
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 restricted access, remote mountain top (controlled) environments as set forth under §1.1310 of the Commission's rules and the guidelines for RF radiation protection guidelines as set forth in OET Bulletin No. 65 (Edition 97-01), and the accompanying Supplement A, (Edition 97-01). This restricted access, remote mountain top site is intended to house multiple transmitters.

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 controlled limit is $1000 \mu\text{W}/\text{cm}^2$. Therefore, sum contributions of $\leq 1000 \mu\text{W}/\text{cm}^2$ remain within the tolerances as allowed by §1.1310 and its governing OET Bulletin No. 65 (Edition 97-01) for restricted access, remote mountain top (controlled) environments such as this location.

Summary of Stations. The proposed W222CH.P - Greenfield, MA analog FM Translator (Facility ID: 140079) will operate on CH222D (92.3 MHz) with 0.250 kW ERP circular polarization (H&V). The facility will broadcast from an antenna COR mounted 15 meters above ground level (AGL). The radiating element will be a Nicom BKG1/P-DA(Slant45) antenna employing a single EPA Type 1 element as defined by the Commission's own FM Model - Appendix B (issued March 31, 2016). This facility will not operate with HD/IBOC facilities at this time.

The licensed WRSI(FM).L - Turners Falls, MA analog FM Station (Facility ID: 8775) operates on CH230A (93.9 MHz) with 2.5 kW ERP circular polarization (H&V). The facility broadcasts from an antenna COR mounted 25 meters above ground level (AGL). The antenna has been identified as a Shively Model 6813-2 antenna employing EPA Type 1 elements as defined by the Commission's own FM Model - Appendix B (issued March 31, 2016). The elements are spaced 1.0 wavelength (λ) apart. This facility does not operate with HD/IBOC facilities at this time.

The licensed WNNZ-FM.L - Deerfield, MA analog FM Station (Facility ID: 68194) operates on CH219A (91.7 MHz) with 0.100 kW ERP circular polarization (H&V). The facility broadcasts from an antenna COR mounted 16 meters above ground level (AGL). The radiating element has been identified as a Jampro Model JLLP-1DA antenna employing a single EPA Type 2 "Opposed V" element as defined by the Commission's own FM Model - Appendix B (issued March 31, 2016). This facility does not operate with HD/IBOC facilities at this time.

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The results of the evaluation for each 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.

Results of Study. The sum of each individual contribution as a percentage of its each maximum permissible controlled limit has been provided below. As the resulting contribution(s) as a whole is less than 100% of the combined exposure has been calculated to be within the guidelines of OET Bulletin No. 65 (Edition 97-01) for restricted access, remote mountain top (controlled) environments.

| <u>Contributing Station</u> | <u>Maximum Contribution</u> | <u>Individual Controlled Limit</u> | <u>Percent of Individual Controlled Limit</u> |
|-----------------------------|-----------------------------------|-------------------------------------|---|
| W222CH.P (analog) | 59.478 $\mu\text{W}/\text{cm}^2$ | 1000 $\mu\text{W}/\text{cm}^2$ | 5.95% |
| WRSI(FM).L (analog) | 189.489 $\mu\text{W}/\text{cm}^2$ | 1000 $\mu\text{W}/\text{cm}^2$ | 18.95% |
| WNNZ-FM.L (analog) | 9.375 $\mu\text{W}/\text{cm}^2$ | 1000 $\mu\text{W}/\text{cm}^2$ | <u>0.94%</u> |
| | | Total of uncontrolled Limit: | 25.84% |

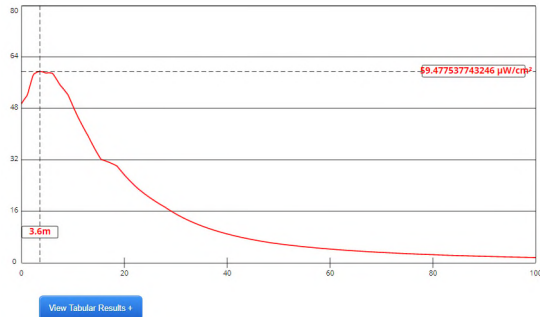
As the sum exposure is less than 100% for the controlled environment, the operation of the combined transmitting plants is in compliance with the provisions of OET Bulletin No. 65 (Edition 97-01) for restricted access, remote mountain top (controlled) environments such as this location. There are no other broadcast sources of radiofrequency non-ionizing radiation present at this site.

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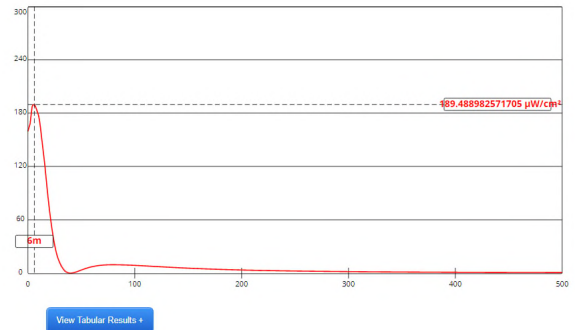
3

**PLOT OF TOTAL POWER DENSITY FOR
W222CH.P - Greenfield, MA**



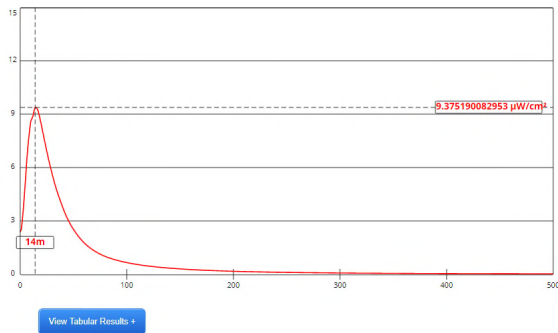
| | | |
|-------------------|--------------------------------------|---------------------|
| Channel Selection | Channel 222 (92.3 MHz) | |
| Antenna Type | EPA Type 1: Ring-and-Stub or "Other" | |
| Height (m) | 15 | Distance (m) |
| ERP-H (W) | 250 | ERP-V (W) |
| Num of Elements | 1 | Element Spacing (λ) |
| Num of Points | 500 | Apply |

**PLOT OF TOTAL POWER DENSITY FOR
WRSI(FM) - Turners Falls, MA**



| | | |
|-------------------|--------------------------------------|---------------------|
| Channel Selection | Channel 230 (93.9 MHz) | |
| Antenna Type | EPA Type 1: Ring-and-Stub or "Other" | |
| Height (m) | 25 | Distance (m) |
| ERP-H (W) | 2500 | ERP-V (W) |
| Num of Elements | 2 | Element Spacing (λ) |
| Num of Points | 500 | Apply |

**PLOT OF TOTAL POWER DENSITY FOR
WNNZ-FM - Deerfield, MA**



| | | |
|-------------------|------------------------------|---------------------|
| Channel Selection | Channel 219 (91.7 MHz) | |
| Antenna Type | EPA Type 2: Opposed V Dipole | |
| Height (m) | 16 | Distance (m) |
| ERP-H (W) | 100 | ERP-V (W) |
| Num of Elements | 1 | Element Spacing (λ) |
| Num of Points | 500 | Apply |