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# KK Broadcast Engineering

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This Engineering Exhibit consists of a partial proof for WVNN-AM (Athens, AL) as required by WVMB-LP Construction Permit. KK Broadcast Engineering was retained by WVMB-LP licensee, Madison Baptist Church, to perform a partial proof on the WVNN array per WVMB-LP construction permit. KK Broadcast Engineering is the transmitter site maintenance contractor for WVNN-AM. A recently calibrated field meter was employed for the measurements. All array perimeters were verified before and after each days measurement run.

WVMB-LP's tower structure height of 29 meters is only 26.8 degrees at WVNN-AM's frequency of 770kHz. The combination of WVMB-LP's very short tower height (24.8 degrees) and the location of WVMB-LP's tower in a minima 2.57km away from WVNN-AM reasonably precludes any harmful reradiation from WVMB-LP's tower structure.

Partial proof measurements to support this supposition were performed by Kevin Kidd (owner KK Broadcast Engineering). Before construction measurements were made April 04, 2004 and another set of Post construction measurements were made following WVMB-LP tower erection on April 25, 2004. All measurements were made per 73.154 and tabulated as prescribed in 73.154. Measurements (both Pre and Post Construction) were compared to both the original full proof and a recent partial proof (late 2003) by du Treil, Lundin & Rackley, Inc. The Pre AND Post WVMB-LP construction partial proof measurements were consistent with WVNN-AM's original proof and the recent partial proof.

Near field measurements were made on the WVMB-LP tower after its construction. These measurements were fully in agreement with the original supposition that 24.8 degrees of structure relative to WVNN at its licensed location would produce no harmful reradiation.

A great circle plot of the WVNN-AM and the WVMB-LP tower site was utilized to determine proper location for near field measurement points to be located at 10 foot increments from the WVMB-LP tower. The plotted points were arranged such that the location of WVMB-LP was always exactly perpendicular and equidistant to the location of WVNN-AM. This allowed accurate near field measurements to be made employing the inherent directionality of the FIM loop antenna. Points were plotted on the ground, however points between 40 & 90 feet distant from the WVMB-LP tower were obstructed by existing buildings or fences. Measurements were taken at 10-40ft and then continued at 90ft out to 250ft. All measurements revealed ambient WVNN-AM field strength of 7mV(+/- .1mV). Measurements on the WVMB-LP tower ranged from 5mV at 10ft to 1.1mV at 110ft. Measurements 110 ft and further from the WVMB-LP tower were consistently 1.1mV. From these measurements, it is concluded that the WVMB-LP tower will contribute no harmful reradiation or interference outside of an area of 100ft radius centered on WVMB-LP's tower. No WVNN-AM monitor point or monitored radial falls within this area.

Per 73.154, measurement documentation is on file at both WVMB-LP and WVNN-AM for review.

Sincerely,

Kevin C. Kidd, Owner  
 KK Broadcast Engineering