



Report No.: TW2106158E File reference No.: 2021-06-22

Applicant: Shenzhen Swetz Sound Technology Co., Limited

Product: TWS Earphone

Model No.: TW056B, MIUONO T1

Brand Name: N/A

Test Standards: FCC Part 15.249

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10 &FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation of

electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: June 22, 2021

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

# SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

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# **Special Statement:**

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meet with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

#### **CNAS-LAB Code: L2292**

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

# FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

# Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

# A2LA (Certification Number: 5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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# Test Report Conclusion

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#### 1.0 General Details

#### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 744189 For 3m Anechoic Chamber

### 1.2 Applicant Details

Applicant: Shenzhen Swetz Sound Technology Co., Limited

Address: No.18, Xiantian Road, Xinsheng Community, Longgang Street, Longgang District, Shenzhen,

China

Telephone: -Fax: --

#### 1.3 Description of EUT

Product: TWS Earphone

Manufacturer: Shenzhen Swetz Sound Technology Co., Limited

Address: No.18, Xiantian Road, Xinsheng Community, Longgang Street, Longgang

District, Shenzhen, China

Brand Name: N/A

Model Number: TW056B
Additional Model Name MIUONO T1

Hardware Version: V1.1 Software Version: V1.0

Rating: DC5V input or Built-in DC3.7V, 50mAh Li-ion battery for Earphone; DC5V

input or Built-in DC3.7V, 300mAh Li-ion battery for charger base

Modulation Type: GFSK, Pi/4D-QPSK Operation Frequency: 2402-2480MHz

Channel Separate: 1MHz Channel Number: 79

Antenna Designation PCB antenna with gain 0.45dBi Max for left earbud and 0.60dBi for right

earbud (Get from the antenna specification provided by the applicant)

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1.4 Submitted Sample: 2 pcs

1.5 Test Duration

2021-06-11 to 2021-06-23

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty =6.0dB

Occupied Channel Bandwidth Uncertainty = 5%

Conducted Emissions Uncertainty = 3.6dB

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

Terry Tang

The sample tested by

Print Name: Terry Tang

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2020-06-23	2021-06-22
LISN	R&S	EZH3-Z5	100294	2020-06-23	2021-06-22
LISN	R&S	EZH3-Z5	100253	2020-06-23	2021-06-22
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2020-06-23	2021-06-22
Loop Antenna	EMCO	6507	00078608	2018-06-25	2021-06-24
Spectrum	R&S	FSIQ26	100292	2020-06-23	2021-06-22
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2020-06-23	2021-06-22
Horn Antenna	R&S	BBHA 9120D	9120D-631	2018-07-09	2021-07-08
Power meter	Anritsu	ML2487A	6K00003613	2020-06-23	2021-06-22
Power sensor	Anritsu	MA2491A	32263	2020-06-23	2021-06-22
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2018-07-04	2021-07-03
9*6*6 Anechoic			N/A	2020-07-06	2021-07-05
EMI Test Receiver	RS	ESVB	826156/011	2020-06-23	2021-06-22
EMI Test Receiver	RS	ESH3	860904/006	2020-06-23	2021-06-22
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2020-06-23	2021-06-22
Spectrum	HP/Agilent	E4407B	MY50441392	2020-06-23	2021-06-22
Spectrum	RS	FSP	1164.4391.38	2021-01-16	2022-01-15
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2020-06-23	2021-06-22
RF Cable	Zhengdi	7m		2020-06-23	2021-06-22
RF Switch	EM	EMSW18	060391	2020-06-23	2021-06-22
Pre-Amplifier	Schwarebeck	BBV9743	#218	2020-06-23	2021-06-22
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2020-06-23	2021-06-22
LISN	SCHAFFNER	NNB42	00012	2021-01-06	2022-01-05

# 2.2 Automation Test Software

#### For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1

### For Radiated Emissions

Name	Version		
EMI Test Software BL410-EV18.91	V18.905		
EMI Test Software BL410-EV18.806 High Frequency	V18.06		

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#### 3.0 Technical Details

## 3.1 Summary of test results

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The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.207	Conducted Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	PASS	Complies
FCC Part 15, Paragraph 15.209	Radiated Emission Test	PASS	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	PASS	Complies

#### 3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4:2014 and ANSI C63.10:2013

### 4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

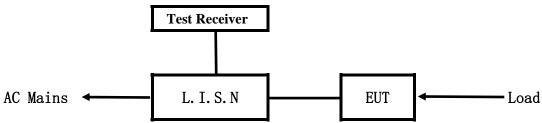
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#### 5. Power Line Conducted Emission Test

# 5.1 Schematics of the test

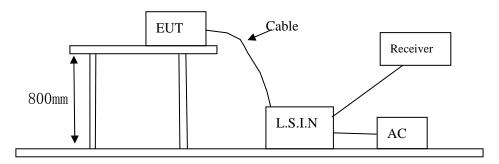


**EUT:** Equipment Under Test

#### 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10 –2013.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



## 5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

79 channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID	
TWC Fambona	Shenzhen Swetz Sound Technology		24 OVY TW056D	
TWS Earphone	Co., Limited	MIUONO T1	2AOKX-TW056B	

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#### B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

# C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	KEYU	KA23-0502000DEU	Input: 100-240V~, 50/60Hz, 0.35A;
			Output: DC5V, 2A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

	0 0 1	
Frequency	Limits (d	lB μV)
(MHz)	Quasi-peak Level	Average Level
$0.15 \sim 0.50$	66.0~56.0*	56.0~46.0*
$0.50 \sim 5.00$	56.0	46.0
5.00 ~ 30.00	60.0	50.0

Notes:

- 1. \*Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

#### 5.6 Test Results:

Pass

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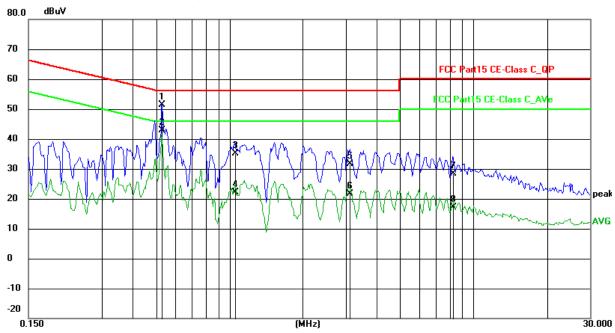
## A: Conducted Emission on Live Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging and Communication by BT** 

Model: TW056B Results: PASS



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.5283	41.49	9.77	51.26	56.00	-4.74	QP	Р
2	0.5283	33.05	9.77	42.82	46.00	-3.18	AVG	Р
3	1.0509	25.39	9.79	35.18	56.00	-20.82	QP	Р
4	1.0509	12.27	9.79	22.06	46.00	-23.94	AVG	Р
5	3.1170	21.90	9.85	31.75	56.00	-24.25	QP	Р
6	3.1170	11.88	9.85	21.73	46.00	-24.27	AVG	Р
7	8.2260	18.19	10.07	28.26	60.00	-31.74	QP	Р
8	8.2260	7.05	10.07	17.12	50.00	-32.88	AVG	Р

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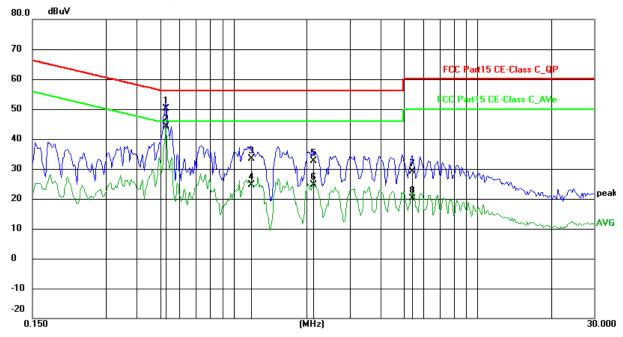
## B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

**EUT Operating Environment** 

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Charging and Communication by BT

Model: TW056B Results: Pass



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.5283	40.27	9.77	50.04	56.00	-5.96	QP	Р
2	0.5283	34.35	9.77	44.12	46.00	-1.88	AVG	Р
3	1.1835	23.57	9.79	33.36	56.00	-22.64	QP	Р
4	1.1835	14.76	9.79	24.55	46.00	-21.45	AVG	Р
5	2.1195	22.78	9.81	32.59	56.00	-23.41	QP	Р
6	2.1195	14.84	9.81	24.65	46.00	-21.35	AVG	Р
7	5.3868	19.17	9.95	29.12	60.00	-30.88	QP	Р
8	5.3868	10.23	9.95	20.18	50.00	-29.82	AVG	Р

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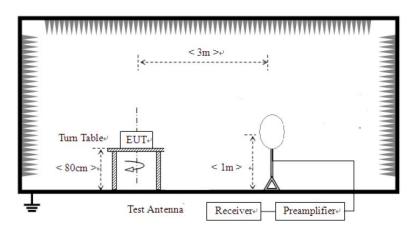


#### 6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

#### **Block diagram of Test setup**

For radiated emissions from 9kHz to 30MHz



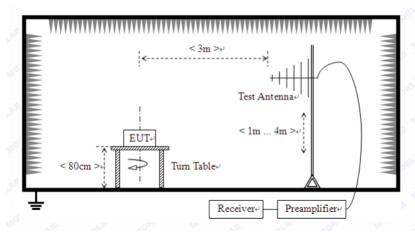
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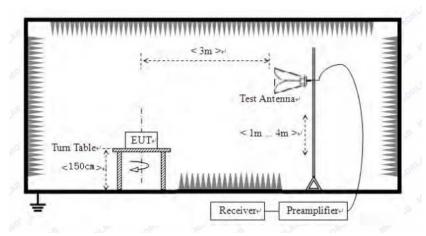
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For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 6.2 Configuration of The EUT

  Same as section 5.3 of this report
- 6.3 EUT Operating Condition

  Same as section 5.4 of this report.

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#### 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

#### A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency	Field Stre	Field Strength of Fundamental (3m)			Field Strength of Harmonics (3m)		
(MHz)	mV/m	dBuV/m		uV/m	dBuV/m		
2400-2483.5	50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)	

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

# B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage  $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.
- 5. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 6. Battery full charged during tests.
- 7. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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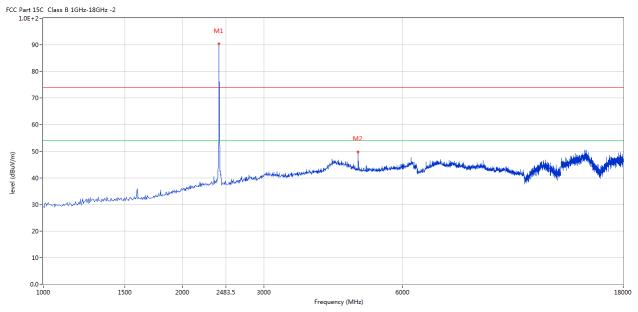


#### 6.5 Test result

# **A** Fundamental & Harmonics Radiated Emission Data - Left Earphone

Please refer to the following test plots for details: Low Channel-2402MHz

#### Horizontal



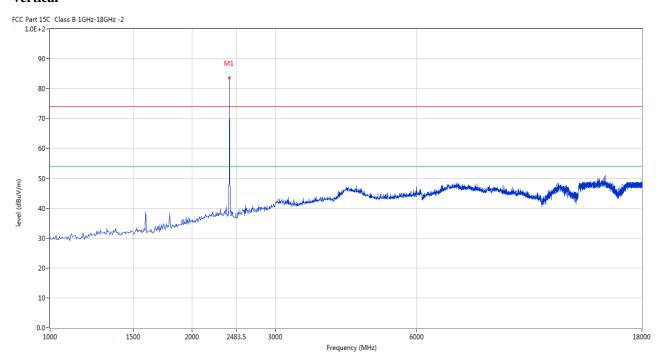
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402.149	90.34	-3.57	114.0	-23.66	Peak	111.00	100	Horizontal	Pass
2	4802.799	49.63	3.12	74.0	-24.37	Peak	312.00	100	Horizontal	Pass

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### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402.149	83.59	-3.57	114.0	-30.41	Peak	328.00	100	Vertical	Pass

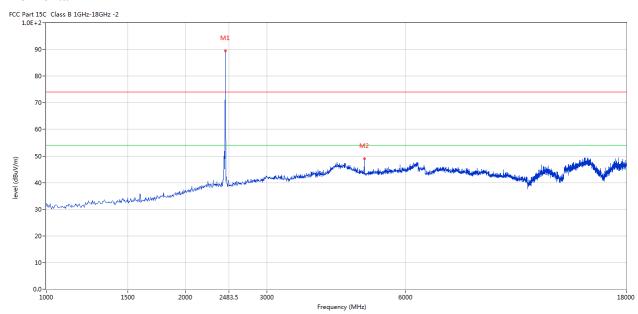
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Please refer to the following test plots for details: Middle Channel-2441MHz

#### **Horizontal**



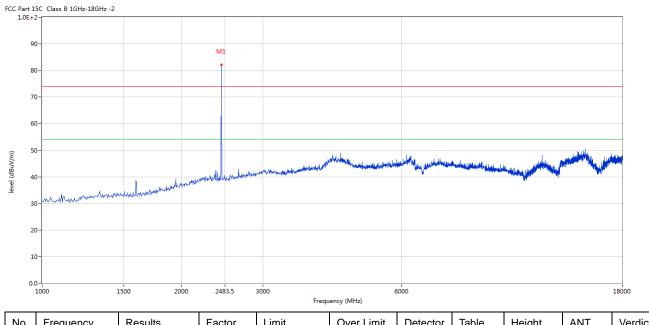
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440.390	89.41	-3.57	114.0	-24.59	Peak	109.00	100	Horizontal	Pass
2	4879.280	49.02	3.20	74.0	-24.98	Peak	304.00	100	Horizontal	Pass

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### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440.390	82.11	-3.57	114.0	-31.89	Peak	105.00	100	Vertical	Pass

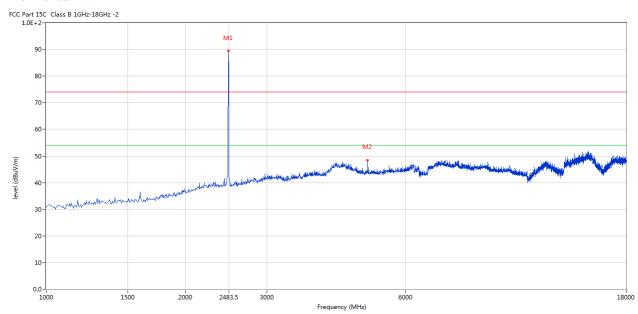
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Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2479.630	89.44	-3.57	114.0	-24.56	Peak	301.00	100	Horizontal	Pass
2	4960.010	48.45	3.36	74.0	-25.55	Peak	161.00	100	Horizontal	Pass

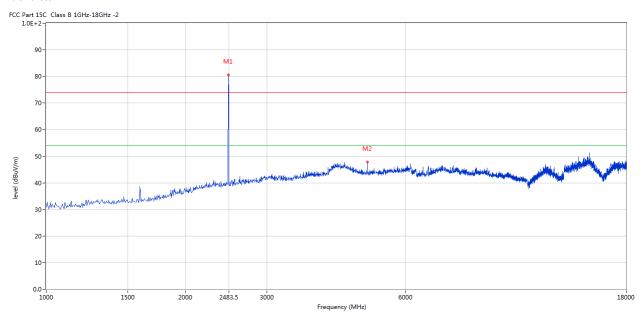
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#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2479.630	80.70	-3.57	114.0	-33.3	Peak	32.00	100	Vertical	Pass
2	4960.010	47.89	3.36	74.0	-26.11	Peak	69.00	100	Vertical	Pass

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

- (3) Margin=Emission-Limits
- (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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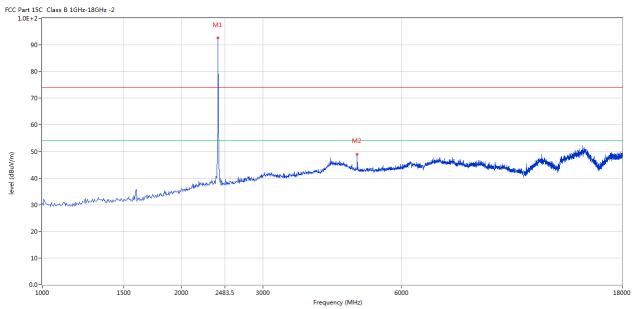
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# A Fundamental & Harmonics Radiated Emission Data - Right Earphone

Please refer to the following test plots for details: Low Channel-2402MHz

#### Horizontal



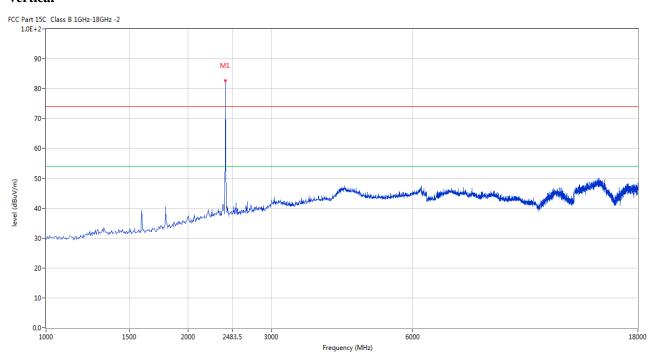
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402.149	92.58	-3.57	114.0	-21.42	Peak	312.00	100	Horizontal	Pass
2	4802.799	49.05	3.12	74.0	-24.95	Peak	327.00	100	Horizontal	Pass

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### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402.149	82.70	-3.57	114.0	-31.3	Peak	331.00	100	Vertical	Pass

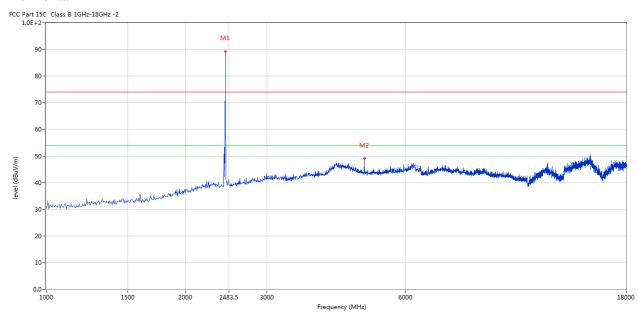
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Please refer to the following test plots for details: Middle Channel-2441MHz

#### **Horizontal**



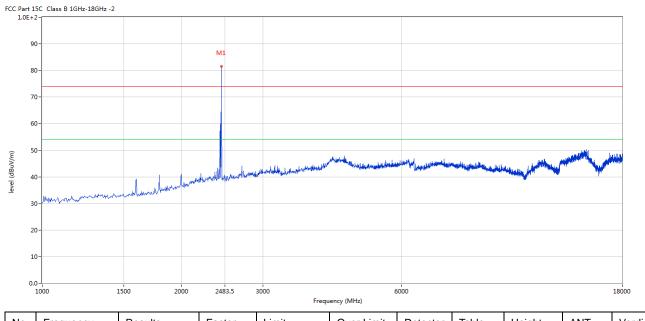
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440.390	89.30	-3.57	114.0	-24.7	Peak	299.00	100	Horizontal	Pass
2	4883.529	49.18	3.20	74.0	-24.82	Peak	110.00	100	Horizontal	Pass

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### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440.390	81.55	-3.57	114.0	-32.45	Peak	106.00	100	Vertical	Pass

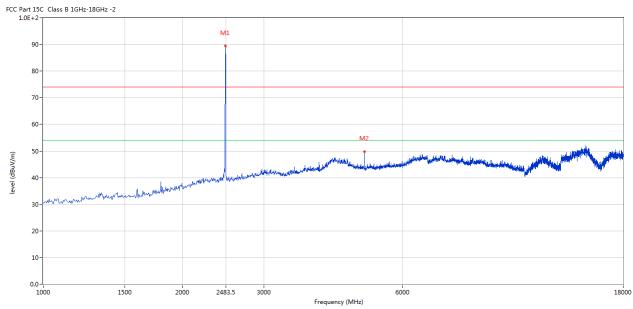
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Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal



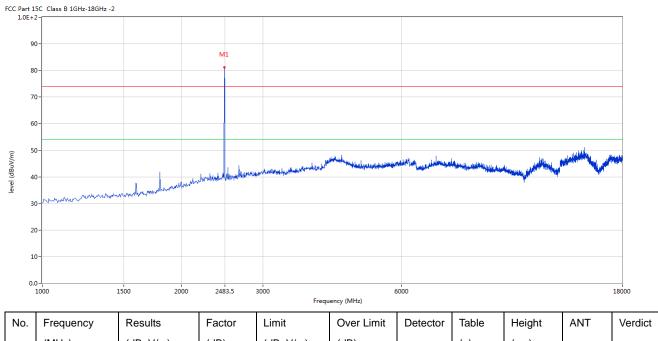
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2479.630	89.37	-3.57	114.0	-24.63	Peak	305.00	100	Horizontal	Pass
2	4960.010	49.73	3.36	74.0	-24.27	Peak	230.00	100	Horizontal	Pass

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#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2479.630	81.09	-3.57	114.0	-32.91	Peak	222.00	100	Vertical	Pass

Note: (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

- (3) Margin=Emission-Limits
- (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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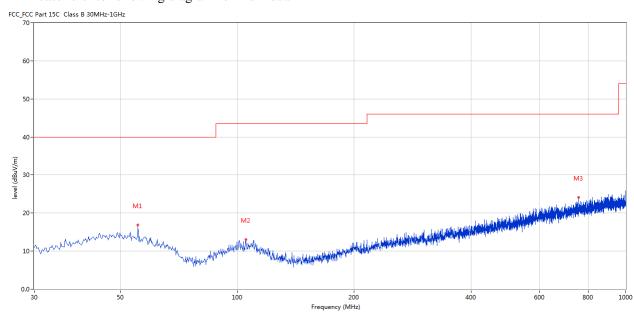
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# B. General Radiated Emission Data - Left Earphone Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	55.456	16.85	-11.89	40.0	-23.15	Peak	0.00	100	Horizontal	Pass
2	105.156	13.10	-13.23	43.5	-30.40	Peak	40.00	100	Horizontal	Pass
3	757.318	24.19	-3.32	46.0	-21.81	Peak	73.00	100	Horizontal	Pass

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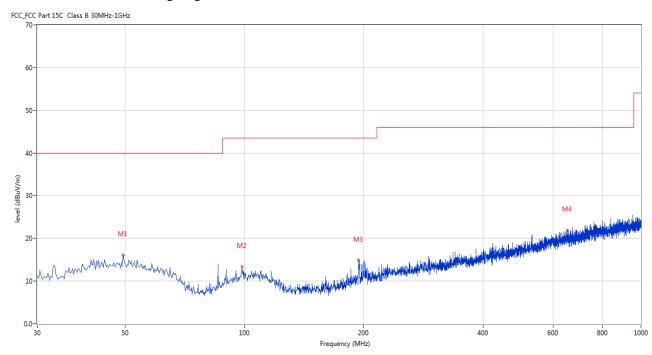
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## Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	49.395	16.04	-11.28	40.0	-23.96	Peak	276.00	100	Vertical	Pass
2	98.610	13.29	-13.70	43.5	-30.21	Peak	313.00	100	Vertical	Pass
3	194.131	14.84	-13.84	43.5	-28.66	Peak	325.00	100	Vertical	Pass
4	651.857	21.90	-4.68	46.0	-24.10	Peak	300.00	100	Vertical	Pass

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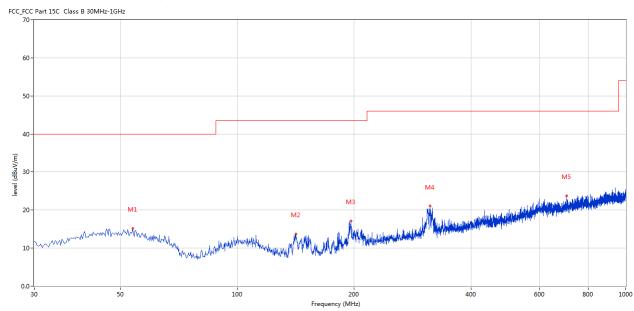
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# B. General Radiated Emission Data - Right Earphone Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	53.759	15.19	-11.53	40.0	-24.81	Peak	30.00	100	Horizontal	Pass
2	141.522	13.67	-17.28	43.5	-29.83	Peak	188.00	100	Horizontal	Pass
3	196.313	17.11	-13.59	43.5	-26.39	Peak	113.00	100	Horizontal	Pass
4	313.169	21.03	-10.82	46.0	-24.97	Peak	103.00	100	Horizontal	Pass
5	704.466	23.69	-4.16	46.0	-22.31	Peak	170.00	100	Horizontal	Pass

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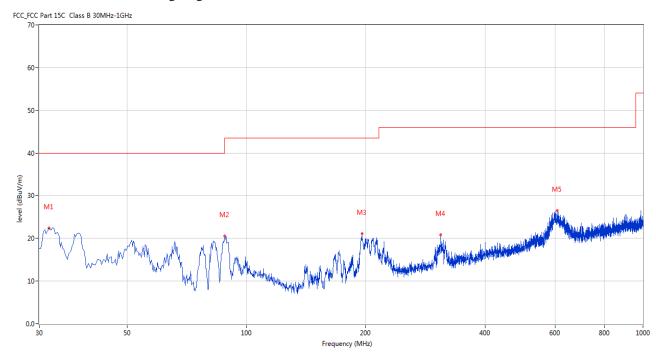
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## Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	31.455	21.77	-14.57	40.0	-18.23	Peak	360.00	100	Vertical	Pass
2	88.185	20.56	-15.59	43.5	-22.94	Peak	232.00	100	Vertical	Pass
3	195.344	21.06	-13.74	43.5	-22.44	Peak	339.00	100	Vertical	Pass
4	308.805	20.79	-10.85	46.0	-25.21	Peak	309.00	100	Vertical	Pass
5	607.248	26.52	-5.05	46.0	-19.48	Peak	177.00	100	Vertical	Pass

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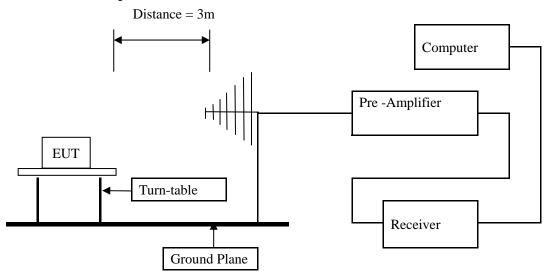


#### 7. Band Edge

#### 7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

### 7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

#### 7.3 Configuration of The EUT

Same as section 5.3 of this report

# 7.4 EUT Operating Condition

Same as section 5.4 of this report.

# 7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

The report refers only to the sample tested and does not apply to the bulk.

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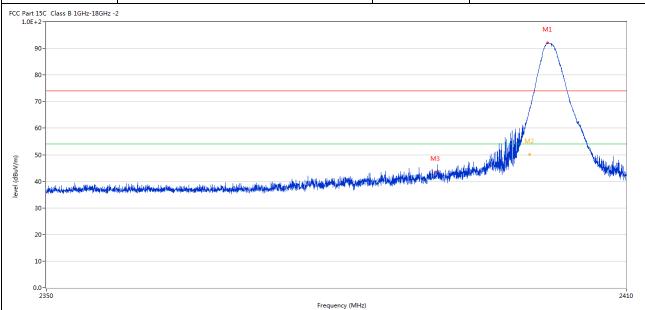
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#### 7.6 Test Result

# **Left Earphone**

Product:	TWS Earphone	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	2399.993	64.52	-3.57	74.0	-9.48	Peak	313.00	100	Horizontal	Pass
2**	2399.993	50.18	-3.57	54.0	-3.82	AV	313.00	100	Horizontal	Pass
3	2390.115	43.44	-3.53	74.0	-30.56	Peak	313.00	100	Horizontal	Pass

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3

2390.010

38.76

-3.53

74.0



Pro	oduct:		TWS Ear	phone		Detector		Ve	rtical	
N	Mode	K	eeping Tra	nsmitting	Те	est Voltage		DC	23.7V	
Temp	perature		24 deg. C,			Humidity		569	% RH	
Test	t Result:		Pass	S						
1.0E+2- 90- 80- 70-	Class B 1GHz-18GHz							N	11	
50 - 40 - 30 - 20 -	i interpretation and cost of the s	hydridinadada, esentradridos de parcedi	ake, jakirik, iri kapinika ke kin ka	net individual property by the sec	ing de find de North Andrew		HAMILA MARIANA	•		About the second
30-			ale, jithirida ja kala ka data La		equency (MHz)			•		2410
40- 30- 20- 10- 0.0- 2350		Results	Factor			Detector	Table	Height	ANT	
30 - 20 - 10 - 235c	50			Fr	equency (MHz)		Table (o)	Height (cm)	,	2410
40- 30- 20- 10- 0.0- 2350	50 Frequency	Results	Factor	Fr Limit	equency (MHz)  Over Limit			_	,	2410

-35.24

Peak

206.00

100

Vertical

Pass

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	Product:		TWS Ea	rphone		Polarity		H	orizontal	
	Mode	K	eeping Tra	ansmitting		Test Voltag	ge	I	DC3.7V	
Γ	Temperature		24 de	g. C,		Humidity	7	5	6% RH	
-	Test Result:		Pas	SS						
	rt 15C Class B 1GHz-18GHz	-2								
	90 - 80 - 70 -									
level (dBuV/m)	60- 50- 40- 30-	issidashida da karakarakarakarakarakarakarakarakaraka		No.	A STATE OF THE STA	allian da da ang maga ang alaman da	ndelan kelankendenden.	daribbi garmatina di suqueribi, bendi banda da g	h Normal ku verseken dan hala serji ke	Players, while some
level (dbuv/m)	50- 40-			Market State	A SHARLES AND A	alika da ka ang sa pang dinap k	n deliga kerdenikan kerendan yan	કેમોમા <sub>ન</sub> ા હતા કરિયા અને કે તે તે જે તે	h Herond kronsstendeled a sejik.	والمجامع بالمحالية
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ievei (dbuv/m)	50 - 40 - 30 - 20 -	period and the state of the sta		N. Andrews		dikarin han unung dinan b	adan kankanlari	ક્ષેત્રીના જ્યારા કિલ્સ અને કિલ્સ એક કરો કરો છે. જિલ્લા કિલ્સ અને કિલ્સ એક કરો કરો કરો કરો કરો કરો કરો કરો કરો કર	hollesporth size after de del de sayth,	
וויו/אחמה) ובאבו	50 - 40 - 30 - 20 -			2483.5		alifarela de compresenta de la compresenta del compresenta del compresenta de la compresenta del compresenta del compresenta del compresenta del compresenta	n jelega kenjula suda suda sunda	કંપોલીફામ્યલાની અન્ક કોનો મો સમાને દુદ	hillroodhiseashaldasgih	2500
No	30 - 20 - 2470	Results	Factor			Detector	Table	Height	ANT	

No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
2	2483.437	55.56	-3.57	74.0	-18.44	Peak	303.00	100	Horizontal	Pass
2**	2483.437	48.32	-3.57	54.0	-5.68	AV	303.00	100	Horizontal	Pass

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	Product:		TWS Ear	phone		Detector		Vei	tical	
	Mode	Ke	eping Trar	nsmitting		Test Voltage		DC	3.7V	
Te	emperature		24 deg.	C,		Humidity		56%	6 RH	
Т	est Result:		Pass							
FCC Part 1.0E	15C Class B 1GHz-18GHz -2	!								
	90-									
	80-									
	70-									
	60-									
(w//	50-									
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	30-									
	20-									
	10-									
	0.0- 2470			2483.5	Frequency (MHz)					2500
No.	Frequency	Results	Factor	Limit	Over Li	mit Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	2483.234	50.75	-3.57	74.0	-23.25	Peak	217.00	100	Vertical	Pass

Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

- 2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.
- 3. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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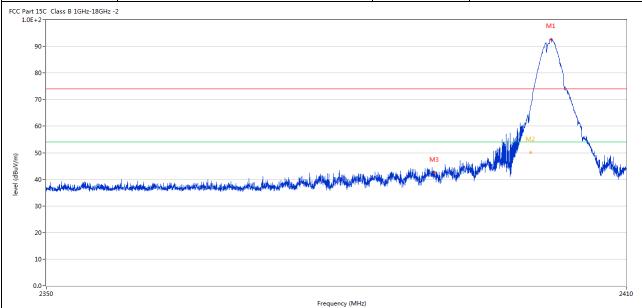
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#### **Test Result**

## **Right Earphone**

Product:	TWS Earphone	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2	2399.993	63.96	-3.57	74.0	-10.04	Peak	324.00	100	Horizontal	Pass
2**	2399.993	50.09	-3.57	54.0	-3.91	AV	324.00	100	Horizontal	Pass
3	2390.010	42.59	-3.53	74.0	-31.41	Peak	310.00	100	Horizontal	Pass

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F	Product:		TWS Ear	phone	]	Detector		Ve	rtical	
	Mode	K	eeping Tra	nsmitting	Te	st Voltage		DC	23.7V	
Teı	mperature		24 deg	. C,	I	Humidity		569	% RH	
Te	est Result:		Pass	s						
Part 15 1.0E+2	5C Class B 1GHz-18GHz -	2								
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0.0								M A	11 •	
80									1	
70	0-									
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500 400 300 200 100 0.0.0.2				Fre	equency (MHz)		Table (o)	Height (cm)	ANT	ı
500 400 300 200 100 100 100 100 100 100 100 100 1	Frequency	Results	Factor	Fre Limit	equency (MHz)  Over Limit			_	ANT Vertical	2410 Verdi
50 40 30 20 10	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	over Limit	Detector	(o)	(cm)		Verd

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2\*\*

2483.407

48.92

-3.57

54.0



		1					-			
P	Product:		TWS Ea	rphone		Polarity		Н	orizontal	
	Mode	K	eeping Tra	ansmitting	1	Test Voltag	ge	Γ	OC3.7V	
Ter	mperature		24 de	g. C,		Humidity	7	5	6% RH	
Tes	st Result:		Pas	SS						
C Part 15 1.0E+2	5C Class B 1GHz-18GHz -	2								
90	0-		المسايح	1						
80	0-									
70	0-									
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40 30 20 10 0.0 2	)- )-	Results	Factor	2483.5	i	Detector	Table	Height	ANT	2500
40 30 20 10	0		Factor (dB)	2483.5	Frequency (MHz)					

ΑV

300.00

100

Horizontal

Pass

-5.08

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	Product:		TWS Ear	phone	Ι	Detector		Vei	rtical	
	Mode	Ke	eping Trai	nsmitting	Tes	st Voltage		DC	3.7V	
Т	Temperature		24 deg.	. С,	Н	lumidity		56%	6 RH	
7	Test Result:		Pass	;						
	rt 15C Class B 1GHz-18GHz	-2								
	90-									
	80-		M							
	70-									
	60-									
(E)	50-	ممخله لا فه رور ر	•	M						
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_	30-									
	20-									
	20-									
				2483.5	equency (MHz)					2500
No	0.0	Results	Factor		equency (MHz)  Over Limit	Detector	Table	Height	ANT	2500 Verdict
No	0.0	Results (dBuV/m)	Factor (dB)	Fre	1	Detector	Table (o)	Height (cm)	ANT	

Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

- 2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.
- 3. The three modulation modes of GFSK and Pi/4D-QPSKwere tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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# 8.0 Antenna Requirement

# **Applicable Standard**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has a PCB antenna with gain 0.45dBi Max for left earbud and 0.60dBi for right earbud. It fulfills the requirement of this section.

Test Result: Pass

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FSK Modulation -				J	- T	4 M 1		17 .	•,,•	
Product:		S Earpho				st Mode:		Keep tran		
Mode		ng Transm	ıttıng			t Voltage		DC3		
Temperature		24 deg. C,				umidity		56%		
Test Result:		Pass			D	Detector	PK			
OdB Bandwidth	8	35.67kHz							_	
	Delta 1			RE		30 k		F Att	30 dB	
Ref Lvl	0.2.5		28 dB	VE		100 k			10	
10 dBm	835	.671342	69 KHZ	SV	A.T.	8.5 m	s U	nit	dB	m
						<b>v</b> <sub>1</sub>	[T1]	-21	1.73 dB	m A
0			2					2.40156	413 GH	
0			Λ <sub>~</sub> /			<u>1</u>	[T1]	(	1.28 dB	
				$\bigvee$		∇2	8. [T1]	35.67134 _1	269 kH	
-10			- (	<b>M</b>	١.			2.40200		
		/	$\mathcal{N}$		M	1				
	dBm	→ M			+	V.				┨
-30		لہر				~_\^				1M
	$\sim$	ſ					7,			
-40	<del>-                                     </del>						_	. ~		
-50	~\ <sub>\</sub>							/^\		
Mun .	V						~	My	har man	
-60										_
-70										_
-80	30									
-90 Center 2.40	2 011-		300	1=11=- /				- C-	an 3 MH	<b>_</b> !

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Product:		TW	S Earphon	ie		T	est Mode:		Keep tr	ansmitting	
Mode		Keepin	g Transmi	tting		Te	est Voltage	;	DC	C3.7V	
Temperature			4 deg. C,				Humidity		569	% RH	
Test Result:			Pass				Detector		PK		
20dB Bandwidth		83	35.67kHz								
		Delta 1	[T1]		RI	BW	30 k	Hz	RF Att	30 dB	
Ref Lvl			0.	17 dB	VI	BW	100 k	Hz			
10 dBm		835	5.671342	268 kHz	SI	ИT	8.5 m	s ·	Unit	dBm	ı
10							<b>v</b> <sub>1</sub>	[T1]	-2	1.99 dBm	
					9				2.44056	5413 GHz	A
0				^			<u>^</u> 1	[T1]		0.17 dB	
					$\backslash \bigwedge$		<b>▽</b> 2	[T1]	335.67134		
-10					\\\	١	* 2		2.44099	1.75 dBm 9699 GHz	
				$\sim$		7	_				
-20 —D1 -21.	.75 dBm		₩.				<b>M</b>				
1MAX			ل				Y				1M2
-30		^	/				$\sim$				
		N						$\mathcal{I}$			
-40								<u> </u>			
	$\wedge$	/"						\ \	m		
-50	<u> </u>	$\bigvee$						1			
W W		•								holmold.	
-60										W	
-70											
-80	-80										
-90	90										•
Center 2	2.441 G	Center 2.441 GHz 30							Spa	an 3 MHz	

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Product:		TW	S Earphon	e		T	est Mode	e:		Keep tra	ansmittir	ng
Mode		Keepin	g Transmi	tting		Т	est Voltag	ge		DC	23.7V	
Temperature		2	4 deg. C,			]	Humidity	,		569	% RH	
Test Result:			Pass				Detector		PK			
20dB Bandwidth		82	23.65kHz									
Ŕ		Delta 1	[T1]		R	BW	30	kHz	F	RF Att	30 d	В
Ref Lvl			0.	75 dB	V	BW	100	kHz				
10 dBm		823	3.647294	59 kHz	S	WT	8.5	ms	τ	Jnit	ď	Bm
10							▼1	r] .	1]	-22	2.27 di	Bm A
										2.47957	014 GI	
0				2			<b>^</b> ]	г] .	1]	(	1.75 di	В
					$\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ $		$\nabla_2$		8 11'	23.64729	459 ki	
-10					1	٦	<u> </u>	1 [1	<u>'11</u>	2.48000	3.44 di 301 GI	
			/	$\mathcal{N}$		4	١ .			2.10000	,501 GI	12
-20 -D1 -22.	48 dBm		1			Ť	1					
1							Ly.					1M2
-30			<i></i>					$\overline{}$				
		$\sim$						$\mathcal{A}$				
-40									7			-
\ <u>.</u>	$\wedge$									m		
-50	<del>ارا الر</del> الرا	<b>V</b>							$\overline{}$	4		1
~ /w											may	A.I
-60												
-70								+				$\dashv$
-80	-80							+				-
-90												
Center 2	.48 GH:	z		300	kHz/					Spa	an 3 MI	Iz

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Product:		TW	/S Earpho	ne		T	est Mode:		Keep tra	nsmitting	
Mode		Keepii	ng Transm	itting		Те	est Voltage		DC3	3.7V	
Temperature		2	24 deg. C,			I	Humidity		56%	RH	
Test Result:			Pass				Detector		P	K	
OdB Bandwidth		7	63.53kHz								
<u> </u>	Ι	Delta 1	[T1]		RI	3W	30 k	Hz	RF Att	30 dB	
Ref Lvl			0.	34 dB	VI	B₩	100 k	Hz			
10 dBm		763	3.527054	lll kHz	SI	ИT	8.5 m	s	Unit	dBm	
10							<b>v</b> <sub>1</sub>	[T1]	-2	0.45 dBm	A
				2					2.4016	2425 GHz	
0				N ~ )	_		<u>1</u>	[T1]		0.34 dB	
					$\bigvee$		<b>▽</b> 2	[T1]	763.5270!	5411 kHz 1.28 dBm	
-10				. (	<u> </u>	\	• 2		2.40199	9699 GHz	
	1					1			2.1010		
-20 <del>-D1 -20.28</del>	8 dBm						<del>)</del>				-
-30			لر								1M
		~	<i>,</i>				Ĭ	7			
-40								<del>\</del> -\			
-50	~~~ <u>~</u>										
Morning		,							V Vm	my	
-60											
-70											
-80	0										
-90 Center 2.4					kHz/					an 3 MHz	

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GFSK Modula	tion - Right Ear	phone							
Product:	Т	WS Earphor	ne		Test Mode	:	Keep tra	ansmitting	
Mode	Keep	ing Transmi	tting	-	Гest Voltag	e	DC	C3.7V	
Temperature		24 deg. C,			Humidity		569	% RH	
Test Result:		Pass			Detector		]	PK	
20dB Bandwidth		829.66kHz							
	Delta	1 [T1]		RBW	30 }	KHZ R	F Att	30 dB	
Ref Lvl		0 .	.89 dB	VBW	100 H	CHZ			
10 dBm	8	29.659318	364 kHz	SWT	8.5 m	ns U	nit	dBm	
10					<b>v</b> <sub>1</sub>	[T1]	-21	1.89 dBm	A
			2				2.44056	5413 GHz	
0			\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		<u>^</u> 1	[T1]	(	.89 dB	
				$\backslash / \backslash$	$\nabla_2$		29.65931	1864 kHz 1.73 dBm	
-10				M			2.44099	9699 GHz	
			<b>/</b>	٦	1				
	73 dBm	₩ <sup>N</sup>			TV.				1.62
-30		لمسر			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				1MA
						کی			
-40							m		
-50	7°000'					4	by	Muney	
-60									
-70									
-80									
-90 Center 2	.441 GHz		300	kHz/			Spa	an 3 MHz	
		16:42:44		,					

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Product:		TW	S Earphon	e		T	est Mode	:		Keep tra	ansmitting	5
Mode		Keepin	g Transmi	tting		Te	est Voltag	e		DC	C3.7V	
Temperature		2	4 deg. C,			]	Humidity			569	% RH	
Test Result:			Pass				Detector				PK	
20dB Bandwidth		82	29.66kHz									
₹ <b>À</b>		Delta 1	[T1]		R	BW	30 ]	κΗz	R	F Att	30 dB	
Ref Lvl				12 dB	V	BW	100					
10 dBm		829	.659318	864 kHz	S	WT	8.5 r	ns	U	nit	dB	m
10							$\blacktriangledown_1$	[T	1]	-22	2.74 dBi	m A
				,	n					2.47956	413 GH:	
0				^			<u></u> 1	[T		-	1.12 dB	
					$\setminus \wedge$		∇2	[T		29.65931 ,	1864 kH: 2.50 dB:	
-10					, r	1				2.47999		
			/	$\mathcal{N}$		7	\					
-20 -D1 -22.	5 dBm-		<del>-</del>				<u></u>					١.,,
1							My					1M2
-30			/				<u>\</u>	\				
								$\mathcal{L}$				
-40									٧			
	A.									m		
-50	<i>M</i> / \	$\sqrt{}$							$\overline{}$	4-\-		1
1 mm	<b>,</b> ,								Ů	N. C.	min_	
-60												1
-70												-
-80	-80											-
-90												J
Center 2	.48 GH	Z		300	kHz/					Spa	an 3 MH:	Z

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Product:		TW	S Earphon	e		Test Mod	٠.	Keen tre	ansmitting	
Mode			g Transmi			Test Volta			23.7V	
			4 deg. C,	ung					% RH	
Temperature						Humidity				
Test Result:			Pass			Detector	·		PK	
OdB Bandwidth		1.	.214MHz							
			1 [T1 n		RE			F Att	30 dB	
Ref Lvl		ndB		00 dB	VE				1-	
10 dBm		BW 1	L.214428	886 MHz	SW	T 8.5	ms U	nit	dBm	
10						▼:	L [T1]	-1	.26 dBm	Α
				1				2.40199	699 GHz	
0				^		no	lB	20	.00 dB	
				/\ /	\	BV		1.21442	886 MHz	
-10			- A - A		4	mm_ ~	r1 [T1]	-21	.20 dBm	
				* لــ			(2, [T1]	2.40137	776 GHz .39 dBm	
-20		T.	~				12 [11]	-21 2.40259	.39 dBm	
1MAX		/					\	2.10255	210 0112	1MA
-30										
-40	Λ./	^.J					M			
-50	~\ <sup>/</sup> \							Marin	Mund	
-60										
-70										
-80	-80									
-90 Center 2	• •			kHz/			Spa	ın 3 MHz		

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Product:		TW	S Earphon	e		T	est Mode:		Keep tra	nsmitting	
Mode		Keepin	g Transmi	tting		To	est Voltage		DC	3.7V	
Temperature		2	4 deg. C,			]	Humidity		56%	6 RH	
Test Result:			Pass				Detector		I	PK	
0dB Bandwidth		1.	214MHz								
Ŕ		Marker	1 [T1 n	ndB]	R	BW	30 kH	Iz RI	7 Att	30 dB	
Ref Lvl		ndB		00 dB	V	'BW	100 kH				
10 dBm		BW 1	.214428	886 MHz	S	TW	8.5 ms	. Ur	nit	dBm	ı
10							$\mathbf{v}_1$	[T1]	-1	.66 dBm	A
				]					2.44099	699 GHz	
0				^ /			ndB		20	.00 dB	
				$  \   \   \  $	\		BW VT1	[T1]	1.21442	886 MHz .56 dBm	
-10			MM	7	$\sim$	~	$\Delta_{\gamma}$		2.44037		
	TI					$\sqrt{J_{12}}$	[T1] -21.77 dBm				
-20		7	<u> </u>				W N		2.44159	218 GHz	1.00
1MAX							\	7			1M
-30											
-40	Λ Λ	$\sim$							$\wedge$		
-50	, ,								<del>√</del> /⁄√	Market	
-60											
-70											
-80											
-90 Center 2	441 CL	I ro		300	kHz/				gna	n 3 MHz	

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Product:		TW	S Earphon	e		T	est Mode:		Keep tra	nsmitting	
Mode		Keepin	g Transmi	tting		Те	est Voltage		DC	3.7V	
Temperature		2	4 deg. C,			]	Humidity		56%	6 RH	
Test Result:			Pass				Detector		PK		
20dB Bandwidth		1	.214MHz								
Ŕ		Marker	1 [T1 n	ıdB]	R	.BW	30 kH	z RI	7 Att	30 dB	
Ref Lvl		ndB		00 dB	V	BW	100 kH				
10 dBm		BW :	1.214428	886 MHz	S	WT	8.5 ms	Ur	nit	dBm	ı
10							<b>v</b> <sub>1</sub> [	T1]	-2	.48 dBm	A
				7					2.47999	699 GHz	
0				^ /	1		ndB		20	.00 dB	
				/\ /	\		$oldsymbol{ abla}_{ ext{T1}}$	[T1]	1.21442	886 MHz	
-10			~~~	77	$\sim$	M	My .		2.47937		
				<b>,</b>	,	~	$\wedge^{\mathcal{L}_{3}}$	[T1]	-22	.39 dBm	
-20		T Y	<b>~</b>				- 12 V		2.48059	218 GHz	
1MAX		//					1	١			1M2
-30											
-40	Λ ./							\mathcal{\sigma}	Λ		
-50 <b>M</b>	W ) (1								V VM	W. W	
-60											
-70											
-80	80										
-90 Center 2	.48 GH:	z		300	kHz/				Spa	n 3 MHz	]

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			S Earphon	Earphone		Test Mode:			Keep transmitting DC3.7V			
			ng Transmitting			T	est Voltage	:				
Temperature			4 deg. C,	<del>-</del>		+	Humidity		56% RH PK			
Test Result:			Pass			+	Detector					
20dB Bandwidth		1.214MHz										
<u> </u>		Marker	1 [T1 n	ndB]	I	RBW	30 k	Hz Ri	F Att	30 dB		
Ref Lvl		ndB	20.	00 dB	7	/BW	100 k	Hz				
10 dBm		BW 3	1.214428	886 MHz	S	SWT	8.5 m	s Uı	nit	dBm	ı	
10							$\mathbf{v}_1$	[T1]	-1	.26 dBm		
									2.40200	301 GHz	A	
0				^ /			ndF		20	.00 dB		
					\		BW $\nabla_{\mathrm{T1}}$	[T1]	1.21442	.04 dBm		
-10			W	\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \		m	Mys		2.40137			
		T	$\int$				$\triangle \sqrt{1}$	g [T1]	-21	.46 dBm		
-20		7					Ţ.	\	2.40259	218 GHz	1M	
								٦				
-30												
-40								$\overline{}$				
-50		$\sim$						M	$\wedge$			
	~								V~\	an mark		
-60												
-70												
-80												
-90												
Center 2	.402 GH	- Iz	Center 2.402 GHz 300 kHz						Spa	ın 3 MHz		

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Product:	TWS	S Earphone	-	Test Mode:	Keep transmitting			
Mode	g Transmitting		Test Voltage	DC3.7V				
Temperature		deg. C,		Humidity	56% RH			
Test Result:		Pass		Detector	PK			
20dB Bandwidth	1.:	214MHz						
$\wedge$	Marker	1 [T1 ndB]	RBW	30 kHz	RF Att	30 dB		
Ref Lvl	ndB	20.00 dB	VBW	100 kHz				
10 dBm	BW 1	.21442886 MHz	SWT	8.5 ms	Unit	dBm		
10				<b>▼</b> 1 [5	[1] -	-1.72 dBm		
		-			2.4409	9699 GHz		
0		^		ndB	2	0.00 dB		
			\	BW V <sub>T1</sub>	1.2144			
-10		MM ~ Y	~\~\~	My	[T1] -2 2.4403	21.67 dBm 7776 GHz		
				72	[T1] -2	22.13 dBm		
-20	Y			112	2.4415			
-30				4		1100		
-30								
-40	n M				Vav			
-50	<del>\</del>					Mun		
-60								
-70								
-80								
-90 <u> </u>	.441 GHz	200	kHz/		0	oan 3 MHz		

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			'S Earphone ng Transmitting			Test Mode: Test Voltage			Keep transmitting DC3.7V			
Temperature			4 deg. C,	<del>-</del>			Humidity		56% RH			
Test Result:			Pass		Detector				PK			
dB Bandwidth		1.214MHz										
£ )		Marker	1 [T1 n	ndB]	F	BW	30 kH	z R	F Att	30 dB		
Ref Lvl		ndB	20.	00 dB	V	BW	100 kH	[z				
10 dBm		BW :	1.214428	886 MHz	S	WT	8.5 ms	U U	nit	dBm	ı	
10							<b>v</b> <sub>1</sub>	[T1]	-2	.50 dBm		
									2.47999	9699 GHz	A	
0				0 /	1		ndB		20	0.00 dB		
				/\ /	\		$oldsymbol{ abla}_{ ext{T1}}$	F	1.21442			
-10				_/ \	$\sim$	m	My 1	[T1]	2.47937	7.34 dBm 7776 GHz		
					'	<i>ب</i>		[T1]	-22	770 dHz		
-20			\ <u>\</u>				1/2		2.48059	218 GHz		
1MAX							\	`			1M	
-30												
-40	. ^/	$\sim$						J.M.				
-50									PM.	had Jahrange		
-60												
-70												
-80												
-90 Center 2	.48 GH	z		300	kHz/				Spa	an 3 MHz		
vate: 2					,				<u>T</u>	_		

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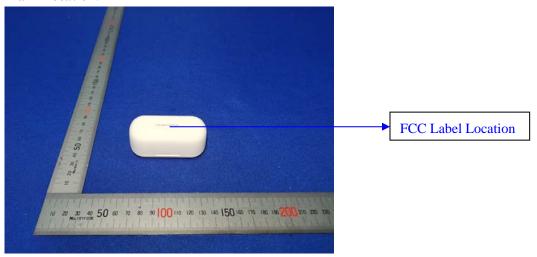


### 10.0 FCC ID Label

#### FCC ID: 2AOKX-TW056B

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

### **Mark Location:**



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#### 11.0 Photo of testing

#### 11.1 Conducted test View--



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## Radiated emission test view



The report refers only to the sample tested and does not apply to the bulk.

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# 11.2 Photographs – EUT



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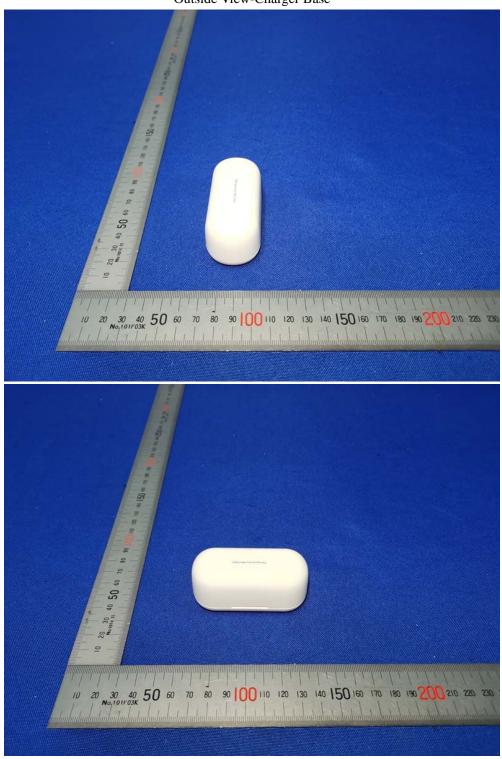
In the event of the improper use of the report. The SHENZHEN TIMEWAY TESTING LABORATORIES. reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

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Photographs - EUT

Outside View-Charger Base



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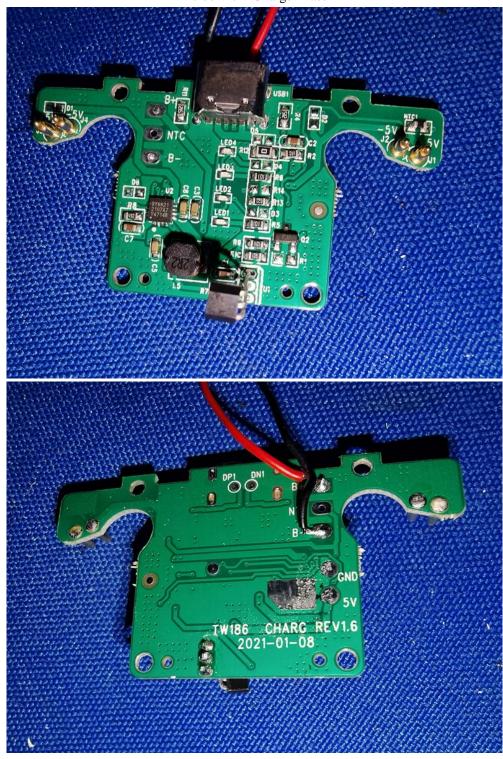
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In the event of the improper use of the report. The SHENZHEN TIMEWAY TESTING LABORATORIES. reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.

Date: 2021-06-22



Inside View-Charger Base



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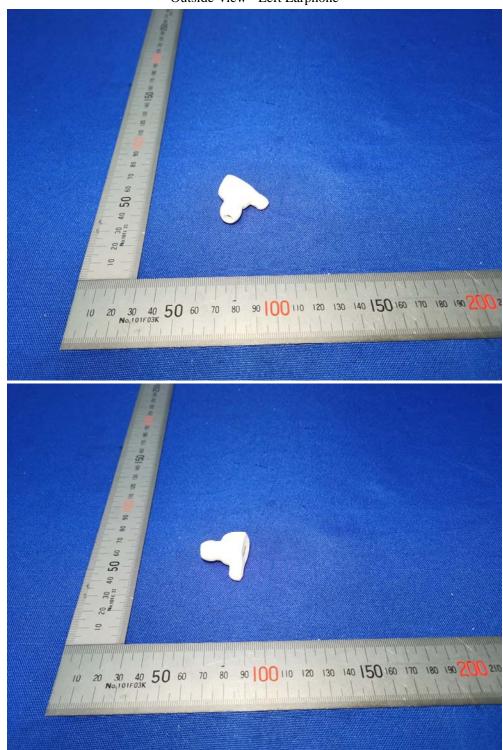
Inside View-Charger Base



Date: 2021-06-22



Outside View - Left Earphone



The report refers only to the sample tested and does not apply to the bulk.

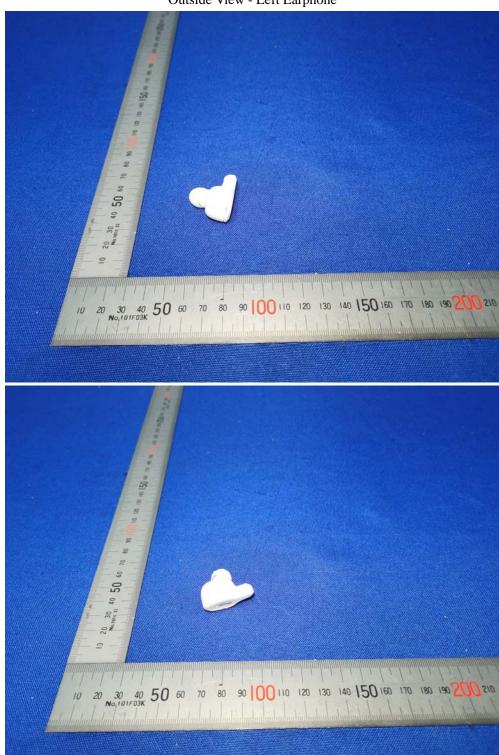
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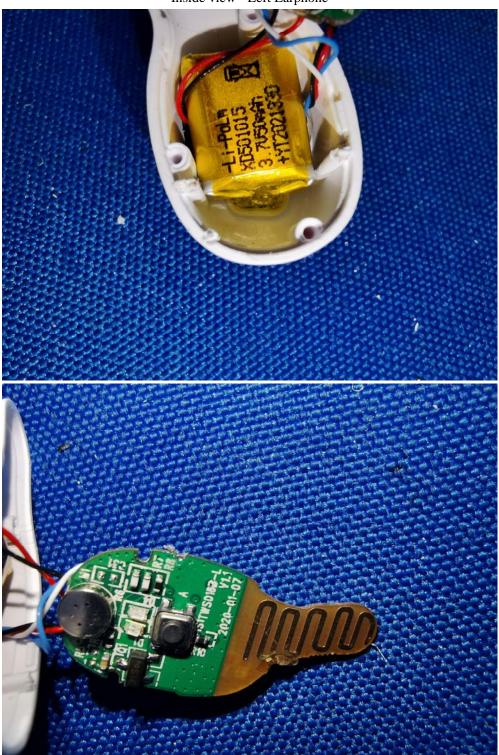
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Date: 2021-06-22



Inside view - Left Earphone



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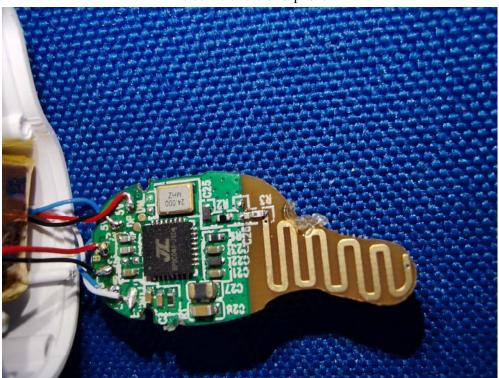
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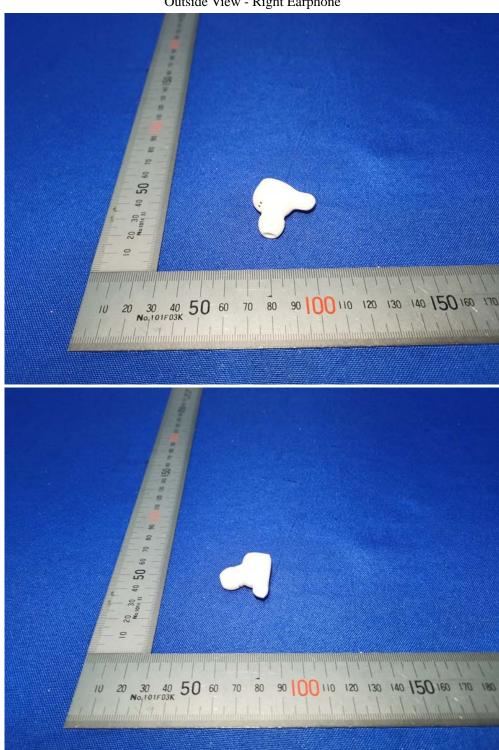
Inside view - Left Earphone



Date: 2021-06-22



Outside View - Right Earphone



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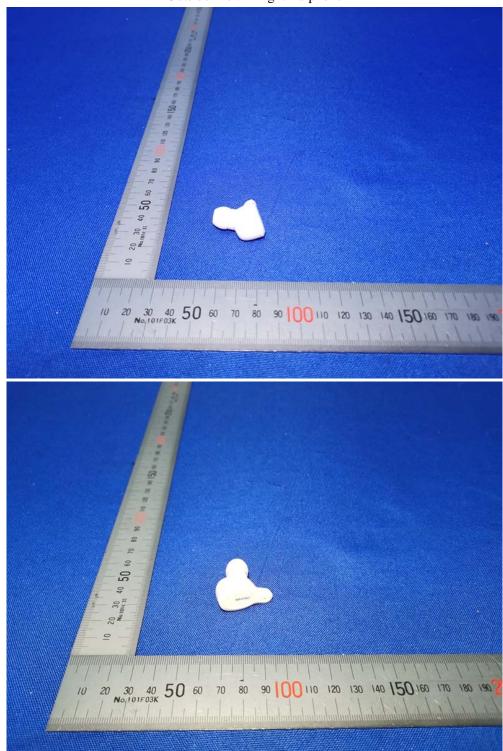
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Outside View - Right Earphone



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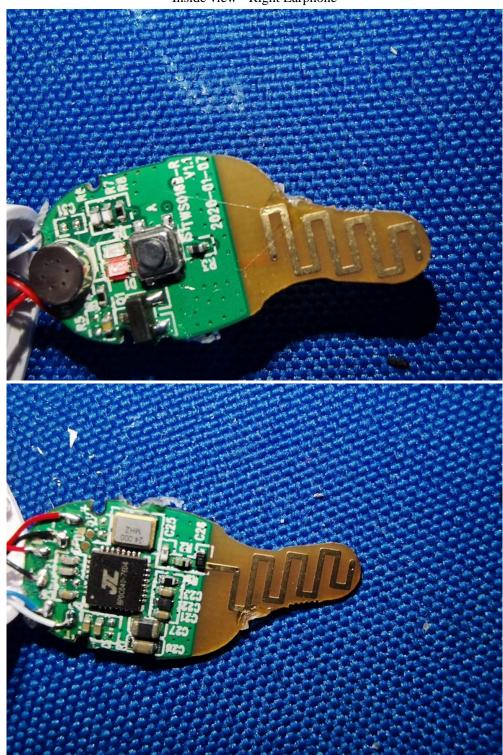
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Inside view - Right Earphone



-- End of the report--

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