20° / 0.40°		0.16° / 0.32°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-14.0 10.0	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			46.8 70.8	
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 11.0 GHz	Transmit 14.0 GHz
Emission / Frequency Range (MHz)	222KG7D - 36M0G7W / 10950.0 - 11200.0 222KG7D - 36M0G7W / 11450.0 - 11700.0	222KG7D - 36M0G7W / 14000.0 - 14500.0
Max Great Circle Coordination Distance	482.3 km / 299.7 mi	236.6 km / 147.0 mi
Precipitation Scatter Contour Radius	595.6 km / 370.1 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147
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Coordination Values

HAUPPAUGE, NY

Licensee Name: Globecom Systems, Inc.
Latitude (NAD 83): 40° 48' 54.1" N
Longitude (NAD 83): 73° 14' 17.8" W
Ground Elevation (AMSL): 33.5 m / 109.9 ft
Antenna Centerline (AGL): 5.49 m / 18.0 ft
Antenna Model: Vertex 9.3 KPK
Antenna Mode: Receive 11.0 GHz Transmit 14.0 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 -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	0.00	102.46	-10.00	231.37	-10.00	123.34
5	0.00	97.49	-10.00	231.37	-10.00	123.34
10	0.00	92.51	-10.00	231.37	-10.00	123.34
15	0.00	87.53	-10.00	231.37	-10.00	123.34
20	0.00	82.55	-10.00	231.37	-10.00	123.34
25	0.00	77.58	-10.00	231.37	-10.00	123.34
30	0.00	72.60	-10.00	231.37	-10.00	123.34
35	0.00	67.63	-10.00	231.37	-10.00	123.34
40	0.00	62.65	-10.00	231.37	-10.00	123.34
45	0.00	57.68	-10.00	231.37	-10.00	123.34
50	0.00	52.72	-10.00	231.37	-10.00	123.34
55	0.00	47.76	-9.98	231.48	-9.98	123.40
60	0.00	42.80	-8.79	236.76	-8.79	126.44
65	0.00	37.85	-7.45	242.88	-7.45	129.88
70	0.00	32.92	-5.94	250.21	-5.94	132.66
75	0.00	28.01	-4.18	258.87	-4.18	137.65
80	0.00	23.13	-2.11	269.57	-2.11	144.04
85	0.26	18.25	0.47	277.54	0.47	147.17
90	0.35	13.49	3.75	285.49	3.75	148.82
95	0.45	9.01	8.13	299.50	8.13	156.15
100	0.24	5.77	12.97	365.23	12.97	197.80
105	0.00	5.97	12.61	482.34	12.61	236.62
110	0.00	9.17	7.95	328.21	7.95	182.25
115	0.00	12.78	4.34	303.03	4.34	168.52
120	0.63	15.88	1.98	253.48	1.98	126.19
125	0.64	19.31	-0.15	241.36	-0.15	119.56
130	0.32	22.87	-1.98	257.83	-1.98	133.75
135	0.41	26.00	-3.37	241.76	-3.37	124.15
140	0.26	29.14	-4.61	250.71	-4.61	131.46
145	0.00	32.17	-5.69	251.43	-5.69	133.35
150	0.00	34.76	-6.53	247.37	-6.53	131.06
155	0.00	37.07	-7.23	243.94	-7.23	130.47
160	0.00	39.05	-7.79	241.30	-7.79	129.01
165	0.00	40.66	-8.23	239.29	-8.23	127.88
170	0.00	41.84	-8.54	237.87	-8.54	127.07
175	0.43	42.14	-8.62	215.61	-8.62	108.77
180	0.62	42.20	-8.63	203.97	-8.63	100.00
185	0.78	41.79	-8.53	199.06	-8.53	100.00

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Coordination Values

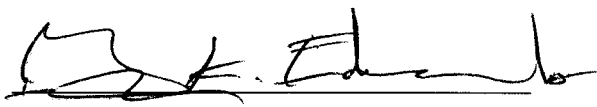
HAUPPAUGE, NY

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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: -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	0.94	40.94	-8.30	192.60	-8.30	100.00
195	1.16	39.57	-7.93	186.06	-7.93	100.00
200	0.86	38.28	-7.57	199.31	-7.57	100.00
205	0.75	36.42	-7.03	204.34	-7.03	100.00
210	1.08	33.87	-6.25	196.22	-6.25	100.00
215	1.43	31.03	-5.29	190.37	-5.29	100.00
220	0.93	28.61	-4.41	206.67	-4.41	100.00
225	0.70	25.78	-3.28	223.21	-3.28	108.67
230	0.69	22.60	-1.85	230.53	-1.85	112.88
235	0.79	19.29	-0.14	233.46	-0.14	113.09
240	0.90	16.67	1.45	235.43	1.45	112.58
245	0.90	15.36	2.34	240.29	2.34	115.32
250	0.90	15.58	2.18	239.62	2.18	114.99
255	1.01	17.17	1.13	228.54	1.13	107.29
260	0.90	20.07	-0.56	225.96	-0.56	107.35
265	0.89	23.58	-2.31	218.26	-2.31	102.99
270	0.67	27.65	-4.04	221.19	-4.04	107.98
275	0.71	31.84	-5.57	212.13	-5.57	102.06
280	0.83	36.19	-6.96	203.39	-6.96	100.00
285	0.62	40.78	-8.26	205.56	-8.26	100.00
290	0.39	45.44	-9.44	216.40	-9.44	110.33
295	0.21	50.13	-10.00	230.26	-10.00	122.45
300	0.00	54.87	-10.00	231.37	-10.00	123.34
305	0.00	59.58	-10.00	231.37	-10.00	123.34
310	0.00	64.33	-10.00	231.37	-10.00	123.34
315	0.00	69.09	-10.00	231.37	-10.00	123.34
320	0.00	73.87	-10.00	231.37	-10.00	123.34
325	0.00	78.66	-10.00	231.37	-10.00	123.34
330	0.00	83.46	-10.00	231.37	-10.00	123.34
335	0.00	88.26	-10.00	231.37	-10.00	123.34
340	0.00	93.06	-10.00	231.37	-10.00	123.34
345	0.00	97.86	-10.00	231.37	-10.00	123.34
350	0.00	102.66	-10.00	231.37	-10.00	123.34
355	0.00	107.44	-10.00	231.37	-10.00	123.34

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: October 29, 2013