

WFAE

University Radio Foundation, Inc.

Charlotte, North Carolina

Allocation Exhibit

February 2004

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University Radio Foundation, Inc.
Charlotte, 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 Engineering Exhibit for the University Radio Foundation, 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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4 February 2004

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Narrative

This exhibit supports the attached application of University Radio Foundation, Inc. to modify Construction Permit File No. BPED-19960429IC. The modification proposes a minor change. The changes are a change of site with change in coordinates, site elevation and radiation center height and a modification of the directional antenna. This modification is a minor change under §73.3573(a)(1).

Figure 5 shows the relationship between the licensed, authorized and proposed sites and service contours.

Allocations

An allocation table is included on page 18 of this exhibit. Figure 1 shows the relationship between the proposed WFAE facilities and all facilities or applications where the direct line separation between protected and interfering contours is 20 kilometers or less. Where the separation is 2 kilometers or less, detail maps and tabulated contours are provided. Figure 2 shows the separation between the proposed facilities and the authorized facilities of WSNC, Winston-Salem, North Carolina and WNCU, Durham, North Carolina. Figure 3 shows the separation between the proposed contours and those of WSIF, Wilkesboro, North Carolina. Figure 4 shows the separation between the proposed contours and those of WRBK, Richburg, South Carolina.

The contours for the existing and proposed facilities are calculated using height above average terrain calculated at one degree horizontal increments with terrain data extracted from a 3 arcsecond terrain database. The terrain data is the NED03 database

provided by V-Soft Communications, Inc. Contours are calculated by Probe 3™ from V-Soft Communications, Inc. The proposed WFAE contours are tabulated on pages 7 and 8 of this exhibit. The protected and interfering contours for WSNC, WNCU, WSIF and WRBK are on the following pages.

Channel 6 Television

There are no Channel 6 Television stations with the study distance required for operation on Channel 214, 90.7 MHz. This proposal therefore is in compliance with §73.525.

Proposed Site

The proposed site is an existing electronic site. The proposed antennas will be mounted to an existing tower. There are no predicted negative impacts from the proposed changes.

Should any problems develop, University Radio Foundation, Inc. will promptly discharge its obligation under §73.318. University Radio Foundation, Inc. will take any steps necessary to eliminate the problem. Possible solutions to blanketing interference might include, but not be limited to, the installation of a filter in the antenna input of the offending receiver, additional filtering in the output of the proposed transmitter, and the installation of RF chokes in the speaker and power cables of the offending receiver. In addition, University Radio Foundation, Inc. will treat any reports which may be receiver-induced intermodulation interference as though they were blanketing interference reports and address them accordingly.

Directional Antenna

This application proposes an Electronics Research Inc. (“ERI”) 1083-5CP-DA directional antenna array. The maximum relative field, encompassing both horizontal and vertical polarizations, is plotted as Figure 6 and tabulated as Figure 7.

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, a full-scale section of the antenna and the antenna mounting structure, including all feed lines, conduits and other appurtenances, will be constructed and used to determine the final antenna configuration. A complete proof of performance will be prepared by the manufacturer. The antenna will be mounted to the tower as specified by the antenna manufacturer. The orientation will be confirmed by a registered land surveyor. The assembly and installation of the antenna will be confirmed by a qualified engineer.

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	0.513	26.3	337.0	61.7	145.1	90.2	7.2
1	0.503	25.3	337.4	61.3	144.2	89.6	7.1
2	0.492	24.2	338.6	61.0	143.5	89.2	7.0
3	0.482	23.2	339.4	60.6	142.6	88.7	6.9
4	0.471	22.2	338.6	60.1	141.6	88.0	6.8
5	0.461	21.2	338.5	59.7	140.7	87.4	6.7
6	0.450	20.3	338.9	59.3	139.8	86.8	6.6
7	0.440	19.3	342.8	59.1	139.3	86.5	6.5
8	0.429	18.4	344.4	58.7	138.5	86.0	6.4
9	0.419	17.5	345.5	58.3	137.7	85.5	6.3
10	0.408	16.6	346.2	57.9	136.8	84.9	6.2
11	0.401	16.1	347.1	57.6	136.3	84.5	6.2
12	0.394	15.6	347.5	57.3	135.7	84.1	6.1
13	0.388	15.0	348.0	57.0	135.1	83.7	6.0
14	0.381	14.5	347.6	56.7	134.3	83.2	5.9
15	0.374	14.0	346.3	56.3	133.5	82.6	5.9
16	0.367	13.5	345.9	55.9	132.7	82.1	5.8
17	0.360	13.0	345.4	55.5	132.0	81.6	5.7
18	0.354	12.5	346.5	55.2	131.4	81.2	5.6
19	0.347	12.0	346.6	54.8	130.7	80.7	5.6
20	0.340	11.6	347.0	54.5	130.0	80.2	5.5
21	0.341	11.6	346.7	54.5	130.1	80.3	5.5
22	0.342	11.7	346.6	54.6	130.2	80.3	5.5
23	0.343	11.8	347.3	54.7	130.4	80.5	5.5
24	0.344	11.8	347.4	54.8	130.5	80.6	5.5
25	0.345	11.9	347.5	54.8	130.7	80.6	5.5
26	0.346	12.0	347.8	54.9	130.8	80.7	5.6
27	0.347	12.0	348.3	55.0	131.0	80.9	5.6
28	0.348	12.1	349.6	55.1	131.3	81.1	5.6
29	0.349	12.2	349.3	55.1	131.3	81.1	5.6
30	0.350	12.3	349.3	55.2	131.4	81.2	5.6
31	0.356	12.7	348.5	55.5	131.9	81.6	5.7
32	0.362	13.1	347.8	55.7	132.5	81.9	5.7
33	0.368	13.5	348.1	56.1	133.1	82.4	5.8
34	0.374	14.0	348.2	56.4	133.7	82.8	5.9
35	0.380	14.4	349.7	56.8	134.5	83.4	5.9
36	0.386	14.9	351.1	57.2	135.3	83.9	6.0
37	0.392	15.4	350.3	57.4	135.8	84.2	6.1
38	0.398	15.8	349.8	57.6	136.3	84.6	6.1
39	0.404	16.3	349.4	57.9	136.8	84.9	6.2
40	0.410	16.8	350.2	58.2	137.5	85.4	6.3
41	0.421	17.7	349.8	58.7	138.4	86.0	6.4
42	0.431	18.6	349.8	59.2	139.4	86.7	6.5
43	0.442	19.5	351.4	59.7	140.6	87.5	6.6
44	0.452	20.5	352.6	60.3	141.7	88.3	6.7

* Radial included in average HAAT.

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	0.463	21.4	353.2	60.8	142.7	88.9	6.8
46	0.474	22.4	353.5	61.2	143.7	89.6	7.0
47	0.484	23.4	353.9	61.7	144.8	90.2	7.1
48	0.495	24.5	354.8	62.2	145.9	90.9	7.2
49	0.505	25.5	353.5	62.5	146.7	91.4	7.3
50	0.516	26.6	353.9	62.9	147.6	92.0	7.4
51	0.520	27.1	354.6	63.2	148.1	92.3	7.4
52	0.525	27.5	354.3	63.3	148.5	92.5	7.5
53	0.529	28.0	353.7	63.4	148.8	92.7	7.5
54	0.534	28.5	353.3	63.6	149.1	92.8	7.5
55	0.538	28.9	352.6	63.7	149.4	93.0	7.6
56	0.542	29.4	353.7	63.9	149.9	93.3	7.6
57	0.547	29.9	354.5	64.1	150.4	93.6	7.7
58	0.551	30.4	353.6	64.2	150.6	93.8	7.7
59	0.556	30.9	352.7	64.3	150.8	93.9	7.7
60	0.560	31.4	352.4	64.5	151.2	94.1	7.8
61	0.574	32.9	354.7	65.1	152.6	95.0	7.9
62	0.588	34.6	355.9	65.7	153.9	95.9	8.1
63	0.602	36.2	355.4	66.1	154.9	96.5	8.2
64	0.616	37.9	355.6	66.6	156.0	97.2	8.3
65	0.630	39.7	355.7	67.1	157.0	97.9	8.4
66	0.644	41.5	355.7	67.5	158.0	98.5	8.6
67	0.658	43.3	356.8	68.0	159.2	99.3	8.7
68	0.672	45.2	358.4	68.6	160.4	100.1	8.8
69	0.686	47.1	360.0	69.1	161.6	101.0	8.9
70	0.700	49.0	361.7	69.6	162.7	101.8	9.1
71	0.718	51.6	364.2	70.3	164.2	102.9	9.2
72	0.736	54.2	365.1	70.9	165.5	103.8	9.4
73	0.754	56.9	363.3	71.3	166.4	104.4	9.5
74	0.772	59.6	360.9	71.6	167.2	104.8	9.6
75	0.790	62.4	358.7	71.9	168.0	105.2	9.7
76	0.808	65.3	355.8	72.2	168.7	105.6	9.8
77	0.826	68.2	354.4	72.5	169.5	106.1	9.9
78	0.844	71.2	354.2	72.9	170.5	106.7	10.0
79	0.862	74.3	353.5	73.3	171.5	107.3	10.1
80	0.880	77.4	352.8	73.7	172.4	107.9	10.2
81	0.892	79.6	351.5	73.9	172.8	108.1	10.3
82	0.904	81.7	350.8	74.1	173.4	108.4	10.4
83	0.916	83.9	349.3	74.2	173.8	108.6	10.4
84	0.928	86.1	348.2	74.4	174.3	108.9	10.5
85	0.940	88.4	349.0	74.8	175.0	109.4	10.5
86	0.952	90.6	349.6	75.0	175.7	109.9	10.6
87	0.964	92.9	349.9	75.3	176.3	110.4	10.7
88	0.976	95.3	349.5	75.6	176.8	110.7	10.8
89	0.988	97.6	349.3	75.8	177.4	111.1	10.8

* Radial included in average HAAT.

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	100.0	349.8	76.1	178.0	111.5	10.9
91	1.000	100.0	350.4	76.1	178.1	111.7	10.9
92	1.000	100.0	351.7	76.2	178.3	111.9	10.9
93	1.000	100.0	353.4	76.3	178.4	112.1	11.0
94	1.000	100.0	354.6	76.4	178.6	112.3	11.0
95	1.000	100.0	354.0	76.4	178.5	112.2	11.0
96	1.000	100.0	352.6	76.3	178.3	112.0	10.9
97	1.000	100.0	352.2	76.2	178.3	111.9	10.9
98	1.000	100.0	351.4	76.2	178.2	111.8	10.9
99	1.000	100.0	350.4	76.1	178.1	111.6	10.9
100	1.000	100.0	350.1	76.1	178.1	111.6	10.9
101	1.000	100.0	348.8	76.0	177.9	111.4	10.9
102	1.000	100.0	347.8	75.9	177.8	111.2	10.9
103	1.000	100.0	347.4	75.9	177.7	111.2	10.9
104	1.000	100.0	347.2	75.9	177.7	111.1	10.9
105	1.000	100.0	346.0	75.8	177.6	110.9	10.8
106	1.000	100.0	345.7	75.8	177.5	110.9	10.8
107	1.000	100.0	345.1	75.7	177.4	110.8	10.8
108	1.000	100.0	345.1	75.7	177.5	110.8	10.8
109	1.000	100.0	345.0	75.7	177.4	110.8	10.8
110	1.000	100.0	344.2	75.7	177.3	110.6	10.8
111	1.000	100.0	345.2	75.7	177.5	110.8	10.8
112	1.000	100.0	345.5	75.7	177.5	110.8	10.8
113	1.000	100.0	347.0	75.9	177.7	111.1	10.9
114	1.000	100.0	346.4	75.8	177.6	111.0	10.9
115	1.000	100.0	344.9	75.7	177.4	110.8	10.8
116	1.000	100.0	345.1	75.7	177.5	110.8	10.8
117	1.000	100.0	345.6	75.8	177.5	110.9	10.8
118	1.000	100.0	347.6	75.9	177.8	111.2	10.9
119	1.000	100.0	349.6	76.1	178.0	111.5	10.9
120	1.000	100.0	350.4	76.1	178.1	111.6	10.9
121	1.000	100.0	349.3	76.0	178.0	111.5	10.9
122	1.000	100.0	349.0	76.0	177.9	111.4	10.9
123	1.000	100.0	349.6	76.1	178.0	111.5	10.9
124	1.000	100.0	348.0	75.9	177.8	111.3	10.9
125	1.000	100.0	346.4	75.8	177.6	111.0	10.9
126	1.000	100.0	345.9	75.8	177.6	110.9	10.8
127	1.000	100.0	344.4	75.7	177.4	110.7	10.8
128	1.000	100.0	343.7	75.6	177.3	110.6	10.8
129	1.000	100.0	342.4	75.5	177.1	110.4	10.8
130	1.000	100.0	340.7	75.4	176.9	110.1	10.8
131	1.000	100.0	340.4	75.4	176.9	110.0	10.8
132	1.000	100.0	340.5	75.4	176.9	110.1	10.8
133	1.000	100.0	339.2	75.3	176.7	109.9	10.7
134	1.000	100.0	338.6	75.2	176.6	109.8	10.7

* Radial included in average HAAT.

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	1.000	100.0	338.5	75.2	176.6	109.7	10.7
136	1.000	100.0	338.0	75.2	176.6	109.7	10.7
137	1.000	100.0	337.3	75.1	176.5	109.6	10.7
138	1.000	100.0	336.6	75.1	176.4	109.5	10.7
139	1.000	100.0	337.6	75.2	176.5	109.6	10.7
140	1.000	100.0	337.0	75.1	176.4	109.5	10.7
141	1.000	100.0	339.0	75.3	176.7	109.8	10.7
142	1.000	100.0	338.8	75.3	176.7	109.8	10.7
143	1.000	100.0	337.4	75.2	176.5	109.6	10.7
144	1.000	100.0	338.1	75.2	176.6	109.7	10.7
145	1.000	100.0	337.9	75.2	176.6	109.7	10.7
146	1.000	100.0	337.0	75.1	176.4	109.5	10.7
147	1.000	100.0	336.0	75.1	176.3	109.4	10.7
148	1.000	100.0	336.4	75.1	176.4	109.4	10.7
149	1.000	100.0	335.6	75.0	176.3	109.3	10.7
150	1.000	100.0	333.8	74.9	176.0	109.0	10.7
151	1.000	100.0	331.7	74.7	175.8	108.7	10.6
152	1.000	100.0	330.1	74.6	175.6	108.5	10.6
153	1.000	100.0	328.3	74.5	175.3	108.3	10.6
154	1.000	100.0	326.9	74.4	175.1	108.1	10.5
155	1.000	100.0	325.4	74.3	175.0	107.9	10.5
156	1.000	100.0	323.9	74.2	174.8	107.7	10.5
157	1.000	100.0	324.1	74.2	174.8	107.7	10.5
158	1.000	100.0	324.2	74.2	174.8	107.7	10.5
159	1.000	100.0	324.1	74.2	174.8	107.7	10.5
160	1.000	100.0	321.9	74.0	174.5	107.4	10.5
161	1.000	100.0	321.1	74.0	174.4	107.3	10.5
162	1.000	100.0	320.8	73.9	174.4	107.3	10.5
163	1.000	100.0	321.3	74.0	174.4	107.3	10.5
164	1.000	100.0	320.8	73.9	174.4	107.3	10.5
165	1.000	100.0	323.0	74.1	174.7	107.6	10.5
166	1.000	100.0	323.4	74.1	174.7	107.6	10.5
167	1.000	100.0	321.3	74.0	174.4	107.3	10.5
168	1.000	100.0	321.2	74.0	174.4	107.3	10.5
169	1.000	100.0	321.1	74.0	174.4	107.3	10.5
170	1.000	100.0	321.6	74.0	174.5	107.4	10.5
171	1.000	100.0	322.7	74.1	174.6	107.5	10.5
172	1.000	100.0	322.9	74.1	174.7	107.6	10.5
173	1.000	100.0	323.0	74.1	174.7	107.6	10.5
174	1.000	100.0	322.8	74.1	174.6	107.5	10.5
175	1.000	100.0	322.6	74.1	174.6	107.5	10.5
176	1.000	100.0	323.0	74.1	174.7	107.6	10.5
177	1.000	100.0	325.3	74.3	174.9	107.9	10.5
178	1.000	100.0	326.0	74.3	175.0	108.0	10.5
179	1.000	100.0	326.2	74.3	175.1	108.0	10.5

* Radial included in average HAAT.

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	1.000	100.0	325.1	74.3	174.9	107.8	10.5
181	1.000	100.0	325.5	74.3	175.0	107.9	10.5
182	1.000	100.0	326.5	74.4	175.1	108.0	10.5
183	1.000	100.0	327.5	74.4	175.2	108.2	10.6
184	1.000	100.0	329.1	74.5	175.4	108.4	10.6
185	1.000	100.0	330.9	74.7	175.7	108.6	10.6
186	1.000	100.0	330.3	74.6	175.6	108.5	10.6
187	1.000	100.0	330.4	74.6	175.6	108.5	10.6
188	1.000	100.0	330.6	74.7	175.6	108.6	10.6
189	1.000	100.0	331.9	74.7	175.8	108.8	10.6
190	1.000	100.0	332.3	74.8	175.8	108.8	10.6
191	0.983	96.6	332.7	74.5	175.1	108.3	10.5
192	0.966	93.4	332.1	74.1	174.2	107.7	10.4
193	0.949	90.1	331.0	73.6	173.1	107.1	10.3
194	0.932	86.9	328.5	73.1	171.9	106.2	10.2
195	0.916	83.8	328.6	72.7	171.0	105.7	10.1
196	0.899	80.7	329.0	72.4	170.2	105.2	10.0
197	0.882	77.7	327.5	71.9	169.0	104.4	9.9
198	0.865	74.8	326.7	71.4	168.0	103.8	9.8
199	0.848	71.9	325.8	71.0	166.9	103.1	9.6
200	0.831	69.1	323.9	70.4	165.6	102.3	9.5
201	0.814	66.3	323.5	70.0	164.5	101.7	9.4
202	0.797	63.5	323.2	69.5	163.4	101.1	9.3
203	0.780	60.8	323.0	69.1	162.4	100.5	9.2
204	0.780	60.8	322.2	69.0	162.3	100.4	9.2
205	0.780	60.8	320.7	68.9	162.0	100.2	9.1
206	0.798	63.6	318.5	69.2	162.9	100.6	9.2
207	0.816	66.5	316.7	69.5	163.7	101.0	9.3
208	0.833	69.5	315.3	69.8	164.6	101.5	9.4
209	0.851	72.5	315.2	70.3	165.6	102.1	9.5
210	0.869	75.5	315.9	70.7	166.8	102.7	9.6
211	0.882	77.8	315.1	71.0	167.4	103.1	9.7
212	0.895	80.1	314.0	71.2	168.0	103.4	9.8
213	0.908	82.5	312.8	71.4	168.6	103.6	9.8
214	0.921	84.9	313.2	71.7	169.4	104.1	9.9
215	0.935	87.3	312.4	71.9	170.0	104.4	10.0
216	0.948	89.8	313.0	72.3	170.7	104.8	10.0
217	0.961	92.3	312.4	72.5	171.4	105.2	10.1
218	0.974	94.8	311.5	72.7	171.9	105.5	10.2
219	0.987	97.4	312.1	73.0	172.7	105.9	10.2
220	1.000	100.0	311.9	73.3	173.3	106.3	10.3
221	1.000	100.0	312.6	73.3	173.4	106.3	10.3
222	1.000	100.0	314.2	73.4	173.6	106.5	10.3
223	1.000	100.0	316.1	73.6	173.8	106.7	10.4
224	1.000	100.0	318.1	73.7	174.1	107.0	10.4

* Radial included in average HAAT.

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	1.000	100.0	319.6	73.8	174.2	107.1	10.4
226	1.000	100.0	320.7	73.9	174.4	107.3	10.5
227	1.000	100.0	321.7	74.0	174.5	107.4	10.5
228	1.000	100.0	322.7	74.1	174.6	107.5	10.5
229	1.000	100.0	323.1	74.1	174.7	107.6	10.5
230	1.000	100.0	322.8	74.1	174.6	107.5	10.5
231	1.000	100.0	322.5	74.1	174.6	107.5	10.5
232	1.000	100.0	320.7	73.9	174.4	107.3	10.5
233	1.000	100.0	319.5	73.8	174.2	107.1	10.4
234	1.000	100.0	319.0	73.8	174.2	107.1	10.4
235	1.000	100.0	318.6	73.8	174.1	107.0	10.4
236	1.000	100.0	319.1	73.8	174.2	107.1	10.4
237	1.000	100.0	318.9	73.8	174.2	107.1	10.4
238	1.000	100.0	319.0	73.8	174.2	107.1	10.4
239	1.000	100.0	317.8	73.7	174.0	106.9	10.4
240	1.000	100.0	316.0	73.6	173.8	106.7	10.4
241	1.000	100.0	315.1	73.5	173.7	106.6	10.4
242	1.000	100.0	313.4	73.4	173.5	106.4	10.3
243	1.000	100.0	313.6	73.4	173.5	106.4	10.3
244	1.000	100.0	314.6	73.5	173.6	106.6	10.4
245	1.000	100.0	315.6	73.6	173.7	106.7	10.4
246	1.000	100.0	317.5	73.7	174.0	106.9	10.4
247	1.000	100.0	318.0	73.7	174.0	107.0	10.4
248	1.000	100.0	319.3	73.8	174.2	107.1	10.4
249	1.000	100.0	320.4	73.9	174.3	107.2	10.4
250	1.000	100.0	320.7	73.9	174.4	107.3	10.4
251	1.000	100.0	320.2	73.9	174.3	107.2	10.4
252	1.000	100.0	319.1	73.8	174.2	107.1	10.4
253	1.000	100.0	318.6	73.8	174.1	107.0	10.4
254	1.000	100.0	318.5	73.8	174.1	107.0	10.4
255	1.000	100.0	318.5	73.8	174.1	107.0	10.4
256	1.000	100.0	318.1	73.7	174.0	107.0	10.4
257	1.000	100.0	317.5	73.7	174.0	106.9	10.4
258	1.000	100.0	316.7	73.6	173.9	106.8	10.4
259	1.000	100.0	315.6	73.5	173.7	106.7	10.4
260	1.000	100.0	315.8	73.6	173.8	106.7	10.4
261	1.000	100.0	315.4	73.5	173.7	106.7	10.4
262	1.000	100.0	315.4	73.5	173.7	106.6	10.4
263	1.000	100.0	315.0	73.5	173.7	106.6	10.4
264	1.000	100.0	314.6	73.5	173.6	106.6	10.4
265	1.000	100.0	314.6	73.5	173.6	106.6	10.4
266	1.000	100.0	313.8	73.4	173.5	106.5	10.3
267	1.000	100.0	313.2	73.4	173.4	106.4	10.3
268	1.000	100.0	311.8	73.3	173.3	106.2	10.3
269	1.000	100.0	310.9	73.2	173.2	106.1	10.3

* Radial included in average HAAT.

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	1.000	100.0	310.4	73.2	173.1	106.1	10.3
271	1.000	100.0	310.5	73.2	173.1	106.1	10.3
272	1.000	100.0	310.7	73.2	173.2	106.1	10.3
273	1.000	100.0	310.1	73.1	173.1	106.1	10.3
274	1.000	100.0	309.3	73.1	173.0	106.0	10.3
275	1.000	100.0	308.3	73.0	172.9	105.9	10.3
276	1.000	100.0	305.9	72.8	172.6	105.6	10.2
277	1.000	100.0	304.9	72.8	172.5	105.5	10.2
278	1.000	100.0	304.9	72.8	172.5	105.5	10.2
279	1.000	100.0	305.8	72.8	172.6	105.6	10.2
280	1.000	100.0	307.1	72.9	172.7	105.8	10.2
281	1.000	100.0	309.1	73.1	173.0	106.0	10.3
282	1.000	100.0	310.2	73.1	173.1	106.1	10.3
283	1.000	100.0	311.4	73.2	173.2	106.2	10.3
284	1.000	100.0	311.9	73.3	173.3	106.3	10.3
285	1.000	100.0	312.4	73.3	173.4	106.3	10.3
286	1.000	100.0	312.9	73.3	173.4	106.4	10.3
287	1.000	100.0	313.2	73.4	173.5	106.4	10.3
288	1.000	100.0	314.3	73.5	173.6	106.5	10.3
289	1.000	100.0	315.2	73.5	173.7	106.6	10.4
290	1.000	100.0	317.6	73.7	174.0	106.9	10.4
291	1.000	100.0	318.3	73.8	174.1	107.0	10.4
292	1.000	100.0	318.8	73.8	174.1	107.0	10.4
293	1.000	100.0	319.2	73.8	174.2	107.1	10.4
294	1.000	100.0	319.0	73.8	174.2	107.1	10.4
295	1.000	100.0	319.6	73.8	174.2	107.1	10.4
296	1.000	100.0	319.5	73.8	174.2	107.1	10.4
297	1.000	100.0	319.2	73.8	174.2	107.1	10.4
298	1.000	100.0	319.1	73.8	174.2	107.1	10.4
299	1.000	100.0	318.8	73.8	174.1	107.0	10.4
300	1.000	100.0	318.7	73.8	174.1	107.0	10.4
301	1.000	100.0	319.4	73.8	174.2	107.1	10.4
302	1.000	100.0	320.4	73.9	174.3	107.2	10.4
303	1.000	100.0	320.8	73.9	174.4	107.3	10.5
304	1.000	100.0	320.9	73.9	174.4	107.3	10.5
305	1.000	100.0	320.7	73.9	174.4	107.3	10.4
306	1.000	100.0	321.6	74.0	174.5	107.4	10.5
307	1.000	100.0	321.4	74.0	174.5	107.4	10.5
308	1.000	100.0	318.3	73.8	174.1	107.0	10.4
309	1.000	100.0	315.8	73.6	173.8	106.7	10.4
310	1.000	100.0	314.3	73.5	173.6	106.5	10.3
311	0.980	95.9	313.3	73.0	172.4	105.8	10.2
312	0.959	92.0	313.5	72.5	171.4	105.2	10.1
313	0.939	88.1	315.3	72.2	170.5	104.8	10.0
314	0.918	84.3	316.2	71.9	169.5	104.3	9.9

* Radial included in average HAAT.

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	0.898	80.6	316.1	71.4	168.4	103.6	9.8
316	0.877	76.9	315.8	70.9	167.2	103.0	9.7
317	0.857	73.4	316.7	70.5	166.1	102.4	9.6
318	0.836	69.9	317.2	70.0	165.0	101.8	9.4
319	0.816	66.5	317.6	69.6	163.8	101.1	9.3
320	0.795	63.2	318.1	69.1	162.6	100.5	9.2
321	0.779	60.6	318.8	68.7	161.7	100.0	9.1
322	0.762	58.1	320.7	68.4	160.9	99.6	9.0
323	0.746	55.7	321.9	68.1	160.1	99.1	8.9
324	0.730	53.3	323.1	67.7	159.2	98.6	8.8
325	0.714	50.9	324.5	67.4	158.3	98.1	8.7
326	0.697	48.6	325.1	67.0	157.3	97.6	8.6
327	0.681	46.4	327.5	66.6	156.5	97.1	8.5
328	0.665	44.2	328.5	66.2	155.5	96.5	8.4
329	0.648	42.0	327.5	65.7	154.3	95.7	8.3
330	0.632	39.9	327.8	65.2	153.1	95.1	8.2
331	0.619	38.3	328.9	64.8	152.4	94.6	8.1
332	0.606	36.7	329.8	64.5	151.5	94.1	8.0
333	0.593	35.2	328.7	63.9	150.4	93.4	7.8
334	0.580	33.6	328.6	63.5	149.4	92.7	7.7
335	0.580	33.6	331.2	63.7	149.7	93.0	7.8
336	0.580	33.6	332.3	63.8	149.9	93.1	7.8
337	0.580	33.6	333.5	63.8	150.1	93.2	7.8
338	0.593	35.1	336.2	64.5	151.4	94.1	7.9
339	0.605	36.6	336.5	64.9	152.4	94.7	8.0
340	0.618	38.2	338.5	65.5	153.6	95.5	8.2
341	0.621	38.5	341.0	65.8	154.2	95.9	8.2
342	0.623	38.9	340.9	65.8	154.4	96.0	8.2
343	0.626	39.2	340.6	65.9	154.5	96.1	8.2
344	0.629	39.5	341.6	66.1	154.9	96.3	8.3
345	0.632	39.9	343.5	66.3	155.3	96.6	8.3
346	0.634	40.2	344.5	66.4	155.7	96.9	8.4
347	0.637	40.6	345.7	66.6	156.1	97.1	8.4
348	0.640	40.9	343.6	66.5	155.9	97.0	8.4
349	0.642	41.3	341.1	66.5	155.8	96.9	8.4
350	0.645	41.6	340.0	66.5	155.8	96.9	8.4
351	0.632	39.9	339.2	66.0	154.7	96.2	8.3
352	0.619	38.3	339.2	65.6	153.8	95.6	8.2
353	0.605	36.7	338.2	65.1	152.7	94.9	8.0
354	0.592	35.1	337.1	64.5	151.5	94.2	7.9
355	0.579	33.5	334.9	63.9	150.2	93.3	7.8
356	0.566	32.0	334.0	63.4	149.0	92.6	7.7
357	0.553	30.5	335.6	63.0	148.2	92.1	7.6
358	0.539	29.1	336.0	62.6	147.2	91.4	7.4
359	0.526	27.7	336.4	62.1	146.1	90.8	7.3

* Radial included in average HAAT.

Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)
140	51.9	22.6	34.2	180	56.4	17.3	25.5	220	71.3	17.0	25.1
141	53.3	22.8	34.5	181	57.3	17.4	25.5	221	71.3	17.1	25.3
142	54.2	22.9	34.6	182	58.9	17.5	25.7	222	70.2	17.1	25.2
143	53.5	22.6	34.1	183	60.2	17.5	25.8	223	70.9	17.3	25.4
144	53.2	22.4	33.8	184	60.5	17.4	25.6	224	71.7	17.5	25.7
145	54.2	22.5	33.9	185	60.5	17.3	25.4	225	71.0	17.5	25.7
146	54.6	22.5	33.8	186	61.5	17.3	25.4	226	70.9	17.5	25.8
147	55.4	22.5	33.9	187	62.9	17.3	25.5	227	72.9	17.9	26.3
148	56.1	22.5	33.9	188	63.5	17.2	25.4	228	76.4	18.4	27.1
149	55.8	22.3	33.5	189	64.4	17.2	25.4	229	80.1	19.0	27.9
150	54.8	22.0	32.9	190	65.7	17.2	25.4	230	83.8	19.5	28.7
151	54.5	21.8	32.5	191	66.4	17.2	25.4	231	84.6	19.8	29.1
152	56.6	22.0	32.9	192	66.9	17.2	25.4	232	83.8	19.9	29.2
153	57.4	22.0	32.9	193	67.8	17.2	25.4	233	83.7	20.0	29.4
154	59.3	22.2	33.2	194	68.0	17.2	25.3	234	86.2	20.5	30.1
155	59.8	22.1	33.0	195	67.6	17.0	25.1	235	87.4	20.8	30.6
156	59.9	21.9	32.7	196	66.8	16.8	24.9	236	85.2	20.7	30.4
157	59.3	21.7	32.2	197	66.4	16.7	24.7	237	81.5	20.4	29.9
158	59.4	21.5	31.9	198	66.9	16.7	24.6	238	79.3	20.2	29.7
159	60.8	21.6	32.0	199	68.2	16.7	24.7	239	78.1	20.2	29.7
160	60.6	21.4	31.6	200	69.2	16.8	24.8	240	75.9	20.1	29.5
161	61.1	21.3	31.4	201	69.9	16.8	24.9	241	73.7	20.0	29.3
162	61.0	21.1	31.1	202	69.5	16.7	24.8	242	71.6	19.9	29.1
163	60.9	20.9	30.8	203	70.1	16.8	24.8	243	70.8	19.9	29.2
164	61.4	20.8	30.6	204	70.0	16.8	24.8	244	68.8	19.8	29.1
165	62.1	20.7	30.5	205	70.5	16.8	24.8	245	66.5	19.7	28.8
166	61.2	20.4	30.0	206	70.1	16.7	24.7	246	68.0	20.0	29.4
167	60.7	20.2	29.6	207	70.3	16.7	24.7	247	68.7	20.3	29.8
168	60.2	19.9	29.2	208	70.0	16.7	24.7	248	68.0	20.4	29.9
169	59.6	19.7	28.8	209	70.9	16.7	24.8	249	67.5	20.5	30.1
170	59.8	19.5	28.6	210	71.3	16.8	24.8	250	66.8	20.5	30.1
171	61.1	19.5	28.6	211	71.8	16.9	24.9	251	67.4	20.8	30.6
172	61.4	19.4	28.5	212	71.3	16.8	24.9	252	66.7	20.9	30.7
173	60.8	19.2	28.1	213	71.2	16.8	24.9	253	66.6	21.0	31.0
174	60.0	18.9	27.7	214	71.2	16.9	24.9	254	67.6	21.4	31.6
175	59.2	18.6	27.3	215	70.5	16.8	24.8	255	66.6	21.4	31.7
176	58.5	18.4	26.9	216	71.0	16.9	25.0	256	65.0	21.3	31.6
177	57.5	18.0	26.4	217	71.1	16.9	25.0	257	65.3	21.6	32.0
178	56.7	17.7	26.0	218	70.5	16.9	24.9	258	64.7	21.6	32.1
179	56.0	17.5	25.7	219	70.6	16.9	25.0	259	63.1	21.6	32.0

Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	40 dBu F(50,10) (km)
180	168.3	26.5	77.9	215	120.7	22.9	70.5	250	111.9	27.7	83.7
181	167.8	26.5	77.8	216	118.6	22.8	70.2	251	110.3	27.9	84.2
182	167.3	26.4	77.7	217	115.2	22.5	69.6	252	107.7	27.9	84.5
183	166.4	26.4	77.6	218	115.0	22.5	69.5	253	104.9	27.8	84.8
184	167.1	26.4	77.7	219	113.1	22.3	69.2	254	102.8	27.9	85.2
185	168.3	26.5	77.9	220	112.8	22.3	69.1	255	101.3	28.0	85.6
186	171.1	26.7	78.3	221	112.4	22.3	69.2	256	99.1	28.0	86.0
187	172.6	26.8	78.5	222	110.8	22.1	69.0	257	97.2	28.0	86.4
188	174.6	26.9	78.7	223	107.9	21.9	68.6	258	96.2	28.1	86.9
189	175.0	27.0	78.8	224	108.4	22.0	68.8	259	95.4	28.3	87.4
190	174.0	26.9	78.7	225	109.9	22.2	69.2	260	94.5	28.4	87.9
191	172.1	26.8	78.4	226	112.0	22.4	69.7	261	92.2	28.4	88.3
192	170.7	26.7	78.2	227	116.6	22.9	70.6	262	90.8	28.5	88.9
193	171.6	26.7	78.3	228	120.1	23.2	71.3	263	90.3	28.8	89.6
194	171.3	26.7	78.3	229	123.0	23.5	71.9	264	88.9	28.9	90.2
195	169.1	26.6	78.0	230	121.2	23.4	71.7	265	88.7	29.1	90.9
196	167.9	26.5	77.8	231	117.5	23.3	71.8	266	89.0	29.5	91.7
197	165.0	26.3	77.4	232	115.3	23.4	72.1	267	89.1	29.8	92.5
198	162.2	26.1	77.0	233	113.1	23.5	72.4	268	88.6	30.0	93.1
199	160.0	25.9	76.7	234	110.4	23.5	72.6	269	87.1	30.1	93.6
200	159.1	25.8	76.6	235	108.0	23.5	72.9	270	88.4	30.6	94.6
201	156.7	25.7	76.2	236	110.4	24.0	74.0	271	86.2	30.6	95.1
202	155.1	25.6	76.0	237	113.6	24.5	75.2	272	88.3	31.3	96.3
203	155.3	25.6	76.0	238	114.3	24.8	75.9	273	91.1	32.2	97.7
204	154.9	25.5	76.0	239	116.2	25.2	76.9	274	92.6	32.8	98.9
205	154.4	25.5	75.9	240	116.0	25.4	77.5	275	93.1	33.3	99.8
206	152.3	25.3	75.6	241	113.9	25.5	77.9	276	93.5	33.7	100.8
207	148.9	25.1	75.1	242	112.4	25.7	78.4	277	93.1	33.9	101.6
208	143.8	24.7	74.3	243	111.7	25.9	79.0	278	93.3	34.3	102.5
209	141.5	24.5	73.9	244	111.7	26.1	79.7	279	95.0	35.0	103.6
210	140.4	24.5	73.8	245	114.2	26.7	80.8	280	94.8	35.2	104.4
211	136.1	24.1	73.1	246	117.8	27.3	82.0	281	94.2	35.5	105.2
212	128.8	23.6	71.9	247	117.2	27.5	82.6	282	93.9	35.8	106.0
213	124.1	23.2	71.1	248	113.1	27.3	82.6	283	94.4	36.2	107.0
214	121.7	23.0	70.7	249	112.8	27.6	83.2	284	93.7	36.3	107.7

Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	54 dBu F(50,10) (km)
90	-40.6	10.2	14.2	135	-153.8	10.2	14.2	180	-79.3	10.2	14.2
91	-40.0	10.2	14.2	136	-148.7	10.2	14.2	181	-71.3	10.2	14.2
92	-41.5	10.2	14.2	137	-151.1	10.2	14.2	182	-68.0	10.2	14.2
93	-45.5	10.2	14.2	138	-159.3	10.2	14.2	183	-71.1	10.2	14.2
94	-47.2	10.2	14.2	139	-164.4	10.2	14.2	184	-82.3	10.2	14.2
95	-45.7	10.2	14.2	140	-165.7	10.2	14.2	185	-95.0	10.2	14.2
96	-45.0	10.2	14.2	141	-167.5	10.2	14.2	186	-105.3	10.2	14.2
97	-51.0	10.2	14.2	142	-169.2	10.2	14.2	187	-110.5	10.2	14.2
98	-57.7	10.2	14.2	143	-167.5	10.2	14.2	188	-110.7	10.2	14.2
99	-60.0	10.2	14.2	144	-164.8	10.2	14.2	189	-96.4	10.2	14.2
100	-58.9	10.2	14.2	145	-164.4	10.2	14.2	190	-92.3	10.2	14.2
101	-56.1	10.2	14.2	146	-164.9	10.2	14.2	191	-92.8	10.2	14.2
102	-57.1	10.2	14.2	147	-154.2	10.2	14.2	192	-92.1	10.2	14.2
103	-43.6	10.2	14.2	148	-137.4	10.2	14.2	193	-89.7	10.2	14.2
104	-25.9	10.2	14.2	149	-122.5	10.2	14.2	194	-86.2	10.2	14.2
105	-12.6	10.2	14.2	150	-117.1	10.2	14.2	195	-84.6	10.2	14.2
106	2.6	10.2	14.2	151	-116.9	10.2	14.2	196	-83.7	10.2	14.2
107	8.4	10.2	14.2	152	-111.2	10.2	14.2	197	-79.2	10.2	14.2
108	-1.7	10.2	14.2	153	-100.6	10.2	14.2	198	-70.8	10.2	14.2
109	-17.3	10.2	14.2	154	-98.9	10.2	14.2	199	-61.8	10.2	14.2
110	-31.2	10.2	14.2	155	-105.4	10.2	14.2	200	-60.8	10.2	14.2
111	-44.8	10.2	14.2	156	-108.8	10.2	14.2	201	-52.8	10.2	14.2
112	-53.4	10.2	14.2	157	-103.2	10.2	14.2	202	-52.1	10.2	14.2
113	-67.0	10.2	14.2	158	-101.1	10.2	14.2	203	-57.5	10.2	14.2
114	-81.8	10.2	14.2	159	-94.1	10.2	14.2	204	-60.6	10.2	14.2
115	-93.0	10.2	14.2	160	-88.2	10.2	14.2	205	-60.6	10.2	14.2
116	-100.8	10.2	14.2	161	-87.0	10.2	14.2	206	-64.8	10.2	14.2
117	-105.8	10.2	14.2	162	-84.3	10.2	14.2	207	-69.5	10.2	14.2
118	-106.4	10.2	14.2	163	-79.3	10.2	14.2	208	-70.1	10.2	14.2
119	-111.5	10.2	14.2	164	-77.2	10.2	14.2	209	-65.1	10.2	14.2
120	-121.3	10.2	14.2	165	-74.6	10.2	14.2	210	-64.4	10.2	14.2
121	-129.7	10.2	14.2	166	-81.4	10.2	14.2	211	-68.0	10.2	14.2
122	-134.3	10.2	14.2	167	-95.0	10.2	14.2	212	-68.6	10.2	14.2
123	-141.5	10.2	14.2	168	-100.9	10.2	14.2	213	-67.0	10.2	14.2
124	-153.4	10.2	14.2	169	-97.1	10.2	14.2	214	-67.6	10.2	14.2
125	-165.9	10.2	14.2	170	-101.1	10.2	14.2	215	-59.2	10.2	14.2
126	-168.1	10.2	14.2	171	-105.5	10.2	14.2	216	-50.4	10.2	14.2
127	-161.4	10.2	14.2	172	-96.0	10.2	14.2	217	-40.5	10.2	14.2
128	-156.5	10.2	14.2	173	-99.1	10.2	14.2	218	-32.6	10.2	14.2
129	-151.2	10.2	14.2	174	-90.8	10.2	14.2	219	-21.9	10.2	14.2
130	-146.9	10.2	14.2	175	-79.4	10.2	14.2	220	-15.5	10.2	14.2
131	-148.0	10.2	14.2	176	-74.6	10.2	14.2	221	-11.9	10.2	14.2
132	-149.3	10.2	14.2	177	-73.3	10.2	14.2	222	-10.8	10.2	14.2
133	-151.0	10.2	14.2	178	-72.2	10.2	14.2	223	-12.1	10.2	14.2
134	-152.8	10.2	14.2	179	-80.3	10.2	14.2	224	-15.1	10.2	14.2

Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	100 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	100 dBu F(50,10) (km)	Bearing (degrees)	HAAT (meters)	60 dBu F(50,50) (km)	100 dBu F(50,10) (km)
330	148.3	22.6	1.8	10	144.5	31.0	2.9	50	149.2	31.5	2.9
331	146.2	22.7	1.8	11	146.9	31.3	2.9	51	149.3	31.5	2.9
332	145.5	22.9	1.9	12	148.3	31.4	2.9	52	151.2	31.7	3.0
333	145.7	23.2	1.9	13	147.2	31.3	2.9	53	150.9	31.7	3.0
334	145.5	23.4	1.9	14	146.1	31.2	2.9	54	149.6	31.6	2.9
335	144.4	23.5	1.9	15	145.2	31.1	2.9	55	150.4	31.6	3.0
336	143.4	23.7	2.0	16	143.6	30.9	2.9	56	151.1	31.7	3.0
337	143.4	23.9	2.0	17	141.8	30.7	2.9	57	151.7	31.8	3.0
338	144.5	24.2	2.0	18	140.1	30.6	2.9	58	153.8	32.0	3.0
339	144.8	24.4	2.1	19	140.6	30.6	2.9	59	155.9	32.2	3.0
340	146.0	24.7	2.1	20	141.9	30.8	2.9	60	155.5	32.2	3.0
341	147.7	25.1	2.1	21	142.5	30.8	2.9	61	155.2	32.2	3.0
342	147.0	25.3	2.2	22	140.4	30.6	2.9	62	154.3	32.1	3.0
343	146.9	25.6	2.2	23	141.4	30.7	2.9	63	155.0	32.1	3.0
344	147.3	25.9	2.2	24	143.5	30.9	2.9	64	154.1	32.0	3.0
345	148.9	26.2	2.3	25	144.2	31.0	2.9	65	154.3	32.1	3.0
346	148.9	26.5	2.3	26	142.7	30.8	2.9	66	154.0	32.0	3.0
347	150.6	26.8	2.4	27	141.2	30.7	2.9	67	152.4	31.8	3.0
348	150.4	27.1	2.4	28	140.4	30.6	2.9	68	153.1	31.9	3.0
349	150.5	27.3	2.4	29	141.3	30.7	2.9	69	154.6	32.1	3.0
350	151.3	27.6	2.4	30	140.7	30.6	2.9	70	154.8	32.1	3.0
351	150.0	27.8	2.5	31	141.0	30.7	2.9	71	154.4	32.1	3.0
352	149.2	28.0	2.5	32	142.0	30.8	2.9	72	154.4	32.1	3.0
353	149.0	28.3	2.5	33	142.5	30.8	2.9	73	155.0	32.1	3.0
354	148.7	28.5	2.6	34	144.2	31.0	2.9	74	155.4	32.2	3.0
355	148.1	28.7	2.6	35	145.2	31.1	2.9	75	155.1	32.1	3.0
356	147.0	28.9	2.6	36	147.6	31.3	2.9	76	155.2	32.1	3.0
357	145.8	29.1	2.7	37	148.5	31.4	2.9	77	155.5	32.2	3.0
358	144.2	29.2	2.7	38	147.4	31.3	2.9	78	154.6	32.1	3.0
359	145.5	29.6	2.7	39	149.3	31.5	2.9	79	155.3	32.2	3.0
0	145.0	29.8	2.7	40	149.5	31.5	2.9	80	155.7	32.2	3.0
1	142.8	29.7	2.7	41	148.7	31.5	2.9	81	156.0	32.2	3.0
2	141.5	29.7	2.8	42	148.8	31.5	2.9	82	157.0	32.3	3.0
3	141.4	29.8	2.8	43	148.7	31.5	2.9	83	157.5	32.4	3.0
4	142.4	30.0	2.8	44	148.1	31.4	2.9	84	157.0	32.3	3.0
5	144.2	30.3	2.8	45	149.1	31.5	2.9	85	155.6	32.2	3.0
6	145.2	30.6	2.8	46	149.2	31.5	2.9	86	155.2	32.1	3.0
7	144.4	30.6	2.9	47	149.8	31.6	2.9	87	155.3	32.2	3.0
8	144.9	30.8	2.9	48	149.1	31.5	2.9	88	157.0	32.3	3.0
9	144.2	30.9	2.9	49	149.1	31.5	2.9	89	156.9	32.3	3.0

WFAE
University Radio Foundation, Inc.
Charlotte, North Carolina
Allocation Table

WFAE at WTVI
Allocation Study

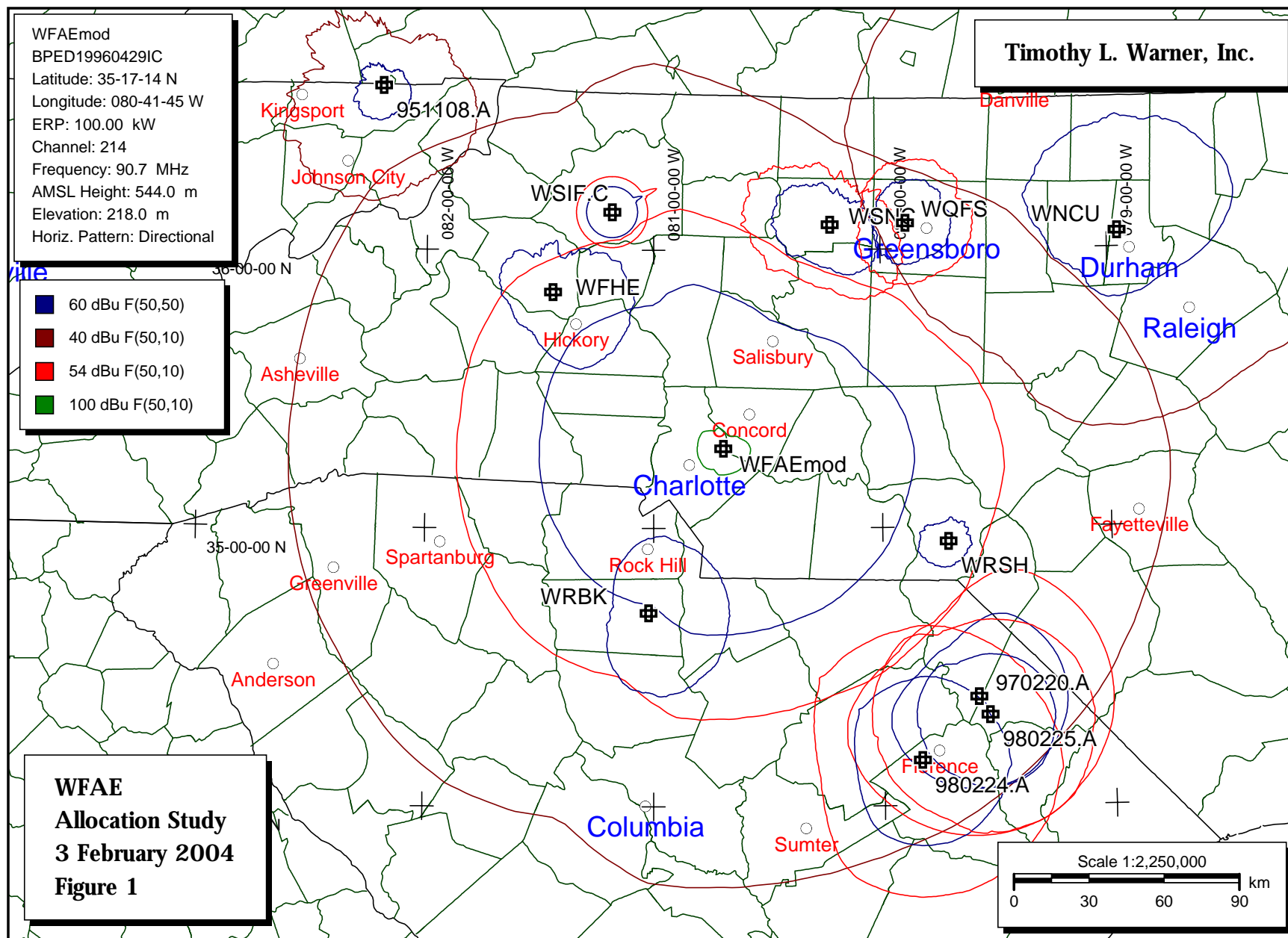
REFERENCE		CH# 214C0- 90.7 MHz, Pwr= 100 kW, HAAT=331.2M, COR= 544 M							DISPLAY DATES	
35 17 14 N		Average Protected F(50-50)= 75.4 km							DATA	02-03-04
80 41 45 W		Ave. F(50-10) 40 dBu= 177.0 54 dBu= 110.2 80 dBu= 36.2 100 dBu= 10.8							SEARCH	02-03-04
CH	CALL	TYPE	AZI.	DIST	LAT.	Pwr(kW)	COR(M)	PRO(km)	*IN*	*OUT*
CITY		STATE	<- -	FILE #	LNG.	HAAT(M)	INT(km)	LICENSEE	(Overlap	in km)
214C0	WFAE.C	CP DCX	44.4	11.08	35 21 30	100	559	60.5	-227.14<	-206.94*<
Charlotte		NC	224.4	BPED19960429IC	80 36 37	347	142.1	University Radio Foundation		
(Construction Permit being modified by this application)										
214C1	WFAE	LIC DCN	168.1	4.03	35 15 06	6.421	428	74.0	-174.19<	-211.37*<
Charlotte		NC	348.1	BLED19900627KA	80 41 12	221	174.4	University Radio Foundation		
213C3	WSNC	LIC DCN	25.5	98.85	36 05 24	1.403	319	54.8	19.19	1.38
Winston-Salem		NC	205.5	BLED19930218KA	80 13 20	70	80.7	Winston-Salem State University		
214C2	WNCU	LIC DCN	60.9	179.46	36 03 33	2.887	268	65.1	36.61	1.51
Durham		NC	240.9	BLED19950601KZ	78 57 14	114	152.5	North Carolina Central Univ		
215A	WSIF.C	CP CX	335.1	104.08	36 08 12	1	358	63.7	26.23	0.93
Wilkesboro		NC	155.1	BPED19951027ME	81 11 02	-105	93.0	Wilkes Community College		
215A	WQFS	LIC CN	38.8	115.53	36 05 39	1.9	314	57.9	34.85	15.36
Greensboro		NC	218.8	BLED19811228AG	79 53 21	51	84.9	Guilford College		
213C3	970220	APP DVN	134.3	141.85	34 23 26	1.663	157	75.2	30.91	8.31
Dillon		SC	314.3	BPED19970220MB	79 35 25	130	109.8	American Family Association		
214A	WEHC.A	APP CN	328.6	194.02	36 46 19	0.5	682	65.9	99.62	30.75
Emory		VA	148.6	BPED19951023IB	81 49 59	7	154.8	Emory & Henry College		
214A	WEHC	LIC CN	328.6	194.02	36 46 19	0.1	682	65.9	109.57	33.61
Emory		VA	148.6	BLED19930527KA	81 49 59	7	154.8	Emory & Henry College		
214A	951108	APP CN	317.3	198.23	36 35 19	0.12	649	70.3	85.64	19.96
Bristol		VA	137.3	BPED19951108NC	82 12 03	137	165.7	Virginia Tech Foundation,		
213C3	980224	APP DCN	147.6	147.31	34 09 50	25	108	75.1	20.60	6.20
Florence		SC	327.6	BPED19980224MB	79 50 17	63	109.4	Francis Marion University		
213A	WASUFM	LIC C	319.3	136.31	36 12 48	0.22	1036	69.4	46.60	21.92
Boone		NC	139.3	BLED20000912AAR	81 41 10	118	100.9	Appalachian State University		
212C3	WRBK	LIC DEX	204.5	72.06	34 41 46	4.4	311	69.0	0.17	31.99
Richburg		SC	24.5	BLED20020909AAJ	81 01 23	144	9.2	Richburg Educational Broad		
214A	941103	APP CN	317.9	200.22	36 36 49	0.5	576	70.1	89.23	23.30
Bristol		VA	137.9	BPED19941103MC	82 12 02	57	165.1	American Family Association		
213C3	980225	APP VN	135.1	150.07	34 19 31	20	76	75.2	30.60	12.88
Marion		SC	315.1	BPED19980225MF	79 32 34	51	109.7	Mary V. Harris Foundation		
213A	WDCC	LIC CN	81.2	142.55	35 28 19	3	145	73.9	48.61	20.86
Sanford		NC	261.2	BLED19820607AL	79 08 36	32	108.2	Central Carolina Community		
213A	WUSCFM	LIC CN	191.9	145.83	34 00 02	2.5	148	74.1	46.32	20.78
Columbia		SC	11.9	BLED19870817KD	81 01 19	55	107.8	The University Of South Ca		

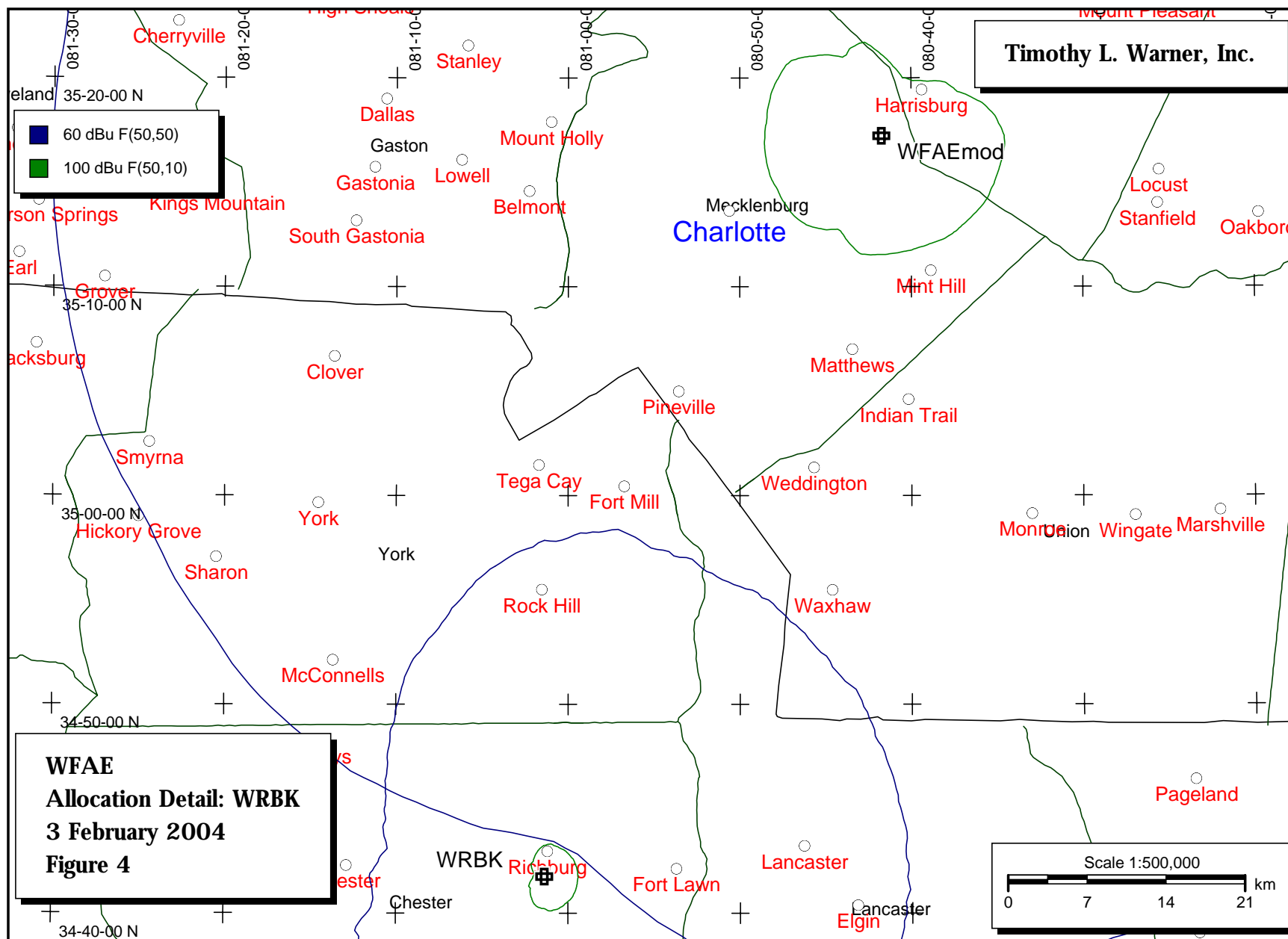
CH CITY	CALL	TYPE STATE	AZI. <-	DIST FILE #	LAT. LNG.	Pwr (kW) HAAT (M)	COR (M) INT (km)	PRO (km) LICENSEE	*IN* (Overlap	*OUT* in km)
214C2 Augusta	WACGFM	LIC CN GA	206.9 26.9	233.85 BLED19890911KC	33 24 15 81 50 19	25 88	200 163.6	69.5 Georgia Public Telecommuni	52.85	33.23
214A Blacksburg	WUVTFM	LIC C VA	6.7 186.7	216.50 BLED19800508AJ	37 13 28 80 24 30	3 25	666 139.5	59.2 Virg. Polytechnic Inst. &	104.03	63.74
212C3 Hickory	WFHE	LIC DCN NC	312.9 132.9	92.20 BLED19951010KI	35 50 59 81 26 40	4 179	498 10.0	72.3 University Radio Foundation	16.87	48.41
216C1 Gaffney	WYFG	LIC DCN SC	259.3 79.3	100.40 BLED19890216KA	35 06 57 81 46 42	35.976 167	419 10.4	73.5 Bible Broadcasting Network	21.08	38.70
217C2 Winston-Salem	WXRI	LIC DCN NC	10.4 190.4	95.65 BLED19970501KA	36 08 06 80 30 14	30.985 84	317 6.2	57.8 Positive Alternative Radio	33.95	51.60
216A Rockingham	WRSH	LIC C NC	112.5 292.5	96.98 BLED19950302KC	34 56 59 79 42 52	0.34 57	148 10.9	75.9 Richmond County Board Of E	19.83	75.42
212A Pinehurst	WBFY	LIC DVX NC	97.9 277.9	103.47 BLED20020522AAE	35 09 13 79 34 16	3.5 69	232 10.9	76.2 American Family Association	25.20	71.49
212A Pinehurst	WBFY.C	CP VN NC	97.9 277.9	103.47 BMPED20000214AAZ	35 09 13 79 34 16	3.5 69	232 10.9	76.2 American Family Association	25.20	71.49
215C1 Hemingway	WLGI	LIC CN SC	144.0 324.0	214.42 BLED19840607BZ	33 43 09 79 19 50	50 144	159 109.7	75.2 Louis G. Gregory Baha'i In	62.02	53.37
214C3 Newport	961203	APP DVN TN	287.1 107.1	245.51 BPED19961203ME	35 54 21 83 17 49	0.062 587	1116 173.5	73.4 Bible Believers Netwrk Inc	99.20	49.33
214C2 North Charleston	WYFH	LIC DCN SC	170.4 350.4	260.24 BLED19911016KA	32 58 23 80 13 54	50 142	158 174.5	74.0 Bible Broadcasting Network	49.66	34.69
213A Martinsville	WPIM	LIC DCN VA	25.9 205.9	175.37 BLED19961115KA	36 42 16 79 50 05	0.136 139	395 80.7	54.9 Positive Alternative Radio	100.97	81.61
213A Mars Hill	WVMHFM	LIC HN NC	290.2 110.2	178.39 BLED19831017AI	35 49 30 82 33 00	0.25 -106	725 106.9	73.7 Mars Hill College	94.54	64.40
213A Mars Hill	WVMHFM	CP CX NC	290.2 110.2	178.62 BPED20011126ABB	35 49 39 82 33 06	0.3 -114	709 106.9	73.7 Mars Hill College	94.31	64.30
216A Dillon	WWHW.C	CP DCX SC	140.1 320.1	112.94 BPED19980225MP	34 30 18 79 54 18	0.135 77	142 10.7	75.1 Csn International	36.99	92.46
213A Elizabethton	WUMC	LIC DC TN	308.5 128.5	182.79 BLED20000525AGV	36 17 58 82 17 28	0.5 -203	530 107.0	73.8 Milligan College	97.05	67.30
211C3 Greensboro	WNAA	LIC CN NC	43.2 223.2	121.79 BLED19850528KO	36 04 58 79 46 08	10 120	370 6.6	59.8 NC Agricultural & Technica	58.53	80.42
217C1 Columbia	WLTR	LIC CY SC	189.7 9.7	131.50 BLED1557	34 07 07 80 56 12	100 211	331 10.6	74.8 South Carolina Educational	48.25	55.99
211C Greenville	WEPR	LIC CN SC	256.6 76.6	160.98 BLED19870508KA	34 56 26 82 24 38	85 364	669 10.4	73.7 South Carolina Educational	76.64	75.13
215C1 Toccoa Falls	WRAF	LIC DEN GA	253.3 73.3	255.53 BLED19860211KD	34 35 57 83 21 55	50.401 283	513 107.0	73.8 Toccoa Falls College	87.97	84.38
06-T Charlotte	W34BN	AP D N NC	262.6 82.6	9.63 BPTVA20030418AAF	35 16 34 80 48 03	0.03 132	352 443.6	0.0 Three Angels Broadcasting	To Grd B=	-9.12

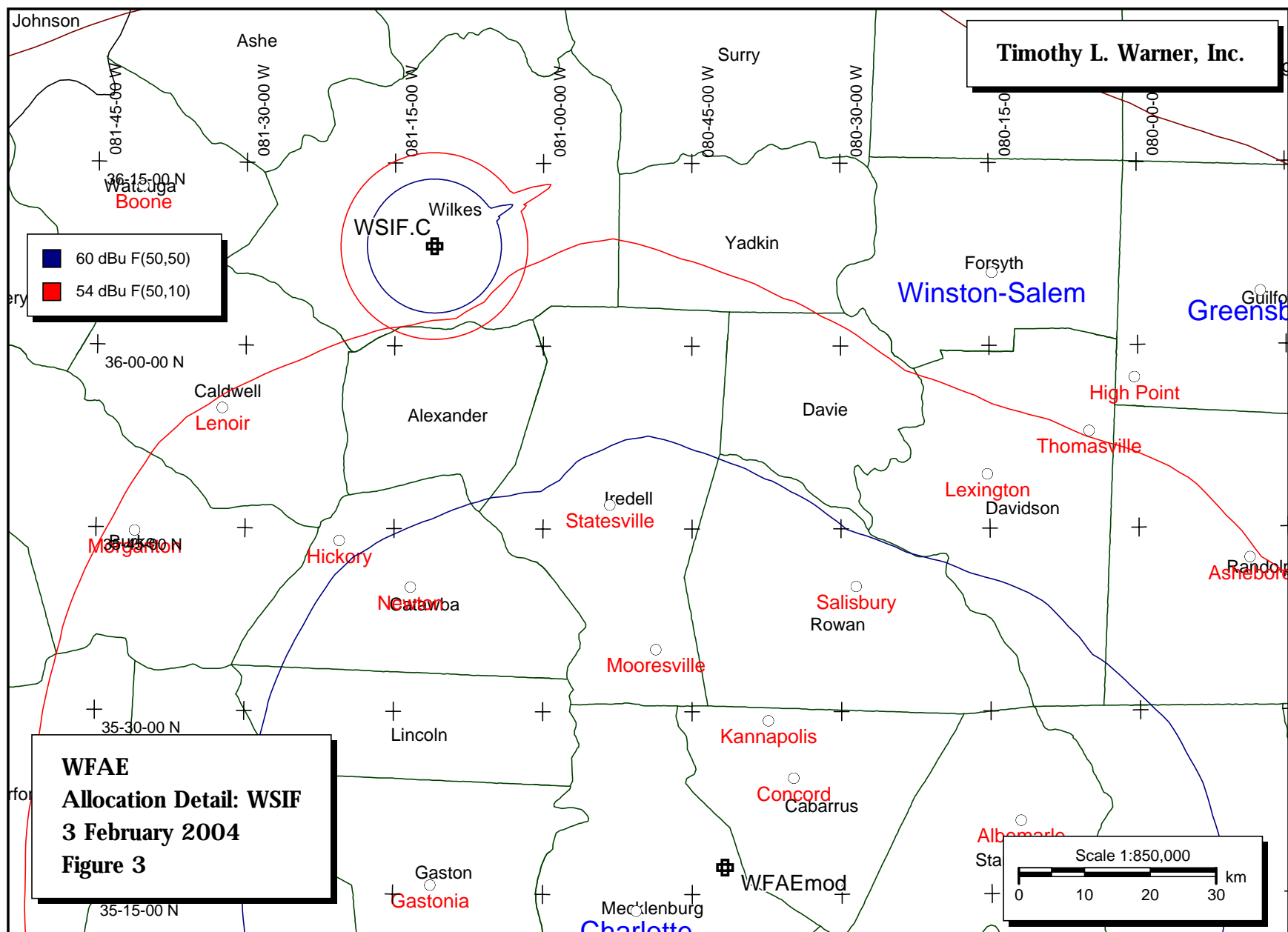
ERP and HAAT are on direct line to and from reference station.

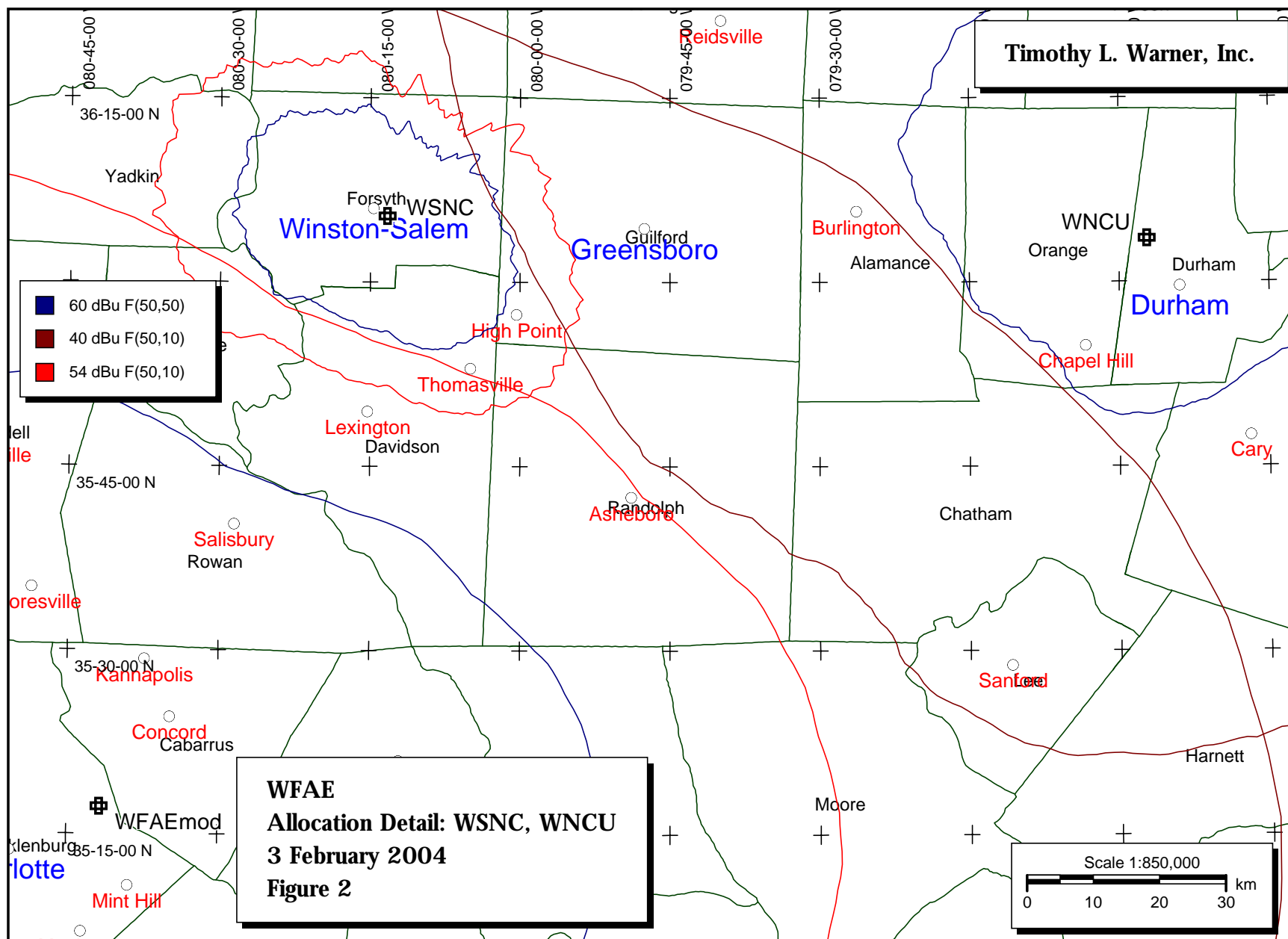
***Affixed to 'IN' or 'Out' values = site inside protected contour.

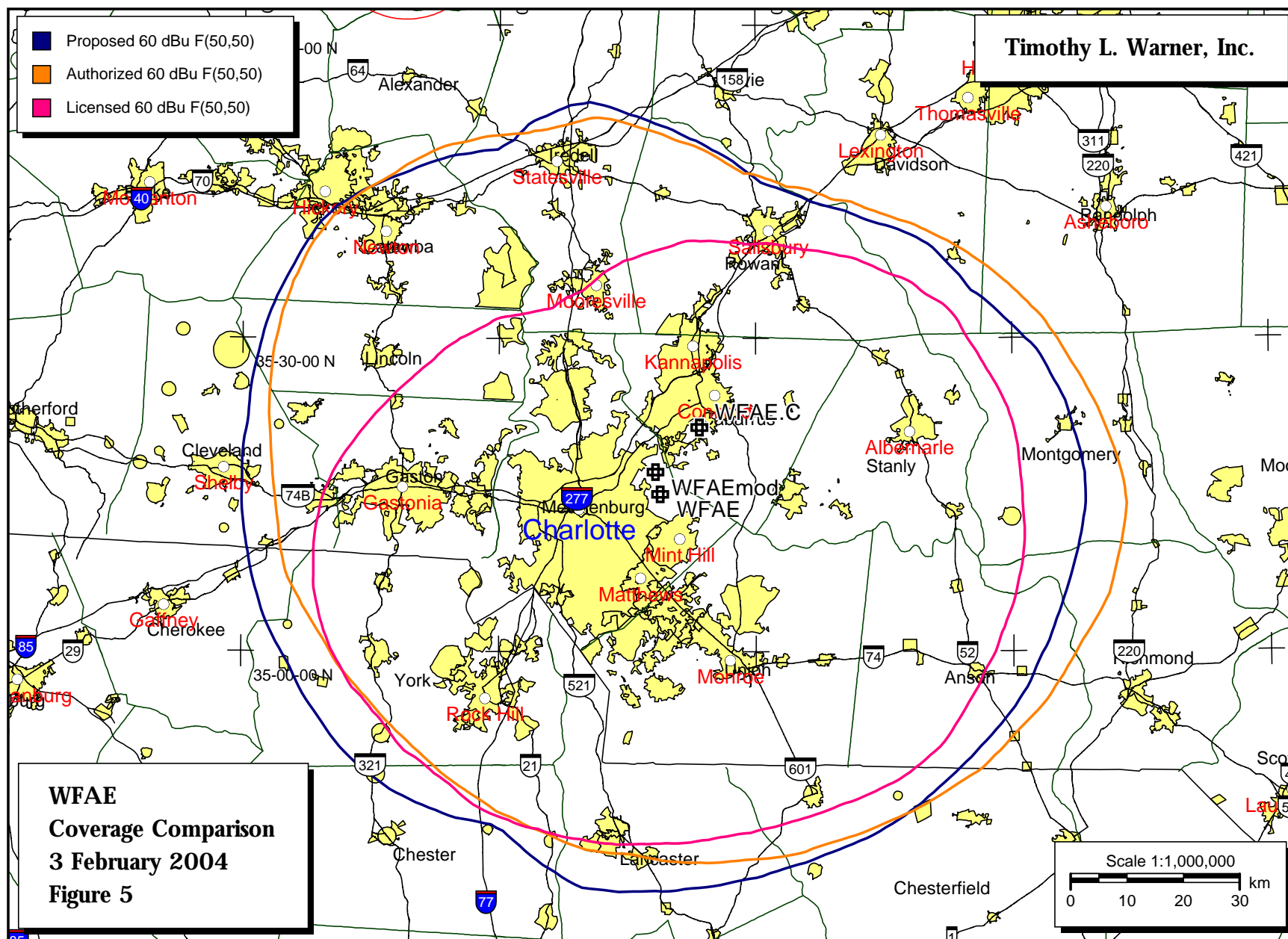
"<" = Contour Overlap* = ERP and HAAT on direct line to and from reference station.



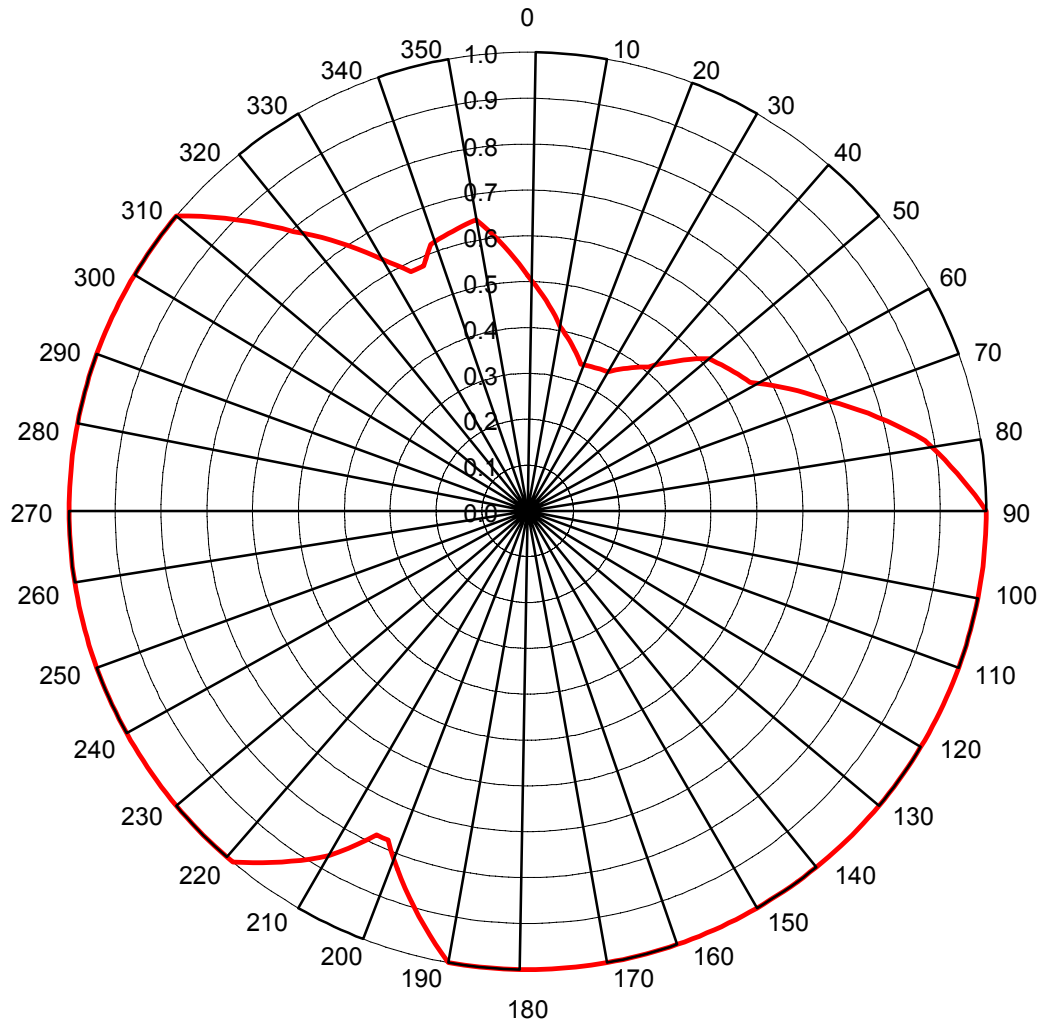








WFAE
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Charlotte, North Carolina
Directional Antenna Horizontal Plane Relative Field Plot



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Directional Antenna Horizontal Plane Relative Field Tabulation

Bearing (degrees)	Relative Field		Bearing (degrees)	Relative Field
0	0.513		200	0.831
10	0.408		203	0.780
20	0.340		205	0.780
30	0.350		210	0.869
40	0.410		220	1.000
50	0.516		230	1.000
60	0.560		240	1.000
70	0.700		250	1.000
80	0.880		260	1.000
90	1.000		270	1.000
100	1.000		280	1.000
110	1.000		290	1.000
120	1.000		300	1.000
130	1.000		310	1.000
140	1.000		320	0.795
150	1.000		330	0.632
160	1.000		334	0.580
170	1.000		337	0.580
180	1.000		340	0.618
190	1.000		350	0.645