

FCC RF Exposure

EUT Description: Z-Station

Model No.: ZMEUZSTATION_ZW_ZB

FCC ID: 2ALIB-ZMEZSTAZWZB

1. Limits

According to KDB 447498 D04 General RF Exposure Guidance v01 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:

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

Where:

Result = $P/D \cdot \sqrt{F}$

F = the RF channel transmit frequency in GHz

P = Maximum turn-up power in mw

D = Min. test separation distance in mm

2. Test Result of RF Exposure Evaluation

908.42MHz:

EIRP(dBm) = 87.03(dBuV/m) - 95.2 = -8.17(dBm)

Mode	Max PK Output power(dBm)	Tune Up Power(dBm)	Max Tune Up power(mW)	Antenna Gain(dBi)	Antenna Gain (linear)	MPE (mW/cm ²)
BLE	0.82	0.2±1(1.2)	1.32	3.2	2.09	0.00055
Zigbee	4.26	4±1(5)	3.16	3.2	2.09	0.00132
920	-0.80	-0.5±1(0.5)	1.12	1.2	1.32	0.00029
908.42	-8.17	-8±1(-7)	0.20	1.2	1.32	0.00005

$$Pd = \frac{P_{out} * G}{4\pi r^2};$$

Note:

Note: The estimation distance is 20cm

Note: PK Output power = conducted power.

Conducted power see the test report HK2403060993-1E/2E/3E/4E;

BLE+ Zigbee antenna gain=3.2dBi; 900M antenna gain=1.2dBi,

Zigbee MPE (max): 0.00132 (mW/cm²)

920 MHz MPE (max): 0.00029 (mW/cm²)

simultaneously MPE = 0.00132 + 0.00029 = 0.00161 < 1.0

when the minimum test separation distance is >20 cm, a distance of 20 cm is applied to determine RF Exposure test exclusion. The test exclusion threshold is 0.00161 which is < 1.0, RF Exposure testing is not required.

-----The End-----