

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Globecom Systems, Inc.**  
**LAUREL, MD**  
**(E010177)**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
June 21, 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-only earth station.

### Company

CBS Communications Services  
Virginia Department of State Police  
State of Maryland, MIEMSS  
County of Fairfax, Virginia

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 05/11/2011.

#### Company

3G Wireless, LLC  
ADAMS COUNTY EMERGENCY MANAGEMENT AGENCY  
AERIAL VIDEO SYSTEMS  
ALASCOM, INC.  
Allegheny Power Service Corporation  
ANNE ARUNDEL, COUNTY OF  
ANNE ARUNDEL, COUNTY OF  
Ascent Media Network Services, LLC  
AT&T California  
Baltimore County of Maryland  
Baltimore Gas and Electric Company  
BAY BROADBAND COMMUNICATIONS LLC  
Bellsouth Telecommunications, Inc.  
Borgeson, Tom R.  
BROADCAST COMMUNICATIONS INC  
Broadcast Sports Inc.  
Calvert Cliffs Nuclear Power Plant  
Calvert County Government  
Carolina Telephone and Telegraph Co  
CARROLL COUNTY  
Casper, John  
CBS Communications Services  
CBS Corporation  
Cellco Partnership - Southern Virginia  
Cellco Partnership-Washington/Baltimore  
CenturyTel of the Southwest, Inc.  
CHESTER, COUNTY OF  
Chicago Comnet Corp  
Cincinnati Bell Wireless LLC  
Citywide News Network, Inc.  
CNG Communications, Inc.  
Cohen, Elana  
Columbia Gas Transmission Corporation  
Commonwealth of Pennsylvania  
Commonwealth of Pennsylvania-Radio Proj.  
Conectiv Communications, Inc.  
County of Culpeper  
County of Fairfax, Virginia  
County of Stafford

Cowboys Stadium LP  
C-SPAN  
CTAB Holdings LLC  
DAUPHIN COUNTY EMERGENCY MANAGEMENT  
DCI II, INC.  
DELAWARE STATE - DTI  
DELAWARE STATE - DTI  
Delmarva Power & Light Company  
Direct Broadcast Services, Inc.  
Egan LLC  
Enoch Pratt Free Library  
Exelon Generation Company, L.L.C  
FELHC, Inc.  
Franklin County Dept. of Emergency Servi  
Gannett Company, Inc.  
George Washington University  
Global Microwave Systems Inc.  
GOODYEAR TIRE AND RUBBER COMPANY  
GSN NEWS INC  
Hallco Unlimited, Inc.  
Hardy Cellular Telephone Company  
Hawaiian Telcom, Inc.  
Heiden Mr., William  
HF Enterprises, Inc  
Howard, County of  
Illinois Bell Telephone Company  
INDIANA BELL TELEPHONE COMPANY INC  
Information & Display Systems, Inc.  
Information Super Station, LLC  
International Communications Group, Inc.  
Kentucky RSA #3 Cellular General Partner  
Kentucky RSA #4 Cellular General Partner  
LANCASTER COUNTY OF  
Loudoun, County of  
M&T Bank  
MARYLAND EMERG MANAGEMENT AGENCY COMM  
Maryland Public Broadcasting Commission  
MARYLAND STATE DEPT OF GENERAL SERVICES  
Maryland State Highway Administration  
Maryland, State of - Dept.of Info & Tech  
Maryland, State of - DNR  
MARYLAND, STATE OF - MDOT - MTA  
MERCURY COMMUNICATIONS  
Metro Networks Communications, Inc.  
Michigan Bell Telephone Company  
Montgomery, County of  
Moreen, Steven K  
NATIONAL CABLE SATELLITE CORPORATION  
Navajo Communications Company  
NBC TELEMUNDO LICENSE CO.  
New Cingular Wireless PCS - VA/DC/MD  
New Cingular Wireless PCS LLC - DC  
New Cingular Wireless PCS LLC- DE/NH/RI  
New Cingular Wireless PCS, LLC - PA  
NEW ENGLAND DIGITAL DISTRIBUTION, INC.  
NEW ENGLAND SATELLITE SYSTEMS INC

Norfolk Southern Railway  
Northern Virginia Electric Cooperative  
NorthWest Suburbs Community Access Corp  
NSM Surveillance  
Ohio Bell Telephone Company  
On Scene Video Production  
Onboard Images  
Peco Energy Company  
Penn Service Microwave Co., Inc.  
PENNSYLVANIA MICROWAVE NETWORK INC.  
PENNSYLVANIA TURNPIKE COMMISSION  
Plateau Telecommunications, Inc.  
Plum TV, LLC  
Potomac Electric Power Company  
Prince George's County  
Prince William, County of  
Production & Satellite Services, Inc.  
Proxy Aviation  
PSEG Services Corporation  
Public Television Communications Center  
QUICK LINK CONNECTIONS INC  
QWEST CORPORATION  
Radiofone, Inc.  
RAPPAHANNOCK ELECTRIC COOPERATIVE  
RCC Minnesota Inc. - MN NE ND SD  
RCYM Holdings LLC  
Regulus Media Services, Inc.  
Remote Broadcasts, Inc.  
REMOTE FACILITIES CONSULTING SERVICES  
RF Central, LLC  
RF Film, Inc  
SECOM NET  
Southwestern Bell Telephone L.P.  
Speedshotz, Inc  
SPOTSYLVANIA COUNTY  
St. Mary's County of  
State of Maryland, MIEMSS  
State of WV DHHR/BPH STECS  
Total RF Marketing Inc  
Transcontinental Gas Pipeline Corp.  
Unisat, Inc.  
United Telephone - Southeast  
UNIVERSITY OF MARYLAND  
USCOC of Cumberland, Inc.  
Verizon California Inc.  
Verizon Maryland, Inc.  
Verizon New England Inc.  
Verizon New Jersey, Inc.  
Verizon New York, Inc.  
Verizon North Inc.  
Verizon Northwest Inc.  
Verizon Pennsylvania, Inc.  
VERIZON SOUTH INC.  
Verizon Virginia, Inc.  
Verizon Washington DC, Inc.  
Village Video Productions Inc

Virginia Department of State Police  
Virginia Electric & Power Company  
Vyvx, LLC  
Warrenton Fauquier Joint Communications  
Washington Gas Light Company  
WASHINGTON SUBURBAN SANITARY COMMISSION  
Westar Satellite Services LP  
Western Technical Services  
Wexler Video, Inc.  
Winged Vision  
Wisconsin Bell, Inc.  
WOLFE AIR AVIATION  
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: 06/21/2011  
Job Number: 110511COMSGE02

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign E010177  
Licensee Code SWSITE  
Licensee Name Globecom Systems, Inc.

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### Site Information LAUREL, MD

Venue Name  
Latitude (NAD 83) 39° 6' 45.5" N  
Longitude (NAD 83) 76° 49' 58.0" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 73.2 m / 240.2 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 31° W to 32° West Longitude  
Azimuth Range 121.5° to 122.4°  
Corresponding Elevation Angles 24.8° / 25.5°  
Antenna Centerline (AGL) 5.49 m / 18.0 ft

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### Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Andrew		Andrew	
Model		ES9.3-46		ES9.3-46	
Gain / Diameter		50.7 dBi / 9.3 m		53.9 dBi / 9.3 m	
3-dB / 15-dB Beamwidth		0.50° / 1.00°		0.30° / 0.60°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-14.0 10.0	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			39.9 63.9	
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%

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### Frequency Information

	Receive 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	4M00G7D - 6M80G7D / 3700.0 - 4200.0	4M00G7D - 6M80G7D / 6425.0 - 6534.0 4M00G7D - 6M80G7D / 6576.0 - 6645.0
Max Great Circle Coordination Distance	334.9 km / 208.1 mi	153.4 km / 95.3 mi
Precipitation Scatter Contour Radius	495.7 km / 308.0 mi	100.0 km / 62.1 mi

# COMSEARCH

## Earth Station Data Sheet

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### Coordination Values

### LAUREL, MD

Licensee Name Globecom Systems, Inc.  
Latitude (NAD 83) 39° 6' 45.5" N  
Longitude (NAD 83) 76° 49' 58.0" W  
Ground Elevation (AMSL) 73.2 m / 240.2 ft  
Antenna Centerline (AGL) 5.49 m / 18.0 ft  
Antenna Model Andrew 9.3 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 -14.0 (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	0.32	118.38	-10.00	270.97	-10.00	123.38
5	0.33	113.95	-10.00	269.16	-10.00	122.15
10	0.30	109.48	-10.00	273.23	-10.00	124.89
15	0.27	104.97	-10.00	277.06	-10.00	127.45
20	0.21	100.44	-10.00	284.55	-10.00	132.37
25	0.25	95.91	-10.00	279.15	-10.00	128.83
30	0.00	91.36	-10.00	285.28	-10.00	132.84
35	0.00	86.83	-10.00	285.28	-10.00	132.84
40	0.00	82.29	-10.00	285.28	-10.00	132.84
45	0.00	77.77	-10.00	285.28	-10.00	132.84
50	0.00	73.27	-10.00	285.28	-10.00	132.84
55	0.00	68.79	-10.00	285.28	-10.00	132.84
60	0.00	64.34	-10.00	285.28	-10.00	132.84
65	0.00	59.94	-10.00	285.28	-10.00	132.84
70	0.00	55.60	-10.00	285.28	-10.00	132.84
75	0.00	51.34	-10.00	285.28	-10.00	132.84
80	0.00	47.18	-9.84	286.27	-9.84	133.26
85	0.00	43.16	-8.88	292.53	-8.88	134.65
90	0.00	39.31	-7.86	299.25	-7.86	137.52
95	0.00	35.69	-6.81	306.35	-6.81	140.62
100	0.00	32.40	-5.76	314.29	-5.76	143.86
105	0.00	29.53	-4.76	321.42	-4.76	147.09
110	0.00	27.22	-3.87	327.78	-3.87	150.03
115	0.00	25.62	-3.22	332.54	-3.22	152.26
120	0.00	24.88	-2.90	334.88	-2.90	153.37
125	0.00	25.07	-2.98	334.28	-2.98	153.09
130	0.22	25.96	-3.36	329.38	-3.36	150.17
135	0.00	28.06	-4.20	325.38	-4.20	148.91
140	0.00	30.61	-5.15	318.63	-5.15	145.82
145	0.00	33.59	-6.16	310.91	-6.16	142.63
150	0.00	36.91	-7.18	303.86	-7.18	139.53
155	0.00	40.53	-8.19	297.03	-8.19	136.57
160	0.00	44.37	-9.18	290.57	-9.18	133.82
165	0.00	48.38	-10.00	285.28	-10.00	132.84
170	0.00	52.53	-10.00	285.28	-10.00	132.84
175	0.00	56.77	-10.00	285.28	-10.00	132.84
180	0.00	61.09	-10.00	285.28	-10.00	132.84
185	0.00	65.47	-10.00	285.28	-10.00	132.84

# COMSEARCH

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### Coordination Values

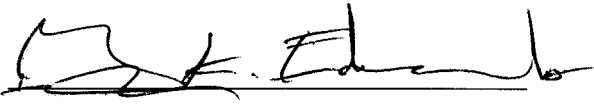
### LAUREL, MD

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Longitude (NAD 83): 76° 49' 58.0" W  
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Antenna Model: Andrew 9.3 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: -14.0 (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	0.00	69.89	-10.00	285.28	-10.00	132.84
195	0.00	74.35	-10.00	285.28	-10.00	132.84
200	0.00	78.83	-10.00	285.28	-10.00	132.84
205	0.00	83.33	-10.00	285.28	-10.00	132.84
210	0.00	87.84	-10.00	285.28	-10.00	132.84
215	0.00	92.35	-10.00	285.28	-10.00	132.84
220	0.00	96.85	-10.00	285.28	-10.00	132.84
225	0.00	101.35	-10.00	285.28	-10.00	132.84
230	0.00	105.83	-10.00	285.28	-10.00	132.84
235	0.00	110.29	-10.00	285.28	-10.00	132.84
240	0.00	114.71	-10.00	285.28	-10.00	132.84
245	0.24	119.15	-10.00	280.31	-10.00	129.59
250	0.28	123.49	-10.00	275.86	-10.00	126.64
255	0.43	127.80	-10.00	257.08	-10.00	113.85
260	0.42	131.96	-10.00	258.84	-10.00	115.08
265	0.49	136.03	-10.00	251.37	-10.00	109.83
270	0.45	139.88	-10.00	255.50	-10.00	112.75
275	0.41	143.49	-10.00	259.66	-10.00	115.65
280	0.44	146.85	-10.00	256.99	-10.00	113.79
285	0.50	149.83	-10.00	250.31	-10.00	109.08
290	0.37	152.12	-10.00	264.72	-10.00	119.14
295	0.42	153.88	-10.00	258.39	-10.00	114.76
300	0.58	154.93	-10.00	244.67	-10.00	105.10
305	0.60	154.94	-10.00	243.10	-10.00	103.95
310	0.48	153.88	-10.00	252.20	-10.00	110.42
315	0.38	152.04	-10.00	263.26	-10.00	118.13
320	0.47	149.70	-10.00	253.37	-10.00	111.24
325	0.47	146.65	-10.00	253.25	-10.00	111.16
330	0.71	143.33	-10.00	236.74	-10.00	100.00
335	0.54	139.46	-10.00	247.44	-10.00	107.11
340	0.37	135.43	-10.00	264.02	-10.00	118.66
345	0.50	131.37	-10.00	250.31	-10.00	109.07
350	0.35	127.09	-10.00	267.34	-10.00	120.92
355	0.33	122.77	-10.00	268.78	-10.00	121.90

## 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 21, 2011