RF Exposure Evaluation
FCC ID: 2AXWO-M303

1. Client Information

Applicant	:	Doors Korea Co., Ltd
Address	:	1F, 27, Mangu-ro 81-gil, Jungnang-gu, Seoul, South Korea
Manufacturer	:	DONGGUAN TUCCI ELECTRONIC TECHNOLOGY CO., LTD
Address	:	4th FL, A BLD, No 7, Longtian Road, Qinghutou Community, Tangxia Town, Dongguan City, China

2. General Description of EUT

EUT Name	:	Miracle,m M303 Pro Wireless portable speaker	
Model(s) No.	:	M303, M320, M330, M300	
Model Different	:	All these models are the same in the same PCB, layout and circuit, the only difference is the model and color.	
Product Description	:	Operation Frequency:	Bluetooth 4.2(BT): 2402~2480 MHz
		Number of Channel:	Bluetooth 4.2(BT): 79 channels
		RF Output Power:	Bluetooth: -0.271dBm (π/4-DQPSK)
		Antenna Gain:	0.58dBi PCB Antenna
		Modulation Type:	GFSK, π/4-DQPSK
		Bit Rate of Transmitter:	1/2Mbps
Power Supply	:	Input: DC 5V/2A DC7.4V by 2000mAh Li-ion battery	
Software Version	:	V1.3	
Hardware Version	:	V1.0	
Remark: The antenna gain provided by the applicant, the adapter and verified for the RF conduction test and adapter provided by TOBY test lab.			

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

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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 (dBm)	Max power of tune up tolerance (mw)	Calculation Value	Threshold Value
2.402	-1.186	-1±1	0.0	1.000	0.310	**3.0**
2.441	-0.924	0±1	1.0	1.259	0.393	**3.0**
2.480	-1.137	-1±1	0.0	1.000	0.315	**3.0**
Bluetooth Mode (π/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	-0.461	0±1	1.0	1.259	0.390	**3.0**
2.441	-0.271	0±1	1.0	1.259	0.393	**3.0**
2.480	-0.444	0±1	1.0	1.259	0.397	**3.0**

Conclusion:

The measurement results comply with the FCC Limit per 47 CFR 2.1093 for the uncontrolled RF Exposure and SAR Exclusion Threshold per KDB 447498 v06.

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