



## RF Exposure Calculation FCC Part 1.1310/ MPE

**Date:** 15 April 2025

**FCC ID:** B3W-VX1

Nautel Main Inc. does not supply an antenna with the VX1 transmitter. For low-power FM applications, customers are required to maintain an EIRP output of 100W from the antenna. For the purpose of this calculation, an antenna with 0 dBi gain has been assumed.

Transmitter **EIRP** = 100W

Frequency = 87.5MHz to 108MHz

Antenna Gain G = 0dBi

Environment = Uncontrolled exposure (i.e., general public exposure)

Limit for uncontrolled exposure **S (power density)** = 0.2 mW/cm<sup>2</sup> = 2 W/m<sup>2</sup>

Formula to calculate power density (S) at distance R:

$$S = \frac{EIRP}{4\pi R^2}$$

Safe distance for uncontrolled RF exposure at 100W EIRP:

$$R = \sqrt{\frac{EIRP}{4\pi S}}$$

$$R = \sqrt{\frac{100}{4\pi \cdot 2}}$$

**R = 1.99 m**

**Distance Required to meet Uncontrolled Exposure limit = 1.99m = 199 cm**

**Signature:**

A handwritten signature in black ink, appearing to read "Nirav Patel".

Nirav Patel

Test Engineering Technologist and Compliance Specialist