Engineering Statement
In Support of an

Application for a Construction Permit

WRQQ, Goodlettsville, Tennessee

Human Exposure To Radiofrequency Radiation Study

CALL	Service	Channel	Frequency	Polarization	Antenna Height* (AGL)	ERP (kW)	Vertical Relative Field Factor	Predicted Power Density ($mWcm^2$)	FCC Uncontrolled Limit ($mWcm^2$)	Percent of Uncontrolled Limit
WQQK	FM	221	92.1	H&V	53	3.000	1.000	0.0770704	0.200	38.5352%
WRQQ	FM	246	97.1	H&V	70	43.400	1.000	0.0003007	0.200	0.1518%

Total Percentage of ANSI value = 38.687%

* The antenna height indicated above is 2 meters less than the actual antenna height so that the predicted power density consider the 2 meter human height allowance.

The amount of power density for WQQK was determined by the method on the Form 301 worksheet for tower with multiple FM antennas. The amount of power for WRQQ was determined by using the tabulation of elevation pattern for the installed antenna (page 2 of this exhibit). At 88 degrees, the relative field is 0.022, that would be 0.021 kilowatts (0.022 x 0.022 x 43.4 = 0.021).

As demonstrated, the total percentage of the ANSI values for both facilities on the structure is 38.687% of the limit for "uncontrolled" environments when using an EPA dipole antenna for study purposes. The total percentage for "controlled" environments is only 7.74%.

Dielectric

Proposal Number	**75789**
Date	**25-Aug-03**
Call Letters	**WRQQ**
Location	**Goodlettsville, TN**
Customer	**Gary Kline**
Antenna Type	**DCRM6FE83PT75F13**
Frequency	**97.10 MHz**
Drawing #:	**8**

TABULATION OF ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.00	0.134	10.50	0.235	31.00	0.184	51.50	0.074	72.00	0.091
-9.50	0.164	11.00	0.195	31.50	0.179	52.00	0.068	72.50	0.088
-9.00	0.205	11.50	0.163	32.00	0.172	52.50	0.062	73.00	0.085
-8.50	0.254	12.00	0.141	32.50	0.163	53.00	0.057	73.50	0.082
-8.00	0.306	12.50	0.131	33.00	0.153	53.50	0.053	74.00	0.079
-7.50	0.361	13.00	0.132	33.50	0.141	54.00	0.051	74.50	0.076
-7.00	0.418	13.50	0.142	34.00	0.128	54.50	0.050	75.00	0.072
-6.50	0.476	14.00	0.155	34.50	0.115	55.00	0.051	75.50	0.069
-6.00	0.534	14.50	0.170	35.00	0.100	55.50	0.054	76.00	0.067
-5.50	0.590	15.00	0.183	35.50	0.084	56.00	0.057	76.50	0.064
-5.00	0.645	15.50	0.194	36.00	0.069	56.50	0.062	77.00	0.061
-4.50	0.698	16.00	0.201	36.50	0.053	57.00	0.067	77.50	0.058
-4.00	0.749	16.50	0.206	37.00	0.037	57.50	0.072	78.00	0.055
-3.50	0.796	17.00	0.207	37.50	0.021	58.00	0.077	78.50	0.053
-3.00	0.839	17.50	0.205	38.00	0.010	58.50	0.082	79.00	0.050
-2.50	0.878	18.00	0.200	38.50	0.015	59.00	0.087	79.50	0.048
-2.00	0.912	18.50	0.191	39.00	0.029	59.50	0.092	80.00	0.046
-1.50	0.940	19.00	0.180	39.50	0.042	60.00	0.096	80.50	0.043
-1.00	0.964	19.50	0.166	40.00	0.056	60.50	0.100	81.00	0.041
-0.50	0.982	20.00	0.150	40.50	0.068	61.00	0.104	81.50	0.039
0.00	0.993	20.50	0.133	41.00	0.079	61.50	0.107	82.00	0.037
0.50	0.999	21.00	0.114	41.50	0.090	62.00	0.109	82.50	0.036
1.00	0.999	21.50	0.095	42.00	0.099	62.50	0.112	83.00	0.034
1.50	0.993	22.00	0.076	42.50	0.107	63.00	0.114	83.50	0.032
2.00	0.981	22.50	0.060	43.00	0.114	63.50	0.115	84.00	0.031
2.50	0.963	23.00	0.050	43.50	0.119	64.00	0.116	84.50	0.029
3.00	0.939	23.50	0.049	44.00	0.124	64.50	0.117	85.00	0.028
3.50	0.911	24.00	0.058	44.50	0.127	65.00	0.117	85.50	0.027
4.00	0.877	24.50	0.073	45.00	0.129	65.50	0.117	86.00	0.026
4.50	0.839	25.00	0.089	45.50	0.129	66.00	0.116	86.50	0.024
5.00	0.797	25.50	0.106	46.00	0.129	66.50	0.115	87.00	0.023
5.50	0.751	26.00	0.122	46.50	0.128	67.00	0.114	87.50	0.022
6.00	0.702	26.50	0.137	47.00	0.125	67.50	0.113	88.00	0.022
6.50	0.651	27.00	0.151	47.50	0.122	68.00	0.111	88.50	0.021
7.00	0.598	27.50	0.162	48.00	0.118	68.50	0.109	89.00	0.020
7.50	0.543	28.00	0.172	48.50	0.113	69.00	0.107	89.50	0.019
8.00	0.489	28.50	0.179	49.00	0.107	69.50	0.104	90.00	0.019
8.50	0.434	29.00	0.185	49.50	0.101	70.00	0.102		
9.00	0.381	29.50	0.188	50.00	0.094	70.50	0.099		
9.50	0.329	30.00	0.189	50.50	0.088	71.00	0.097		
10.00	0.280	30.50	0.188	51.00	0.081	71.50	0.094		