

Compliance with 47 CFR 2.1091 and 1.1310

The EUT is a base station for a wireless intercom system operating under Part 74H in the 470 – 608 MHz and 614 – 698 MHz bands. 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 a whip antenna with a peak gain of 3.2 dBi. The maximum peak conducted output power is 179.6 mW. Since the transmit frequency is less than 1.5 GHz, and the output power is less than 1.5 W ERP, the EUT is categorically excluded from routine environmental evaluation per 47 CFR 2.1091(c).

"KDB 447498 D01 General RF Exposure Guidance v05" provides the procedures, requirements, and authorization policies for mobile and portable devices. Section 7.1 best fits the exposure condition for this device. Since this mobile device is categorically excluded from routine evaluation; simple calculations may be used to estimate the power density to demonstrate compliance with 47 CFR 1.1310 requirements. The MPE estimates are as follows:

Table 1 in 47 CFR 1.1310 defines the maximum permissible exposure (MPE) for the general population as $(f_{\text{MHz}}/1500) \text{ mW/cm}^2$. 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/cm^2)

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:

FCC ID: 2AA6F-UV-1GBS

Antenna Type	Antenna Manufacturer	Antenna Part No.	Transmit Frequency (MHz)	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	Diamond	RH789	470	179.6	3.2	0	0.07465115	0.313333333
			698	155	3.2	0	0.06442610	0.465333333

The power density does not exceed the 1.1310 limit at 20 cm; therefore, the exposure condition is compliant with FCC rules.