

# FCC ID : 2BDYR-ZS200

## ➤ Test Standards and Limits

### 1. According to KDB 447498 D01 v06, Section 4.3.1

### 2. FCC Radiofrequency radiation exposure 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:

$[(\text{max power of channel})/(\text{min test separation distance})] \cdot \sqrt{f(\text{GHz})} \leq 3.0$  for 1-g SAR and  $\leq 7.5$  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
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds

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 according to 4.1 f) is applied to determine SAR test exclusion.

For 2.4G band device, the limit of worse case is

$$P_{\text{max}} \leq 3.0 \cdot D_{\text{min}} / f = 3.0 \cdot 5 / 2.480 = 9.525 \text{mW}$$

## ➤ Measurement and Calculation

### 1. Maximum transmit power

Antenna Gain:	2.50 dBi
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TestMode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]
BLE_1M	Ant1	2402	0.00
		2440	2.09
		2480	3.47
BLE_2M	Ant1	2402	0.07
		2440	2.08
		2480	3.56

Test Mode	Antenna	Frequency[MHz]	Conducted Peak Power[dBm]
DH5	Ant1	2402	0.57
		2441	2.89
		2480	3.78
2DH5	Ant1	2402	1.15
		2441	3.17
		2480	4.14
3DH5	Ant1	2402	1.36
		2441	3.34
		2480	4.29

### 2. MPE Calculation

The Max Conducted Peak Output Power is 4.29 dBm.

The Max Antenna Gain is 2.50 dBi.

According to the formula. calculate the EIRP test result:

$$\text{EIRP} = P \times G = 2.69 \text{ mW} \times 1.78 = 4.79 \text{mW} < 9.525 \text{mW}$$

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**So the SAR report is not required.**

-End of the Report-

