MPE Test Report

Report No.: MTi210106011-02E2

Date of issue: Jan. 27, 2021

Applicant: Edifier International Limited

Product name: Multimedia Speaker

Model(s): EDF100009

FCC ID: Z9G-EDF125

Shenzhen Microtest Co., Ltd.

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Instructions

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TEST RESULT CERTIFICATION

Applicant's name.....	Edifier International Limited
Address.....	P.O. Box 6264 General Post Office Hong Kong
Manufacturer's Name	Beijing Edifier Technology Co., Ltd.
Address.....	8th floor,ZuoAn Building,NO.68 BeiSiHuanXiLu,Haidian District, Beijing 100080,CHINA
Factory's Name	Dongguan Edifier Technology Co., Ltd.
Address.....	No.2 Gongyedong Road, Songshan Lake Sci&Tech Industry Park, Dongguan,Guangdong 523808, PR.China
Product description	
Product name.....	Multimedia Speaker
Trademark	EDIFIER
Model Name	EDF100009
Serial Model	N/A
Standards.....	N/A
Test procedure	KDB 447498 D01 v06
Date of Test	
Date (s) of performance of tests..... :	Jan. 12, 2021 ~ Jan. 27, 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 : (Demi Mu)

Technical Manager : (Leo Su)

Authorized Signatory : (Tom Xue)

1 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)

1.1 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.

1.2 Measurement Result

BT:

Operation Frequency: BT GFSK, π/4-DQPSK, 8DPSK: 2402-2480MHz,

Power density limited: 1mW/ cm^2

Antenna Type: BT Antenna: PCB Antenna;
WIFI antenna gain: 2.59dBi

R=20cm

mW=10^(dBm/10)

antenna gain Numeric=10^(dBi/10)= 10^(2.59/10)=1.82

Channel Freq. (MHz)	modulation	conducted power	Tune-up power (dBm)	Max		Antenna		Evaluation result	Power density Limits
		(dBm)		tune-up power		Gain		(mW/cm2)	(mW/cm2)
				(dBm)	(mW)	(dBi)	Numeric		
2402	GFSK	8.667	9±1	10	10.000	2.59	1.82	0.0036	1
2441		8.682	9±1	10	10.000	2.59	1.82	0.0036	1
2480		8.384	9±1	10	10.000	2.59	1.82	0.0036	1
2402	π/4-DQPSK	10.931	11±1	12	15.849	2.59	1.82	0.0057	1
2441		10.868	11±1	12	15.849	2.59	1.82	0.0057	1
2480		10.659	11±1	12	15.849	2.59	1.82	0.0057	1
2402	8DPSK	11.535	11±1	12	15.849	2.59	1.82	0.0057	1
2441		11.616	11±1	12	15.849	2.59	1.82	0.0057	1
2480		11.387	11±1	12	15.849	2.59	1.82	0.0057	1

Conclusion:

For the max result: 0.0057≤ 1.0 for 1g SAR, No SAR is required.

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