

# FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for  
**Americom Government Services, Inc.**  
**REMINGTON, VA**  
**(Ku-band)**  
**Satellite Earth Station**

Prepared By:  
COMSEARCH  
19700 Janelia Farm Boulevard  
Ashburn, VA 20147  
July 30, 2012

## TABLE OF CONTENTS

1. CONCLUSIONS .....	3
2. SUMMARY OF RESULTS .....	4
3. SUPPLEMENTAL SHOWING .....	5
4. EARTH STATION COORDINATION DATA.....	8
5. CERTIFICATION.....	12

## 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 06/19/2012.

#### Company

ALLEGANY COLLEGE OF MARYLAND  
ALLEGANY COUNTY GOVERNMENT  
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  
Alltel Communications LLC-Southern VA  
Alltel Communications of Petersburg Inc  
Atlantic Broadband (Delmar), LLC  
Atlantic Broadband (Penn), LLC  
BALTIMORE CITY DEPARTMENT OF PUBLIC WORK  
BAY BROADBAND COMMUNICATIONS LLC  
BLAIR COUNTY 911  
Baltimore County of Maryland  
Baltimore Gas and Electric Company  
Bedford, County of  
Believe Wireless, LLC  
Blaze Broadband  
Blue Ridge Carriers  
Buggs Island Telephone Cooperative, Inc.  
CHESTER, COUNTY OF  
Cambria, County of  
Capital Communications of America  
Cellco Partnership - Bridgeville, PA/WV  
Cellco Partnership - Southern Virginia  
Cellco Partnership- PA Region  
Cellco Prtnrshp - Phil. Tri-State Rgn  
Central Virginia Electric Cooperative  
Chesterfield, County of  
City of Hampton, Virginia  
City of Laurel  
City of Ocean City, MD  
City of Portsmouth VA  
Clearwire Spectrum Holdings II, LLC  
Clearwire Spectrum Holdings III, LLC  
Clearwire Spectrum Holdings LLC  
Commonwealth of Pennsylvania-Radio Proj.  
Comprehensive Wireless LLC

Conterra Ultra Broadband, LLC  
County of Franklin, VA  
County of Nelson  
County of Stafford  
Cumberland, County of  
DELAWARE STATE - DTI  
Dinwiddie, County of  
ECW Wireless, LLC  
Eduro Networks LLC  
Enoch Pratt Free Library  
Exelon Generation Company, L.L.C  
FEDERAL AVIATION ADMINISTRATION  
FELHC, Inc.  
FiberTower Network Services Corp.  
Franklin County Dept. of Emergency Servi  
Frederick County  
Fundamental Broadcasting LLC  
GEORGE MASON UNIVERSITY INSTR FNDTION  
Garden State Transmissions  
Globecomm Systems, Inc.  
Gray Television Licensee, Inc (WCAV)  
HENRICO COUNTY  
Hampton Roads Planning District Commissi  
Hanover, County of  
Hardy Cellular Telephone Company  
Harrisonburg-Rockingham ECC  
Huntingdon County of  
Isle of Wight, County of  
Juniata County Emergency Services  
Kent County Levy Court  
King George County  
LANCASTER COUNTY OF  
LOWER SHORE BROADBAND COOPERATIVE  
Last Mile Inc.  
Loudoun County Public Schools  
Loudoun Wireless LLC  
Loudoun, County of  
M&T Bank  
METROPOLITAN AREA NETWORKS, INC.  
MIT LINCOLN LABORATORY  
Maryland Port Administration  
Maryland Public Broadcasting Commission  
Maryland State Highway Administration  
Maryland, State of - Dept. of Info & Tech  
Middle East Broadcasting Networks, Inc.  
Montgomery, County of  
NORFOLK, CITY OF  
NOROC Broadband LLC  
National Radio Astronomy Observatory  
Netrepid, Inc.  
New Cingular Wireless PCS - Maryland  
New Cingular Wireless PCS LLC - AL, MS,  
New Cingular Wireless PCS LLC - DC  
New Cingular Wireless PCS LLC - VA  
New Cingular Wireless PCS LLC- WV/NC/SC  
New Cingular Wireless PCS LLC-DE/NH/RI

New Cingular Wireless PCS, LLC - PA  
New Kent County  
Nextlink Wireless, LLC  
Northern Virginia Electric Cooperative  
PENNSYLVANIA MICROWAVE NETWORK INC.  
PENNSYLVANIA TURNPIKE COMMISSION  
Petersburg Cellular Partnership  
Petersburg Police Department  
Pontis Communications, Inc.  
Port Networks, LLC  
Public Broadcasting Service  
RADIO ONE, INC - MD  
RAYTHEON COMPANY  
RCTC Wholesale Corporation  
Radio One, Inc  
RapidDSL & Wireless, Inc.  
Roadstar Internet, Inc.  
Rural Broadband Network Services LLC  
SOMERSET COUNTY  
SW Networks  
Shenandoah Personal Communications Co  
Shentel  
Somerset County, Maryland  
Sprint Spectrum, LP  
State of Maryland, MIEMSS  
State of WV DHHR/BPH STECS  
Sussex County Council  
Synergy Telecommunications Corp  
T-Mobile License LLC  
Telecom Transport Management, Inc  
Thought Transmissions, LLC  
UNIVERSITY OF MARYLAND  
USCOC of Cumberland, Inc.  
USCOC of Virginia RSA #2, Inc.  
USCOC of Virginia RSA #3, Inc.  
Verizon Maryland, Inc.  
Verizon New Jersey, Inc.  
Verizon Virginia, Inc.  
Verizon Wireless VAW LLC-Southern VA  
Virginia Beach City of  
Virginia Broadband, LLC  
Virginia Department of State Police  
Virginia Electric & Power Company  
Virginia RSA #7, Inc.  
Virginia Tech Foundation , Inc.  
WASHINGTON SUBURBAN SANITARY COMMISSION  
WEST VIRGINIA RADIO CORPORATION  
WICOMICO BOARD OF EDUCATION  
Warrenton Fauquier Joint Communications  
Washington Gas Light Company  
West Virginia PCS Alliance, L.C.  
Western PA Internet Access, Inc.  
World Class Wireless LLC  
York County  
York County Dept of Emergency Services  
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: 07/30/2012  
Job Number: 120619COMSGE02

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### Administrative Information

Status ENGINEER PROPOSAL  
Call Sign  
Licensee Code AMGOSE  
Licensee Name Americom Government Services, Inc.

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### Site Information REMINGTON, VA

Venue Name  
Latitude (NAD 83) 38° 27' 34.0" N  
Longitude (NAD 83) 77° 50' 52.0" W  
Climate Zone A  
Rain Zone 2  
Ground Elevation (AMSL) 88.7 m / 291.0 ft

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### Link Information

Satellite Type Geostationary  
Mode TR - Transmit-Receive  
Modulation Digital  
Satellite Arc 12° W to 122° West Longitude  
Azimuth Range 105.6° to 237.4°  
Corresponding Elevation Angles 10.1° / 26.4°  
Antenna Centerline (AGL) 5.49 m / 18.0 ft

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### Antenna Information

#### Receive - FCC32

#### Transmit - FCC32

Manufacturer	RSI	RSI	
Model	11.3 Meter	11.3 Meter	
Gain / Diameter	60.2 dBi / 11.3 m	61.2 dBi / 11.3 m	
3-dB / 15-dB Beamwidth	0.16° / 0.32°	0.14° / 0.26°	
Max Available RF Power (dBW/4 kHz)		-14.0	
(dBW/MHz)		10.0	
Maximum EIRP (dBW/4 kHz)		47.2	
(dBW/MHz)		71.2	
Interference Objectives:	Long Term	-156.0 dBW/MHz 20%	-151.0 dBW/4 kHz 20%
	Short Term	-146.0 dBW/MHz 0.01%	-128.0 dBW/4 kHz 0.0025%

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### Frequency Information

#### Receive 11.0 GHz

#### Transmit 14.0 GHz

Emission / Frequency Range (MHz) 2M00G7D - 36M0G7W / 10950.0 - 11200.0 2M00G7D - 36M0G7W / 14000.0 - 14500.0  
2M00G7D - 36M0G7W / 11450.0 - 11700.0

Max Great Circle Coordination Distance 388.2 km / 241.2 mi 185.4 km / 115.2 mi  
Precipitation Scatter Contour Radius 530.3 km / 329.5 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

### REMINGTON, VA

Licensee Name	Americom Government Services, Inc.				
Latitude (NAD 83)	38° 27' 34.0" N				
Longitude (NAD 83)	77° 50' 52.0" W				
Ground Elevation (AMSL)	88.7 m / 291.0 ft				
Antenna Centerline (AGL)	5.49 m / 18.0 ft				
Antenna Model	RSI 11.3 Meter				
Antenna Mode	Receive 11.0 GHz		Transmit 14.0 GHz		
Interference Objectives:	Long Term	-156.0 dBW/MHz	20%	-151.0 dBW/4 kHz	20%
	Short Term	-146.0 dBW/MHz	0.01%	-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)
0	0.00	105.34	-10.00	231.37	-10.00	115.80
5	0.00	100.42	-10.00	231.37	-10.00	115.80
10	0.00	95.50	-10.00	231.37	-10.00	115.80
15	0.00	90.58	-10.00	231.37	-10.00	115.80
20	0.28	85.65	-10.00	223.80	-10.00	109.69
25	0.38	80.72	-10.00	214.69	-10.00	102.07
30	0.47	75.79	-10.00	206.94	-10.00	100.00
35	0.00	70.90	-10.00	231.37	-10.00	115.80
40	0.00	65.99	-10.00	231.37	-10.00	115.80
45	0.00	61.09	-10.00	231.37	-10.00	115.80
50	0.00	56.20	-10.00	231.37	-10.00	115.80
55	0.00	51.32	-10.00	231.37	-10.00	115.80
60	0.00	46.45	-9.68	232.79	-9.68	116.61
65	0.00	41.62	-8.48	238.14	-8.48	119.60
70	0.00	36.81	-7.15	244.42	-7.15	122.96
75	0.00	32.06	-5.65	251.61	-5.65	126.79
80	0.00	27.39	-3.94	260.10	-3.94	129.97
85	0.00	22.84	-1.97	270.29	-1.97	135.37
90	0.00	18.52	0.31	282.60	0.31	142.19
95	0.00	14.61	2.89	294.20	2.89	150.65
100	0.00	11.55	5.44	310.22	5.44	159.82
105	0.00	10.14	6.85	388.17	6.85	185.38
110	0.00	11.04	5.93	313.58	5.93	163.18
115	0.00	13.79	3.51	297.91	3.51	152.83
120	0.23	17.26	1.07	283.17	1.07	141.42
125	0.24	20.85	-0.98	271.43	-0.98	134.85
130	0.28	24.31	-2.64	258.27	-2.64	128.15
135	0.31	27.64	-4.04	248.74	-4.04	122.60
140	0.30	30.83	-5.22	242.89	-5.22	119.61
145	0.34	33.78	-6.22	234.68	-6.22	114.30
150	0.39	36.49	-7.05	226.52	-7.05	108.66
155	0.36	38.96	-7.77	226.10	-7.77	109.14
160	0.30	41.12	-8.35	228.89	-8.35	112.08
165	0.23	42.90	-8.81	233.86	-8.81	116.57
170	0.20	44.20	-9.14	235.07	-9.14	117.86
175	0.00	45.18	-9.37	234.12	-9.37	117.36
180	0.00	45.45	-9.44	233.84	-9.44	117.20
185	0.00	45.18	-9.37	234.12	-9.37	117.36

# COMSEARCH

## Earth Station Data Sheet

19700 Janelia Farm Boulevard, Ashburn, VA 20147  
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### Coordination Values

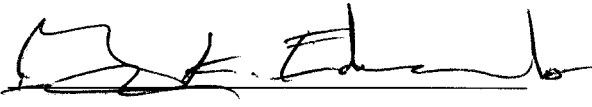
### REMINGTON, VA

Licensee Name: Americom Government Services, Inc.  
Latitude (NAD 83): 38° 27' 34.0" N  
Longitude (NAD 83): 77° 50' 52.0" W  
Ground Elevation (AMSL): 88.7 m / 291.0 ft  
Antenna Centerline (AGL): 5.49 m / 18.0 ft  
Antenna Model: RSI 11.3 Meter  
Antenna Mode: Receive 11.0 GHz / Transmit 14.0 GHz  
Interference Objectives: Long Term: -156.0 dBW/MHz 20% / -151.0 dBW/4 kHz 20%  
Short Term: -146.0 dBW/MHz 0.01% / -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	44.40	-9.18	234.97	-9.18	117.84
195	0.00	43.11	-8.87	236.40	-8.87	118.63
200	0.00	41.38	-8.42	238.41	-8.42	119.75
205	0.21	39.09	-7.80	240.72	-7.80	120.89
210	0.00	36.80	-7.14	244.45	-7.14	122.97
215	0.00	34.04	-6.30	248.46	-6.30	125.12
220	0.00	31.24	-5.37	252.98	-5.37	127.51
225	0.21	28.77	-4.47	256.19	-4.47	128.89
230	0.28	27.06	-3.81	252.51	-3.81	125.23
235	0.42	26.08	-3.41	240.76	-3.41	115.58
240	0.47	26.05	-3.39	235.50	-3.39	111.33
245	0.66	26.77	-3.69	223.01	-3.69	101.40
250	0.83	28.33	-4.31	211.94	-4.31	100.00
255	0.88	30.68	-5.17	205.91	-5.17	100.00
260	0.89	33.60	-6.16	204.01	-6.16	100.00
265	0.65	37.08	-7.23	208.46	-7.23	100.00
270	0.58	40.72	-8.24	207.63	-8.24	100.00
275	0.64	44.51	-9.21	203.26	-9.21	100.00
280	0.75	48.47	-10.00	194.56	-10.00	100.00
285	0.00	52.88	-10.00	231.37	-10.00	115.80
290	0.00	57.08	-10.00	231.37	-10.00	115.80
295	0.00	61.36	-10.00	231.37	-10.00	115.80
300	0.00	65.70	-10.00	231.37	-10.00	115.80
305	0.00	70.08	-10.00	231.37	-10.00	115.80
310	0.36	74.46	-10.00	216.00	-10.00	103.19
315	0.88	78.87	-10.00	188.07	-10.00	100.00
320	0.93	83.37	-10.00	185.12	-10.00	100.00
325	0.64	87.88	-10.00	199.86	-10.00	100.00
330	0.28	92.38	-10.00	223.35	-10.00	109.33
335	0.30	96.86	-10.00	222.14	-10.00	108.33
340	0.64	101.37	-10.00	199.96	-10.00	100.00
345	0.66	105.85	-10.00	199.14	-10.00	100.00
350	0.00	110.18	-10.00	231.37	-10.00	115.80
355	0.00	110.25	-10.00	231.37	-10.00	115.80

## 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: July 30, 2012