



ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of WCWN is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WCWN antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

The predicted emissions of WCWN must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WCWN, which will operate on television Channel 22 (518-524 MHz), the MPE is 347.3 microwatts per centimeter squared ($\mu\text{W}/\text{cm}^2$) in an “uncontrolled” environment and 1,736.7 $\mu\text{W}/\text{cm}^2$ in a “controlled” environment. The proposed WCWN facility will operate with a maximum ERP of 389 kW from an horizontally polarized non-directional transmitting antenna with a centerline height of 139 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WCWN facility is predicted to produce a power density at two meters above ground level of 62.30 $\mu\text{W}/\text{cm}^2$, which is 17.94% of the FCC guideline value for an “uncontrolled” environment, and 3.59% of the FCC’s guideline value for “controlled” environments. There are five other full-power DTV stations and one FM station located at the WCWN site. The total estimated percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations located within the relevant proximity, is 68.95% of the limit applicable to “uncontrolled” environments, and 13.79% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**

WCWN, Schenectady, New York
CHANNEL 22, 389 kW ERP, 426 m HAAT
MAY, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WMHT-FM	FM	206	89.1	H & V	82	6.100	<note 1>	0.00149	0.200	0.75%
WCWN	DT	22	521	H	137	389.000	0.300	0.06230	0.347	17.94%
WRGB	DT	6	85	H	104	30.200	0.300	0.00839	0.200	4.20%
WXXA-TV	DT	8	183	H	147	15.000	0.300	0.00209	0.200	1.04%
WNYT	DT	12	207	H	124	30.000	0.300	0.00586	0.200	2.93%
WTEN	DT	24	533	H	137	669.000	0.300	0.10715	0.355	30.15%
WMHT	DT	25	539	H	137	268.000	0.300	0.04292	0.359	11.94%
TOTAL PERCENTAGE OF ANSI VALUE=										68.95%

note 1: FM Model Antenna: EPA Type 1; 5-bay, half-wave spaced antenna

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

This evaluation includes facilities collocated at the site, and facilities located within 315 meters.