
RF Appendix 1

Compliance with Radiofrequency Radiation Guidelines

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Explanation of Study. 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 guidelines for RF radiation protection as set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01) for all sources of RF radiation within 315 meters of this multiple use transmitter site.

Concerning FM contributions, 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. To ensure complete protection, each maximum FM contribution has been assumed without regard to any restricted access fencing distance. The maximum permissible uncontrolled limit for FM stations is $200 \mu\text{W}/\text{cm}^2$. The maximum permissible controlled limit is $1000 \mu\text{W}/\text{cm}^2$. Therefore, a sum contribution of $\leq 200 \mu\text{W}/\text{cm}^2$ remains 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.

Summary of Stations. The proposed W298CA.P - Greenfield, MA analog FM Translator (Facility ID: 25008) will operate on CH298D (107.5 MHz) with 0.060 kW ERP circular polarization (H&V); and be diplexed with pending W222CH.P - Greenfield, MA analog FM Translator (Facility ID: 140079), File Number LMS-0000115844, which will operate on CH222D (92.3 MHz) with 0.250 kW ERP circular polarization (H&V). The combined power(s) of 0.310 kW ERP circular polarization (H&V) will broadcast from an antenna COR mounted 15.8 meters above ground level (AGL). For purposes of this RF Compliance Study, a worst case one (1) bay, EPA Type 1 element as defined by the Commission's own FM Model - Appendix B (issued March 31, 2016) has been assumed. Neither facility will operate with HD/IBOC facilities at this time.

The proposed WHAI(FM).P - Greenfield, MA analog FM Station (Facility ID: 25833) will operate on CH252A (98.3 MHz) with 2.4 kW ERP circular polarization (H&V); and be diplexed with a proposed WRSI(FM).P - Turners Falls, MA analog FM Station (Facility ID: 8775), which will operate on CH230A (93.9 MHz) with 4.9 kW ERP circular polarization (H&V). The combined power(s) of 7.3 kW ERP circular polarization (H&V) will broadcast from an antenna COR mounted 31.0 meters above ground level (AGL). The common WHAI(FM).P / WRSI(FM).P antenna will be an ERI Model LPX-3E-SP antenna employing EPA Type 3 "Opposed U Dipole" elements as defined by the Commission's own FM Model - Appendix B (issued March 31, 2016). The elements will be spaced one (1) wavelength (λ) apart. Neither facility will operate with HD/IBOC facilities at this time.

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Results of Study. The sum of each individual contribution, as a percentage of its each maximum permissible uncontrolled limit, has been provided below. As the resulting sum contribution is less than 100%, the combined exposure has been calculated to be within the guidelines of OET Bulletin No. 65 (Edition 97-01) for the more restrictive uncontrolled environment, as defined by locations accessible by the general public.

Contributing Station	Individual Contribution	Individual Uncontrolled Limit	Percent of Uncontrolled Limit
W298CA.P & W222CH.P (analog)	65.4141 $\mu\text{W}/\text{cm}^2$	200 $\mu\text{W}/\text{cm}^2$	32.71%
WHA1.P & WRS1.P (analog)	60.7482 $\mu\text{W}/\text{cm}^2$	200 $\mu\text{W}/\text{cm}^2$	30.37%
Total of Uncontrolled Limit:			63.08%

As the sum exposure is less than 100% for the uncontrolled environment, the operation of the combined transmitting plants is in compliance with the provisions of OET Bulletin No. 65 (Edition 97-01). As stated before, protection of the uncontrolled environment implies protection of the controlled environment. There are no other broadcast sources of radiofrequency non-ionizing radiation present at this site.

The results of the evaluation for each station have been shown at the end of this RF compliance discussion. As stated before, 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.

