

WBNB (FM) Radio – Equality, AL  
The Power Foundation  
RF Hazard Measurements

1/21/2015

EME Communications has been retained by The Power Foundation to perform real time measurements to ascertain the level of compliance for the WBNB (FM) tower site and to show permissible exposure levels for occupational controlled and non-controlled access to the tower site and surrounding building.

The ERP and antenna HAGL of the station involved is as follows.

WBNB – ERP- 26 kW (26,000watts) - Antenna HAGL – 20 meters (66 feet)

Measurements were conducted employing a Narda 8712 Electromagnetic Radiation Meter (SN 29050) and a Narda E Field probe type B8722D (SN 05005). The instrument measures the E field intensity over a frequency range of 300 KHZ to 50.0 GHz using the isotropic probe minimum detectable power levels of 0.0001 mW/cm<sup>2</sup>. Both instruments were calibrated in February 2013 in compliance with ISO 9001 and ISO 10012-1 standards.

The WBNB transmitter was operating at its full power output as outlined in the underlying construction permit.

Levels of 1000 uW/cm<sup>2</sup> per occupational ***controlled*** exposure and 200 uW/cm<sup>2</sup> for the ***uncontrolled*** public exposure were employed. Measurements were made in both the normal sample and peak hold sample modes. The highest level was recorded approximately 70 feet from the tower base.

These measurements were made by slowly sweeping the probe from ground level to a height of 2 meters above ground level. The measurements were taken on January 21, 2015 between 11:40 and 12:00 noon.

The maximum observed power per unit is outlined below:

1 - 167 uW/cm<sup>2</sup> - 16.7 % of max for controlled environment

2 – **167 uW/cm<sup>2</sup> - 84 % of max for uncontrolled environment (Highest level measured)**

The total exposure levels for site never exceed the maximum for the controlled but do exceed 84 percent of levels allowed for the uncontrolled area. Therefore and as a precaution, the area at the access gate to the site will be designated a “transmitter off” area. There are several signs on all the fences that are employed at this site that warn of the possible dangers to RF exposure.

Also offered as exhibit 1 is a plot showing the nearest fulltime occupied housing unit is 1.02 kilometers (using the 2010 census data) away from the WBNB transmitting antenna.

On the basis of the actions taken by the applicant it was determined that WBNB facilities are in compliance with the current FCC rules regarding human exposure to RF radiation at ground level

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**WBNB.C**

BPED20140310AED  
Latitude: 32-48-53.30 N  
Longitude: 086-02-31.30 W  
ERP: 26.00 kW  
Channel: 217  
Frequency: 91.3 MHz  
AMSL Height: 243.0 m  
Elevation: 224.0 m  
Horiz. Pattern: Directional  
Vert. Pattern: No  
Prop Model: None

