



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.

<http://www.mtitest.com>



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 |

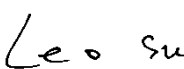
Date of Test

| | |
|---|-------------------------------|
| 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, $\pi/4$ -DQPSK, 8DPSK: 2402-2480MHz,

Power density limited: 1mW/ cm²

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 (dBm) | Tune-up power (dBm) | Max | | Antenna | | Evaluation result (mW/cm ²) | Power density Limits (mW/cm ²) |
|---------------------|----------------|-----------------------|---------------------|---------------|--------|---------|---------|---|--|
| | | | | tune-up power | | Gain | | | |
| | | | | (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 | $\pi/4$ -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: $0.0057 \leq 1.0$ for 1g SAR, No SAR is required.

----END OF REPORT----