

# MPE Calculation

$$S = \text{EIRP}/(4R^2\pi)$$

**S = Maximum power density (mW/cm<sup>2</sup>)**

**P = Power input to the antenna (mW)**

**G = Numeric power gain of the antenna**

**R = Distance to the center of the radiation of the antenna**

**EIRP = Equivalent Isotropic Radiated Power(mW) (=P\*G)**

Frequency range (MHz)	Electric Field strength (V/m)	Magnetic field strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averageing time (minutes)
0.3 ~ 1.34	614	1.63	*100	30
1.34 ~ 30	824 / f	2.19 / f	*180 / f <sup>2</sup>	30
30 ~ 300	27.5	0.073	0.2	30
300 ~ 1,500			f / 1500	30
1,500 ~ 100,000			1	30

Model Name : **RED TAB**

FCC ID : **Y3D-REDTAB**

Antenna Gain(dBi) : **-1.61**

Separation distance (R) : **20.0 cm**

Modulation	Frequency (MHz)	Measured Maximum Output Power	Tune-up tolerance	Max. Power with tune-up tolerance ( P )		Antenna Gain ( G )		Power Density ( S )	Limit of Power Density ( S )	Result
		(dBm)	(dB)	(dBm)	(mW)	(dBi)	(numeric)	(mW/cm <sup>2</sup> )	(mW/cm <sup>2</sup> )	
RFID	917.10	25.29	± 1.00	26.29	425.60	-1.61	0.69	0.0584	1.00	<b>PASS</b>
	921.90	25.07		26.07	404.58	-1.61	0.69	0.0556	1.00	<b>PASS</b>
	926.90	25.03		26.03	400.87	-1.61	0.69	0.0550	1.00	<b>PASS</b>

The EUT will only be used with a separation of 20 centimeters or greater between the antenna and the body of the user.