

FCC 15.247 & RSS-247 2.4GHz Test Report

for

Tonly Technology Co., Ltd.

**Section 37, Zhongkai High-tech Development Zone, Huizhou
City, Guangdong Province, P.R. China**

Product Name : WIRELESS SPEAKER
Model Name : YY7871E
Brand : SONY
FCC ID : ZVAYY7871E
IC : 9976A-YY7871E

**Prepared by: : AUDIX Technology Corporation,
EMC Department**



The test report is based on a single evaluation of one sample of the above-mentioned products. It does not imply an assessment of the whole production and does not permit the use of the test lab logo.

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Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

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APPENDIX A TEST DATA AND PLOTS

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Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

TEST REPORT

Applicant : Tonly Technology Co., Ltd.
Manufacturer : Sony Group Corporation
EUT Description
(1) Product : WIRELESS SPEAKER
(2) Model : YY7871E
(3) Brand : SONY
(4) Power Supply : AC 120V, 60Hz

Applicable Standards:

Title 47 CFR FCC Part 15 Subpart C
RSS-Gen (Issue 5)+A2, February 2021
RSS-247 (Issue 4), July 2025

Audix Technology Corp. tested the equipment mentioned in accordance with the requirements set forth in the above standards. Test results indicate that the equipment tested is capable of demonstrating compliance with the requirements as documented within this report.

Audix Technology Corp. does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens and samples.

Date of Report: 2026. 03. 16

Reviewed by:

Annie Yu

(Annie Yu/Section Manager)

Approved by:

Johnny Hsueh

(Johnny Hsueh/Deputy Manager)



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

1. REVISION RECORD OF TEST REPORT

Edition No	Issued Date	Revision Summary	Report Number
0	2026. 03. 16	Original Report	EM-F260114

2. SUMMARY OF TEST RESULTS

Rule		Description	Results
FCC	IC		
15.207	RSS-Gen §8.8	Conducted Emission	PASS
15.247(d)/ 15.205	RSS-Gen §8.9 RSS-247 §5.5	Radiated Band Edge and Radiated Spurious Emission	PASS
15.247(a)(2)	RSS-247 §5.2(1)	DTS/Occupied Bandwidth	PASS
15.247(b)(3)	RSS-247 §5.4(4)	Maximum Peak Output Power	PASS
15.247(d)	RSS-247 §5.5	Conducted Band Edges and Conducted Spurious Emission	PASS
15.247 (e)	RSS-247 §5.2(2)	Peak Power Spectral Density	PASS
15.203	---	Antenna Requirement	Compliance
Note: The uncertainties value is not used in determining the result.			

3. GENERAL INFORMATION

The EUT's information described in this section are all provided by the applicant.

3.1. Description of Application

Applicant	Tonly Technology Co., Ltd. Section 37, Zhongkai High-tech Development Zone, Huizhou City, Guangdong Province, P.R. China
Manufacturer	Sony Group Corporation 1-7-1 Konan Minato-ku Tokyo, 108-0075 Japan
Product	WIRELESS SPEAKER
Model	YY7871E
Brand	SONY

3.2. Description of EUT

PMN	WIRELESS SPEAKER		
HVIN	YY7871E		
Test Model	YY7871E		
Serial Number	N/A		
Power Rating	AC 120V, 60Hz DC 7.2V by Lithium Battery		
Software Version	V4400		
RF Features	Bluetooth: BT and BLE		
Transmit Type	1T1R		
Sample Status	Trial sample		
Test Sample	Sample No.	Test Item	Firmware
	01	AC Conduction, RSE	N/A
	02	RF Conducted	N/A
	03	RSE	N/A
Date of Receipt	2026. 02. 12		
Date of Test	2026. 02. 26 ~ 03. 09		
Interface Ports of EUT	• One AC Port • One USB-C Port(For PC/Phone) • One USB-A Port (For USB DRIVE) • A serial of LINE 1 Ports(L/R) • One LINE 2 Port • One LINE OUT Port • MIC Port x 1		
Accessories Supplied	• AC Power Cord (2C)		

Note: Pursuant ISO 17025:2017 section 7.8.2, Audix Technology Corp. does not assume responsibility for all EUT's information including RF features, transmit type, antenna information...etc are provided by customer.

3.3. Reference Test Guidance

ANSI C63.10-2020 &ANSI C63.10-2020 + Cor.1-2023

3.4. Antenna Information

Antenna System	
Type of Antenna	PCB antenna
Antenna Peak Gain	2.73dBi

3.5. EUT Specifications Assessed in Current Report

Mode	Fundamental Range (MHz)	Channel Number	Modulation	Data Rate (Mbps)
BLE	2402-2480	40	GFSK	Up to 1
	2404-2478	37	GFSK	Up to 2

Channel List							
BLE							
Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)	Channel Number	Frequency (MHz)
0	2402	10	2422	20	2442	30	2462
1	2404	11	2424	21	2444	31	2464
2	2406	12	2426	22	2446	32	2466
3	2408	13	2428	23	2448	33	2468
4	2410	14	2430	24	2450	34	2470
5	2412	15	2432	25	2452	35	2472
6	2414	16	2434	26	2454	36	2474
7	2416	17	2436	27	2456	37	2476
8	2418	18	2438	28	2458	38	2478
9	2420	19	2440	29	2460	39	2480

3.6. Description of Key Components

Item	Applicant	Model No.	Spec
Bluetooth Module	Sunitec Technology Co., Limited	BMS003P	---
Battery*2	EVE Energy Co., Ltd.	B0868	DC 7.2V, 6000mAh

3.7. Test Configuration

Mode	TX _{on} (ms)	TX _{on+off} (ms)	Duty Cycle (x)	Duty Cycle Factor [10log(1/x)] (dB)
BLE (1Mbps)	0.376	0.624	0.603	2.197
BLE (2Mbps)	0.190	0.624	0.304	5.171

Note: When duty cycle is less than 98% (0.98) that duty cycle factor 10log(1/x) is needed to add in conducted test items measured in average detector.



Item	Mode
AC Conduction Test Case	Normal Operation Mode

Item	Mode
Radiated Test Case	Radiated Spurious Emission
	Normal Operation Mode

Item	Mode	Data Rate	Test Channel
Radiated Test Case	Radiated Spurious Emission (30MHz~1GHz) ^{Note 1,2}	BLE	1Mbps
		BLE	2Mbps
	Radiated Band Edge ^{Note1}	BLE	1Mbps
		BLE	2Mbps
	Radiated Spurious Emission ^{Note1& 2}	BLE	1Mbps
		BLE	2Mbps

Item	Mode	Data Rate	Test Channel
Conducted Test Case	DTS/Occupied Bandwidth	BLE	1Mbps
		BLE	2Mbps
	Peak Output Power	BLE	1Mbps
		BLE	2Mbps
	Band Edge	BLE	1Mbps
		BLE	2Mbps
	Spurious Emission	BLE	1Mbps
		BLE	2Mbps
	Peak Power Spectral Density	BLE	1Mbps
		BLE	2Mbps

Note 1: ☐ Mobile Device ☒ Portable Device and 2 axis were assessed.

The worst scenario for Radiated Spurious Emission as follow: ☐ Side ☒ Stand.

Note 2: Low, mid, and high channels were measured, only the worst channel of each modulation was presented in this report.

3.8. Output Power Setting

Mode	Centre Frequency (MHz)	Power Setting
BLE-1Mbps	2402	41.00
	2440	41.00
	2480	41.00
BLE-2Mbps	2404	61.00
	2440	61.00
	2478	61.00

3.9. Tested Supporting System List

3.9.1. Support Peripheral Unit

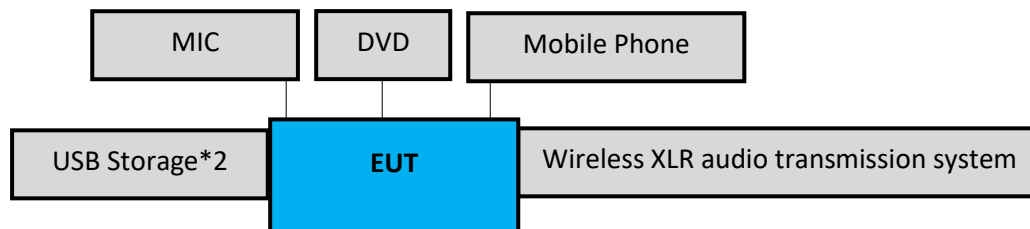
No.	Product	Brand	Model No.	Serial No.	Approval
1.	Notebook PC	ASUS	X1403Z	R1NOLP02A95005F	N/A
		Acer	N22Q3	NHQGETA0022280 EA417600	N/A
2.	DVD	SONY	BDP-S780	3201088	N/A
3.	Mobile Phone	APPLE	iPhone 16 Pro	N/A	N/A
4.	MIC	Philips	D094	N/A	N/A
5.	JIG	N/A	N/A	N/A	N/A
6.	USB Storage	Sandisk	extreme pro	N/A	N/A
7.	Wireless XLR audio transmission system	Positive Grid	Spark LINK XLR	N/A	N/A

3.9.2. Cable Lists

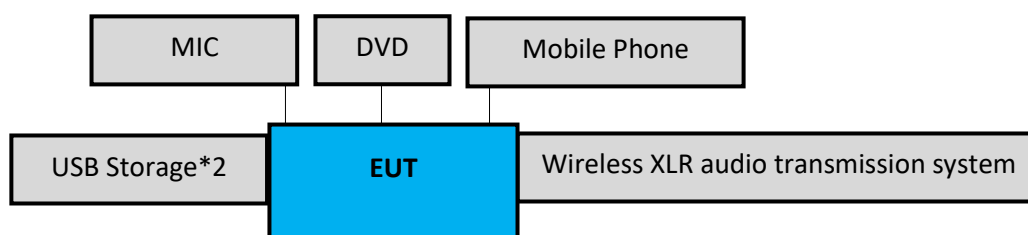
No.	Cable Description Of The Above Support Units
1.	USB A to C Cable: Unshielded, Detachable, 1.0 m AC Power Cord: Unshielded, Detachable, 1.8m
2.	AUX Cable: Shielded, Detachable, 1.5m AC Power Cord: Unshielded, Detachable, 1.8m
3.	USB-C Cable: Unshielded, Detachable, 1.2 m
4.	Audio Cable: Unshielded, Undetachable, 1.0 m

3.10. Setup Configuration

3.10.1. EUT Configuration for Power Line



3.10.2. EUT Configuration for Radiated Emission



3.10.3. EUT Configuration for RF Conducted Test Items



3.11. Operating Condition of EUT

Test program “MT2833_Airoha_Tool_Kit(ATK)_v3.0.35.1” is used for enabling EUT BT function under continues transmitting and choosing data rate/ channel.

3.12. Description of Test Facility

Name of Test Firm	Audix Technology Corporation / EMC Department No. 491, Zhongfu Rd., Linkou Dist., New Taipei City 244, Taiwan Tel: +886-2-26092133 Fax: +886-2-26099303 Website : www.audixtech.com Contact e-mail: attemc_report@audixtech.com
Accreditations	The laboratory is accredited by following organizations under ISO/IEC 17025:2017 (1) NVLAP(USA) NVLAP Lab Code 200077-0 (2) TAF(Taiwan) No. 1724
Test Facilities	FCC OET Designation Number under APEC MRA by NCC is : TW1724 ISED CAB Identifier Number under APEC TEL MRA by NCC is TW1724 (1) No.8 Shielded Room (2) No.1 3m Semi Anechoic Chamber

3.13.Measurement Uncertainty

The measurement uncertainty levels have been estimated as specified in ETSI TR 100 028-2001

Test Items/Facilities			Frequency Range	Uncertainty
Conduction Test	☐	No. 7 Shielded Room	9kHz-150kHz	±3.7dB
			150kHz-30MHz	±3.4dB
	☒	No. 8 Shielded Room	9kHz-150kHz	±3.7dB
			150kHz-30MHz	±3.4dB
Radiation Test	☒	No.1 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.0dB
			200MHz-1000MHz, 3m, Horizontal	±4.0dB
			30MHz-200MHz, 3m, Vertical	±4.8dB
			200MHz-1000MHz, 3m, Vertical	±4.5dB
			1GHz-6GHz, 3m	±4.2dB
			6GHz-18GHz, 3m	±4.0dB
	☐	No.3 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.3dB
			200MHz-1000MHz, 3m, Horizontal	±4.0dB
			30MHz-200MHz, 3m, Vertical	±4.7dB
			200MHz-1000MHz, 3m, Vertical	±4.5dB
			1GHz-6GHz, 3m	±4.7dB
			6GHz-18GHz, 3m	±4.4dB
	☐	No.4 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±3.9dB
			200MHz-1000MHz, 3m, Horizontal	±3.9dB
			30MHz-200MHz, 3m, Vertical	±4.6dB
			200MHz-1000MHz, 3m, Vertical	±4.3dB
			1GHz-6GHz, 3m	±4.6dB
			6GHz-18GHz, 3m	±4.1dB
	☐	No.5 3m Semi Anechoic Chamber	30MHz-200MHz, 3m, Horizontal	±4.4dB
			200MHz-1000MHz, 3m, Horizontal	±4.2dB
			30MHz-200MHz, 3m, Vertical	±4.9dB
			200MHz-1000MHz, 3m, Vertical	±5.1dB
			1GHz-6GHz, 3m	±4.4dB
			6GHz-18GHz, 3m	±4.0dB
	Radiated emissions (18GHz-40GHz)		18GHz-40GHz, 3m	±3.6dB

Remark : Uncertainty = $k_{uc}(y)$

Test Item	Uncertainty
Bandwidth	±0.48%
Maximum peak output power	± 0.8dB
Power spectral density	±0.5dB
Conducted Emission Limitations	±1.24 dB

4. MEASUREMENT EQUIPMENT LIST

4.1. Conducted Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Test Receiver	R&S	ESR3	101774	2025.12.30	1 Year
2.	A.M.N.	R&S	ENV432	101567	2025.06.04	1 Year
3.	L.I.S.N.	Kyoritsu	KNW-407	8-1370-9	2026.01.29	1 Year
4.	Pulse Limiter	R&S	ESH3-Z2	100354	2025.12.04	1 Year
5.	Digital Thermo-Hygro Meter	iMax	HTC-1	No.8 S/R	2025.04.09	1 Year
6.	Signal Cable	Yeida	RG/58AU	CE-08	2025.09.03	1 Year
7.	Test Software	Audix	e3	V9 18621a	N.C.R.	N.C.R.

4.2. Radiated Emission Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Agilent	N9010A-526	MY53400071	2025.08.07	1 Year
2.	Test Receiver	R&S	ESR3	101774	2025.12.30	1 Year
3.	Microwave Preamplifier	HP	8449B	3008A01284	2025.07.07	1 Year
4.	Microwave Amplifier	Keysight	83051A	MY56480113	2025.09.05	1 Year
5.	Amplifier	HP	8447D	2944A06305	2025.12.11	1 Year
6.	Loop antenna	TESEQ	HLA 6121	60478	2025.06.05	1 Year
7.	Bilog Antenna	TESEQ	CBL6112D	33821	2026.02.06	1 Year
8.	Horn Antenna	COM-POWER	AH-840	10090054	2025.09.03	1 Year
9.	Horn Antenna	EMCO	3115	9112-3775	2025.05.06	1 Year
10.	Notch Filter	K&L Microwave	7NSL10-2441.5/E13 0.5-O/O	1	2025.04.10	1 Year
11.	High-Pass Filter	Microwave	H3G018G1	484796	2025.04.10	1 Year
12.	Coaxial Cable	MIYAZAKI	5D2W	RE-11	2026.01.02	1 Year
13.	Coaxial Cable	HUBER+SUHNER	SUCOFLEX 106	RE-14	2025.12.17	1 Year
14.	Coaxial Cable	HUBER+SUHNER	SUCOFLEX 102	RE-30	2025.08.19	1 Year
15.	Digital Thermo-Hygro Meter	iMax	HTC-1	No.1 3m A/C	2025.04.09	1 Year
16.	Test Software	Audix	e3	V9 18621a	N.C.R.	N.C.R.

4.3. RF Conducted Measurement

Item	Type	Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Interval
1.	Spectrum Analyzer	Keysight	N9020B	MY57120357	2026.01.27	1 Year
2.	Power Meter	Anritsu	ML2495A	2127005	2025.11.12	1 Year
3.	Power Sensor	Anritsu	MA2411B	1911360	2025.11.18	1 Year
4.	Digital Thermo-Hygro Meter	iMax	HTC-1	RF-03	2025.04.09	1 Year

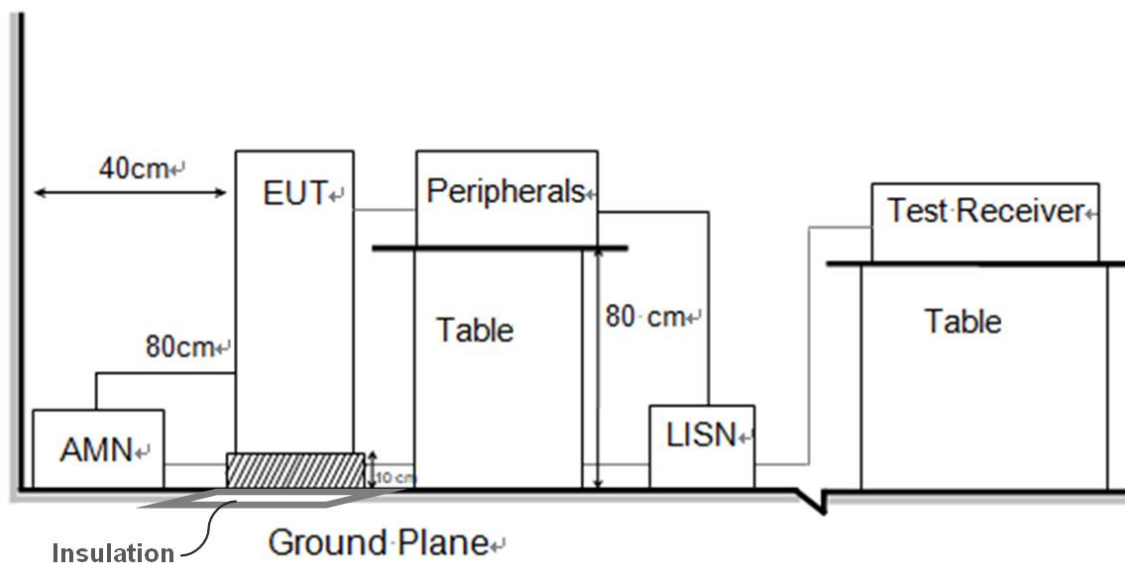
5. CONDUCTED EMISSION

5.1. Block Diagram of Test Setup

5.1.1. Block Diagram of EUT

Indicated as section 3.10

5.1.2. Shielded Room Setup Diagram



5.2. Conducted Emission Limit

Frequency	Conducted Limit	
	Quasi-Peak Level	Average Level
150kHz ~ 500kHz	66 ~ 56 dB μ V	56 ~ 46 dB μ V
500kHz ~ 5MHz	56 dB μ V	46 dB μ V
5MHz ~ 30MHz	60 dB μ V	50 dB μ V

Remark1.: If the average limit is met when using a Quasi-Peak detector, the measurement using the average detector is not required.

2.: The lower limit applies to the band edges.

5.3. Test Procedure

- 5.3.1. To set up the EUT as indicated in ANSI C63.10. The EUT was placed on the table which has 10 cm height to the ground and 40 cm distance to the conducting wall.
- 5.3.2. Power supplier of the EUT was connected to the AC mains through an Artificial Mains Network (A.M.N.).
- 5.3.3. The AC power supplies to all peripheral devices must be provided through line impedance stabilization network (L.I.S.N.)
- 5.3.4. Checking frequency range from 150kHz to 30 MHz and record the emission which does not have 20 dB below limit.

5.4. Test Results

Please refer to Appendix A.

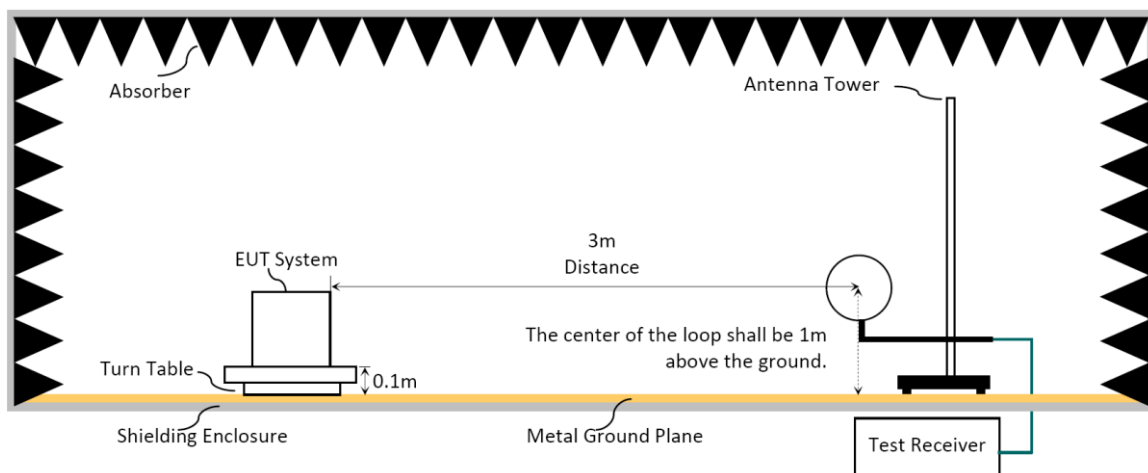
6. RADIATED EMISSION

6.1. Block Diagram of Test Setup

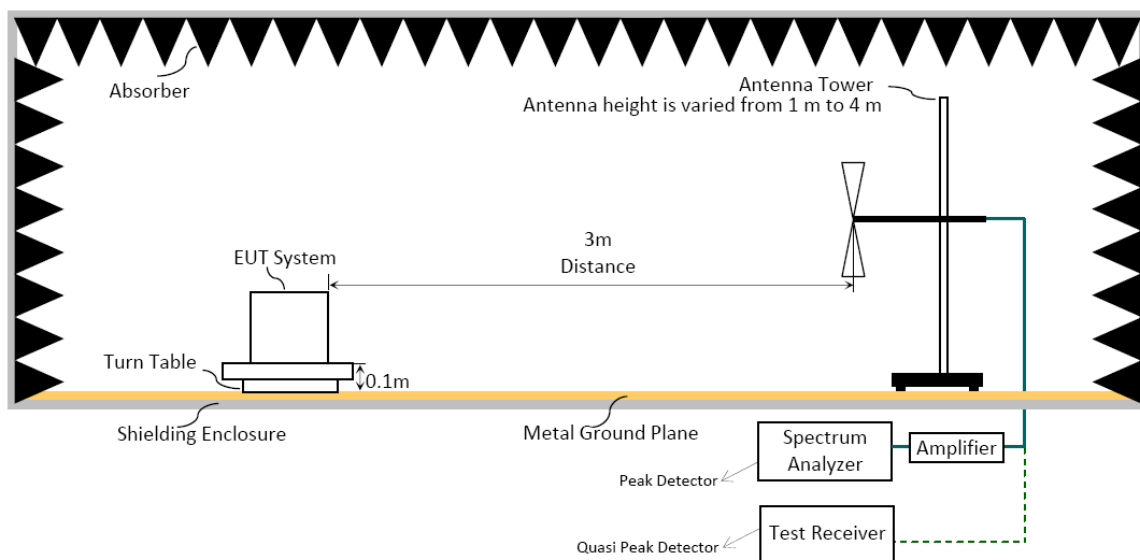
6.1.1. Block Diagram of EUT

Indicated as section 3.10

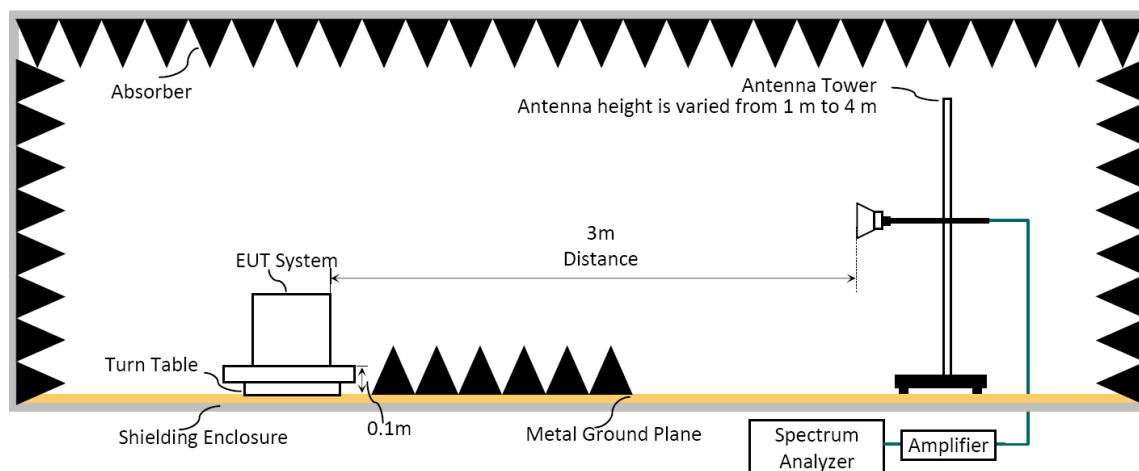
6.1.2. Setup Diagram for 9kHz-30MHz



6.1.3. Setup Diagram for 30-1000MHz



6.1.4. Setup Diagram for above 1GHz



6.2. Radiated Emission Limits

In any 100kHz bandwidth outside the frequency band, the radio frequency power produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205/RSS-Gen Section 8.10 table 6, must also comply with the radiated emission limits specified as below.

Frequency (MHz)	Distance(m)	Limits	
		dBμV/m	μV/m
0.009 - 0.490	300	67.6-20 log f(kHz)	2400/f kHz
0.490 - 1.705	30	87.6-20 log f(kHz)	24000/f kHz
1.705 - 30	30	29.5	30
30 - 88	3	40.0	100
88- 216	3	43.5	150
216- 960	3	46.0	200
Above 960	3	54.0	500
Above 1000	3	74.0 dBμV/m (Peak) 54.0 dBμV/m (Average)	

Remark : (1) $\text{dB}\mu\text{V/m} = 20 \log (\mu\text{V/m})$

- (2) The tighter limit applies to the edge between two frequency bands.
- (3) Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- (4) Fundamental and emission fall within operation band are exempted from this section.
- (5) Pursuant to ANSI C63.10: 6.6.4.3, if the maximized peak measured value complies with the average limit, then it is unnecessary to perform an average measurement.

6.3. Test Procedure

Frequency Range 9kHz~30MHz:

The EUT setup on the turntable which has 0.1m height to the ground. The turn table rotated 360 degrees and antenna fixed to 1 m to find the maximum emission level. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2020 & ANSI C63.10-2020 + Cor.1-2023 regulation.

- (1) RBW = 9kHz with peak and average detector.
- (2) Detector: average and peak (9kHz-490kHz)
Q.P. (490kHz-30MHz)

Frequency Range 30MHz ~ 25GHz:

The EUT setup on the turn table which has 0.1m height to the ground. The turn table rotated 360 degrees and antenna varied from 1 m to 4 m to find the maximum emission level. Both horizontal and vertical polarization are required. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10-2020 & ANSI C63.10-2020 + Cor.1-2023 regulation.

Frequency below 1GHz:

Spectrum Analyzer is used for pre-testing with following setting:

- (1) RBW = 120KHz
- (2) VBW $\geq 3 \times$ RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.

Note 1: When peak-detected value is lower than limit that the measurement using the Q.P. detector is not required, otherwise using Q.P. for final measurement.

Note 2: When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds.

Frequency above 1GHz to 10th harmonic(up to 25 GHz):

Peak Detector:

- (1) RBW = 1MHz
- (2) VBW $\geq 3 \times$ RBW.
- (3) Detector = Peak.
- (4) Sweep time = auto.
- (5) Trace mode = max hold.
- (6) Allow sweeps to continue until the trace stabilizes.

Note: When peak-detected value is lower than limit that the measurement using the average detector is not required, otherwise using average detector for final measurement.

Average Detector:☒ **Option 1:**

(1) RBW = 1MHz

(2) VBW $\geq 1/T$. (Duty Cycle < 98%, when duty cycle presented in section 3.7)

Modulation Type	VBW Setting (VBW $\geq 1/T$)
BLE (1Mbps)	2.7kHz
BLE (2Mbps)	5.6kHz

(3) VBW = 10Hz (Duty Cycle $\geq 98\%$, when duty cycle presented in section 3.7)

(4) Sweep time = auto.

(5) Trace mode = max hold.

(6) Allow sweeps to continue until the trace stabilizes.

☐ **Option 2:**

Average Emission Level = Peak Emission Level + D.C.C.F.

6.4. Measurement Result Explanation

☒ Peak Emission Level (dB μ V/m) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB) + Reading (dB μ V).

☒ Average Emission Level (dB μ V/m) = Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB) + Reading (dB μ V).

☐ Average Emission Level (dB μ V/m) = Peak Emission Level (dB μ V/m) + DCCF (dB)
Duty Cycle Correction Factor (DCCF) (dB) = $20\log(TX_{on}/TX_{on+off})$ presented in section 3.7.

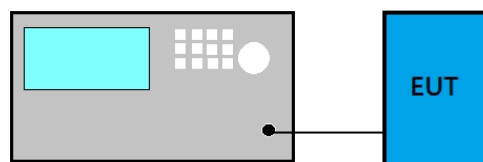
☐ ERP (dBm) = Peak Emission Level (dB μ V/m) - 95.2dB - 2.14dB

6.5. Test Results

Please refer to Appendix A.

7. DTS/OCCUPIED BANDWIDTH

7.1. Block Diagram of Test Setup



7.2. Specification Limits

The minimum bandwidth shall be at least 500kHz.

7.3. Test Procedure

Following measurement procedure is reference to ANSI C63.10-2020 & ANSI C63.10-2020 + COR.1-2023:

For DTS Bandwidth

- (1) Set RBW shall be in the range of 1% to 5% of the OBW, but not less than 100kHz.
- (2) Set the video bandwidth (VBW) $\geq 3 \times \text{RBW}$.
- (3) Detector = Peak.
- (4) Trace mode = max hold.
- (5) Sweep = auto couple.
- (6) Allow the trace to stabilize.
- (7) Setting channel bandwidth function x to -6dB power to record the final bandwidth..

For 99% Occupied Bandwidth

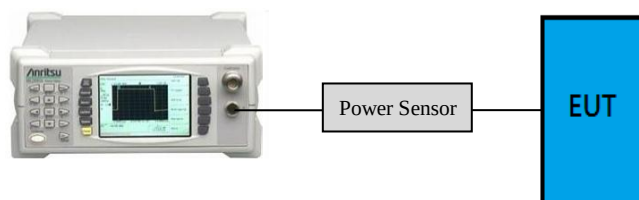
- (1) Set Span range 1.5~5 times the OBW
- (2) Set RBW close to 1% to 5% of OBW.
- (3) Set $\text{VBW} \geq 3 \times \text{RBW}$.
- (4) Detector = Peak.
- (5) Trace mode = Max hold
- (6) Sweep = Auto couple.
- (7) Allow the trace to stabilize.

7.4. Test Results

Please refer to Appendix A

8. MAXIMUM PEAK OUTPUT POWER

8.1. Block Diagram of Test Setup



8.2. Specification Limits

The Limits of maximum Peak Output Power for digital modulation in 2400-2483.5MHz is : 1Watt. (30dBm), and E.I.R.P.: 4Watt (36dBm)

8.3. Test Procedure

Following measurement procedure is reference to ANSI C63.10-2020 & ANSI C63.10-2020 + COR.1-2023:

☒ **PKPM1 Peak power meter method:**

EUT is connected to power sensor and record the maximum output power.

☐ **Maximum peak conducted output power method:**

- (1) Set the RBW $\geq$ DTS bandwidth
- (2) Set VBW $\geq 3 \times$ RBW
- (3) Set span $\geq 3 \times$ RBW.
- (4) Sweep time = auto couple
- (5) Detector = peak.
- (6) Trace mode = max hold.
- (7) Allow trace to fully stabilize.
- (8) Use peak marker function to determine the peak amplitude level.

☒ **Method AVGPM (Measurement using an RF average power meter):**

EUT is connected to power sensor and record the maximum average output power and duty cycle factor is added when duty cycle presented in section 3.7 is $< 98\%$.

☐ **Method AVGSA-2 (Spectrum channel power)**

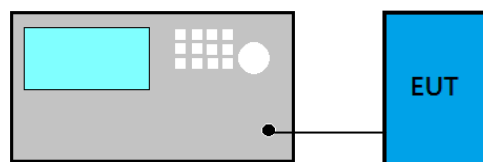
- (1) Set span to at least 1.5 times the OBW
- (2) Set RBW = 1 -5% of OBW
- (3) Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
- (4) Detector = RMS.
- (5) Trace mode = trace average at least 100 traces
- (6) Sweep = auto couple.
- (7) Compute power by integrating the spectrum across the OBW of the signal using the instrument's band power measurement function with band limits set equal to the OBW band edges.
- (8) Duty cycle factor is added when duty cycle presented in section 3.7 is $< 98\%$.

8.4. Test Results

Please refer to Appendix A

9. EMISSION LIMITATIONS

9.1. Block Diagram of Test Setup



9.2. Specification Limits

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, that the required attenuation shall be 30 dB instead of 20 dB.

Attenuation below the general limits specified in Section 15.209(a)/RSS-Gen Section 8.9 table 4 is not required. In addition, radiated emissions which fall in restricted bands, as defined in Section 15.205(a)/RSS-Gen Section 8.10 table 6, must also comply with the radiated emission limits specified in Section 15.209(a)/RSS-Gen Section 8.9 table 4 (See Section 15.205(c)).

9.3. Test Procedure

Following measurement procedure is reference to ANSI C63.10-2020 & ANSI C63.10-2020 + Cor.1-2023:

☒ Reference Level

- (1) Set analyzer center frequency to DTS channel center frequency.
- (2) Set the span to 1.5 times the DTS bandwidth.
- (3) Set the RBW to: 100 kHz.
- (4) Set the VBW $\geq 3 \times$ RBW.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize to find the max PSD as reference level.

☑Emission Level Measurement

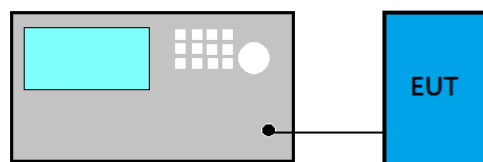
- (1) Set analyzer center frequency to DTS channel center frequency.
- (2) Set the span to 1.5 times the DTS bandwidth.
- (3) Set the RBW to: 100 kHz.
- (4) Set the VBW $\geq 3 \times$ RBW.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize to find the max level.

9.4. Test Results

Please refer to Appendix A

10. POWER SPECTRAL DENSITY

10.1. Block Diagram of Test Setup



10.2. Specification Limits

The peak power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band.

10.3. Test Procedure

Following measurement procedure is reference to ANSI C63.10-2020 & ANSI C63.10-2020 + Cor.1-2023:

☒ Method PKPSD (peak PSD)

- (1) Set analyzer center frequency to DTS channel center frequency.
- (2) Set the span to 1.5 times the DTS bandwidth.
- (3) Set the RBW to: $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
- (4) Set the VBW $\geq 3 \times \text{RBW}$.
- (5) Detector = peak.
- (6) Sweep time = auto couple.
- (7) Trace mode = max hold.
- (8) Allow trace to fully stabilize.
- (9) Use the peak marker function to determine the maximum amplitude level.
- (10) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

☐ Method AVGPSD-2

- (1) Using peak PSD procedure step 1 to step 4.
- (2) Detector = RMS detector
- (3) Sweep time = auto couple
- (4) Trace mode = trace averaging over a minimum of 100 traces
- (5) Use the peak marker function to determine the maximum amplitude level.
- (6) Duty cycle factor is added when duty cycle presented in section 3.7 < 98%.
- (7) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

10.4. Test Results

Please refer to Appendix A



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

Tel: +886 2 26099301
Fax: +886 2 26099303

11.DEVIATION TO TEST SPECIFICATIONS

【NONE】



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

APPENDIX A

Tel: +886 2 26099301
Fax: +886 2 26099303

APPENDIX A

TEST DATA AND PLOTS

(Model: YY7871E)



Audix Technology Corp.
No. 491, Zhongfu Rd., Linkou Dist.,
New Taipei City 244, Taiwan

APPENDIX B

Tel: +886 2 26099301
Fax: +886 2 26099303

APPENDIX B

TEST PHOTOGRAPHS

(Model: YY7871E)