

# Tabernacle Baptist College

Hendersonville NC

Tabernacle Baptist College proposes to use a Dielectric DCRL-2C75 antenna to reduce signal levels on ground near the tower.  
 This work sheet shows expected signal levels on the ground and at a safety plane 6 meters AGL  
 Distances and signal levels are computed for every 5 degrees below horizontal at antenna center of radiation.  
 This safety plane is based on the highest likely receiver elevation AGL. Distance from Antenna is also computed to the intercept of the safety plane or ground level and a line from the antenna center of radiation.

**0.010 Kilowatts ERP**

**Antenna Make: Dielectric**

**25 Meters AGL to Radiation Center**

**Antenna Model: DCRL2-75**

**6 Meters AGL of Highest Receiver ( Safety Plane)**

**126 dbu Interfering contour**

Angle	Antenna	ERP	ERP	Distance from	Dist.From Ant.	Field Strength	Field Strength	Field Strength
Below Horizoi	Rel. Field	Kwatts	DbK	Antenna to Interfering	to Safety Plane	In dbu at	Dist.From Ant.	In Dbu at
						Safety Plane	to Ground Level	Ground Level
0	1.000	0.0100	-20.00	11 m	INF	m	INF	
5	0.975	0.0095	-20.22	11 m	218.0 m	99.9 dbu	286.8 m	97.5 dbu
10	0.902	0.0081	-20.90	10 m	109.4 m	105.2 dbu	144.0 m	102.9 dbu
15	0.788	0.0062	-22.07	9 m	73.4 m	107.5 dbu	96.6 m	105.2 dbu
20	0.645	0.0042	-23.81	7 m	55.6 m	108.2 dbu	73.1 m	105.8 dbu
25	0.486	0.0024	-26.27	5 m	45.0 m	107.6 dbu	59.2 m	105.2 dbu
30	0.325	0.0011	-29.76	4 m	38.0 m	105.6 dbu	50.0 m	103.2 dbu
35	0.174	0.0003	-35.19	2 m	33.1 m	101.3 dbu	43.6 m	98.9 dbu
40	0.042	0.0000	-47.54	0 m	29.6 m	90.0 dbu	38.9 m	87.6 dbu
45	0.065	0.0000	-43.74	1 m	26.9 m	94.6 dbu	35.4 m	92.2 dbu
50	0.149	0.0002	-36.54	2 m	24.8 m	102.5 dbu	32.6 m	100.1 dbu
55	0.196	0.0004	-34.15	2 m	23.2 m	105.5 dbu	30.5 m	103.1 dbu
60	0.216	0.0005	-33.31	2 m	21.9 m	106.8 dbu	28.9 m	104.4 dbu
65	0.218	0.0005	-33.23	2 m	21.0 m	107.3 dbu	27.6 m	104.9 dbu
70	0.203	0.0004	-33.85	2 m	20.2 m	107.0 dbu	26.6 m	104.6 dbu
75	0.176	0.0003	-35.09	2 m	19.7 m	106.0 dbu	25.9 m	103.6 dbu
80	0.143	0.0002	-36.89	2 m	19.3 m	104.3 dbu	25.4 m	101.9 dbu
85	0.110	0.0001	-39.17	1 m	19.1 m	102.1 dbu	25.1 m	99.8 dbu
90	0.100	0.0001	-40.00	1 m	19.0 m	101.3 dbu	25.0 m	99.0 dbu

Formulas used

Distance to Contour =

Field Strength=

$(10^{((106.92 - [\text{desiredDbu}] + [\text{ERPInDbK}]) / 20)) * 1000}$   
 $106.92 - (20 * (\text{LOG}([\text{DistKm}] / 1000))) + ([\text{ERPInDbK}])$