

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Americom Government Services, Inc.
LAUREL, MD
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
November 6, 2012

TABLE OF CONTENTS

1. CONCLUSIONS	3
2. SUMMARY OF RESULTS	4
3. SUPPLEMENTAL SHOWING	5
4. EARTH STATION COORDINATION DATA.....	7
5. CERTIFICATION.....	11

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

Baltimore County of Maryland
Eastern MLG LLC
ECW Wireless, LLC
Garden State Transmissions
iSignal
New Cingular Wireless PCS - Maryland
State of Maryland, MIEMSS
Washington Gas Light Company

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 09/25/2012.

Company

ADAMS COUNTY EMERGENCY MANAGEMENT AGENCY
AT&T COMMUNICATIONS OF MARYLAND INC
AT&T CORP
Appalachia Engineering Services
B20 LLC
BAY BROADBAND COMMUNICATIONS LLC
Baltimore County of Maryland
Baltimore Gas and Electric Company
Blue Ridge Carriers
COLLEGE OF SOUTHERN MARYLAND
Capital Communications of America
Cellco Partnership - Southern Virginia
Cellco Partnership-Newark-Dallas Verizon
Cellco Partnership-WDC/Baltimore
Cellco Prtnrshp - Phil. Tri-State Rgn
Charles, County of
Comprehensive Wireless LLC
Conterra Ultra Broadband, LLC
County of Frederick
Delaware Division of Communications
ECW Wireless, LLC
Eastern MLG LLC
Enoch Pratt Free Library
Exelon Generation Company, L.L.C
FELHC, Inc.
Frederick County
Fundamental Broadcasting LLC
Garden State Transmissions
Hardy Cellular Telephone Company
King and Queen County
Loudoun County, Virginia
MCI Communications Services Inc.
MVC Research. LLC
Maryland Public Broadcasting Commission
Maryland State Highway Administration
Maryland, State of - Dept.of Info & Tech
National Radio Astronomy Observatory
New Cingular Wireless PCS - Maryland
New Cingular Wireless PCS LLC - DC
New Cingular Wireless PCS LLC - VA

New Cingular Wireless PCS LLC-DE/NH/RI
New Cingular Wireless PCS, LLC - PA
Norfolk Southern Railway
Prince George's County
Prince William, County of
RAPPAHANNOCK ELECTRIC COOPERATIVE
SCTF NET
SHENANDOAH VALLEY ELECTRIC COOPERATIVE
Southern Maryland Electric Cooperative I
St. Mary's County of (MD)
Stafford, County of
State of Maryland, MIEMSS
State of WV DHHR/BPH STECS
Thought Transmissions, LLC
USCOC of Cumberland, Inc.
Verizon Maryland, Inc.
Verizon Wireless (VAW) LLC - Maryland
Verizon Wireless (VAW) LLC-Pennsylvania
Verizon Wireless VAW LLC-Southern VA
Virginia Broadband, LLC
Virginia Department of State Police
Virginia Electric & Power Company
Virginia PCS Alliance, L.C.
Washington D.C. SMSA L.P.
Washington Gas Light Company
Washington Suburban Sanitary Commission
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: 10/24/2012
Job Number: 120925COMSGE01

Administrative Information

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

Site Information LAUREL, MD

Venue Name
Latitude (NAD 83) 39° 2' 43.0" N
Longitude (NAD 83) 76° 51' 46.0" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 48.77 m / 160.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 18° W to 91° West Longitude
Azimuth Range 110.8° to 201.8°
Corresponding Elevation Angles 15.3° / 42.5°
Antenna Centerline (AGL) 6.4 m / 21.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		Satcom Technologies		Satcom Technologies	
Model		1100 CS		1100 CS	
Gain / Diameter		51.9 dBi / 11.3 m		55.4 dBi / 11.3 m	
3-dB / 15-dB Beamwidth		0.80° / 1.60°		0.29° / 0.58°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-12.6 11.4	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			42.8 66.8	
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 4.0 GHz	Transmit 6.1 GHz
Emission / Frequency Range (MHz)	36M0G7W / 3700.0 - 4200.0	36M0G7W / 5925.0 - 6425.0
Max Great Circle Coordination Distance	375.1 km / 233.1 mi	180.3 km / 112.0 mi
Precipitation Scatter Contour Radius	517.7 km / 321.7 mi	100.0 km / 62.1 mi

COMSEARCH

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Coordination Values

LAUREL, MD

Licensee Name Americom Government Services, Inc.
Latitude (NAD 83) 39° 2' 43.0" N
Longitude (NAD 83) 76° 51' 46.0" W
Ground Elevation (AMSL) 48.77 m / 160.0 ft
Antenna Centerline (AGL) 6.4 m / 21.0 ft
Antenna Model Satcom Technologies 11.3 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 -12.6 (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	1.00	110.16	-10.00	220.27	-10.00	100.00
5	1.15	105.35	-10.00	215.70	-10.00	100.00
10	1.23	100.51	-10.00	213.21	-10.00	100.00
15	1.22	95.66	-10.00	213.65	-10.00	100.00
20	1.19	90.81	-10.00	214.54	-10.00	100.00
25	1.20	85.96	-10.00	214.23	-10.00	100.00
30	1.19	81.12	-10.00	214.44	-10.00	100.00
35	1.15	76.28	-10.00	215.82	-10.00	100.00
40	1.16	71.44	-10.00	215.45	-10.00	100.00
45	0.98	66.63	-10.00	221.21	-10.00	100.00
50	0.86	61.84	-10.00	227.97	-10.00	100.00
55	0.74	57.07	-10.00	234.58	-10.00	101.25
60	0.67	52.33	-10.00	239.00	-10.00	104.60
65	0.56	47.64	-9.95	246.11	-9.95	109.76
70	0.37	43.02	-8.84	271.81	-8.84	125.97
75	0.23	38.48	-7.63	297.23	-7.63	139.88
80	0.00	34.08	-6.31	309.82	-6.31	146.58
85	0.25	29.63	-4.79	314.00	-4.79	146.32
90	0.00	25.64	-3.22	332.48	-3.22	157.18
95	0.00	21.88	-1.50	345.24	-1.50	163.60
100	0.00	18.67	0.22	358.32	0.22	171.92
105	0.00	16.34	1.67	369.53	1.67	177.52
110	0.00	15.31	2.37	375.10	2.37	180.26
115	0.00	15.83	2.01	372.23	2.01	178.85
120	0.00	17.77	0.76	362.45	0.76	173.99
125	0.00	20.73	-0.91	349.66	-0.91	165.86
130	0.00	24.16	-2.58	337.24	-2.58	159.55
135	0.00	27.47	-3.97	327.04	-3.97	154.50
140	0.00	30.63	-5.15	318.59	-5.15	150.42
145	0.00	33.58	-6.15	310.94	-6.15	147.10
150	0.00	36.29	-7.00	305.11	-7.00	144.39
155	0.00	38.72	-7.70	300.35	-7.70	142.19
160	0.00	40.81	-8.27	296.53	-8.27	140.46
165	0.00	42.50	-8.71	293.61	-8.71	139.13
170	0.31	43.46	-8.95	277.91	-8.95	130.23
175	0.32	44.21	-9.14	275.40	-9.14	128.84
180	0.21	44.58	-9.23	288.57	-9.23	136.48
185	0.00	44.53	-9.22	290.31	-9.22	137.65

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Coordination Values

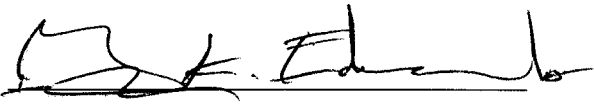
LAUREL, MD

Licensee Name: Americom Government Services, Inc.
Latitude (NAD 83): 39° 2' 43.0" N
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Antenna Model: Satcom Technologies 11.3 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: -12.6 (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	43.76	-9.03	291.54	-9.03	138.20
195	0.00	42.89	-8.81	292.96	-8.81	138.84
200	0.21	42.28	-8.65	292.57	-8.65	138.32
205	0.21	42.34	-8.67	292.18	-8.67	138.08
210	0.00	43.09	-8.86	292.63	-8.86	138.69
215	0.00	44.09	-9.11	291.02	-9.11	137.97
220	0.00	45.51	-9.45	288.79	-9.45	136.97
225	0.00	47.31	-9.87	286.09	-9.87	135.77
230	0.24	49.26	-10.00	279.83	-10.00	133.05
235	0.52	51.51	-10.00	248.48	-10.00	111.55
240	0.42	54.30	-10.00	258.91	-10.00	118.86
245	0.00	57.47	-10.00	285.28	-10.00	135.42
250	0.52	60.28	-10.00	248.71	-10.00	111.72
255	0.61	63.51	-10.00	242.97	-10.00	107.54
260	0.48	66.94	-10.00	252.57	-10.00	114.39
265	0.37	70.46	-10.00	264.67	-10.00	122.84
270	0.62	73.94	-10.00	242.02	-10.00	106.84
275	0.30	77.63	-10.00	272.45	-10.00	128.13
280	0.42	81.27	-10.00	258.71	-10.00	118.72
285	0.43	84.96	-10.00	257.62	-10.00	117.96
290	0.51	88.67	-10.00	248.89	-10.00	111.85
295	0.53	92.39	-10.00	247.62	-10.00	110.93
300	0.67	96.11	-10.00	238.90	-10.00	104.52
305	0.77	99.82	-10.00	233.32	-10.00	100.29
310	0.60	103.46	-10.00	243.47	-10.00	107.90
315	0.48	107.04	-10.00	251.51	-10.00	113.64
320	0.58	110.61	-10.00	244.77	-10.00	108.86
325	0.84	114.17	-10.00	229.17	-10.00	100.00
330	0.97	117.61	-10.00	221.67	-10.00	100.00
335	0.90	120.82	-10.00	225.96	-10.00	100.00
340	0.88	123.90	-10.00	226.55	-10.00	100.00
345	0.72	124.52	-10.00	236.10	-10.00	102.41
350	0.66	119.73	-10.00	239.53	-10.00	104.99
355	0.78	114.95	-10.00	232.78	-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.

BY: 

Gary K. Edwards
Senior Manager
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147

DATED: November 6, 2012