

RF Exposure Evaluation

FCC ID: 2AG2A-TON9108

1. Client Information

Applicant : Shenzhen Fast Precision Technologies Co. Ltd.
Address : Room 703, Zhengtailai Business Building, Xixiang Road, Baoan District, Shenzhen, China
Manufacturer : Shenzhen Fast Precision Technologies Co. Ltd.
Address : Room 703, Zhengtailai Business Building, Xixiang Road, Baoan District, Shenzhen, China

2. General Description of EUT

EUT Name	:	IonBeacon
Models No.	:	TON9108
Brand Name	:	IOTTON
Model Difference	:	N/A
Product Description	Operation Frequency: Bluetooth(BLE):2402~2480MHz	
	Number of Channel:	Bluetooth(BLE): 40 channels
	RF Output Power:	0.898 dBm
	Antenna Gain:	3 dBi PCB Antenna
	Modulation Type:	GFSK 1Mbps
Power Supply	:	DC power by Lithium Battery.
Power Rating	:	DC 3.0V Lithium 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:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 3.0 \text{ for 1-g SAR}$$
$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation, mm})] * [\sqrt{f_{(\text{GHz})}}] \leq 7.5.0 \text{ for 10-g SAR}$$

2.

Calculation:

Test separation: 5mm					
BLE(GFSK)					
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	0.159	± 0.5	1.164	0.361	3.0
2.442	-0.327	± 0.5	1.041	0.325	3.0
2.480	0.898	± 0.5	1.380	0.435	3.0

So standalone SAR measurements are not required.