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# *Midland, MI - WUGN(FM) (Auxiliary FM)*

## *Compliance with Radiofrequency Radiation Guidelines*

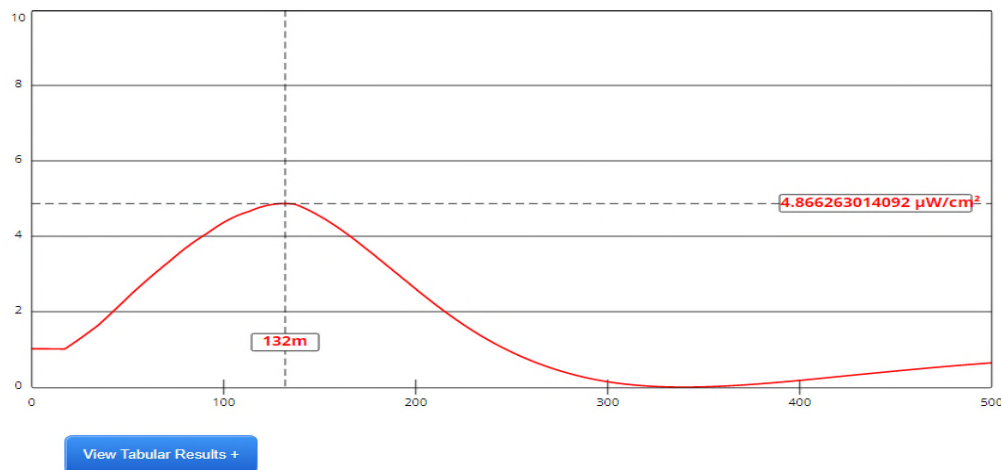
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The proposed facility complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments as set forth under §1.1310 of the Commission's rules and the RF radiation protection guidelines as set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01). The site is intended to house this single transmitter, therefore the potential for human exposure to non-ionizing radiofrequency radiation has been evaluated with regard to §1.1310 utilizing the Commission's own FM Model web-based software application. The use and implementation of this FCC sanctioned software is a matter of record before the Commission.

The maximum permissible uncontrolled limit  $200 \mu\text{W}/\text{cm}^2$ . The maximum permissible controlled limit is  $1000 \mu\text{W}/\text{cm}^2$ . Therefore single contributions of  $\leq 200 \mu\text{W}/\text{cm}^2$  remain within the tolerances as allowed by §1.1310 and its governing OET Bulletin No. 65 (Edition 97-01) for the more restrictive of either two protections.

The proposed WUGN(FM).aux - Midland, MI analog FM auxiliary operation (Facility ID: 20639) will operate on CH259C0 (99.7 MHz) with 19.5 kW ERP circular polarization (H&V). The proposed operation will broadcast from an antenna COR mounted 198.1 meters above ground level (AGL). The auxiliary facility will operate with a two bay, ERI Model SHPX-2AE "Opposed U Dipole" antenna employing EPA Type 3 elements as defined by the Commission's own FM Model - Appendix B (issued March 31, 2016). The elements are spaced 1.0 wavelength ( $\lambda$ ) apart. This auxiliary facility will not operate with HD/IBOC facilities at this time.

The results of the evaluation for the FM station have been shown at the end of this RF compliance discussion. To ensure complete protection, the maximum FM contribution has been assumed without regard to any restricted access fencing distance. In addition, the facility is, or will be, properly marked with signs. Entry is, or will be, restricted by means of fencing with locked doors or gates. Furthermore, coordination with other users of the site will be secured to reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of FCC guidelines.



Channel Selection	Channel 259 (99.7 MHz) ▾		
Antenna Type +	EPA Type 3: Opposed U Dipole ▾		
Height (m)	198.1	Distance (m)	500
ERP-H (W)	19500	ERP-V (W)	19500
Num of Elements	2	Element Spacing ( $\lambda$ )	1
Num of Points	500	<a href="#">Apply</a>	