

TEST REPORT

FCC ID..... :	2APP6ARU-10	
Test Report No..... :	TCT240104E038	
Date of issue..... :	Mar. 26, 2025	
Testing laboratory	SHENZHEN TONGCE TESTING LAB	
Testing location/ address:	2101 & 2201, Zhenchang Factory, Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China	
Applicant's name..... :	Aroma Music Co., Ltd.	
Address..... :	203, No. 93 Qianjin 2nd Road, Area 81, Hexi Neighbourhood, Xixiang Town, Baoan District, Shenzhen City, Guangdong, 518000 China	
Manufacturer's name ... :	Aroma Technology Co., Limited	
Address..... :	Building A, Aroma Park, Guwu Village, Danshui Town, Huiyang District, Huizhou, Guangdong 516200 China	
Standard(s)	FCC CFR Title 47 Part 15 Subpart C Section 15.236	
Product Name..... :	WIRELESS AUDIO TRANSMISSION	
Trade Mark	N/A	
Model/Type reference..... :	ARU-10, AirMate II, IN-80, BRU-10, ARC2, VoxMate, M4, BRC2, EKGBUHF	
Rating(s)..... :	Rechargeable Li-ion Battery DC 3.7V	
Date of receipt of test item	Jan. 04, 2025	
Date (s) of performance of test..... :	Jan. 04, 2025 ~ Mar. 26, 2025	
Tested by (+signature) ... :	Ronaldo LUO	
Check by (+signature).... :	Beryl ZHAO	
Approved by (+signature):	Tomsin	

General disclaimer:

This report shall not be reproduced except in full, without the written approval of SHENZHEN TONGCE TESTING LAB. This document may be altered or revised by SHENZHEN TONGCE TESTING LAB personnel only, and shall be noted in the revision section of the document. The test results in the report only apply to the tested sample.

Table of Contents

1. General Product Information	3
1.1. EUT description	3
1.2. Model(s) list.....	3
1.3. Operation Frequency	3
2. General Information.....	4
2.1. Test environment and mode.....	4
2.2. Description of Support Units.....	4
3. Facilities and Accreditations	5
3.1. Facilities	5
3.2. Location	5
3.3. Measurement Uncertainty.....	5
4. Test Results and Measurement Data	6
4.1. Antenna requirement	6
4.2. Conducted Emission.....	7
4.3. Maximum Radiated Output Power	11
4.4. Occupied Bandwidth.....	13
4.5. Necessary Bandwidth Spurious Emissions.....	16
4.6. Radiated Spurious Emission Measurement.....	19
4.7. Frequency Stability Measurement	26

Appendix A: Photographs of Test Setup

Appendix B: Photographs of EUT

1. General Product Information

1.1. EUT description

Product Name.....:	WIRELESS AUDIO TRANSMISSION
Model/Type reference.....:	ARU-10
Sample Number.....:	TCT240104E038-0101
Operation Frequency	657.1MHz-662.9MHz
Modulation Technology	FSK
Antenna Type.....:	Internal Antenna
Antenna Gain.....:	-3.75dBi
Rating(s).....:	Rechargeable Li-ion Battery DC 3.7V

Note: The antenna gain listed in this report is provided by applicant, and the test laboratory is not responsible for this parameter.

1.2. Model(s) list

No.	Model No.	Tested with
1	ARU-10	☒
Other models	AirMate II , IN-80, BRU-10, ARC2, VoxMate, M4, BRC2, EKGBUHF	☐

Note: ARU-10 is tested model, other models are derivative models. The models are identical in circuit and PCB layout, only different on the model names and timbre processing circuit. So the test data of ARU-10 can represent the remaining models.

1.3. Operation Frequency

657.1MHz-662.9MHz

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	657.1MHz	3	658.7MHz	5	660.3MHz	7	662.9MHz
2	657.9MHz	4	659.5MHz	6	661.1MHz		

Remark: Channel 1, 4 & 7 have been tested for FSK modulation mode.

2. General Information

2.1. Test environment and mode

Operating Environment:		
Condition	Conducted Emission	Radiated Emission
Temperature:	23.5 °C	23.7 °C
Humidity:	52 % RH	54 % RH
Atmospheric Pressure:	1010 mbar	1010 mbar
Test Mode:		
Engineering mode:	Keep the EUT in continuous transmitting by select channel and modulations with Fully-charged battery	
The sample was placed 0.8m & 1.5m for the measurement below & above 1GHz above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case(Z axis) are shown in Test Results of the following pages.		

2.2. Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Equipment	Model No.	Serial No.	FCC ID	Trade Name
Adapter	JD-050200	2012010907576735	/	JD

Note:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

3. Facilities and Accreditations

3.1. Facilities

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

- FCC - Registration No.: 645098

SHENZHEN TONGCE TESTING LAB

Designation Number: CN1205

The testing lab has been registered and fully described in a report with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files.

- IC - Registration No.: 10668A-1

SHENZHEN TONGCE TESTING LAB

CAB identifier: CN0031

The testing lab has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

3.2. Location

SHENZHEN TONGCE TESTING LAB

Address: 2101 & 2201, Zhenchang Factory Renshan Industrial Zone, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, 518103, People's Republic of China

TEL: +86-755-27673339

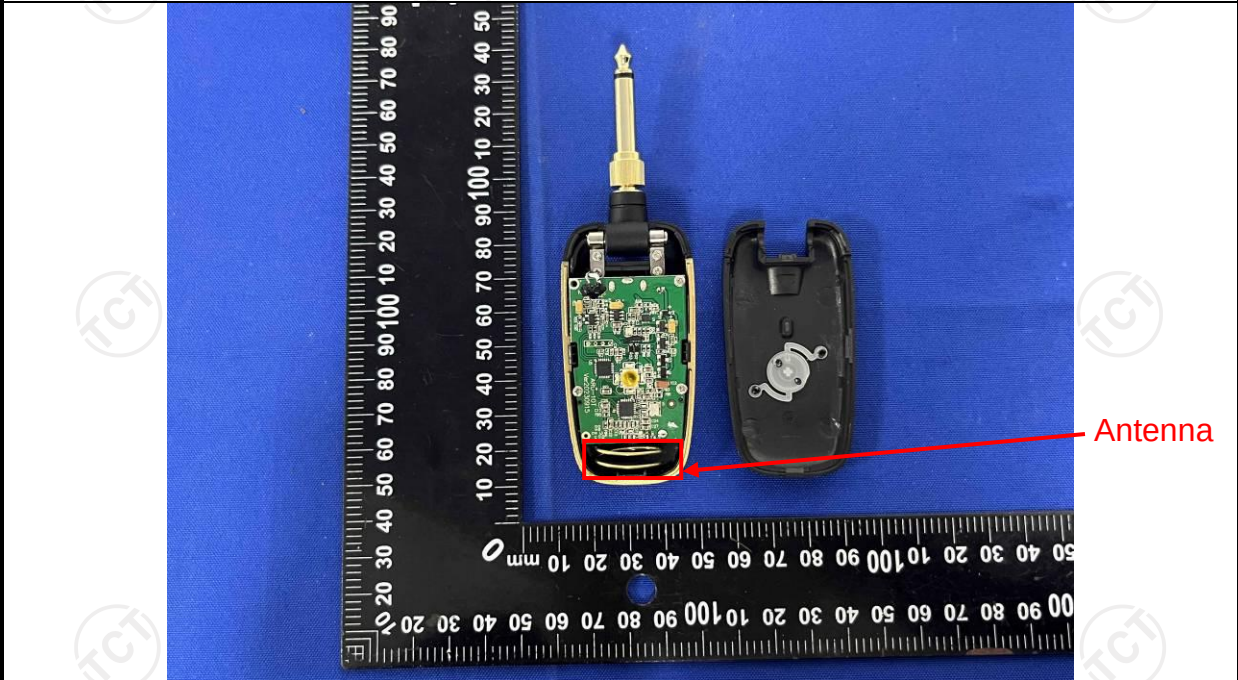
3.3. Measurement Uncertainty

The reported uncertainty of measurement $y \pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

No.	Item	MU
1	Conducted Emission	± 3.10 dB
2	RF power, conducted	± 0.12 dB
3	Spurious emissions, conducted	± 0.11 dB
4	All emissions, radiated(<1 GHz)	± 4.56 dB
5	All emissions, radiated(1 GHz - 18 GHz)	± 4.22 dB
6	All emissions, radiated(18 GHz- 40 GHz)	± 4.36 dB

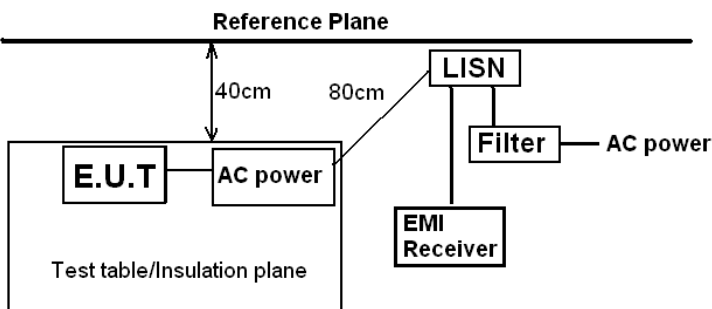
4. Test Results and Measurement Data

4.1. Antenna requirement

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: 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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
E.U.T Antenna:	
The antenna is an internal antenna which permanently attached, and the best case gain of the antenna is -3.75dBi.	
	

4.2. Conducted Emission

4.2.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.207														
Test Method:	ANSI C63.10:2013														
Frequency Range:	150 kHz to 30 MHz														
Receiver setup:	RBW=9 kHz, VBW=30 kHz, Sweep time=auto														
Limits:	<table><tr><th rowspan="2">Frequency range (MHz)</th><th colspan="2">Limit (dBuV)</th></tr><tr><th>Quasi-peak</th><th>Average</th></tr><tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr><tr><td>0.5-5</td><td>56</td><td>46</td></tr><tr><td>5-30</td><td>60</td><td>50</td></tr></table>	Frequency range (MHz)	Limit (dBuV)		Quasi-peak	Average	0.15-0.5	66 to 56*	56 to 46*	0.5-5	56	46	5-30	60	50
Frequency range (MHz)	Limit (dBuV)														
	Quasi-peak	Average													
0.15-0.5	66 to 56*	56 to 46*													
0.5-5	56	46													
5-30	60	50													
Test Setup:	Reference Plane  Remark E.U.T: Equipment Under Test LISN: Line Impedance Stabilization Network Test table height=0.8m														
Test Mode:	Charging + transmitting modulation														
Test Procedure:	1. The E.U.T is connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm/50uH coupling impedance for the measuring equipment. 2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs). 3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10: 2013 on conducted measurement.														
Test Result:	PASS														

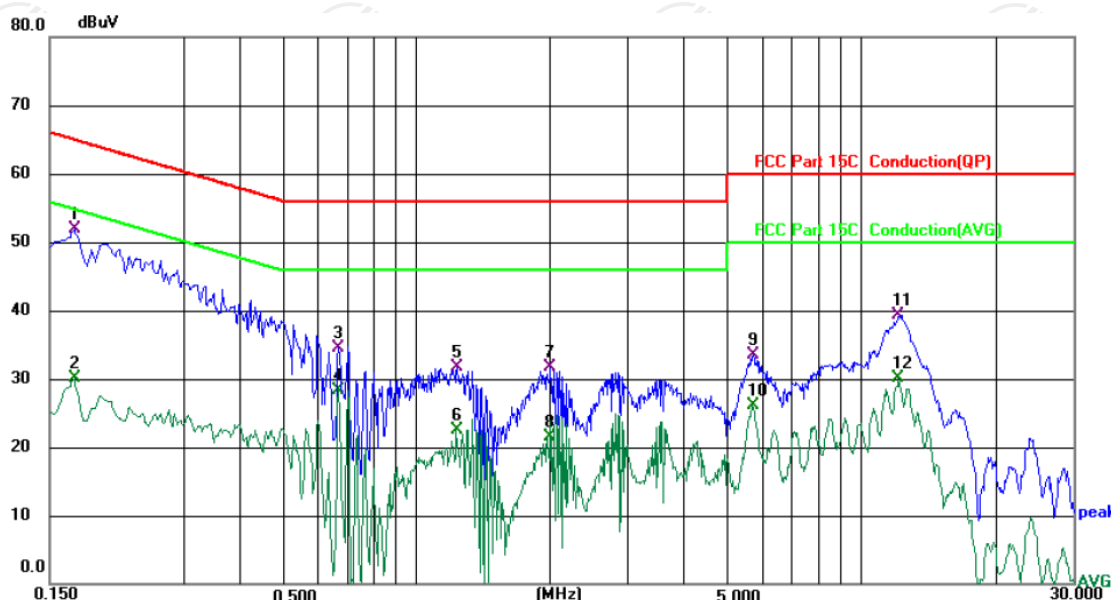
4.2.2. Test Instruments

Conducted Emission Shielding Room Test Site (843)				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESCI3	100898	Jun. 29, 2024
Line Impedance Stabilisation Newtork(LISN)	Schwarzbeck	NSLK 8126	8126453	Jan. 31, 2025
Line-5	TCT	CE-05	/	Jul. 03, 2024
EMI Test Software	Shurple Technology	EZ-EMC	/	/

4.2.3. Test data

Please refer to following diagram for individual

Conducted Emission on Line Terminal of the power line (150 kHz to 30MHz)



Site 844 Shielding Room

Phase: **L1**

Temperature: 23.5 (°C)

Humidity: 52 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 5 V(Adapter Input AC 120 V/ 60 Hz)

No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1700	41.79	10.13	51.92	64.96	-13.04	QP	
2		0.1700	20.02	10.13	30.15	54.96	-24.81	AVG	
3		0.6700	25.26	9.29	34.55	56.00	-21.45	QP	
4		0.6700	18.95	9.29	28.24	46.00	-17.76	AVG	
5		1.2379	21.68	9.98	31.66	56.00	-24.34	QP	
6		1.2379	12.45	9.98	22.43	46.00	-23.57	AVG	
7		2.0059	21.65	10.01	31.66	56.00	-24.34	QP	
8		2.0059	11.53	10.01	21.54	46.00	-24.46	AVG	
9		5.7179	23.35	10.10	33.45	60.00	-26.55	QP	
10		5.7179	15.92	10.10	26.02	50.00	-23.98	AVG	
11		12.1700	29.08	10.16	39.24	60.00	-20.76	QP	
12		12.1700	19.93	10.16	30.09	50.00	-19.91	AVG	

Note:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

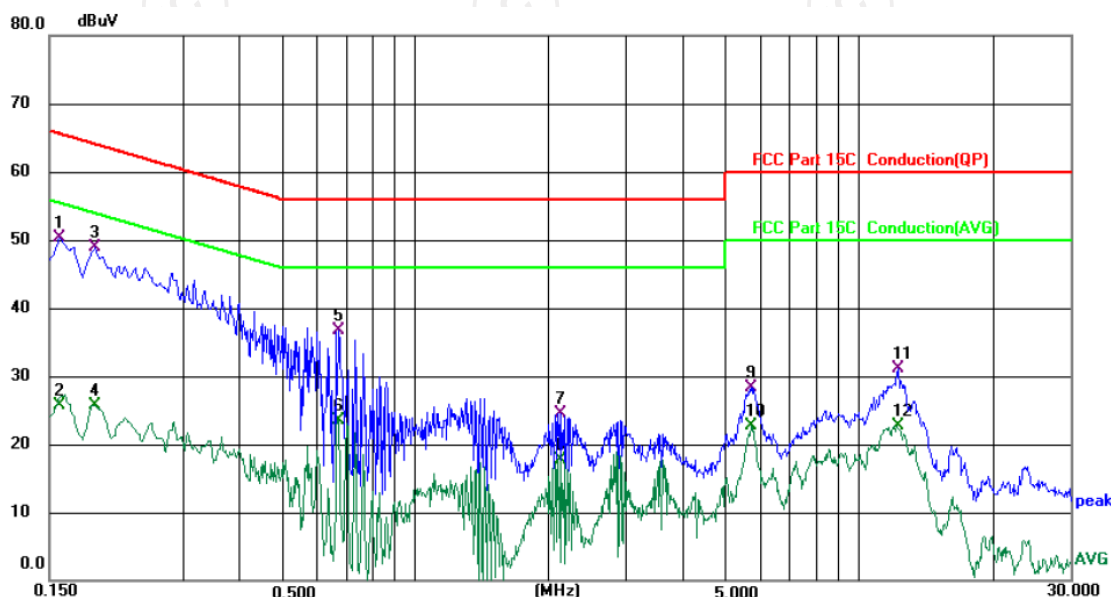
Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Conducted Emission on Neutral Terminal of the power line (150 kHz to 30MHz)



Site 844 Shielding Room

Phase: *N*

Temperature: 23.5 (°C)

Humidity: 52 %

Limit: FCC Part 15C Conduction(QP)

Power: DC 5 V(Adapter Input AC 120 V/ 60 Hz)

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1580	40.25	10.10	50.35	65.57	-15.22	QP	
2		0.1580	15.70	10.10	25.80	55.57	-29.77	AVG	
3	*	0.1900	38.68	10.14	48.82	64.04	-15.22	QP	
4		0.1900	15.48	10.14	25.62	54.04	-28.42	AVG	
5		0.6740	27.41	9.30	36.71	56.00	-19.29	QP	
6		0.6740	14.25	9.30	23.55	46.00	-22.45	AVG	
7		2.1419	14.54	10.02	24.56	56.00	-31.44	QP	
8		2.1419	7.68	10.02	17.70	46.00	-28.30	AVG	
9		5.7179	18.24	10.12	28.36	60.00	-31.64	QP	
10		5.7179	12.52	10.12	22.64	50.00	-27.36	AVG	
11		12.2620	20.80	10.22	31.02	60.00	-28.98	QP	
12		12.2620	12.46	10.22	22.68	50.00	-27.32	AVG	

Note1:

Freq. = Emission frequency in MHz

Reading level (dBμV) = Receiver reading

Corr. Factor (dB) = LISN factor + Cable loss

Measurement (dBμV) = Reading level (dBμV) + Corr. Factor (dB)

Limit (dBμV) = Limit stated in standard

Margin (dB) = Measurement (dBμV) – Limits (dBμV)

Q.P. =Quasi-Peak

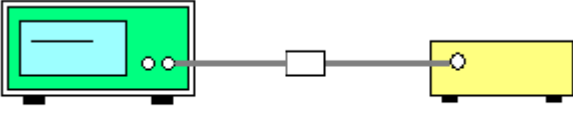
AVG =average

* is meaning the worst frequency has been tested in the frequency range 150 kHz to 30MHz.

Note2: Measurements were conducted in all three channels (high, middle, low), and the worst case Mode (Lowest channel) was submitted only.

4.3. Maximum Radiated Output Power

4.3.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.236 (d)
Test Method:	ANSI C63.10:2013
Limit:	20 mW EIRP
Test Setup:	 The diagram illustrates the test setup. On the left is a green Spectrum Analyzer. A cable connects it to a small white attenuator block. Another cable connects the attenuator to a yellow EUT (Equipment Under Test) on the right.
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. 2. Set to the maximum power setting and enable the EUT transmit continuously. 3. Measure the conducted output power and record the results in the test report.
Test Result:	PASS

4.3.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	R&S	FSU	200054	Jun. 27, 2024

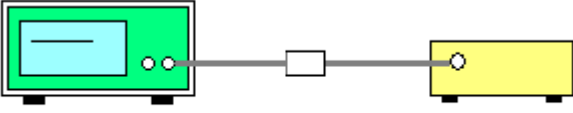
4.3.3. Test Data

Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain	EIRP (dBm)	EIRP (mw)	EIRP Limit (mw)	Result
657.1	11.96	-3.75	8.21	6.62	20	PASS
659.5	11.90	-3.75	8.15	6.53	20	PASS
662.9	11.80	-3.75	8.05	6.38	20	PASS

Note: EIRP = Conducted Output Power + Antenna Gain

4.4. Occupied Bandwidth

4.4.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.236 (f)
Test Method:	ANSI C63.10:2013
Limit:	not exceed 200 kHz
Test Setup:	 Spectrum Analyzer EUT
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. Set to the maximum power setting and enable the EUT transmit continuously. 2. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) shall be in the range of 1% to 5% of the OBW, and VBW shall be approximately three times the RBW. The frequency span for the spectrum analyzer shall be between 1.5 times and 5.0 times the OBW. 3. Use the 99% power bandwidth function and record the results in the test report.
Test Result:	PASS

4.4.2. Test Instruments

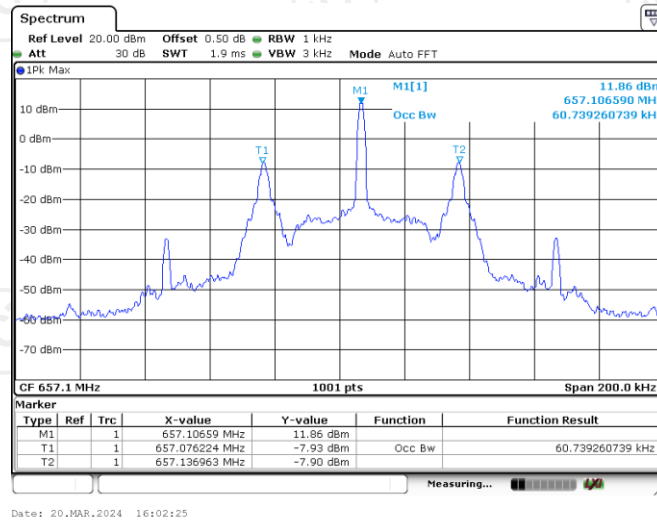
RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	R&S	FSU	200054	Jun. 27, 2024

4.4.3. Test data

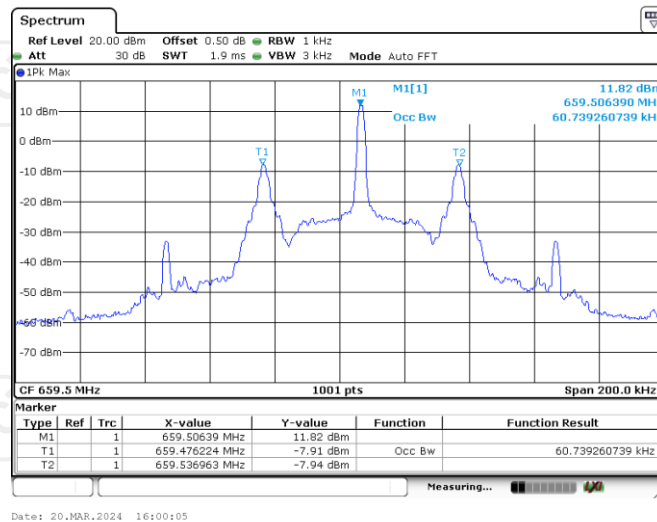
Frequency (MHz)	Occupy Bandwidth (kHz)	Limit (kHz)	Conclusion
657.1	60.74	200	PASS
659.5	60.74	200	PASS
662.9	60.74	200	PASS

Test plots as follows:

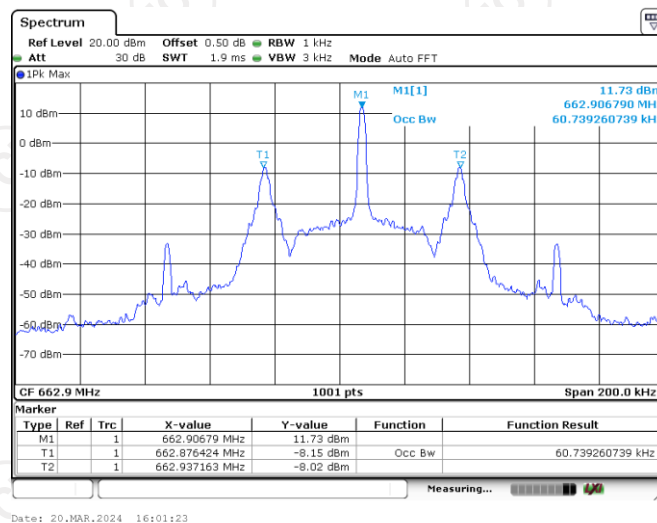
657.1MHz



657.1MHz

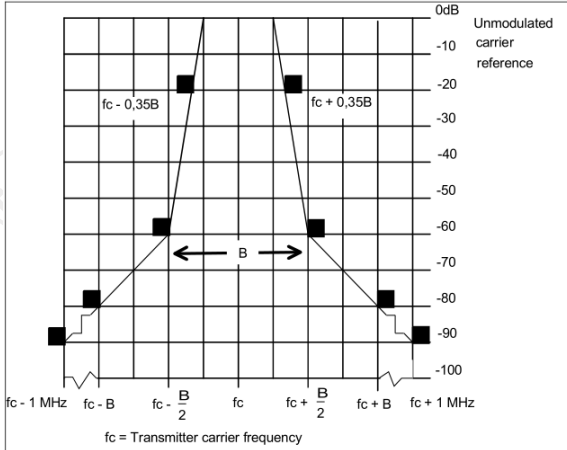
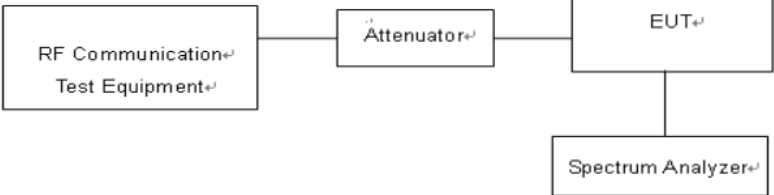


657.1MHz



4.5. Necessary Bandwidth Spurious Emissions

4.5.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.236 (g)
Test Method:	ANSI C63.10:2013
Limit:	Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in §8.3.1.2 of ETSI EN 300 422-1 V1.4.2 (2011-08) 
Test Setup:	
Test Mode:	Transmitting mode with modulation
Test Procedure:	1. With the Low Frequency (LF) audio signal generator set to 500 Hz, the audio input level to the EUT shall be adjusted to 8 dB below the limiting threshold (-8 dB (lim)) as declared by the manufacturer. 2. The corresponding audio output level from the demodulator shall be measured and recorded. 3. The input impedance of the noise meter shall be sufficiently high to avoid more than 0.1 dB change in input level when the meter is switched between input and output. 4. The audio input level shall be increased by 20 dB, i.e. to +12 dB (lim), and the corresponding change in output level shall be measured. It shall be checked that the audio output level has increased by ≤ 10 dB. If this condition is not met, the initial audio input level shall be increased from -8 dB (lim) in 1 dB steps until the above condition is fulfilled, and the input level recorded in the test report. This level replaces the value derived from the manufacturer's declaration and is defined as -8 dB (lim).

	5. Measure the input level at the transmitter required to give +12 dB (lim). 6. The transmitter RF output spectrum shall be measured, using a spectrum analyser with the following settings: - centre frequency: f_c: Transmitter (Tx) nominal frequency; - dispersion (Span): $f_c - 1\text{ MHz}$ to $f_c + 1\text{ MHz}$; - Resolution BandWidth (RBW): 1 kHz; - Video BandWidth (VBW): 1 kHz; - detector: Peak hold.
Test Result:	PASS

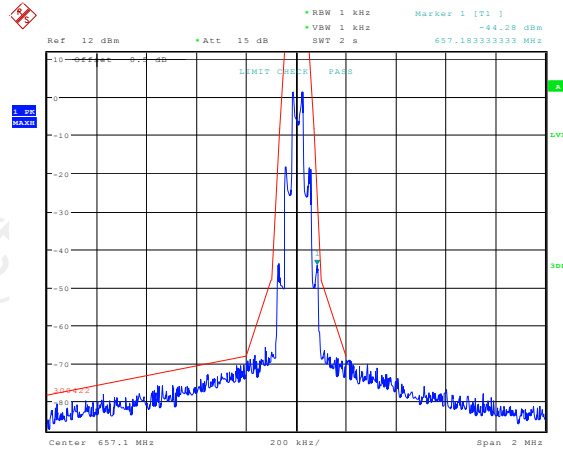
4.5.2. Test Instruments

RF Test Room				
Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	R&S	FSU	200054	Jun. 27, 2024
Signal Generator	Agilent	N5182A	MY47420221	Jun. 28, 2024

4.5.3. Test data

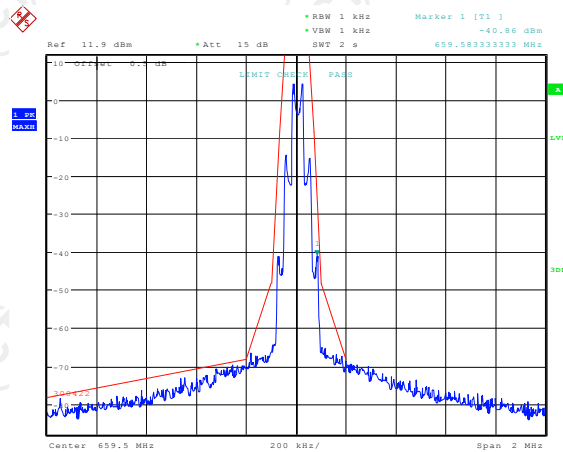
Test plots as follows:

657.1MHz



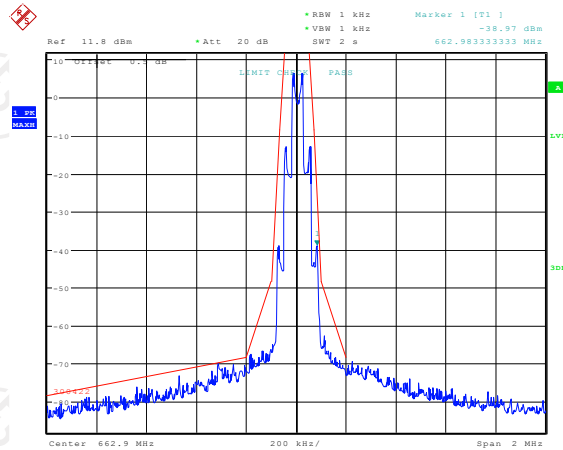
Date: 23 MAR 2024 11:42:17

659.5MHz



Date: 23.MAR.2024 11:31:33

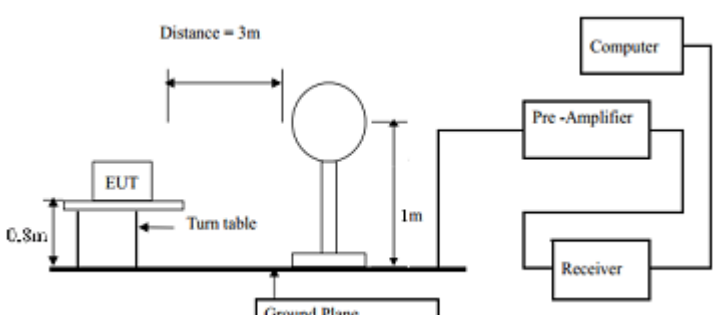
662.9MHz

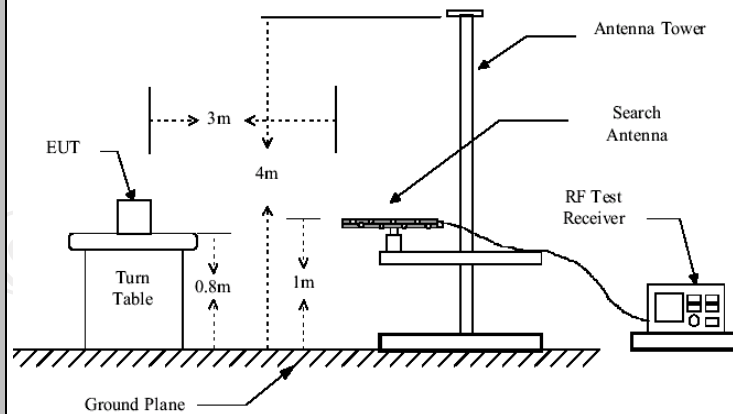


Date: 23.MAR.2024 11:13:19

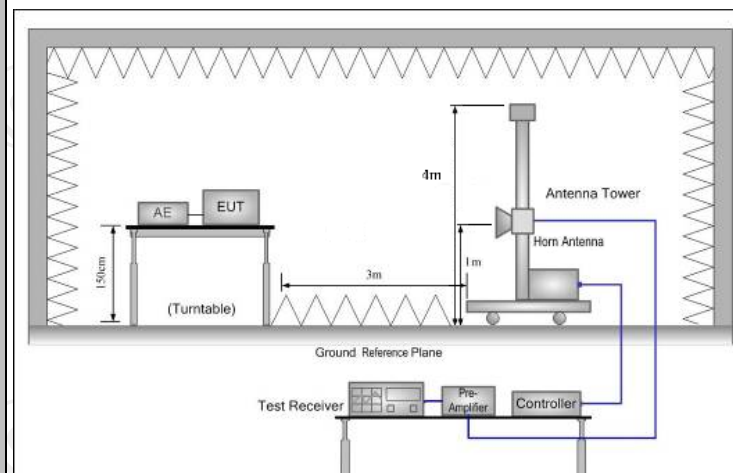
4.6. Radiated Spurious Emission Measurement

4.6.1. Test Specification

Test Requirement:	FCC Part15 C Section 15.236 (g)			
Test Method:	ANSI C63.10: 2013			
Frequency Range:	9 kHz to 2 GHz			
Measurement Distance:	3 m			
Antenna Polarization:	Horizontal & Vertical			
Operation mode:	Transmitting mode with modulation			
Receiver Setup:	Frequency	Detector	RBW	VBW
	9kHz- 150kHz	Quasi-peak	200Hz	1kHz
	150kHz- 30MHz	Quasi-peak	9kHz	30kHz
	30MHz-1GHz	Quasi-peak	120KHz	300KHz
	Above 1GHz	Peak	1MHz	3MHz
		Peak	1MHz	10Hz
				Average Value
Limit:	State	Frequency		
		47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz		Frequencies above 1 000 MHz
		Other Frequencies below 1 000 MHz		
	Operation	4 nW	250 nW	1 μ W
Test setup:	Standby	2 nW	2 nW	20 nW
	For radiated emissions below 30MHz  30MHz to 1GHz			



Above 1GHz



Test Procedure:

1. For the radiated emission test below 1GHz:
The EUT was placed on a turntable with 0.8 meter above ground. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high PASS filter are used for the test in order to get better signal level.
For the radiated emission test above 1GHz:
Place the measurement antenna on a turntable with 1.5 meter above ground, which is away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final

	measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. 3. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level 4. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported. 5. Use the following spectrum analyzer settings: (1) Span shall wide enough to fully capture the emission being measured; (2) Set RBW=120 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold; (3) Set RBW = 1 MHz, VBW= 3MHz for $f > 1$ GHz for peak measurement. For average measurement: VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Test results:	PASS

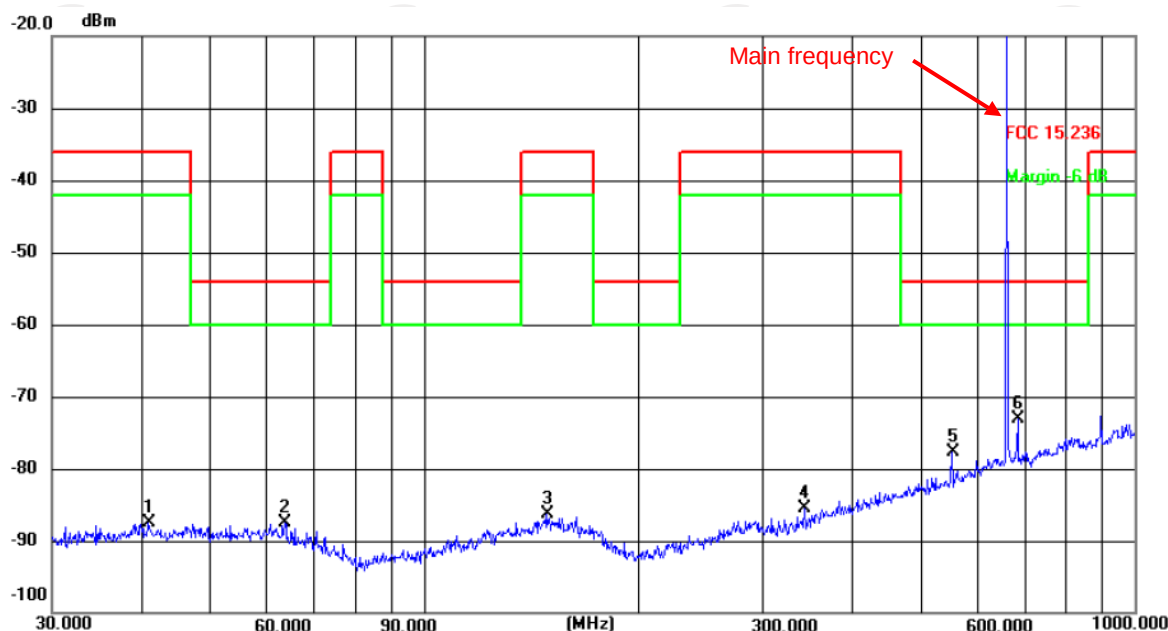
4.6.2. Test Instruments

Radiated Emission Test Site (966)				
Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
EMI Test Receiver	R&S	ESIB7	100197	Jun. 29, 2024
Spectrum Analyzer	R&S	FSQ40	200061	Jun. 29, 2024
Pre-amplifier	SKET	LNPA_0118G-45	SK2021012102	Jan. 31, 2025
Pre-amplifier	SKET	LNPA_1840G-50	SK202109203500	Jan. 31, 2025
Pre-amplifier	HP	8447D	2727A05017	Jun. 27, 2024
Loop antenna	Schwarzbeck	FMZB1519B	00191	Jul. 02, 2024
Broadband Antenna	Schwarzbeck	VULB9163	340	Jul. 01, 2024
Horn Antenna	Schwarzbeck	BBHA 9120D	631	Jul. 01, 2024
Horn Antenna	Schwarzbeck	BBHA 9170	00956	Feb. 02, 2025
Antenna Mast	Keleto	RE-AM	/	/
Coaxial cable	SKET	RC-18G-N-M	/	Jan. 31, 2025
Coaxial cable	SKET	RC_40G-K-M	/	Jan. 31, 2025
EMI Test Software	Shurple Technology	EZ-EMC	/	/

4.6.3. Test Data

Please refer to following diagram for individual
Below 1GHz

Horizontal:



Site #2 3m Anechoic Chamber

Polarization: **Horizontal**

Temperature: 23.7(C)

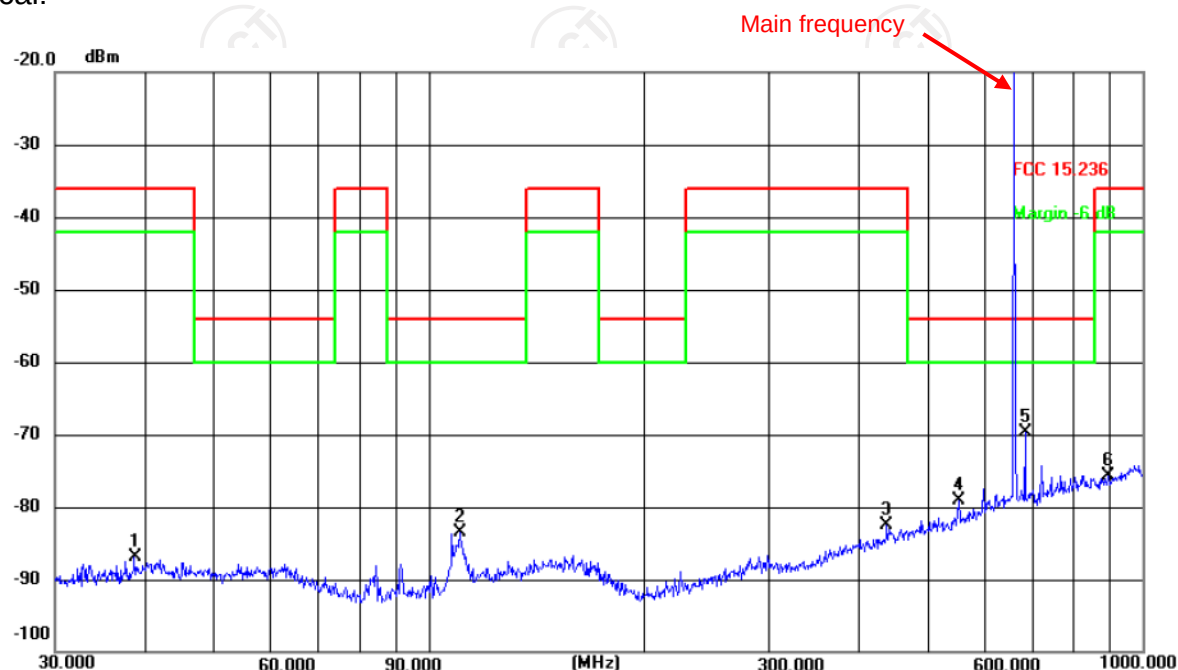
Humidity: 54 %

Limit: FCC 15.236

Power: DC 3.7V

No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1	40.9881	-101.62	14.12	-87.50	-36.00	-51.50	peak	P	
2	63.7588	-100.50	13.08	-87.42	-54.00	-33.42	peak	P	
3	148.9625	-101.00	14.75	-86.25	-36.00	-50.25	peak	P	
4	343.1800	-100.47	14.96	-85.51	-36.00	-49.51	peak	P	
5	552.8832	-97.98	20.22	-77.76	-54.00	-23.76	peak	P	
6 *	684.7454	-96.14	22.96	-73.18	-54.00	-19.18	peak	P	

Vertical:



Site #2 3m Anechoic Chamber

Polarization: **Vertical**

Temperature: 23.7(C) Humidity: 54 %

Limit: FCC 15.236

Power: DC 3.7V

No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	P/F	Remark
1	38.7518	-100.88	13.96	-86.92	-36.00	-50.92	peak	P	
2	110.5687	-95.25	11.84	-83.41	-54.00	-29.41	peak	P	
3	438.6554	-100.38	17.96	-82.42	-36.00	-46.42	peak	P	
4	552.8832	-99.29	20.22	-79.07	-54.00	-25.07	peak	P	
5 *	684.7454	-92.57	22.96	-69.61	-54.00	-15.61	peak	P	
6	896.9965	-100.87	25.22	-75.65	-36.00	-39.65	peak	P	

Note1: Measurements were conducted in all three channels (high, middle, low), and the worst case Mode (Lowest channel) was submitted only.

Above 1GHz

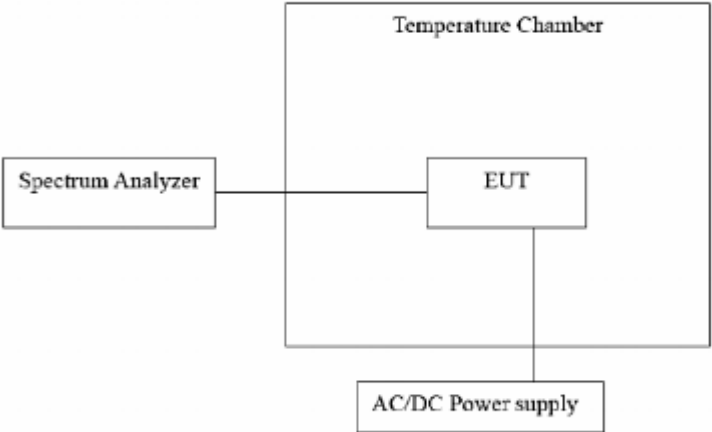
Frequency (MHz)	Spurious Emission		Limit (dBm)	Result
	Polarization	Level (dBm)		
2628.792	V	-39.13	-30.00	PASS
3286.002	V	-40.89		
--	--	--		
2628.792	H	-38.08		
3286.154	H	-35.12		
--	--	--		

Note:

1. The emission levels of other frequencies are very lower than the limit and not show in test report.
2. Measurements were conducted at the frequency range 25 MHz to 4 GHz for equipment operating on frequencies below 1 GHz.
3. Data of measurement shown "---" in the above table mean that the reading of emissions is attenuated more than 20 dB below the limits or the field strength is too small to be measured.
4. Measurements were conducted in all three channels (high, middle, low), and the worst case Mode (Lowest channel) was submitted only.

4.7. Frequency Stability Measurement

4.7.1. Test Specification

Test Requirement:	FCC Part15 Section 15.236 (f)(3)
Test Method:	ANSI C63.10: 2013
Limit:	The frequency tolerance of the carrier signal shall be maintained within $\pm 0.005\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.
Test Setup:	 <pre> graph LR SA[Spectrum Analyzer] --- EUT[EUT] subgraph TC [Temperature Chamber] EUT end P[AC/DC Power supply] --- EUT </pre>
Test Procedure:	The EUT was placed inside the environmental test chamber and powered by nominal AC/DC voltage. b. Turn the EUT on and couple its output to a spectrum analyzer. c. Turn the EUT off and set the chamber to the highest temperature specified. d. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize. e. Repeat step 2 and 3 with the temperature chamber set to the lowest temperature. f. The test chamber was allowed to stabilize at $+20$ degree C for a minimum of 30 minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.
Test Result:	PASS

4.7.2. Test Instruments

Equipment	Manufacturer	Model	Serial Number	Calibration Due
Spectrum Analyzer	ROHDE&SCH WARZ	FSQ40	200061	Jun. 29, 2024
Programable temprature and humidity chamber	JQ	JQ-2000	510101234	Jun. 28, 2024
DC power supply	Kingrang	KR3005K	/	Jun. 28, 2024

4.7.3. Test data

Test plots as follows:

657.1MHz

Temperature (°C)	Voltage (VDC)	Measurement Frequency (MHz)	Delta Frequency (Hz)	Limit (Hz)	Result
50	3.7V	657.1062	6200	32855	PASS
40		657.1059	5900	32855	PASS
30		657.1063	6300	32855	PASS
20		657.1065	6500	32855	PASS
10		657.1077	7700	32855	PASS
0		657.1071	7100	32855	PASS
-10		657.1055	5500	32855	PASS
-20		657.1059	5900	32855	PASS
20	3.3	657.1060	6000	32855	PASS
	3.7	657.1068	6800	32855	PASS
	4.2	657.1067	6700	32855	PASS

Note: Limit(Hz)= 0.00005*Frequency(Hz)=0.00005*657.1*10⁶=32855(Hz)

659.5MHz

Temperature (°C)	Voltage (VDC)	Measurement Frequency (MHz)	Delta Frequency (Hz)	Limit (Hz)	Result
50	3.7V	659.5061	6100	32975	PASS
40		659.5063	6300	32975	PASS
30		659.5069	6900	32975	PASS
20		659.5070	7000	32975	PASS
10		659.5058	5800	32975	PASS
0		659.5074	7400	32975	PASS
-10		659.5075	7500	32975	PASS
-20		659.5068	6800	32975	PASS
20	3.3	659.5057	5700	32975	PASS
	3.7	659.5066	6600	32975	PASS
	4.2	659.5053	5300	32975	PASS

Note: Limit(Hz)= 0.00005*Frequency(Hz)=0.00005*659.5*10⁶=32975(Hz)

662.9MHz

Temperature (°C)	Voltage (VDC)	Measurement Frequency (MHz)	Delta Frequency (Hz)	Limit (Hz)	Result
50	3.7V	662.9071	7100	33145	PASS
40		662.9079	7900	33145	PASS
30		662.9070	7000	33145	PASS
20		662.9069	6900	33145	PASS
10		662.9066	6600	33145	PASS
0		662.9068	6800	33145	PASS
-10		662.9075	7500	33145	PASS
-20		662.9073	7300	33145	PASS
20	3.3	662.9081	8100	33145	PASS
	3.7	662.9076	7600	33145	PASS
	4.2	662.9083	8300	33145	PASS

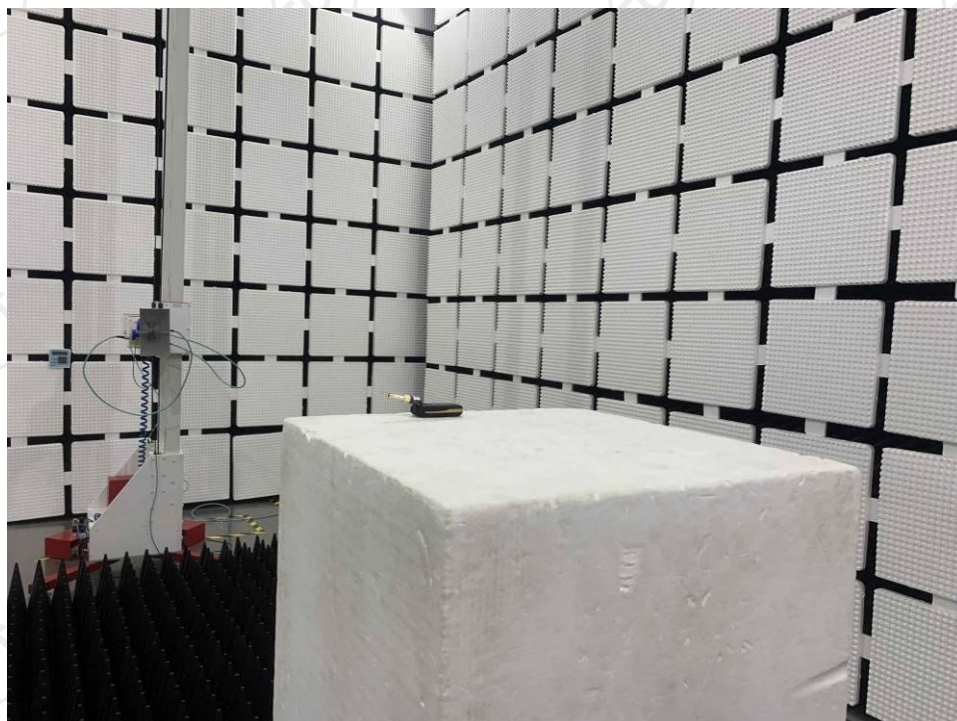
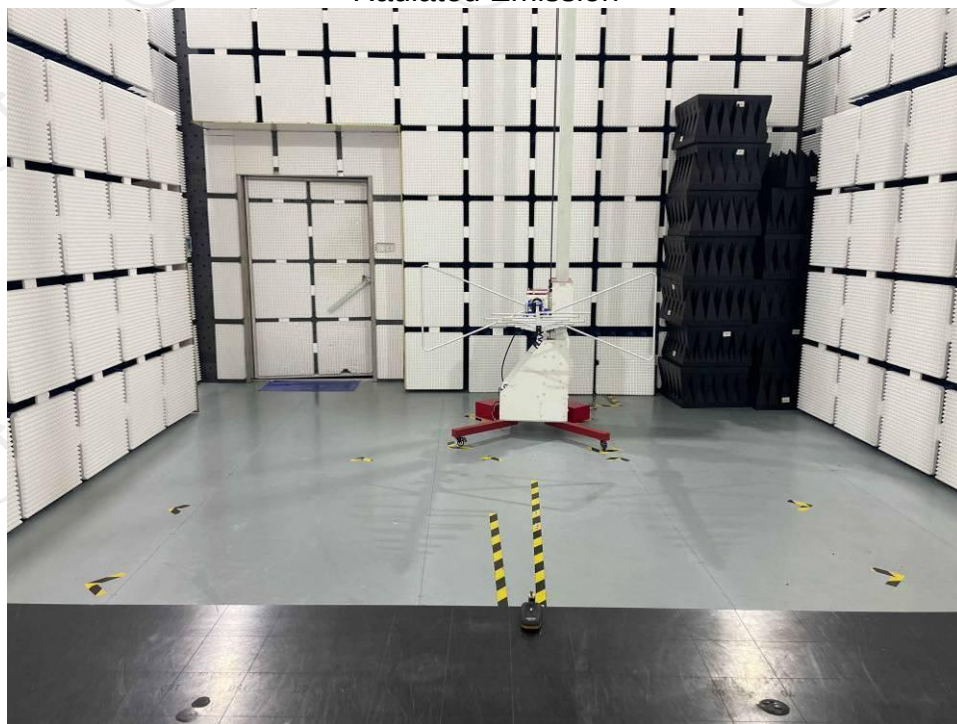
Note: Limit(Hz)= $0.00005 \times \text{Frequency(Hz)} = 0.00005 \times 662.9 \times 10^6 = 33145(\text{Hz})$

Appendix A: Photographs of Test Setup

Product: WIRELESS AUDIO TRANSMISSION

Model: ARU-10

Radiated Emission



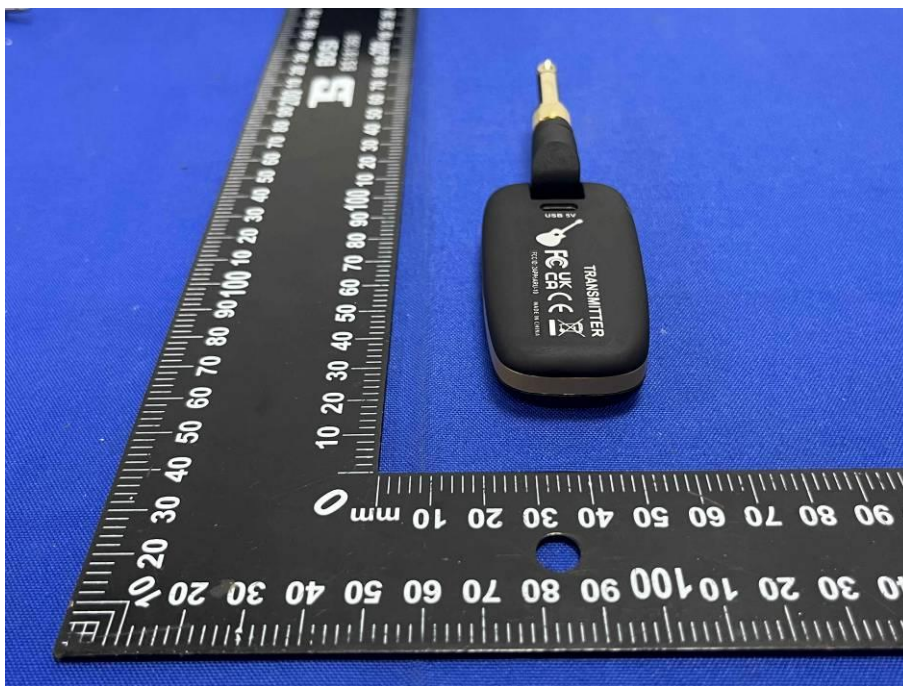
Conducted Emission

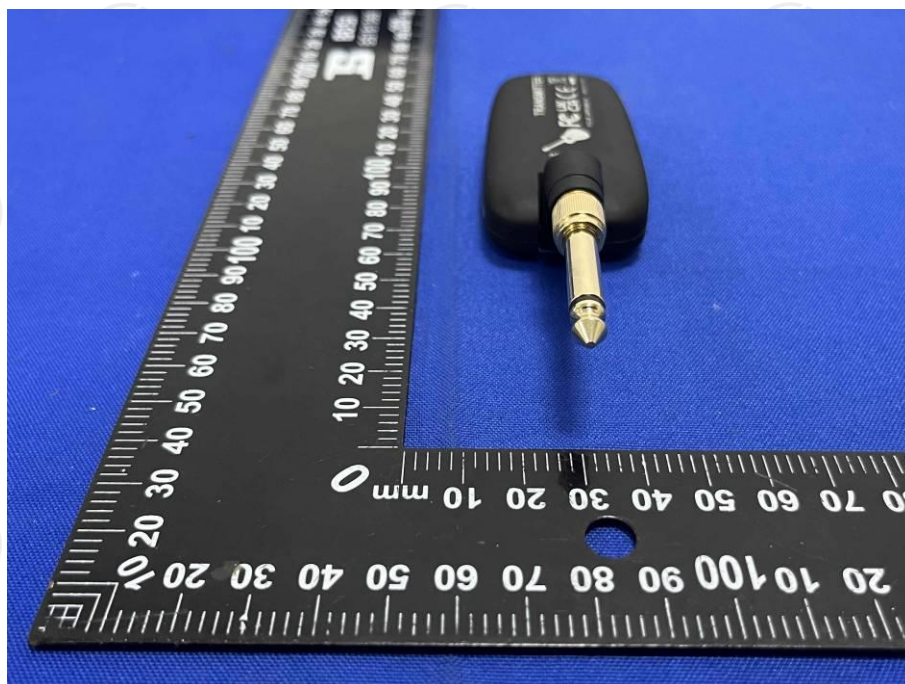


Appendix B: Photographs of EUT
Product: WIRELESS AUDIO TRANSMISSION
Model: ARU-10
External Photos

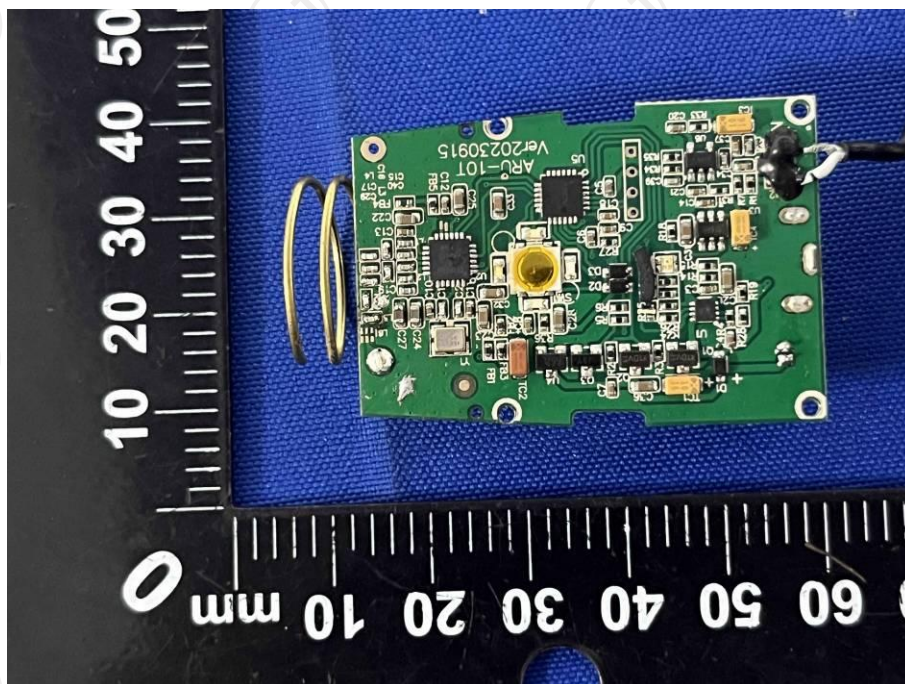


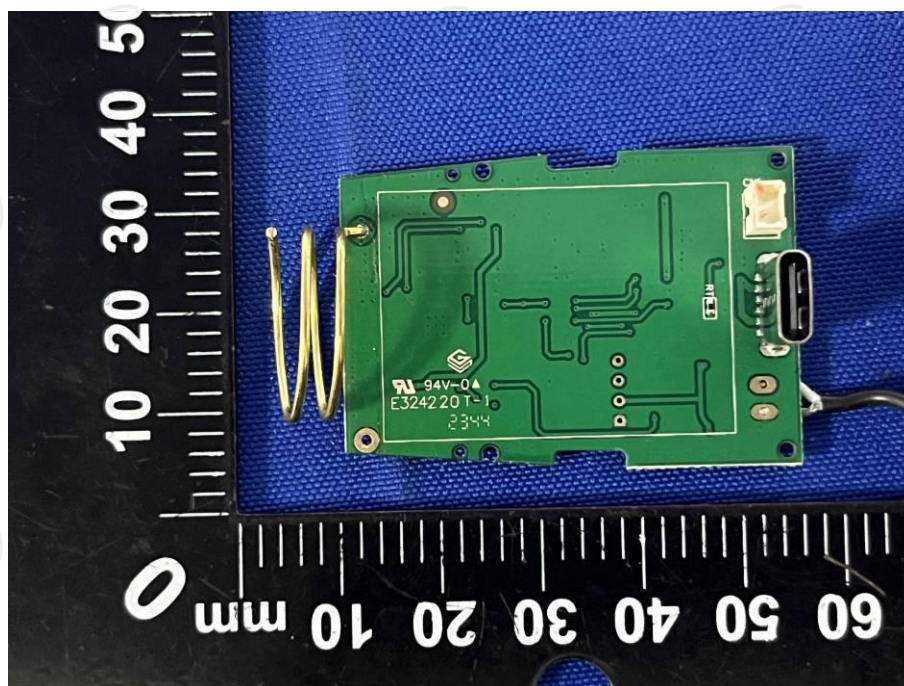






Product: WIRELESS AUDIO TRANSMISSION
Model: ARU-10
Internal Photos





*****END OF REPORT*****