

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
CACI
ABERDEEN PROVING GROUND, MD
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
September 10, 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

METRO NETWORKS COMMUNICATIONS INC

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 06/22/2010.

Company

ACCELACOM-BALTIMORE LLC
ALLEGANY COLLEGE OF MARYLAND
AMFM RADIO LICENSES, LLC
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 Industries Inc.
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
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
Business Only Broadband, LLC
CBS Communications Services
CHESTER, COUNTY OF
COMMONWEALTH OF PENNSYLVANIA,RADIO PROJ.
COUNTY OF MORRIS
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
City of Laurel
City of Ocean City, MD
Clearwire Spectrum Holdings III, LLC
Clearwire Spectrum Holdings LLC
Conterra Ultra Broadband, LLC

County of Burlington
County of Orange Div of Wireless Tech
County of Stafford
County of Warren
County of York
Cricket Communications, Inc
Cumberland, County of
D&E Systems, Inc.
DELAWARE STATE - DTI
Direct Broadcast Services, Inc.
ESSEX, COUNTY OF-SHERIFF'S OFFICE
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
Gannett Company, Inc.
Globecomm Systems, Inc.
HANOVER COUNTY
HENRICO COUNTY
Hardy Cellular Telephone Company
Harrisonburg-Rockingham ECC
Hopewell Radiology Group
Hudson County MIS Department
Hudson County Prosecutor's Office
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
MARYLAND PUBLIC BROADCASTING COMMISSION
METRO NETWORKS COMMUNICATIONS INC
METROPOLITAN AREA NETWORKS, INC.
MIFFLIN COUNTY
MIT LINCOLN LABORATORY
MONROE COUNTY CONTROL CENTER
Manchester, Township of
Maryland Port Administration
Maryland State Highway Administration
Maryland, State of - Budget & Management
Middle East Broadcasting Networks, Inc.
Montgomery, County of
NEW JERSEY STATE POLICE
NEW JERSEY TRANSIT RAIL OPERATIONS,INC
NEW YORK CITY POLICE DEPARTMENT
NOROC Broadband LLC

NSAC LLC
National Radio Astronomy Observatory
Netrepid, Inc.
New Cingular Wireless PCS LLC -NJ
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, State of -NJ Transit
New York SMSA LP (NY Metro Region)
New York, City of
Nextlink Wireless, Inc
Northeast Pennsylvania SMSA LTD Prtnrsh
Northern Virginia Electric Cooperative
ORBCOMM GLOBAL LP
Open Range Communications
PENNSYLVANIA MICROWAVE NETWORK INC.
PENNSYLVANIA TURNPIKE COMMISSION
PSEG Services Corporation
Philly Sports Wireless
Pontis Communications, Inc.
Port Authority of New York & New Jersey
Port Networks, LLC
Public Broadcasting Service
QUALCOMM INC.
QUICK LINK CONNECTIONS INC
RAYTHEON COMPANY
Roadstar Internet, Inc.
Rural Broadband Network Services LLC
SANOFI PASTEUR
SCHUYLKILL, COUNTY OF
SCTF NET
SECOM NET
SOUTHEASTERN PENNSYLVANIA TRANSIT AUTH
Salem County Information Technology
State of Maryland, MIEMSS
Stevens Institute of Technology
Sussex, County of
Synergy Telecommunications Corp
TELEMARK NETWORKS, INC
Telecom Transport Management, Inc
Thacher, Proffitt & Wood LLP
Towerstream, Inc
Town of Woodbridge, Police Department
Township of Jackson
Trans Video Communications, Inc
UNION, COUNTY OF
UNIVERSITY OF MARYLAND
USCOC of Cumberland, Inc.
Verizon New Jersey, Inc.
Verizon Virginia, Inc.
Virginia Broadband, LLC
Virginia Electric & Power Company
WASHINGTON SUBURBAN SANITARY COMMISSION

WEST VIRGINIA RADIO CORPORATION
WHYY, INC.
WICOMICO BOARD OF EDUCATION
Warrenton Fauquier Joint Communications
Washington Gas Light Company
Wayne, Township of

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: 09/09/2010
Job Number: 100622COMSGE02

Administrative Information

Status ENGINEER PROPOSAL
Call Sign
Licensee Code CACII
Licensee Name CACI

Site Information

ABERDEEN PG, MD
Venue Name
Latitude (NAD 83) 39° 29' 6.7" N
Longitude (NAD 83) 76° 9' 33.4" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 17.98 m / 59.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 5° W to 143° West Longitude
Azimuth Range 102.2° to 254.8°
Corresponding Elevation Angles 5.8° / 9.1°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

	Receive - FCC32	Transmit - FCC32
Manufacturer	General Dynamics	General Dynamics
Model	FSC-133	FSC-133
Gain / Diameter	58.0 dBi / 9.2 m	60.1 dBi / 9.2 m
3-dB / 15-dB Beamwidth	0.20° / 0.49°	0.16° / 0.39°
Max Available RF Power (dBW/4 kHz) (dBW/MHz)		-14.0 10.0
Maximum EIRP (dBW/4 kHz) (dBW/MHz)		46.1 70.1
Interference Objectives:	Long Term -156.0 dBW/MHz 20% Short Term -146.0 dBW/MHz 0.01%	-151.0 dBW/4 kHz 20% -128.0 dBW/4 kHz 0.0025%

Frequency Information

	Receive 11.0 GHz	Transmit 14.0 GHz
Emission / Frequency Range (MHz)	250KG7D - 36M0F8W / 10950.0 - 11200.0 250KG7D - 36M0F8W / 11450.0 - 12700.0	250KG7D - 36M0F8W / 14000.0 - 14500.0
Max Great Circle Coordination Distance	602.5 km / 374.3 mi	272.4 km / 169.2 mi
Precipitation Scatter Contour Radius	592.4 km / 368.1 mi	100.0 km / 62.1 mi

COMSEARCH

Earth Station Data Sheet

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Coordination Values

ABERDEEN PG, MD

Licensee Name CACI
Latitude (NAD 83) 39° 29' 6.7" N
Longitude (NAD 83) 76° 9' 33.4" W
Ground Elevation (AMSL) 17.98 m / 59.0 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model General Dynamics 9.2 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 (°)	Antenna Elevation (°)	Horizon Discrimination (°)	Receive 11.0 GHz		Transmit 14.0 GHz	
			Coordination Gain (dBi)	Horizon Distance (km)	Coordination Gain (dBi)	Horizon Distance (km)
0	0.51	102.19	-10.00	203.78	-10.00	100.00
5	0.74	97.22	-10.00	195.06	-10.00	100.00
10	0.65	92.24	-10.00	199.41	-10.00	100.00
15	0.59	87.26	-10.00	202.32	-10.00	100.00
20	0.44	82.28	-10.00	209.15	-10.00	100.00
25	0.34	77.30	-10.00	218.22	-10.00	105.06
30	0.00	72.34	-10.00	231.37	-10.00	115.80
35	0.00	67.37	-10.00	231.37	-10.00	115.80
40	0.00	62.40	-10.00	231.37	-10.00	115.80
45	0.00	57.43	-10.00	231.37	-10.00	115.80
50	0.00	52.47	-10.00	231.37	-10.00	115.80
55	0.00	47.51	-9.92	231.72	-9.92	116.00
60	0.00	42.56	-8.73	237.03	-8.73	118.98
65	0.00	37.63	-7.39	243.19	-7.39	122.36
70	0.00	32.70	-5.86	250.56	-5.86	126.24
75	0.00	27.80	-4.10	259.28	-4.10	129.54
80	0.00	22.95	-2.02	270.03	-2.02	135.23
85	0.00	18.16	0.52	283.78	0.52	142.86
90	0.00	13.52	3.73	299.22	3.73	153.59
95	0.00	9.26	7.84	327.39	7.84	170.44
100	0.00	6.20	12.19	602.48	12.19	272.41
105	0.00	6.40	11.85	453.08	11.85	211.08
110	0.00	9.63	7.41	324.21	7.41	168.82
115	0.00	13.32	3.89	300.23	3.89	154.16
120	0.00	16.94	1.28	288.00	1.28	145.28
125	0.00	20.48	-0.78	276.62	-0.78	138.84
130	0.00	23.90	-2.46	267.71	-2.46	133.98
135	0.00	27.19	-3.86	260.51	-3.86	130.18
140	0.00	30.31	-5.04	254.61	-5.04	128.37
145	0.00	33.23	-6.04	249.72	-6.04	125.80
150	0.00	35.91	-6.88	245.69	-6.88	123.64
155	0.00	38.31	-7.58	242.27	-7.58	121.86
160	0.00	40.37	-8.15	239.65	-8.15	120.43
165	0.00	42.04	-8.59	237.63	-8.59	119.32
170	0.00	43.28	-8.91	236.21	-8.91	118.53
175	0.00	44.05	-9.10	235.36	-9.10	118.05
180	0.00	44.30	-9.16	235.07	-9.16	117.89
185	0.00	44.04	-9.10	235.36	-9.10	118.05

COMSEARCH

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

Coordination Values

ABERDEEN PG, MD

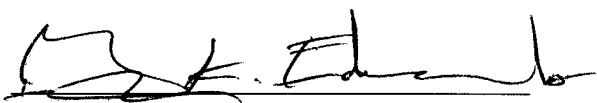
Licensee Name CACI
Latitude (NAD 83) 39° 29' 6.7" N
Longitude (NAD 83) 76° 9' 33.4" W
Ground Elevation (AMSL) 17.98 m / 59.0 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model General Dynamics 9.2 meter
Antenna Mode Receive 11.0 GHz Transmit 14.0 GHz
Interference Objectives: Long Term -156.0 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	43.28	-8.91	236.21	-8.91	118.53
195	0.00	42.04	-8.59	237.63	-8.59	119.32
200	0.00	40.37	-8.15	239.64	-8.15	120.43
205	0.00	38.31	-7.58	242.27	-7.58	121.86
210	0.00	35.91	-6.88	245.69	-6.88	123.64
215	0.00	33.23	-6.04	249.72	-6.04	125.79
220	0.00	30.31	-5.04	254.60	-5.04	128.37
225	0.00	27.19	-3.86	260.51	-3.86	130.18
230	0.00	23.90	-2.46	267.72	-2.46	133.98
235	0.00	20.47	-0.78	276.64	-0.78	138.85
240	0.00	16.95	1.27	287.97	1.27	145.26
245	0.00	13.32	3.89	300.24	3.89	154.17
250	0.00	10.25	6.73	319.20	6.73	166.22
255	0.00	9.08	8.04	425.70	8.04	199.92
260	0.00	10.46	6.51	317.64	6.51	165.38
265	0.00	13.64	3.63	298.64	3.63	153.25
270	0.00	17.67	0.82	285.44	0.82	143.81
275	0.23	22.00	-1.56	269.62	-1.56	134.24
280	0.42	26.57	-3.61	239.70	-3.61	115.01
285	0.54	31.29	-5.39	221.78	-5.39	102.64
290	0.65	36.09	-6.93	209.32	-6.93	100.00
295	0.70	40.94	-8.30	204.00	-8.30	100.00
300	0.79	45.81	-9.52	194.79	-9.52	100.00
305	0.66	50.73	-10.00	199.04	-10.00	100.00
310	0.78	55.63	-10.00	192.99	-10.00	100.00
315	0.75	60.56	-10.00	194.43	-10.00	100.00
320	0.67	65.50	-10.00	198.61	-10.00	100.00
325	0.73	70.44	-10.00	195.78	-10.00	100.00
330	0.77	75.38	-10.00	193.49	-10.00	100.00
335	0.70	80.32	-10.00	197.19	-10.00	100.00
340	0.60	85.27	-10.00	201.83	-10.00	100.00
345	0.62	90.22	-10.00	201.14	-10.00	100.00
350	0.60	95.16	-10.00	202.08	-10.00	100.00
355	0.51	100.10	-10.00	203.96	-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: September 10, 2010