RF Exposure Evaluation Declaration

FCC ID:	Z9G-EDF137
APPLICANT:	Edifier International Limited
Application Type:	Certification
Product:	Multimedia Speaker
Model No.:	EDF100007
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:	March 02 ~ 10, 2021

Reviewed By: Jame Yuan

Approved By: Robin Wu

Revision History

Report No.	Version	Description	Issue Date	Note
2102RSU082-U2	Rev. 01	Initial Report	03-19-2021	Valid

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Multimedia Speaker
Model No.	EDF100007
Operating Temp.	0 ~ 45°C
Rated Input	100-240V~50/60Hz, 500mA
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

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^2)	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: $Pd = (Pout*G)/(4*pi*r^2)$

Where
Pd = power density in mW/cm^2
Pout = 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

Pd is the limit of MPE, $1mW/cm^2$. 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	Multimedia 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^2)	Limit (mW/cm^2)
Bluetooth	2402 ~ 2480	12.03	14.53	0.0056	1

CONCLUSION:

The Max Power Density at R (20 cm) = 0.0056mW/cm^2 < 1mW/cm^2.

So the EUT complies with the requirement.

The End

Appendix - EUT Photograph

Refer to “2102RSU082-UE” file.