

# 1 RF Exposure Evaluation

## 1.1 RF Exposure Compliance Requirement

### 1.1.1 Standard Requirement

According to KDB447498D01 General RF Exposure Guidance v06

#### 4.3.1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Exclusion Threshold condition, listed below, is satisfied.

### 1.1.2 Limits

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:

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

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

Power and distance are rounded to the nearest mW and mm before calculation<sup>17</sup>

The result is rounded to one decimal place for comparison

The test exclusions are applicable only when the minimum test separation distance is  $\leq 50$  mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is  $< 5$  mm, a distance of 5 mm is applied to determine SAR test exclusion

### 1.1.3 EUT RF Exposure

#### For BT:

The Max Conducted Peak Output Power is 2.73dBm in middle channel(2.441GHz);

The best case gain of the antenna is 1.0dBi.

$$\text{EIRP} = 2.73\text{dBm} + 1.0\text{dBi} = 3.73\text{dBm}$$

3.73dBm logarithmic terms convert to numeric result is nearly 2.36mW

According to the formula. calculate the EIRP test result:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}]$$

$$\text{General RF Exposure} = (2.36\text{mW} / 5 \text{ mm}) \times \sqrt{2.441\text{GHz}} = 0.737 \text{ ①}$$

SAR requirement:

$$S = 3.0$$

$$② ;$$

$$① < ② .$$

So the SAR report is not required.

Remark: The Max Conducted Peak Output Power data refer to report CQASZ170201314E-01.