

# TEST REPORT

Report No.: BCTC2506836890E

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Applicant: CAD Audio, LLC

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Product Name: Wireless Microphone

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Test Model: WX1000

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Tested Date: 2025-06-18 to 2025-07-25

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Issued Date: 2025-07-28

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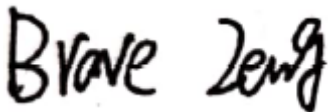
**Shenzhen BCTC Testing Co., Ltd.**



**FCC ID: OQ5-WX1000BP**

Product Name: Wireless Microphone  
Trademark: N/A  
Model/Type Reference: WX1000  
Model/Type Reference: WX1000HH, WX1000BP, WX1000GN, WX1000HW, WX1400, WX1400HH, WX1400BP, WX1400GN, WX1400HW  
Prepared For: CAD Audio, LLC  
Address: 6573 Cochran Rd., Bldg I, Solon Ohio, 44139, United States  
Manufacturer: Enping Lane Electronics Technology CO., Ltd  
Address: NO. 11/B, Enping Foreign and Private Capital Industry Zone, Guangdong  
Prepared By: Shenzhen BCTC Testing Co., Ltd.  
Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China  
Sample Received Date: 2025-06-18  
Sample Tested Date: 2025-06-18 to 2025-07-25  
Issue Date: 2025-07-28  
Report No.: BCTC2506836890E  
Test Standards: FCC Part15.236  
Test Results: PASS

Tested by:



Brave Zeng/ Project Handler

Approved by:



Zero Zhou/Reviewer

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(Note: N/A Means Not Applicable)

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**1. Version**

Report No.	Issue Date	Description	Approved
BCTC2506836890E	2025-07-28	Original	Valid



## 2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	Conducted Emission	15.207	N/A
2	Radiated Spurious Emission	15.236(g)	PASS
3	RF Output Power (EIRP)	15.236(d)	PASS
4	99% Occupied Bandwidth	15.236(f)(2)	PASS
5	Emission Mask (Necessary Bandwidth)	15.236(g)	PASS
6	Frequency Tolerance	15.236(f)(3)	PASS

Note: "N/A" means not applicable.

### 3. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Uncertainty
1	3m chamber Radiated spurious emission(9kHz-30MHz)	U=3.7dB
2	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
3	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
4	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
5	Conducted Emission(150kHz-30MHz)	U=3.20dB
6	Conducted Adjacent channel power	U=1.38dB
7	Conducted output power uncertainty Above 1G	U=1.576dB
8	Conducted output power uncertainty below 1G	U=1.28dB
9	humidity uncertainty	U=5.3%
10	Temperature uncertainty	U=0.59°C

## 4. Product Information And Test Setup

### 4.1 Product Information

Model/Type Reference:	WX1000 WX1000HH, WX1000BP, WX1000GN, WX1000HW, WX1400, WX1400HH, WX1400BP, WX1400GN, WX1400HW
Model Differences:	All the model are the same circuit and RF module, except model names.
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	555.1MHz-579.85MHz
Type of Modulation:	FM <input checked="" type="checkbox"/> Analogue Systems <input type="checkbox"/> Digital Systems
Number Of Channel	100CH
Antenna installation:	External antenna 2dBi
Antenna Gain:	Remark: <input checked="" type="checkbox"/> The antenna gain of the product comes from the antenna report provided by the customer, and the test data is affected by the customer information. <input type="checkbox"/> The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
Ratings:	DC 3V from battery

### 4.2 Test Setup Configuration

See test photographs attached in *EUT TEST SETUP PHOTOGRAPHS* for the actual connections between Product and support equipment.

### 4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	Wireless Microphone	N/A	WX1000	N/A	EUT

#### Notes:

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.



#### 4.4 Channel List

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	555.1	34	563.6	67	571.85
1	555.35	35	563.85	68	572.1
2	555.6	36	564.1	69	572.35
3	555.85	37	564.35	70	572.6
4	556.1	38	564.6	71	572.85
5	556.35	39	564.85	72	573.1
6	556.6	40	565.1	73	573.35
7	556.85	41	565.35	74	573.6
8	557.1	42	565.6	75	573.85
9	557.35	43	565.85	76	574.1
10	557.6	44	566.1	77	574.35
11	557.85	45	566.35	78	574.6
12	558.1	46	566.6	79	574.85
13	558.35	47	566.85	80	575.1
14	558.6	48	567.1	81	575.35
15	558.85	49	567.35	82	575.6
16	559.1	50	567.6	83	575.85
17	559.35	51	567.85	84	576.1
18	559.6	52	568.1	85	576.35
19	559.85	53	568.35	86	576.6
20	560.1	54	568.6	87	576.85
21	560.35	55	568.85	88	577.1
22	560.6	56	569.1	89	577.35
23	560.85	57	569.35	90	577.6
24	561.1	58	569.6	91	577.85
25	561.35	59	569.85	92	578.1
26	561.6	60	570.1	93	578.35
27	561.85	61	570.35	94	578.6
28	562.1	62	570.6	95	578.85
29	562.35	63	570.85	96	579.1
30	562.6	64	571.1	97	579.35
31	562.85	65	571.35	98	579.6
32	563.1	66	571.6	99	579.85
33	563.35				

#### 4.5 Test Mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test Mode	Description
Mode 1	Transmitting (CH00: 555.1 MHz)
Mode 2	Transmitting (CH49: 567.35 MHz)
Mode 3	Transmitting (CH99: 579.85 MHz)

**Note:**

- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) Fully-charged battery is used during the test

## 5. Test Facility And Test Instrument Used

### 5.1 Test Facility

All measurement facilities used to collect the measurement data are located at Shenzhen BCTC Testing Co., Ltd. Address: 1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China. The site and apparatus are constructed in conformance with the requirements of ANSI C63.4 and CISPR 16-1-1 other equivalent standards.

FCC Test Firm Registration Number: 712850

A2LA certificate registration number is: CN1212

ISED Registered No.: 23583

ISED CAB identifier: CN0017

### 5.2 Test Instrument Used

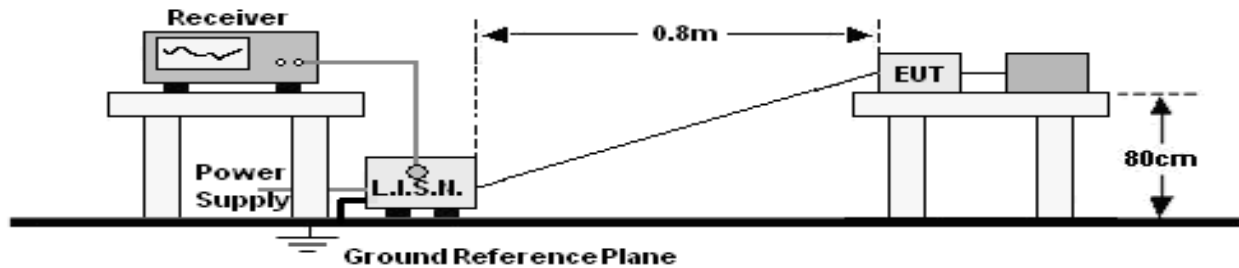
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 14, 2025	May 13, 2026
Power Sensor (AV)	Keysight	E9300A	\	May 14, 2025	May 13, 2026
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 14, 2025	May 13, 2026
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 14, 2025	May 13, 2026

Radiated Emissions Test (966 Chamber02)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	SKET	966 Room	966	Oct. 31. 2024	Oct. 30. 2027
Receiver	R&S	ESR3	102075	May 08, 2025	May 07, 2026
Receiver	R&S	ESR317	100010	Oct. 31. 2024	Oct. 30. 2025
Amplifier	SKET	LNPA-30M01 G-30	SK2021082004	Oct. 31. 2024	Oct. 30. 2025
TRILOG Broadband Antenna	Schwarzbeck	VULB9168	1323	May 24, 2025	May 23, 2026
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 24, 2025	May 23, 2026
Amplifier	SKET	LAPA_01G18 G-45dB	SK202104090 1	May 14, 2025	May 13, 2026
Horn Antenna	Schwarzbeck	BBHA9120D	1541	May 24, 2025	May 23, 2026
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 14, 2025	May 13, 2026
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	May 24, 2025	May 23, 2026
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 14, 2025	May 13, 2026
Software	Frad	EZ-EMC	FA-03A2 RE	\	\

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## 6. Conducted Emissions

### 6.1 Block Diagram Of Test Setup



### 6.2 Limit

FREQUENCY (MHz)	Limit (dBuV)	
	Quas-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

Notes:

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

### 6.3 Test Procedure

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

- The Product was placed on a nonconductive table 0.8 m above the horizontal ground reference plane, and 0.4 m from the vertical ground reference plane, and connected to the main through Line Impedance Stability Network (L.I.S.N.).
- The RBW of the receiver was set at 9 kHz in 150 kHz ~ 30MHz with Peak and AVG detector in Max Hold mode. Run the receiver's pre-scan to record the maximum disturbance generated from Product in all power lines in the full band.
- For each frequency whose maximum record was higher or close to limit, measure its QP and AVG values and record.

## 6.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

## 6.5 Test Result

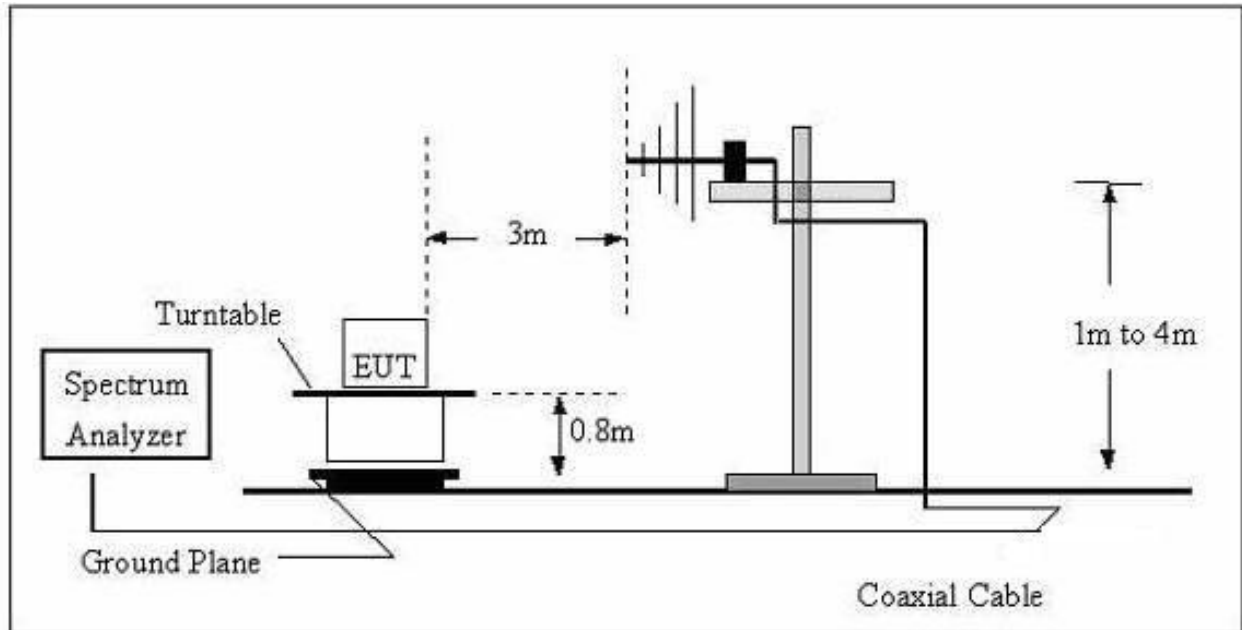
The EUT is powered by the DC only, the test item is not applicable.



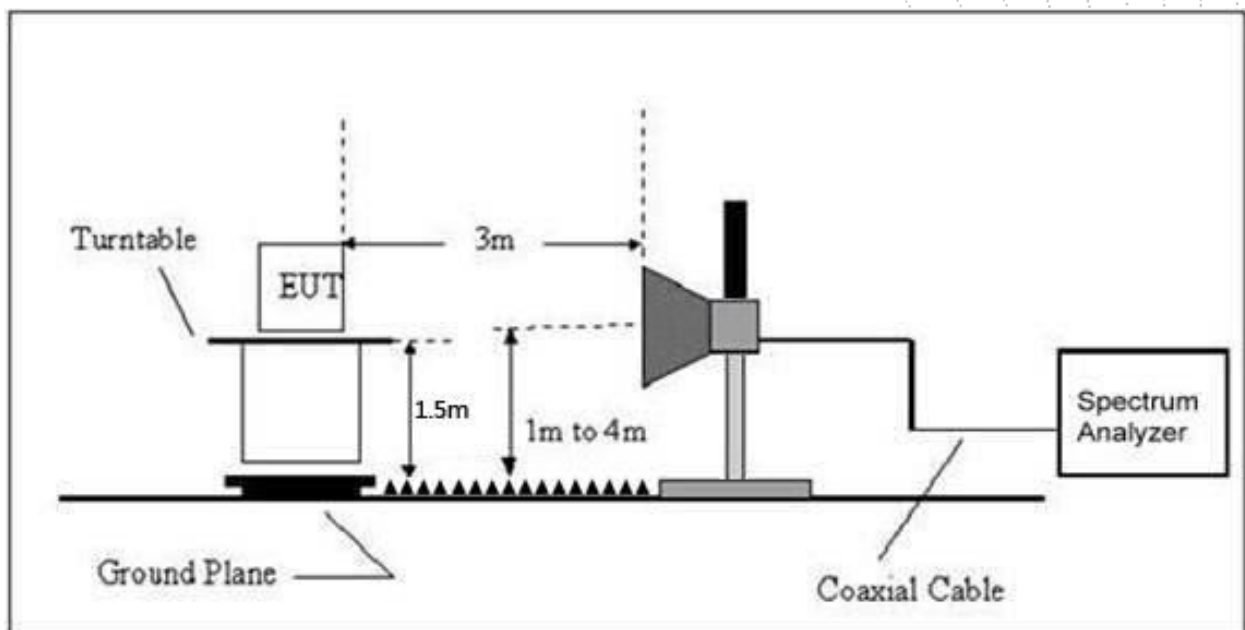
## 7. Radiated Emissions

### 7.1 Block Diagram Of Test Setup

(A) Radiated Emission Test-Up Frequency 30MHz~1GHz



(B) Radiated Emission Test-Up Frequency Above 1GHz





## 7.2 Limit

According to FCC 15.236(g)(4), Emissions outside of the emission masks listed in paragraphs (g)(1) through (g)(3) shall comply with the limits specified in section 4.2.4.1.2 of ETSI EN 300 422-1 V2.2.1 (2021-11), (incorporated by reference, see § 15.38).

**Table 4: Transmitter unwanted emission limits  
(from ERC Recommendation 74-01 [2])**

Frequency range	Maximum power	RBW
9 kHz - 150 kHz	-36 dBm	1 kHz
150 kHz - 30 MHz	-36 dBm	10 kHz
30 MHz - 1 GHz	-36 dBm	$F_c + 2,5 B \leq f \leq f_c + 4 B$ : 1 kHz $F_c + 4 B < f \leq f_c + 10 B$ : 10 kHz $f > f_c + 10 B$ : 100 kHz $f < f_c - 10 B$ : 100 kHz $f_c - 10 B \leq f < f_c - 4 B$ : 10 kHz $f_c - 4 B \leq f \leq f_c - 2,5 B$ : 1 kHz
except:		
47 MHz - 74 MHz 87,5 MHz - 118 MHz	-54 dBm	100 kHz
174 MHz - 230 MHz 470 MHz - 862 MHz	-54 dBm	$F_c + 2,5 B \leq f \leq f_c + 4 B$ : 1 kHz $F_c + 4 B < f \leq f_c + 10 B$ : 10 kHz $f > f_c + 10 B$ : 100 kHz $f < f_c - 10 B$ : 100 kHz $f_c - 10 B \leq f < f_c - 4 B$ : 10 kHz $f_c - 4 B \leq f \leq f_c - 2,5 B$ : 1 kHz
$1 \text{ GHz} < f \leq F_{\text{upper}}$	-30 dBm	$F_c + 2,5 B \leq f \leq f_c + 10 B$ : 30 kHz $F_c + 10 B < f \leq f_c + 12 B$ : 300 kHz $f > f_c + 12 B$ : 1 MHz $f < f_c - 12 B$ : 1 MHz $f_c - 12 B \leq f < f_c - 10 B$ : 300 kHz $f_c - 10 B \leq f \leq f_c - 2,5 B$ : 30 kHz



### 7.3 Test Procedure

Below 1GHz test procedure as below:

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

- a. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the Highest channel.

Note: Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported.

### 7.4 EUT Operating Conditions

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.

## 7.5 Test Result

9KHz – 30MHz

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	DC 3V
Test Mode :	Mode 1(The Worst data)	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

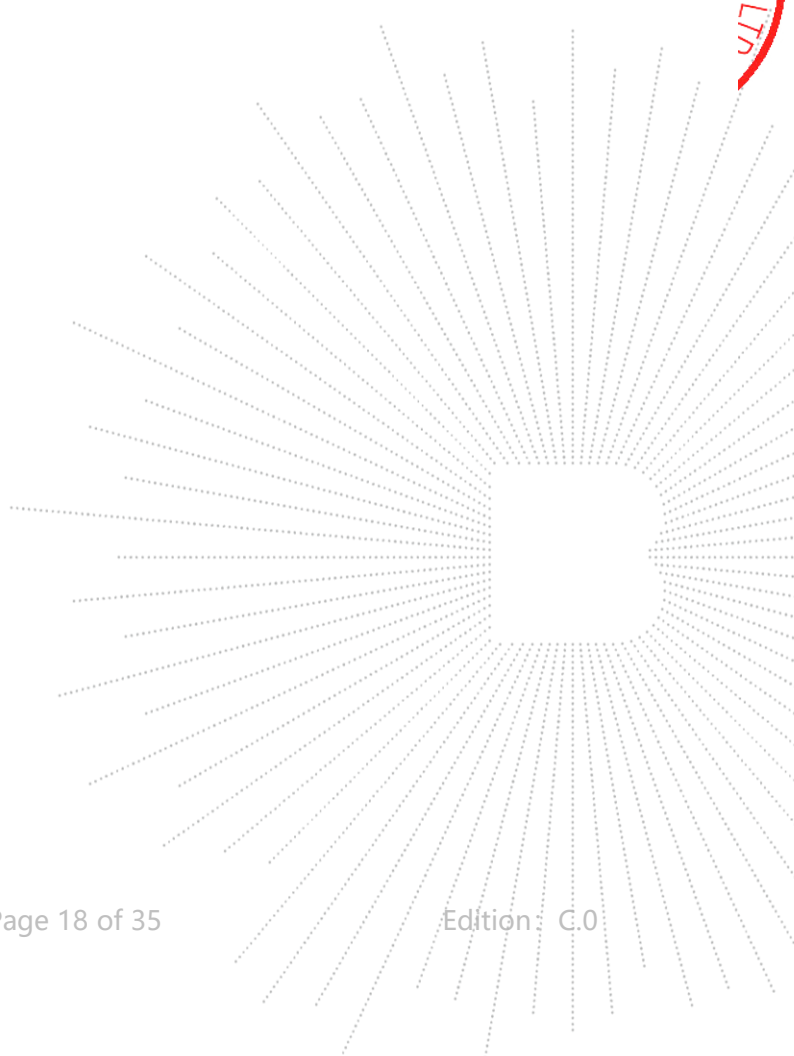
### Note:

The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log (\text{specific distance/test distance})$ (dB);

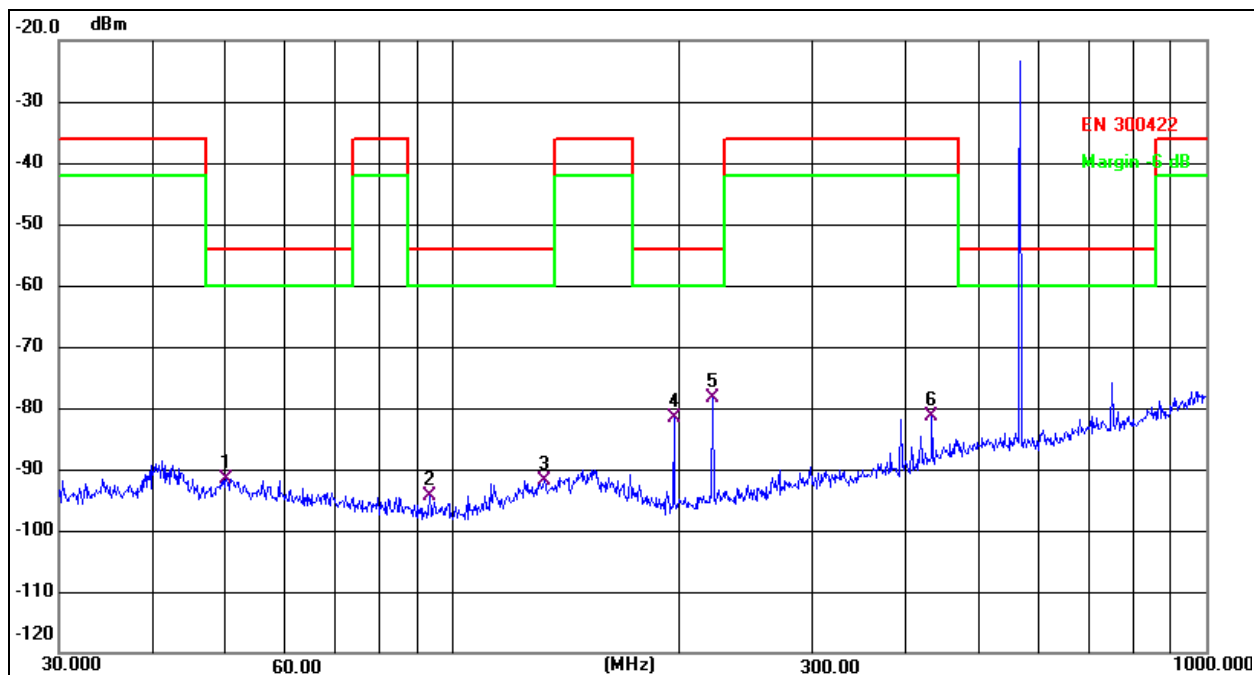
Limit line = specific limits(dBuV) + distance extrapolation factor.

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Between 30MHz – 1GHz

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Frequency	The worst data(Mode 1)	Remark:	N/A

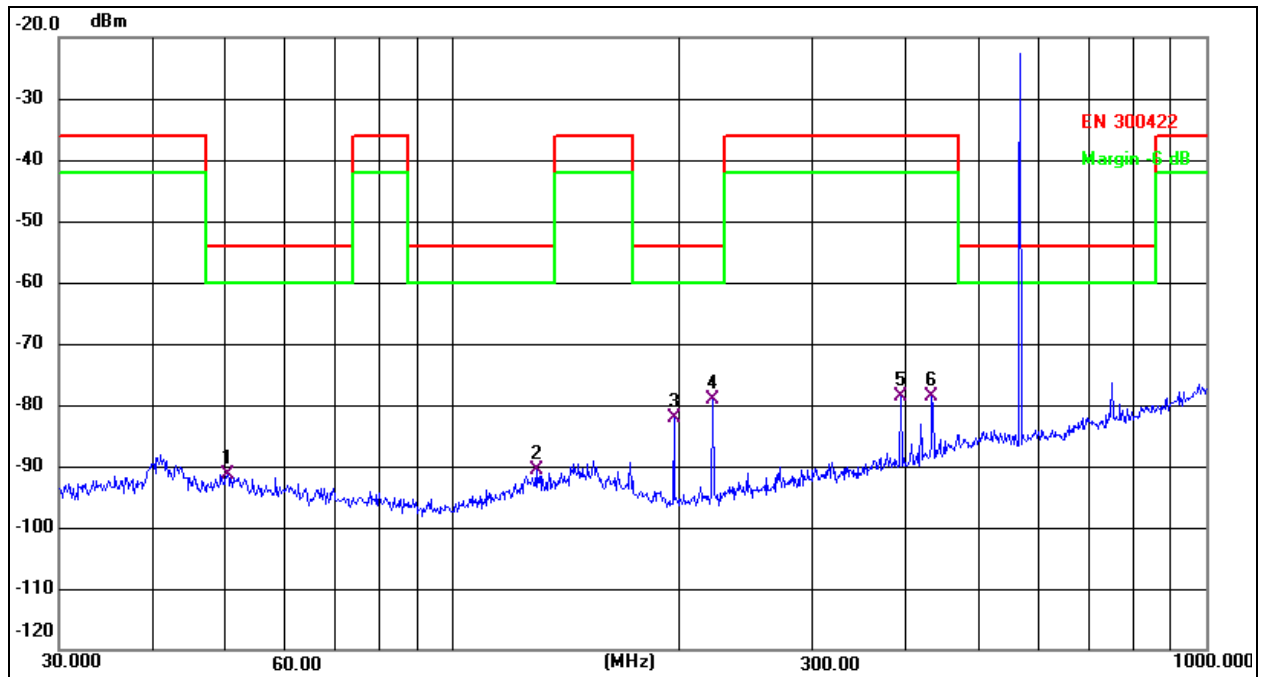


Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	50.0566	-79.85	-11.71	-91.56	-54.00	-37.56	QP
2	93.1132	-79.11	-15.25	-94.36	-54.00	-40.36	QP
3	132.2206	-79.71	-12.09	-91.80	-54.00	-37.80	QP
4	196.5098	-67.37	-14.34	-81.71	-54.00	-27.71	QP
5 *	221.3921	-64.64	-13.66	-78.30	-54.00	-24.30	QP
6	432.5457	-74.52	-6.77	-81.29	-36.00	-45.29	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Frequency	The worst data(Mode 1)	Remark:	N/A



Remark:

1. Factor = Antenna Factor + Cable Loss – Pre-amplifier.
2. Measurement=Reading Level+ Correct Factor
3. Over=Measurement-Limit

No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector
1	50.2324	-79.66	-11.73	-91.39	-54.00	-37.39	QP
2	129.0146	-78.28	-12.30	-90.58	-54.00	-36.58	QP
3	196.5098	-67.74	-14.34	-82.08	-54.00	-28.08	QP
4 *	221.3921	-65.34	-13.66	-79.00	-54.00	-25.00	QP
5	393.4723	-70.37	-8.27	-78.64	-36.00	-42.64	QP
6	432.5457	-71.93	-6.77	-78.70	-36.00	-42.70	QP

## Above 1GHz

Polar (H/V)	Frequency	Reading Level	Correct Factor	Measure- ment	Limits	Margin	Detector Type
	(MHz)	(dBm)	(dB)	(dBm)	(dBm)	(dB)	
Low Channel (555.1MHz)							
H	1110.20	-20.61	-28.56	-49.17	-30.00	-19.17	PK
H	1665.30	-21.16	-27.34	-48.50	-30.00	-18.50	PK
H	2220.40	-19.99	-25.94	-45.93	-30.00	-15.93	PK
H	2775.50	-19.79	-24.27	-44.06	-30.00	-14.06	PK
H	3330.60	-21.28	-22.94	-44.22	-30.00	-14.22	PK
H	3885.70	-21.29	-21.83	-43.12	-30.00	-13.12	PK
V	1110.20	-24.19	-28.56	-52.75	-30.00	-22.75	PK
V	1665.30	-25.57	-27.34	-52.91	-30.00	-22.91	PK
V	2220.40	-22.16	-25.94	-48.10	-30.00	-18.10	PK
V	2775.50	-22.01	-24.27	-46.28	-30.00	-16.28	PK
V	3330.60	-23.96	-22.94	-46.90	-30.00	-16.90	PK
V	3885.70	-22.54	-21.83	-44.37	-30.00	-14.37	PK
Middle Channel (567.35MHz)							
H	1134.70	-23.05	-28.50	-51.55	-30.00	-21.55	PK
H	1702.05	-24.49	-27.26	-51.75	-30.00	-21.75	PK
H	2269.40	-21.91	-25.79	-47.70	-30.00	-17.70	PK
H	2836.75	-23.35	-24.09	-47.44	-30.00	-17.44	PK
H	3404.10	-25.15	-22.79	-47.94	-30.00	-17.94	PK
H	3971.45	-22.48	-21.66	-44.14	-30.00	-14.14	PK
V	1134.70	-17.70	-28.50	-46.20	-30.00	-16.20	PK
V	1702.05	-25.56	-27.26	-52.82	-30.00	-22.82	PK
V	2269.40	-23.59	-25.79	-49.38	-30.00	-19.38	PK
V	2836.75	-17.40	-24.09	-41.49	-30.00	-11.49	PK
V	3404.10	-17.45	-22.79	-40.24	-30.00	-10.24	PK
V	3971.45	-25.11	-21.66	-46.77	-30.00	-16.77	PK
High Channel (579.85MHz)							
H	1159.70	-20.95	-28.45	-49.40	-30.00	-19.40	PK
H	1739.55	-23.42	-27.17	-50.59	-30.00	-20.59	PK
H	2319.40	-19.53	-25.64	-45.17	-30.00	-15.17	PK
H	2899.25	-21.48	-23.90	-45.38	-30.00	-15.38	PK
H	3479.10	-23.81	-22.64	-46.45	-30.00	-16.45	PK
H	4058.95	-21.38	-21.48	-42.86	-30.00	-12.86	PK
V	1159.70	-23.92	-28.45	-52.37	-30.00	-22.37	PK
V	1739.55	-24.64	-27.17	-51.81	-30.00	-21.81	PK
V	2319.40	-20.68	-25.64	-46.32	-30.00	-16.32	PK
V	2899.25	-24.28	-23.90	-48.18	-30.00	-18.18	PK
V	3479.10	-24.82	-22.64	-47.46	-30.00	-17.46	PK
V	4058.95	-23.74	-21.48	-45.22	-30.00	-15.22	PK

## Remark:

Absolute Level = Receiver Reading + Factor

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

## 8. RF Output Power (EIRP)

### 8.1 Block Diagram Of Test Setup



### 8.2 Limit

According to FCC 15.236 (d)

(1) In the bands allocated and assigned for broadcast television and in the 600 MHz service band: 50 mW EIRP

(2) In the 600 MHz guard band and the 600 MHz duplex gap: 20 mW EIRP.

### 8.3 Test Procedure

The EUT was directly connected to the Power meter.

### 8.4 Test Result

Temperature:	26°C	Relative Humidity:	54 %
Test Mode:	FM	Test Voltage:	DC 3V

Frequency	Conducted Output Power	Antenna Gain	EIRP	EIRP	FCC Limit	Result
(MHz)	(dBm)	(dBi)	(dBm)	(mW)	(mW)	
555.1	9.718	2	11.718	14.85	50	PASS
567.35	9.825	2	11.825	15.22	50	PASS
579.85	9.808	2	11.808	15.16	50	PASS

Remark:

$EIRP \text{ (dBm)} = \text{Conducted Output Power (dBm)} + \text{Antenna Gain (dBi)}$

## 9. Occupied Bandwidth

### 9.1 Block Diagram Of Test Setup



### 9.2 Limit

According to FCC 15.236(f)(2)

One or more adjacent 25 kHz segments within the assignable frequencies may be combined to form a channel whose maximum bandwidth shall not exceed 200 kHz. The operating bandwidth shall not exceed 200 kHz.

### 9.3 Test Procedure

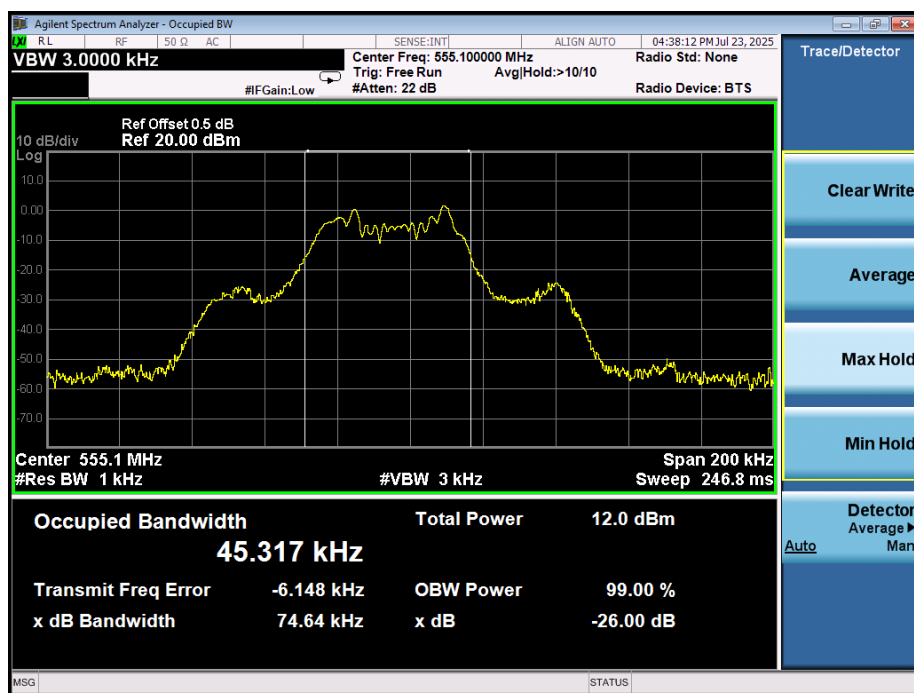
According to TIA-603 for additional Test Set-Up procedures, the occupied bandwidth of emission was measured with a Spectrum Analyzer connected to the antenna terminal while EUT was operating in 2.5kHz tone at an input level 16 dB greater than that necessary to produce 50 percent modulation. Then mark the 99% Occupied Bandwidth and record it.



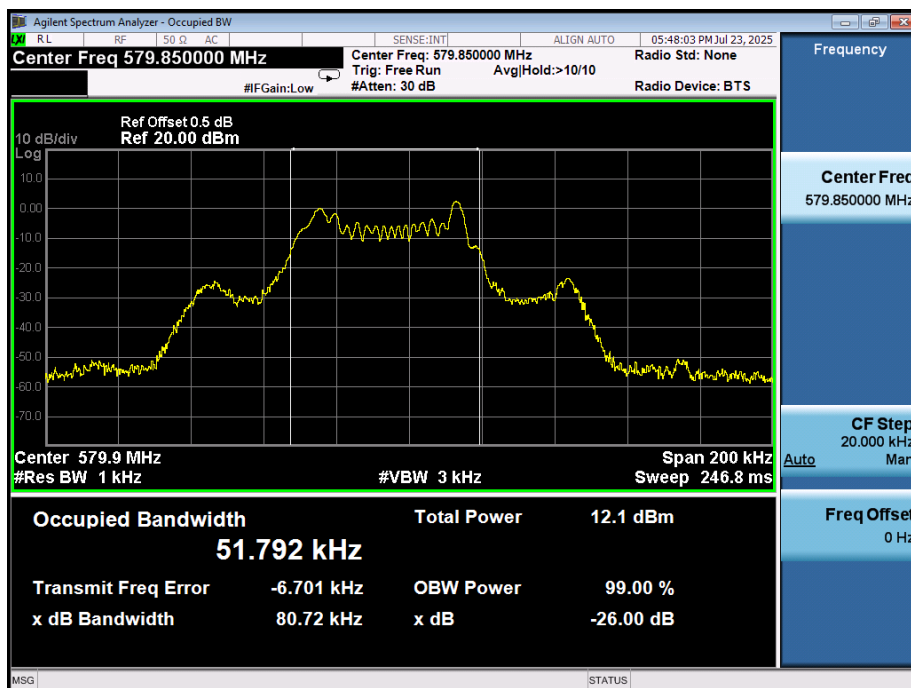
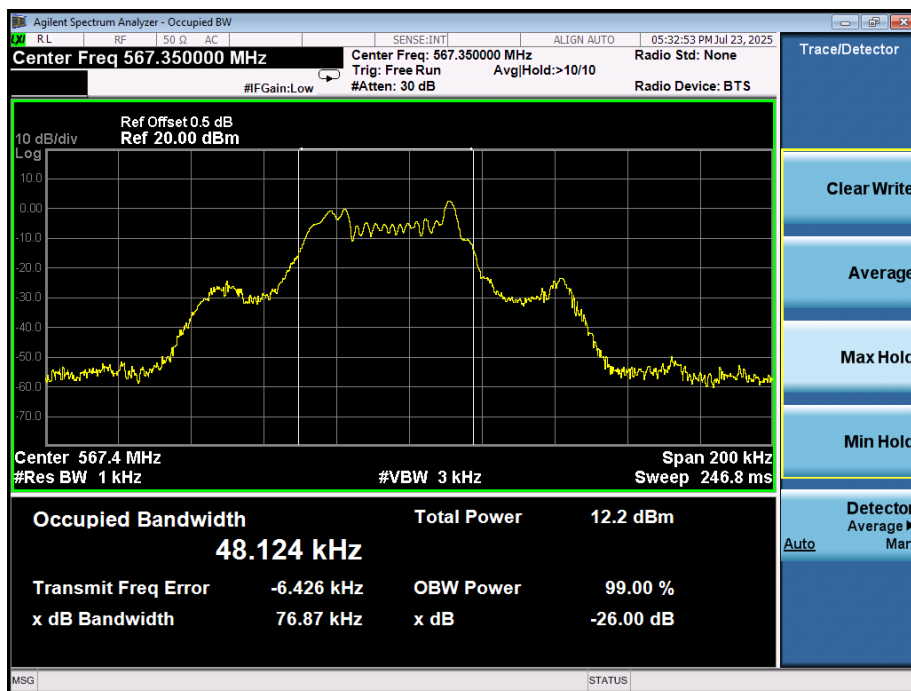
## 9.5 Test Result

Temperature:	26°C	Relative Humidity:	54 %
Test Mode:	FM	Test Voltage:	DC 3V

Frequency(MHz)	99% Bandwidth(kHz)	Limit(kHz)	Result
555.1	45.317	200	PASS
567.35	48.124	200	PASS
579.85	51.792	200	PASS

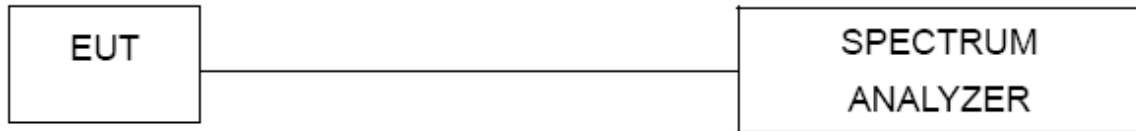






## 10. Emission Mask (Necessary Bandwidth)

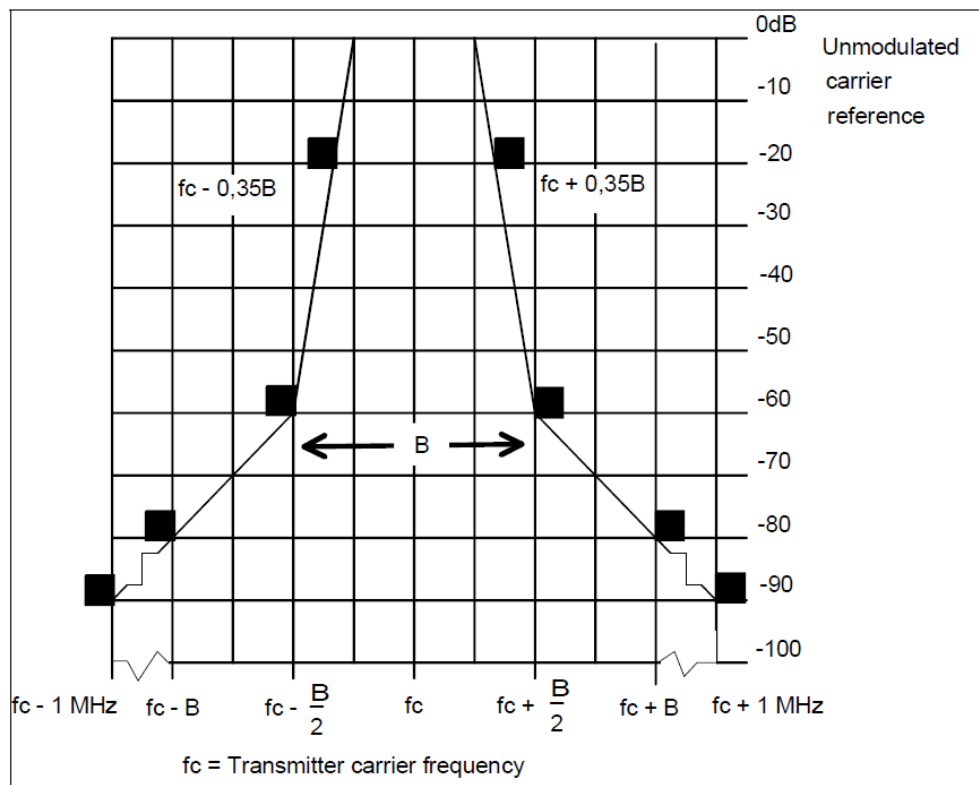
### 10.1 Block Diagram Of Test Setup



### 10.2 Limit

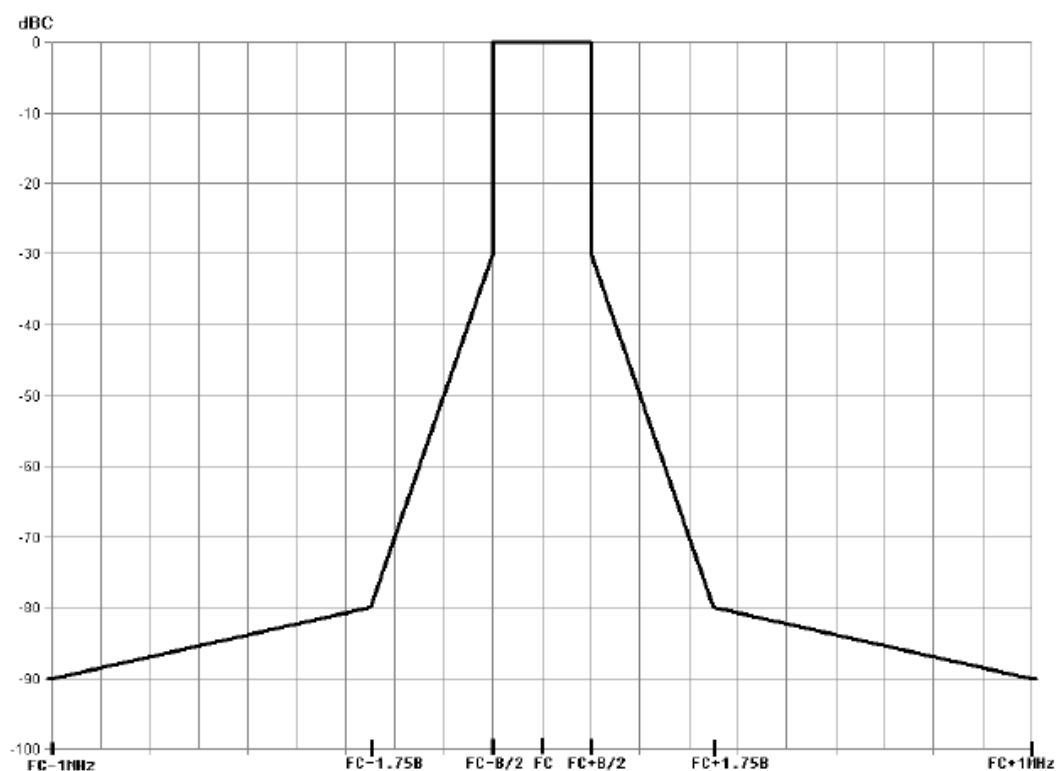
According to FCC 15.236(g)

Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in § 8.3 of ETSI EN 300 422-1 V1.4.2 (2011-08), Electromagnetic compatibility and Radio spectrum Matters (ERM); Wireless microphones in the 25 MHz to 3 GHz frequency range; Part 1: Technical characteristics and methods of measurement.



**Figure 3: Spectrum mask for analogue systems in all bands**

Figure 3 shows the spectrum mask for all analogue systems in the band. The -90 dBc point shall be  $\pm 1\text{ MHz}$  from  $fc$  measured with an average detector. To comply, a measured value must fall below the mask limit as shown in figure 3.



**Figure 4: Spectrum mask for digital systems below 1 GHz**

For the measurement uncertainty, see clause 10. The -90 dBc point shall be  $\pm 1$  MHz from  $f_c$  measured with an average detector.

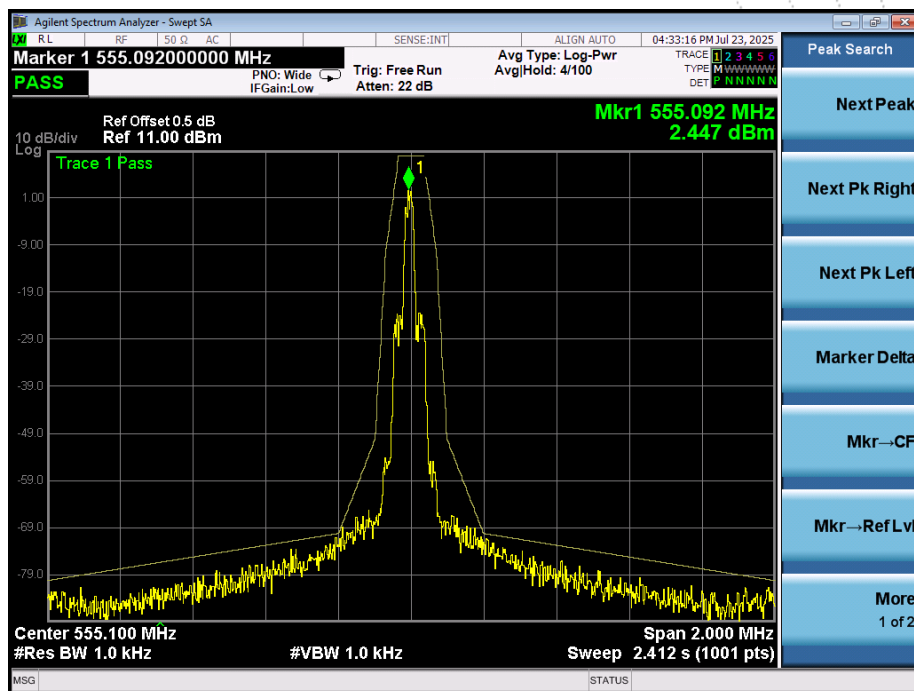
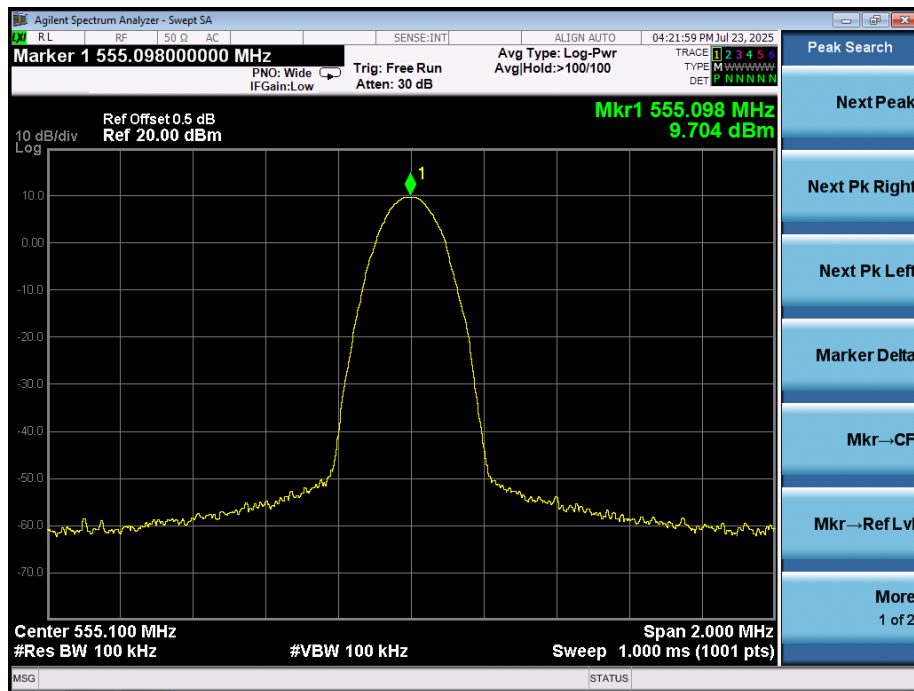
### 10.3 Test Procedure

Method of Measurement for Analogue Systems in ETSI EN 300 422-1 V1.4.2 (2011-08) section 8.3.1  
Method of Measurement for Digital Systems in ETSI EN 300 422-1 V1.4.2 (2011-08) section 8.3.2

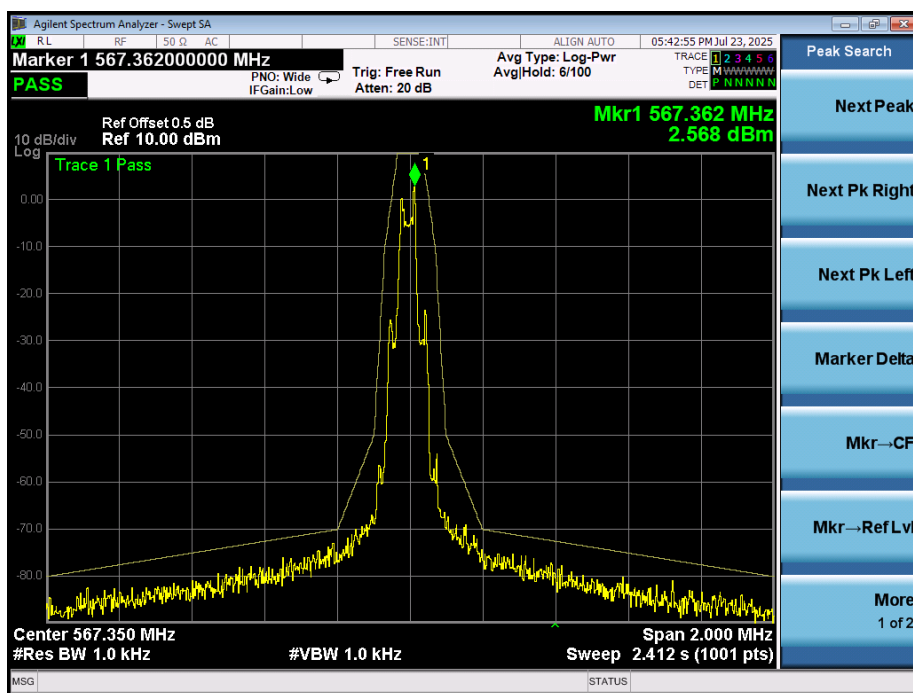
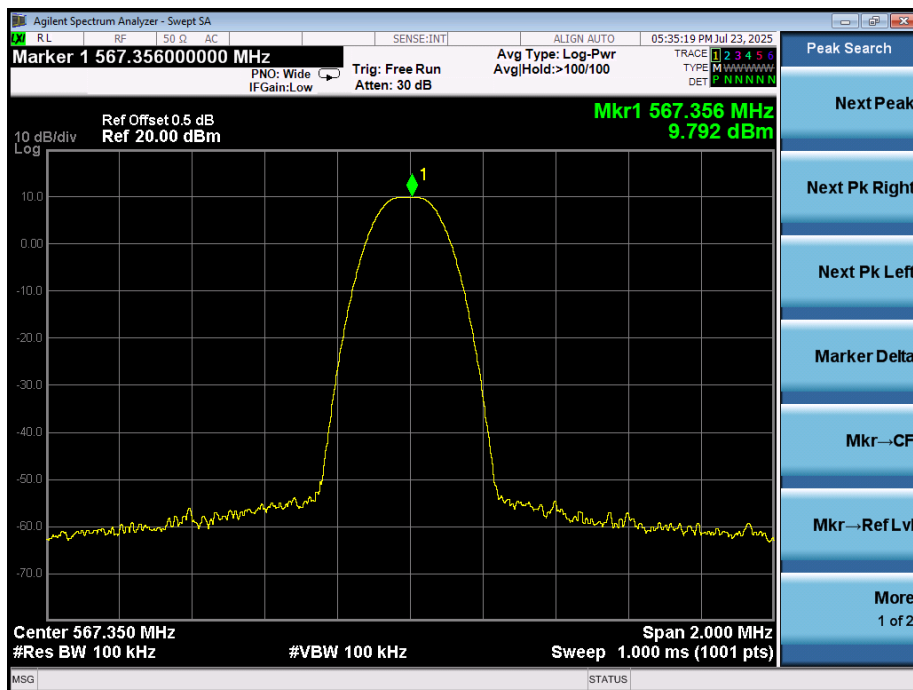
## 10.5 Test Result

Temperature:	26°C	Relative Humidity:	54 %
Test Mode:	FM	Test Voltage:	DC 3V

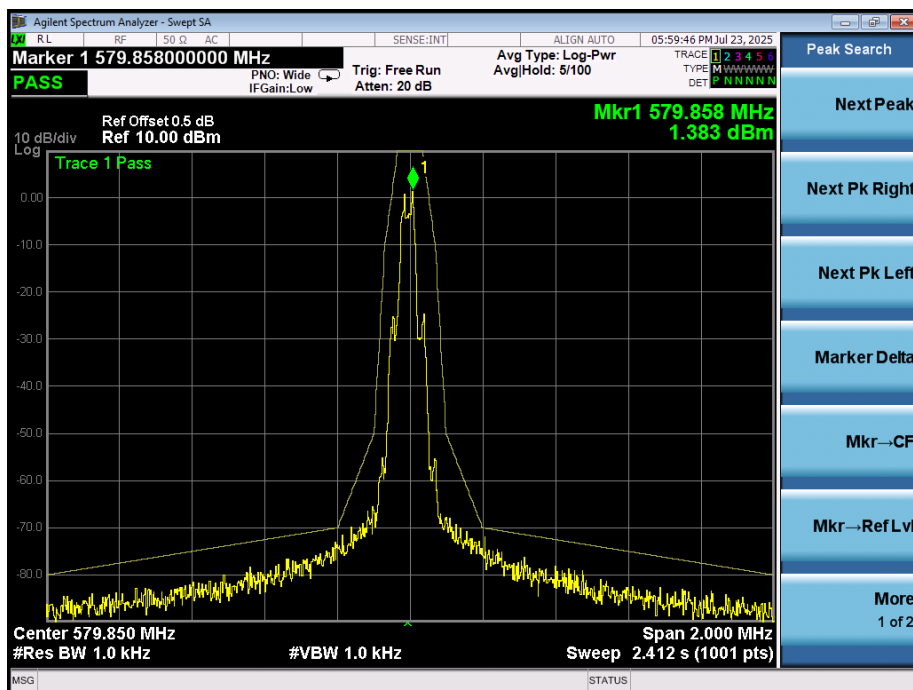
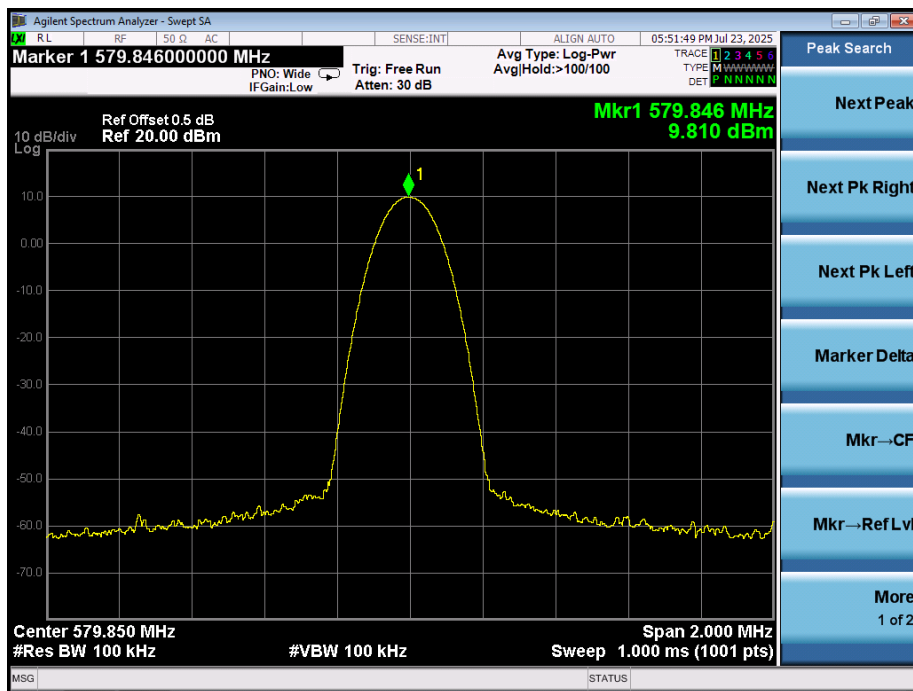
Channel 0



Channel 49



Channel 99



## 11. Frequency Tolerance

### 11.1 Block Diagram Of Test Setup



### 11.2 Limit

According to FCC 15.236(f)(3)

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. Battery operated equipment shall be tested using a new battery.

### 11.3 Test Procedure

- 1, Setup the configuration of the ambient temperature from  $-20^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  with sufficient time. And measure the different power of the EUT with an artificial power from highest to end point voltage.
- 2, Set frequency counter center frequency to the right frequency needs to be measured.

### 11.5 Test Result

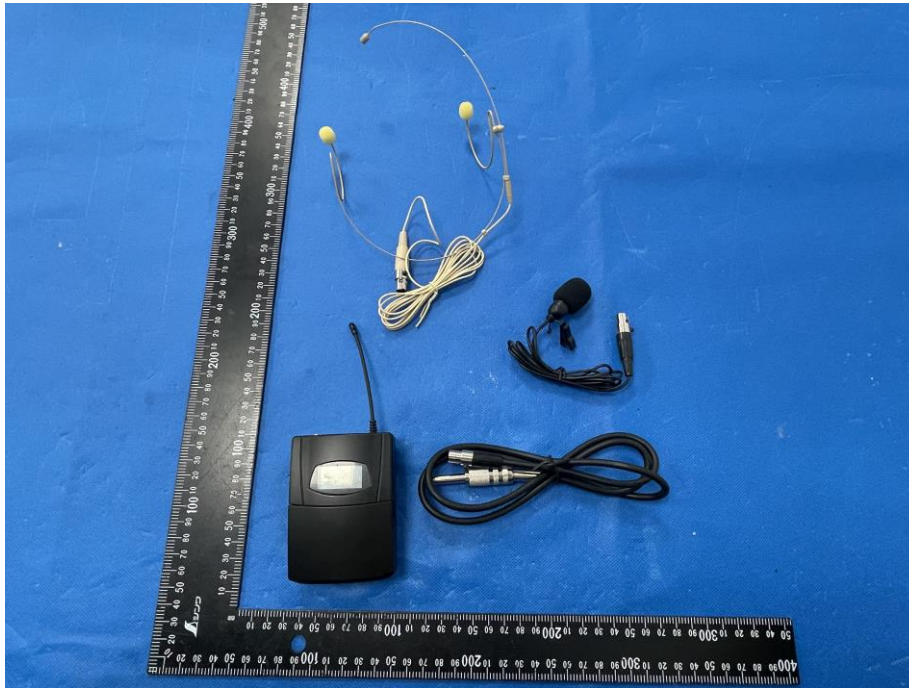
Temperature:	26°C	Relative Humidity:	54 %
Test Mode:	Unmodulated	Test Voltage:	DC 3V

Test conditions		Frequency Error(MHz)		
		555.1	567.35	579.85
$T_{\min} (-20^{\circ}\text{C})$	$V_{\min}(2.7\text{V})$	555.0955	567.3458	579.8452
	$V_{\max}(3.3\text{V})$	555.0920	567.3443	579.8448
$T(-20^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0913	567.3411	579.8435
$T(-10^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0905	567.3381	579.8421
$T(0^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0902	567.3367	579.8395
$T(10^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0881	567.3349	579.8372
$T_{\text{nom}}(20^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0843	567.3314	579.8336
$T(30^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0813	567.3287	579.8299
$T(40^{\circ}\text{C})$	$V_{\text{nom}}(3\text{V})$	555.0778	567.3277	579.8287
$T_{\max}(50^{\circ}\text{C})$	$V_{\min}(2.7\text{V})$	555.0768	567.3262	579.8255
	$V_{\max}(3.3\text{V})$	555.0732	567.3256	579.8245
Max. frequency error (ppm)		-8.11	-7.40	-8.28
Limit (ppm)		$\pm 50\text{ppm}$		



## 12. EUT Photographs

EUT Photo 1



EUT Photo 2



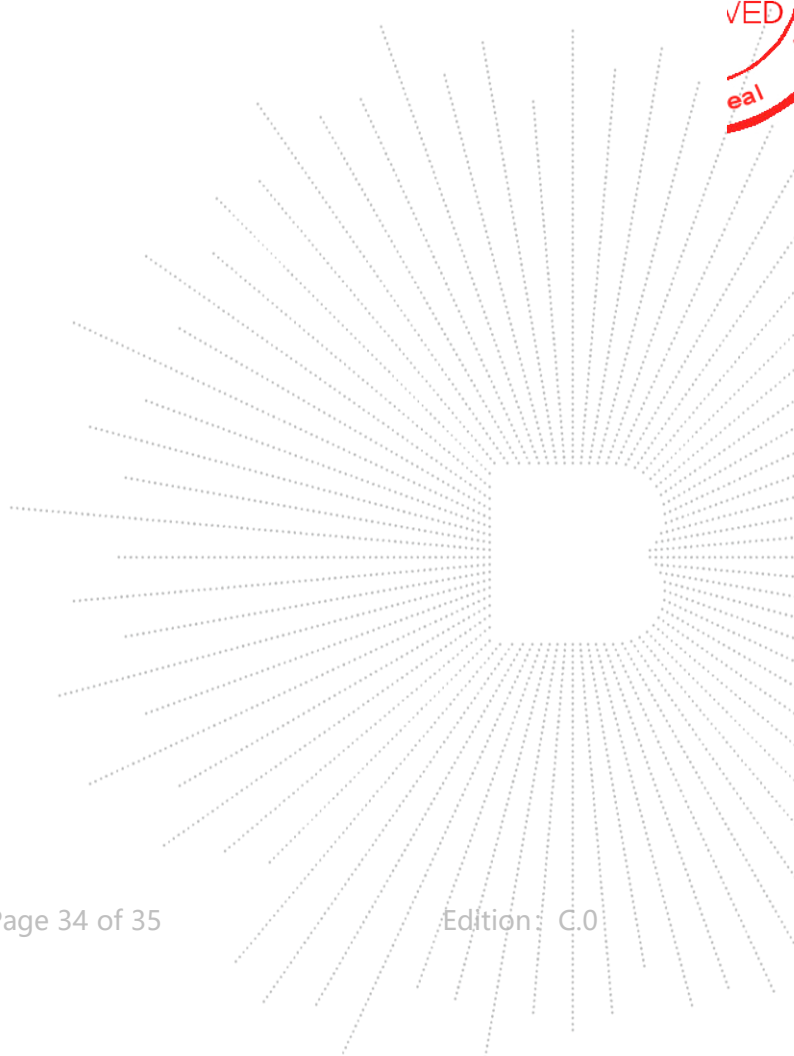
NOTE: Appendix-Photographs Of EUT Constructional Details.



### 13. EUT Test Setup Photographs

#### Radiated Measurement Photos





## STATEMENT

1. The equipment lists are traceable to the national reference standards.
2. The test report can not be partially copied unless prior written approval is issued from our lab.
3. The test report is invalid without the "special seal for inspection and testing".
4. The test report is invalid without the signature of the approver.
5. The test process and test result is only related to the Unit Under Test.
6. Sample information is provided by the client and the laboratory is not responsible for its authenticity.
7. The quality system of our laboratory is in accordance with ISO/IEC17025.
8. If there is any objection to this test report, the client should inform issuing laboratory within 15 days from the date of receiving test report.

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\*\*\*\*\* END \*\*\*\*\*

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