RF EXPOSURE REPORT

FCC ID:2AOAA-MIGHTYAIR

Date of issue: Dec. 14, 2019

Report Number:	MTi19102815-4E3
Sample Description:	Wireless Stereo Modelling Guitar and Bass Amplifier with Bluetooth
Model(s):	MIGHTY AIR, MIGHTY GO
Applicant:	Cherub Technology Co., Ltd
Address:	Room507, Block 1, Nanhai E-Cool, No.6 Xinghua Road, Shekou, Nanshan District, Shenzhen City, Guangdong Province, China, 518067
Date of Test:	Nov. 07, 2019 to Dec. 14, 2019

Shenzhen Microtest Co., Ltd.

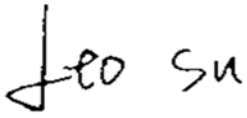
http://www.mtitest.com

TEST RESULT CERTIFICATION	
Applicant's name:	Cherub Technology Co., Ltd
Address:	Room507, Block 1, Nanhai E-Cool, No.6 Xinghua Road, Shekou, Nanshan District, Shenzhen City, Guangdong Province, China, 518067
Manufacture's name:	Cherub Technology Co., Ltd
Address:	Room507, Block 1, Nanhai E-Cool, No.6 Xinghua Road, Shekou, Nanshan District, Shenzhen City, Guangdong Province, China, 518067
Product name:	Wireless Stereo Modelling Guitar and Bass Amplifier with Bluetooth
Model and/or type reference:	MIGHTY AIR
Serial Model:	MIGHTY GO
RF Exposure Procedures:	KDB 447498 D01 v06

This device described above has been tested by Shenzhen Microtest Co., Ltd and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by:

Danny Xu Dec. 14, 2019

Reviewed by: 

Leo Su Dec. 14, 2019

Approved by:

Tom Xue Dec. 14, 2019

1. Standalone SAR test exclusion considerations

Unless specifically required by the published RF exposure KDB procedures, standalone 1-g head or body and 10-g extremity SAR evaluation for general population exposure conditions, by measurement or numerical simulation, is not required when the corresponding SAR Test Exclusion Threshold condition(s), listed below, is (are) satisfied.

These test exclusion conditions are based on source-based time-averaged maximum conducted output power of the RF channel requiring evaluation, adjusted for tune-up tolerance, and the minimum test separation distance required for the exposure conditions.

The minimum test separation distance defined in 4.1 f) is determined by the smallest distance from the antenna and radiating structures or outer surface of the device, according to the host form factor, exposure conditions and platform requirements, to any part of the body or extremity of a user or bystander.

To qualify for SAR test exclusion, the test separation distances applied must be fully explained and justified, typically in the SAR measurement or SAR analysis report, by the operating configurations and exposure conditions of the transmitter and applicable host platform requirements, according to the required published RF exposure KDB procedures.

When no other RF exposure testing or reporting are required, a statement of justification and compliance must be included in the equipment approval, in lieu of the SAR report, to qualify for SAR test exclusion.

When required, the device specific conditions described in the other published RF exposure KDB procedures must be satisfied before applying these SAR test exclusion provisions.

a) For 100 MHz to 6 GHz and test separation distances ≤ 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

[(max. power of channel, including tune-up tolerance, mW) / (min. test separation distance, mm)] · [√f(GHz)] ≤ 3.0 for 1-g SAR, and ≤ 7.5 for 10-g extremity SAR, where

- $f_{(GHz)}$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- The values 3.0 and 7.5 are referred to as *numeric thresholds* in step b) below

The test exclusions are applicable only when the minimum test separation distance is ≤ 50 mm, and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

b) For 100 MHz to 6 GHz and test separation distances > 50 mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following (also illustrated in Appendix B):

   1) {[Power allowed at *numeric threshold* for 50 mm in step a)] + [(test separation distance – 50 mm)·(f(MHz)/150)]} mW, for 100 MHz to 1500 MHz
   2) {[Power allowed at *numeric threshold* for 50 mm in step a)] + [(test separation distance – 50 mm)·10]} mW, for > 1500 MHz and ≤ 6 GHz

c) For frequencies below 100 MHz, the following may be considered for SAR test exclusion (also illustrated in Appendix C):

   1) For test separation distances > 50 mm and < 200 mm, the power threshold at the corresponding test separation distance at 100 MHz in step b) is multiplied by [1 + log(100/f(MHz))]
   2) For test separation distances ≤ 50 mm, the power threshold determined by the equation in c) 1) for 50 mm and 100 MHz is multiplied by ½
   3) SAR measurement procedures are not established below 100 MHz.

When SAR test exclusion cannot be applied, a KDB inquiry is required to determine SAR evaluation requirements for any SAR test results below 100 MHz to be acceptable.

2. SAR Test Exclucsion Thresholds

We use 5mm as separation distance to calculated.

Bluetooth DSS:

Transmit Frequency (GHz)	Mode	Measured Power (dBm)	Tune-up power (dBm)	Max tune-up power(dBm)	Result calculation	1g SAR
2.402	GFSK	2.091	3±1	4	0.7786	3
2.441		3.320	3±1	4	0.7849	3
2.48		3.258	3±1	4	0.7911	3
2.402	π/4-DQPSK	3.455	4±1	5	0.9802	3
2.441		4.899	4±1	5	0.9881	3
2.48		4.940	4±1	5	0.9960	3
2.402	8DPSK	3.932	4±1	5	0.9802	3
2.441		4.829	4±1	5	0.9881	3
2.48		4.810	4±1	5	0.9960	3

Bluetooth DTS:

Transmit Frequency (GHz)	Mode	Measured Power (dBm)	Tune-up power (dBm)	Max tune-up power(dBm)	Result calculation	1g SAR
2.402	GFSK	-4.584	-4±1	-3	0.1554	3
2.44		-3.047	-4±1	-3	0.1566	3
2.48		-3.052	-4±1	-3	0.1579	3

Conclusion:

For the max result: 0.9960≤ 3.0 for 1g SAR, No SAR is required.

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