Shenzhen Toby Technology Co., Ltd.

RF Exposure Evaluation
FCC ID: 2AI2I-MAGBY01

1. Client Information

Applicant	:	iVue Pty Ltd
Address	:	79 Britannia Road, Castle Hill, NSW 2154, Sydney, Australia
Manufacturer	:	David Hao
Address	:	4F, B7 Building, Hengfeng industrial City, Hezhou Village, Xixiang Town, Bao'an District, Shenzhen City, China

2. General Description of EUT

EUT Name	:	Wireless Waterproof Speaker	
Models No.	:	MagBy01, MagBBy01	
Brand Name	:	Magtunes	
Model Difference	:	All these models are identical in the same PCB, layout and electrical circuit, the only difference is model name for commercial.	
Product Description	:	Operation Frequency: Bluetooth4.0 : 2402~2480MHz	
		Number of Channel:	Bluetooth:79 Channels BLE: 40 Channels
		Max Peak Output Power:	Bluetooth: 4.682 dBm(GFSK) BLE: 5.777 dBm
		Antenna Gain:	0.5 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 by 4400mAh 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.

TB-RF-074-1.0

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≤5 mm are determined by:

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

    [(max. power of channel, including tune-up tolerance, mW)/(min. test separation, mm)]*[$\sqrt{f_{(GHz)}}$] ≤7.5.0 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	4.560	±0.5	3.206	0.994	**3.0**
2.441	4.682	±0.5	3.298	1.030	**3.0**
2.480	4.533	±0.5	3.186	1.004	**3.0**
Bluetooth Mode (π /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	3.102	±0.5	2.292	0.710	**3.0**
2.441	3.242	±0.5	2.367	0.740	**3.0**
2.480	3.158	±0.5	2.322	0.731	**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	3.233	±0.5	2.362	0.732	**3.0**
2.441	3.363	±0.5	2.434	0.761	**3.0**
2.480	3.252	±0.5	2.372	0.747	**3.0**
BLE 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	5.777	±0.5	4.243	1.315	**3.0**
2.441	5.530	±0.5	4.009	1.253	**3.0**
2.480	5.657	±0.5	4.128	1.300	**3.0**

So standalone SAR measurements are not required.