

RF Exposure evaluation

Product Description: FUSE
Model Number: BFUSEBA
FCC ID: Z7RBFU

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

For BT3.0

the maximum power :3.31dBm for CSR1, equal to 2.14mW.

3.09dBm for CSR2, equal to 2.04mW.

0.77dBm for iSSC1, equal to 1.19mW.

0.8dBm for iSSC2, equal to 1.20mW.

When four modules working together, the power is 6.57

The result is rounded to one decimal place for comparison

Worse case is as below: [2441MHz -6.57mW output power]

$(6.57\text{mW} / 5\text{mm}) \cdot [\sqrt{2.441(\text{GHz})}] = 2.05 < 3.0$ for 1-g SAR

Then SAR evaluation is not required

Note: The power value, you can refer FCC test report.