RF Exposure evaluation

1. Reference

According to 447498 D01 General RF Exposure Guidance v05

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)] $\cdot$ [$\sqrt{f(GHz)}$] $\leqslant$ 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 0dBi and the Max field strength (average) level measured in EMI test report, the sar exclusion value can obtained.

Mode	Frequency (MHz)	Field strength dBuV/m	Antenna Gain (numeric)	Separation Distance (mm)	calculated value	exclusion thresholds
BLE	2402	81.55	1.0000	5	0.0134	3
2.4GHz wireless	2452	81.52	1.0000	5	0.0133	3

0.0134+0.0133=0.0267＜3

3. Conclusion

The SAR evaluation is not required.