

MPE REPORT

FCC ID:2AS5O-19572

Date of issue: July 17, 2020

Report number: MTi20060908-12E2

Sample description: Bluetooth speaker

Model(s): E-BS-19572

Applicant: China Etech Groups Ltd

Address: 16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial

Area, Xixiang Road, Baoan District, Shenzhen, China

Date of test: June 17, 2020 to July 17, 2020

Shenzhen Microtest Co., Ltd.

http://www.mtitest.com

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RF exposure procedures:

TEST RESULT CERTIFICATION Applicant's name: China Etech Groups Ltd Address: 16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial Area, Xixiang Road, Baoan District, Shenzhen, China Manufacture's name: China Etech Groups Ltd Address: 16/F, Block C, 2nd Phase of Central Avenue, Haihong Industrial Area, Xixiang Road, Baoan District, Shenzhen, China Product name: Bluetooth speaker Trademark: **ETECH** Model and/or type reference: E-BS-19572 Serial model: N/A

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.

KDB 447498 D01 v06

Tested by:	Demy Mu				
	Demi Mu	July 17, 2020			
Reviewed by:	<	Jeo su			
	Leo Su	July 17, 2020			
Approved by:		tom Xue			
	Tom Xue	July 17, 2020			

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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	1.63 *100							
3.0-30	1842/	f 4.89/1	*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 Gene	ral Population/Uncontrolled	Exposure							
0.3-1.34	614	1.63	*100	30						
1.34-30	824/	f 2.19/1	*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*R2)

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.

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Measurement Result

BT:

Operation Frequency: BT GFSK, π/4-DQPSK: 2402-2480MHz

Power density limited: 1mW/ cm²

Antenna Type: BT Antenna: PCB Antenna;

BT antenna gain: -0.68dBi

R=20cm

 $mW=10^{dBm/10}$

antenna gain Numeric=10^(dBi/10)= 10^(-0.68/10)=0.86

Channel Freq. modulation (MHz)	conducted power	Tune- up	Ma	ах	Ar	itenna	Evaluation result	Power density Limits	
	power (dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)	
			(dBm)	(mW)	(dBi)	Numeric			
2402	1 GFSK	2.045	2±1	3	1.995	-0.68	0.86	0.0003	1
2441		1.763	2±1	3	1.995	-0.68	0.86	0.0003	1
2480		1.66	2±1	3	1.995	-0.68	0.86	0.0003	1
2402	2402 2441 2480 π/4- DQPSK	3.086	3±1	4	2.512	-0.68	0.86	0.0004	1
2441		2.646	3±1	4	2.512	-0.68	0.86	0.0004	1
2480		2.489	3±1	4	2.512	-0.68	0.86	0.0004	1

Conclusion:

For the max result: 0.0004≤ 1.0 for 1g SAR, No SAR is required.

----END OF REPORT----