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Report No.: 2011RSU058-U3 Report Version: V01 Issue Date: 12-02-2020

RF Exposure Evaluation Declaration

FCC ID: Z9G-EDF118

Applicant: Edifier International Limited

Application Type: Certification

Product: Bluetooth Stereo Headphones

Model No.: EDF200040

Brand Name: EDIFIER

FCC Classification: Digital Transmission System (DTS)

FCC Part 15 Spread Spectrum Transmitter (DSS)

FCC Rule Part(s): FCC Part 2 (Section 2.1091)

Reviewed By: Jame guan

(Jame Yuan)

Approved By:

(Robin Wu)





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
2011RSU058-U3	Rev. 01	Initial Report	12-02-2020	Valid



1. PRODUCT INFORMATION

1.1. Equipment Description

Product Name	Bluetooth Stereo Headphones			
Model No.	EDF200040			
Toot Daviso Lobel No	20201123Sample#03 (Conducted Sample)			
Test Device Label No.	20201123Sample#02 (Radiated Sample)			
Operating Temp.	0 ~ 45°C			
Rated Input	5VDC, 1A			
Bluetooth Version	v5.1 dual mode			
Accessories				
Li-ion Battery	Model No.: CEL503245, 503245			
	Capacitance: 3.7V 670mAh 2.479Wh			
	Limited Charging Voltage: 4.2V			

1.2. Product Specification

Frequency Range	2402~2480MHz
Number of Channels	For Bluetooth: 79
	For BT-LE: 40
Channel Specing	For Bluetooth: 1MHz
Channel Spacing	For BT-LE: 2MHz
Modulation	For Bluetooth:1Mbps (GFSK), 2Mbps (Pi/4 DQPSK), 3Mbps (8DPSK)
Modulation	For BT-LE: GFSK
Data Rate	Up to 2Mbps
Antenna Type	PCB Antenna
Antenna Gain	2.2dBi

1.3. Applied Standards

KDB 447498 D01v06



2. RF Exposure Evaluation

2.1. Limits

SAR Test Exclusion Thresholds for 100 MHz - 6 GHz and ≤ 50 mm

Approximate SAR Test Exclusion Power Thresholds at Selected Frequencies and Test Separation Distances are illustrated in the following Table. The equation and threshold in Note 1 must be applied to determine SAR test exclusion.

MHz 5 10 15 20 25 mm 150 39 77 116 155 194 SAR Test 300 27 55 82 110 137 Threshold 450 22 45 67 89 112 Threshold 835 16 33 49 66 82 90 112							
Solution Solution	MHz	5	10	15	20	25	mm
450 22 45 67 89 112 Threshold (mW) 835 16 33 49 66 82 900 16 32 47 63 79 1500 12 24 37 49 61 1900 11 22 33 44 54 2450 10 19 29 38 48 3600 8 16 24 32 40 5200 7 13 20 26 33 5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179	150	39	77	116	155	194	SAR Test
835	300	27	55	82	110	137	Exclusion
900	450	22	45	67	89	112	Threshold
1500 12 24 37 49 61 1900 11 22 33 44 54 2450 10 19 29 38 48 3600 8 16 24 32 40 5200 7 13 20 26 33 5400 6 13 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	835	16	33	49	66	82	(mW)
1900 11 22 33 44 54 2450 10 19 29 38 48 3600 8 16 24 32 40 5200 7 13 20 26 33 5400 6 13 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	900	16	32	47	63	79	
2450 10 19 29 38 48 3600 8 16 24 32 40 5200 7 13 20 26 33 5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63	1500	12	24	37	49	61	
3600 8 16 24 32 40 5200 7 13 20 26 33 5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46	1900	11	22	33	44	54	
5200 7 13 20 26 33 5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 <	2450	10	19	29	38	48	
5400 6 13 19 26 32 5800 6 12 19 25 31 MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	3600	8	16	24	32	40	
MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	5200	7	13	20	26	33	
MHz 30 35 40 45 50 mm 150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	5400	6	13	19	26	32	
150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	5800	6	12	19	25	31	
150 232 271 310 349 387 SAR Test 300 164 192 219 246 274 Exclusion 450 134 157 179 201 224 Threshold 835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66							
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835 98 115 131 148 164 (mW) 900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66							
900 95 111 126 142 158 1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	150	232	271	310	349	387	SAR Test
1500 73 86 98 110 122 1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	150 300	232 164	271 192	310 219	349 246	387 274	SAR Test Exclusion
1900 65 76 87 98 109 2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	150 300 450	232 164 134	271 192 157	310 219 179	349 246 201	387 274 224	SAR Test Exclusion Threshold
2450 57 67 77 86 96 3600 47 55 63 71 79 5200 39 46 53 59 66	150 300 450 835	232 164 134 98	271 192 157 115	310 219 179 131	349 246 201 148	387 274 224 164	SAR Test Exclusion Threshold
3600 47 55 63 71 79 5200 39 46 53 59 66	150 300 450 835 900	232 164 134 98 95	271 192 157 115 111	310 219 179 131 126	349 246 201 148 142	387 274 224 164 158	SAR Test Exclusion Threshold
5200 39 46 53 59 66	150 300 450 835 900 1500	232 164 134 98 95 73	271 192 157 115 111 86	310 219 179 131 126 98	349 246 201 148 142 110	387 274 224 164 158 122	SAR Test Exclusion Threshold
	150 300 450 835 900 1500 1900	232 164 134 98 95 73 65	271 192 157 115 111 86 76	310 219 179 131 126 98	349 246 201 148 142 110 98	387 274 224 164 158 122 109	SAR Test Exclusion Threshold
5400 39 45 52 58 65	150 300 450 835 900 1500 1900 2450	232 164 134 98 95 73 65 57	271 192 157 115 111 86 76 67	310 219 179 131 126 98 87 77	349 246 201 148 142 110 98 86	387 274 224 164 158 122 109 96	SAR Test Exclusion Threshold
	150 300 450 835 900 1500 1900 2450 3600	232 164 134 98 95 73 65 57 47	271 192 157 115 111 86 76 67 55	310 219 179 131 126 98 87 77 63	349 246 201 148 142 110 98 86 71	387 274 224 164 158 122 109 96 79	SAR Test Exclusion Threshold
5800 37 44 50 56 62	150 300 450 835 900 1500 1900 2450 3600 5200	232 164 134 98 95 73 65 57 47	271 192 157 115 111 86 76 67 55 46	310 219 179 131 126 98 87 77 63 53	349 246 201 148 142 110 98 86 71 59	387 274 224 164 158 122 109 96 79 66	SAR Test Exclusion Threshold

Note: The 1-g and 10-g SAR test exclusion thresholds for 100 MHz to 6 GHz at test separation distances ≤ 50 mm are determined by:



[(max. power of channel, including tune-up tolerance, mW)/(min. test separation distance, mm)] * $[\sqrt{f(GHz)}] \le 3.0$ for 1-g SAR and ≤ 7.5 for 10-g extremity SAR,where

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison
- 3.0 and 7.5 are referred to as the numeric thresholds in the step 2 below

The test exclusions are applicable only when the minimum test separation distance is \leq 50 mm and for transmission frequencies between 100 MHz and 6 GHz. When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 5) in section 4.1 is applied to determine SAR test exclusion.



2.2. Test Result of RF Exposure Evaluation

Product	Bluetooth Stereo Headphones
Test Item	RF Exposure Evaluation

Test Mode	Frequency Band (MHz)	Maximum Turn-up Output Power		SAR Test Exclusion Threshold (mW)
		(dBm)	(mW)	
Bluetooth-EDR	2402 ~ 2480	4.00	2.51	10
Bluetooth-LE	2402 ~ 2480	9.00	7.94	10

Note 1: Per FCC KDB 447498 D01v06, the SAR exclusion threshold for distances<50mm is defined by the following equation:

$$\frac{Max\ Power\ of\ Channel\ (mW)}{Test\ Separation\ Dist\ (mm)}*\sqrt{Frequency(GHz)} \leq 3.0$$

Based on the maximum conducted power of Bluetoothand the antenna to use separation distance, Bluetooth SAR was not required;

For Bluetooth-EDR,
$$(\frac{2.51\text{mW}}{5}) * \sqrt{2.402} = 0.778 < 3.00$$

For Bluetooth-LE,
$$\left(\frac{7.94\text{mW}}{5}\right) * \sqrt{2.402} = 2.461 < 3.00$$

Note 2: When the minimum test separation distance is < 5 mm, a distance of 5 mm is applied to determine SAR test exclusion.

_____ The End _____



Appendix - EUT Photograph

Refer to "2011RSU058-UE" file.