RF EXPOSURE
Test Report

Report No.:	MTi210222035-04E2
Date of issue:	Apr. 26, 2021
Applicant:	Changsha Hotone Audio Co., LTD
Product name:	Bluetooth MIDI Controller
Model(s):	EC-4, EC-yzzzz, y: any number, z: any capital letter or number, could be omitted
FCC ID:	2AHJSEC-4

Shenzhen Microtest Co., Ltd.

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TEST RESULT CERTIFICATION

Applicant's name ..... :	Changsha Hotone Audio Co., LTD
Address ..... :	Room 201, East Block, Hunan University Science Park, No.186, Guyuan Rd. Yue Lu District, Changsha, Hunan Province, China
Manufacturer's Name ..... :	Changsha Hotone Audio Co., LTD
Address ..... :	Room 201, East Block, Hunan University Science Park, No.186, Guyuan Rd. Yue Lu District, Changsha, Hunan Province, China
Product description	
Product name ..... :	Bluetooth MIDI Controller
Trademark ..... :	HOTONE
Model Name ..... :	EC-4
Serial Model	EC-yzzzz, y: any number, z: any capital letter or number, could be omitted
Standards ..... :	N/A
Test procedure ..... :	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests ..... :	08 Mar. 2021 ~ 29 Mar. 2021
Test Result ..... :	Pass

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.

Testing Engineer : (Danny Xu)

Technical Manager : (Leo Su)

Authorized Signatory : (Tom Xue)

RF EXPOSURE EVALUATION

According to FCC 1.1310: The criteria listed in the following table shall be used to evaluate the environment impact of human exposure to radio frequency (RF) Radiation as specified in §1.1307(b)

Limits for Maximum Permissible Exposure (MPE)

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm^2)	Averaging time (minutes)
(A) Limits for Occupational/Controlled Exposure				
0.3-3.0	614	1.63	*100	6
3.0-30	1842/f	4.89/f	$*900/f^2$	6
30-300	61.4	0.163	1.0	6
300-1,500			f/300	6
1,500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*100	30
1.34-30	824/f	2.19/f	$*180/f^2$	30
30-300	27.5	0.073	0.2	30
300-1,500			f/1500	30
1,500-100,000			1.0	30

f = frequency in MHz * = Plane-wave equivalent power density

MPE Calculation Method

Friis transmission formula: $Pd= (Pout*G)\ (4*pi*R^2)$

Where

Pd= Power density in mW/cm2

Pout=output power to antenna in mW

G= Numeric gain of the antenna relative to isotropic antenna

Pi=3.1415926

R= distance between observation point and center of the radiator in cm (20cm)

Pd the limit of MPE, 1mW/cm2. If we know the maximum gain of the antenna and total power input to the antenna, through the calculation, we will know the distance where the MPE limit is reached.

Measurement Result

R=20cm

BLE

Channel Freq. (MHz)	modulation	conducted power (dBm)	Tune-up power (dBm)	Max tune-up power (dBm)	Max tune-up power (mW)	Antenna Gain (dBi)	Antenna Gain Numeric	Evaluation result (mW/cm2)	Power density Limits (mW/cm2)
2402	GFSK	4.382	5±1	6	3.981	1	1.26	0.0010	1
2440		5.461	5±1	6	3.981	1	1.26	0.0010	1
2480		5.989	5±1	6	3.981	1	1.26	0.0010	1

Conclusion:

For the max result: 0.0010≤ 1.0 for 1g SAR, No SAR is required.

----END OF REPORT----