

Report No.: TW2208322E

File reference No.: 2022-09-15

Applicant: Eastern Times Technology Co.,Ltd

Product: GAMING HEADSET

Model No.: H828, ET-9149, H510-WL

Trademark: REDRAGON

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



Manager

Dated: September 15, 2022

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

Report No.: TW2208322E Page 2 of 43

Date: 2022-09-15



# **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

Report No.: TW2208322E

Date: 2022-09-15



# Test Report Conclusion

#### Content General Details 1.0 4 1.1 Test Lab Details.... 4 1.2 Applicant Details.... 4 1.3 Description of EUT ..... 1.4 Submitted Sample. 4 1.5 Test Duration. 5 Test Uncertainty. 5 1.6 Test By..... 1.7 5 List of Measurement Equipment..... 2.0 6 3.0 Technical Details ..... 7 3.1 Summary of Test Results.... 7 Test Standards.... 7 3.2 4.0 EUT Modification. Power Line Conducted Emission Test. 5.0 8 5.1 Schematics of the Test. 5.2 Test Method and Test Procedure. 8 5.3 Configuration of the EUT..... 5.4 EUT Operating Condition. 9 9 5.5 Conducted Emission Limit. 9 5.6 Test Result. 6.0 Radiated Emission test. 12 Test Method and Test Procedure. 6.1 12 Configuration of the EUT.... 6.2 13 6.3 EUT Operation Condition. 13 6.4 Radiated Emission Limit.... 13 6.5 15 Test Result. 7.0 Band Edge..... 23 7.1 Test Method and Test Procedure. 23 Radiated Test Setup.... 7.2 23 7.3 Configuration of the EUT.... 23 7.4 EUT Operating Condition. 23 7.5 Band Edge Limit. 23 7.6 Band Edge Test Result. 24 Antenna Requirement. 8.0 28 20dB bandwidth measurement. 9.0 29 10.0 FCC ID Label.... 32 11.0 Photo of Test Setup and EUT View. 33

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Report No.: TW2208322E Page 4 of 43

Date: 2022-09-15



#### 1.1 General Details

#### 1.2 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

#### 1.3 Applicant Details

Applicant: Eastern Times Technology Co.,Ltd

Address: Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town, Dongguan City,

Guangdong, China.

Telephone: -Fax: --

#### 1.3 Description of EUT

Product: GAMING HEADSET

Manufacturer: Eastern Times Technology Co.,Ltd

Address: Building D, Nan An Industrial Area, Youganpu Village, Fenggang Town,

Dongguan City, Guangdong, China.

Trademark: REDRAGON

Model Number: H828

Additional Model Name ET-9149, H510-WL Rating: DC5.0V, 500mA

Battery DC3.7V, 1200mAh Li-ion battery

Modulation Type: GFSK

Operation Frequency: 2403-2477MHz

Channel Number: 75
Channel Separation: 1MHz

Hardware Version: ET-9149\_A1\_REV.27\_2022.01.10

Software Version: DD RX V25

Serial No.: RDH82822112500001

Antenna Designation Two PCB antenna used. The gain of the antennas is 2.4dBi for each one (Get

from the antenna specification). The two antennas cannot transmit Simultaneously.

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Report No.: TW2208322E Page 5 of 43

Date: 2022-09-15



Note: Antenna 1 transmitter and Antenna 2 transmitter mode all have been tested, only worse case is reported.

1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2022-08-20 to 2022-09-15

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 lactor of \$\frac{1}{4} = 2\$ and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xin

Page 6 of 43 Report No.: TW2208322E

Date: 2022-09-15



2.0 Test Equipment						
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date	
ESPI Test Receiver	R&S	ESPI 3	100379	2022-07-15	2023-07-14	
LISN	R&S	EZH3-Z5	100294	2022-07-18	2023-07-17	
LISN	R&S	EZH3-Z5	100253	2022-07-18	2023-07-17	
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2022-07-18	2023-07-17	
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17	
Spectrum	R&S	FSIQ26	100292	2022-07-15	2023-07-14	
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	2022-07-18	2023-07-17	
Power sensor	Anritsu	MA2491A	32263	2022-07-18	2023-07-17	
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	2022-07-15	2023-07-14	
EMI Test Receiver	RS	ESCS 30	834115/006	2022-07-15	2023-07-14	
Spectrum	HP/Agilent	E4407B	MY50441392	2022-07-15	2023-07-14	
Spectrum	RS	FSP	1164.4391.38	2022-07-15	2023-07-14	
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2022-07-15	2023-07-14	
RF Cable	Zhengdi	7m		2022-07-15	2023-07-14	
Pre-Amplifier	Schwarebeck	BBV9743	#218	2022-07-15	2023-07-14	
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2022-07-15	2023-07-14	
LISN	SCHAFFNER	NNB42	00012	2022-08-18	2023-07-17	

# 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

Report No.: TW2208322E Page 7 of 43

Date: 2022-09-15



#### 3.1 Technical Details

# 3.2 Summary of test results

The EUT has been tested according to the following specifications:

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

#### 3.3 Test Standards

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

#### 4.1 EUT Modification

No modification by SHENZHEN TIMEWAY TESTINGLABORATORIES

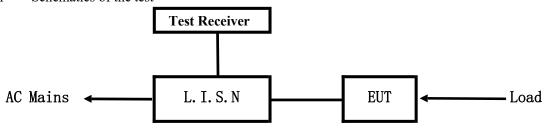
Report No.: TW2208322E

Date: 2022-09-15



#### 5. Power Line Conducted Emission Test

#### 5.1 Schematics of the test

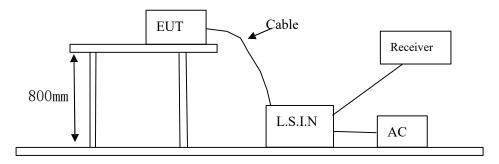


**EUT: Equipment Under Test** 

#### 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.

75 channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
GAMING HEADSET	Eastern Times Technology Co.,Ltd	H828, ET-9149, H510-WL	TUVET-9149

Report No.: TW2208322E Page 9 of 43

Date: 2022-09-15



#### 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 (dB μ V)				
(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

Date: 2022-09-15



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

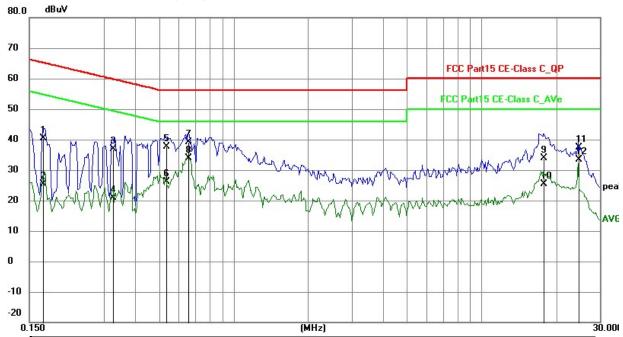
# **EUT Operating Environment**

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging and Keep Transmitting** 

**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	0.1695	30.72	9.77	40.49	64.98	-24.49	QP	Р
2	0.1695	15.53	9.77	25.30	54.98	-29.68	AVG	Р
3	0.3255	27.04	9.76	36.80	59.57	-22.77	QP	Р
4	0.3255	11.12	9.76	20.88	49.57	-28.69	AVG	Р
5	0.5322	27.85	9.77	37.62	56.00	-18.38	QP	Р
6	0.5322	16.28	9.77	26.05	46.00	-19.95	AVG	Р
7	0.6570	29.37	9.78	39.15	56.00	-16.85	QP	Р
8	0.6570	24.04	9.78	33.82	46.00	-12.18	AVG	Р
9	17.8200	23.28	10.55	33.83	60.00	-26.17	QP	Р
10	17.8200	14.95	10.55	25.50	50.00	-24.50	AVG	Р
11	24.5748	26.38	10.96	37.34	60.00	-22.66	QP	Р
12	24.5748	22.36	10.96	33.32	50.00	-16.68	AVG	Р

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

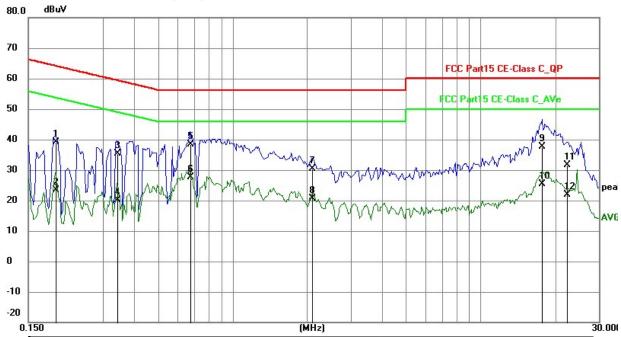
# **EUT Operating Environment**

Temperature: 26°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Charging and Keep Transmitting** 

**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	0.1929	29.29	9.75	39.04	63.91	-24.87	QP	Р
2	0.1929	13.58	9.75	23.33	53.91	-30.58	AVG	Р
3	0.3410	25.68	9.76	35.44	59.18	-23.74	QP	Р
4	0.3410	10.42	9.76	20.18	49.18	-29.00	AVG	Р
5	0.6726	28.53	9.78	38.31	56.00	-17.69	QP	Р
6	0.6726	17.80	9.78	27.58	46.00	-18.42	AVG	Р
7	2.0961	20.69	9.80	30.49	56.00	-25.51	QP	Р
8	2.0961	10.83	9.80	20.63	46.00	-25.37	AVG	Р
9	17.7459	27.13	10.54	37.67	60.00	-22.33	QP	Р
10	17.7459	14.95	10.54	25.49	50.00	-24.51	AVG	Р
11	22.2893	20.87	10.82	31.69	60.00	-28.31	QP	Р
12	22.2893	10.97	10.82	21.79	50.00	-28.21	AVG	Р

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Report No.: TW2208322E Page 12 of 43

Date: 2022-09-15

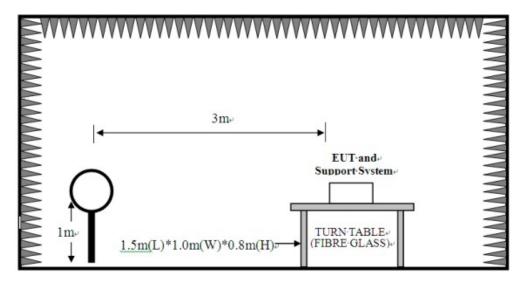


#### 6 Radiated Emission Test

- 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

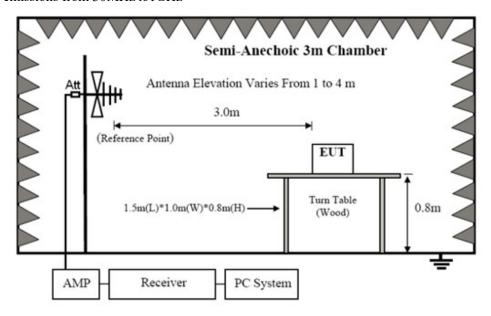


Report No.: TW2208322E

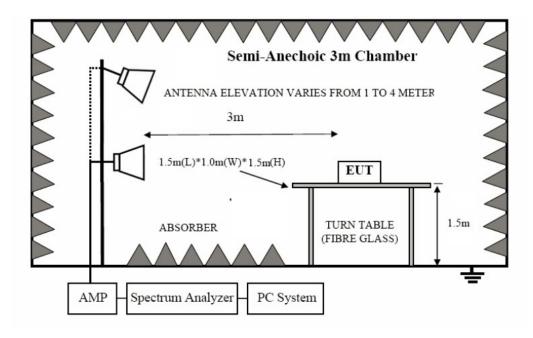
Date: 2022-09-15



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

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Date: 2022-09-15



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	Strength of Fundamental (3m)			trength of Harmo	onics (3m)
(MHz)	mV/m	dBuV/m		uV/m	dBu	V/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)
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. For radiated emissions from 9kHz to 30MHz, the emission level is much less than the limit for more than 20dB. No necessary to take down the record.
- 6. 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.
- 7. Battery full charged during tests.

Report No.: TW2208322E Page 15 of 43

Date: 2022-09-15

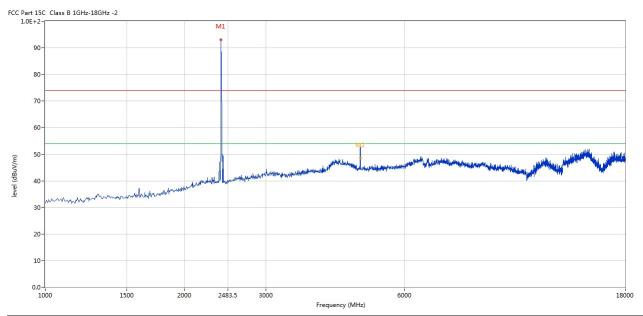


#### 6.5 Test result

# A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2403MHz

#### Horizontal



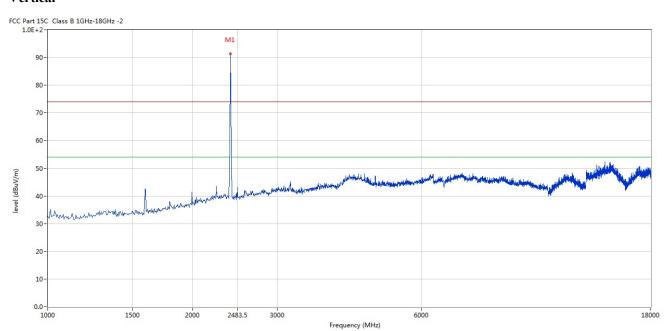
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2403	93.48	-3.57	114.0	-20.52	Peak	328.00	100	Horizontal	Pass
1*	2403	86.21	-3.57	94.0	-7.79	AV	328.00	100	Horizontal	Pass
2	4807.048	53.96	3.13	74.0	-20.04	Peak	328.00	100	Horizontal	Pass
2**	4807.048	48.62	3.13	54.0	-5.38	AV	328.00	100	Horizontal	Pass

Page 16 of 43 Report No.: TW2208322E

Date: 2022-09-15



#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2403	91.30	-3.57	114.0	-22.70	Peak	237.00	100	Vertical	Pass
1*	2403	83.85	-3.57	94.0	-10.15	AV	237.00	100	Vertical	Pass

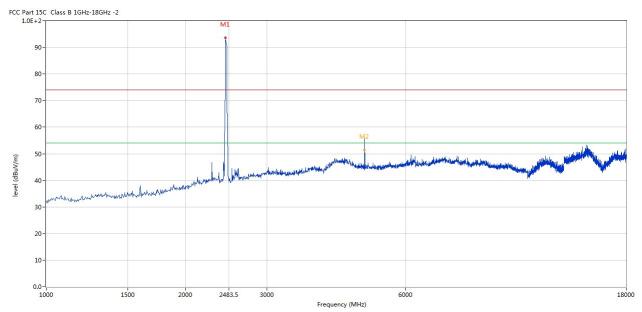
Report No.: TW2208322E Page 17 of 43

Date: 2022-09-15



# Please refer to the following test plots for details: Middle Channel-2444MHz

#### Horizontal



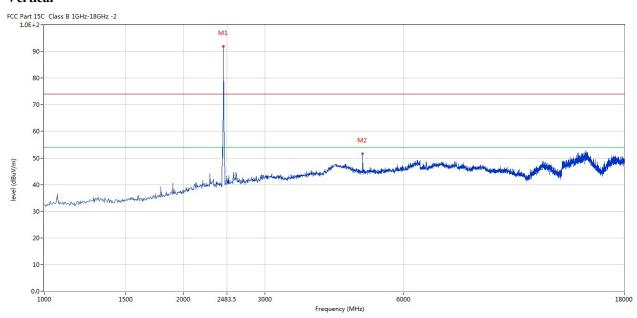
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2444	93.61	-3.57	114.0	-20.39	Peak	322.00	100	Horizontal	Pass
1*	2444	86.19	-3.57	94.0	-7.81	AV	322.00	100	Horizontal	Pass
2	4887.778	56.51	3.20	74.0	-17.49	Peak	332.00	100	Horizontal	Pass
2**	4887.778	51.46	3.20	54.0	-2.54	AV	332.00	100	Horizontal	Pass

Report No.: TW2208322E Page 18 of 43

Date: 2022-09-15



#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2444	91.90	-3.57	114.0	-22.10	Peak	212.00	100	Vertical	Pass
1*	2444	84.29	-3.57	94.0	-9.71	AV	212.00	100	Vertical	Pass
2	4887.778	51.61	3.20	74.0	-22.39	Peak	218.00	100	Vertical	Pass

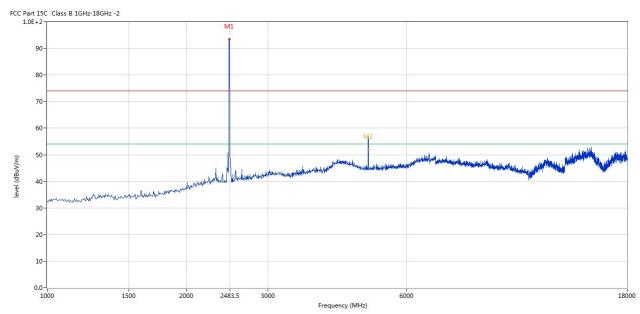
Report No.: TW2208322E Page 19 of 43

Date: 2022-09-15



# Please refer to the following test plots for details: High Channel-2477MHz

#### Horizontal



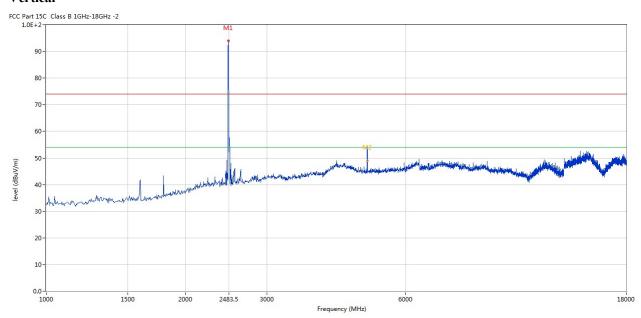
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2477	95.47	-3.57	114.0	-18.53	Peak	328.00	100	Horizontal	Pass
1*	2477	87.93	-3.57	94.0	-6.07	AV	328.00	100	Horizontal	Pass
2	4955.761	57.09	3.35	74.0	-16.91	Peak	328.00	100	Horizontal	Pass
2**	4955.761	51.91	3.35	54.0	-2.09	AV	328.00	100	Horizontal	Pass

Page 20 of 43

Report No.: TW2208322E Date: 2022-09-15



#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
1	2477	93.91	-3.57	114.0	-20.09	Peak	214.00	100	Vertical	Pass
1*	2477	86.15	-3.57	94.0	-7.85	AV	214.00	100	Vertical	Pass
2	4955.761	54.29	3.35	74.0	-19.71	Peak	209.00	100	Vertical	Pass
2**	4955.761	48.94	3.35	54.0	-5.06	AV	209.00	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.

Report No.: TW2208322E Page 21 of 43

Date: 2022-09-15

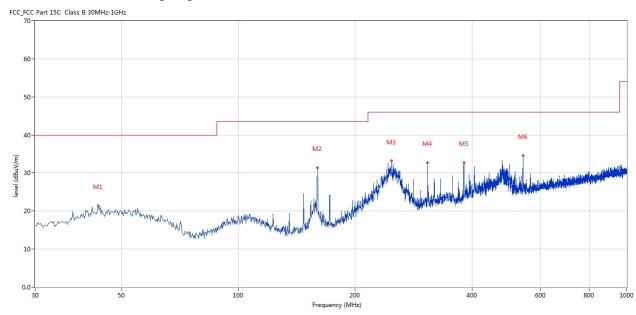


# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	43.577	21.41	-11.49	40.0	-18.59	Peak	72.00	200	Horizontal	Pass
2	159.705	31.33	-16.38	43.5	-12.17	Peak	344.00	200	Horizontal	Pass
3	247.953	33.15	-12.15	46.0	-12.85	Peak	86.00	100	Horizontal	Pass
4	307.108	32.64	-10.98	46.0	-13.36	Peak	269.00	100	Horizontal	Pass
5	380.810	32.75	-9.18	46.0	-13.25	Peak	163.00	100	Horizontal	Pass
6	540.577	34.49	-6.50	46.0	-11.51	Peak	191.00	200	Horizontal	Pass

Report No.: TW2208322E Page 22 of 43

Date: 2022-09-15

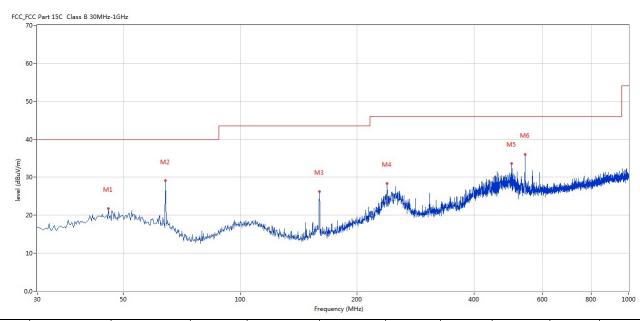


# Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	45.759	21.70	-11.40	40.0	-18.30	Peak	289.00	100	Vertical	Pass
2	64.184	29.07	-13.37	40.0	-10.93	Peak	36.00	200	Vertical	Pass
3	159.705	26.24	-16.38	43.5	-17.26	Peak	38.00	200	Vertical	Pass
4	238.740	28.35	-12.43	46.0	-17.65	Peak	156.00	200	Vertical	Pass
5	499.848	33.57	-6.90	46.0	-12.43	Peak	360.00	200	Vertical	Pass
6	540.577	36.01	-6.50	46.0	-9.99	Peak	315.00	100	Vertical	Pass

Report No.: TW2208322E

Date: 2022-09-15

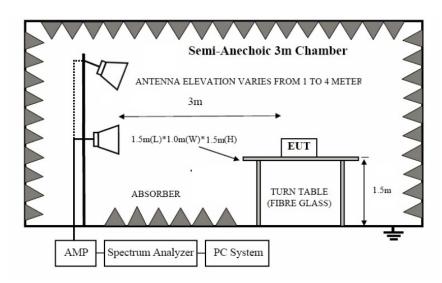


#### 7. Band Edge

#### 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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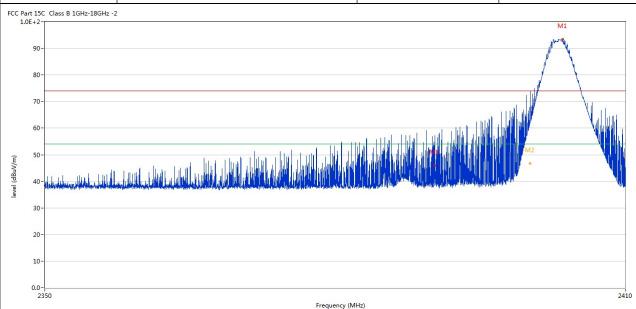
Page 24 of 43 Report No.: TW2208322E

Date: 2022-09-15



#### 7.6 Test Result

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

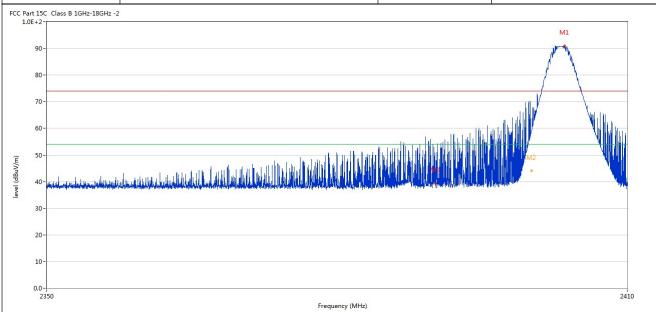


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
1	2403.447	93.46	-3.57	74.0	19.46	Peak	328.00	100	Horizontal	N/A
2	2400.042	61.68	-3.57	74.0	-12.32	Peak	328.00	100	Horizontal	Pass
2**	2400.042	46.62	-3.57	54.0	-7.38	AV	328.00	100	Horizontal	Pass
3	2390.085	45.90	-3.53	74.0	-28.10	Peak	288.00	100	Horizontal	Pass

Report No.: TW2208322E Page 25 of 43



Product:	GAMING HEADSET	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		

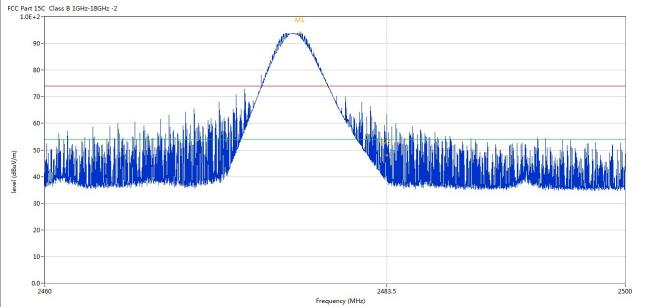


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2403.477	90.96	-3.57	74.0	16.96	Peak	217.00	100	Vertical	N/A
2	2400.012	59.28	-3.57	74.0	-14.72	Peak	211.00	100	Vertical	Pass
2**	2400.012	44.08	-3.57	54.0	-9.92	AV	211.00	100	Vertical	Pass
3	2390.025	39.31	-3.53	74.0	-34.69	Peak	343.00	100	Vertical	Pass

Page 26 of 43 Report No.: TW2208322E



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

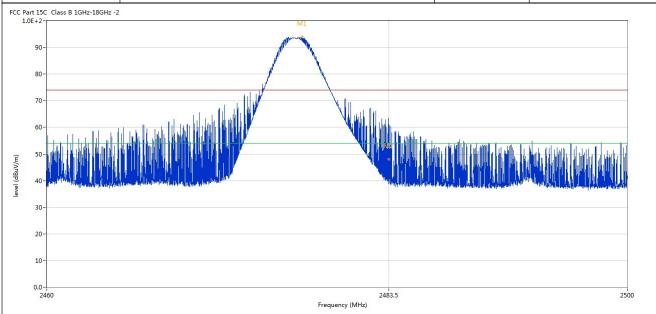


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2477.516	93.97	-3.57	74.0	19.97	Peak	328.00	100	Horizontal	N/A
2	2483.504	63.18	-3.57	74.0	-10.82	Peak	328.00	100	Horizontal	Pass
2**	2483.504	48.07	-3.57	54.0	-5.93	AV	328.00	100	Horizontal	Pass

Page 27 of 43 Report No.: TW2208322E



Product:	GAMING HEADSET	Detector	Vertical
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)		
1	2477.526	93.88	-3.57	74.0	19.88	Peak	210.00	100	Vertical	N/A
2	2483.494	63.12	-3.57	74.0	-10.88	Peak	217.00	100	Vertical	Pass
2**	2483.494	47.96	-3.57	54.0	-6.04	AV	217.00	100	Vertical	Pass

Report No.: TW2208322E Page 28 of 43

Date: 2022-09-15



#### 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.

Two PCB antenna used. The gain of the antennas is 2.4dBi for each one (Get from the antenna specification). The two antennas cannot transmit Simultaneously. It fulfills the requirement of this section.

Test Result: Pass

Page 29 of 43 Report No.: TW2208322E



Product:	GAMING HEADS	ET	Test Mode:	Keep tra	nsmitting
Mode	Keeping Transmitti	ng	Test Voltage	DC	23.7V
Temperature	24 deg. C,		Humidity	56%	6 RH
Test Result:	Pass		Detector	I	PK
0dB Bandwidth	2.234MHz				
	Marker 1 [T1 ndB	8] RI	BW 100 ki	Hz RF Att	20 dB
Ref Lvl	ndB 20.00	dB VI	BW 300 ki	Hz	
10 dBm	BW 2.23446894	MHz SI	WT 5 ms	s Unit	dB
			<b>v</b> <sub>1</sub>	[T1] -	-3.03 dBm
1.0				2.4030	
-10		<u> </u>	ndB	2	0.00 dB
		~	BW $\nabla_{\mathrm{T1}}$	2.2344 [T1] -2	6894 MHz
-20	<b>→</b>	,,		2.4019	
	$\sim$	· ·	ackslash	<b>↑</b> [T1] -2	23.03 dBm
-30	7		\\ \frac{\sqrt{\sq}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}\sqrt{\sqrt{\sqrt{\sq}}}}}}}\signt{\sqrt{\sqrt{\sqrt{\sq}}}}}}}\signti\sep\sintite{\sintite{\sintity}}}}}}\signti\sep\sintite{\sintitta}\signt{\sqrt{\sq}\sqrt{\sqrt{\sqrt{\sq}}}}}}\sqit{\sqrt{\sintitita}\sqrt{\sintitita}\sqrt{\sintitita}}}}}}\signti\sep\	2.4041	7735 GHz
1MAX					11
-40					
5.				\ \ \	/\
-50					1
-60					
-70					+ 1
-80					
-90					
-100					
Center 2.40	3 GHz	500 kHz/		Sp	an 5 MHz

Page 30 of 43 Report No.: TW2208322E



Product:	GAMING HEA	ADSET	Test Mode:	Keep tra	ansmitting
Mode	Keeping Transi	mitting	Test Voltage	DC	C3.7V
Temperature	24 deg. C	·,	Humidity	Humidity 56% I	
Test Result:	Pass		Detector PK		PK
20dB Bandwidth	2.244MH	Z			
Ref Lvl	Marker 1 [T1 ndB 2		RBW 100 k VBW 300 k		20 dB
10 dBm	BW 2.2444	8898 MHz	SWT 5 m	s Unit	dB
			$\mathbf{v}_1$	[T1] -5	3.17 dBm A
-10				2.44406	513 GHz
		1	ndi	20	1.00 dB
2.0			BW ▼T1	2.24448 - [T1] -25	898 MHz .50 dBm
-20				2.44293	287 GHz
-30			V V T	-2·	1.99 dBm
1MAX	T./			2.44517 12	1735 GHZ 1MA
	<i>y</i>				
-50					M
-60					
-70					
-80					
-90					
-100 Center 2.	.444 GHz	500 kHz	/	Spa	an 5 MHz
Date: 8.	SEP.2022 15:10:20				

Page 31 of 43

Report No.: TW2208322E



Product:	GAMING HEADSE	ET To	est Mode:	Keep transmitting	
Mode	Keeping Transmittin	ng Te	est Voltage	DC3.7V	
Temperature	24 deg. C,	I	Humidity	56% RH	
Test Result:	Pass	]	Detector Pl		
20dB Bandwidth	2.234MHz				
Ref Lvl	Marker 1 [T1 ndE		100 kHz 300 kHz	RF Att 20 dB	
10 dBm	BW 2.23446894		5 ms	Unit di	3
0			<b>▼</b> 1 [T1]	-7.00 dBr	A
-10				2.47705511 GHz	
		1	ndB BW	20.00 dB 2.23446894 MHz	
-20			<b>∨</b> T1 [T1]		1
				2.47594289 GHz	
-30	The state of the s	V	V <sub>T2</sub> [T1]	-26.75 dBr	
1MAX	Ţ		F2	2.47017/33 GII2	1MA
-40			7	\	1
-50					
-60				\ \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	_
-70					1
-80					
-90					-
-100 Center 2.477	GHz	500 kHz/		Span 5 MHz	<b>.!!</b> :
Date: 8.SEP.2	2022 15:55:53				