RF Exposure evaluation

FCC ID：2AMWL-PSP

1. Reference

According to 447498 D01 General RF Exposure Guidance v06

The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances $\leqslant$ 50 mm are determined by:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [$\sqrt{f(GHz)}$] $\leqslant$ 3.0 for 1-g SAR and $\leqslant$ 7.5 for 10-g extremity SAR,

Where:

f (GHz) is the RF channel transmit frequency in GHz

Power and distance are rounded to the nearest mW and mm before calculation

The result is rounded to one decimal place for comparison

and

$$eirp = p_t \times g_t = (E \times d)^2 / 30$$

Where:

p_t = transmitter output power in watts,

g_t = numeric gain of the transmitting antenna (unitless),

E = electric field strength in V/m, --- $10^{((dBuV/m)/20)}/10^6$

d = measurement distance in meters (m) ---3m

2. Result

As the antenna EUT used was -0.82dBi and the Max field strength level measured in EMI test report, the sar exclusion value can obtained.

According to the formula described above:

$E_{max=}$60.7 dBuV/m =0.0011V/m, d=3m, g_t=0.826

P_t=（E x d）^{2}/（30 x g_t）=(0.0011x3))^2 / (30x0.826)=0.0004mW

The value is within the tune up -33±1dBm stated by the manufacturer

Worse case is as below:

F (MHz)	Antenna Distance (mm)	RF output power (including tune-up tolerance)		SAR Test Exclusion Threshold	SAR Test Exclusion
		dBm	mW		
315	5	-32	0.0006	0.00007<3.0	Yes

3. Conclusion

The SAR evaluation is not required.