

# RF Exposure Evaluation

## FCC ID: 2AMVU-IQUTE-M3

### 1. Client Information

<b>Applicant</b>	:	Shenzhen Iotton Technologies Co.,Ltd.
<b>Address</b>	:	Qianhai Complex A201,Qianwan Road 1, Qianhai Shenzhen-Hongkong Cooperation Zone,Shenzhen, China
<b>Manufacturer</b>	:	Shenzhen Iotton Technologies Co.,Ltd.
<b>Address</b>	:	Qianhai Complex A201,Qianwan Road 1, Qianhai Shenzhen-Hongkong Cooperation Zone,Shenzhen, China

### 2. General Description of EUT

<b>EUT Name</b>	:	True wireless stereo earbuds	
<b>Models No.</b>	:	iQute M3,iQute *	
<b>Model Difference</b>	:	* represents 2-digit characters, and each character can be anything ranging from 0 to 9, A to Z ,symbols like “- ”or “space”and different product models. All these models are identical in the same PCB layout and electrical circuit, And * is targeted at different sales territories, sales regions, sales methods, varied client groups, different market positioning and different product colors, and won't affect the product safety and electromagnetic compatibility.	
<b>Product Description</b>	:	Operation Frequency:	Bluetooth: 2402~2480 MHz
		RF Output Power:	Bluetooth: 0.932 dBm(Max) BLE: 2.419 dBm(Max)
		Antenna Gain:	2dBi Chip Antenna
<b>Power Rating</b>	:	DC 5.0V by USB. DC 3.7V by 0.185Wh Li-ion battery.	
<b>Software Version</b>	:	N/A	
<b>Hardware Version</b>	:	N/A	
<b>Connecting I/O Port(S)</b>	:	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 v06.

(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  $\leq 5$  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 (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-0.162	0±1	1	1.26	0.390	3.0
2.441	-1.985	0±1	1	1.26	0.393	3.0
2.480	0.747	0±1	1	1.26	0.397	3.0
Bluetooth Mode (Pi/4-DQPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-1.584	-1±1	0	1.00	0.310	3.0
2.441	-2.958	-2±1	-1	0.79	0.248	3.0
2.480	0.932	0±1	1	1.26	0.397	3.0
Bluetooth Mode (8-DPSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-1.589	-1±1	0	1.00	0.310	3.0
2.442	-2.035	-2±1	-1	0.79	0.248	3.0
2.480	0.869	0±1	1	1.26	0.397	3.0

BLE Mode (GFSK)						
Frequency (GHz)	Conducted Power (dBm)	Turn-up Power Tolerance (dB)	Max power of tune up tolerance (dbm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	2.419	2±1	3	1.995	0.618	3.0
2.442	2.266	2±1	3	1.995	0.623	3.0
2.480	1.514	2±1	3	1.995	0.628	3.0

Test separation: 5mm	
The worst RF Exposure Evaluation	
Worst Calculation Value	Threshold Value
0.628	3.0

The worst RF Exposure Evaluation is **0.628 / cm<sup>2</sup> < limit 3.0**, So standalone SAR measurements are not required.

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