

RF Exposure Evaluation

FCC ID: 2AE4N-MINIKIN

1. Client Information

Applicant	: All Best Technology Limited
Address	: No.9, Yincheng 1st Rd., Yincheng Industrial Zone, Xiabian Village, Chang'an Town, Dongguan City, Guangdong Province, China
Manufacturer	: All Best Technology Limited
Address	: No.9, Yincheng 1st Rd., Yincheng Industrial Zone, Xiabian Village, Chang'an Town, Dongguan City, Guangdong Province, China

2. General Description of EUT

EUT Name	:	Portable Bluetooth Speaker
Models No.	:	Minikin
Model difference	:	N/A
Product Description	:	Operation Frequency: Bluetooth:2402~2480MHz
	:	Number of Channel: Bluetooth:79 Channels
	:	Max Peak Output Power: -6.212 dBm(GFSK)
	:	Antenna Gain: 0 dBi PCB Antenna
	:	Modulation Type: GFSK 1Mbps(1 Mbps) π /4-DQPSK(2 Mbps) 8-DPSK(3 Mbps)
Power Supply	:	DC Voltage supplied from Host System by USB cable DC power by Li-ion Battery
Power Rating	:	DC 5.0V by USB cable. DC 3.7V 1.48Wh Li-ion Battery.
Connecting I/O Port(S)	:	Please refer to the User's Manual

Note:

More test information about the EUT please refer the RF Test Report.

SAR Test Exclusion Calculations

1. FCC: According to KDB 447498 D01 Mobile and Portable Devices RF Exposure Procedures and Equipment Authorization Policies v05r02.

(1) Clause 4.3: General SAR test reduction and exclusion guidance

Sub clause 4.31: Standalone SAR test exclusion considerations

1) The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6GHz at test separation distance ≤ 5 mm are determined by:

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{GHz}}]} \leq 3.0 \text{ for 1-g SAR}$$

$$\frac{[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{\text{GHz}}]} \leq 7.5.0 \text{ for 10-g SAR}$$

2.

Calculation:

Test separation: 5mm					
Bluetooth Mode (GFSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-6.557	±0.5	0.248	0.077	3.0
2.441	-6.212	±0.5	0.268	0.084	3.0
2.480	-6.674	±0.5	0.241	0.076	3.0
Bluetooth Mode ($\pi/4$ -DQPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-8.309	±0.5	0.166	0.051	3.0
2.441	-7.128	±0.5	0.217	0.068	3.0
2.480	-8.102	±0.5	0.174	0.055	3.0
Bluetooth Mode (8-DPSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-7.575	±0.5	0.196	0.061	3.0
2.441	-8.323	±0.5	0.165	0.052	3.0
2.480	-8.233	±0.5	0.169	0.053	3.0

So standalone SAR measurements are not required.