

Compliance with 47 CFR 15.247(b)(5)

“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 EUT is a transmitter that operates in the 2.4 – 2.4835 MHz band as a 15.247 device. The EUT 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 antenna is integral to the unit. The peak output power is 444 mW EIRP.

Since the transmit frequency is more than 1.5 GHz, and the output power is less than 3 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

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: R34SEL3X21

Antenna Type	Manufacturer	Antenna Part No.	Transmit Frequency (MHz)	Max Peak Output Power (EIRP) (mW)	Power Density @ 20 cm (mW/cm ²)	General Population Exposure Limit from 1.1310 (mW/cm ²)
Ceramic Patch	Radiall Inc.	235-0102	2400	444	0.088	1

The power density does not exceed 1 mW/cm² at 20 cm; therefore, the exposure condition is compliant with FCC rules.

The applicant's radio, FCC ID: R34SEL3X21, is compliant with the requirements of 15.247(b)(5).