

SAR evaluation

MPE Calculation Method

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

$$\text{Power Density: } P_d \text{ (W/m}^2\text{)} = E^2 / 377$$

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

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

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)

EIRP	Power Density (S) (mW/cm ²)	Limit of Power Density (S) (mW/cm ²)	Test Result
$\{ [10^{(104.77/20)} / 10^6 \times 3]^2 / 30 \} \times 1000 \text{ mW} = 9 \text{ mW}$	$9 / 4 \times 3.14 \times 400 = 0.0018$	1	Compiles