



RF Exposure Evaluation

FCC ID : Z9G-EDF222

APPLICANT : Edifier International Limited

Product : True Wireless Earbuds with Active Noise Cancellation

Model No. : EDF200136

Brand Name : EDIFIER

FCC Rule Part(s): : Part 2.1093 (Portable)

Received Date : November 24, 2023

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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.

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Revision History

Report No.	Version	Description	Issue Date	Note
2311TW0118-U4	1.0	Original Report	2023-12-12	

1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	True Wireless Earbuds with Active Noise Cancellation
Model No.	EDF200136
Brand Name	EDIFIER
Supports Radios Spec.	WPAN: Bluetooth Dual Mode
Accessory	
USB CABLE	Brand: EDIFIER Model No: EDF200136 Length: 0.5m

Note: This headset has left and right ear, and their radio frequency layouts are identical.

1.2. Antenna Description

No.	Brand	Part No.	Antenna Type	Peak Gain
1	Cicent	FPC antenna-L	FPC	-2.82dBi
2	Cicent	FPC antenna-R	FPC	-3.13dBi

2. RF Exposure Evaluation

2.1. FCC Limits

According to FCC KDB 447498 D04V01 - SAR-Based Exemption

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula .

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}} (d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases}$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20\text{cm}}$ is per Formula.

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases}$$

The example values shown as below are for illustration only.

Example Power Thresholds (mW)

Frequency (MHz)	Distance (mm)										
	5	10	15	20	25	30	35	40	45	50	
300	39	65	88	110	129	148	166	184	201	217	
450	22	44	67	89	112	135	158	180	203	226	
835	9	25	44	66	90	116	145	175	207	240	
1900	3	12	26	44	66	92	122	157	195	236	
2450	3	10	22	38	59	83	111	143	179	219	
3600	2	8	18	32	49	71	96	125	158	195	
5800	1	6	14	25	40	58	80	106	136	169	

Note: when 10-g extremity SAR applies, SAR test exemption may be considered by applying a factor of 2.5 to the SAR-based exemption thresholds.

2.2. Test Result of RF Exposure Evaluation

Mode	Frequency Band (MHz)	Output Power (dBm)	Output Power (mW)	Antenna Gain (dBi)	EIRP (mW)	FCC SAR Test Exclusion Threshold (mW)
BT / BLE	2402~2480	1.73	1.49	-2.82	0.78	3

So, this device can complies the SAR test exclusion.

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