

RADIO TRAINING NETWORK

Richmond Va

Radio Training Network, Inc 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 10 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.

0.019 Kilowatts ERP

Antenna Make: Dielectric

89 Meters AGL to Radiation Center

Antenna Model: DCRL2-75

10 Meters AGL of Highest Receiver (Safety Plane)

129 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	0.0190	-17.21	11 m	INF	m	INF	
5	0.975	0.0181	-17.43	11 m	906.4	m	90.3 dbu	1,021.2 m
10	0.902	0.0155	-18.11	10 m	454.9	m	95.7 dbu	512.5 m
15	0.788	0.0118	-19.28	9 m	305.2	m	97.9 dbu	343.9 m
20	0.645	0.0079	-21.02	7 m	231.0	m	98.6 dbu	260.2 m
25	0.486	0.0045	-23.48	5 m	186.9	m	98.0 dbu	210.6 m
30	0.325	0.0020	-26.97	4 m	158.0	m	96.0 dbu	178.0 m
35	0.174	0.0006	-32.40	2 m	137.7	m	91.7 dbu	155.2 m
40	0.042	0.0000	-44.75	0 m	122.9	m	80.4 dbu	138.5 m
45	0.065	0.0001	-40.95	1 m	111.7	m	85.0 dbu	125.9 m
50	0.149	0.0004	-33.75	2 m	103.1	m	92.9 dbu	116.2 m
55	0.196	0.0007	-31.37	2 m	96.4	m	95.9 dbu	108.6 m
60	0.216	0.0009	-30.52	2 m	91.2	m	97.2 dbu	102.8 m
65	0.218	0.0009	-30.44	2 m	87.2	m	97.7 dbu	98.2 m
70	0.203	0.0008	-31.06	2 m	84.1	m	97.4 dbu	94.7 m
75	0.176	0.0006	-32.30	2 m	81.8	m	96.4 dbu	92.1 m
80	0.143	0.0004	-34.11	2 m	80.2	m	94.7 dbu	90.4 m
85	0.110	0.0002	-36.38	1 m	79.3	m	92.5 dbu	89.3 m
90	0.100	0.0002	-37.21	1 m	79.0	m	91.8 dbu	89.0 m

Formulas used

Distance to Contour =

Field Strength=

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