MPE Calculation Method

E (V/m) = $(30*P*G)^{0.5}/d$

Power Density: Pd (W/m2) = $E^2/377$

E = Electric Field (V/m)

P = Peak RF output Power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $(30*P*G) / (377*d^2)$

From the peak EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

Calculated Result and Limit(WORSE CASE IS AS BELOW)

FOR WIFI:

Antenna Gain (Numeric)	Peak Output Power (mW)	Power Density (S) (mW/cm2)	Limit of Power Density (S) (mW/cm2)	Test Result
1.7 (2.3dBi)	21.88 mW (13.4dBm)	0.0074	1	Compiles

FOR ZIGBEE:

Antenna Gain (Numeric)	Peak Output Power (mW)	Power Density (S) (mW/cm2)	Limit of Power Density (S) (mW/cm2)	Test Result
1.78 (2.5dBi)	0.77mW (-1.14dBm)	0.000273	1	Compiles

0.0074+0.000273=0.00767<1

Test Result: Compiles