

FREQUENCY COORDINATION REPORT
14 AND 11 GHZ TRANSMIT-RECEIVE EARTH STATION
ARQIVA INC.
WASHINGTON, DC
November 3, 2010

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 as defined on the frequency coordination data sheet.

2. **SUMMARY OF RESULTS**

There were no unresolved, potential great circle interference cases at 11 GHz.

There were no potential great circle interference cases at 14 GHz.

There were no reported cases of rain scatter beam intersections.

3. **SUPPLEMENTAL SHOWING**

The Satellite Earth station proposed in this Application was coordinated by Tele-Sci Solutions using computer techniques and in accordance with Parts 25 and 101 of the FCC Rules and Regulations.

4. **FREQUENCY COORDINATION DATA**

Frequency Coordination Data which is attached, contains the following:

Technical Characteristics of Proposed Earth Station

Horizon Antenna Gain Plot

Local Horizon Plot

Satellite Elevation Plot with Discrimination Angle Plot

14 and 11 GHz Coordination Contour

14 and 11 GHz Rain Scatter

5. **FREQUENCY COORDINATION STATEMENT (FCC PART 101)**

Holders of licenses, permittees, prior filed applicants or planners of 14 GHz transmitting stations or 11 GHz receive stations were notified on September 24, 2010 of the proposed Earth Station technical details in accordance with Section 25.203 (c-2) of the FCC Rules and Regulations. Satisfactory coordination was achieved on the basis that harmful interference would not occur, or that sufficient terrestrial blocking exists.

ART Licensing Corp.
AT&T Corporation
AT&T Wireless Services
Allegheny Power Service Corp.
Airband Communications Inc.
Allentown SMSA Ltd Partnership
Prince William, County of
Cellco Partnership-Newark-Dallas Verizon
Cellco Partnership – Southern Virginia
Cellco Partnership – Bridgeville, PA
Cellco Partnership – PA Region
Cellco Partnership – Phil. Tri-State Region
Chesterfield, County of
Chester, County of
City of Hampton, VA
County of Burlington
Clearwire Spectrum Holdings II & III LLC
Cricket Communications, Inc.
Alltell Communications of VA No.1
Bedford County 911
Conterra Ultra Broadband, LLC
Delaware State - DTI
Dobson Cellular Systems
Cellco Partnership – VA, MD, WV, DC
Eduro Networks, LLC
Exelon Generation Company LLC
Getwireless.net
Gannett Company Inc.
Globecom Systems Inc.
Greene, County of PA

Hanover County
Hardy Cellular Telephone Company
Henrico County
Huntingdon, County of
Laurel, City of, MD
Local Communications Network
Loudon County Public Schools, VA
Loudon County Government
Loudon Wireless LLC
M&T Bank
Maryland Public Broadcasting Commission
Maryland State Highway Administration
Mobile Satellite Communications Inc.
NRCC Educational Foundation Inc.
Skjei Telecom Inc.
Roadstar Internet, Inc.
Fiber Tower Network Services Corporation
Public Broadcasting Service
County of Baltimore, MD
Bringcom Inc.
New Cingular Wireless PCS LLC – VA, MD,
New Cingular Wireless PCS LLC - DC
New Cingular Wireless PCS LLC – AL, MS
New Cingular Wireless PCS LLC of PA LLC
New Cingular Wireless PCS LLC – PA
New Kent County
Norfolk Southern Railway
Northern Virginia Electric Cooperative
Netrepid, Inc.
Telecom Transport Management, Inc.
Verizon Maryland
MCI Communication Services
Montgomery, County of
State of Maryland MIEMSS
Nextlink Wireless Inc.
Open Range Communications
Pennsylvania Turnpike Commission
Petersburg Cellular Partnership
Raleigh County Emergency Services Authority
RCTC Wholesale Corporation – Verizon
SCTF Net
Secom Net
Somerset County
State of WV DHHR/BPH STECS
USCOC of Cumberland, Inc.
USCOC of Virginia RSA #2 & #3, Inc.

Verizon of New Jersey, Inc.
Verizon Virginia, Inc.
Virginia Beach City of
Virginia RSA #7, Inc.
WHYY, Inc.
Baltimore Gas and Electric
Baltimore City Department of Public Works
Virginia Electric and Power
Allegheny Power Service Corp
Southern Maryland Electric Coop
Northern Virginia Electric Coop
Maryland State Highway Admin
Virginia PCS Alliance, LC
Washington DC SMSA LP
Washington Gas Light Company
Washington Suburban Sanitary Commission
Wireless Strategies
Pinnacle Telecom Group
Radio Dynamics Corp
Comsearch
Micronet Communications

6. **Certification of Person Responsible for Preparing Frequency Coordination Information Submitted in this Application**

I hereby certify that I am the technically qualified person responsible for -
reparation of the frequency coordination information contained in this application;
that I am familiar with Parts 101 and 25 of the Commission's Rules; that I have
either prepared or reviewed the frequency coordination information submitted in
this application; and, that it is complete and accurate to the best of my knowledge.

Janine I. Miliband
Tele-Sci Solutions
November 3, 2010

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POINTING AZIMUTH AND ELEVATION ANGLES

SATELLITE LONGITUDE	LONG DIFF	AZIMUTH	ELEV ANGLE	SATELLITE NAME
19.00	-58.05	111.39	15.98	
20.00	-57.05	112.15	16.73	
21.00	-56.05	112.92	17.48	
22.00	-55.05	113.70	18.23	
23.00	-54.05	114.49	18.98	
24.00	-53.05	115.29	19.72	
25.00	-52.05	116.10	20.46	
26.00	-51.05	116.92	21.20	
27.00	-50.05	117.75	21.93	
28.00	-49.05	118.59	22.66	
29.00	-48.05	119.45	23.38	
30.00	-47.05	120.32	24.10	
31.00	-46.05	121.20	24.82	
32.00	-45.05	122.09	25.53	
33.00	-44.05	123.00	26.23	
34.00	-43.05	123.92	26.93	
35.00	-42.05	124.85	27.62	
36.00	-41.05	125.80	28.30	
37.00	-40.05	126.77	28.98	
38.00	-39.05	127.75	29.65	
39.00	-38.05	128.75	30.31	
40.00	-37.05	129.76	30.96	
41.00	-36.05	130.79	31.60	
42.00	-35.05	131.84	32.24	
43.00	-34.05	132.91	32.87	
44.00	-33.05	133.99	33.48	
45.00	-32.05	135.09	34.09	
46.00	-31.05	136.22	34.68	
47.00	-30.05	137.36	35.27	
48.00	-29.05	138.52	35.84	
49.00	-28.05	139.69	36.40	
50.00	-27.05	140.89	36.95	
51.00	-26.05	142.11	37.48	
52.00	-25.05	143.35	38.00	
53.00	-24.05	144.61	38.50	
54.00	-23.05	145.89	38.99	
55.00	-22.05	147.19	39.47	
56.00	-21.05	148.51	39.93	
57.00	-20.05	149.84	40.37	
58.00	-19.05	151.20	40.79	
59.00	-18.05	152.58	41.20	
60.00	-17.05	153.98	41.59	
61.00	-16.05	155.40	41.96	
62.00	-15.05	156.83	42.31	
63.00	-14.05	158.28	42.64	
64.00	-13.05	159.75	42.95	
65.00	-12.05	161.23	43.24	
66.00	-11.05	162.73	43.51	

67.00	-10.05	164.25	43.76
68.00	-9.05	165.78	43.98

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POINTING AZIMUTH AND ELEVATION ANGLES

SATELLITE LONGITUDE	LONG DIFF	AZIMUTH	ELEV ANGLE	SATELLITE NAME
69.00	-8.05	167.32	44.19	
70.00	-7.05	168.87	44.37	BRASILSAT B2
71.00	-6.05	170.43	44.52	
72.00	-5.05	172.00	44.66	AMC 6
73.00	-4.05	173.57	44.77	
74.00	-3.05	175.16	44.85	SBS 6
75.00	-2.05	176.75	44.91	
76.00	-1.05	178.34	44.95	COMSTAR 1&2
77.00	-.05	179.93	44.96	
78.00	.95	181.52	44.95	ANC 5
79.00	1.95	183.11	44.92	
80.00	2.95	184.70	44.86	
81.00	3.95	186.28	44.77	
82.00	4.95	187.86	44.67	NIMIG 2
83.00	5.95	189.43	44.54	AMC 9
84.00	6.95	190.99	44.38	BRASILSAT B3
85.00	7.95	192.54	44.20	XM 3
86.00	8.95	194.08	44.00	
87.00	9.95	195.61	43.78	AMC 3
88.00	10.95	197.13	43.54	
89.00	11.95	198.63	43.27	
90.00	12.95	200.12	42.98	
91.00	13.95	201.59	42.67	
92.00	14.95	203.04	42.34	BRASILSAT B4
93.00	15.95	204.48	41.99	INTELSAT 6
94.00	16.95	205.89	41.63	
95.00	17.95	207.29	41.24	
96.00	18.95	208.67	40.83	
97.00	19.95	210.03	40.41	INTELSAT 5
98.00	20.95	211.37	39.97	
99.00	21.95	212.69	39.51	GALAXY 4R
100.00	22.95	213.99	39.04	
101.00	23.95	215.28	38.55	
102.00	24.95	216.54	38.05	
103.00	25.95	217.78	37.53	AMC 1
104.00	26.95	219.00	36.99	
105.00	27.95	220.20	36.45	AMC 2
106.00	28.95	221.38	35.89	
107.00	29.95	222.54	35.32	ANIK F1
108.00	30.95	223.68	34.74	
109.00	31.95	224.80	34.14	
110.00	32.95	225.91	33.54	ECHOSTAR 6
111.00	33.95	226.99	32.92	ANIK F2
112.00	34.95	228.06	32.30	
113.00	35.95	229.11	31.66	SOLIDARIDAD 2
114.00	36.95	230.14	31.02	
115.00	37.95	231.16	30.37	

116.00	38.95	232.16	29.71	SATMEX 5
117.00	39.95	233.14	29.04	
118.00	40.95	234.11	28.36	

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POINTING AZIMUTH AND ELEVATION ANGLES

SATELLITE LONGITUDE	LONG DIFF	AZIMUTH	ELEV ANGLE	SATELLITE NAME
119.00	41.95	235.06	27.68	ECHOSTAR 7
120.00	42.95	236.00	26.99	
121.00	43.95	236.92	26.29	ECHOSTAR 9
122.00	44.95	237.83	25.59	
123.00	45.95	238.72	24.88	GALAXY 10R
124.00	46.95	239.60	24.17	
125.00	47.95	240.47	23.45	GALAXY 12
126.00	48.95	241.33	22.73	
127.00	49.95	242.17	22.00	
128.00	50.95	243.01	21.27	
129.00	51.95	243.83	20.53	INTELSAT 7
130.00	52.95	244.64	19.79	
131.00	53.95	245.44	19.05	AMC 11
132.00	54.95	246.23	18.30	
133.00	55.95	247.01	17.55	GALAXY 1
134.00	56.95	247.78	16.80	
135.00	57.95	248.54	16.05	AMC 10
136.00	58.95	249.29	15.29	
137.00	59.95	250.04	14.53	AMC 7
138.00	60.95	250.77	13.77	
139.00	61.95	251.50	13.00	AMC 8

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AZIMUTH DEGREES	HORIZON ANGLE DEGREES	DISC ANGLE DEGREES	HORIZON GAIN DBI	11GHZ COORD DISTANCE KM	14GHZ DISTANCE KM	RAIN11 SCATTER KM	RAIN14 SCATTER KM
5.	.8	106.7	-10.0	214.6	115.5	123.3	188.3
10.	.8	101.8	-10.0	214.6	115.5	123.3	188.3
15.	.8	96.9	-10.0	214.6	115.5	123.3	188.3
20.	.8	92.0	-10.0	214.6	115.5	134.3	188.3
25.	.8	87.1	-10.0	214.6	115.5	134.3	188.3
30.	.8	82.1	-10.0	214.6	115.5	134.3	188.3
35.	.8	77.2	-10.0	214.6	115.5	134.3	188.3
40.	.8	72.4	-10.0	214.6	115.5	134.3	188.3
45.	.8	67.5	-10.0	214.6	115.5	134.3	188.3
50.	.8	62.6	-10.0	214.6	115.5	134.3	188.3
55.	.8	57.8	-10.0	214.6	115.5	134.3	188.3
60.	.0	53.8	-10.0	214.6	115.5	134.3	188.3
65.	.0	49.1	-10.0	214.6	115.5	134.3	188.3
70.	.0	44.4	-9.2	219.7	118.3	134.3	188.3
75.	.0	39.7	-8.0	227.4	122.4	134.3	188.3
80.	.0	35.2	-6.7	236.1	127.1	134.3	188.3
85.	.0	30.9	-5.2	246.1	132.5	134.3	188.3
90.	.0	26.7	-3.7	257.5	138.6	134.3	188.3
95.	.0	22.9	-2.0	270.2	145.4	134.3	188.3
100.	.0	19.6	-.3	283.5	152.6	134.3	188.3
105.	.0	17.2	1.1	295.4	159.0	134.3	188.3
110.	.0	16.0	1.9	302.0	162.5	134.3	188.3
115.	.0	16.4	1.6	300.0	161.5	134.3	188.3
120.	.0	18.1	.5	290.5	156.4	134.3	188.3
125.	.0	21.0	-1.0	277.6	149.4	134.3	188.3
130.	.0	24.4	-2.7	264.7	142.5	134.3	188.3
135.	.0	27.9	-4.1	254.1	136.8	134.3	188.3
140.	.0	31.1	-5.3	245.5	132.1	134.3	188.3
145.	.0	34.2	-6.3	238.4	128.3	134.3	188.3
150.	.0	37.0	-7.2	232.6	125.2	134.3	188.3
155.	.0	39.4	-7.9	228.0	122.7	134.3	188.3
160.	.0	41.5	-8.4	224.4	120.8	134.3	188.3
165.	.0	43.0	-8.8	221.8	119.4	134.3	188.3
170.	.0	44.1	-9.1	220.1	118.5	134.3	188.3
175.	.0	44.8	-9.3	219.1	117.9	134.3	188.3
180.	.0	45.0	-9.3	218.8	117.8	134.3	188.3
185.	.0	44.8	-9.3	219.1	117.9	134.3	188.3
190.	.0	44.1	-9.1	220.1	118.5	134.3	188.3
195.	.0	43.0	-8.8	221.8	119.4	134.3	188.3
200.	.0	41.5	-8.4	224.4	120.8	134.3	188.3
205.	.0	39.4	-7.9	228.0	122.7	134.3	188.3
210.	.0	37.0	-7.2	232.6	125.2	134.3	188.3
215.	.0	34.2	-6.3	238.4	128.3	134.3	188.3
220.	.0	31.1	-5.3	245.5	132.1	134.3	188.3

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AZIMUTH DEGREES	HORIZON ANGLE DEGREES	DISC ANGLE DEGREES	HORIZON GAIN DBI	11GHZ COORD DISTANCE KM	14 GHZ DISTANCE KM	RAIN11 SCATTER KM	RAIN14 SCATTER KM
225.	.0	27.9	-4.1	254.1	136.8	134.3	188.3
230.	.0	24.4	-2.7	264.7	142.5	134.3	188.3
235.	.0	20.9	-1.0	277.9	149.6	134.3	188.3
240.	.0	17.4	1.0	294.6	158.6	134.3	188.3
245.	.0	14.5	2.9	311.4	167.6	134.3	188.3
250.	.0	13.1	4.1	321.7	173.2	134.3	188.3
255.	.0	13.5	3.8	318.9	171.7	134.3	188.3
260.	.0	15.5	2.2	305.0	164.2	134.3	188.3
265.	.0	18.7	.2	287.6	154.8	134.3	188.3
270.	.0	22.6	-1.9	271.2	146.0	134.3	188.3
275.	.0	26.9	-3.7	257.0	138.3	134.3	188.3
280.	.0	31.3	-5.4	245.0	131.9	134.3	188.3
285.	.0	35.9	-6.9	234.7	126.3	134.3	188.3
290.	.0	40.6	-8.2	225.8	121.6	134.3	188.3
295.	.0	45.4	-9.4	218.1	117.4	134.3	188.3
300.	.0	50.2	-10.0	214.6	115.5	134.3	188.3
305.	.0	55.1	-10.0	214.6	115.5	134.3	188.3
310.	.0	59.9	-10.0	214.6	115.5	134.3	188.3
315.	.0	64.8	-10.0	214.6	115.5	134.3	188.3
320.	.0	69.7	-10.0	214.6	115.5	134.3	188.3
325.	.0	74.6	-10.0	214.6	115.5	134.3	188.3
330.	.0	79.6	-10.0	214.6	115.5	134.3	188.3
335.	.5	84.0	-10.0	214.6	115.5	134.3	188.3
340.	.5	88.9	-10.0	214.6	115.5	134.3	188.3
345.	.5	93.9	-10.0	214.6	115.5	134.3	188.3
350.	.5	98.9	-10.0	214.6	115.5	134.3	188.3
355.	.5	103.8	-10.0	214.6	115.5	134.3	188.3
360.	.5	108.8	-10.0	214.6	115.5	134.3	188.3

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TEMPORARY SATELLITE EARTH STATION
FREQUENCY COORDINATION DATA
09/24/10

COMPANY NAME:	ARQIVA INC.
EARTH STATION LOCATION:	WASHINGTON, DC
LATITUDE(DMS):	38 54 21.4
LONGITUDE(DMS):	77 2 44.9
SITE GROUND ELEVATION(FT. AMSL):	69.9/21.3m
ANTENNA CENTER LINE(FT)	7.38/2.25m
ANTENNA TYPE:	ASC Signal
	4.5 METER
ANTENNA DIAMETER(METERS):	4.5
11 GHZ ANTENNA GAIN(DBI):	52.4
15 DB HALF BEAMWIDTH(DEG):	1.60
14 GHZ ANTENNA GAIN(DBI):	53.6
15 DB HALF BEAMWIDTH (DEG)	1.36
OPERATING MODE:	T/R
RECEIVE BAND(MHZ):	10700-12200
TRANSMIT BAND(MHZ):	14000-14500
EMISSION DESIGNATOR	2M00G1F; 2M00G7D;2M00G7W See Additional List
MODULATION:	DIGITAL
MAX. AVAILABLE RF POWER(DBW/4KHZ):	-14.0
(DBW/2MHZ) :	13.0
MAX. EIRP	(DBW/4KHZ): 39.6
	(DBW/2MHZ) : 66.6
MAX. PERMISSIBLE INTERFERENCE POWER	
11 GHZ 20%(DBW)	-168.0
11 GHZ 0.0100%(DBW)	-160.0
14 GHZ 20%(DBW/4KHZ)	-151.0
14 GHZ 0.0025%(DBW/4KHZ)	-128.0
SATELLITE ARC (MIN/MAX)	19/139 DEG
AZIMUTH	111.4/251.5 DEG
ELEVATION	16.0/ 13.0 DEG
RADIO CLIMATE	A
RAIN ZONE	2
MAXIMUM GREAT CIRCLE COORDINATION DISTANCE(KM)	
11 GHZ	321.7
14 GHZ	173.2
PRECIPITATION SCATTER CONTOUR RADIUS(KM)	
11 GHZ	134.3
14 GHZ	188.3
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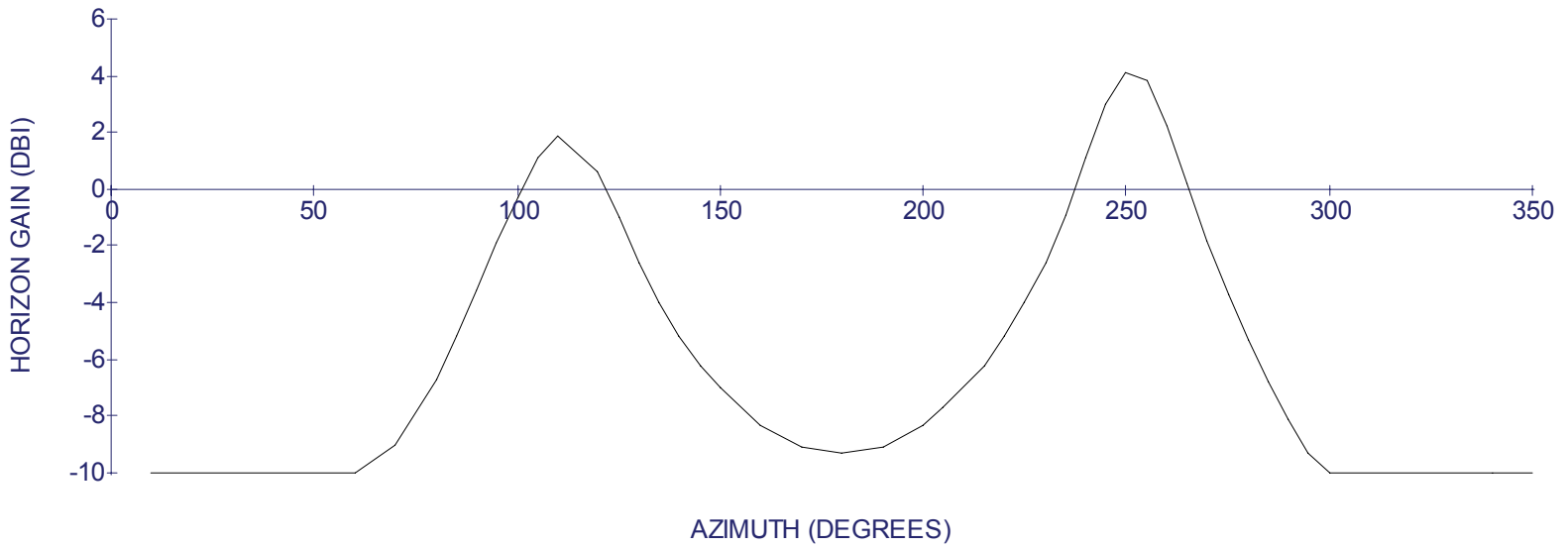
Satellite Earth Station
Frequency Coordination Data
09/24/10

Additional Emission Designators 4.5 Meter Antenna

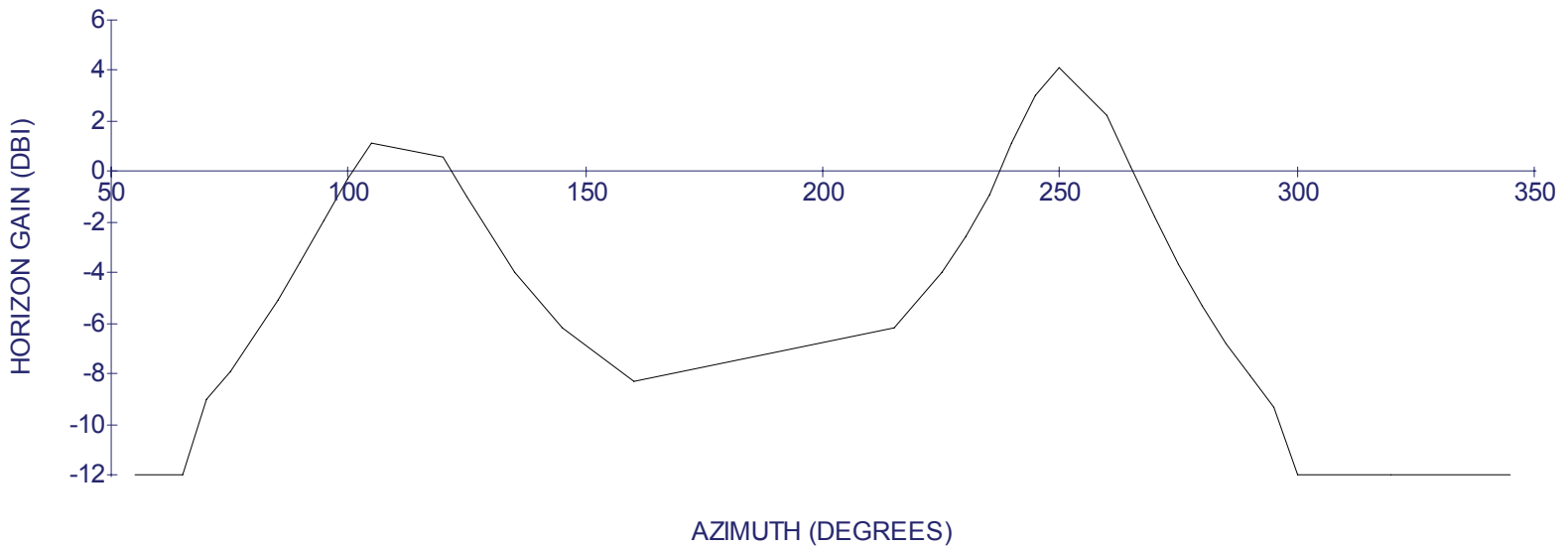
Emission Designator	Modulation	Max.Available RF Power (DBW/4KHz)	Max EIRP (DBW/4KHz)
3M75G7W	Digital	-16.72	36.88
3M75G1F	Digital	-16.72	36.88
3M75G7D	Digital	-16.72	36.88
8M00G7W	Digital	-20.0	33.59
8M00G1F	Digital	-20.0	33.59
8M00G7D	Digital	-20.0	33.59
9M00G7W	Digital	-20.52	33.08
9M00G1F	Digital	-20.52	33.08
9M00G7D	Digital	-20.52	33.08
18M0G1F	Digital	-23.53	30.07
18M0G7D	Digital	-23.53	30.07
18M0G7W	Digital	-23.53	30.07
30M0G1F	Digital	-25.75	27.85
30M0G7D	Digital	-25.75	27.85
30M0G7W	Digital	-25.75	27.85
36M0G1F	Digital	-26.54	27.06
36M0G7D	Digital	-26.54	27.06
36M0G7W	Digital	-26.54	27.06
45M0G1F	Digital	-27.51	26.09
45M0G7D	Digital	-27.51	26.09
45M0G7W	Digital	-27.51	26.09
72M0G1F	Digital	-29.55	24.05
72M0G7D	Digital	-29.55	24.05
72M0G7W	Digital	-29.55	24.05

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HORIZON ANTENNA GAIN PLOT 14 GHZ



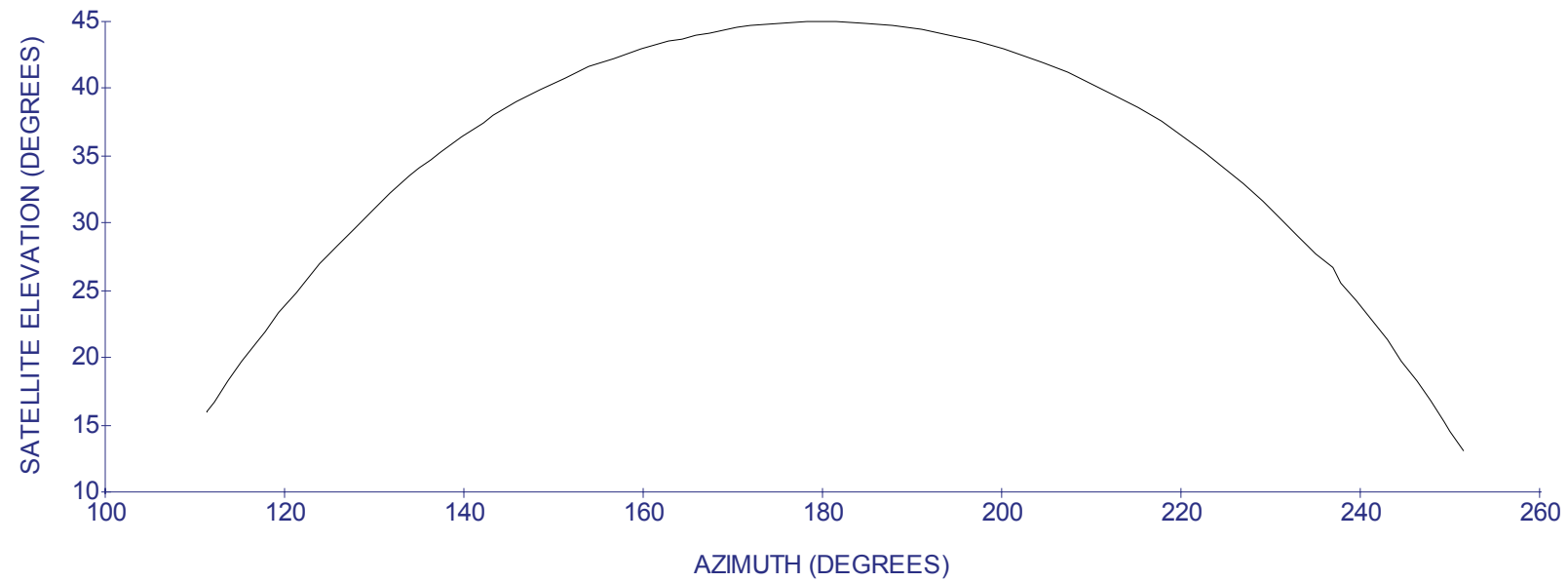
HORIZON ANTENNA GAIN PLOT 11GHZ



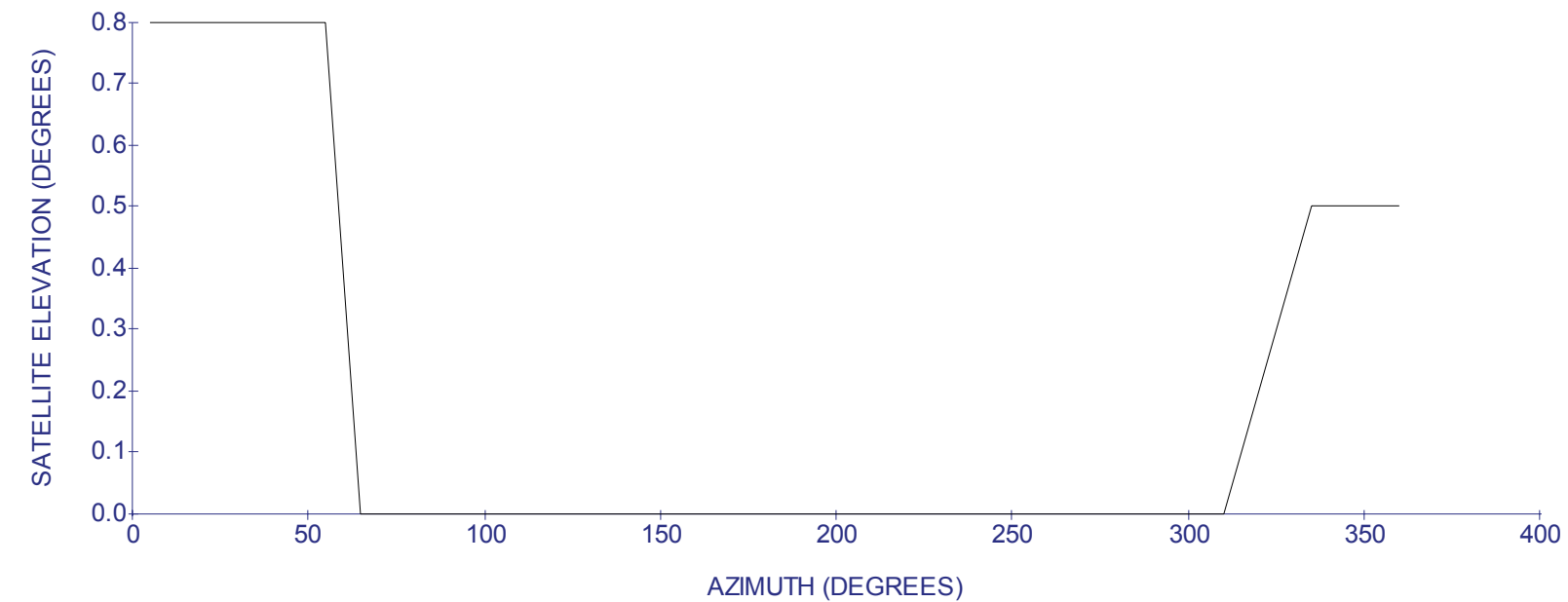
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November 3, 2010

SATELLITE ELEVATION PLOT



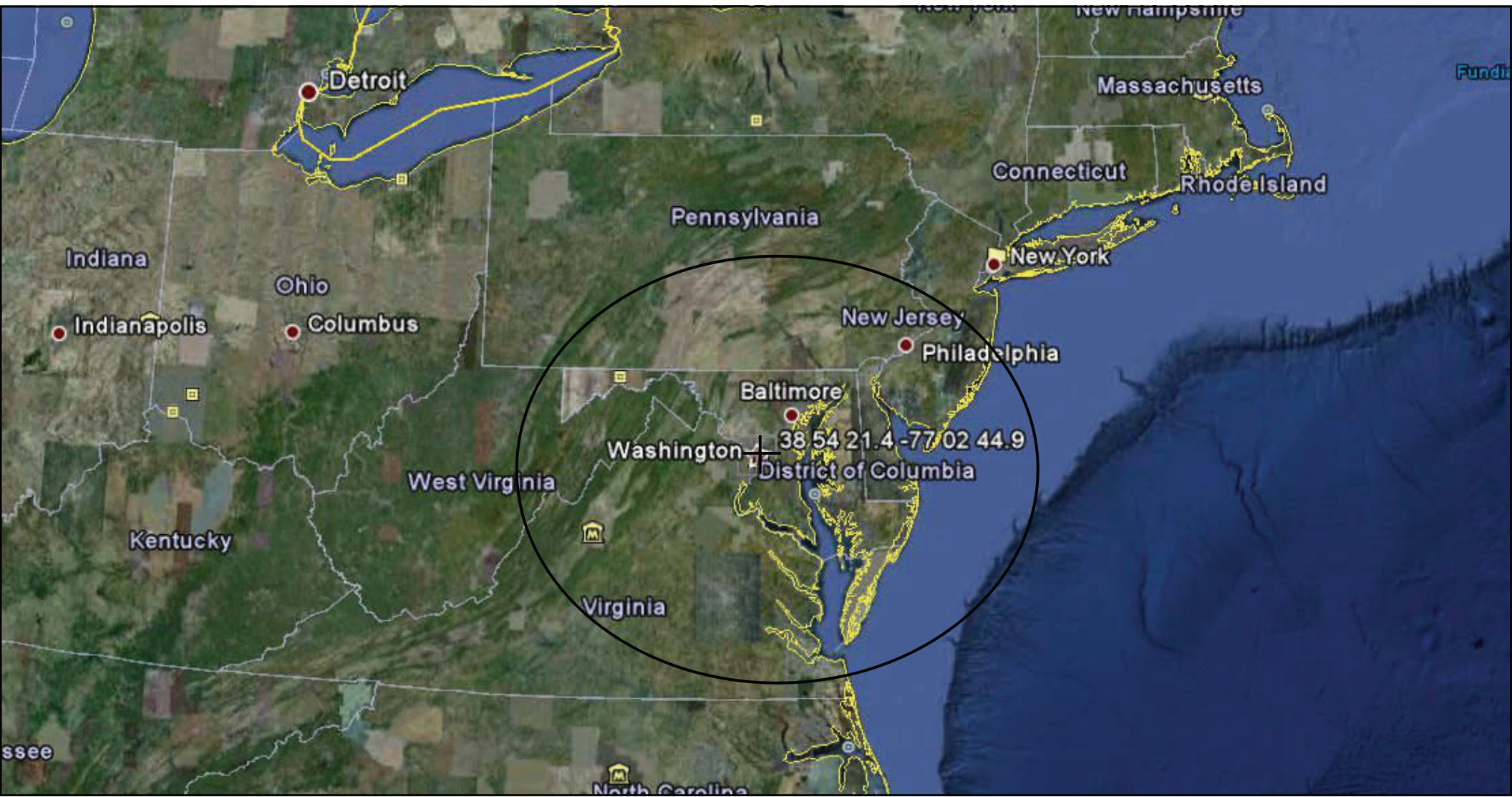
LOCAL HORIZON PLOT



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November 3, 2010

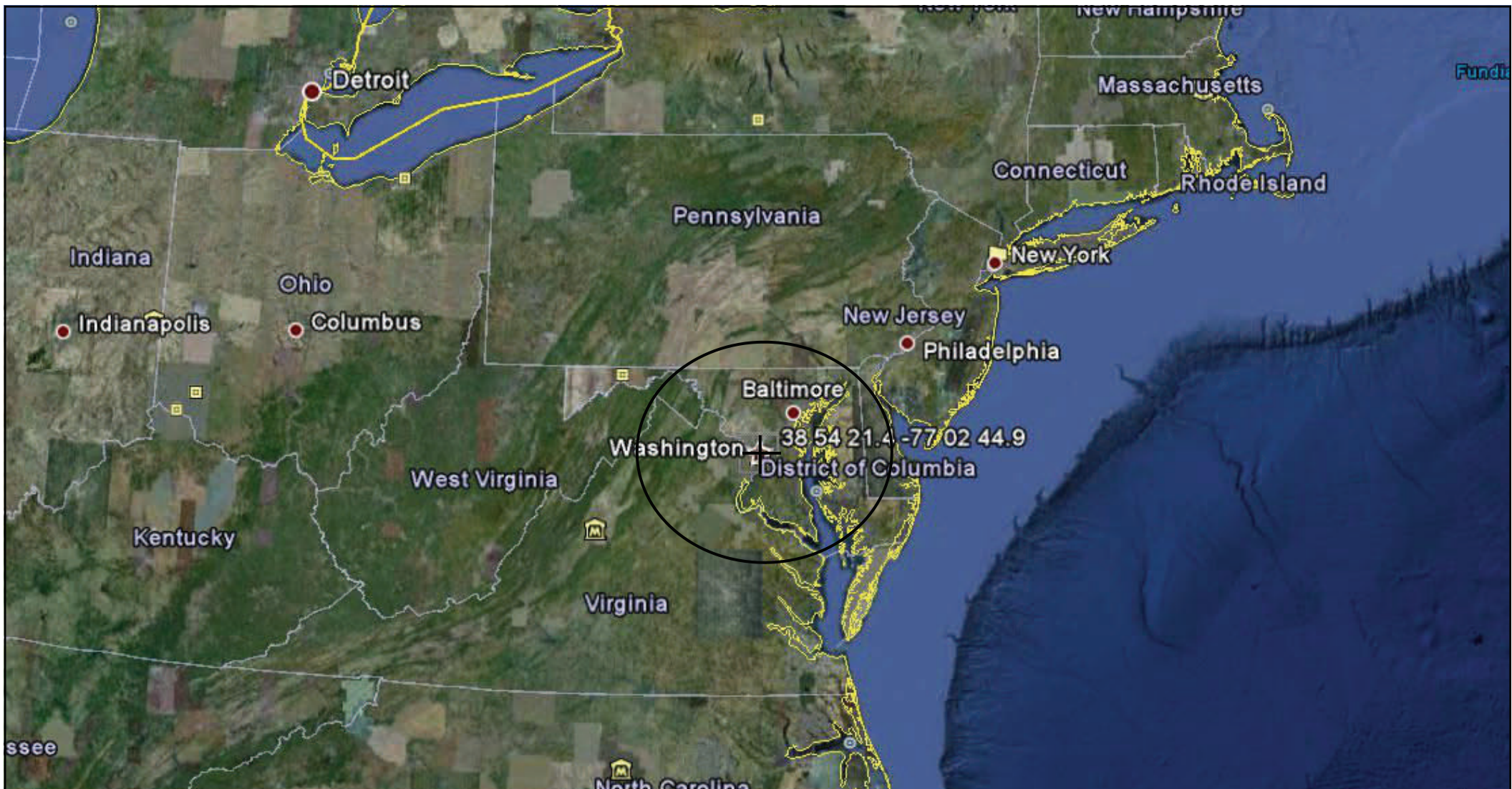
COORDINATION CONTOUR
11 GHZ



ARQIVA, INC.
WASHINGTON, DC
38 54 21.4
77 02 44.9

TELE-SCI SOLUTIONS
November 3, 2010

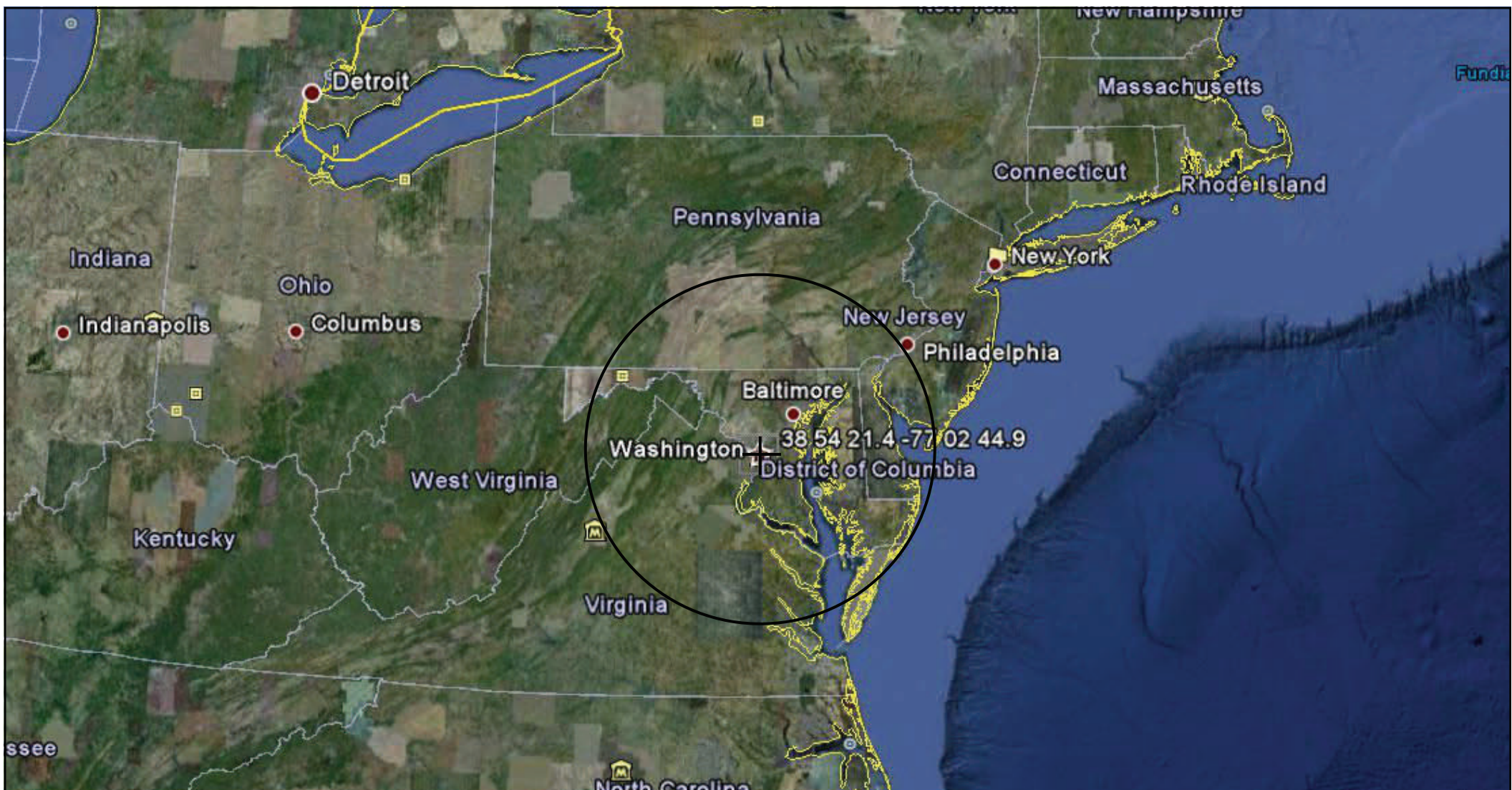
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ARQIVA, INC.
WASHINGTON, DC
38 54 21.4
77 02 44.9

TELE-SCI SOLUTIONS
November 3, 2010

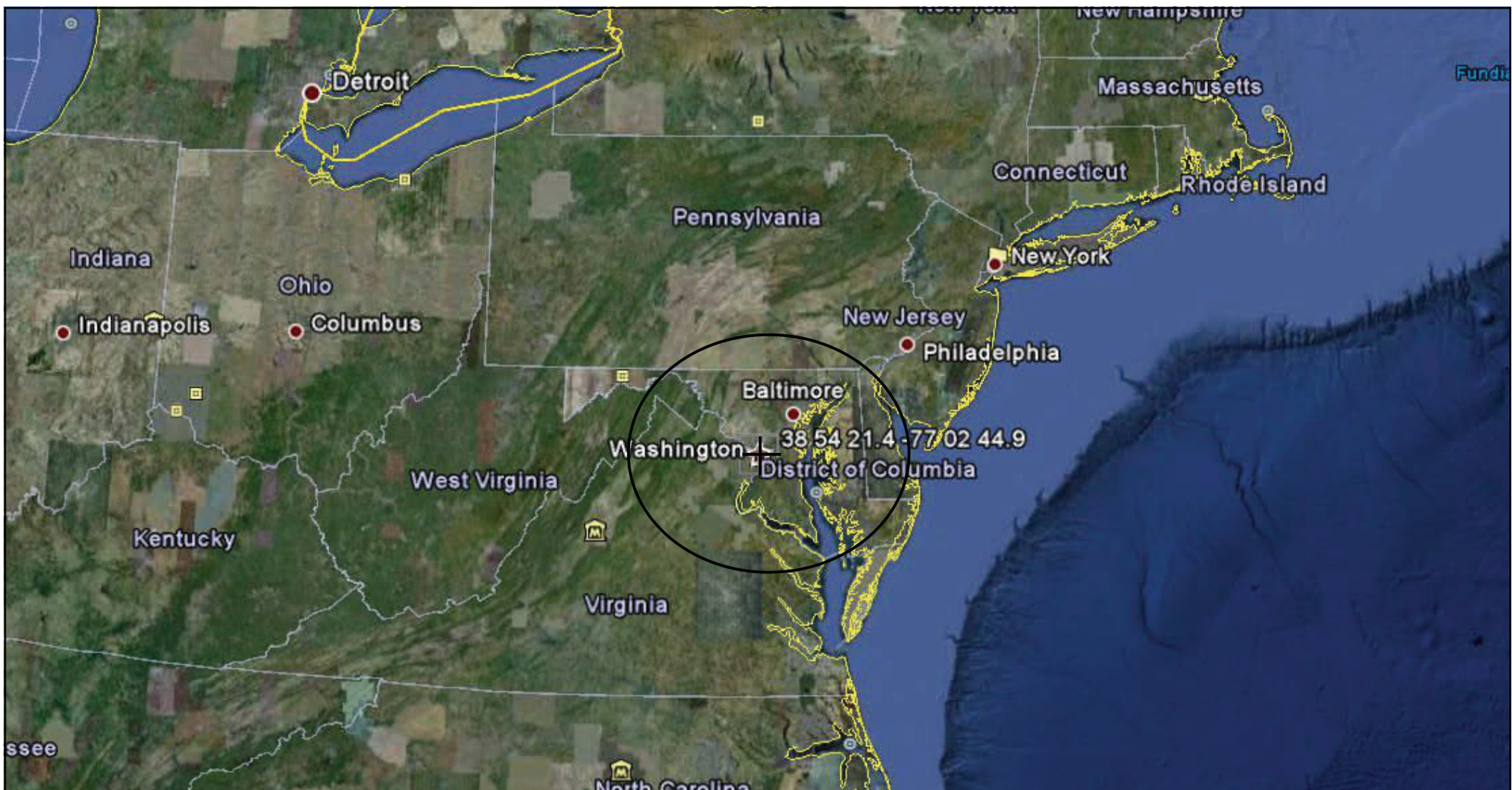
RAIN SCATTER COORDINATION CONTOUR
14 GHZ



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77 02 44.9

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