

## RF Exposure evaluation

Product Description: Bluetooth Module

Model Number: RR-BT01

FCC ID: 2APTM-RR-BT01

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  $\leq 50$  mm are determined by:  $[(\text{max. power of channel, including tune-up tolerance, mW})/(\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$  for 1-g SAR and  $\leq 7.5$  for 10-g extremity SAR, where

$f(\text{GHz})$  is the RF channel transmit frequency in GHz

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

According to the follow transmitter output power (  $P_t$  ) formula :

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

$P_t$ =transmitter output power in watts

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

$E$ =electric field strength in V/m

$d$ =measurement distance in meters (m)

According to the above test data,

$$P_t = 6.59 \text{ dBm} = 4.56 \text{ mW}$$

The result is rounded to one decimal place for comparison

Worse case is as below: [2441MHz -3.0mW output power]

$$(4.56 \text{ mW} / 5 \text{ mm}) \cdot [\sqrt{2.441(\text{GHz})}] = 1.42 < 3.0 \text{ for 1-g SAR}$$

Then SAR evaluation is not required

**NOTE:** For the maximum power, you can refer FCC test report.

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