

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 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). Calculations are provided for each radio transmitting through its own internal antenna and optional external antenna.

The total transmit power is less than 1.5 W (ERP), therefore 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. 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 densities 20 cm from the transmitting antennas are summarized in the tables on the following pages:

MPE Estimates for Self Located Device

FCC ID: KBCIX270-WL3945								
WLAN, IEEE 802.11 (a) (b) & (g)								
Antenna Type	Antenna Part No.	Transmit Frequency	Max Peak Conducted Output Power	Antenna Gain	Minimum Antenna Cable Loss	Power Density @ 20 cm	General Population Exposure Limit from 1.1310	Ratio of Power Density to the Exposure Limit
		(GHz)	(mW)	(dBi)	(dB)	(mW/cm ²)	(mW/cm ²)	
PiFa MAIN	TWR12WIPI02A	5	100	-2.56	6.5	0.002	1	0.002
PiFa MAIN	TWR12WIPI02A	2.4	318	-2.72	3.5	0.015	1	0.015
External MaxRad	MAXC24503	2.4	318	3	4.6	0.044	1	0.044
External MaxRad	BMAXC24505	2.4	318	5	4.6	0.069	1	0.069
Worst Case Ratio of Power Density to the Exposure Limit = 0.069								