

## MPE Calculation Method

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

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

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

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

From the peak EUT RF output power, the minimum mobile separation distance,  $d=0.2\text{m}$ , 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)

| Antenna Gain<br>(Numeric) | Peak Output<br>Power (mW) | Power Density<br>(S) (mW/cm <sup>2</sup> ) | Limit of Power<br>Density (S)<br>(mW/cm <sup>2</sup> ) | Test<br>Result |
|---------------------------|---------------------------|--|--|----------------|
| 1.585<br>(2dBi)           | 24.38<br>( 13.87dBm)      | 0.0077                                     | 1  | Complies       |