

**WYQS**

**Western North Carolina Public Radio, Inc.**

**Mars Hill, North Carolina**

**Engineering Exhibit**

**September 2007**

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**Timothy L. Warner, Inc.**  
Post Office Box 8045  
Asheville, North Carolina 28814-8045  
(828) 258-1238  
twarner@tlwinc.net

WYQS  
Western North Carolina Public Radio, Inc.  
Mars Hill, North Carolina

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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 Allotment Exhibit for 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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Timothy L. Warner, P.E.  
Post Office Box 8045  
Asheville, North Carolina 28801  
(828) 258-1238  
twarner@tlwinc.net  
5 September 2007

## Narrative

WYQS is licensed on Channel 213 A in Mars Hill, North Carolina, with a construction permit for modified facilities, BPED-20050228ABE. This Exhibit supports a minor modification application for the WYQS construction permit. The modification consists of a change in tower, change in location by 2 seconds of latitude and 2 seconds of longitude, a decrease in elevation Above Mean Sea Level by 2 meters, a reduction in Effective Radiated Power from 430 Watts to 250 Watts, and a new directional antenna.

## Allocations

An allocations table is included in this exhibit. Figure 1 shows the licensed and proposed protected service contours for WYQS. The proposed contours are within the authorized contours at all azimuths except 182° to 209° and 271° to 290°. As shown, Mars Hill, the community of license, remains entirely within the proposed 60 dBu. Figure 2 is an allocations study for all facilities where the lack of overlap of contours requires more than tabular study. Additional figures show individual protections where the lack of overlap is less than 5 kilometers.

The proposed facilities provide the contour protection required in §73.509 for all facilities and applications.

Figure 3 shows the lack of prohibited contour overlap with co-channel station WWCU, Cullowhee, North Carolina. Table 2 is the tabular output of FMOVER, showing the lack of prohibited contour overlap between the proposed WYQS facilities and the licensed facilities of WWCU. Figure 4 shows the lack of prohibited contour overlap with first adjacent construction permit for BPED-19961203ME, Newport, Tennessee. Table 3 is the tabular output of

FMOVER, showing the lack of prohibited contour overlap between the proposed WYQS facilities and the authorized facilities for Newport. Figure 5 shows a lack of prohibited overlap with co-channel stations WUMC, Elizabethton, Tennessee, and WASU, Boone, North Carolina, and its proposed facilities. Table 4 is the tabular output of FMOVER, showing the lack of prohibited contour overlap between the proposed WYQS facilities and the authorized facilities of WUMC.

### **Terrain Data**

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.

### **Television Channel 6**

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 0.265 kW, is plotted on Figure 6 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 directional antenna. The pattern is tabulated and plotted as Figure 7 of this Exhibit. The antenna is an E. R. I. 1093-1CP-DA. The antenna will comply with the requirements of §73.316. A complete proof of performance from the antenna manufacturer will be provided in the license application. The antenna will be mounted to the tower as specified in the manufacturer's mounting instructions. The antenna will not be mounted on the top of an antenna tower which includes a top-mounted platform larger than the nominal cross-sectional area of the tower in the horizontal plane. No other antenna of any type will be mounted on the same tower level as a directional antenna, and that no antenna of any type will be mounted within any horizontal or vertical distance specified by the antenna manufacturer as being necessary for proper directional operation. Antenna installation will be supervised by an engineer experienced in directional antennas. The supervising engineer will provide a statement of qualifications and a statement that the antenna was assembled and installed according to the manufacturer's instruction. A registered land surveyor will verify the orientation of the antenna and provide a statement that the antenna is properly oriented. There are no other FM or TV broadcasting antennas within 60 meters of the proposed site. There are no AM broadcasting antennas within 3.2 kilometers of the proposed site.

Table 1: Allocation Table

Western North Carolina Public Radio, Inc.												
Allocation Study												
REFERENCE		CH# 213A - 90.5 MHz, Pwr= 0.25 kw, HAAT= 388.6 M, COR= 1248 M								DISPLAY DATES		
35 53 12.0 N.		Average Protected F(50-50)= 25.5 km								DATA 08-30-07		
82 33 23.0 W.										SEARCH 08-30-07		
CH	CALL	TYPE ANT		AZI.	DIST	LAT.		Pwr(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG.		HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
213A WYQS		CP	DCX	140.8	0.08	35 53	10.0	0.430	73.1	24.9	-100.25*	-107.15*
Mars Hill			NC	320.8	BPED20050228ABE	82 33	21.0	392	1250	Western North Carolina Pub		
This is the construction permit being modified.												
213A WYQS		LIC	CX	176.3	6.58	35 49	39.0	0.300	24.9	7.4	-38.08*	-66.85*
Mars Hill			NC	356.3	BLED20041213ABT	82 33	06.0	-80	709	Western North Carolina Pub		
This is the licensed facility being modified.												
06Z2C WATETV		LI	HY	276.4	125.76	36 00	13.0	100.000		126.0	139.0R	-13.2M
Knoxville			TN	95.5	BMLCT20041203AEH	83 56	34.0	548	859	WATE, G.P.		
213A WWCU		LIC	DEX	225.8	71.14	35 26	23.0	0.240	46.6	14.0	8.90	1.57
Cullowhee			NC	45.5	BLED20040819AAB	83 07	11.0	289	1432	Western Carolina University		
214C2 961203ME		CP	DVN	272.0	66.89	35 54	21.0	1.000	38.6	24.8	8.52	12.74
Newport			TN	91.6	BPED19961203ME	83 17	49.0	711	1116	Bible Broadcasting Network		
Vertical Polarization Only												
213A WUMC		LIC	DC	27.4	51.66	36 17	58.0	0.500	28.5	8.5	16.04	19.40
Elizabethton			TN	207.5	BLED20000525AGV	82 17	28.0	-87	530	Milligan College		
213A WASU-FM		LIC	C	64.8	86.39	36 12	48.0	0.220	23.0	6.9	43.29	17.63
Boone			NC	245.4	BLED20000912AAR	81 41	10.0	19	1036	Appalachian State University		
212A WCSK		LIC	CN	357.8	71.10	36 31	37.0	0.195	28.3	19.0	20.02	17.95
Kingsport			TN	177.8	BLED19810803AJ	82 35	12.0	280	719	Kingsport City Schools Bd.		
213A WISE-FM		LIC	C	1.7	119.25	36 57	39.0	0.220	54.1	17.0	41.50	31.22
Wise			VA	181.8	BLED20010328AAC	82 30	56.0	204	932	Virginia Tech Foundation,		
211C WEPR		LIC	CN	172.8	105.80	34 56	26.0	85.000	10.2	73.3	75.40	31.99
Greenville			SC	352.9	BLED19870508KA	82 24	38.0	361	669	South Carolina Educational		
212C3 WFHE		LIC	DCN	92.0	100.51	35 50	59.0	4.000	30.3	20.6	45.28	42.08
Hickory			NC	272.7	BLED19951010KI	81 26	40.0	127	498	University Radio Foundation		
214C0 WFAE		LIC	DCX	111.1	181.27	35 17	14.0	100.000	107.0	73.8	48.70	68.40
Charlotte			NC	292.2	BLED20050223ACA	80 41	45.0	331	544	University Radio Foundation		

Terrain database is NED 03 SEC

ERP and HAAT on direct-line with reference station.

Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)

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

Table 2: FMOVER Study of WVCU

08-30-2007 NED 03 SEC Terrain Data				FMOver Analysis				
WYQS.C				WVCU BLED20040819AAB				
Channel = 213A				Channel = 213A				
Max ERP = 0.25 kW				Max ERP = 0.24 kW				
RCAMSL = 1247.25 M				RCAMSL = 1432 M				
N. Lat. 35 53 12.0				N. Lat. 35 26 23.0				
W. Lng. 82 33 23.0				W. Lng. 83 07 11.0				
Protected				Interfering				
60 dBu				40 dBu				
Azimuth (degrees)	WYQS.C ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	WVCU ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
166.0	000.0597	0521.2	021.0	062.2	000.0408	0499.0	063.3	39.57
167.0	000.0569	0527.3	020.9	062.1	000.0405	0496.7	063.0	39.59
168.0	000.0542	0533.2	020.8	061.9	000.0401	0494.2	062.6	39.59
169.0	000.0516	0540.0	020.7	061.7	000.0397	0492.1	062.3	39.61
170.0	000.0491	0541.9	020.4	061.4	000.0391	0489.0	062.1	39.56
171.0	000.0477	0545.6	020.4	061.2	000.0388	0487.2	061.7	39.58
172.0	000.0463	0548.0	020.3	061.0	000.0384	0484.9	061.4	39.58
173.0	000.0449	0550.3	020.2	060.8	000.0380	0482.3	061.1	39.57
174.0	000.0436	0553.9	020.1	060.6	000.0376	0479.8	060.9	39.56
175.0	000.0422	0555.5	020.0	060.4	000.0372	0475.7	060.6	39.50
176.0	000.0409	0555.1	019.8	060.1	000.0366	0470.4	060.3	39.38
177.0	000.0396	0555.0	019.6	059.8	000.0366	0464.8	060.1	39.32
178.0	000.0384	0552.2	019.4	059.4	000.0368	0457.9	059.9	39.23
179.0	000.0371	0553.6	019.3	059.2	000.0370	0452.3	059.7	39.19
180.0	000.0359	0560.2	019.2	059.0	000.0371	0448.5	059.4	39.21
181.0	000.0350	0562.1	019.1	058.7	000.0372	0443.3	059.2	39.18
182.0	000.0340	0564.1	019.0	058.5	000.0374	0437.5	058.9	39.13
183.0	000.0331	0563.6	018.9	058.2	000.0375	0431.3	058.8	39.07
184.0	000.0322	0564.8	018.8	057.9	000.0377	0425.4	058.6	39.01
185.0	000.0313	0568.2	018.7	057.7	000.0378	0420.2	058.3	38.98
186.0	000.0305	0571.5	018.6	057.4	000.0380	0414.6	058.1	38.94
187.0	000.0296	0566.1	018.3	057.0	000.0382	0405.3	058.0	38.76
188.0	000.0287	0558.6	018.0	056.6	000.0385	0396.7	058.0	38.59
189.0	000.0279	0557.0	017.9	056.2	000.0387	0391.3	057.9	38.51
190.0	000.0271	0554.8	017.7	055.9	000.0389	0385.1	057.8	38.41
191.0	000.0264	0551.9	017.5	055.5	000.0391	0378.4	057.7	38.29
192.0	000.0258	0554.1	017.4	055.3	000.0392	0371.0	057.5	38.16
193.0	000.0252	0556.2	017.3	055.0	000.0394	0362.3	057.4	37.97
194.0	000.0246	0556.6	017.2	054.7	000.0395	0352.4	057.3	37.72
195.0	000.0239	0558.4	017.1	054.4	000.0397	0343.7	057.1	37.51
196.0	000.0233	0558.0	017.0	054.1	000.0399	0334.5	057.1	37.25
197.0	000.0228	0557.3	016.9	053.8	000.0401	0325.9	057.0	37.01
198.0	000.0222	0552.6	016.6	053.4	000.0403	0320.4	057.0	36.85
199.0	000.0216	0542.4	016.3	053.0	000.0406	0322.8	057.1	36.92
200.0	000.0210	0536.6	016.1	052.6	000.0408	0324.8	057.1	36.99
201.0	000.0202	0536.9	015.9	052.3	000.0410	0323.8	057.1	36.98
202.0	000.0194	0540.9	015.8	052.0	000.0412	0321.0	057.1	36.92
203.0	000.0186	0541.0	015.6	051.6	000.0414	0315.8	057.1	36.75
204.0	000.0178	0542.9	015.4	051.3	000.0415	0309.4	057.1	36.55



WYQS.C				WWCU				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
205.0	000.0171	0550.8	015.4	051.1	000.0417	0303.4	057.1	36.40
206.0	000.0164	0553.5	015.2	050.7	000.0419	0298.5	057.1	36.24
207.0	000.0156	0556.4	015.0	050.4	000.0421	0295.7	057.1	36.16
208.0	000.0149	0560.9	014.9	050.1	000.0423	0293.8	057.2	36.10
209.0	000.0142	0568.7	014.8	049.9	000.0426	0291.4	057.1	36.06
210.0	000.0136	0571.5	014.6	049.6	000.0431	0287.8	057.2	35.97
211.0	000.0136	0569.0	014.6	049.3	000.0436	0284.6	057.2	35.92
212.0	000.0136	0565.7	014.6	049.1	000.0441	0279.2	057.1	35.80
213.0	000.0136	0564.6	014.5	048.8	000.0445	0273.4	057.1	35.67
214.0	000.0136	0564.6	014.5	048.6	000.0450	0267.5	057.0	35.54
215.0	000.0136	0561.1	014.5	048.3	000.0455	0261.8	057.0	35.39
216.0	000.0136	0561.2	014.5	048.1	000.0459	0256.9	056.9	35.28
217.0	000.0136	0555.4	014.4	047.8	000.0464	0252.1	057.0	35.15
218.0	000.0136	0556.4	014.4	047.5	000.0469	0248.5	056.9	35.09
219.0	000.0136	0559.0	014.5	047.3	000.0474	0245.4	056.8	35.05
220.0	000.0136	0564.8	014.5	047.1	000.0478	0244.8	056.7	35.12
221.0	000.0140	0571.4	014.8	046.8	000.0483	0246.6	056.4	35.33
222.0	000.0144	0575.0	015.0	046.6	000.0488	0251.3	056.2	35.63
223.0	000.0149	0577.7	015.2	046.3	000.0493	0255.9	056.0	35.92
224.0	000.0154	0580.6	015.4	046.1	000.0498	0259.1	055.8	36.16
225.0	000.0158	0585.3	015.6	045.8	000.0503	0260.6	055.6	36.34
226.0	000.0163	0581.0	015.6	045.5	000.0509	0259.5	055.5	36.38
227.0	000.0168	0580.0	015.8	045.2	000.0514	0257.9	055.4	36.42
228.0	000.0172	0571.5	015.8	045.0	000.0520	0255.2	055.4	36.37
229.0	000.0177	0564.9	015.8	044.7	000.0526	0251.1	055.4	36.27
230.0	000.0182	0556.9	015.8	044.4	000.0531	0246.2	055.5	36.13
231.0	000.0191	0551.6	015.9	044.1	000.0537	0241.3	055.3	36.05
232.0	000.0201	0546.0	016.0	043.8	000.0544	0237.3	055.3	35.98
233.0	000.0210	0544.0	016.2	043.5	000.0550	0235.5	055.1	36.03
234.0	000.0220	0533.0	016.2	043.2	000.0556	0236.5	055.1	36.10
235.0	000.0230	0538.1	016.5	042.8	000.0564	0239.2	054.9	36.36
236.0	000.0241	0541.7	016.8	042.5	000.0571	0243.2	054.7	36.65
237.0	000.0251	0541.9	017.0	042.1	000.0579	0247.3	054.5	36.91
238.0	000.0262	0543.4	017.3	041.7	000.0587	0250.2	054.4	37.13
239.0	000.0273	0536.0	017.3	041.4	000.0593	0253.8	054.4	37.30
240.0	000.0284	0531.6	017.4	041.1	000.0601	0257.2	054.4	37.47
241.0	000.0297	0525.9	017.5	040.7	000.0608	0261.0	054.4	37.66
242.0	000.0310	0516.6	017.6	040.4	000.0615	0263.6	054.5	37.76
243.0	000.0323	0508.0	017.6	040.1	000.0622	0266.2	054.6	37.85
244.0	000.0337	0500.3	017.6	039.8	000.0624	0267.4	054.7	37.88
245.0	000.0351	0495.2	017.7	039.5	000.0624	0268.9	054.7	37.91
246.0	000.0365	0491.4	017.8	039.1	000.0624	0270.8	054.8	37.96
247.0	000.0379	0494.2	018.1	038.7	000.0624	0272.2	054.7	38.04
248.0	000.0394	0486.1	018.1	038.4	000.0624	0273.5	054.9	38.03
249.0	000.0409	0487.0	018.3	038.1	000.0624	0276.2	054.8	38.12
250.0	000.0424	0485.8	018.4	037.7	000.0624	0279.4	054.9	38.22
251.0	000.0446	0480.2	018.5	037.3	000.0624	0281.3	055.0	38.25
252.0	000.0469	0486.8	018.9	036.8	000.0624	0281.4	054.8	38.31
253.0	000.0492	0486.2	019.1	036.4	000.0624	0280.3	054.8	38.27
254.0	000.0516	0480.4	019.2	036.1	000.0624	0278.5	055.0	38.15
255.0	000.0541	0469.1	019.2	035.8	000.0624	0276.8	055.2	38.00
256.0	000.0565	0466.3	019.4	035.5	000.0624	0276.5	055.3	37.95
257.0	000.0591	0463.5	019.5	035.1	000.0624	0276.4	055.4	37.91
258.0	000.0617	0458.3	019.6	034.8	000.0624	0274.4	055.5	37.78
259.0	000.0644	0450.4	019.6	034.5	000.0624	0272.6	055.8	37.63

WYQS.C				WWCU				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
260.0	000.0671	0439.1	019.6	034.3	000.0624	0271.8	056.0	37.50
261.0	000.0706	0437.1	019.8	033.9	000.0624	0272.8	056.1	37.49
262.0	000.0741	0426.1	019.8	033.6	000.0624	0273.7	056.4	37.42
263.0	000.0778	0419.8	019.9	033.3	000.0624	0274.4	056.6	37.36
264.0	000.0816	0406.8	019.8	033.2	000.0624	0274.8	056.9	37.26
265.0	000.0854	0387.0	019.6	033.1	000.0624	0274.9	057.3	37.09
266.0	000.0893	0363.9	019.2	033.2	000.0624	0274.8	057.8	36.90
267.0	000.0934	0343.9	018.9	033.2	000.0624	0274.7	058.2	36.73
268.0	000.0975	0336.3	018.9	033.0	000.0624	0274.9	058.5	36.63
269.0	000.1017	0332.0	019.0	032.8	000.0624	0275.5	058.7	36.56
270.0	000.1060	0329.4	019.2	032.5	000.0624	0277.0	058.9	36.53
271.0	000.1115	0327.3	019.3	032.2	000.0624	0278.4	059.1	36.51
272.0	000.1171	0335.1	019.8	031.6	000.0624	0279.8	059.2	36.54
273.0	000.1229	0342.0	020.2	031.1	000.0624	0278.8	059.3	36.46
274.0	000.1288	0349.0	020.7	030.6	000.0624	0274.7	059.4	36.28
275.0	000.1349	0368.1	021.4	029.8	000.0619	0263.6	059.4	35.85
276.0	000.1411	0384.7	022.1	029.0	000.0600	0251.1	059.5	35.25
277.0	000.1474	0402.1	022.8	028.3	000.0582	0241.7	059.6	34.74
278.0	000.1539	0412.5	023.3	027.7	000.0568	0233.3	059.8	34.26
279.0	000.1605	0422.3	023.8	027.1	000.0555	0224.6	060.0	33.73
280.0	000.1673	0431.1	024.3	026.5	000.0542	0216.8	060.2	33.22
281.0	000.1748	0435.5	024.7	026.1	000.0532	0210.1	060.5	32.75
282.0	000.1825	0444.1	025.2	025.5	000.0519	0199.2	060.8	32.09
283.0	000.1904	0454.7	025.7	024.9	000.0506	0191.2	061.1	31.52
284.0	000.1984	0456.4	026.0	024.5	000.0498	0185.8	061.5	31.09
285.0	000.2066	0467.5	026.6	023.9	000.0484	0171.4	061.9	30.20
286.0	000.2149	0479.0	027.3	023.3	000.0471	0160.2	062.2	29.39

08-30-2007 NED 03 SEC Terrain Data

WWCU BLED20040819AAB

Channel = 213A

Max ERP = 0.24 kW

RCAMSL = 1432 M

N. Lat. 35 26 23.0

W. Lng. 83 07 11.0

Protected

60 dBu

WYQS.C

Channel = 213A

Max ERP = 0.25 kW

RCAMSL = 1247.25 M

N. Lat. 35 53 12.0

W. Lng. 82 33 23.0

Interfering

40 dBu

Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
346.0	000.0145	-0012.3	003.5	228.3	000.0174	0571.0	069.5	35.40
347.0	000.0146	0008.0	003.5	228.3	000.0174	0571.1	069.4	35.41
348.0	000.0148	0035.6	003.8	228.5	000.0175	0570.0	069.2	35.49
349.0	000.0149	0063.0	005.1	229.4	000.0179	0562.4	068.5	35.73
350.0	000.0150	0085.6	006.0	230.0	000.0182	0556.9	068.0	35.88
351.0	000.0157	0098.8	006.5	230.3	000.0185	0554.0	067.6	36.02
352.0	000.0165	0100.4	006.6	230.4	000.0186	0553.7	067.4	36.08
353.0	000.0172	0105.0	006.8	230.5	000.0187	0553.1	067.2	36.17
354.0	000.0180	0104.9	006.9	230.5	000.0187	0553.1	067.1	36.22
355.0	000.0188	0109.5	007.1	230.6	000.0188	0552.6	066.8	36.31
356.0	000.0196	0115.3	007.4	230.7	000.0189	0552.1	066.6	36.41
357.0	000.0205	0128.7	007.8	230.9	000.0191	0551.6	066.2	36.58
358.0	000.0213	0142.2	008.4	231.2	000.0194	0551.1	065.8	36.77
359.0	000.0222	0140.2	008.4	231.2	000.0193	0551.4	065.7	36.81
000.0	000.0231	0134.1	008.3	231.0	000.0191	0551.6	065.6	36.80
001.0	000.0235	0129.7	008.2	230.9	000.0190	0551.7	065.6	36.78
002.0	000.0240	0135.2	008.4	230.9	000.0191	0551.7	065.3	36.88
003.0	000.0244	0150.8	008.9	231.2	000.0193	0551.3	064.9	37.10
004.0	000.0249	0170.6	009.6	231.6	000.0197	0548.9	064.3	37.32
005.0	000.0253	0177.2	009.8	231.6	000.0197	0548.4	064.0	37.42
006.0	000.0258	0183.5	010.1	231.6	000.0197	0548.2	063.7	37.52
007.0	000.0263	0183.1	010.1	231.5	000.0196	0548.9	063.6	37.57
008.0	000.0268	0172.8	009.9	231.3	000.0194	0550.9	063.6	37.53
009.0	000.0273	0150.2	009.2	230.7	000.0189	0552.0	064.0	37.30
010.0	000.0277	0130.1	008.5	230.3	000.0185	0554.4	064.4	37.11
011.0	000.0289	0131.0	008.6	230.2	000.0184	0554.7	064.2	37.17
012.0	000.0301	0144.3	009.2	230.4	000.0186	0553.4	063.7	37.37
013.0	000.0313	0164.1	010.0	230.7	000.0189	0552.0	063.0	37.66
014.0	000.0325	0161.8	010.0	230.6	000.0188	0552.4	062.9	37.68
015.0	000.0337	0159.5	010.0	230.5	000.0187	0553.1	062.7	37.70
016.0	000.0350	0159.4	010.1	230.4	000.0186	0553.5	062.6	37.75
017.0	000.0363	0167.8	010.5	230.5	000.0187	0553.2	062.2	37.90
018.0	000.0376	0168.8	010.6	230.4	000.0186	0553.7	062.0	37.96
019.0	000.0390	0168.1	010.7	230.3	000.0185	0554.3	061.8	38.00
020.0	000.0403	0165.5	010.7	230.1	000.0183	0555.6	061.7	38.02
021.0	000.0423	0160.2	010.6	229.9	000.0182	0557.4	061.7	38.03
022.0	000.0444	0161.7	010.8	229.9	000.0182	0558.2	061.4	38.12
023.0	000.0465	0158.0	010.7	229.7	000.0181	0560.0	061.4	38.16
024.0	000.0486	0173.0	011.4	229.8	000.0181	0558.8	060.7	38.38
025.0	000.0508	0192.3	012.1	229.9	000.0182	0557.6	059.9	38.62
026.0	000.0530	0208.6	012.7	230.0	000.0182	0557.2	059.3	38.84
027.0	000.0553	0223.4	013.3	230.0	000.0182	0557.0	058.7	39.05
028.0	000.0576	0238.1	013.8	230.0	000.0182	0557.2	058.1	39.25
029.0	000.0600	0250.9	014.3	229.9	000.0182	0557.6	057.6	39.44

WWCU				WCQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
030.0	000.0624	0266.5	014.9	229.9	000.0182	0558.0	056.9	39.67
031.0	000.0624	0278.4	015.3	229.8	000.0181	0559.4	056.5	39.83
032.0	000.0624	0278.9	015.3	229.5	000.0180	0561.8	056.4	39.87
033.0	000.0624	0274.9	015.2	229.2	000.0178	0563.5	056.4	39.85
034.0	000.0624	0272.2	015.1	228.9	000.0177	0565.6	056.4	39.84
035.0	000.0624	0276.0	015.2	228.7	000.0176	0568.0	056.3	39.91
036.0	000.0624	0277.9	015.3	228.4	000.0175	0570.2	056.1	39.95
037.0	000.0624	0281.5	015.4	228.2	000.0173	0571.3	056.0	39.99
038.0	000.0624	0276.7	015.2	227.9	000.0172	0571.8	056.1	39.93
039.0	000.0624	0271.4	015.1	227.6	000.0171	0573.7	056.2	39.88
040.0	000.0624	0266.7	014.9	227.3	000.0169	0577.3	056.3	39.86
041.0	000.0602	0258.3	014.5	227.0	000.0168	0580.0	056.6	39.74
042.0	000.0581	0248.1	014.1	226.7	000.0166	0579.7	057.0	39.56
043.0	000.0560	0237.8	013.7	226.5	000.0165	0578.8	057.4	39.38
044.0	000.0539	0240.1	013.7	226.2	000.0164	0579.2	057.5	39.33
045.0	000.0519	0255.7	013.9	226.0	000.0163	0581.1	057.2	39.43
046.0	000.0499	0259.7	013.9	225.7	000.0162	0584.6	057.2	39.44
047.0	000.0480	0245.0	013.4	225.5	000.0161	0587.1	057.7	39.26
048.0	000.0460	0255.9	013.6	225.3	000.0159	0586.5	057.6	39.27
049.0	000.0442	0277.9	014.0	225.0	000.0158	0585.3	057.1	39.38
050.0	000.0423	0292.7	014.2	224.7	000.0157	0585.4	056.9	39.42
051.0	000.0417	0302.4	014.4	224.5	000.0156	0584.8	056.8	39.43
052.0	000.0411	0321.3	014.8	224.2	000.0154	0582.2	056.4	39.48
053.0	000.0405	0322.6	014.8	223.9	000.0153	0579.9	056.5	39.40
054.0	000.0400	0332.0	015.0	223.6	000.0152	0578.9	056.4	39.39
055.0	000.0394	0362.6	015.6	223.2	000.0150	0578.2	055.8	39.52
056.0	000.0388	0387.4	016.0	222.9	000.0148	0577.3	055.4	39.59
057.0	000.0382	0405.3	016.3	222.5	000.0147	0576.4	055.2	39.61
058.0	000.0376	0427.6	016.7	222.1	000.0145	0575.3	054.9	39.64
059.0	000.0371	0448.9	017.0	221.7	000.0143	0573.7	054.7	39.65
060.0	000.0365	0468.9	017.4	221.3	000.0141	0573.1	054.5	39.66
061.0	000.0384	0484.7	017.9	220.8	000.0139	0569.4	054.0	39.69
062.0	000.0403	0495.9	018.4	220.3	000.0137	0566.7	053.7	39.69
063.0	000.0423	0509.0	018.9	219.8	000.0136	0562.2	053.3	39.71
064.0	000.0444	0518.5	019.4	219.2	000.0136	0559.7	053.0	39.77
065.0	000.0465	0520.6	019.7	218.8	000.0136	0558.5	052.9	39.79
066.0	000.0486	0519.4	019.9	218.3	000.0136	0557.5	052.9	39.78
067.0	000.0508	0517.9	020.1	217.9	000.0136	0555.7	052.9	39.75
068.0	000.0530	0520.1	020.3	217.4	000.0136	0554.2	052.8	39.74
069.0	000.0553	0521.8	020.6	216.9	000.0136	0555.7	052.8	39.78
070.0	000.0576	0519.0	020.8	216.5	000.0136	0557.9	052.9	39.80
071.0	000.0605	0515.1	020.9	216.1	000.0136	0560.7	053.0	39.82
072.0	000.0634	0516.0	021.2	215.6	000.0136	0562.6	052.9	39.85
073.0	000.0664	0510.1	021.3	215.2	000.0136	0561.3	053.1	39.78
074.0	000.0695	0508.6	021.5	214.8	000.0136	0561.6	053.2	39.76
075.0	000.0726	0513.9	021.9	214.2	000.0136	0563.9	053.1	39.81
076.0	000.0758	0517.2	022.2	213.7	000.0136	0564.3	053.1	39.81
077.0	000.0791	0508.2	022.2	213.4	000.0136	0563.5	053.4	39.70
078.0	000.0824	0488.8	021.9	213.3	000.0136	0563.6	053.9	39.53
079.0	000.0858	0463.6	021.4	213.4	000.0136	0563.5	054.5	39.33
080.0	000.0893	0433.9	020.9	213.5	000.0136	0563.7	055.1	39.12
081.0	000.0937	0404.7	020.5	213.5	000.0136	0563.9	055.7	38.93
082.0	000.0983	0386.3	020.3	213.5	000.0136	0563.7	056.1	38.78
083.0	000.1030	0369.1	020.1	213.4	000.0136	0563.5	056.5	38.64
084.0	000.1077	0353.1	019.9	213.3	000.0136	0563.6	056.9	38.51

WWCU				WCQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
085.0	000.1126	0335.8	019.6	213.3	000.0136	0563.7	057.3	38.37
086.0	000.1176	0327.8	019.6	213.1	000.0136	0564.4	057.6	38.28
087.0	000.1227	0322.4	019.7	212.8	000.0136	0564.8	057.8	38.20
088.0	000.1279	0318.6	019.8	212.6	000.0136	0565.5	058.0	38.13
089.0	000.1332	0313.9	019.8	212.3	000.0136	0565.4	058.3	38.04
090.0	000.1386	0303.4	019.7	212.3	000.0136	0565.4	058.7	37.92
091.0	000.1456	0293.9	019.6	212.2	000.0136	0565.3	059.0	37.80
092.0	000.1528	0275.1	019.2	212.3	000.0136	0565.4	059.5	37.63
093.0	000.1602	0250.3	018.5	212.7	000.0136	0565.0	060.1	37.41
094.0	000.1677	0225.9	017.8	213.2	000.0136	0564.0	060.8	37.18
095.0	000.1754	0207.1	017.2	213.5	000.0136	0563.8	061.3	36.99
096.0	000.1833	0196.4	016.9	213.6	000.0136	0564.2	061.7	36.86
097.0	000.1914	0180.4	016.4	213.9	000.0136	0564.8	062.2	36.70
098.0	000.1996	0164.6	015.8	214.3	000.0136	0563.2	062.7	36.49
099.0	000.2080	0153.2	015.3	214.6	000.0136	0562.3	063.2	36.33
100.0	000.2166	0141.6	014.8	215.0	000.0136	0561.1	063.6	36.15
101.0	000.2189	0132.0	014.3	215.3	000.0136	0561.5	064.1	36.00
102.0	000.2212	0146.3	015.1	214.5	000.0136	0562.8	064.0	36.06
103.0	000.2235	0173.2	016.8	213.0	000.0136	0564.5	063.6	36.20
104.0	000.2258	0196.1	017.9	212.0	000.0136	0565.7	063.6	36.24
105.0	000.2282	0190.0	017.7	212.1	000.0136	0565.4	063.9	36.12
106.0	000.2305	0167.8	016.6	212.9	000.0136	0564.7	064.5	35.90

Table 3: FMOVER Study of 961203ME

08-30-2007 NED 03 SEC Terrain Data				FMOver Analysis				
WYQS.C				961203ME BPED19961203ME				
Channel = 213A				Channel = 214C2				
Max ERP = 0.25 kW				Max ERP = 1 kW				
RCAMSL = 1247.25 M				RCAMSL = 1116 M				
N. Lat. 35 53 12.0				N. Lat. 35 54 21.0				
W. Lng. 82 33 23.0				W. Lng. 83 17 49.0				
Protected				Interfering				
60 dBu				54 dBu				
WYQS.C				BPED19961203ME				
Azimuth	ERP	HAAT	Dist	Azimuth	ERP	HAAT	Dist	Actual
(degrees)	(kW)	(m)	(km)	(degrees)	(kW)	(m)	(km)	(dBu)
212.0	000.0136	0565.7	014.6	103.6	000.0625	0608.8	060.9	44.31
213.0	000.0136	0564.6	014.5	103.5	000.0625	0609.2	060.7	44.39
214.0	000.0136	0564.6	014.5	103.4	000.0625	0609.6	060.5	44.48
215.0	000.0136	0561.1	014.5	103.3	000.0625	0610.6	060.2	44.57
216.0	000.0136	0561.2	014.5	103.2	000.0625	0611.4	060.0	44.66
217.0	000.0136	0555.4	014.4	103.0	000.0625	0613.2	059.8	44.75
218.0	000.0136	0556.4	014.4	103.0	000.0625	0613.9	059.6	44.85
219.0	000.0136	0559.0	014.5	102.9	000.0625	0614.5	059.3	44.94
220.0	000.0136	0564.8	014.5	102.8	000.0625	0614.7	059.1	45.04
221.0	000.0140	0571.4	014.8	102.9	000.0625	0614.0	058.7	45.15
222.0	000.0144	0575.0	015.0	103.0	000.0625	0613.6	058.4	45.25
223.0	000.0149	0577.7	015.2	103.0	000.0625	0613.3	058.1	45.36
224.0	000.0154	0580.6	015.4	103.1	000.0625	0613.0	057.8	45.48
225.0	000.0158	0585.3	015.6	103.1	000.0625	0612.5	057.4	45.59
226.0	000.0163	0581.0	015.6	103.0	000.0625	0613.4	057.1	45.70
227.0	000.0168	0580.0	015.8	103.0	000.0625	0613.8	056.9	45.81
228.0	000.0172	0571.5	015.8	102.8	000.0625	0615.1	056.6	45.91
229.0	000.0177	0564.9	015.8	102.7	000.0625	0615.8	056.4	46.00
230.0	000.0182	0556.9	015.8	102.5	000.0625	0616.6	056.2	46.09
231.0	000.0191	0551.6	015.9	102.4	000.0625	0616.9	055.9	46.20
232.0	000.0201	0546.0	016.0	102.3	000.0625	0617.4	055.6	46.32
233.0	000.0210	0544.0	016.2	102.3	000.0625	0617.6	055.2	46.44
234.0	000.0220	0533.0	016.2	102.1	000.0625	0618.5	055.0	46.53
235.0	000.0230	0538.1	016.5	102.2	000.0625	0618.3	054.6	46.68
236.0	000.0241	0541.7	016.8	102.2	000.0625	0618.2	054.2	46.83
237.0	000.0251	0541.9	017.0	102.1	000.0625	0618.5	053.8	46.97
238.0	000.0262	0543.4	017.3	102.1	000.0625	0618.7	053.4	47.11
239.0	000.0273	0536.0	017.3	101.9	000.0625	0619.6	053.2	47.21
240.0	000.0284	0531.6	017.4	101.7	000.0625	0620.6	052.9	47.33
241.0	000.0297	0525.9	017.5	101.5	000.0625	0622.2	052.6	47.45
242.0	000.0310	0516.6	017.6	101.3	000.0625	0625.0	052.4	47.57
243.0	000.0323	0508.0	017.6	101.0	000.0625	0628.7	052.2	47.69
244.0	000.0337	0500.3	017.6	100.8	000.0625	0632.7	052.0	47.83
245.0	000.0351	0495.2	017.7	100.6	000.0625	0636.0	051.7	47.96
246.0	000.0365	0491.4	017.8	100.4	000.0625	0638.6	051.5	48.10
247.0	000.0379	0494.2	018.1	100.2	000.0625	0640.4	051.1	48.26
248.0	000.0394	0486.1	018.1	099.9	000.0625	0644.8	050.9	48.38
249.0	000.0409	0487.0	018.3	099.8	000.0625	0647.5	050.6	48.54
250.0	000.0424	0485.8	018.4	099.5	000.0625	0650.3	050.3	48.69
251.0	000.0446	0480.2	018.5	099.3	000.0625	0653.3	050.0	48.82
252.0	000.0469	0486.8	018.9	099.1	000.0625	0654.6	049.5	49.02
253.0	000.0492	0486.2	019.1	098.9	000.0625	0657.8	049.2	49.19
254.0	000.0516	0480.4	019.2	098.6	000.0625	0662.5	049.0	49.34

WYQS.C				BPED19961203ME				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
255.0	000.0541	0469.1	019.2	098.2	000.0625	0667.7	048.9	49.44
256.0	000.0565	0466.3	019.4	097.9	000.0625	0671.0	048.6	49.59
257.0	000.0591	0463.5	019.5	097.6	000.0625	0674.1	048.3	49.72
258.0	000.0617	0458.3	019.6	097.3	000.0625	0678.0	048.1	49.85
259.0	000.0644	0450.4	019.6	096.9	000.0625	0681.3	048.0	49.95
260.0	000.0671	0439.1	019.6	096.5	000.0625	0683.1	047.9	49.99
261.0	000.0706	0437.1	019.8	096.2	000.0625	0683.8	047.6	50.11
262.0	000.0741	0426.1	019.8	095.8	000.0625	0684.3	047.5	50.15
263.0	000.0778	0419.8	019.9	095.4	000.0625	0684.5	047.3	50.22
264.0	000.0816	0406.8	019.8	095.0	000.0625	0687.0	047.3	50.25
265.0	000.0854	0387.0	019.6	094.5	000.0625	0689.3	047.5	50.22
266.0	000.0893	0363.9	019.2	094.0	000.0625	0693.1	047.8	50.16
267.0	000.0934	0343.9	018.9	093.6	000.0625	0694.9	048.0	50.09
268.0	000.0975	0336.3	018.9	093.2	000.0625	0695.9	048.0	50.12
269.0	000.1017	0332.0	019.0	092.8	000.0625	0696.6	047.9	50.17
270.0	000.1060	0329.4	019.2	092.4	000.0625	0696.2	047.8	50.22
271.0	000.1115	0327.3	019.3	092.0	000.0625	0697.7	047.6	50.31
272.0	000.1171	0335.1	019.8	091.6	000.0625	0696.6	047.1	50.47
273.0	000.1229	0342.0	020.2	091.2	000.0625	0694.9	046.7	50.61
274.0	000.1288	0349.0	020.7	090.7	000.0625	0695.6	046.3	50.77
275.0	000.1349	0368.1	021.4	090.2	000.0625	0694.1	045.5	51.03
276.0	000.1411	0384.7	022.1	089.6	000.0625	0694.0	044.9	51.29
277.0	000.1474	0402.1	022.8	089.0	000.0625	0693.5	044.2	51.54
278.0	000.1539	0412.5	023.3	088.4	000.0625	0697.0	043.8	51.77
279.0	000.1605	0422.3	023.8	087.7	000.0625	0699.8	043.4	51.98
280.0	000.1673	0431.1	024.3	087.1	000.0625	0701.8	043.0	52.16
281.0	000.1748	0435.5	024.7	086.4	000.0625	0703.4	042.7	52.29
282.0	000.1825	0444.1	025.2	085.6	000.0625	0709.4	042.3	52.52
283.0	000.1904	0454.7	025.7	084.8	000.0625	0714.2	041.9	52.75
284.0	000.1984	0456.4	026.0	084.1	000.0625	0719.0	041.8	52.88
285.0	000.2066	0467.5	026.6	083.2	000.0625	0725.8	041.4	53.13
286.0	000.2149	0479.0	027.3	082.3	000.0625	0727.2	041.0	53.32
287.0	000.2234	0493.8	028.0	081.2	000.0625	0729.6	040.5	53.56
288.0	000.2321	0494.1	028.3	080.4	000.0625	0730.4	040.5	53.58
289.0	000.2410	0489.3	028.4	079.7	000.0625	0729.1	040.6	53.50
290.0	000.2500	0483.6	028.4	079.1	000.0625	0727.2	040.8	53.39
291.0	000.2500	0477.3	028.2	078.7	000.0625	0727.2	041.3	53.20
292.0	000.2500	0473.2	028.1	078.2	000.0625	0728.4	041.6	53.06
293.0	000.2500	0472.7	028.1	077.6	000.0625	0729.4	041.9	52.95
294.0	000.2500	0463.6	027.8	077.3	000.0625	0728.5	042.5	52.72
295.0	000.2500	0450.7	027.4	077.2	000.0625	0727.8	043.1	52.45
296.0	000.2500	0442.2	027.1	076.9	000.0625	0727.5	043.6	52.24
297.0	000.2500	0440.0	027.0	076.4	000.0625	0727.2	043.9	52.10
298.0	000.2500	0435.4	026.9	076.1	000.0625	0726.7	044.3	51.92
299.0	000.2500	0427.9	026.7	075.9	000.0625	0725.6	044.8	51.72
300.0	000.2500	0424.0	026.5	075.5	000.0625	0723.8	045.2	51.53
301.0	000.2500	0421.5	026.5	075.2	000.0625	0722.7	045.6	51.37
302.0	000.2500	0413.8	026.2	075.0	000.0625	0721.9	046.1	51.18
303.0	000.2500	0416.3	026.3	074.5	000.0625	0720.9	046.4	51.05
304.0	000.2500	0410.1	026.1	074.3	000.0625	0720.7	046.8	50.87
305.0	000.2500	0407.4	026.1	074.0	000.0625	0721.0	047.2	50.73
306.0	000.2500	0395.2	025.7	074.0	000.0625	0721.0	047.8	50.51
307.0	000.2500	0370.1	024.9	074.4	000.0625	0720.7	048.6	50.21
308.0	000.2500	0357.5	024.5	074.5	000.0625	0720.8	049.2	50.00
309.0	000.2500	0343.3	024.1	074.6	000.0625	0721.0	049.8	49.78

WYQS.C				BPED19961203ME				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
310.0	000.2500	0350.8	024.3	074.1	000.0625	0720.9	050.0	49.70
311.0	000.2500	0364.7	024.8	073.4	000.0625	0721.5	050.1	49.67
312.0	000.2500	0359.1	024.6	073.3	000.0625	0721.4	050.6	49.50
313.0	000.2500	0349.4	024.3	073.4	000.0625	0721.5	051.1	49.31
314.0	000.2500	0336.6	023.8	073.6	000.0625	0721.6	051.7	49.10
315.0	000.2500	0335.3	023.8	073.4	000.0625	0721.4	052.1	48.96
316.0	000.2500	0327.8	023.5	073.4	000.0625	0721.5	052.6	48.78
317.0	000.2500	0316.4	023.2	073.6	000.0625	0721.6	053.1	48.58
318.0	000.2500	0303.1	022.7	073.9	000.0625	0721.4	053.7	48.37
319.0	000.2500	0298.9	022.5	073.8	000.0625	0721.4	054.1	48.21
320.0	000.2500	0289.9	022.2	074.0	000.0625	0721.1	054.6	48.03
321.0	000.2500	0280.2	021.8	074.1	000.0625	0720.9	055.1	47.85
322.0	000.2500	0275.4	021.7	074.2	000.0625	0720.8	055.5	47.69
323.0	000.2500	0274.1	021.6	074.1	000.0625	0721.0	055.9	47.56
324.0	000.2500	0280.8	021.9	073.7	000.0625	0721.6	056.1	47.47
325.0	000.2500	0278.1	021.7	073.6	000.0625	0721.6	056.5	47.33
326.0	000.2500	0281.5	021.9	073.4	000.0625	0721.5	056.9	47.21
327.0	000.2500	0285.3	022.0	073.1	000.0625	0720.9	057.2	47.09
328.0	000.2500	0288.9	022.2	072.9	000.0625	0720.1	057.5	46.96
329.0	000.2500	0281.7	021.9	073.1	000.0625	0720.6	058.0	46.81
330.0	000.2500	0273.3	021.6	073.3	000.0625	0721.3	058.4	46.66
331.0	000.2500	0256.1	020.9	073.8	000.0625	0721.4	058.9	46.48
332.0	000.2500	0244.6	020.5	074.2	000.0625	0720.8	059.4	46.31



08-30-2007 NED 03 SEC Terrain Data

961203ME BPED19961203ME

Channel = 214C2

Max ERP = 1 kW

RCAMSL = 1116 M

N. Lat. 35 54 21.0

W. Lng. 83 17 49.0

Protected

60 dBu

WYQS.C

Channel = 213A

Max ERP = 0.25 kW

RCAMSL = 1247.25 M

N. Lat. 35 53 12.0

W. Lng. 82 33 23.0

Interfering

54 dBu

BPED19961203ME				WYQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
032.0	000.1332	0684.1	029.5	298.2	000.2500	0432.9	057.9	47.66
033.0	000.1296	0680.1	029.2	297.9	000.2500	0436.9	057.4	47.94
034.0	000.1260	0675.6	028.9	297.5	000.2500	0440.1	056.9	48.20
035.0	000.1225	0676.4	028.7	297.3	000.2500	0441.1	056.5	48.40
036.0	000.1190	0680.8	028.6	297.1	000.2500	0440.6	056.0	48.57
037.0	000.1156	0684.3	028.5	296.9	000.2500	0439.9	055.5	48.73
038.0	000.1122	0689.7	028.4	296.7	000.2500	0439.8	055.0	48.90
039.0	000.1089	0695.1	028.3	296.5	000.2500	0439.8	054.6	49.08
040.0	000.1056	0699.4	028.2	296.3	000.2500	0440.5	054.1	49.27
041.0	000.1024	0704.2	028.1	296.0	000.2500	0442.2	053.7	49.48
042.0	000.0992	0708.6	028.0	295.7	000.2500	0444.4	053.3	49.69
043.0	000.0961	0705.6	027.7	295.3	000.2500	0448.5	052.9	49.94
044.0	000.0930	0704.5	027.4	294.9	000.2500	0451.7	052.5	50.16
045.0	000.0900	0701.2	027.2	294.4	000.2500	0458.3	052.1	50.45
046.0	000.0870	0698.7	026.9	293.9	000.2500	0464.4	051.8	50.73
047.0	000.0841	0695.2	026.6	293.4	000.2500	0470.2	051.5	50.99
048.0	000.0812	0689.3	026.3	292.9	000.2500	0473.1	051.2	51.16
049.0	000.0784	0683.5	026.0	292.3	000.2500	0474.0	050.9	51.28
050.0	000.0756	0677.3	025.6	291.8	000.2500	0473.9	050.7	51.37
051.0	000.0743	0673.4	025.4	291.3	000.2500	0475.3	050.4	51.51
052.0	000.0729	0668.2	025.2	290.9	000.2500	0478.3	050.1	51.69
053.0	000.0716	0667.8	025.1	290.5	000.2500	0481.2	049.8	51.87
054.0	000.0702	0664.3	024.9	290.0	000.2500	0483.5	049.6	52.02
055.0	000.0689	0659.9	024.7	289.5	000.2459	0486.3	049.3	52.10
056.0	000.0676	0657.1	024.6	289.1	000.2418	0489.0	049.1	52.18
057.0	000.0663	0655.3	024.4	288.7	000.2379	0490.6	048.8	52.24
058.0	000.0650	0656.6	024.3	288.2	000.2343	0493.1	048.6	52.33
059.0	000.0638	0663.6	024.3	287.9	000.2315	0494.3	048.2	52.42
060.0	000.0625	0667.8	024.3	287.6	000.2282	0495.2	047.9	52.48
061.0	000.0625	0668.6	024.3	287.2	000.2253	0495.1	047.6	52.54
062.0	000.0625	0670.7	024.4	286.9	000.2224	0492.5	047.3	52.55
063.0	000.0625	0682.3	024.6	286.7	000.2207	0489.5	046.9	52.61
064.0	000.0625	0687.7	024.7	286.4	000.2180	0484.5	046.5	52.58
065.0	000.0625	0687.7	024.7	286.0	000.2146	0478.4	046.2	52.49
066.0	000.0625	0691.2	024.7	285.6	000.2116	0472.6	045.9	52.42
067.0	000.0625	0697.7	024.8	285.3	000.2088	0469.2	045.5	52.43
068.0	000.0625	0701.5	024.9	284.9	000.2055	0467.1	045.2	52.43
069.0	000.0625	0703.1	024.9	284.4	000.2020	0461.6	044.9	52.34
070.0	000.0625	0711.0	025.1	284.1	000.1990	0457.1	044.6	52.32
071.0	000.0625	0714.0	025.1	283.6	000.1955	0454.9	044.3	52.30
072.0	000.0625	0716.8	025.2	283.2	000.1918	0455.9	044.0	52.35
073.0	000.0625	0720.4	025.2	282.7	000.1882	0451.3	043.8	52.28
074.0	000.0625	0721.1	025.2	282.2	000.1843	0446.4	043.5	52.16

BPED19961203ME				WYQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
075.0	000.0625	0722.0	025.2	281.7	000.1803	0440.8	043.3	52.03
076.0	000.0625	0726.4	025.3	281.2	000.1766	0436.8	043.1	51.95
077.0	000.0625	0727.6	025.3	280.7	000.1725	0434.0	042.9	51.87
078.0	000.0625	0729.0	025.4	280.2	000.1685	0431.8	042.7	51.79
079.0	000.0625	0727.1	025.3	279.6	000.1645	0428.0	042.6	51.65
080.0	000.0625	0729.9	025.4	279.0	000.1608	0422.8	042.4	51.51
081.0	000.0625	0729.9	025.4	278.5	000.1570	0417.3	042.2	51.32
082.0	000.0625	0727.6	025.3	277.9	000.1531	0411.5	042.1	51.11
083.0	000.0625	0726.6	025.3	277.3	000.1493	0406.3	042.0	50.91
084.0	000.0625	0719.9	025.2	276.7	000.1453	0395.8	042.1	50.51
085.0	000.0625	0713.4	025.1	276.0	000.1414	0385.3	042.1	50.11
086.0	000.0625	0705.9	025.0	275.4	000.1375	0377.4	042.1	49.76
087.0	000.0625	0702.0	024.9	274.8	000.1338	0364.2	042.1	49.27
088.0	000.0625	0698.4	024.8	274.2	000.1302	0352.1	042.1	48.80
089.0	000.0625	0693.6	024.8	273.6	000.1266	0347.7	042.2	48.53
090.0	000.0625	0693.9	024.8	273.0	000.1231	0342.5	042.1	48.27
091.0	000.0625	0695.0	024.8	272.5	000.1197	0337.4	042.1	48.02
092.0	000.0625	0697.7	024.8	271.9	000.1163	0334.3	042.1	47.82
093.0	000.0625	0696.5	024.8	271.3	000.1130	0329.0	042.1	47.52
094.0	000.0625	0693.3	024.8	270.7	000.1097	0327.0	042.2	47.30
095.0	000.0625	0686.7	024.6	270.1	000.1065	0329.0	042.3	47.17
096.0	000.0625	0684.2	024.6	269.5	000.1039	0329.4	042.4	47.04
097.0	000.0625	0680.7	024.5	269.0	000.1015	0332.3	042.5	46.97
098.0	000.0625	0670.4	024.4	268.4	000.0993	0333.5	042.8	46.80
099.0	000.0625	0656.6	024.1	267.9	000.0972	0337.3	043.1	46.69
100.0	000.0625	0643.9	023.9	267.5	000.0953	0340.1	043.4	46.55
101.0	000.0625	0629.5	023.6	267.0	000.0934	0343.7	043.8	46.42
102.0	000.0625	0619.0	023.4	266.6	000.0916	0351.0	044.1	46.43
103.0	000.0625	0613.5	023.3	266.1	000.0897	0361.8	044.3	46.56
104.0	000.0625	0607.3	023.2	265.6	000.0879	0372.4	044.5	46.68
105.0	000.0625	0601.1	023.1	265.2	000.0862	0383.0	044.8	46.78
106.0	000.0625	0596.2	023.0	264.8	000.0845	0391.9	045.0	46.84
107.0	000.0625	0587.4	022.8	264.4	000.0830	0400.2	045.3	46.85
108.0	000.0625	0577.0	022.5	264.0	000.0817	0406.2	045.7	46.79
109.0	000.0625	0579.0	022.6	263.6	000.0799	0412.9	045.8	46.81
110.0	000.0625	0584.5	022.7	263.1	000.0780	0419.2	045.9	46.83
111.0	000.0625	0593.9	022.9	262.5	000.0760	0424.1	045.9	46.83
112.0	000.0625	0597.0	023.0	262.0	000.0742	0426.0	046.1	46.72
113.0	000.0625	0605.6	023.1	261.5	000.0723	0431.6	046.1	46.72
114.0	000.0625	0615.1	023.3	260.9	000.0703	0437.4	046.2	46.71
115.0	000.0625	0623.6	023.5	260.4	000.0685	0438.0	046.3	46.57
116.0	000.0625	0629.6	023.6	259.9	000.0668	0440.0	046.4	46.46
117.0	000.0625	0634.6	023.7	259.4	000.0655	0446.7	046.6	46.46
118.0	000.0625	0638.8	023.8	259.0	000.0643	0450.7	046.8	46.39
119.0	000.0625	0643.5	023.9	258.5	000.0630	0454.2	047.0	46.32
120.0	000.0625	0658.1	024.1	257.9	000.0615	0459.2	047.1	46.29
121.0	000.0625	0652.2	024.0	257.6	000.0607	0460.7	047.4	46.13
122.0	000.0625	0645.6	023.9	257.4	000.0600	0461.9	047.8	45.97
123.0	000.0625	0654.4	024.1	256.9	000.0588	0463.6	048.0	45.85
124.0	000.0625	0664.0	024.2	256.4	000.0575	0464.6	048.2	45.70
125.0	000.0625	0670.5	024.4	255.9	000.0564	0466.4	048.4	45.57
126.0	000.0625	0677.4	024.5	255.5	000.0553	0467.3	048.7	45.41
127.0	000.0625	0683.4	024.6	255.1	000.0543	0468.4	049.0	45.26
128.0	000.0625	0683.1	024.6	254.8	000.0536	0471.1	049.3	45.13
129.0	000.0625	0679.0	024.5	254.6	000.0530	0473.5	049.7	45.00

BPED19961203ME				WYQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
130.0	000.0625	0673.7	024.4	254.4	000.0525	0475.9	050.1	44.87
131.0	000.0625	0677.1	024.5	254.1	000.0517	0479.8	050.4	44.78
132.0	000.0625	0676.4	024.5	253.8	000.0512	0482.5	050.8	44.65
133.0	000.0625	0676.3	024.5	253.6	000.0506	0484.5	051.2	44.52
134.0	000.0625	0676.3	024.5	253.3	000.0500	0485.4	051.5	44.35
135.0	000.0625	0663.6	024.2	253.3	000.0500	0485.4	052.0	44.17
136.0	000.0650	0652.3	024.3	253.1	000.0494	0485.9	052.4	44.00
137.0	000.0676	0643.1	024.3	252.8	000.0488	0486.6	052.7	43.83
138.0	000.0702	0639.5	024.5	252.5	000.0480	0486.8	053.0	43.65
139.0	000.0729	0630.7	024.5	252.2	000.0475	0487.0	053.4	43.47
140.0	000.0756	0621.1	024.5	252.0	000.0470	0486.9	053.8	43.28
141.0	000.0784	0621.4	024.8	251.7	000.0461	0485.0	054.1	43.03
142.0	000.0812	0622.7	025.0	251.3	000.0452	0481.3	054.5	42.73
143.0	000.0841	0618.3	025.1	251.0	000.0446	0480.2	054.8	42.51
144.0	000.0870	0617.2	025.3	250.7	000.0439	0481.4	055.2	42.33
145.0	000.0900	0617.4	025.5	250.4	000.0432	0483.3	055.6	42.17
146.0	000.0930	0623.6	025.8	249.9	000.0423	0486.3	055.9	42.02
147.0	000.0961	0630.2	026.2	249.5	000.0416	0486.9	056.3	41.83
148.0	000.0992	0632.3	026.4	249.1	000.0411	0487.1	056.7	41.64
149.0	000.1024	0629.9	026.6	248.9	000.0408	0486.9	057.1	41.44
150.0	000.1056	0635.0	026.9	248.5	000.0402	0485.8	057.5	41.20
151.0	000.1089	0632.8	027.0	248.3	000.0399	0486.2	058.0	41.01
152.0	000.1122	0633.8	027.2	248.1	000.0395	0486.3	058.4	40.81

Table 4: FMOVER Study of WUMC

08-30-2007 NED 03 SEC Terrain Data				FMOver Analysis					
WYQS.C				WUMC BLED20000525AGV					
Channel = 213A				Channel = 213A					
Max ERP = 0.25 kW				Max ERP = 0.5 kW					
RCAMSL = 1247.25 M				RCAMSL = 530 M					
N. Lat. 35 53 12.0				N. Lat. 36 17 58.0					
W. Lng. 82 33 23.0				W. Lng. 82 17 28.0					
Protected 60 dBu				Interfering 40 dBu					
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)	
327.0	000.2500	0285.3	022.0	232.7	000.4714	-0182.4	045.1	33.81	
328.0	000.2500	0288.9	022.2	232.8	000.4699	-0186.5	044.7	33.89	
329.0	000.2500	0281.7	021.9	232.4	000.4741	-0174.4	044.3	34.02	
330.0	000.2500	0273.3	021.6	231.9	000.4791	-0164.5	044.0	34.16	
331.0	000.2500	0256.1	020.9	231.0	000.4890	-0175.9	043.7	34.32	
332.0	000.2500	0244.6	020.5	230.3	000.4964	-0188.8	043.5	34.46	
333.0	000.2500	0228.4	019.8	229.4	000.5000	-0178.9	043.3	34.54	
334.0	000.2500	0217.0	019.3	228.6	000.5000	-0179.3	043.1	34.60	
335.0	000.2500	0210.2	019.0	228.1	000.5000	-0180.3	042.8	34.67	
336.0	000.2500	0199.3	018.5	227.3	000.5000	-0186.6	042.7	34.72	
337.0	000.2500	0195.2	018.3	227.0	000.5000	-0191.4	042.4	34.79	
338.0	000.2500	0193.2	018.2	226.7	000.5000	-0195.9	042.2	34.86	
339.0	000.2500	0189.3	018.0	226.3	000.5000	-0202.1	041.9	34.93	
340.0	000.2500	0184.6	017.8	225.9	000.5000	-0209.7	041.7	34.99	
341.0	000.2500	0187.0	017.9	225.8	000.5000	-0210.5	041.4	35.09	
342.0	000.2500	0190.3	018.1	225.8	000.5000	-0210.5	041.1	35.19	
343.0	000.2500	0184.0	017.8	225.3	000.5000	-0220.0	040.9	35.24	
344.0	000.2500	0188.4	018.0	225.3	000.5000	-0219.3	040.5	35.35	
345.0	000.2500	0192.0	018.2	225.3	000.5000	-0219.6	040.2	35.46	
346.0	000.2500	0186.2	017.9	224.7	000.5000	-0224.0	040.0	35.51	
347.0	000.2500	0190.8	018.1	224.8	000.5000	-0223.9	039.7	35.63	
348.0	000.2500	0188.5	018.0	224.4	000.5000	-0227.2	039.5	35.69	
349.0	000.2500	0188.8	018.0	224.1	000.5000	-0229.2	039.2	35.78	
350.0	000.2500	0201.3	018.6	224.5	000.5000	-0225.8	038.6	35.97	
351.0	000.2500	0215.1	019.2	225.0	000.5000	-0222.0	038.0	36.18	
352.0	000.2500	0230.7	019.9	225.5	000.5000	-0215.7	037.3	36.41	
353.0	000.2500	0241.1	020.3	225.7	000.5000	-0212.2	036.8	36.60	
354.0	000.2500	0251.5	020.7	225.9	000.5000	-0209.0	036.2	36.79	
355.0	000.2500	0270.5	021.5	226.5	000.5000	-0199.7	035.5	37.05	
356.0	000.2500	0294.3	022.3	227.2	000.5000	-0188.3	034.6	37.36	
357.0	000.2500	0307.9	022.8	227.4	000.5000	-0185.7	034.0	37.59	
358.0	000.2500	0305.9	022.8	226.9	000.5000	-0192.4	033.7	37.69	
359.0	000.2500	0312.0	023.0	226.7	000.5000	-0195.5	033.3	37.85	
000.0	000.2500	0326.6	023.5	226.9	000.5000	-0192.5	032.7	38.10	
001.0	000.2500	0336.5	023.8	226.8	000.5000	-0193.7	032.1	38.30	
002.0	000.2500	0327.9	023.5	225.9	000.5000	-0208.8	032.0	38.34	
003.0	000.2500	0306.7	022.8	224.5	000.5000	-0226.3	032.3	38.23	
004.0	000.2500	0278.1	021.7	222.8	000.5000	-0237.8	032.9	38.02	
005.0	000.2500	0255.0	020.9	221.3	000.5000	-0243.3	033.3	37.84	
006.0	000.2500	0231.1	019.9	219.9	000.5000	-0254.5	033.9	37.62	
007.0	000.2500	0220.1	019.4	219.0	000.5000	-0248.5	034.1	37.54	
008.0	000.2500	0227.6	019.7	218.8	000.5000	-0245.5	033.7	37.71	
009.0	000.2500	0230.6	019.9	218.4	000.5000	-0238.0	033.4	37.81	

WYQS.C				WUMC				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
010.0	000.2500	0214.4	019.2	217.3	000.5000	-0214.2	033.9	37.64
011.0	000.2500	0192.1	018.2	216.1	000.5000	-0185.8	034.6	37.37
012.0	000.2500	0179.3	017.6	215.2	000.5000	-0163.7	035.0	37.22
013.0	000.2500	0171.7	017.2	214.5	000.5000	-0143.8	035.3	37.13
014.0	000.2500	0175.5	017.4	214.2	000.5000	-0132.1	035.0	37.24
015.0	000.2500	0171.1	017.2	213.6	000.5000	-0112.6	035.1	37.19
016.0	000.2500	0169.7	017.1	213.1	000.5000	-0093.5	035.1	37.20
017.0	000.2500	0165.5	016.9	212.5	000.5000	-0071.7	035.2	37.15
018.0	000.2500	0156.0	016.3	211.8	000.5000	-0055.4	035.7	36.97
019.0	000.2500	0147.0	015.7	211.2	000.5000	-0047.6	036.2	36.80
020.0	000.2500	0128.6	014.6	210.4	000.5000	-0040.6	037.3	36.42
021.0	000.2500	0106.6	013.3	209.7	000.5000	-0038.0	038.5	36.01
022.0	000.2500	0083.6	011.8	209.1	000.5000	-0037.9	039.9	35.55
023.0	000.2500	0059.7	010.2	208.6	000.5000	-0037.0	041.5	35.05
024.0	000.2500	0033.2	007.4	208.1	000.5000	-0036.4	044.3	34.28
025.0	000.2500	0013.3	007.1	207.9	000.5000	-0036.3	044.6	34.19
026.0	000.2500	-0000.4	007.1	207.7	000.5000	-0036.0	044.6	34.19
027.0	000.2500	-0009.9	007.1	207.6	000.5000	-0035.5	044.6	34.20
028.0	000.2500	-0026.2	007.1	207.4	000.5000	-0035.0	044.6	34.20
029.0	000.2500	-0033.8	007.1	207.3	000.5000	-0034.9	044.6	34.19
030.0	000.2500	-0033.7	007.1	207.1	000.5000	-0035.2	044.6	34.19
031.0	000.2500	-0040.1	007.1	207.0	000.5000	-0036.1	044.6	34.19
032.0	000.2500	-0039.6	007.1	206.8	000.5000	-0037.7	044.6	34.19
033.0	000.2500	-0026.3	007.1	206.6	000.5000	-0039.3	044.6	34.19
034.0	000.2500	-0004.2	007.1	206.5	000.5000	-0040.7	044.6	34.18
035.0	000.2500	0030.2	007.1	206.3	000.5000	-0041.8	044.6	34.18
036.0	000.2500	0060.0	010.2	205.4	000.5000	-0047.6	041.6	35.02
037.0	000.2500	0080.4	011.6	204.8	000.5000	-0049.7	040.3	35.44
038.0	000.2500	0099.1	012.8	204.1	000.5000	-0057.9	039.1	35.80
039.0	000.2500	0116.0	013.8	203.4	000.5000	-0065.5	038.2	36.11
040.0	000.2500	0132.0	014.8	202.6	000.5000	-0072.5	037.4	36.38
041.0	000.2500	0141.8	015.4	201.9	000.5000	-0082.0	036.9	36.56
042.0	000.2500	0160.8	016.6	200.9	000.5000	-0094.0	035.8	36.92
043.0	000.2500	0179.4	017.6	199.8	000.5000	-0095.8	035.0	37.22
044.0	000.2500	0174.6	017.4	199.5	000.5000	-0095.5	035.3	37.10
045.0	000.2500	0161.9	016.6	199.5	000.5000	-0095.4	036.1	36.82
046.0	000.2500	0148.5	015.8	199.7	000.5000	-0095.7	037.0	36.51
047.0	000.2500	0141.2	015.3	199.7	000.5000	-0095.5	037.5	36.33
048.0	000.2500	0135.2	015.0	199.6	000.5000	-0095.4	038.0	36.17
049.0	000.2500	0121.1	014.1	199.8	000.5000	-0096.0	038.8	35.89
050.0	000.2500	0126.6	014.4	199.3	000.5000	-0096.5	038.7	35.94
051.0	000.2500	0126.3	014.4	199.0	000.5000	-0099.1	038.8	35.89
052.0	000.2500	0124.6	014.3	198.8	000.5000	-0099.9	039.1	35.82
053.0	000.2500	0136.9	015.1	197.8	000.5000	-0109.0	038.6	35.97
054.0	000.2500	0133.2	014.8	197.7	000.5000	-0110.0	038.9	35.86
055.0	000.2500	0127.7	014.5	197.7	000.5000	-0110.0	039.4	35.73
056.0	000.2500	0135.7	015.0	197.0	000.5000	-0115.2	039.1	35.80
057.0	000.2500	0142.8	015.4	196.3	000.5000	-0115.6	039.0	35.85
058.0	000.2500	0151.0	016.0	195.5	000.5000	-0119.8	038.8	35.92
059.0	000.2500	0170.1	017.1	193.9	000.5000	-0136.0	038.1	36.13
060.0	000.2500	0183.2	017.8	192.9	000.5000	-0144.1	037.9	36.21
061.0	000.2500	0193.7	018.2	192.1	000.5000	-0149.2	037.8	36.24
062.0	000.2500	0206.4	018.8	191.1	000.5000	-0146.5	037.7	36.28
063.0	000.2500	0211.0	019.0	190.5	000.5000	-0148.9	037.8	36.24
064.0	000.2500	0224.2	019.6	189.5	000.5000	-0155.2	037.7	36.26

WYQS.C				WUMC				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
065.0	000.2500	0240.1	020.3	188.4	000.5000	-0168.2	037.6	36.29
066.0	000.2500	0266.6	021.3	186.7	000.5000	-0182.6	037.4	36.38
067.0	000.2500	0286.6	022.1	185.5	000.5000	-0193.5	037.4	36.39
068.0	000.2500	0303.1	022.7	184.4	000.5000	-0197.6	037.4	36.37
069.0	000.2500	0315.5	023.1	183.5	000.5000	-0205.2	037.6	36.31
070.0	000.2500	0330.0	023.6	182.6	000.5000	-0213.3	037.8	36.25
071.0	000.2500	0333.5	023.7	182.2	000.5000	-0215.6	038.1	36.14
072.0	000.2500	0336.0	023.8	181.8	000.5000	-0216.7	038.5	36.02
073.0	000.2500	0344.6	024.1	181.2	000.5000	-0215.3	038.8	35.92
074.0	000.2500	0354.8	024.4	180.6	000.5000	-0220.4	039.1	35.82
075.0	000.2500	0362.1	024.7	180.1	000.5000	-0223.6	039.4	35.71
076.0	000.2500	0357.9	024.5	180.1	000.5000	-0223.2	039.9	35.56
077.0	000.2500	0361.5	024.7	179.8	000.5000	-0227.4	040.3	35.44
078.0	000.2500	0356.3	024.5	179.9	000.5000	-0225.5	040.7	35.30
079.0	000.2500	0348.0	024.2	180.1	000.5000	-0222.7	041.2	35.16
080.0	000.2500	0351.1	024.3	179.9	000.5000	-0225.4	041.6	35.04
081.0	000.2500	0356.1	024.5	179.6	000.5000	-0230.9	042.0	34.92
082.0	000.2500	0366.6	024.8	179.1	000.5000	-0239.8	042.4	34.81
083.0	000.2500	0370.4	024.9	178.8	000.5000	-0242.4	042.8	34.69
084.0	000.2500	0364.7	024.8	179.0	000.5000	-0240.3	043.2	34.56
085.0	000.2500	0352.6	024.4	179.5	000.5000	-0232.7	043.7	34.43
086.0	000.2500	0337.9	023.9	180.1	000.5000	-0223.4	044.1	34.31
087.0	000.2500	0331.5	023.7	180.3	000.5000	-0221.3	044.6	34.20

08-30-2007 NED 03 SEC Terrain Data

WUMC BLED20000525AGV

Channel = 213A

Max ERP = 0.5 kW

RCAMSL = 530 M

N. Lat. 36 17 58.0

W. Lng. 82 17 28.0

Protected

60 dBu

WYQS.C

Channel = 213A

Max ERP = 0.25 kW

RCAMSL = 1247.25 M

N. Lat. 35 53 12.0

W. Lng. 82 33 23.0

Interfering

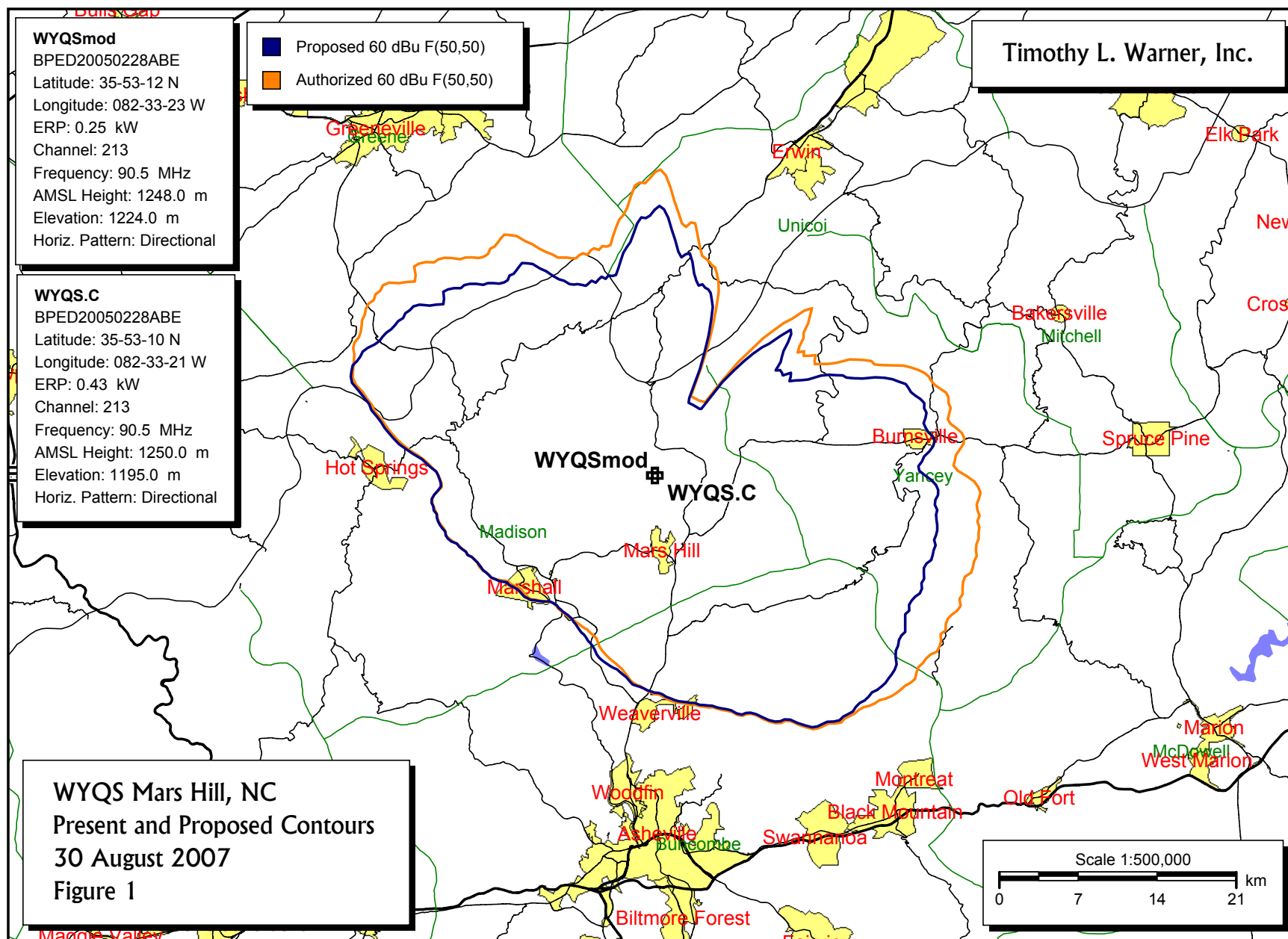
40 dBu

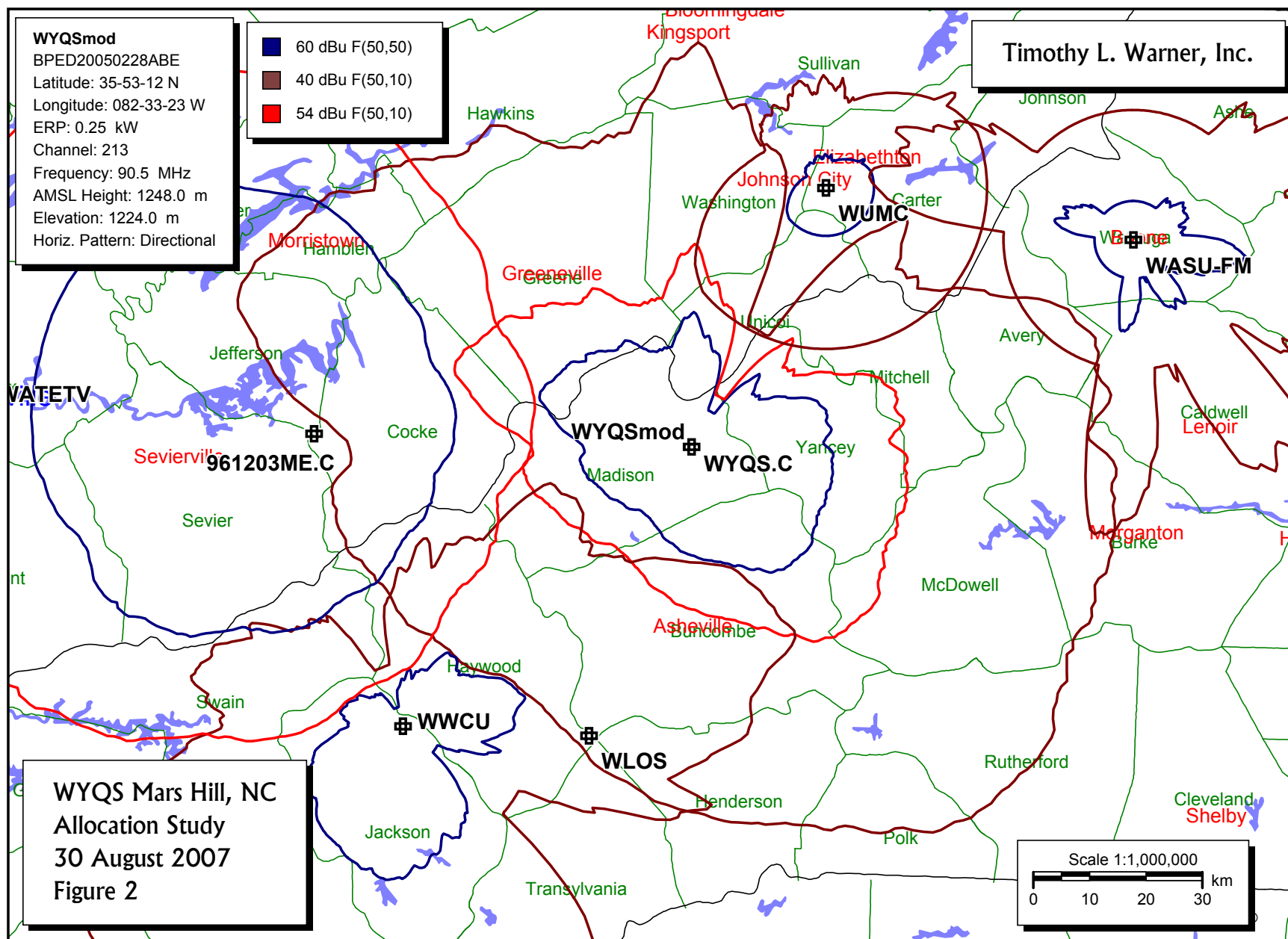
WUMC				WYQS.C				
Azimuth	ERP	HAAT	Dist	Azimuth	ERP	HAAT	Dist	Actual
(degrees)	(kW)	(m)	(km)	(degrees)	(kW)	(m)	(km)	(dBu)
148.0	000.5000	-0265.9	008.5	036.1	000.2500	0063.3	047.9	35.24
149.0	000.5000	-0265.0	008.5	036.1	000.2500	0061.8	047.8	35.12
150.0	000.5000	-0269.8	008.5	036.0	000.2500	0060.1	047.6	34.99
151.0	000.5000	-0273.5	008.5	035.9	000.2500	0058.2	047.5	34.83
152.0	000.5000	-0275.1	008.5	035.9	000.2500	0056.1	047.4	34.62
153.0	000.5000	-0279.0	008.5	035.8	000.2500	0053.8	047.2	34.37
154.0	000.5000	-0282.0	008.5	035.7	000.2500	0051.5	047.1	34.09
155.0	000.5000	-0279.9	008.5	035.6	000.2500	0049.1	047.0	33.80
156.0	000.5000	-0280.6	008.5	035.5	000.2500	0046.7	046.9	33.47
157.0	000.5000	-0282.0	008.5	035.4	000.2500	0044.0	046.7	33.09
158.0	000.5000	-0274.3	008.5	035.3	000.2500	0041.1	046.6	32.65
159.0	000.5000	-0261.1	008.5	035.2	000.2500	0037.9	046.5	32.14
160.0	000.5000	-0246.0	008.5	035.1	000.2500	0034.6	046.4	31.59
161.0	000.5000	-0238.2	008.5	035.0	000.2500	0031.1	046.2	30.97
162.0	000.5000	-0225.4	008.5	034.9	000.2500	0027.3	046.1	30.79
163.0	000.5000	-0223.9	008.5	034.8	000.2500	0023.4	046.0	30.82
164.0	000.5000	-0223.2	008.5	034.7	000.2500	0019.3	045.9	30.85
165.0	000.5000	-0226.4	008.5	034.6	000.2500	0015.0	045.8	30.88
166.0	000.5000	-0227.7	008.5	034.5	000.2500	0010.9	045.7	30.91
167.0	000.5000	-0227.1	008.5	034.3	000.2500	0006.5	045.5	30.93
168.0	000.5000	-0232.8	008.5	034.2	000.2500	0002.2	045.4	30.96
169.0	000.5000	-0241.2	008.5	034.1	000.2500	-0002.0	045.3	30.99
170.0	000.5000	-0246.7	008.5	033.9	000.2500	-0005.9	045.2	31.01
171.0	000.5000	-0245.1	008.5	033.8	000.2500	-0009.6	045.1	31.04
172.0	000.5000	-0251.7	008.5	033.7	000.2500	-0013.3	045.0	31.07
173.0	000.5000	-0253.1	008.5	033.5	000.2500	-0016.9	044.9	31.09
174.0	000.5000	-0249.7	008.5	033.4	000.2500	-0020.1	044.8	31.12
175.0	000.5000	-0254.3	008.5	033.2	000.2500	-0022.9	044.7	31.14
176.0	000.5000	-0256.0	008.5	033.1	000.2500	-0025.2	044.6	31.16
177.0	000.5000	-0255.8	008.5	032.9	000.2500	-0027.2	044.6	31.19
178.0	000.5000	-0249.8	008.5	032.8	000.2500	-0029.1	044.5	31.21
179.0	000.5000	-0240.5	008.5	032.6	000.2500	-0031.2	044.4	31.23
180.0	000.5000	-0224.2	008.5	032.5	000.2500	-0033.6	044.3	31.26
181.0	000.5000	-0216.7	008.5	032.3	000.2500	-0035.8	044.2	31.28
182.0	000.5000	-0216.5	008.5	032.1	000.2500	-0037.9	044.1	31.30
183.0	000.5000	-0210.0	008.5	032.0	000.2500	-0040.0	044.1	31.32
184.0	000.5000	-0200.4	008.5	031.8	000.2500	-0041.6	044.0	31.34
185.0	000.5000	-0194.6	008.5	031.6	000.2500	-0042.8	043.9	31.35
186.0	000.5000	-0191.1	008.5	031.5	000.2500	-0043.0	043.9	31.37
187.0	000.5000	-0180.0	008.5	031.3	000.2500	-0042.1	043.8	31.39
188.0	000.5000	-0172.1	008.5	031.1	000.2500	-0040.8	043.7	31.41
189.0	000.5000	-0161.9	008.5	030.9	000.2500	-0039.6	043.7	31.42

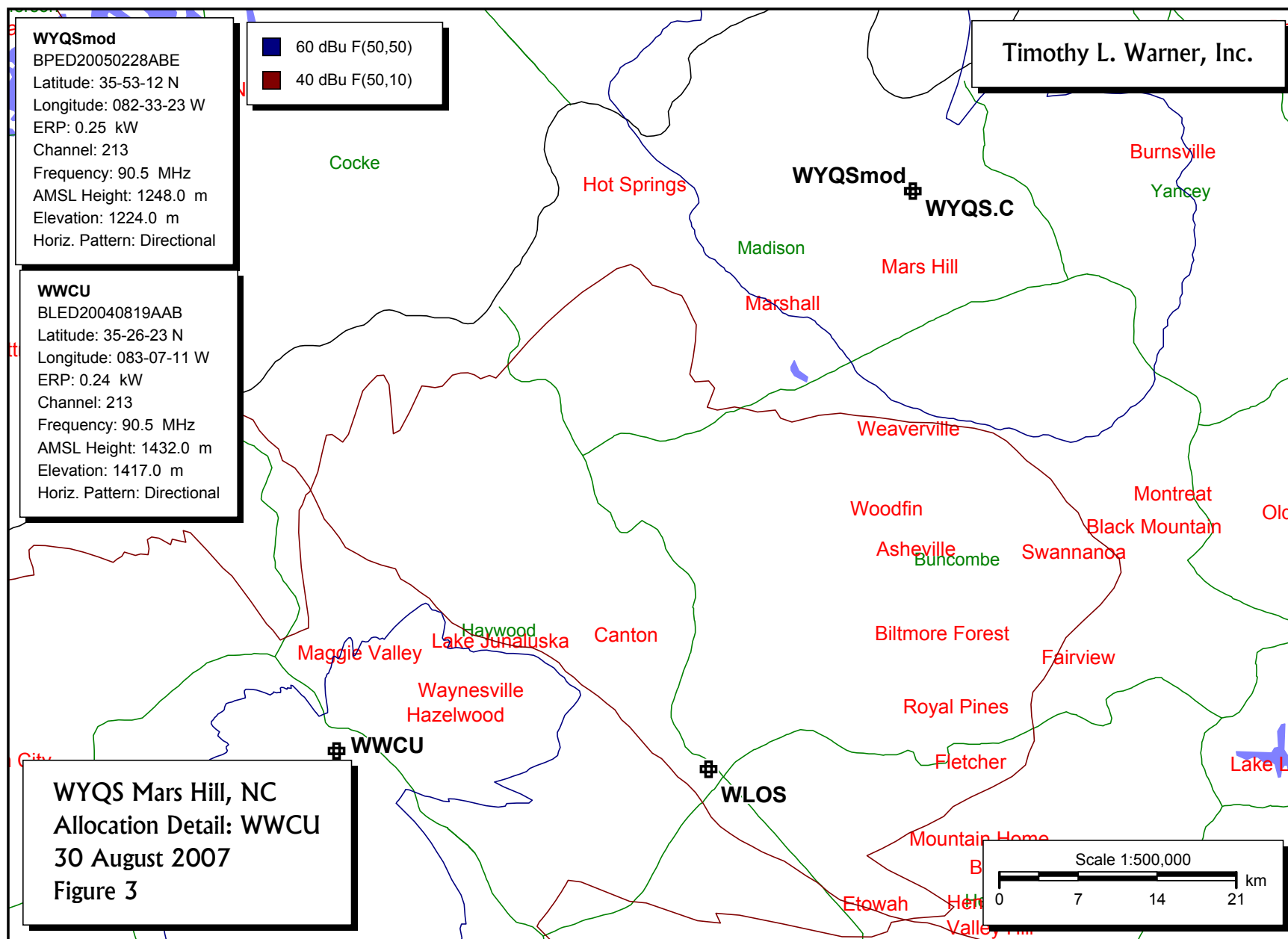
WUMC				WYQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
190.0	000.5000	-0152.1	008.5	030.7	000.2500	-0038.6	043.6	31.44
191.0	000.5000	-0146.8	008.5	030.6	000.2500	-0037.6	043.6	31.45
192.0	000.5000	-0149.3	008.5	030.4	000.2500	-0036.1	043.5	31.46
193.0	000.5000	-0142.9	008.5	030.2	000.2500	-0034.6	043.5	31.48
194.0	000.5000	-0135.8	008.5	030.0	000.2500	-0033.7	043.4	31.49
195.0	000.5000	-0127.0	008.5	029.8	000.2500	-0033.1	043.4	31.50
196.0	000.5000	-0114.9	008.5	029.6	000.2500	-0033.1	043.4	31.51
197.0	000.5000	-0115.1	008.5	029.4	000.2500	-0033.0	043.3	31.52
198.0	000.5000	-0107.5	008.5	029.2	000.2500	-0033.5	043.3	31.53
199.0	000.5000	-0099.1	008.5	029.1	000.2500	-0033.8	043.3	31.54
200.0	000.5000	-0096.3	008.5	028.9	000.2500	-0033.7	043.2	31.54
201.0	000.5000	-0093.0	008.5	028.7	000.2500	-0032.8	043.2	31.55
202.0	000.5000	-0080.8	008.5	028.5	000.2500	-0031.4	043.2	31.55
203.0	000.5000	-0068.3	008.5	028.3	000.2500	-0029.7	043.2	31.56
204.0	000.5000	-0059.0	008.5	028.1	000.2500	-0027.5	043.2	31.56
205.0	000.5000	-0048.8	008.5	027.9	000.2500	-0024.3	043.2	31.56
206.0	000.5000	-0044.1	008.5	027.7	000.2500	-0020.6	043.2	31.57
207.0	000.5000	-0035.8	008.5	027.5	000.2500	-0017.1	043.2	31.57
208.0	000.5000	-0036.4	008.5	027.3	000.2500	-0013.9	043.2	31.57
209.0	000.5000	-0038.0	008.5	027.1	000.2500	-0011.3	043.2	31.57
210.0	000.5000	-0038.9	008.5	026.9	000.2500	-0008.7	043.2	31.56
211.0	000.5000	-0045.6	008.5	026.7	000.2500	-0007.0	043.2	31.56
212.0	000.5000	-0058.7	008.5	026.5	000.2500	-0005.7	043.2	31.56
213.0	000.5000	-0091.0	008.5	026.3	000.2500	-0004.1	043.2	31.55
214.0	000.5000	-0127.6	008.5	026.1	000.2500	-0002.1	043.2	31.55
215.0	000.5000	-0158.7	008.5	025.9	000.2500	0000.5	043.2	31.54
216.0	000.5000	-0184.6	008.5	025.7	000.2500	0003.0	043.3	31.54
217.0	000.5000	-0206.0	008.5	025.5	000.2500	0005.2	043.3	31.53
218.0	000.5000	-0230.4	008.5	025.4	000.2500	0007.7	043.3	31.52
219.0	000.5000	-0248.9	008.5	025.2	000.2500	0010.6	043.4	31.51
220.0	000.5000	-0255.0	008.5	025.0	000.2500	0013.6	043.4	31.50
221.0	000.5000	-0245.6	008.5	024.8	000.2500	0017.0	043.4	31.49
222.0	000.5000	-0245.1	008.5	024.6	000.2500	0020.2	043.5	31.48
223.0	000.5000	-0236.1	008.5	024.4	000.2500	0023.5	043.5	31.47
224.0	000.5000	-0230.3	008.5	024.2	000.2500	0027.5	043.6	31.45
225.0	000.5000	-0222.0	008.5	024.1	000.2500	0031.9	043.6	31.80
226.0	000.5000	-0207.3	008.5	023.9	000.2500	0036.6	043.7	32.68
227.0	000.5000	-0190.9	008.5	023.7	000.2500	0040.8	043.7	33.43
228.0	000.5000	-0181.2	008.5	023.5	000.2500	0044.7	043.8	34.09
229.0	000.5000	-0178.1	008.5	023.3	000.2500	0049.5	043.9	34.83
230.0	000.5000	-0185.1	008.5	023.2	000.2500	0054.7	043.9	35.56
231.0	000.4892	-0176.3	008.5	023.0	000.2500	0058.9	044.0	36.06
232.0	000.4784	-0165.2	008.4	022.9	000.2500	0063.0	044.1	36.47
233.0	000.4678	-0192.3	008.4	022.8	000.2500	0066.7	044.3	36.83
234.0	000.4574	-0222.1	008.3	022.6	000.2500	0069.6	044.4	37.10
235.0	000.4470	-0234.0	008.2	022.5	000.2500	0072.1	044.5	37.31
236.0	000.4367	-0234.6	008.2	022.4	000.2500	0074.6	044.6	37.52
237.0	000.4266	-0214.1	008.1	022.3	000.2500	0077.4	044.7	37.75
238.0	000.4166	-0182.1	008.1	022.2	000.2500	0080.4	044.9	38.00
239.0	000.4067	-0155.3	008.0	022.1	000.2500	0082.2	045.0	38.13
240.0	000.3969	-0127.4	008.0	022.0	000.2500	0084.4	045.1	38.29
241.0	000.3808	-0102.8	007.9	021.9	000.2500	0086.0	045.3	38.38
242.0	000.3650	-0086.8	007.8	021.8	000.2500	0087.4	045.4	38.45
243.0	000.3495	-0076.2	007.7	021.8	000.2500	0088.6	045.6	38.50
244.0	000.3344	-0066.2	007.6	021.7	000.2500	0089.8	045.7	38.55

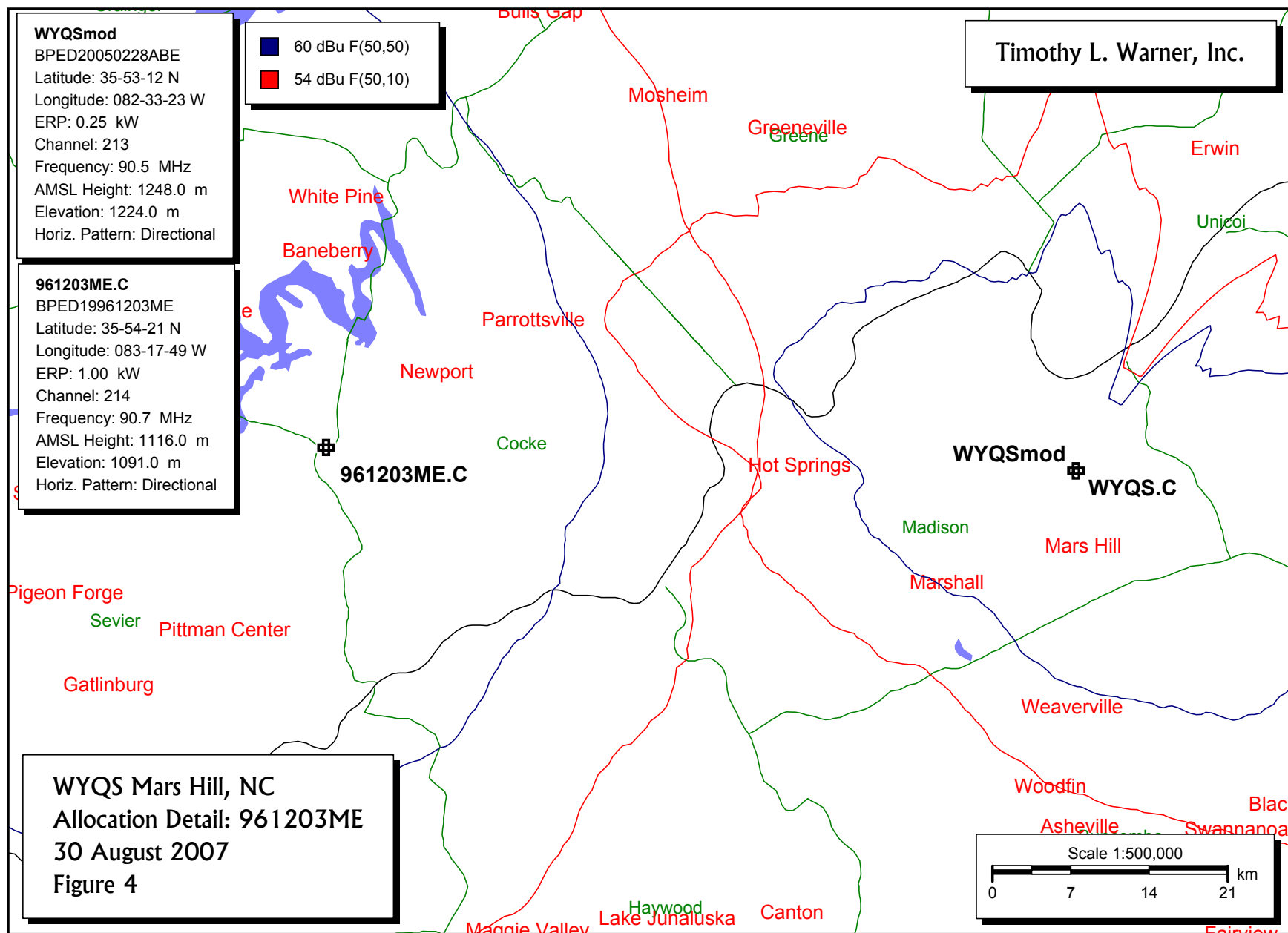


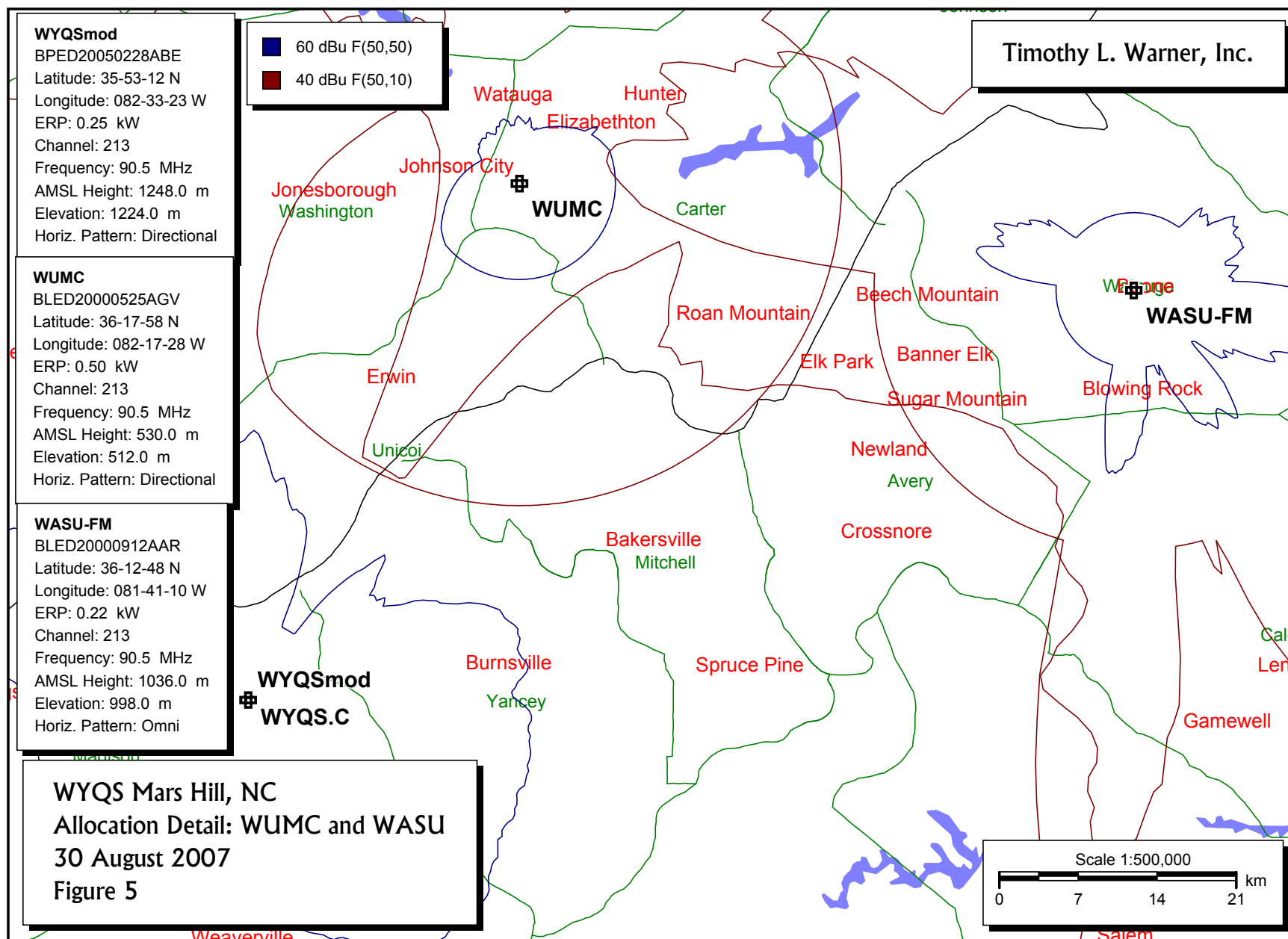
WUMC				WYQS.C				
Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Azimuth (degrees)	ERP (kW)	HAAT (m)	Dist (km)	Actual (dBu)
245.0	000.3196	-0060.2	007.5	021.7	000.2500	0090.8	045.9	38.58
246.0	000.3051	-0055.4	007.5	021.6	000.2500	0091.7	046.1	38.60
247.0	000.2910	-0049.0	007.4	021.6	000.2500	0092.6	046.2	38.62
248.0	000.2772	-0042.0	007.3	021.6	000.2500	0093.3	046.4	38.62
249.0	000.2638	-0037.0	007.2	021.5	000.2500	0093.9	046.5	38.61
250.0	000.2506	-0036.4	007.1	021.5	000.2500	0094.3	046.7	38.59
251.0	000.2404	-0034.8	007.0	021.5	000.2500	0095.0	046.8	38.60
252.0	000.2304	-0032.0	006.9	021.5	000.2500	0095.7	047.0	38.60
253.0	000.2206	-0028.9	006.9	021.4	000.2500	0096.2	047.1	38.59
254.0	000.2110	-0024.7	006.8	021.4	000.2500	0096.6	047.2	38.57
255.0	000.2016	-0023.6	006.7	021.4	000.2500	0096.9	047.4	38.54
256.0	000.1924	-0020.3	006.6	021.4	000.2500	0097.0	047.5	38.49
257.0	000.1835	-0019.1	006.6	021.4	000.2500	0097.0	047.7	38.44
258.0	000.1748	-0017.8	006.5	021.4	000.2500	0096.9	047.8	38.38
259.0	000.1662	-0016.0	006.4	021.4	000.2500	0096.8	047.9	38.32
260.0	000.1579	-0013.8	006.3	021.4	000.2500	0096.6	048.1	38.25
261.0	000.1515	-0016.5	006.3	021.4	000.2500	0096.6	048.2	38.21
262.0	000.1453	-0016.7	006.2	021.4	000.2500	0096.5	048.3	38.16
263.0	000.1391	-0015.5	006.1	021.4	000.2500	0096.4	048.5	38.10
264.0	000.1331	-0012.7	006.1	021.4	000.2500	0096.1	048.6	38.03
265.0	000.1273	-0010.5	006.0	021.5	000.2500	0095.7	048.7	37.95
266.0	000.1215	-0010.1	005.9	021.5	000.2500	0095.4	048.8	37.88
267.0	000.1159	-0010.3	005.8	021.5	000.2500	0094.9	048.9	37.79
268.0	000.1104	-0011.4	005.8	021.5	000.2500	0094.3	049.1	37.70

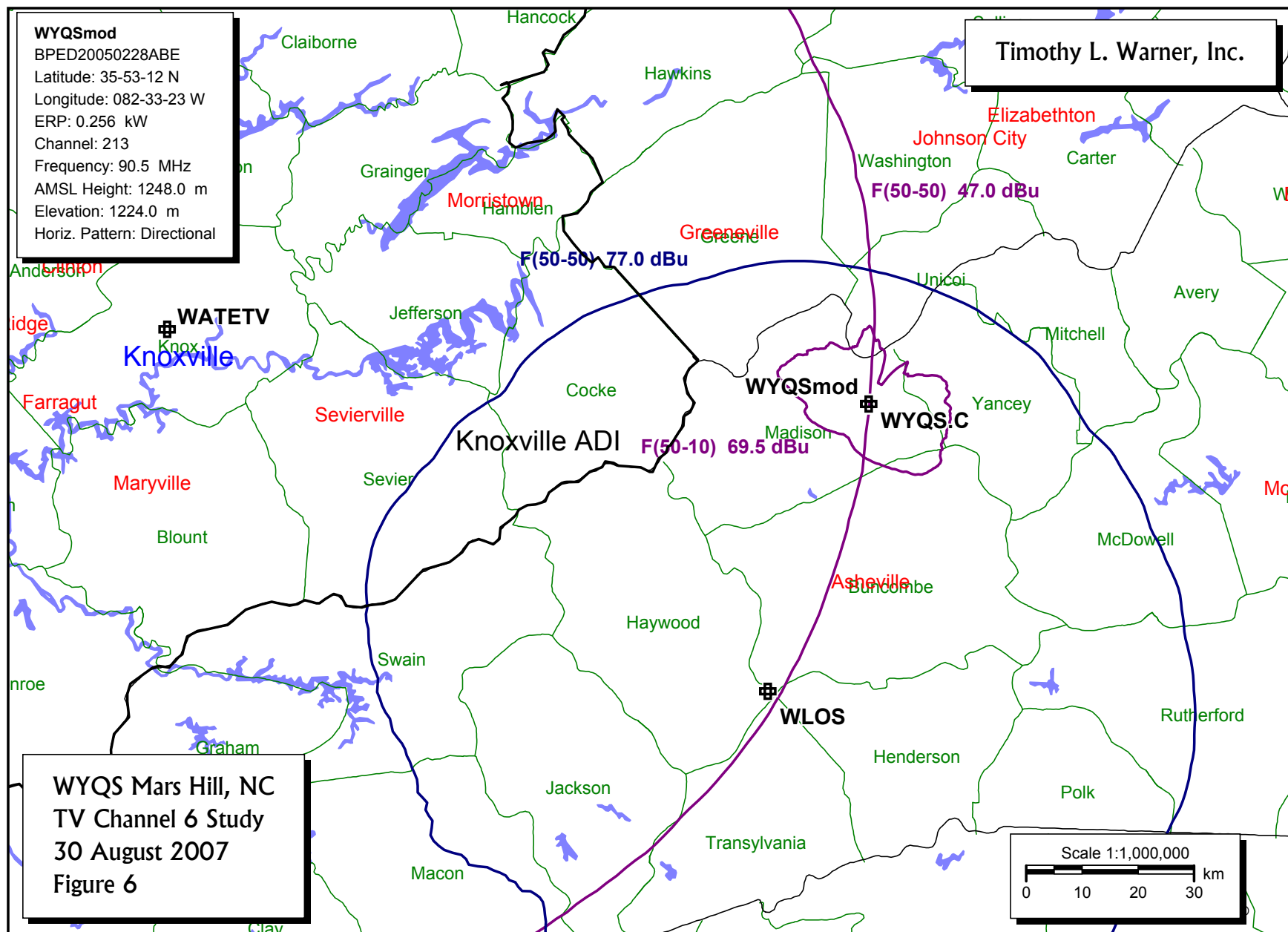






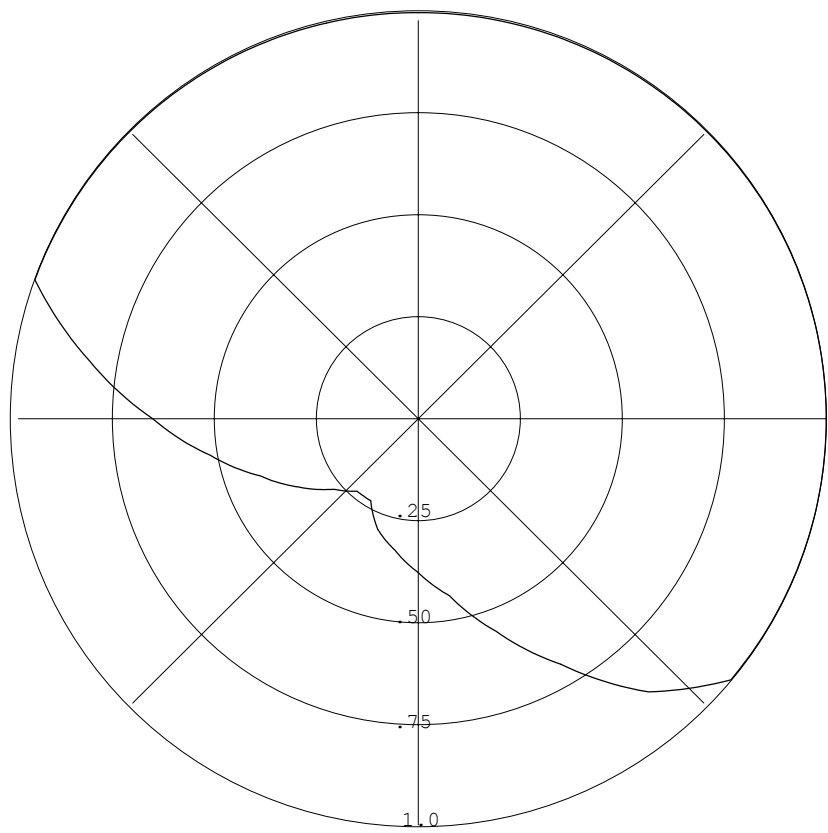






Bearing    Field % VoltageGraph is Percent Relative Field Voltage

000	=	1.000
010	=	1.000
020	=	1.000
030	=	1.000
040	=	1.000
050	=	1.000
060	=	1.000
070	=	1.000
080	=	1.000
090	=	1.000
100	=	1.000
110	=	1.000
120	=	1.000
130	=	1.000
140	=	0.878
150	=	0.698
160	=	0.557
170	=	0.443
180	=	0.379
190	=	0.329
200	=	0.290
210	=	0.233
220	=	0.233
230	=	0.270
240	=	0.337
250	=	0.412
260	=	0.518
270	=	0.651
280	=	0.818
290	=	1.000
300	=	1.000
310	=	1.000
320	=	1.000
330	=	1.000
340	=	1.000
350	=	1.000



WYQS Mars Hill  
Directional Antenna Pattern  
30 August 2007  
Figure 7