Maximum Public Exposure to RF (MPE) CFR 15.247 (i), CFR 1.1310 (e)

The maximum exposure level to the public from the RF power of the EUT shall not exceed a power density, **S**, as per the respective limits in Table 1 below, at a distance, d, of 20 cm (Mobile condition) from the EUT.

TABLE 1—LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

Therefore, for:

MPE for 2400 MHz – 2483.5 MHz:

Limit: 1.0 mW/cm^2
Peak Power (dBm) = 18.3 dBm (Highest Output power level)
Peak Power (Watts) = 0.068 W
Gain of Transmit Antenna = 8 dB_i = 6.3 numeric (Highest antenna Gain)
d = Distance = 20 cm = 0.2 m

$S = (PG/ 4\pi d^2)$ = EIRP/4A = 0.068 (6.3)/4*π*0.2*0.2
= 0.4284/0.5030 = 0.8517 W/m^2
= (0.8517 W/m^2) (1m^2/W) (0.1 mW/cm^2)
= 0.08517 mW/cm^2

which is << less than S = 1.0 mW/cm^2

RF Exposure Evaluation – IC

According to RSS-102 Issue 6, 2.5.2 Exemption Limits for Routine Evaluation

At or above 300 MHz and below 6 GHz and the source-based time averaged maximum EIRP of the device is equal to or less than $1.31 \times 10^{-2} \times f^{0.6834}$ in Watts (adjusted for tune up tolerance where applicable), where f = frequency in MHz

For 2.4 GHz Band:

Limit = $1.31 \times 10^{-2} \times 2440^{0.6834}$ = 2.7 Watts

Max EIRP = 18.3 dBm + 8.0 dBi = 26.3 dBm = 426.6 mW << 2700 mW