

WVMH-FM

Western North Carolina Public Radio, Inc.

Mars Hill, North Carolina

Engineering Exhibit

February 2005

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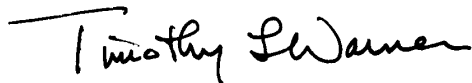
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Western North Carolina Public Radio, Inc.
Mars Hill, North Carolina
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WVMH-FM
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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Engineering Exhibit for the Western North Carolina Public Radio, Inc., and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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28 February 2005

WVMH-FM
Western North Carolina Public Radio, Inc.
Mars Hill, North Carolina

Narrative

This exhibit supports the attached application of Western North Carolina Public Radio, Inc. for a minor change to non-commercial educational FM station WVMH-FM at Mars Hill, North Carolina, file number BLED-20041213ABT. The application is a minor change under §73.3573(a)(1).

The purpose of this application is to change the location, antenna height above ground and height above average terrain (“HAAT”), and to specify a new directional antenna pattern. Figure 1 shows the 60 dBu F(50,50) contours for the licensed facilities and those proposed herein.

Allocations

An allocation table is included on page 27 of this exhibit. The allocations table separations are based on contours on the direct bearing between WVMH-FM and the stations studied.

Figure 2 is an allocations study for all co-channel, first and second adjacent channel facilities where the predicted lack of overlap is less than 25 kilometers (15.5 miles).

Figure 3 is a study of the relationship to co-channel station WUMC.

Figure 4 shows the detailed lack of overlap of contours with co-channel WWCU. WWCU has licensed facilities, construction permit facilities, and a modification application. WWCU has applied for a license to cover the facilities authorized in the construction permit. In the bearings relevant to WVMH-FM the construction permit, license application, and modification application are identical. The WWCU application proposes a minor increase in coverage area. Only the WWCU application contours are shown.

Figure 5 is a study of the relationship to co-channel station WASU.

Figure 6 is a study of the relationship of the proposed facilities to those proposed for Newport, Tennessee, in application file number BPED-19961203ME. The application is part of a mutually exclusive group.

All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments. Terrain data is extracted from the V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database. The USGS National Elevation Dataset has been developed by merging the highest-resolution, best-quality elevation data available across the United States into a seamless raster format. NED is the result of the maturation of the USGS effort to provide 1:24,000-scale Digital Elevation Model (DEM) data for the conterminous US and 1:63,360-scale DEM data for Alaska.

The proposed WVMH-FM standard service and interference contours are tabulated at one degree increments on pages 6 through 13 of this exhibit. The relevant contours for other facilities and allocations are tabulated on pages 15 through 26.

Channel 6 Television

The only television channel 6 station requiring study under §73.525 is WATE, Knoxville, Tennessee. The noncommercial FM interference contour to predict interference from channel 213 (90.5 MHz) to channel 6 is 69.5 dBu F(50,10) without benefit of a directional receiving antenna. The proposed 69.5 dBu WVMH-FM interference, adjusted for mixed polarization to a maximum ERP of 0.44075 kW, is tabulated on page 14 of this exhibit.

WATE has an exclusive network affiliation agreement with ABC. WLOS television, Asheville, North Carolina, has an exclusive network affiliation agreement with ABC. The entire area of potential interference to WATE is outside the Knoxville, Tennessee ADI, and within the WLOS principal community contour, as shown on Figure 6, and need not be considered under §73.525. This application is therefore in compliance with §73.525.

Directional Antenna

This application proposes a Dielectric DCPJ circularly polarized directional panel antenna. The maximum relative field is plotted on page 28 and tabulated on page 29. The pattern does not exceed the FCC requirements for no more than 15 dB maximum to minimum and no rate of change which exceeds 2 dB in 10° (ten degrees).

The tower design will be incorporated by the antenna manufacturer in the design of the directional antenna array. No other antennas of any type will be mounted in the vertical aperture of the antenna. The antenna will be mounted so that all horizontal and vertical separations required by the antenna manufacturer are maintained free and clear of all obstructions. The antenna will not be mounted on a standard broadcast antenna.

Prior to fabrication, the antenna and the antenna mounting structure, including all feed lines, conduits and other appurtenances, will be modeled and used to determine the final antenna configuration. A complete proof of performance will be prepared by the manufacturer. The antenna will not exceed the authorized relative field at any azimuth. The antenna will be mounted to the tower as specified by the antenna manufacturer. The orientation will be confirmed by a registered land surveyor.

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
0	1.000	0.430	332.6	15.9	77.9	40.8	1.45
1	1.000	0.430	337.1	16.0	78.4	41.1	1.45
2	1.000	0.430	324.3	15.7	77.1	40.2	1.45
3	1.000	0.430	299.6	14.9	74.7	38.6	1.45
4	1.000	0.430	270.0	14.1	72.0	36.7	1.45
5	1.000	0.430	248.4	13.5	69.9	35.2	1.45
6	1.000	0.430	227.3	13.0	67.7	33.6	1.45
7	1.000	0.430	221.7	12.8	67.1	33.2	1.45
8	1.000	0.430	231.1	13.1	68.1	33.9	1.45
9	1.000	0.430	230.6	13.0	68.0	33.9	1.45
10	1.000	0.430	209.4	12.5	65.6	32.2	1.45
11	0.990	0.421	191.5	11.9	63.2	30.6	1.44
12	0.980	0.413	178.8	11.5	61.4	29.5	1.43
13	0.970	0.405	177.5	11.4	61.0	29.3	1.41
14	0.960	0.396	175.9	11.3	60.6	29.0	1.40
15	0.950	0.388	173.4	11.1	60.0	28.6	1.38
16	0.940	0.380	173.0	11.1	59.7	28.5	1.37
17	0.930	0.372	164.8	10.7	58.3	27.6	1.35
18	0.920	0.364	156.7	10.4	57.0	26.8	1.34
19	0.910	0.356	145.9	9.9	55.2	25.6	1.32
20	0.900	0.348	125.8	9.1	52.2	23.7	1.31
21	0.900	0.348	102.2	8.2	48.4	21.3	1.31
22	0.900	0.348	79.7	7.2	43.2	18.4	1.31
23	0.900	0.348	52.9	5.9	35.2	14.4	1.31
24	0.900	0.348	27.7	4.4	25.9	11.0	1.31
25	0.900	0.348	10.9	4.4	25.9	11.0	1.31
26	0.900	0.348	-1.2	4.4	25.9	11.0	1.31
27	0.900	0.348	-12.4	4.4	25.9	11.0	1.31
28	0.900	0.348	-28.4	4.4	25.9	11.0	1.31
29	0.900	0.348	-32.7	4.4	25.9	11.0	1.31
30	0.900	0.348	-36.2	4.4	25.9	11.0	1.31
31	0.910	0.356	-42.6	4.4	26.0	11.1	1.32
32	0.920	0.364	-34.2	4.5	26.2	11.1	1.34
33	0.930	0.372	-17.2	4.5	26.3	11.2	1.35
34	0.940	0.380	14.2	4.5	26.5	11.2	1.37
35	0.950	0.388	48.2	5.8	34.4	14.1	1.38
36	0.960	0.396	73.7	7.2	43.1	18.3	1.40
37	0.970	0.405	90.2	8.0	47.6	20.6	1.41
38	0.980	0.413	111.3	9.0	52.0	23.3	1.43
39	0.990	0.421	123.9	9.5	54.1	24.6	1.44
40	1.000	0.430	139.2	10.1	56.4	26.2	1.45
41	1.000	0.430	150.4	10.6	58.1	27.3	1.45
42	1.000	0.430	171.0	11.3	60.9	29.2	1.45
43	1.000	0.430	182.8	11.7	62.4	30.1	1.45
44	1.000	0.430	171.3	11.3	61.0	29.2	1.45

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
45	1.000	0.430	160.9	11.0	59.5	28.3	1.45
46	1.000	0.430	147.4	10.4	57.6	27.0	1.45
47	1.000	0.430	142.9	10.3	57.0	26.6	1.45
48	1.000	0.430	131.8	9.9	55.4	25.5	1.45
49	1.000	0.430	125.1	9.6	54.5	24.9	1.45
50	1.000	0.430	132.2	9.9	55.4	25.5	1.45
51	1.000	0.430	128.1	9.7	54.9	25.1	1.45
52	1.000	0.430	133.6	9.9	55.7	25.7	1.45
53	1.000	0.430	140.8	10.2	56.7	26.4	1.45
54	1.000	0.430	135.4	10.0	55.9	25.8	1.45
55	1.000	0.430	133.0	9.9	55.6	25.6	1.45
56	1.000	0.430	140.3	10.2	56.6	26.3	1.45
57	1.000	0.430	146.9	10.4	57.5	27.0	1.45
58	1.000	0.430	158.0	10.9	59.1	28.0	1.45
59	1.000	0.430	177.7	11.5	61.8	29.7	1.45
60	1.000	0.430	188.6	11.9	63.1	30.5	1.45
61	0.990	0.421	202.6	12.2	64.6	31.5	1.44
62	0.980	0.413	214.9	12.5	65.8	32.3	1.43
63	0.970	0.405	219.0	12.5	66.0	32.5	1.41
64	0.960	0.396	234.5	12.9	67.4	33.5	1.40
65	0.950	0.388	255.5	13.4	69.3	34.8	1.38
66	0.940	0.380	279.1	13.9	71.3	36.1	1.37
67	0.930	0.372	296.0	14.3	72.6	37.0	1.35
68	0.920	0.364	311.7	14.6	73.8	37.8	1.34
69	0.910	0.356	325.7	14.8	74.9	38.5	1.32
70	0.900	0.348	335.9	15.0	75.6	39.0	1.31
71	0.900	0.348	337.9	15.0	75.8	39.1	1.31
72	0.900	0.348	343.1	15.1	76.3	39.4	1.31
73	0.900	0.348	352.4	15.4	77.2	40.0	1.31
74	0.900	0.348	363.3	15.7	78.3	40.7	1.31
75	0.900	0.348	365.6	15.8	78.5	40.9	1.31
76	0.900	0.348	362.1	15.7	78.1	40.7	1.31
77	0.900	0.348	365.0	15.8	78.4	40.8	1.31
78	0.900	0.348	358.3	15.6	77.8	40.4	1.31
79	0.900	0.348	352.2	15.4	77.2	40.0	1.31
80	0.900	0.348	356.7	15.5	77.6	40.3	1.31
81	0.910	0.356	365.4	15.9	78.7	41.1	1.32
82	0.920	0.364	373.1	16.2	79.7	41.8	1.34
83	0.930	0.372	373.0	16.4	80.0	42.0	1.35
84	0.940	0.380	365.6	16.2	79.6	41.8	1.37
85	0.950	0.388	351.8	15.9	78.5	41.1	1.38
86	0.960	0.396	338.8	15.7	77.5	40.4	1.40
87	0.970	0.405	332.6	15.6	77.1	40.2	1.41
88	0.980	0.413	325.8	15.5	76.7	39.9	1.43
89	0.990	0.421	331.5	15.8	77.6	40.5	1.44

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
90	1.000	0.430	347.4	16.4	79.4	41.8	1.45
91	1.000	0.430	365.0	16.9	81.1	43.0	1.45
92	1.000	0.430	375.0	17.2	82.1	43.7	1.45
93	1.000	0.430	381.3	17.4	82.7	44.1	1.45
94	1.000	0.430	377.9	17.3	82.3	43.9	1.45
95	1.000	0.430	373.4	17.1	81.9	43.6	1.45
96	1.000	0.430	376.8	17.2	82.2	43.8	1.45
97	1.000	0.430	383.5	17.4	82.9	44.2	1.45
98	1.000	0.430	380.3	17.3	82.6	44.0	1.45
99	1.000	0.430	387.2	17.5	83.2	44.5	1.45
100	1.000	0.430	387.8	17.6	83.3	44.5	1.45
101	1.000	0.430	390.9	17.6	83.6	44.7	1.45
102	1.000	0.430	387.9	17.6	83.3	44.5	1.45
103	1.000	0.430	390.3	17.6	83.5	44.7	1.45
104	1.000	0.430	395.5	17.8	84.0	45.0	1.45
105	1.000	0.430	392.5	17.7	83.7	44.8	1.45
106	1.000	0.430	393.7	17.7	83.8	44.9	1.45
107	1.000	0.430	393.6	17.7	83.8	44.9	1.45
108	1.000	0.430	380.7	17.3	82.6	44.0	1.45
109	1.000	0.430	380.4	17.3	82.6	44.0	1.45
110	1.000	0.430	384.9	17.5	83.0	44.3	1.45
111	1.000	0.430	390.5	17.6	83.5	44.7	1.45
112	1.000	0.430	387.8	17.6	83.3	44.5	1.45
113	1.000	0.430	397.2	17.8	84.2	45.1	1.45
114	1.000	0.430	394.4	17.8	83.9	44.9	1.45
115	1.000	0.430	386.1	17.5	83.1	44.4	1.45
116	1.000	0.430	380.6	17.3	82.6	44.0	1.45
117	1.000	0.430	382.1	17.4	82.7	44.1	1.45
118	1.000	0.430	389.6	17.6	83.4	44.6	1.45
119	1.000	0.430	382.5	17.4	82.8	44.2	1.45
120	1.000	0.430	392.1	17.7	83.7	44.8	1.45
121	0.985	0.417	402.8	17.8	84.3	45.1	1.43
122	0.969	0.404	410.6	17.9	84.6	45.3	1.41
123	0.954	0.391	407.5	17.6	83.9	44.7	1.39
124	0.938	0.378	410.4	17.5	83.8	44.6	1.36
125	0.923	0.366	417.5	17.6	84.0	44.7	1.34
126	0.907	0.354	420.8	17.5	83.9	44.5	1.32
127	0.892	0.342	433.1	17.6	84.6	44.9	1.30
128	0.876	0.330	447.9	17.8	85.5	45.3	1.27
129	0.861	0.318	452.2	17.7	85.4	45.2	1.25
130	0.845	0.307	453.9	17.6	85.0	44.9	1.23
131	0.828	0.295	460.4	17.5	85.1	44.8	1.20
132	0.811	0.283	466.8	17.4	85.0	44.7	1.18
133	0.793	0.271	471.4	17.3	84.8	44.5	1.15
134	0.776	0.259	474.2	17.1	84.5	44.2	1.13

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
135	0.759	0.248	474.5	16.8	83.9	43.7	1.10
136	0.742	0.237	481.4	16.7	83.8	43.6	1.08
137	0.725	0.226	486.3	16.6	83.5	43.4	1.05
138	0.707	0.215	487.9	16.3	83.0	42.9	1.03
139	0.690	0.205	494.4	16.2	82.8	42.7	1.00
140	0.673	0.195	504.9	16.1	82.8	42.7	0.98
141	0.659	0.187	510.2	16.0	82.6	42.5	0.96
142	0.645	0.179	515.6	15.8	82.4	42.3	0.94
143	0.632	0.172	527.0	15.8	82.6	42.4	0.92
144	0.618	0.164	528.6	15.6	82.1	42.0	0.90
145	0.604	0.157	527.4	15.3	81.4	41.5	0.88
146	0.590	0.150	535.2	15.2	81.3	41.4	0.86
147	0.576	0.143	543.0	15.1	81.2	41.2	0.84
148	0.563	0.136	547.3	14.8	80.9	40.9	0.82
149	0.549	0.130	541.5	14.5	79.9	40.1	0.80
150	0.535	0.123	534.4	14.2	78.8	39.3	0.78
151	0.524	0.118	521.6	13.8	77.4	38.3	0.76
152	0.513	0.113	520.7	13.7	76.8	37.8	0.75
153	0.502	0.108	529.6	13.6	76.8	37.7	0.73
154	0.491	0.104	532.3	13.5	76.4	37.4	0.71
155	0.480	0.099	528.7	13.2	75.6	36.8	0.70
156	0.469	0.095	522.0	13.0	74.6	36.1	0.68
157	0.458	0.090	513.5	12.7	73.4	35.2	0.67
158	0.447	0.086	511.4	12.5	72.6	34.7	0.65
159	0.436	0.082	516.2	12.4	72.3	34.4	0.63
160	0.425	0.078	528.0	12.3	72.5	34.4	0.62
161	0.417	0.075	528.5	12.2	72.0	34.0	0.61
162	0.408	0.072	521.0	12.0	70.9	33.3	0.59
163	0.400	0.069	520.9	11.8	70.4	32.9	0.58
164	0.391	0.066	523.2	11.7	70.0	32.6	0.57
165	0.383	0.063	523.9	11.5	69.5	32.2	0.56
166	0.374	0.060	523.1	11.4	68.8	31.8	0.54
167	0.366	0.057	531.1	11.3	68.8	31.7	0.53
168	0.357	0.055	535.1	11.1	68.5	31.4	0.52
169	0.349	0.052	541.2	11.0	68.4	31.2	0.51
170	0.340	0.050	544.9	10.9	68.0	30.9	0.49
171	0.335	0.048	547.3	10.8	67.7	30.7	0.49
172	0.330	0.047	551.4	10.7	67.6	30.6	0.48
173	0.325	0.045	551.4	10.6	67.2	30.4	0.47
174	0.320	0.044	556.0	10.6	67.1	30.3	0.47
175	0.315	0.043	558.3	10.5	66.8	30.1	0.46
176	0.310	0.041	559.9	10.4	66.5	29.9	0.45
177	0.305	0.040	560.2	10.3	66.1	29.6	0.44
178	0.300	0.039	558.0	10.1	65.5	29.3	0.44
179	0.295	0.037	556.5	10.0	65.0	29.0	0.43

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
180	0.290	0.036	563.5	9.9	64.9	29.0	0.42
181	0.285	0.035	564.9	9.8	64.6	28.7	0.41
182	0.280	0.034	567.1	9.7	64.2	28.5	0.41
183	0.275	0.033	567.9	9.6	63.8	28.3	0.40
184	0.270	0.031	566.9	9.5	63.3	28.0	0.39
185	0.265	0.030	571.6	9.4	63.0	27.9	0.39
186	0.260	0.029	575.1	9.3	62.6	27.7	0.38
187	0.255	0.028	573.7	9.1	62.1	27.4	0.37
188	0.250	0.027	565.6	9.0	61.2	26.9	0.36
189	0.245	0.026	562.4	8.8	60.6	26.5	0.36
190	0.240	0.025	559.1	8.7	59.9	26.1	0.35
191	0.236	0.024	557.6	8.6	59.4	25.8	0.34
192	0.232	0.023	557.7	8.5	59.0	25.6	0.34
193	0.228	0.022	560.3	8.4	58.7	25.5	0.33
194	0.224	0.022	561.0	8.3	58.3	25.2	0.33
195	0.220	0.021	562.3	8.2	57.9	25.0	0.32
196	0.216	0.020	561.9	8.0	57.4	24.8	0.31
197	0.212	0.019	562.7	7.9	57.0	24.6	0.31
198	0.208	0.019	560.2	7.8	56.4	24.3	0.30
199	0.204	0.018	553.3	7.7	55.5	23.8	0.30
200	0.200	0.017	544.6	7.5	54.6	23.4	0.29
201	0.198	0.017	542.6	7.5	54.2	23.2	0.29
202	0.196	0.016	543.7	7.4	53.9	23.1	0.28
203	0.193	0.016	544.4	7.4	53.7	23.0	0.28
204	0.191	0.016	543.3	7.3	53.4	22.8	0.28
205	0.189	0.015	549.7	7.2	53.4	22.8	0.27
206	0.187	0.015	553.4	7.2	53.3	22.8	0.27
207	0.185	0.015	556.4	7.1	53.2	22.7	0.27
208	0.182	0.014	560.9	7.1	53.1	22.6	0.27
209	0.180	0.014	566.5	7.0	53.1	22.6	0.26
210	0.178	0.014	571.2	7.0	53.0	22.6	0.26
211	0.178	0.014	571.5	7.0	53.0	22.6	0.26
212	0.178	0.014	569.9	7.0	52.9	22.6	0.26
213	0.178	0.014	567.6	7.0	52.8	22.5	0.26
214	0.178	0.014	567.0	7.0	52.8	22.5	0.26
215	0.178	0.014	565.9	7.0	52.7	22.5	0.26
216	0.178	0.014	565.7	7.0	52.7	22.5	0.26
217	0.178	0.014	559.6	7.0	52.4	22.3	0.26
218	0.178	0.014	556.5	7.0	52.3	22.2	0.26
219	0.178	0.014	558.5	7.0	52.4	22.3	0.26
220	0.178	0.014	561.4	7.0	52.5	22.4	0.26
221	0.180	0.014	568.8	7.0	53.1	22.7	0.26
222	0.182	0.014	574.0	7.1	53.6	23.0	0.26
223	0.184	0.015	579.1	7.2	54.1	23.2	0.27
224	0.186	0.015	581.6	7.3	54.5	23.4	0.27

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
225	0.188	0.015	588.4	7.3	55.0	23.7	0.27
226	0.190	0.016	589.7	7.4	55.3	23.9	0.28
227	0.192	0.016	583.7	7.4	55.3	23.9	0.28
228	0.194	0.016	578.6	7.5	55.4	23.9	0.28
229	0.196	0.017	573.4	7.5	55.4	23.9	0.29
230	0.198	0.017	565.6	7.6	55.4	23.8	0.29
231	0.203	0.018	556.4	7.7	55.6	23.9	0.30
232	0.208	0.019	551.8	7.8	56.0	24.1	0.30
233	0.213	0.020	549.2	7.9	56.4	24.3	0.31
234	0.218	0.021	539.6	8.0	56.5	24.3	0.32
235	0.224	0.021	536.3	8.1	56.8	24.6	0.33
236	0.229	0.022	542.9	8.3	57.8	25.0	0.33
237	0.234	0.023	545.0	8.5	58.5	25.4	0.34
238	0.239	0.025	546.5	8.6	59.1	25.7	0.35
239	0.244	0.026	542.8	8.7	59.4	25.9	0.35
240	0.249	0.027	536.0	8.8	59.5	26.0	0.36
241	0.255	0.028	529.6	8.9	59.7	26.1	0.37
242	0.261	0.029	525.5	9.1	60.0	26.3	0.38
243	0.267	0.031	518.0	9.2	60.0	26.4	0.39
244	0.273	0.032	505.1	9.2	59.6	26.4	0.40
245	0.280	0.034	500.7	9.4	59.8	26.6	0.41
246	0.286	0.035	494.6	9.5	59.9	26.7	0.42
247	0.292	0.037	497.8	9.6	60.6	27.1	0.42
248	0.298	0.038	491.3	9.7	60.6	27.2	0.43
249	0.304	0.040	491.0	9.8	61.1	27.5	0.44
250	0.310	0.041	490.6	10.0	61.6	27.7	0.45
251	0.318	0.043	484.5	10.1	61.8	27.9	0.46
252	0.326	0.046	487.6	10.3	62.6	28.4	0.47
253	0.334	0.048	487.4	10.4	63.2	28.7	0.49
254	0.342	0.050	485.8	10.6	63.7	29.0	0.50
255	0.350	0.053	475.9	10.7	63.5	29.1	0.51
256	0.358	0.055	468.4	10.8	63.5	29.2	0.52
257	0.366	0.058	465.7	10.9	63.9	29.4	0.53
258	0.374	0.060	463.2	11.0	64.2	29.7	0.54
259	0.382	0.063	456.0	11.1	64.2	29.8	0.56
260	0.390	0.065	446.2	11.1	64.0	29.8	0.57
261	0.400	0.069	439.1	11.2	64.1	29.9	0.58
262	0.410	0.072	431.8	11.3	64.1	30.0	0.60
263	0.420	0.076	425.6	11.4	64.3	30.1	0.61
264	0.430	0.080	414.2	11.4	64.0	30.0	0.63
265	0.440	0.083	396.5	11.3	63.3	29.6	0.64
266	0.450	0.087	372.4	11.2	62.0	28.8	0.65
267	0.460	0.091	349.1	11.0	60.6	28.1	0.67
268	0.470	0.095	340.5	10.9	60.3	28.1	0.68
269	0.480	0.099	337.4	11.0	60.5	28.2	0.70

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
270	0.490	0.103	334.5	11.1	60.7	28.4	0.71
271	0.502	0.108	331.9	11.2	61.1	28.6	0.73
272	0.514	0.114	337.3	11.4	62.1	29.2	0.75
273	0.526	0.119	342.5	11.6	63.2	29.8	0.77
274	0.538	0.124	350.6	11.9	64.5	30.5	0.78
275	0.550	0.130	364.5	12.2	66.2	31.6	0.80
276	0.562	0.136	384.0	12.7	68.4	33.0	0.82
277	0.574	0.142	398.0	13.0	70.0	34.2	0.83
278	0.586	0.148	410.9	13.3	71.6	35.3	0.85
279	0.598	0.154	421.7	13.6	73.1	36.2	0.87
280	0.610	0.160	431.2	13.9	74.4	37.1	0.89
281	0.625	0.168	436.7	14.1	75.5	37.8	0.91
282	0.640	0.176	443.7	14.4	76.7	38.6	0.93
283	0.655	0.184	454.1	14.7	78.2	39.6	0.95
284	0.670	0.193	454.9	15.1	78.9	40.1	0.97
285	0.685	0.202	465.3	15.6	80.4	41.1	1.00
286	0.700	0.211	473.3	16.0	81.6	41.9	1.02
287	0.715	0.220	488.7	16.5	83.3	43.2	1.04
288	0.730	0.229	493.8	16.8	84.2	43.9	1.06
289	0.745	0.239	489.8	16.9	84.5	44.1	1.08
290	0.760	0.248	485.4	17.1	84.7	44.3	1.11
291	0.779	0.261	479.4	17.2	84.9	44.6	1.13
292	0.798	0.274	473.7	17.4	85.2	44.8	1.16
293	0.817	0.287	473.3	17.6	85.8	45.3	1.19
294	0.836	0.301	466.1	17.7	85.8	45.4	1.22
295	0.855	0.314	452.2	17.7	85.2	45.1	1.24
296	0.874	0.328	444.2	17.7	85.1	45.1	1.27
297	0.893	0.343	439.6	17.8	85.2	45.3	1.30
298	0.912	0.358	437.1	18.0	85.5	45.6	1.33
299	0.931	0.373	428.8	18.0	85.3	45.5	1.35
300	0.950	0.388	425.1	18.1	85.5	45.8	1.38
301	0.955	0.392	423.9	18.1	85.5	45.8	1.39
302	0.960	0.396	415.1	17.9	84.8	45.4	1.40
303	0.965	0.400	417.6	18.1	85.2	45.6	1.40
304	0.970	0.405	409.7	17.9	84.6	45.3	1.41
305	0.975	0.409	409.9	17.9	84.7	45.4	1.42
306	0.980	0.413	399.1	17.7	83.8	44.8	1.43
307	0.985	0.417	374.3	17.0	81.6	43.3	1.43
308	0.990	0.421	359.9	16.6	80.3	42.4	1.44
309	0.995	0.426	344.9	16.2	79.0	41.5	1.45
310	1.000	0.430	351.1	16.5	79.7	42.0	1.45
311	1.000	0.430	365.9	16.9	81.2	43.0	1.45
312	1.000	0.430	362.0	16.8	80.8	42.8	1.45
313	1.000	0.430	353.0	16.5	79.9	42.2	1.45
314	1.000	0.430	339.3	16.1	78.6	41.2	1.45

WVMH-FM Contour Tabulation

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	54 dBu F(50,10) (km)	100 dBu F(50,10) (km)
315	1.000	0.430	337.3	16.0	78.4	41.1	1.45
316	1.000	0.430	330.4	15.8	77.7	40.6	1.45
317	1.000	0.430	319.2	15.5	76.6	39.9	1.45
318	1.000	0.430	305.2	15.1	75.3	39.0	1.45
319	1.000	0.430	300.6	14.9	74.8	38.7	1.45
320	1.000	0.430	291.5	14.7	74.0	38.1	1.45
321	1.000	0.430	281.2	14.4	73.0	37.4	1.45
322	1.000	0.430	276.7	14.3	72.6	37.1	1.45
323	1.000	0.430	275.7	14.3	72.5	37.1	1.45
324	1.000	0.430	282.2	14.4	73.1	37.5	1.45
325	1.000	0.430	280.3	14.4	72.9	37.4	1.45
326	1.000	0.430	283.5	14.5	73.2	37.6	1.45
327	1.000	0.430	287.4	14.6	73.6	37.8	1.45
328	1.000	0.430	290.1	14.6	73.8	38.0	1.45
329	1.000	0.430	282.4	14.4	73.1	37.5	1.45
330	1.000	0.430	273.8	14.2	72.3	36.9	1.45
331	1.000	0.430	256.2	13.7	70.6	35.7	1.45
332	1.000	0.430	244.3	13.4	69.5	34.9	1.45
333	1.000	0.430	229.7	13.0	67.9	33.8	1.45
334	1.000	0.430	218.4	12.7	66.7	32.9	1.45
335	1.000	0.430	210.3	12.5	65.7	32.3	1.45
336	1.000	0.430	200.1	12.2	64.5	31.4	1.45
337	1.000	0.430	197.0	12.1	64.2	31.2	1.45
338	1.000	0.430	193.9	12.0	63.8	31.0	1.45
339	1.000	0.430	189.7	11.9	63.3	30.6	1.45
340	1.000	0.430	186.7	11.8	62.9	30.4	1.45
341	1.000	0.430	190.1	11.9	63.3	30.7	1.45
342	1.000	0.430	191.3	11.9	63.5	30.8	1.45
343	1.000	0.430	186.1	11.8	62.8	30.4	1.45
344	1.000	0.430	192.1	12.0	63.6	30.8	1.45
345	1.000	0.430	194.1	12.0	63.8	31.0	1.45
346	1.000	0.430	189.1	11.9	63.2	30.6	1.45
347	1.000	0.430	194.6	12.0	63.9	31.0	1.45
348	1.000	0.430	191.9	12.0	63.5	30.8	1.45
349	1.000	0.430	193.2	12.0	63.7	30.9	1.45
350	1.000	0.430	208.5	12.4	65.5	32.1	1.45
351	1.000	0.430	222.7	12.8	67.2	33.3	1.45
352	1.000	0.430	236.8	13.2	68.7	34.4	1.45
353	1.000	0.430	244.4	13.4	69.5	34.9	1.45
354	1.000	0.430	258.5	13.8	70.9	35.9	1.45
355	1.000	0.430	280.9	14.4	73.0	37.4	1.45
356	1.000	0.430	304.2	15.1	75.2	38.9	1.45
357	1.000	0.430	310.0	15.2	75.7	39.3	1.45
358	1.000	0.430	307.9	15.2	75.5	39.2	1.45
359	1.000	0.430	319.0	15.5	76.6	39.9	1.45

WVMH-FM Contour Tabulation

Television Channel 6 Protection

Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	69.5 dBu F(50,10) (km)
0	1.000	0.441	332.6	16.0
10	1.000	0.441	209.4	12.5
20	0.900	0.357	125.8	9.2
30	0.900	0.357	-36.2	4.4
40	1.000	0.441	139.2	10.2
50	1.000	0.441	132.2	9.9
60	1.000	0.441	188.6	11.9
70	0.900	0.357	335.9	15.0
80	0.900	0.357	356.7	15.7
90	1.000	0.441	347.4	16.5
100	1.000	0.441	387.8	17.7
110	1.000	0.441	384.9	17.6
120	1.000	0.441	392.1	17.8
130	0.845	0.315	453.9	17.7
140	0.673	0.200	504.9	16.2
150	0.535	0.126	534.4	14.3
160	0.425	0.080	528.0	12.4
170	0.340	0.051	544.9	11.0
180	0.290	0.037	563.5	10.0
190	0.240	0.025	559.1	8.8
200	0.200	0.018	544.6	7.6
210	0.178	0.014	571.2	7.1
220	0.178	0.014	561.4	7.0
230	0.198	0.017	565.6	7.6
240	0.249	0.027	536.0	8.9
250	0.310	0.042	490.6	10.0
260	0.390	0.067	446.2	11.2
270	0.490	0.106	334.5	11.1
280	0.610	0.164	431.2	14.0
290	0.760	0.255	485.4	17.2
300	0.950	0.398	425.1	18.2
310	1.000	0.441	351.1	16.6
320	1.000	0.441	291.5	14.8
330	1.000	0.441	273.8	14.3
340	1.000	0.441	186.7	11.9
350	1.000	0.441	208.5	12.5

**WUMC Contour Tabulation
Toward WVMH-FM**

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
100	1.000	0.500	-147.1	8.5	28.5
101	1.000	0.500	-152.5	8.5	28.5
102	1.000	0.500	-156.7	8.5	28.5
103	1.000	0.500	-157.9	8.5	28.5
104	1.000	0.500	-168.9	8.5	28.5
105	1.000	0.500	-191.9	8.5	28.5
106	1.000	0.500	-192.8	8.5	28.5
107	1.000	0.500	-190.1	8.5	28.5
108	1.000	0.500	-182.9	8.5	28.5
109	1.000	0.500	-176.7	8.5	28.5
110	1.000	0.500	-166.8	8.5	28.5
111	1.000	0.500	-157.2	8.5	28.5
112	1.000	0.500	-170.9	8.5	28.5
113	1.000	0.500	-187.2	8.5	28.5
114	1.000	0.500	-194.6	8.5	28.5
115	1.000	0.500	-197.2	8.5	28.5
116	1.000	0.500	-204.2	8.5	28.5
117	1.000	0.500	-211.8	8.5	28.5
118	1.000	0.500	-206.4	8.5	28.5
119	1.000	0.500	-191.9	8.5	28.5
120	1.000	0.500	-182.4	8.5	28.5
121	1.000	0.500	-176.0	8.5	28.5
122	1.000	0.500	-170.3	8.5	28.5
123	1.000	0.500	-174.2	8.5	28.5
124	1.000	0.500	-178.0	8.5	28.5
125	1.000	0.500	-181.1	8.5	28.5
126	1.000	0.500	-189.1	8.5	28.5
127	1.000	0.500	-196.0	8.5	28.5
128	1.000	0.500	-203.4	8.5	28.5
129	1.000	0.500	-210.5	8.5	28.5
130	1.000	0.500	-217.4	8.5	28.5
131	1.000	0.500	-222.2	8.5	28.5
132	1.000	0.500	-233.1	8.5	28.5
133	1.000	0.500	-247.4	8.5	28.5
134	1.000	0.500	-248.7	8.5	28.5
135	1.000	0.500	-254.4	8.5	28.5
136	1.000	0.500	-253.5	8.5	28.5
137	1.000	0.500	-248.2	8.5	28.5
138	1.000	0.500	-255.2	8.5	28.5
139	1.000	0.500	-250.9	8.5	28.5

**WUMC Contour Tabulation
Toward WVMH-FM**

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
140	1.000	0.500	-252.7	8.5	28.5
141	1.000	0.500	-257.5	8.5	28.5
142	1.000	0.500	-253.9	8.5	28.5
143	1.000	0.500	-261.1	8.5	28.5
144	1.000	0.500	-268.9	8.5	28.5
145	1.000	0.500	-270.1	8.5	28.5
146	1.000	0.500	-275.3	8.5	28.5
147	1.000	0.500	-269.2	8.5	28.5
148	1.000	0.500	-266.0	8.5	28.5
149	1.000	0.500	-265.0	8.5	28.5
150	1.000	0.500	-269.8	8.5	28.5
151	1.000	0.500	-273.5	8.5	28.5
152	1.000	0.500	-275.1	8.5	28.5
153	1.000	0.500	-279.1	8.5	28.5
154	1.000	0.500	-282.0	8.5	28.5
155	1.000	0.500	-279.9	8.5	28.5
156	1.000	0.500	-280.6	8.5	28.5
157	1.000	0.500	-282.0	8.5	28.5
158	1.000	0.500	-274.3	8.5	28.5
159	1.000	0.500	-261.1	8.5	28.5
160	1.000	0.500	-246.0	8.5	28.5
161	1.000	0.500	-238.2	8.5	28.5
162	1.000	0.500	-225.5	8.5	28.5
163	1.000	0.500	-223.9	8.5	28.5
164	1.000	0.500	-223.2	8.5	28.5
165	1.000	0.500	-226.4	8.5	28.5
166	1.000	0.500	-227.7	8.5	28.5
167	1.000	0.500	-227.1	8.5	28.5
168	1.000	0.500	-232.8	8.5	28.5
169	1.000	0.500	-241.1	8.5	28.5
170	1.000	0.500	-246.7	8.5	28.5
171	1.000	0.500	-245.1	8.5	28.5
172	1.000	0.500	-251.7	8.5	28.5
173	1.000	0.500	-253.1	8.5	28.5
174	1.000	0.500	-249.7	8.5	28.5
175	1.000	0.500	-254.3	8.5	28.5
176	1.000	0.500	-256.0	8.5	28.5
177	1.000	0.500	-255.8	8.5	28.5
178	1.000	0.500	-249.8	8.5	28.5
179	1.000	0.500	-240.5	8.5	28.5

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
180	1.000	0.500	-224.2	8.5	28.5
181	1.000	0.500	-216.8	8.5	28.5
182	1.000	0.500	-216.5	8.5	28.5
183	1.000	0.500	-210.0	8.5	28.5
184	1.000	0.500	-200.4	8.5	28.5
185	1.000	0.500	-194.6	8.5	28.5
186	1.000	0.500	-191.2	8.5	28.5
187	1.000	0.500	-180.0	8.5	28.5
188	1.000	0.500	-172.2	8.5	28.5
189	1.000	0.500	-161.9	8.5	28.5
190	1.000	0.500	-152.1	8.5	28.5
191	1.000	0.500	-146.8	8.5	28.5
192	1.000	0.500	-149.3	8.5	28.5
193	1.000	0.500	-143.0	8.5	28.5
194	1.000	0.500	-135.8	8.5	28.5
195	1.000	0.500	-127.0	8.5	28.5
196	1.000	0.500	-114.9	8.5	28.5
197	1.000	0.500	-115.1	8.5	28.5
198	1.000	0.500	-107.5	8.5	28.5
199	1.000	0.500	-99.1	8.5	28.5
200	1.000	0.500	-96.3	8.5	28.5
201	1.000	0.500	-93.0	8.5	28.5
202	1.000	0.500	-80.8	8.5	28.5
203	1.000	0.500	-68.4	8.5	28.5
204	1.000	0.500	-59.1	8.5	28.5
205	1.000	0.500	-48.8	8.5	28.5
206	1.000	0.500	-44.1	8.5	28.5
207	1.000	0.500	-35.8	8.5	28.5
208	1.000	0.500	-36.4	8.5	28.5
209	1.000	0.500	-38.0	8.5	28.5
210	1.000	0.500	-38.9	8.5	28.5
211	1.000	0.500	-45.6	8.5	28.5
212	1.000	0.500	-58.7	8.5	28.5
213	1.000	0.500	-90.9	8.5	28.5
214	1.000	0.500	-127.6	8.5	28.5
215	1.000	0.500	-158.6	8.5	28.5
216	1.000	0.500	-184.6	8.5	28.5
217	1.000	0.500	-206.0	8.5	28.5
218	1.000	0.500	-230.4	8.5	28.5
219	1.000	0.500	-248.9	8.5	28.5

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
220	1.000	0.500	-255.0	8.5	28.5
221	1.000	0.500	-245.6	8.5	28.5
222	1.000	0.500	-245.1	8.5	28.5
223	1.000	0.500	-236.1	8.5	28.5
224	1.000	0.500	-230.3	8.5	28.5
225	1.000	0.500	-222.0	8.5	28.5
226	1.000	0.500	-207.3	8.5	28.5
227	1.000	0.500	-190.9	8.5	28.5
228	1.000	0.500	-181.2	8.5	28.5
229	1.000	0.500	-178.1	8.5	28.5
230	1.000	0.500	-185.1	8.5	28.5
231	0.989	0.489	-176.3	8.5	28.4
232	0.978	0.478	-165.2	8.4	28.2
233	0.967	0.468	-192.2	8.4	28.0
234	0.956	0.457	-222.0	8.3	27.8
235	0.946	0.447	-233.9	8.3	27.7
236	0.935	0.437	-234.6	8.2	27.5
237	0.924	0.427	-214.2	8.2	27.3
238	0.913	0.417	-182.1	8.1	27.1
239	0.902	0.407	-155.4	8.0	27.0
240	0.891	0.397	-127.5	8.0	26.8
241	0.873	0.381	-102.8	7.9	26.5
242	0.854	0.365	-86.8	7.8	26.2
243	0.836	0.350	-76.3	7.7	25.9
244	0.818	0.334	-66.2	7.6	25.6
245	0.800	0.320	-60.2	7.6	25.3
246	0.781	0.305	-55.4	7.5	25.0
247	0.763	0.291	-49.0	7.4	24.7
248	0.745	0.277	-42.1	7.3	24.4
249	0.726	0.264	-37.0	7.2	24.1
250	0.708	0.251	-36.4	7.1	23.8
251	0.693	0.240	-34.8	7.0	23.5
252	0.679	0.230	-32.1	7.0	23.3
253	0.664	0.221	-28.9	6.9	23.0
254	0.650	0.211	-24.7	6.8	22.7
255	0.635	0.202	-23.6	6.7	22.5
256	0.620	0.192	-20.3	6.6	22.2
257	0.606	0.183	-19.1	6.6	21.9
258	0.591	0.175	-17.8	6.5	21.6
259	0.577	0.166	-16.0	6.4	21.4

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
260	0.562	0.158	-13.8	6.3	21.1
261	0.551	0.152	-16.5	6.3	20.8
262	0.539	0.145	-16.7	6.2	20.6
263	0.528	0.139	-15.6	6.1	20.4
264	0.516	0.133	-12.7	6.1	20.1
265	0.505	0.127	-10.5	6.0	19.9
266	0.493	0.122	-10.1	5.9	19.6
267	0.482	0.116	-10.3	5.9	19.4
268	0.470	0.110	-11.4	5.8	19.1
269	0.459	0.105	-11.6	5.7	18.8
270	0.447	0.100	-9.0	5.6	18.6
271	0.438	0.096	-7.3	5.6	18.4
272	0.429	0.092	-4.6	5.5	18.1
273	0.419	0.088	-4.5	5.5	17.9
274	0.410	0.084	-3.3	5.4	17.7
275	0.401	0.080	-1.9	5.3	17.4
276	0.392	0.077	-2.0	5.3	17.2
277	0.383	0.073	-2.3	5.2	16.9
278	0.373	0.070	-1.4	5.1	16.7
279	0.364	0.066	0.8	5.1	16.4
280	0.355	0.063	2.8	5.0	16.2
281	0.348	0.060	3.5	5.0	16.0
282	0.340	0.058	8.0	4.9	15.8
283	0.333	0.055	11.6	4.8	15.5
284	0.326	0.053	10.2	4.8	15.3
285	0.319	0.051	10.5	4.7	15.1
286	0.311	0.048	14.2	4.7	14.9
287	0.304	0.046	15.2	4.6	14.7
288	0.297	0.044	16.2	4.6	14.5
289	0.289	0.042	15.5	4.5	14.3
290	0.282	0.040	15.2	4.4	14.2

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
20	0.410	0.040	165.5	10.7	35.5
21	0.420	0.042	160.2	10.6	35.3
22	0.430	0.044	161.7	10.8	35.9
23	0.440	0.046	158.0	10.7	35.9
24	0.450	0.049	173.0	11.4	37.8
25	0.460	0.051	192.3	12.1	40.1
26	0.470	0.053	208.6	12.7	42.2
27	0.480	0.055	223.4	13.3	44.2
28	0.490	0.058	238.1	13.8	46.1
29	0.500	0.060	250.9	14.3	47.6
30	0.510	0.062	266.5	14.9	49.4
31	0.510	0.062	278.4	15.3	50.3
32	0.510	0.062	278.9	15.3	50.4
33	0.510	0.062	274.9	15.2	50.1
34	0.510	0.062	272.1	15.1	49.8
35	0.510	0.062	275.9	15.2	50.1
36	0.510	0.062	277.9	15.3	50.3
37	0.510	0.062	281.4	15.4	50.6
38	0.510	0.062	276.7	15.2	50.2
39	0.510	0.062	271.4	15.1	49.8
40	0.510	0.062	266.7	14.9	49.4
41	0.501	0.060	258.3	14.5	48.3
42	0.492	0.058	248.1	14.1	47.0
43	0.483	0.056	237.8	13.7	45.7
44	0.474	0.054	240.1	13.7	45.6
45	0.465	0.052	255.7	13.9	46.5
46	0.456	0.050	259.7	13.9	46.4
47	0.447	0.048	245.0	13.4	44.8
48	0.438	0.046	255.9	13.6	45.3
49	0.429	0.044	277.9	14.0	46.6
50	0.420	0.042	292.7	14.2	47.3
51	0.417	0.042	302.4	14.4	47.9
52	0.414	0.041	321.3	14.8	49.2
53	0.411	0.041	322.6	14.8	49.1
54	0.408	0.040	332.0	15.0	49.7
55	0.405	0.039	362.6	15.6	52.0
56	0.402	0.039	387.4	16.0	53.7
57	0.399	0.038	405.3	16.3	54.8
58	0.396	0.038	427.6	16.7	56.0
59	0.393	0.037	448.9	17.0	57.3

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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
60	0.390	0.037	468.9	17.4	58.5
61	0.400	0.038	484.7	17.9	60.2
62	0.410	0.040	495.9	18.4	61.7
63	0.420	0.042	509.0	18.9	63.3
64	0.430	0.044	518.5	19.4	64.6
65	0.440	0.046	520.6	19.7	65.4
66	0.450	0.049	519.4	19.9	65.8
67	0.460	0.051	517.9	20.1	66.3
68	0.470	0.053	520.1	20.3	67.0
69	0.480	0.055	521.8	20.6	67.7
70	0.490	0.058	519.0	20.8	68.0
71	0.502	0.060	515.0	20.9	68.3
72	0.514	0.063	516.0	21.2	69.0
73	0.526	0.066	510.1	21.3	69.1
74	0.538	0.069	508.6	21.5	69.6
75	0.550	0.073	513.9	21.9	70.6
76	0.562	0.076	517.2	22.2	71.4
77	0.574	0.079	508.1	22.2	71.2
78	0.586	0.082	488.8	21.9	70.3
79	0.598	0.086	463.6	21.4	68.9
80	0.610	0.089	433.8	20.9	67.0
81	0.625	0.094	404.6	20.5	65.4
82	0.640	0.098	386.3	20.3	64.6
83	0.655	0.103	369.1	20.1	63.8
84	0.670	0.108	353.0	19.9	63.0
85	0.685	0.113	335.8	19.6	61.9
86	0.700	0.118	327.8	19.6	61.6
87	0.715	0.123	322.4	19.7	61.6
88	0.730	0.128	318.6	19.8	61.8
89	0.745	0.133	313.9	19.8	61.8
90	0.760	0.139	303.4	19.7	61.3
91	0.779	0.146	293.8	19.6	61.0
92	0.798	0.153	275.1	19.2	59.9
93	0.817	0.160	250.3	18.5	58.1
94	0.836	0.168	225.9	17.8	56.3
95	0.855	0.175	207.1	17.2	54.8
96	0.874	0.183	196.4	16.9	54.1
97	0.893	0.191	180.4	16.4	52.7
98	0.912	0.200	164.6	15.8	51.2
99	0.931	0.208	153.2	15.3	50.2
100	0.950	0.217	141.5	14.8	49.1

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Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
180	136.6	14.5	48.6
181	141.7	14.8	49.2
182	144.6	15.0	49.6
183	145.3	15.1	49.7
184	158.3	15.9	51.5
185	161.1	16.0	51.8
186	165.8	16.3	52.4
187	162.2	16.1	52.0
188	166.8	16.3	52.6
189	161.6	16.0	51.9
190	142.6	14.9	49.4
191	119.3	13.6	46.2
192	99.5	12.4	42.7
193	82.0	11.4	38.8
194	67.5	10.4	35.0
195	43.9	8.3	27.6
196	26.1	6.9	23.0
197	22.2	6.9	23.0
198	15.5	6.9	23.0
199	16.9	6.9	23.0
200	14.5	6.9	23.0
201	16.0	6.9	23.0
202	17.5	6.9	23.0
203	14.4	6.9	23.0
204	6.0	6.9	23.0
205	1.9	6.9	23.0
206	-5.4	6.9	23.0
207	-11.0	6.9	23.0
208	-12.8	6.9	23.0
209	-21.4	6.9	23.0
210	-27.9	6.9	23.0
211	-38.5	6.9	23.0
212	-51.6	6.9	23.0
213	-63.5	6.9	23.0
214	-71.3	6.9	23.0
215	-77.6	6.9	23.0
216	-77.2	6.9	23.0
217	-80.4	6.9	23.0
218	-88.9	6.9	23.0
219	-96.7	6.9	23.0

**WASU Contour Tabulation
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Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
220	-104.2	6.9	23.0
221	-110.9	6.9	23.0
222	-104.5	6.9	23.0
223	-95.1	6.9	23.0
224	-96.6	6.9	23.0
225	-103.2	6.9	23.0
226	-96.4	6.9	23.0
227	-71.9	6.9	23.0
228	-50.6	6.9	23.0
229	-22.7	6.9	23.0
230	3.5	6.9	23.0
231	18.7	6.9	23.0
232	24.3	6.9	23.0
233	24.1	6.9	23.0
234	5.3	6.9	23.0
235	-25.4	6.9	23.0
236	-72.9	6.9	23.0
237	-97.2	6.9	23.0
238	-92.3	6.9	23.0
239	-110.2	6.9	23.0
240	-140.9	6.9	23.0
241	-132.2	6.9	23.0
242	-102.7	6.9	23.0
243	-70.2	6.9	23.0
244	-41.2	6.9	23.0
245	-14.3	6.9	23.0
246	-14.0	6.9	23.0
247	-19.2	6.9	23.0
248	-6.8	6.9	23.0
249	-2.4	6.9	23.0
250	-12.9	6.9	23.0
251	-10.7	6.9	23.0
252	12.3	6.9	23.0
253	20.5	6.9	23.0
254	29.5	6.9	23.0
255	28.2	6.9	23.0
256	19.0	6.9	23.0
257	6.6	6.9	23.0
258	-15.9	6.9	23.0
259	-29.7	6.9	23.0

**WASU Contour Tabulation
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Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
260	-41.6	6.9	23.0
261	-40.8	6.9	23.0
262	-32.8	6.9	23.0
263	-32.7	6.9	23.0
264	-33.2	6.9	23.0
265	-35.0	6.9	23.0
266	-34.2	6.9	23.0
267	-28.7	6.9	23.0
268	-21.8	6.9	23.0
269	-16.1	6.9	23.0
270	-6.7	6.9	23.0
271	1.5	6.9	23.0
272	10.0	6.9	23.0
273	17.3	6.9	23.0
274	26.8	6.9	23.0
275	45.4	8.5	28.2
276	62.8	10.1	33.7
277	74.2	10.8	36.8
278	83.6	11.5	39.2
279	94.9	12.2	41.8
280	106.7	12.9	44.1

**BPED-19961203ME Newport, TN, Contour Tabulation
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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)
50	0.275	0.076	677.3	25.6	39.8
51	0.273	0.074	673.4	25.4	39.5
52	0.270	0.073	668.2	25.2	39.2
53	0.268	0.072	667.8	25.1	39.0
54	0.265	0.070	664.3	24.9	38.7
55	0.263	0.069	659.9	24.7	38.4
56	0.260	0.068	657.1	24.6	38.1
57	0.258	0.066	655.3	24.4	37.8
58	0.255	0.065	656.6	24.3	37.7
59	0.253	0.064	663.6	24.3	37.7
60	0.250	0.063	667.8	24.3	37.7
61	0.250	0.063	668.6	24.3	37.7
62	0.250	0.063	670.7	24.4	37.8
63	0.250	0.063	682.3	24.6	38.1
64	0.250	0.063	687.7	24.7	38.3
65	0.250	0.063	687.7	24.7	38.3
66	0.250	0.063	691.2	24.7	38.4
67	0.250	0.063	697.7	24.8	38.6
68	0.250	0.063	701.5	24.9	38.7
69	0.250	0.063	703.1	24.9	38.7
70	0.250	0.063	711.0	25.1	39.0
71	0.250	0.063	714.0	25.1	39.1
72	0.250	0.063	716.8	25.2	39.1
73	0.250	0.063	720.4	25.2	39.2
74	0.250	0.063	721.1	25.2	39.2
75	0.250	0.063	722.0	25.2	39.3
76	0.250	0.063	726.4	25.3	39.4
77	0.250	0.063	727.6	25.3	39.4
78	0.250	0.063	729.0	25.4	39.5
79	0.250	0.063	727.1	25.3	39.4
80	0.250	0.063	729.9	25.4	39.5
81	0.250	0.063	729.9	25.4	39.5
82	0.250	0.063	727.6	25.3	39.4
83	0.250	0.063	726.6	25.3	39.4
84	0.250	0.063	719.9	25.2	39.2
85	0.250	0.063	713.4	25.1	39.0
86	0.250	0.063	705.9	25.0	38.8
87	0.250	0.063	702.0	24.9	38.7
88	0.250	0.063	698.4	24.8	38.6
89	0.250	0.063	693.6	24.8	38.5

**BPED-19961203ME Newport, TN, Contour Tabulation
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Bearing (degrees)	Relative Field	ERP (kW)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)
90	0.250	0.063	693.9	24.8	38.5
91	0.250	0.063	695.0	24.8	38.5
92	0.250	0.063	697.7	24.8	38.6
93	0.250	0.063	696.5	24.8	38.5
94	0.250	0.063	693.3	24.8	38.5
95	0.250	0.063	686.7	24.6	38.3
96	0.250	0.063	684.2	24.6	38.2
97	0.250	0.063	680.7	24.5	38.1
98	0.250	0.063	670.4	24.4	37.8
99	0.250	0.063	656.6	24.1	37.3
100	0.250	0.063	643.9	23.9	36.9
101	0.250	0.063	629.5	23.6	36.4
102	0.250	0.063	619.0	23.4	36.0
103	0.250	0.063	613.5	23.3	35.8
104	0.250	0.063	607.3	23.2	35.5
105	0.250	0.063	601.1	23.1	35.3
106	0.250	0.063	596.2	23.0	35.1
107	0.250	0.063	587.4	22.8	34.7
108	0.250	0.063	577.0	22.5	34.3
109	0.250	0.063	579.0	22.6	34.4
110	0.250	0.063	584.5	22.7	34.6
111	0.250	0.063	593.9	22.9	35.0
112	0.250	0.063	597.0	23.0	35.1
113	0.250	0.063	605.6	23.1	35.4
114	0.250	0.063	615.1	23.3	35.8
115	0.250	0.063	623.6	23.5	36.1
116	0.250	0.063	629.6	23.6	36.4
117	0.250	0.063	634.6	23.7	36.6
118	0.250	0.063	638.8	23.8	36.7
119	0.250	0.063	643.5	23.9	36.9
120	0.250	0.063	658.1	24.1	37.4
121	0.250	0.063	652.1	24.0	37.2
122	0.250	0.063	645.6	23.9	36.9
123	0.250	0.063	654.4	24.1	37.2
124	0.250	0.063	664.0	24.2	37.6
125	0.250	0.063	670.5	24.4	37.8
126	0.250	0.063	677.4	24.5	38.0
127	0.250	0.063	683.4	24.6	38.2
128	0.250	0.063	683.1	24.6	38.1
129	0.250	0.063	679.0	24.5	38.0
130	0.250	0.063	673.7	24.4	37.9

WVMH-FM
Western North Carolina Public Radio, Inc.
Mars Hill, North Carolina

Allocation Table

REFERENCE		CH# 213A - 90.5 MHz, Pwr= 0.43 kw, HAAT=392.4M, COR= 1250 M								DISPLAY DATES	
35 53 10 N		Average Protected F(50-50)= 29.2 km								DATA 02-23-05	
82 33 21 W		Ave. F(50-10) 40 dBu= 83.7 54 dBu= 44.8 80 dBu= 9.0 100 dBu= 1.5								SEARCH 02-24-05	
CH	CALL	TYPE	AZI.	DIST	LAT.	Pwr(kw)	COR(M)	PRO(km)	*IN*	*OUT*	
CITY	STATE		<--	FILE #	LNG.	HAAT(M)	INT(km)	LICENSEE	(Overlap	in km)	
213A	WVMHFM	CP CX	176.7	6.51	35 49 39	0.300	709	7.4	-38.22*<	-67.09*<	
Mars Hill	NC		356.7	BPED20011126ABB	82 33 06	-305	24.9	Western North Carolina Pub			
213A	WVMHFM	LIC HN	175.6	6.80	35 49 30	0.250	725	7.1	-36.97*<	-66.92*<	
Mars Hill	NC		355.6	BLED19831017AI	82 33 00	-280	23.8	Western North Carolina Pub			
213A	WUMC	LIC DC	27.3	51.69	36 17 58	0.500	530	8.5	15.45	17.30<	
Elizabethton	TN		207.3	BLED20000525AGV	82 17 28	-36	28.5	Milligan College			
213A	WWCU.C	CP DCX	225.9	71.13	35 26 23	0.050	1432	13.9	9.17	1.92	
Cullowhee	NC		45.9	BPED20010509AAU	83 07 11	260	46.4	Western Carolina University			
213A	WWCU.A	APP DCX	225.9	71.13	35 26 23	0.050	1432	13.9	9.17	1.92	
Cullowhee	NC		45.9	BMPED20040910AAW	83 07 11	260	46.4	Western Carolina University			
213A	WWCU	LIC C	221.4	85.03	35 18 40	0.760	706	9.5	37.82	22.29	
Cullowhee	NC		41.4	BLED20000703ADC	83 10 34	-465	32.4	Western Carolina University			
213A	WASUFM	LIC C	64.8	86.37	36 12 48	0.220	1036	6.9	40.16	10.18	
Boone	NC		244.8	BLED20000912AAR	81 41 10	-14	23.0	Appalachian State University			
214C3	961203	APP DVN	272.1	66.95	35 54 21	0.062	1116	24.8	8.71	12.94	
Newport	TN		92.1	BPED19961203ME	83 17 49	698	38.5	Bible Believers Network Inc			
212A	WCSK	LIC CN	357.8	71.16	36 31 37	0.195	719	19.1	16.93	12.95	
Kingsport	TN		177.8	BLED19810803AJ	82 35 12	240	28.3	Kingsport City Schools Bd.			
213A	WISEFM	LIC C	1.7	119.31	36 57 39	0.220	932	16.9	38.70	25.25	
Wise	VA		181.7	BLED20010328AAC	82 30 56	178	54.0	University of Virginia's C			
211C	WEPR	LIC CN	172.8	105.73	34 56 26	85.000	669	73.3	75.22	31.92	
Greenville	SC		352.8	BLED19870508KA	82 24 38	335	10.2	South Carolina Educational			
212C3	WFHE	LIC DCN	92.0	100.46	35 50 59	0.911	498	20.5	41.59	36.28	
Hickory	NC		272.0	BLED19951010KI	81 26 40	128	30.2	University Radio Foundation			
214A	951108	APP CX	22.1	84.23	36 35 19	0.120	649	14.0	50.69	51.81	
Bristol	VA		202.1	BPED19951108NC	82 12 03	168	21.0	Virginia Tech Foundation,			
214A	951108	APP CN	22.1	84.23	36 35 19	0.120	649	14.0	50.69	51.81	
Bristol	VA		202.1	BPED19951108NC	82 12 03	168	21.0	Virginia Tech Foundation,			
214A	941103	APP CN	21.4	86.81	36 36 49	0.500	576	13.5	52.46	52.00	
Bristol	VA		201.4	BPED19941103MC	82 12 02	79	20.2	American Family Association			
213C	WSMCFM	LIC DCN	254.6	251.97	35 15 20	38.967	705	74.2	65.14	114.46	
Collegedale	TN		74.6	BLED19940222KF	85 13 34	461	167.7	Southern Adventist University			
213C1	WTHL	LIC DC	308.4	226.13	37 07 52	50.000	485	54.3	58.17	91.45	
Somerset	KY		128.4	BLED19990930AAI	84 33 15	167	140.0	Somerset Educational Broad			
214C0	WFAE.C	CP DCX	111.1	181.20	35 17 14	100.000	544	73.8	45.07	62.76	
Charlotte	NC		291.1	BMPED20040206AAR	80 41 45	318	107.0	University Radio Foundatio			
062Z2C	WATETV	LI HY	276.4	125.84	36 00 13	100.000	858	126.0	193.0R	-67.2M	
Knoxville	TN		96.4	BLCT20020726ABM	83 56 35	548	13.1	Wate, G.p.			
06-1C	WVVA	LI HN	38.4	195.51	37 15 21	50.100	1157	97.6	193.0R	2.5M	
Bluefield	WV		218.4	BMLCT19880907KE	81 10 55	372	9.3	wvva Televison, Inc.			
06-1C	WVVA	CP HN	38.4	195.51	37 15 21	50.100	1162	98.0	193.0R	2.5M	
Bluefield	WV		218.4	BPCT20010725ADN	81 10 55	374	9.3	wvva Televison, Inc.			

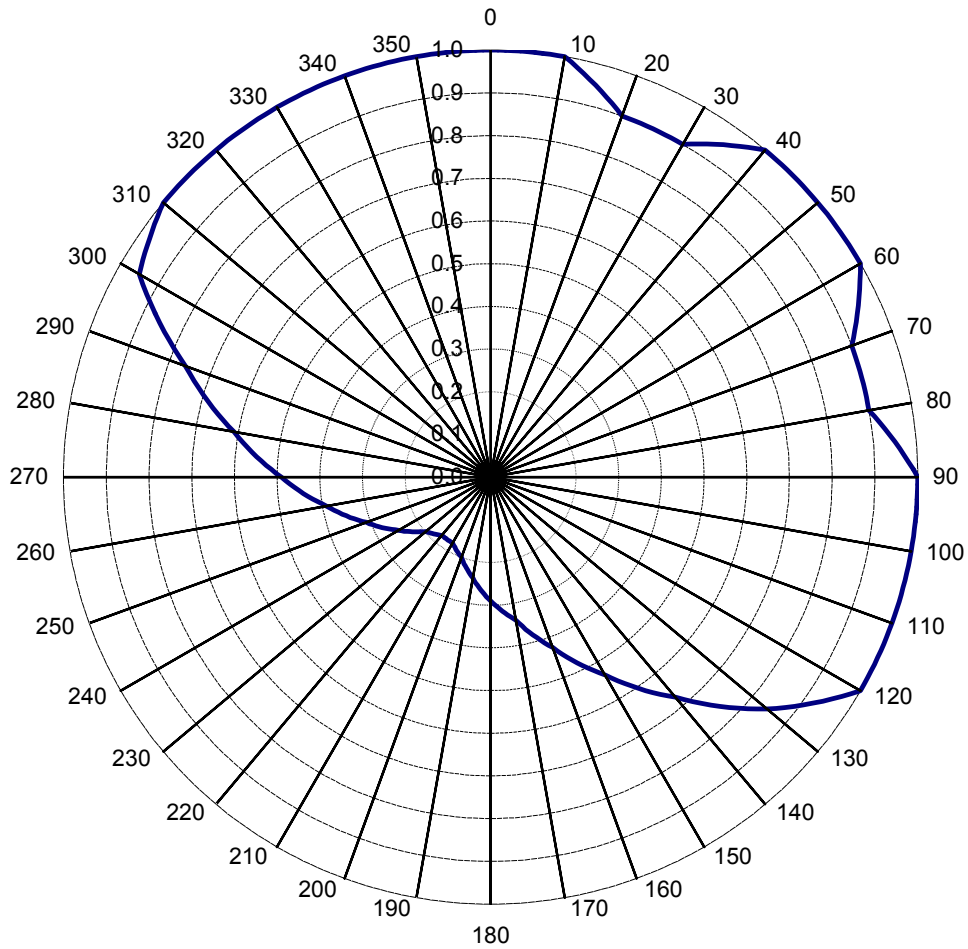
ERP and HAAT on direct-line with reference station.

• affixed to TV6 Margin= no direct-line contour overlap.

"*"Affixed to 'IN' or 'OUT' values = site inside protected contour.

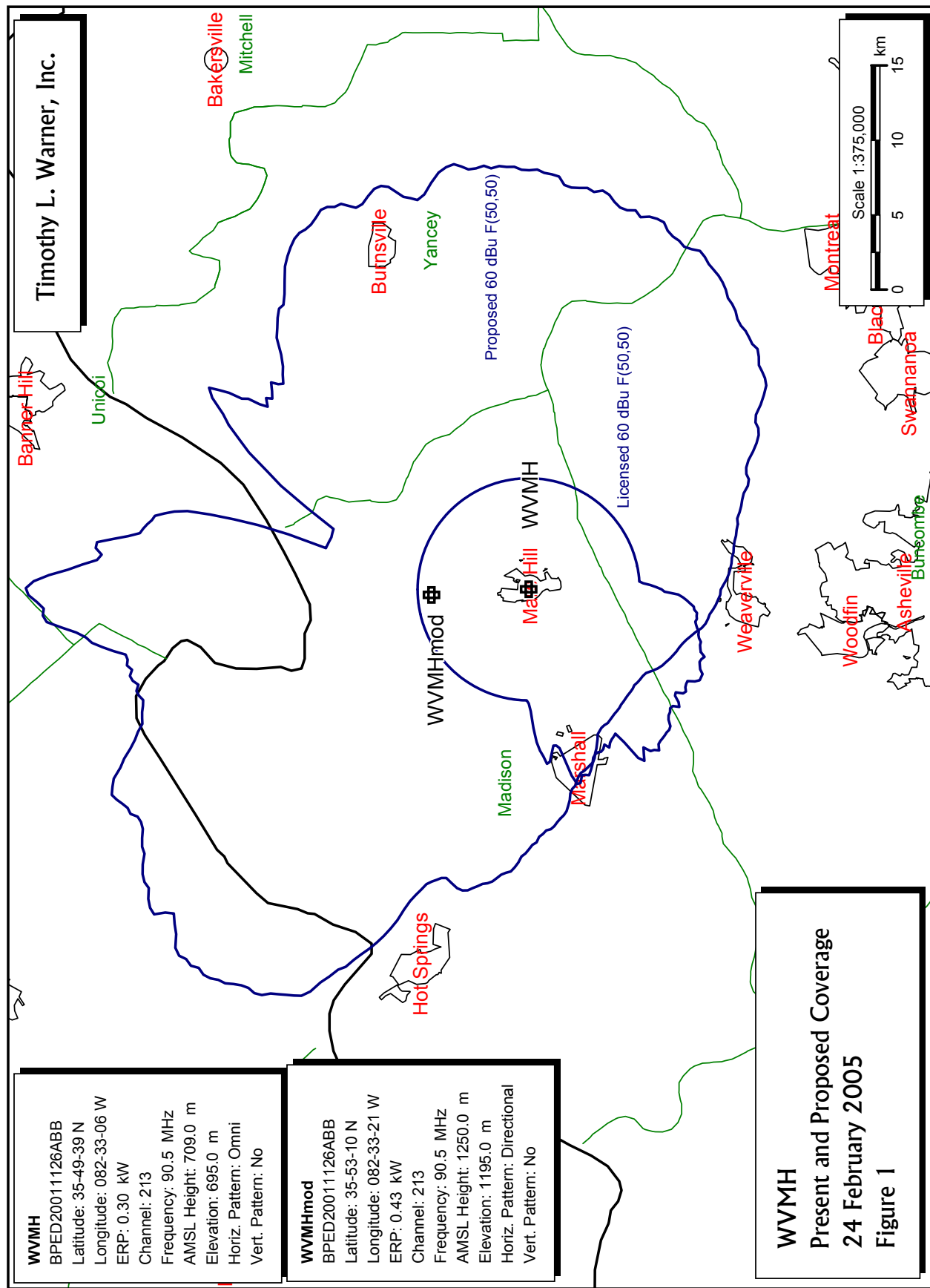
"<" = Contour Overlap

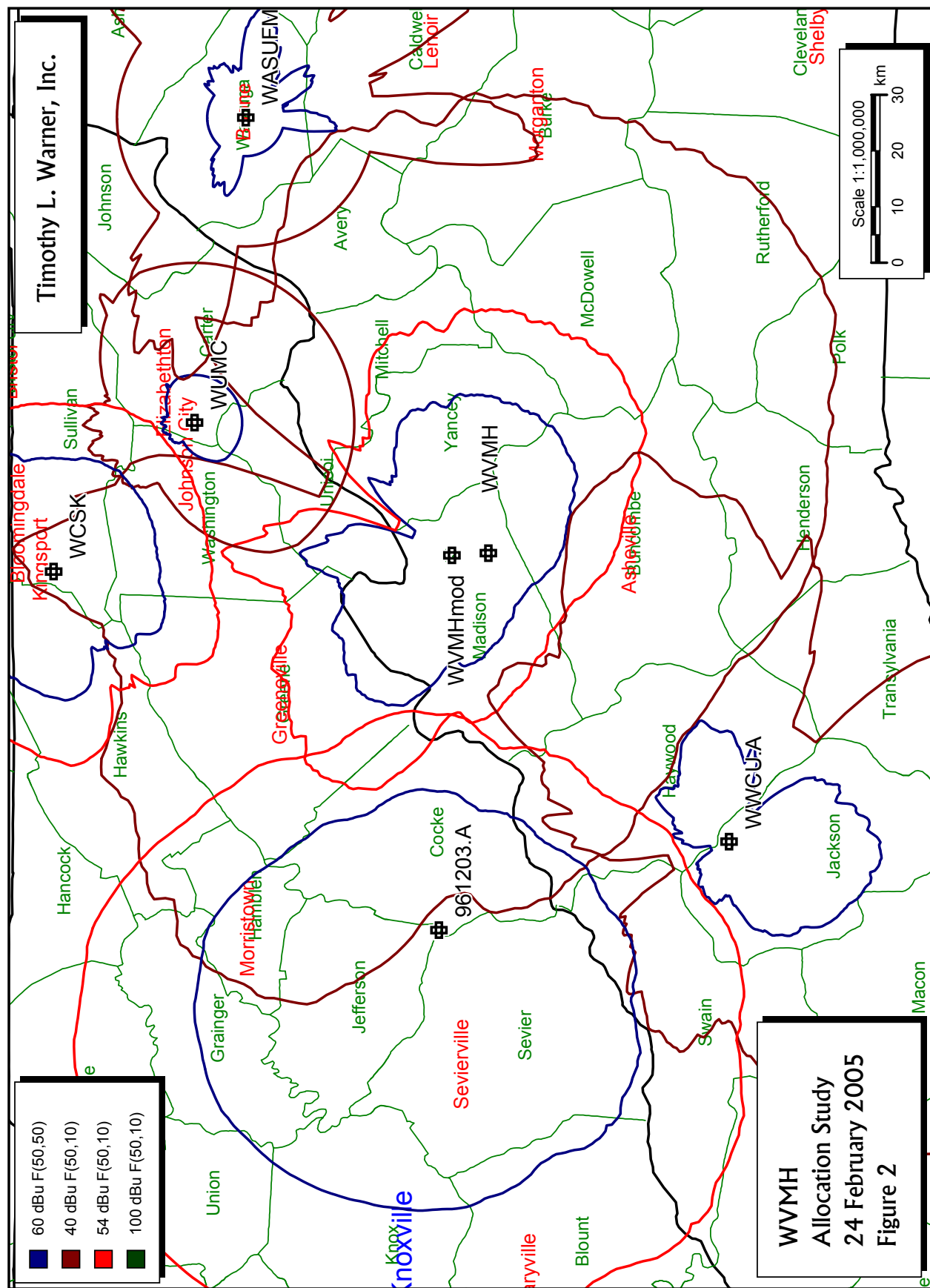
WVMH-FM
Western North Carolina Public Radio, Inc.
Mars Hill, North Carolina
Directional Antenna Horizontal Plane Relative Field Plot

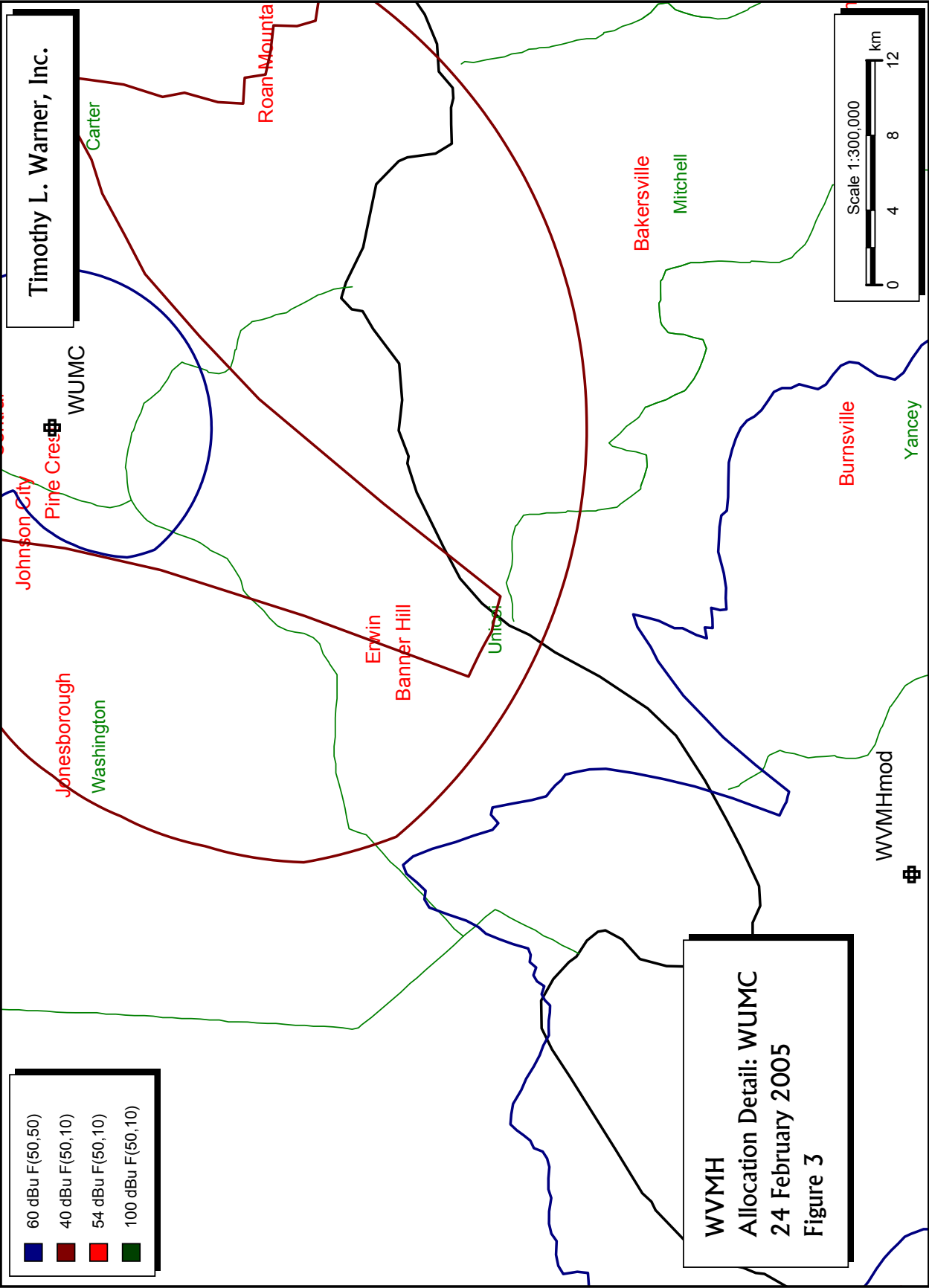


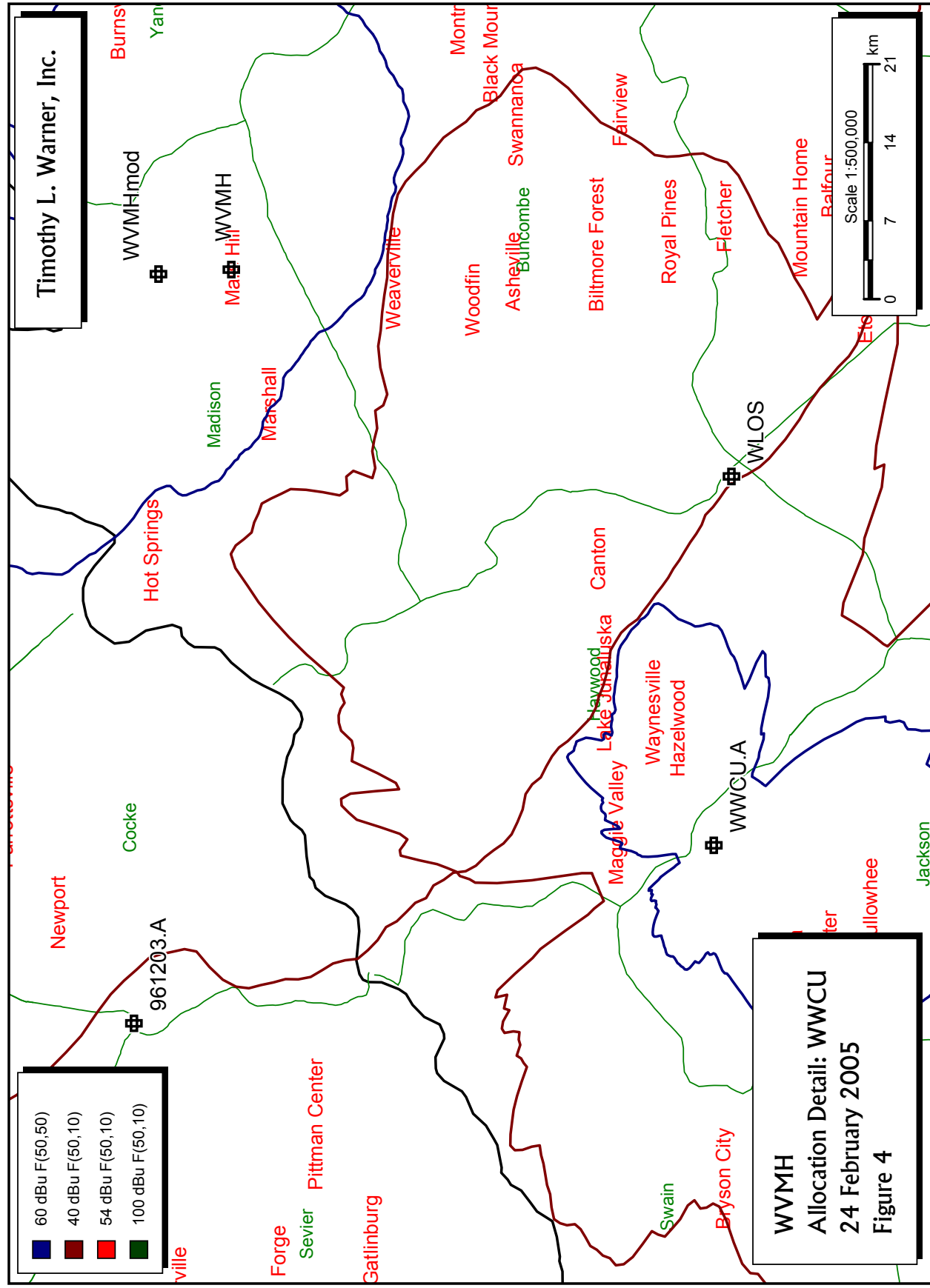
WVMH-FM
Western North Carolina Public Radio, Inc.
Mars Hill, North Carolina
Directional Antenna Horizontal Plane Relative Field Tabulation

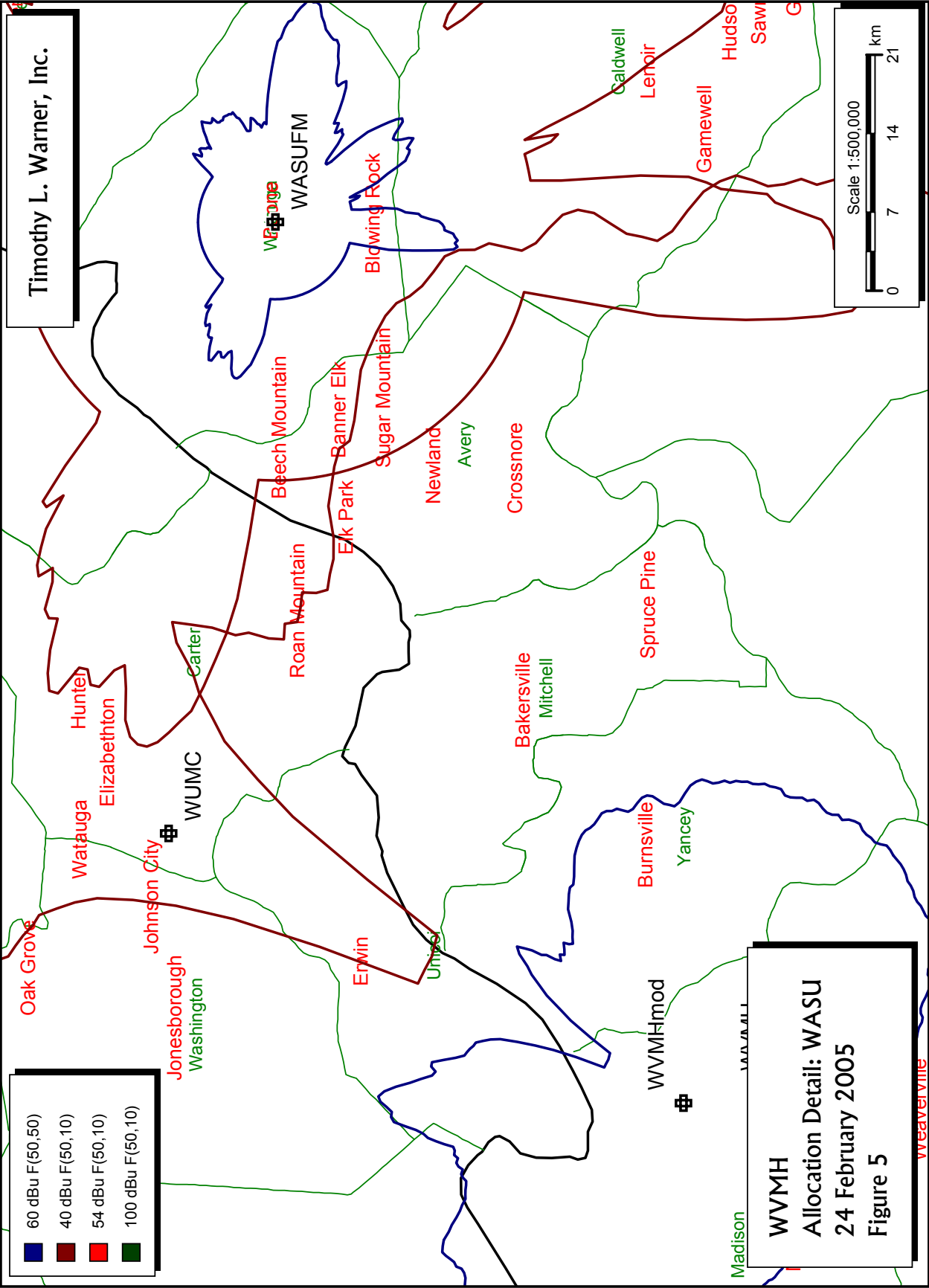
Bearing (degrees)	Relative Field		Bearing (degrees)	Relative Field
0	1.000		180	0.290
10	1.000		190	0.240
20	0.900		200	0.200
30	0.900		210	0.178
40	1.000		220	0.178
50	1.000		230	0.198
60	1.000		240	0.249
70	0.900		250	0.310
80	0.900		260	0.390
90	1.000		270	0.490
100	1.000		280	0.610
110	1.000		290	0.760
120	1.000		300	0.950
130	0.845		310	1.000
140	0.673		320	1.000
150	0.535		330	1.000
160	0.425		340	1.000
170	0.340		350	1.000

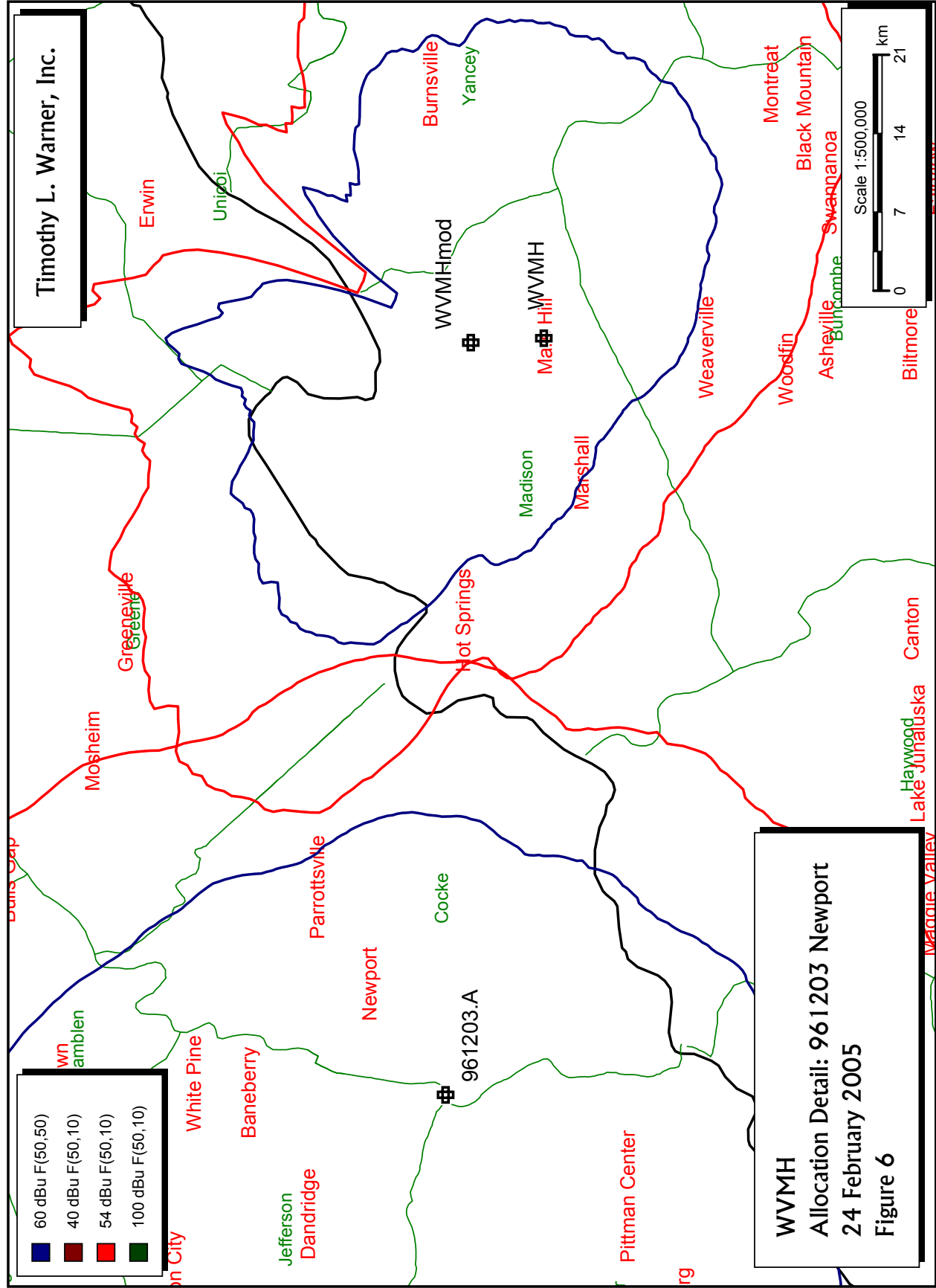


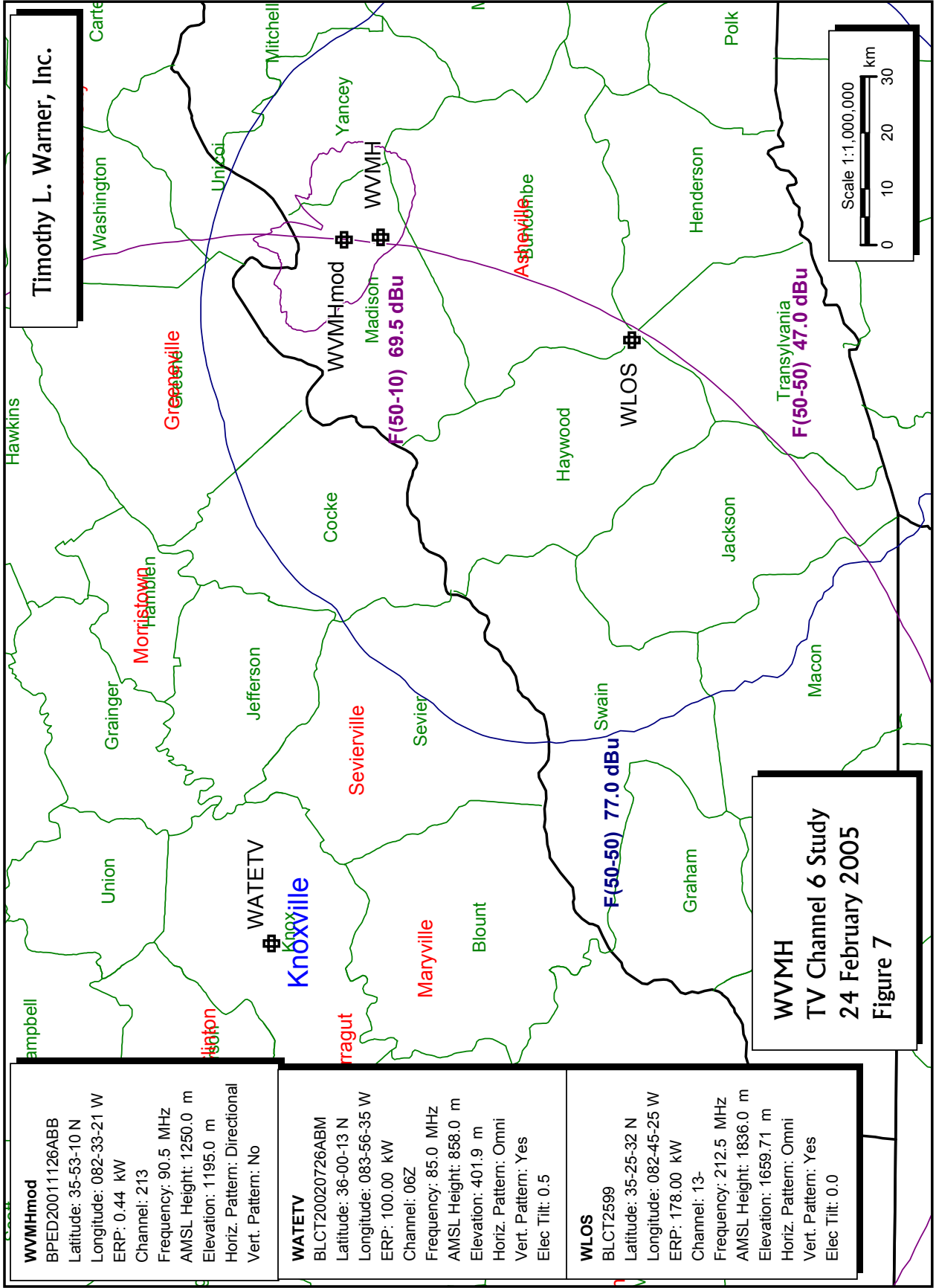












WVMHmod
BPED20011126ABB
Latitude: 35-53-10 N
Longitude: 082-33-21 W
ERP: 0.44 kW
Channel: 213
Frequency: 90.5 MHz
AMSL Height: 1250.0 m
Elevation: 1195.0 m
Horiz. Pattern: Directional
Vert. Pattern: No

WATETV
BLCT20020726ABM
Latitude: 36-00-13 N
Longitude: 083-56-35 W
ERP: 100.00 kW
Channel: 06Z
Frequency: 85.0 MHz
AMSL Height: 858.0 m
Elevation: 401.9 m
Horiz. Pattern: Omni
Vert. Pattern: Yes
Elec Tilt: 0.5

WLOS
BLCT2599
Latitude: 35-25-32 N
Longitude: 082-45-25 W
ERP: 178.00 kW
Channel: 13-
Frequency: 212.5 MHz
AMSL Height: 1836.0 m
Elevation: 1659.71 m
Horiz. Pattern: Omni
Vert. Pattern: Yes
Elec Tilt: 0.0

WVMH
TV Channel 6 Study
24 February 2005
Figure 7