

**Engineering Statement  
In Support of an  
Application for a Construction Permit  
WUSJ, Madison, Mississippi**

**Human Exposure To Radiofrequency Radiation Study**

<u>CALL</u>	<u>Service</u>	<u>Channel</u>	<u>Frequency</u>	<u>Polarization</u>	<u>Antenna Height* (AGL)</u>	<u>ERP (kW)</u>	<u>Vertical Relative Field Factor</u>	<u>Predicted Power Density (mWcm<sup>2</sup>)</u>	<u>FCC Uncontrolled Limit (mWcm<sup>2</sup>)</u>	<u>Percent of Uncontrolled Limit</u>
WMPN-FM	FM	217	91.3	H&V	408	45.000	1.000	0.0009750	0.200	0.4875%
WUSJ	FM	242	96.3	H&V	374.3	100.000	1.000	0.0270000	0.200	13.5000%
WJKK	FM	254	98.7	H&V	374.3	52.000	1.000	0.0135000	0.200	6.7500%
WMPN-TV	DTV	20	509	H	467	400.000	0.300	0.0308937	0.339	9.1042%
WMPN-TV	TV	29	563	H	452	966.000	0.300	0.0796650	0.375	21.2252%

Total Percentage of ANSI value = 51.067%

\* 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 FM Model for window was used for the FM studies. For study purpose, a 10 element dipole EPA antenna with full wavelength spacing was used for each facility. WMPN-FM has a Harris FM10AC, 10 element antenna and the proposed will use a 10 element antenna.

For the TV facilities, Equation (2), found on Page 30 of Supplement A to FCC OET Bulletin No. 65, detail the calculation technique for determining the power density levels at the base of the tower, assuming 100% downward radiation from the individual antennas.

As demonstrated, the total percentage of the ANSI values at the proposed site, considering the radiation of proposed facilities and the existing facilities is 51.07% of the limit for “uncontrolled” environments when using an EPA dipole antenna for study purposes. The total percentage for “controlled” environments is only 10.21%.