

FREQUENCY COORDINATION AND INTERFERENCE ANALYSIS REPORT

Prepared for
Discovery Productions Group, Inc.
STERLING, VA
Satellite Earth Station

Prepared By:
COMSEARCH
19700 Janelia Farm Boulevard
Ashburn, VA 20147
March 4, 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

Allegheny Power Service Corporation
Cellco Partnership-Newark-Dallas Verizon
Local Communications Network, Inc.
Loudoun County
MCI Communication Services, Inc
New Cingular Wireless PCS LLC – DC
Virginia Electric & Power Company
Washington D.C. SMSA L.P.
WASHINGTON SUBURBAN SANITARY COMMISSION

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 01/06/2010.

Company

ALLTEL Communications of VA No. 1, Inc.
ALLTEL Communications of Virginia, Inc.
AT&T COMMUNICATIONS OF MARYLAND INC
AT&T COMMUNICATIONS OF VIRGINIA INC
AT&T CORP
Allegheny Power Service Corporation
Atlantic Broadband (Delmar), LLC
Atlantic Broadband (Penn), LLC
BAY BROADBAND COMMUNICATIONS LLC
Baltimore County of Maryland
Baltimore Gas and Electric Company
COLLEGE OF SOUTHERN MARYLAND
Cellco Partnership- PA Region
Cellco Partnership-Newark-Dallas Verizon
Cellco Partnership-Washington/Baltimore
Charles, County of
Conterra Ultra Broadband, LLC
County of Frederick
County of Stafford
Enoch Pratt Free Library
Frederick County
HANOVER COUNTY
Hardy Cellular Telephone Company
Harrisonburg-Rockingham ECC
International Communications Group, Inc.
LB Tower Company LLC
Last Mile Inc.
Local Communications Network, Inc.
Loudoun, County of
MARYLAND PUBLIC BROADCASTING COMMISSION
MCI Communication Services, Inc.
METROPOLITAN AREA NETWORKS, INC.
Maryland State Highway Administration
Maryland, State of - Budget & Management
NTELOS Telephone, Inc.
National Radio Astronomy Observatory
New Cingular Wireless PCS - VA/DC/MD
New Cingular Wireless PCS LLC - DC
New Cingular Wireless PCS, LLC - PA
Northern Virginia Electric Cooperative

PENNSYLVANIA TURNPIKE COMMISSION
PRINCE WILLIAM COUNTY
Pennsylvania Commonwealth State Police
Prince George's County
RAPPAHANNOCK ELECTRIC COOPERATIVE
South & Central Wireless, LLC - SOVA
Southern Maryland Electric Cooperative I
State of Maryland, MIEMSS
State of WV DHHR/BPH STECS
Texas Eastern Communications, Inc.
USCOC of Cumberland, Inc.
Virginia Broadband, LLC
Virginia Cellular LLC
Virginia Department of State Police
Virginia Electric & Power Company
Virginia PCS Alliance, L.C.
WASHINGTON SUBURBAN SANITARY COMMISSION
Washington D.C. SMSA L.P.
Wireless Strategies, Inc.

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: 02/24/2010
Job Number: 100106COMSGE02

Administrative Information

Status PROPOSED
Call Sign STERLING
Licensee Code DISCOM
Licensee Name Discovery Productions Group, Inc.

Site Information

STERLING, VA
Venue Name
Latitude (NAD 83) 38° 59' 14.8" N
Longitude (NAD 83) 77° 25' 33.7" W
Climate Zone A
Rain Zone 2
Ground Elevation (AMSL) 92.05 m / 302.0 ft

Link Information

Satellite Type Geostationary
Mode TR - Transmit-Receive
Modulation Digital
Satellite Arc 43° W to 143° West Longitude
Azimuth Range 132.6° to 254.1°
Corresponding Elevation Angles 32.6° / 10.2°
Antenna Centerline (AGL) 5.49 m / 18.0 ft

Antenna Information

		Receive - FCC32		Transmit - FCC32	
Manufacturer		ViaSat		ViaSat	
Model		8009		8009	
Gain / Diameter		50.3 dBi / 9.0 m		53.8 dBi / 9.0 m	
3-dB / 15-dB Beamwidth		0.58° / 1.20°		0.38° / 0.80°	
Max Available RF Power	(dBW/4 kHz) (dBW/MHz)			-15.0 9.0	
Maximum EIRP	(dBW/4 kHz) (dBW/MHz)			38.8 62.8	
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)	30M0G7D / 3700.0 - 4200.0	30M0G7D / 5925.0 - 6425.0
Max Great Circle Coordination Distance	451.8 km / 280.7 mi	196.4 km / 122.0 mi
Precipitation Scatter Contour Radius	539.1 km / 335.0 mi	100.0 km / 62.1 mi

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Coordination Values

STERLING, VA

Licensee Name Discovery Productions Group, Inc.
Latitude (NAD 83) 38° 59' 14.8" N
Longitude (NAD 83) 77° 25' 33.7" W
Ground Elevation (AMSL) 92.05 m / 302.0 ft
Antenna Centerline (AGL) 5.49 m / 18.0 ft
Antenna Model ViaSat 8009, 9 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 -15.0 (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	0.26	105.70	-10.00	278.23	-10.00	125.55
5	0.24	110.62	-10.00	279.69	-10.00	126.51
10	0.00	115.51	-10.00	285.28	-10.00	130.16
15	0.00	112.95	-10.00	285.28	-10.00	130.16
20	0.00	108.86	-10.00	285.28	-10.00	130.16
25	0.34	104.78	-10.00	267.90	-10.00	118.65
30	0.40	100.60	-10.00	260.67	-10.00	113.71
35	0.38	96.39	-10.00	263.65	-10.00	115.76
40	0.38	92.16	-10.00	262.99	-10.00	115.30
45	0.33	87.93	-10.00	269.14	-10.00	119.48
50	0.33	83.71	-10.00	269.15	-10.00	119.49
55	0.47	79.48	-10.00	252.89	-10.00	108.28
60	0.57	75.27	-10.00	245.48	-10.00	103.08
65	0.63	71.09	-10.00	241.79	-10.00	100.39
70	0.69	66.95	-10.00	237.93	-10.00	100.00
75	0.71	62.89	-10.00	236.76	-10.00	100.00
80	0.72	58.90	-10.00	235.79	-10.00	100.00
85	0.70	55.02	-10.00	237.51	-10.00	100.00
90	0.73	51.25	-10.00	235.58	-10.00	100.00
95	0.76	47.64	-9.95	234.19	-9.95	100.00
100	0.76	44.24	-9.15	238.61	-9.15	100.00
105	0.68	41.16	-8.36	247.64	-8.36	102.06
110	0.82	38.24	-7.56	243.80	-7.56	100.00
115	0.80	35.83	-6.86	249.09	-6.86	100.62
120	0.78	33.92	-6.26	254.37	-6.26	103.28
125	0.66	32.69	-5.86	264.62	-5.86	109.74
130	0.69	31.95	-5.61	263.86	-5.61	108.79
135	0.65	31.99	-5.62	266.71	-5.62	110.77
140	0.54	32.78	-5.89	272.51	-5.89	115.18
145	0.53	34.12	-6.32	270.37	-6.32	114.47
150	0.52	36.03	-6.92	267.48	-6.92	113.50
155	0.57	38.29	-7.58	259.62	-7.58	109.17
160	0.59	40.34	-8.14	254.71	-8.14	106.66
165	0.57	42.04	-8.59	253.85	-8.59	106.77
170	0.57	43.28	-8.91	251.97	-8.91	105.94
175	0.54	44.06	-9.10	252.54	-9.10	106.65
180	0.00	44.86	-9.30	289.79	-9.30	132.05
185	0.00	44.60	-9.23	290.21	-9.23	132.22

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Coordination Values

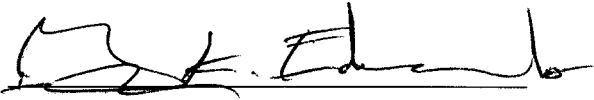
STERLING, VA

Licensee Name	Discovery Productions Group, Inc.		
Latitude (NAD 83)	38° 59' 14.8" N		
Longitude (NAD 83)	77° 25' 33.7" W		
Ground Elevation (AMSL)	92.05 m / 302.0 ft		
Antenna Centerline (AGL)	5.49 m / 18.0 ft		
Antenna Model	ViaSat 8009, 9 Meter		
Antenna Mode	Receive 4.0 GHz		
Interference Objectives: Long Term	-156.0 dBW/MHz	20%	Transmit 6.1 GHz -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	-15.0 (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	43.82	-9.04	291.44	-9.04	132.73
195	0.00	42.56	-8.73	293.51	-8.73	133.58
200	0.00	40.86	-8.28	296.44	-8.28	133.53
205	0.00	38.77	-7.71	300.25	-7.71	135.10
210	0.00	36.34	-7.01	305.01	-7.01	137.09
215	0.00	33.62	-6.17	310.84	-6.17	139.56
220	0.00	30.67	-5.17	318.49	-5.17	142.60
225	0.00	27.51	-3.99	326.93	-3.99	146.33
230	0.00	24.19	-2.59	337.12	-2.59	150.97
235	0.00	20.74	-0.92	349.62	-0.92	156.84
240	0.00	17.17	1.13	365.34	1.13	164.48
245	0.00	13.60	3.66	385.41	3.66	175.96
250	0.00	10.96	6.01	404.09	6.01	185.02
255	0.00	10.23	6.75	451.85	6.75	196.42
260	0.00	11.78	5.22	397.49	5.22	181.98
265	0.00	14.91	2.66	377.37	2.66	172.06
270	0.00	18.85	0.11	357.49	0.11	160.63
275	0.00	23.19	-2.13	340.50	-2.13	152.54
280	0.00	27.75	-4.08	326.26	-4.08	146.03
285	0.00	32.42	-5.77	314.23	-5.77	140.75
290	0.00	37.18	-7.26	303.33	-7.26	136.39
295	0.00	41.98	-8.58	294.50	-8.58	133.99
300	0.00	46.82	-9.76	286.81	-9.76	130.81
305	0.00	51.68	-10.00	285.28	-10.00	130.16
310	0.00	56.56	-10.00	285.28	-10.00	130.16
315	0.00	61.45	-10.00	285.28	-10.00	130.16
320	0.00	66.35	-10.00	285.28	-10.00	130.16
325	0.00	71.26	-10.00	285.28	-10.00	130.16
330	0.00	76.18	-10.00	285.28	-10.00	130.16
335	0.00	81.09	-10.00	285.28	-10.00	130.16
340	0.00	86.01	-10.00	285.28	-10.00	130.16
345	0.21	90.93	-10.00	284.52	-10.00	129.67
350	0.00	95.85	-10.00	285.28	-10.00	130.16
355	0.00	100.77	-10.00	285.28	-10.00	130.16

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: March 4, 2010