

Ted A McCall

W290BW

Ted A McCall proposes to use a 3 bay 3/4 wave spaced PSI FMP-3-75WS-DA 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 3 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 reciever elivation AGL. Distance from Antenna is also computed to the intercept of the saftey plane or ground level and a line from the antenna center of radiation.

0.090 Kilowatts ERP

Antenna Make: PSI

55 Meters AGL to Radiation Center

Antenna Model: PSIFMP-3-75WS-DA

5 Meters AGL of Highest Reciever (Safety Plane)

107 dbu Interfering contour

Angle	Antenna	ERP	ERP	Distance from	Dist.From Ant.	Field Strenth	Dist.From Ant.	Field Strenth
Below Horizoi	Rel. Field	Kwatts	DbK	Antenna to Interfering	toSafety Plane	In dbu at	to Ground Level	In Dbu at
						Safety Plane		Ground Level
0	1.000	0.0900	-10.46	297 m	INF	m	INF	
5	0.935	0.0787	-11.04	278 m	573.7	m	631.1 m	99.9 dbu
10	0.770	0.0534	-12.73	229 m	287.9	m	316.7 m	104.2 dbu
15	0.540	0.0262	-15.81	161 m	193.2	m	212.5 m	104.6 dbu
20	0.280	0.0071	-21.51	83 m	146.2	m	160.8 m	101.3 dbu
25	0.060	0.0003	-34.89	18 m	118.3	m	130.1 m	89.7 dbu
30	0.120	0.0013	-28.87	36 m	100.0	m	110.0 m	97.2 dbu
35	0.220	0.0044	-23.61	65 m	87.2	m	95.9 m	103.7 dbu
40	0.245	0.0054	-22.67	73 m	77.8	m	85.6 m	105.6 dbu
45	0.225	0.0046	-23.41	67 m	70.7	m	77.8 m	105.7 dbu
50	0.170	0.0026	-25.85	51 m	65.3	m	71.8 m	103.9 dbu
55	0.105	0.0010	-30.03	31 m	61.0	m	67.1 m	100.3 dbu
60	0.040	0.0001	-38.42	12 m	57.7	m	63.5 m	92.4 dbu
65	0.030	0.0001	-40.92	9 m	55.2	m	60.7 m	90.3 dbu
70	0.065	0.0004	-34.20	19 m	53.2	m	58.5 m	97.4 dbu
75	0.080	0.0006	-32.40	24 m	51.8	m	56.9 m	99.4 dbu
80	0.090	0.0007	-31.37	27 m	50.8	m	55.8 m	100.6 dbu
85	0.085	0.0007	-31.87	25 m	50.2	m	55.2 m	100.2 dbu
90	0.080	0.0006	-32.40	24 m	50.0	m	55.0 m	99.7 dbu

Formulas used

Distance to Contour =

Field Strength=

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

$106.92 - (20 * (\text{LOG}([\text{DistKm}] / 1000))) + ([\text{ERPinDbK}])$