

Compliance with 47 CFR 15.247(i)

“Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this chapter.”

The device is a general purpose transceiver with multiple interfaces. The device operates in the 2.400-2.483.5 GHz ISM band, with Offset Quadrature Phase Shift Keying (OQPSK) modulation and peak conducted output power of 122.74 mW (20.89 dBm). The device will only be used with a separation distance of 20 centimeters or greater between the antenna and the body of the user or nearby persons and can therefore be considered a mobile transmitter per 47 CFR 2.1091(b).

The maximum peak radiated power is 615.18 mW (EIRP). The EUT is not subject to routine environmental evaluation per 47 CFR 2.1091(c). Per 47 CFR 1.1310, the EUT must meet the General Population / Uncontrolled exposure limits listed in Table 1.

The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as 1 mW/cm². The exposure level at a 20 cm distance from the EUT's transmitting antenna is calculated using the general equation:

$$S = (PG)/4\pi R^2$$

Where: S = power density (mW/cm²)

P = power input to the antenna (mW)

G = numeric power gain relative to an isotropic radiator

R = distance to the center of the radiation of the antenna (20 cm = limit for MPE estimates)

PG = EIRP

Solving for S, the maximum power density 20 cm from the transmitting antenna is summarized in the following table:

MPE Estimate

FCC ID: VWL-WILDR

Antenna Type	Antenna Part No.	Transmit Frequency	Max Peak Conducted Output Power (mW)	Antenna Gain (dBi)	Minimum Antenna Cable Loss (dB)	Power Density @ 20 cm (mW/cm ²)	General Population Exposure Limit from 1.1310 (mW/cm ²)
Whip	Nearson 151	2.4 GHz band	122.74	7	0	0.122	1

The power density does not exceed 0.122 mW/cm² at 20 cm; therefore, the exposure condition is compliant with FCC rules.

The applicant's radio, FCC ID: VWL-WILDR is compliant with the requirements of 15.247(i).