



## RF Exposure Evaluation Declaration

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**FCC ID:** Z9G-EDF123  
**APPLICANT:** Edifier International Limited  
**Application Type:** Certification  
**Product:** Active Speaker  
**Model No.:** EDF100017  
**Brand Name:** EDIFIER  
**FCC Rule Part(s):** FCC Part 2 (Section 2.1091)  
KDB 447498 D01 General RF Exposure Guidance v06  
IEEE C95.1-1992  
**Test Date:** January 06 ~ 12, 2021

Reviewed By:

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The test results relate only to the samples tested.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Shenzhen) Co., Ltd.

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## Revision History

Report No.	Version	Description	Issue Date	Note
2012RSU069-U2	Rev. 01	Initial Report	01-18-2021	Valid

## 1. PRODUCT INFORMATION

### 1.1. Equipment Description

Product Name	Active Speaker
Model No.	EDF100017
Operating Temp.	0 ~ 45°C
Rated Input	100-240V~50/60Hz, 400mA
Bluetooth Version	v5.1 single mode, BR/EDR only

### 1.2. RF Specification

Operating Frequency	2402~2480MHz
Channel Number	79
Type of modulation	GFSK, Pi/4 DQPSK, 8DPSK
Data Rate	1Mbps (GFSK), 2Mbps (Pi/4 DQPSK), 3Mbps (8DPSK)
Antenna Type	Chip Antenna
Antenna Gain	2.5dBi

Note: For other features of this EUT, test report will be issued separately.

## 2. RF Exposure Evaluation

### 2.1. Limits

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 <sup>2</sup> )	Average Time (Minutes)
(A) Limits for Occupational/ Control Exposures				
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6
(B) Limits for General Population/ Uncontrolled Exposures				
300-1500	--	--	f/1500	6
1500-100,000	--	--	1	30

f= Frequency in MHz

Calculation Formula:  $P_d = (P_{out} * G) / (4 * \pi * r^2)$

Where

$P_d$  = power density in mW/cm<sup>2</sup>

$P_{out}$  = output power to antenna in mW

G = gain of antenna in linear scale

$\pi$  = 3.1416

r = distance between observation point and center of the radiator in cm

$P_d$  is the limit of MPE, 1mW/cm<sup>2</sup>. If we know the maximum gain of the antenna and the total power input to the antenna, through the calculation, we will know the distance r where the MPE limit is reached.

## 2.2. Test Result of RF Exposure Evaluation

Product	Active Speaker
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Output Power (dBm)	E.I.R.P (dBm)	Power Density at R = 20 cm (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )
Bluetooth	2402 ~ 2480	10.42	12.92	0.0039	1

### CONCLUSION:

The Max Power Density at R (20 cm) = 0.0039mW/cm<sup>2</sup> < 1mW/cm<sup>2</sup>.

So the EUT complies with the requirement.

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## **Appendix - EUT Photograph**

Refer to "2012RSU069-UE" file.