

Applicant: Stillwater Designs and Audio Inc

Product: True Wireless ENC Earbuds

Model No.: 50KTWS1

Trademark: **KICKER** 

Test Standards: FCC Part 15.249

It is herewith confirmed and found to comply with the Test result:

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

electromagnetic compatibility

Approved By

Terry Tang

Manager

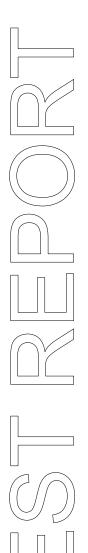
Dated: September 20, 2023

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

Tel (755) 83448688, Fax (755) 83442996, E-Mail:info@timeway-lab.com



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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 17025:2017 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

Date: 2023-09-20



# 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: Stillwater Designs and Audio Inc

Address: 3100 N Husband St Stillwater OK 74075 USA

Telephone: 4055337505 Fax: 4056240033

## 1.3 Description of EUT

Product: True Wireless ENC Earbuds

Manufacturer: Stillwater Designs and Audio Inc

Address: 3100 N Husband St Stillwater OK 74075 USA

Trademark: KICKER
Model Number: 50KTWS1

Additional Model Name N/A

Rating: DC5V input or Built-in DC3.7V, 30mAh Li-ion battery for earphones and DC5V

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

Modulation Type: GFSK (Bluetooth Low Energy)

Operation Frequency: 2402-2480MHz

Channel Separate: 2MHz
Channel Number: 40
Hardware Version: V1.3
Software Version: V3
Serial No.: N/A

Antenna Designation Chip antenna with gain 1.24dBi Max (Get from the antenna specification)

#### 1.4 Submitted Sample: 2 Samples

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#### 1.5 Test Duration

2023-09-12 to 2023-09-20

#### 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

The sample tested by

Print Name: Andy Xing

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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	2023-07-14	2024-07-13	
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13	
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13	
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13	
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17	
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13	
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17	
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17	
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13	
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13	
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17	
9*6*6 Anechoic			N/A	2022-07-26	2025-07-25	
EMI Test Receiver	RS	ESVB	826156/011	2023-07-14	2024-07-13	
EMI Test Receiver	RS	ESCS 30	834115/006	2023-07-14	2024-07-13	
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13	
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13	
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2023-07-14	2024-07-13	
RF Cable	Zhengdi	7m		2023-07-14	2024-07-13	
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13	
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13	
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13	
ESPI Test Receiver	R&S	ESPI 3	100379	2023-07-14	2024-07-13	
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13	

## 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

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies
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
FCC Part 15.215(c)	20dB bandwidth	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

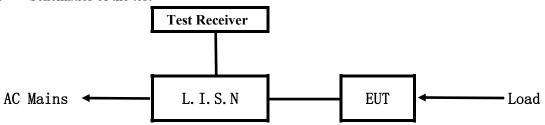
No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

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#### 5.0 Power Line Conducted Emission Test

#### 5.1 Schematics of the test

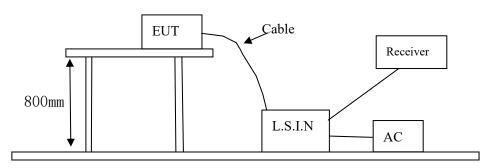


**EUT: Equipment Under Test** 

#### 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.

40 channels are provided to the EUT

## A. EUT

	Device	Manufacturer	Model	FCC ID	
	True Wireless ENC Earbuds	Stillwater Designs and Audio Inc	50KTWS1	RGR-KTWS1	
L					

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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

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:

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

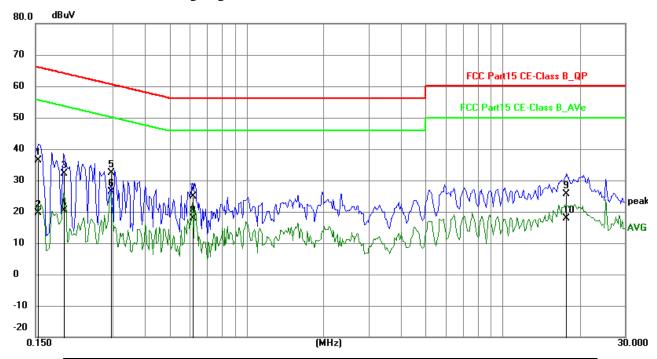
**EUT Operating Environment** 

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

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

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1539	26.53	9.78	36.31	65.79	-29.48	QP	Р
2	0.1539	9.74	9.78	19.52	55.79	-36.27	AVG	Р
3	0.1929	22.34	9.75	32.09	63.91	-31.82	QP	Р
4	0.1929	10.56	9.75	20.31	53.91	-33.60	AVG	Р
5	0.2943	22.57	9.76	32.33	60.40	-28.07	QP	Р
6	0.2943	16.65	9.76	26.41	50.40	-23.99	AVG	Р
7	0.6141	15.12	9.78	24.90	56.00	-31.10	QP	Р
8	0.6141	8.13	9.78	17.91	46.00	-28.09	AVG	Р
9	17.6611	15.16	10.54	25.70	60.00	-34.30	QP	Р
10	17.6611	7.41	10.54	17.95	50.00	-32.05	AVG	Р

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

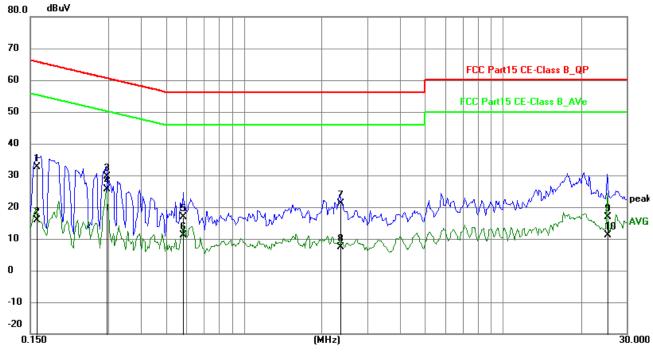
**EUT Operating Environment** 

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

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

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1582	22.94	9.78	32.72	65.56	-32.84	QP	Р
2	0.1582	6.07	9.78	15.85	55.56	-39.71	AVG	Р
3	0.2943	19.85	9.76	29.61	60.40	-30.79	QP	Р
4	0.2943	15.78	9.76	25.54	50.40	-24.86	AVG	Р
5	0.5854	7.08	9.77	16.85	56.00	-39.15	QP	Р
6	0.5854	1.32	9.77	11.09	46.00	-34.91	AVG	Р
7	2.3460	11.35	9.81	21.16	56.00	-34.84	QP	Ъ
8	2.3460	-2.49	9.81	7.32	46.00	-38.68	AVG	Ъ
9	25.3214	5.82	11.01	16.83	60.00	-43.17	QP	Р
10	25.3214	0.16	11.01	11.17	50.00	-38.83	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 9kHz to 25 GHz was investigated. The frequency spectrum is set as follows:

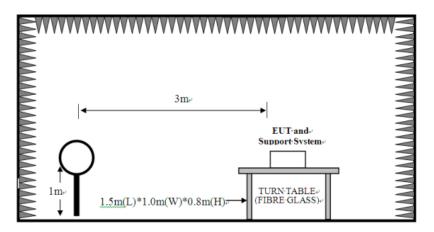
Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
ADOVE IGHZ	Peak	1MHz	10Hz	Average

(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**

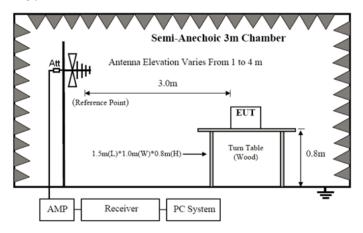
For radiated emissions from 9kHz to 30MHz



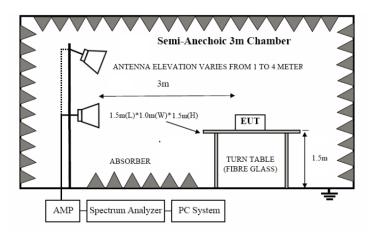
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For radiated emissions from 30MHz to1GHz



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.
- 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	ength of Fundamental (3m)	Field Strength of Harmonics (3m)			
(MHz)	mV/m	dBuV/m	uV/m	dBuV/m		

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2400-2483.5 50	94 (Average)	114 (Peak)	500	54 (Average)	74 (Peak)
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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)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-80	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 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. 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.
- 5. This is a portable 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.
- 6. Battery fully charged was used during the test.

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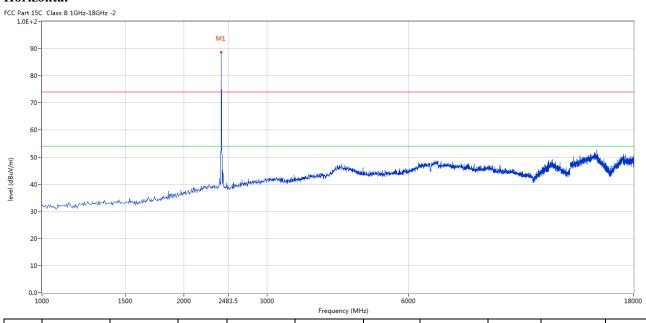


## 6.5 Test result

## A Fundamental & Harmonics Radiated Emission Data

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

#### Horizontal



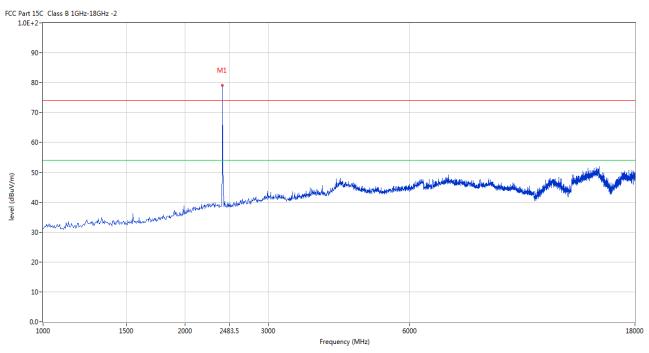
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402	89.12	-3.57	114.0	-24.88	Peak	124.00	100	Horizontal	Pass

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## Vertical



Ī	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
	1	2402	79.10	-3.57	114.0	-34.90	Peak	157.00	100	Vertical	Pass

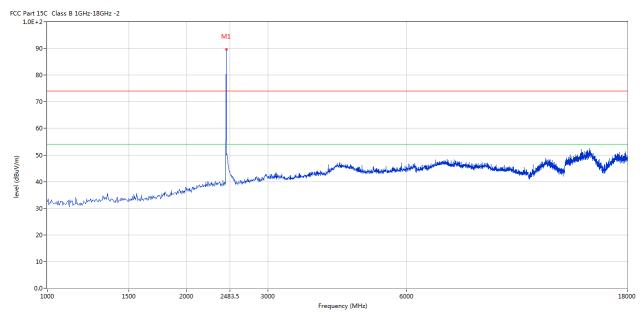
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Please refer to the following test plots for details: Middle Channel-2440MHz

#### Horizontal



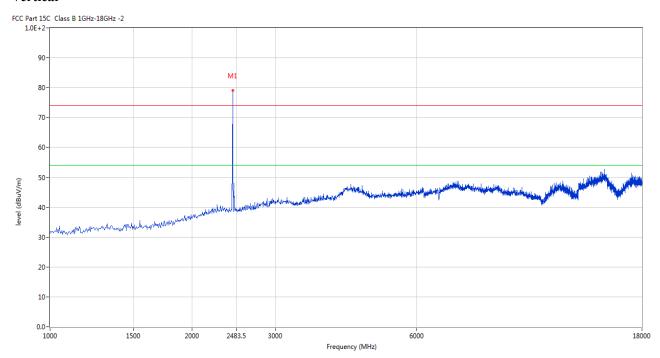
١	Ю.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1		2440	89.55	-3.57	114.0	-24.45	Peak	280.00	100	Horizontal	Pass

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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	2440	79.18	-3.57	114.0	-34.82	Peak	61.00	100	Vertical	Pass

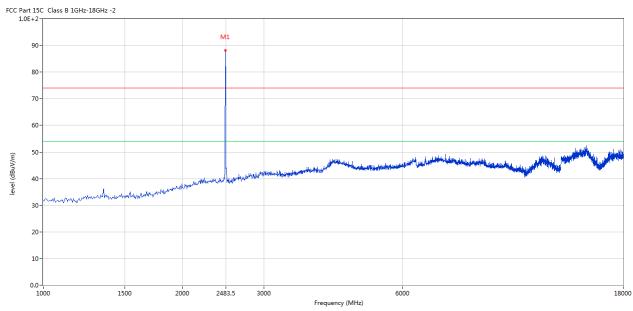
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Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal



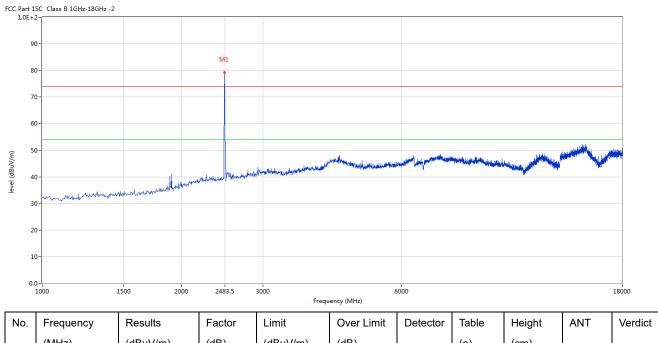
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	89.07	-3.57	114.0	-24.93	Peak	103.00	100	Horizontal	Pass

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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)		
Į	1	2480	79.20	-3.57	114.0	-34.80	Peak	360.00	100	Vertical	Pass

Note: (1) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

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

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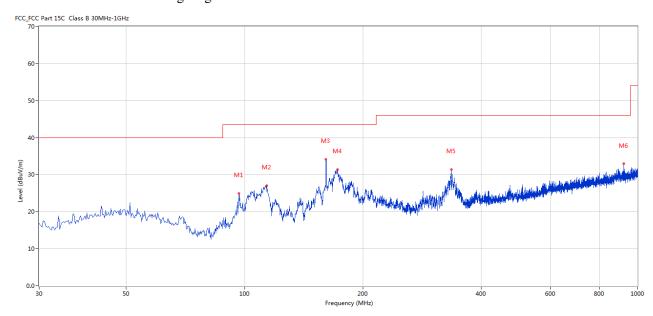


# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	96.671	24.90	-14.02	43.5	18.60	Peak	4.00	100	Horizontal	Pass
2	113.884	27.09	-14.22	43.5	16.41	Peak	358.00	100	Horizontal	Pass
3	161.160	34.14	-16.36	43.5	9.36	Peak	348.00	100	Horizontal	Pass
4	172.554	31.43	-15.95	43.5	12.07	Peak	348.00	100	Horizontal	Pass
5	335.716	31.34	-9.92	46.0	14.66	Peak	297.00	100	Horizontal	Pass
6	923.147	32.90	-1.80	46.0	13.10	Peak	356.00	100	Horizontal	Pass

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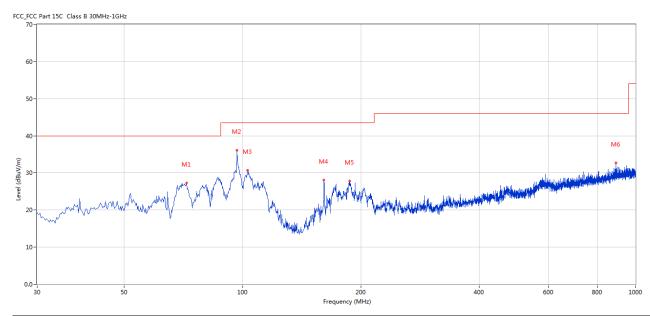


## Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	71.942	27.27	-16.53	40.0	12.73	Peak	242.00	100	Vertical	Pass
2	96.671	36.09	-14.02	43.5	7.41	Peak	82.00	100	Vertical	Pass
3	102.974	30.74	-13.38	43.5	12.76	Peak	150.00	100	Vertical	Pass
4	161.160	28.14	-16.36	43.5	15.36	Peak	16.00	100	Vertical	Pass
5	187.343	27.78	-14.58	43.5	15.72	Peak	37.00	100	Vertical	Pass
6	890.660	32.73	-1.90	46.0	13.27	Peak	119.00	100	Vertical	Pass

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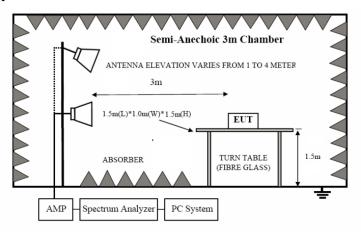


#### 7. Band Edge

#### 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.

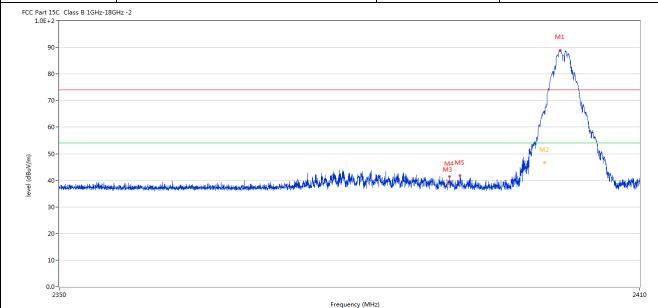
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#### 7.6 Test Result

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



No. Limit Over Limit Table ANT Frequency Results Factor Detector Height Verdict (MHz) (dBuV/m) (dB) (dBuV/m) (dB) (o) (cm) -3.57 2401.677 88.93 74.0 14.93 Peak 117.00 100 Horizontal N/A 2 2400.072 64.81 -3.57 74.0 -9.19 Peak 238.00 100 Horizontal Pass -7.23 2\*\* 2400.072 46.77 -3.57 54.0 ΑV 238.00 100 Horizontal Pass 3 2390.010 38.98 -3.53 74.0 -35.02 Peak 275.00 100 Horizontal Pass 4 2390.175 41.40 -3.53 74.0 -32.60 Peak 269.00 100 Horizontal **Pass** 5 2391.270 41.72 74.0 -32.28 Peak 117.00 100 Pass -3.54 Horizontal

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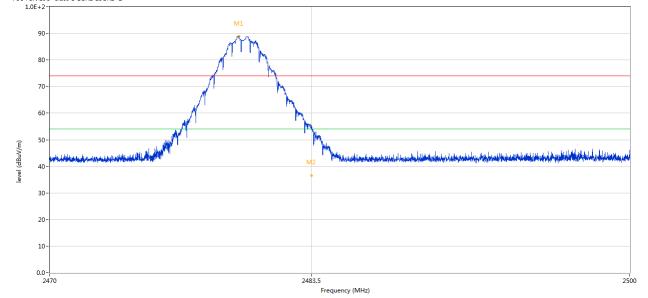
		ct: True Wireless ENC Earbuds		S	Detector		Vertical			
Mode			Keeping Tr	ansmitting		Test Voltage Humidity		DC3.7V 56% RH		
Te	Temperature 24 deg. C,			g. C,						
Te	est Result: Pass									
	t 15C Class B 1GHz-18GF E+2-	-1z -2			•					
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	80-								Ma.	
	70-							/	, , , , , , , , , , , , , , , , , , ,	
	60-									
nv/m)	50-							I M2	"\\	
(m/\ngp) la	40-	معقفت والشماري إين يتمث فتصاديا فالرفسيقان	and the state of t	والمستعلقة والمستعلق	والمراجع والم والمراجع والمراجع والمراجع والمراجع والمراجع والمراجع والمراع	M3	e was till a sombation and	M2	"My	, color a delicate de la color de
level (dBuV/m)	40-	يدهانه والمساورة أن يتملك فيتعام واللي فيمثل	aria <sub>nan</sub> danun japadi karan danan pangan	الإستام والمراجعة المراجعة الإستانية المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة المراجعة ا	<del>ale an sea aring history level all the</del> broomly		id on beignering	M2	The state of the s	alife de Managhe. A
level (dBuV/m)	40-	يعاند الخيامات مستقيط فيالا ميدال	يونون في المارية المار	يندأو خارم يجود ويوانيون	<del>dhin sa sing kida ya</del> nd <del>di da</del> ir ya di		ng maganila ang abuna maga	M2	"M.	night distributed his A
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	30 - 20 -	n filmen still forders de komen stere de komen ste	ni Panduni diki dikeni desinyi deser	likturiyadikdə V. Mara boğtları, doku adının	સહેતા, જાત હાલ માનું કે તેને તેનું તે કુલ હતી છે. જે જ હતી		ng weganikan jakan sangg	M2	***************************************	
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	30 - 20 -	Results	Factor				Table	Height	ANT	2410
	30 - 20 - 10 - 2350				Frequency (MHz)	rkiji na vista programa vist	d ne knipa katalan ka	Height (cm)		2410
	30 - 20 - 10 - 2350 Frequency	Results	Factor	Limit	Frequency (MHz)  Over Limit	rkiji na vista programa vist	Table			2410
No.	30- 20- 10- 0.0- 2350 Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Frequency (MHz)  Over Limit  (dB)	Detector	Table	(cm)	ANT	verdid
No.	20- 10- 2350 Frequency (MHz) 2401.992	Results (dBuV/m) 78.54	Factor (dB) -3.57	Limit (dBuV/m) 74.0	Over Limit (dB)	Detector Peak	Table (o) 139.00	(cm)	ANT Vertical	Verdic

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Product:	True Wireless ENC Earbuds	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	Temperature 24 deg. C,		56% RH
Test Result:	Pass		
FCC Part 15C Class B 1GHz-18GHz -2 1.0E+2-			
90 -	M1		
90-	ΛŶM		



No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2479.733	88.91	-3.57	74.0	14.91	Peak	272.00	100	Horizontal	N/A
2	2483.500	54.59	-3.57	74.0	-19.41	Peak	200.86	100	Horizontal	Pass
2**	2483.500	36.57	-3.57	54.0	-17.43	AV	200.86	100	Horizontal	Pass

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Product:		True	e Wireless	ENC Earbuds	S	Detector			Vertical	
	Mode Keeping Transmitting			ansmitting		Test Vol	tage DC3.7V			
Te	Temperature 24 deg. C,			g. C,		Humid	idity 56% RH			
Te	Test Result: Pass			SS						
	rt 15C Class B 1GHz-186	iHz -2			•					
	90-									
			M1							
	80-		My (M	Tuyn						
	70-		- Jywh.	- 14 M						
	60-			**************************************						
			All and a second	M M2						
BuV/m)	50-	The second secon	Mo <sub>n</sub> M <sub>a</sub>	M <sub>2</sub>	- Marian Mar	and description and the second description of the second s	والمراجعة الإراجة المراجعة	والمساورة والمساولة والمساولة ومرواد أوا	والمتعادلة والمتعادلة والمتعادلة	Hábul daikire.
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level (dBuV/m)	50-	insulation and insulation of the second	salve di m		Propriese dell'estremant les plantes au des des plantes de la plantes de la plantes de la plantes de la plante	profetoroprofessories philosophic description	idhiondigadid,camphosocad	oksilynis <del>ilikusil</del> oknolan akdari	hipuniyishika idayot ilçishiklikdi	likidani danihi inge
level (dBuV/m)	50- httl://www.lun.a.ula.lu	inace the forest and the second desired in the second desired in the second desired in the second desired in t	port of the second	**************************************	terretaristi atau girtaga danta water fayo fina hiiki	poplanovní vrojih pláva bodova	<del>ethinest lightilistered</del> n serat	okilpyisidipasikiloodaviildisi	المراجعة والمراجعة و	Mind and water transce
level (dBuV/m)	50- 40- 30- 20-	is well and the second second second	Mark Mark	**************************************	Prografies de Altreigne, actives produced and active of the principal active o	geoglebonarel, ir opinije byble och helicor	idhinadi igalikinayoʻn sacab	okstoriji dijbasik blooken dildasi	المراجعة والمعاولة و	Hiddwyd of wally lineau
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level (dBuV/m)	50- 40- 30- 20-	t to the state of	por de la constanta de la cons	2483.5		kendamarikan princip bilan kalan	teleplane di ingelia samunia samuni	okulpyris diplomatik ilmoken di idasi	hipunetinde above (cabbella	ushwidank has
level (dBuV/m)	50- 40- 30- 20- 10-	Results	Factor		5	Detector	Table	Height	ANT	I
	50- 40- 30- 20- 10- 2470		Factor (dB)	2483.5	; Frequency (MHz)					I
	30- 20- 10- 2470	Results		2483.E	Frequency (MHz)  Over Limit		Table	Height		2500 Verdid

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

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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 Chip antenna. The antenna gain is 1.24dBi Max. It fulfills the requirement of this section. Test Result: Pass

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#### 9.0 20dB Bandwidth Measurement

## **Test Configuration**



## **Test Procedure**

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 30kHz RBW and 100kHz VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

#### Limit

N/A

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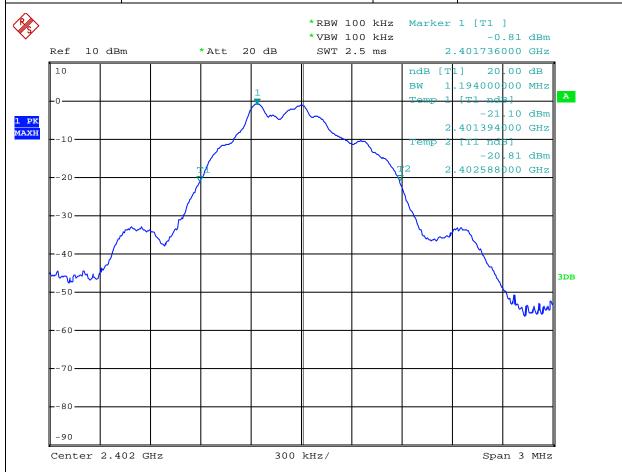
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#### **Test Result**

Product:	True Wireless ENC Earbuds	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	1.194MHz		



Date: 18.SEP.2023 18:22:14

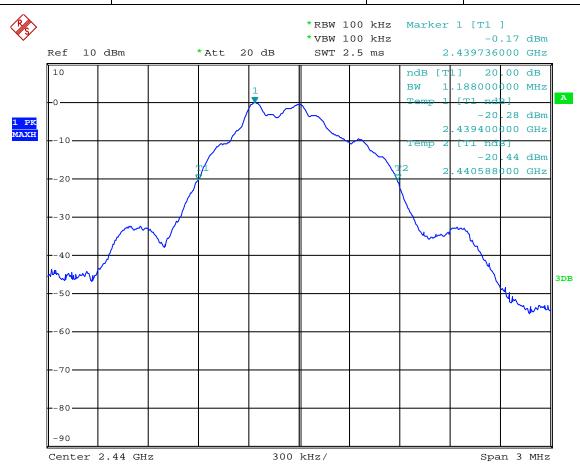
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Product:	True Wireless ENC Earbuds	Test Mode:	Keep transmitting
Mode	Mode Keeping Transmitting		DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	1.188MHz		



Date: 18.SEP.2023 18:23:26

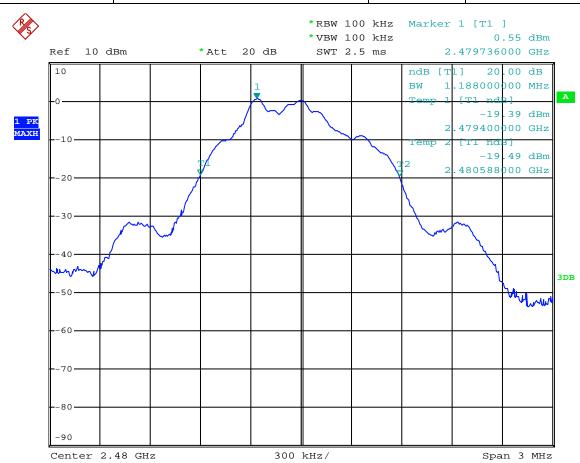
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Product:	True Wireless ENC Earbuds	Test Mode:	Keep transmitting
Mode	Mode Keeping Transmitting		DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	1.188MHz		



Date: 18.SEP.2023 18:24:19

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10.0 FCC ID Label

#### FCC ID: RGR-KTWS1

The applicant declares that because the earphone size is too small, the FCC ID number is printed on the user manual

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#### 11.0 Photo of testing

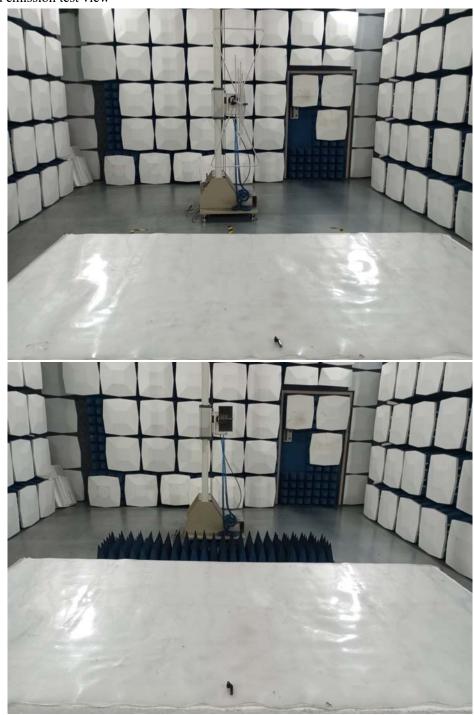
#### 11.1 Conducted test View



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#### Radiated emission test view



## 11.2 Photographs – EUT

Please see test report TW2309125-01E

## -- End of the report--

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

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