

# TEST REPORT

Report No.: BCTC2303312407E

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Applicant: SOUND AROUND INC

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Product Name: wireless microphone

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Model/Type Ref.: PRT202.75

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Tested Date: 2023-03-21 to 2023-04-07

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Issued Date: 2023-04-07

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



SHENZHEN

# FCC ID:2A6FC-PRT20275

Product Name: wireless microphone  
Trademark: N/A  
Model/Type Ref.: PRT202.75  
Prepared For: SOUND AROUND INC  
Address: 1600 63rd. Street, Brooklyn NY 11204- USA  
Manufacturer: SHENZHEN DELUXE-AV ELECTRONICS CO.,LTD  
Address: Building A, Tianxin Industrial park, Gushu, Bao'an District, Shenzhen, China  
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: 2023-03-21  
Sample tested Date: 2023-03-21 to 2023-04-07  
Issue Date: 2023-04-07  
Report No.: BCTC2303312407E  
Test Standards: FCC Part 15.236  
Test Results: PASS

Tested by:



Jeff.Fu/Project Handler

Approved by:



Zero Zhou/Reviewer

The test report is effective only with both signature and specialized stamp. This result(s) shown in this report refer only to the sample(s) tested. Without written approval of Shenzhen BCTC Testing Co., Ltd, this report can't be reproduced except in full. The tested sample(s) and the sample information are provided by the client.



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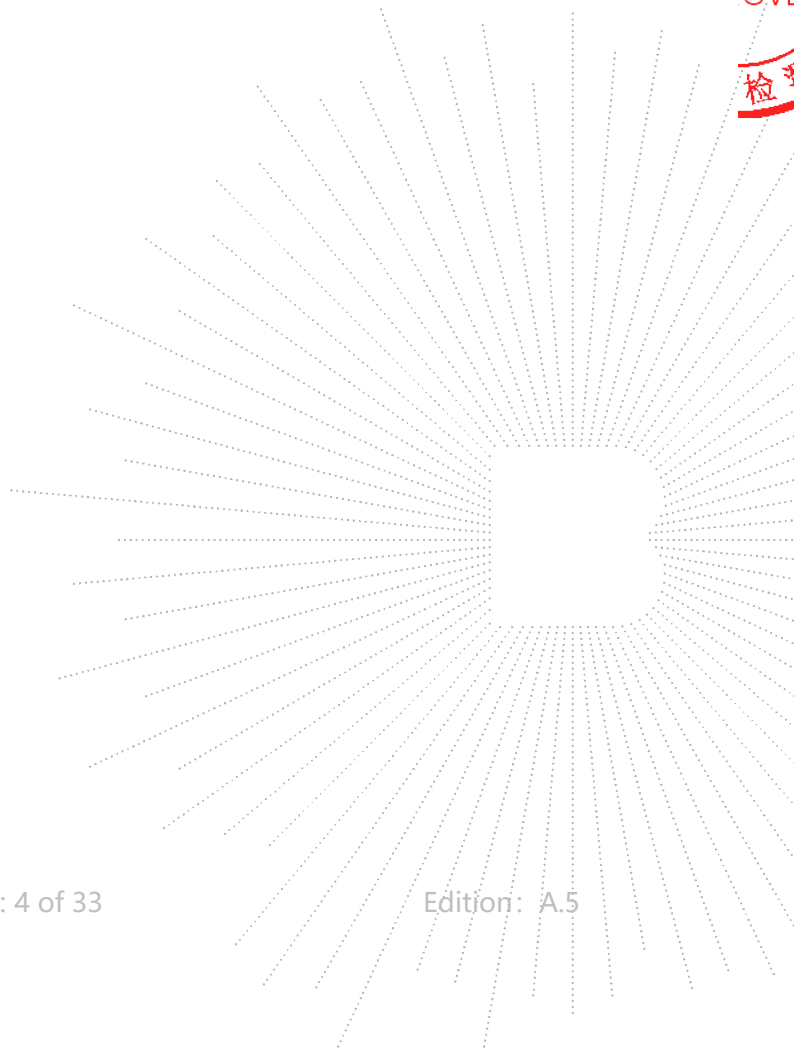
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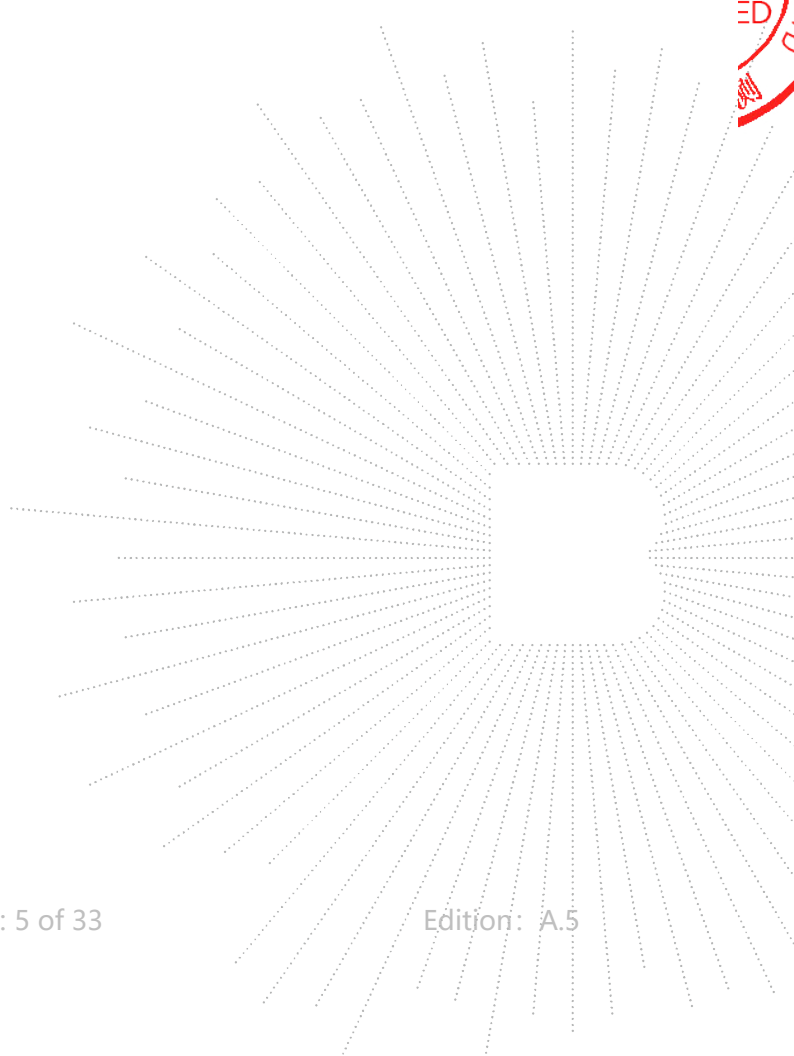
(Note: N/A Means Not Applicable)

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**1. Version**

Report No.	Issue Date	Description	Approved
BCTC2303312407E	2023-04-07	Original	Valid

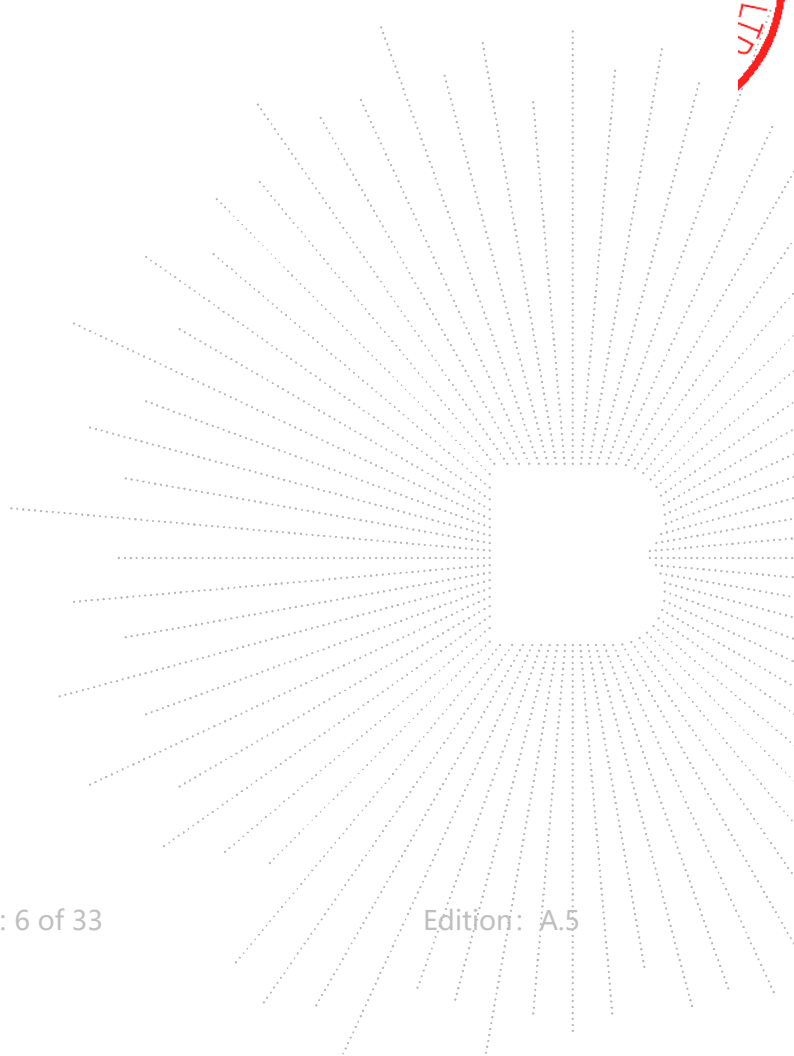


## 2. Summary Of Test Results

Test procedures according to the technical standards:

FCC Part15 (15.236) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
15.236(d)(1)	Output Power Measurement	PASS	
15.236(f)(2)	Occupied Bandwidth Emission	PASS	
15.236(g)	Necessary Bandwidth	PASS	
15.236(g)	Radiated Spurious Emission	PASS	
15.236(f)(3)	Frequency Tolerance	PASS	

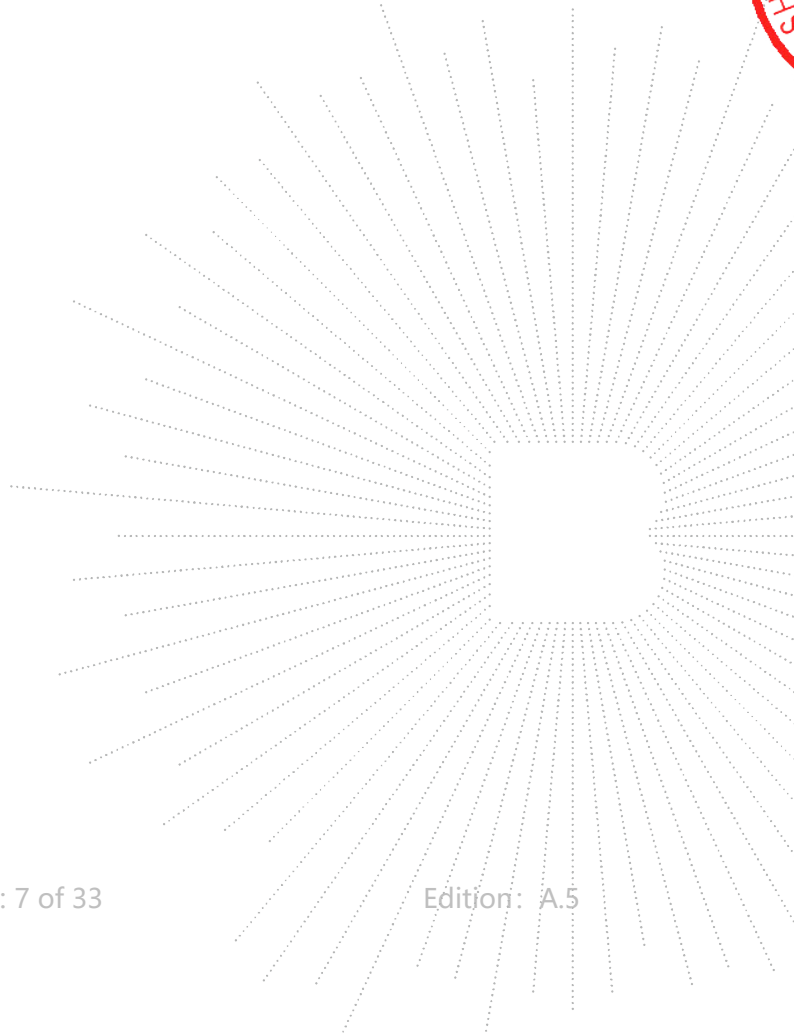
CO., LTD.



### 3. Measurement Uncertainty

The reported uncertainty of measurement  $y \pm U$ , where expanded 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	Uncertainty
1	3m chamber Radiated spurious emission(30MHz-1GHz)	U=4.3dB
2	3m chamber Radiated spurious emission(1GHz-18GHz)	U=4.5dB
3	3m chamber Radiated spurious emission(18GHz-40GHz)	U=3.34dB
4	Conducted Adjacent channel power	U=1.38dB
5	Conducted output power uncertainty Above 1G	U=1.576dB
6	Conducted output power uncertainty below 1G	U=1.28dB
7	humidity uncertainty	U=5.3%
8	Temperature uncertainty	U=0.59°C

## 4. Product Information And Test Setup

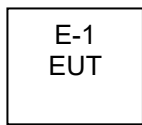
### 4.1 Product Information

Model/Type Ref.:	PRT202.75
Model differences:	N/A
Hardware Version:	N/A
Software Version:	N/A
Operation Frequency:	202.75 MHz
Type of Modulation:	FM
Number Of Channel	1CH
Antenna installation:	Spring antenna
Antenna Gain:	0 dBi
Ratings:	DC 3V

### 4.2 Test Setup Configuration

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

Radiated Spurious Emission

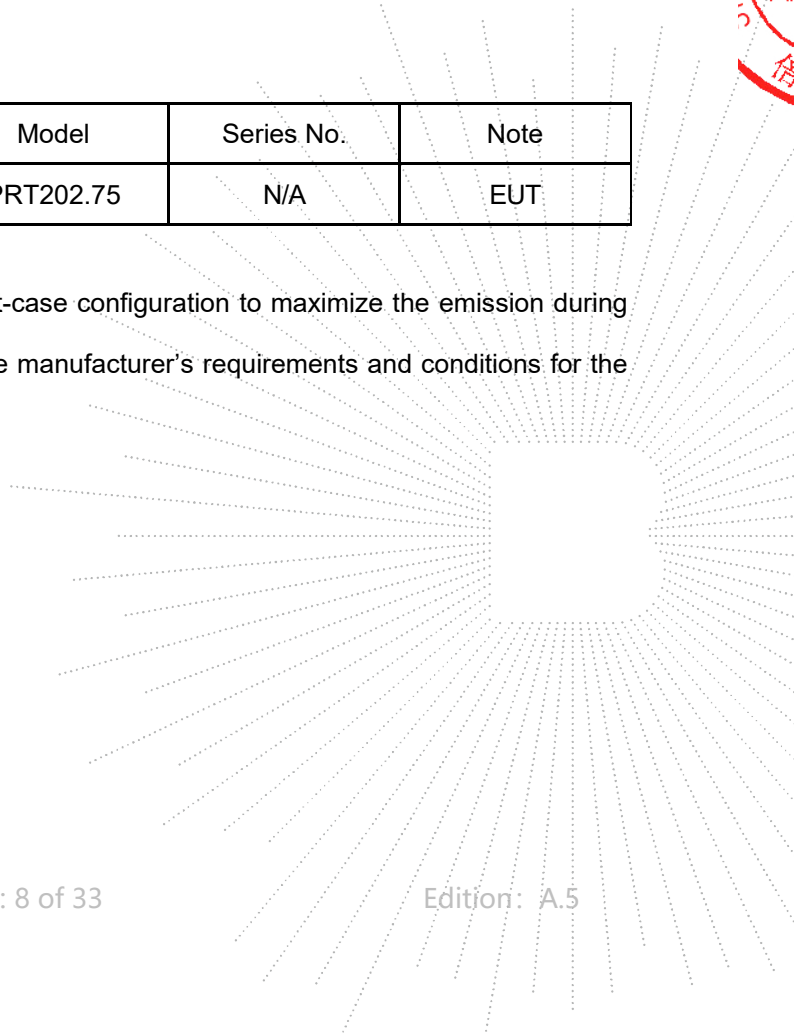


### 4.3 Support Equipment

No.	Device Type	Brand	Model	Series No.	Note
E-1	wireless microphone	N/A	PRT202.75	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 List			
Channel	Frequency (MHz)		
01	202.75		

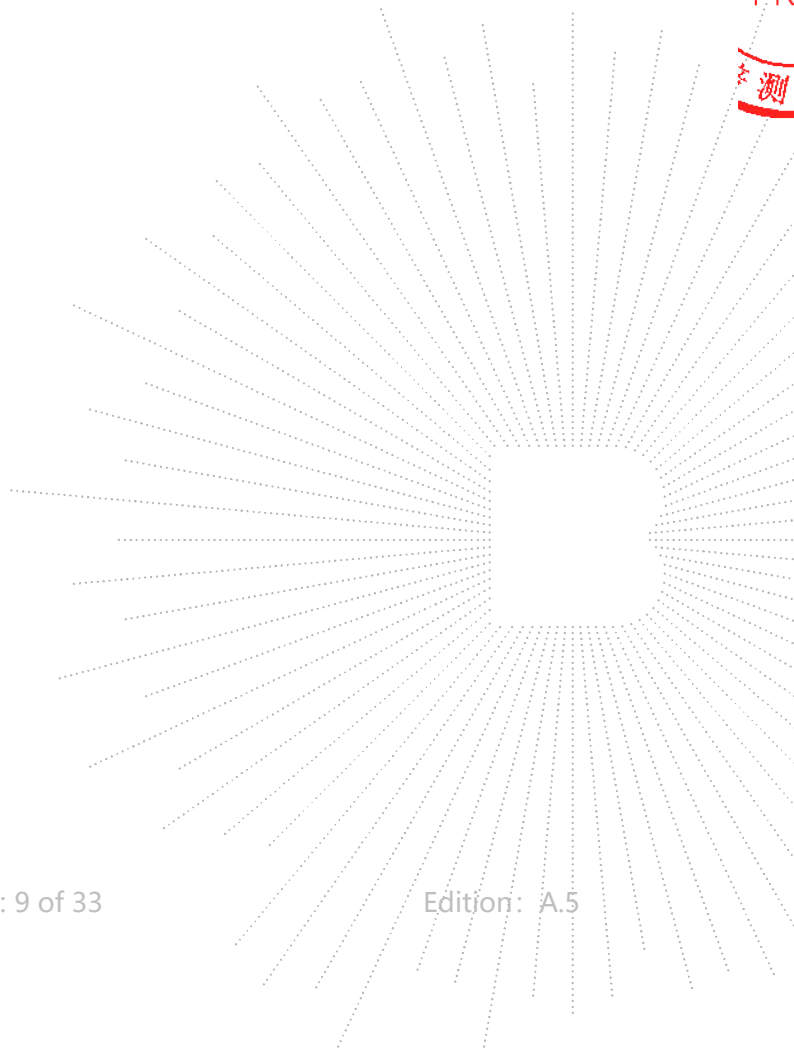
#### 4.5 Test Mode

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.

For All Mode	Description	Modulation Type
Mode 1	CH01	FM(Transmitting)

**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.

Registration Number: 712850

FCC Designation Number: CN1212

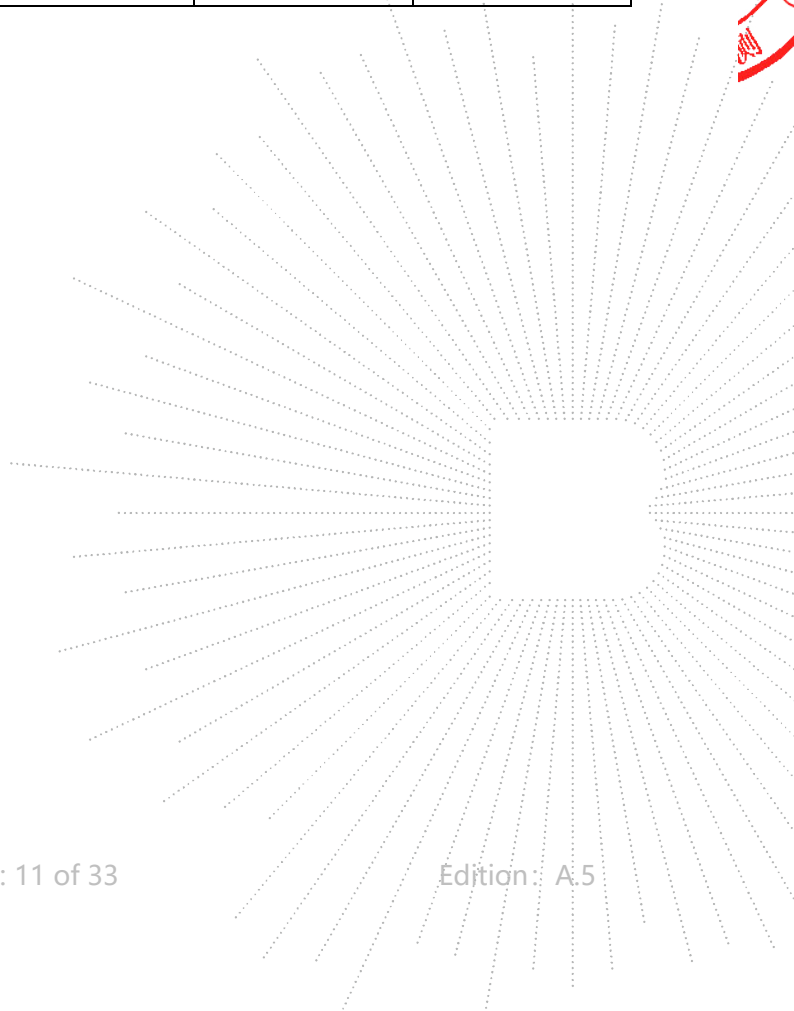
ISED Registered No.: 23583

ISED CAB identifier: CN0017

### 5.2 Test Instrument Used

RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power Metter	Keysight	E4419	\	May 24, 2022	May 23, 2023
Power Sensor (AV)	Keysight	E9300A	\	May 24, 2022	May 23, 2023
Signal Analyzer20kHz-26.5GHz	Keysight	N9020A	MY49100060	May 24, 2022	May 23, 2023
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 24, 2022	May 23, 2023

Radiated Emissions Test (966 Chamber01)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	Jun. 06. 2020	Jun. 05, 2023
Receiver	R&S	ESR3	102075	May 24, 2022	May 23, 2023
Receiver	R&S	ESRP	101154	May 24, 2022	May 23, 2023
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 24, 2022	May 23, 2023
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 26, 2022	May 25, 2023
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 26, 2022	May 25, 2023
Amplifier	SKET	LAPA_01G18 G-45dB	\	May 24, 2022	May 23, 2023
Horn Antenna	Schwarzbeck	BBHA9120D	1541	Jun. 06, 2022	Jun. 05, 2023
Amplifier(18G Hz-40GHz)	MITEQ	TTA1840-35- HG	2034381	May 26, 2022	May 25, 2023
Horn Antenna(18G Hz-40GHz)	Schwarzbeck	BBHA9170	00822	Jun. 06, 2022	Jun. 05, 2023
Spectrum Analyzer9kHz- 40GHz	R&S	FSP40	100363	May 24, 2022	May 23, 2023
Software	Frad	EZ-EMC	FA-03A2 RE	\	\



## 6. Conducted Emission Measurement

### 6.1 Power Line Conducted Emission Limits((Frequency Range 150KHz-30MHz)

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

Note:

1. The tighter limit applies at the band edges.
2. The limit of " \* " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

The following table is the setting of the receiver

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

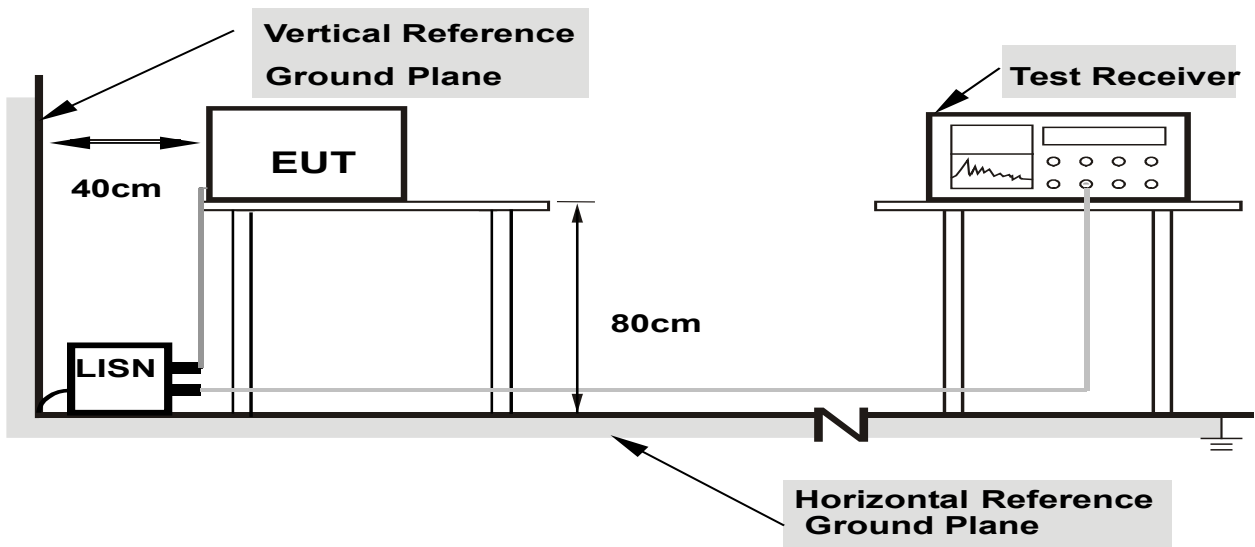
### 6.2 Test Procedure

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

### 6.3 Deviation From Test Standard

No deviation

## 6.4 Test Setup



- Note:**
- 1.Support units were connected to second LISN.
  - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

## 6.5 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.

## 6.6 Test Result

Note: The EUT is powered by the DC battery only, the test item is not applicable

## 7. Radiated Spurious Emissions

### 7.1 Test Requirement

According to FCC 15.236(g), Emission within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in Section 8.3 of ETSI EN 300 422-1 V1.4.2(2011-08). Emissions outside this band shall comply with the limit specified at the edges of the ETSI mask.

**Table 3: Limits for spurious emissions**

State	Frequency		
	47 MHz to 74 MHz 87,5 MHz to 137 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	Other Frequencies below 1 000 MHz	Frequencies above 1 000 MHz
Operation	4 nW	250 nW	1 $\mu$ W
Standby	2 nW	2 nW	20 nW

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	12750MHz
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 10Hz for Average

### 7.2 Test Procedure

- The measuring distance of at 3 m shall be used for measurements at frequency up to 25GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-chamber test. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment or of the substitution antenna shall be 0.8m; above 1GHz, the height was 1.5m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

g. For the radiated emission test above 1GHz:

Place the measurement antenna 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.

Notes:

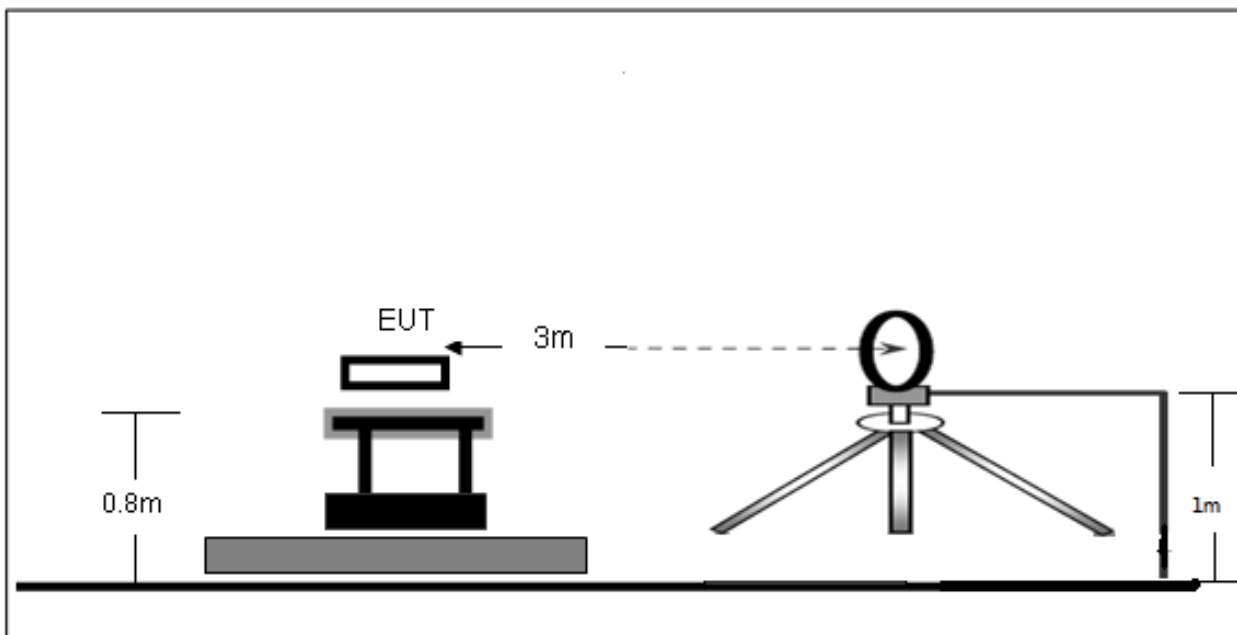
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

### 7.3 Deviation From Test Standard

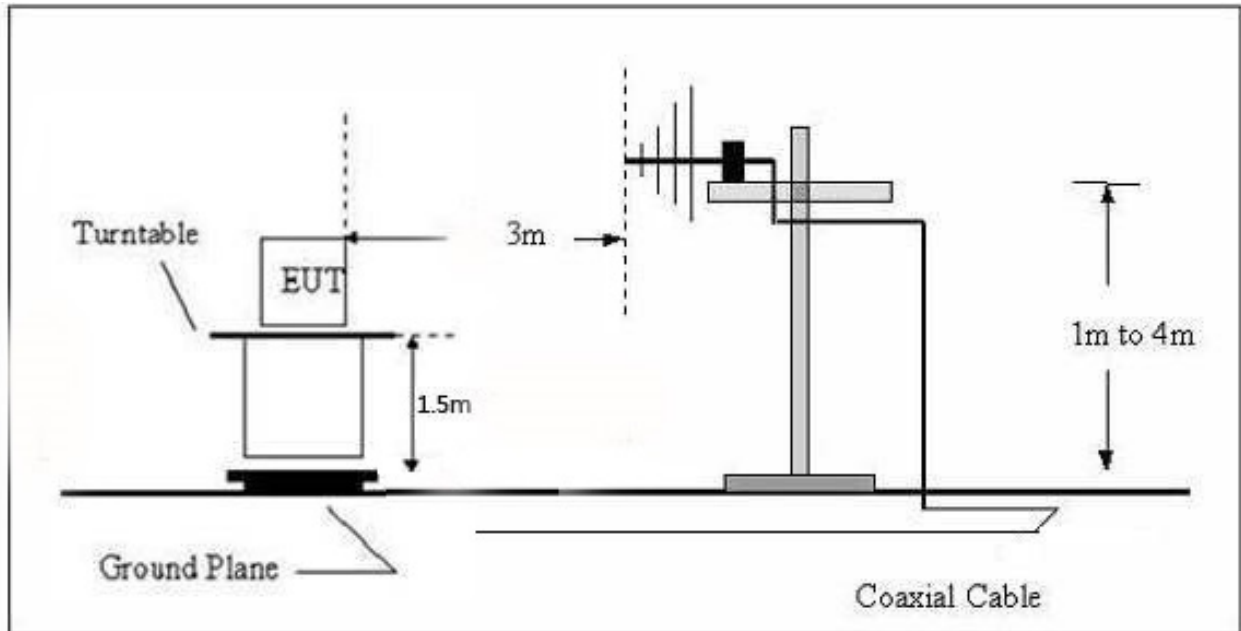
No deviation

### 7.4 Test Setup

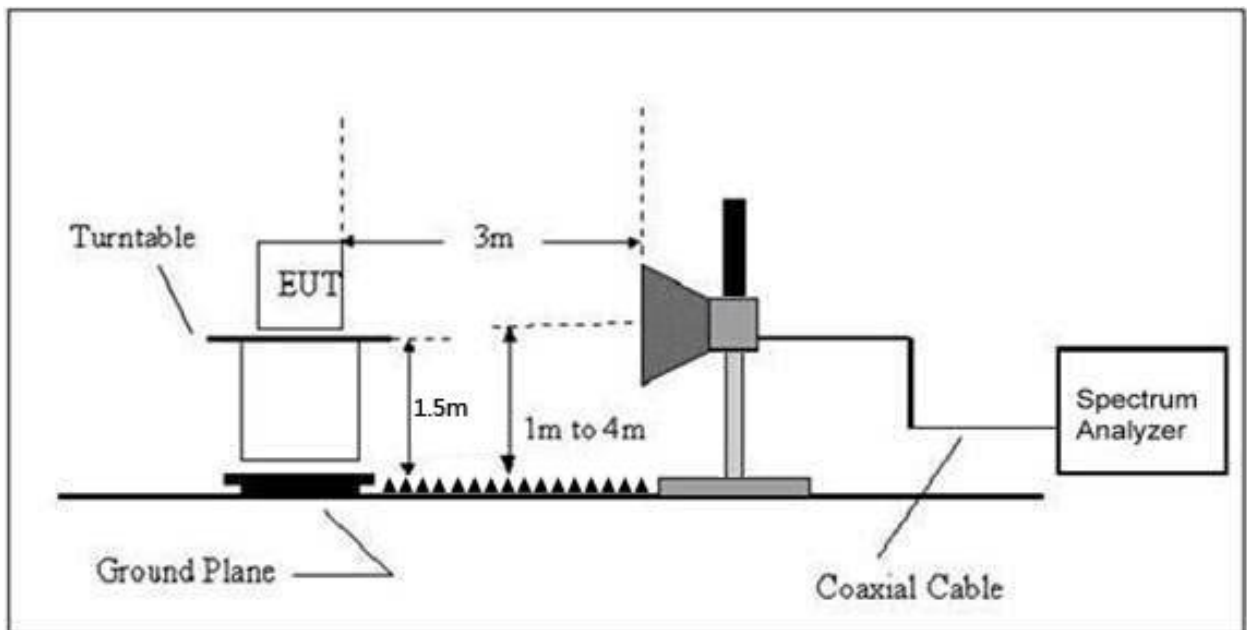
( A ) Radiated Emission Test-Up Frequency Below 30MHz



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



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



## 7.5 EUT Operating Conditions

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

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## 7.6 Test Results (Between 9KHz – 30MHz)

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

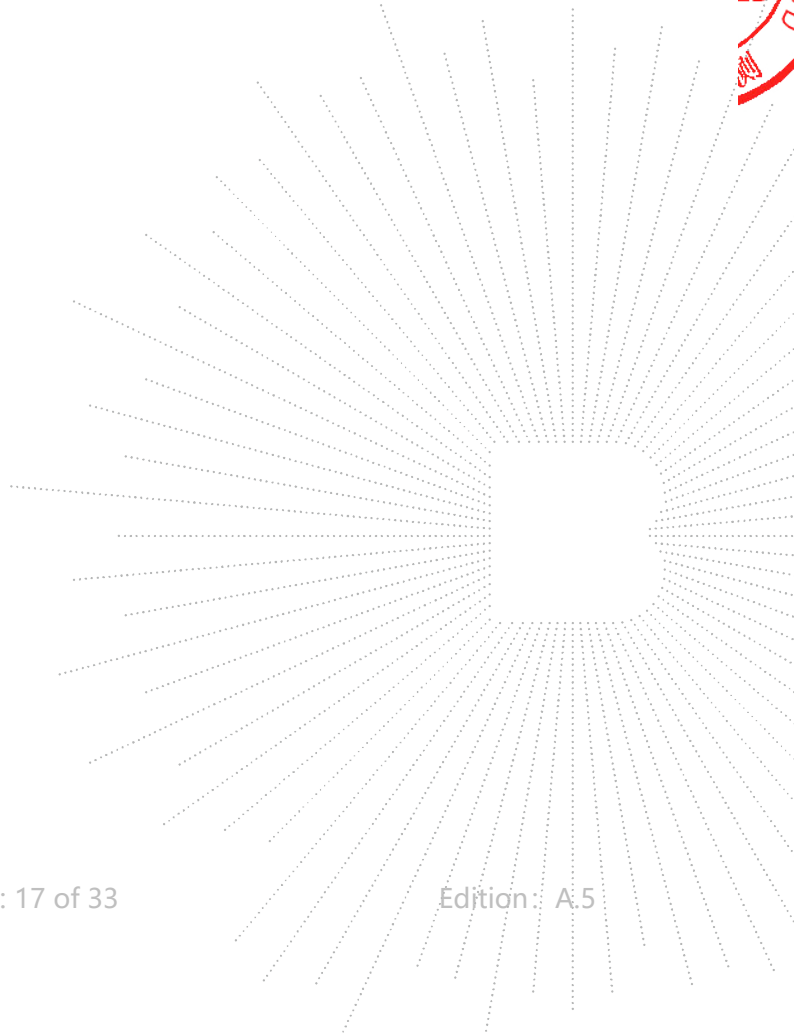
Freq. (MHz)	Reading (dBuV/m)	Limit (dBuV/m)	Margin (dB)	State P/F
--	--	--	--	PASS
--	--	--	--	PASS

## Note:

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

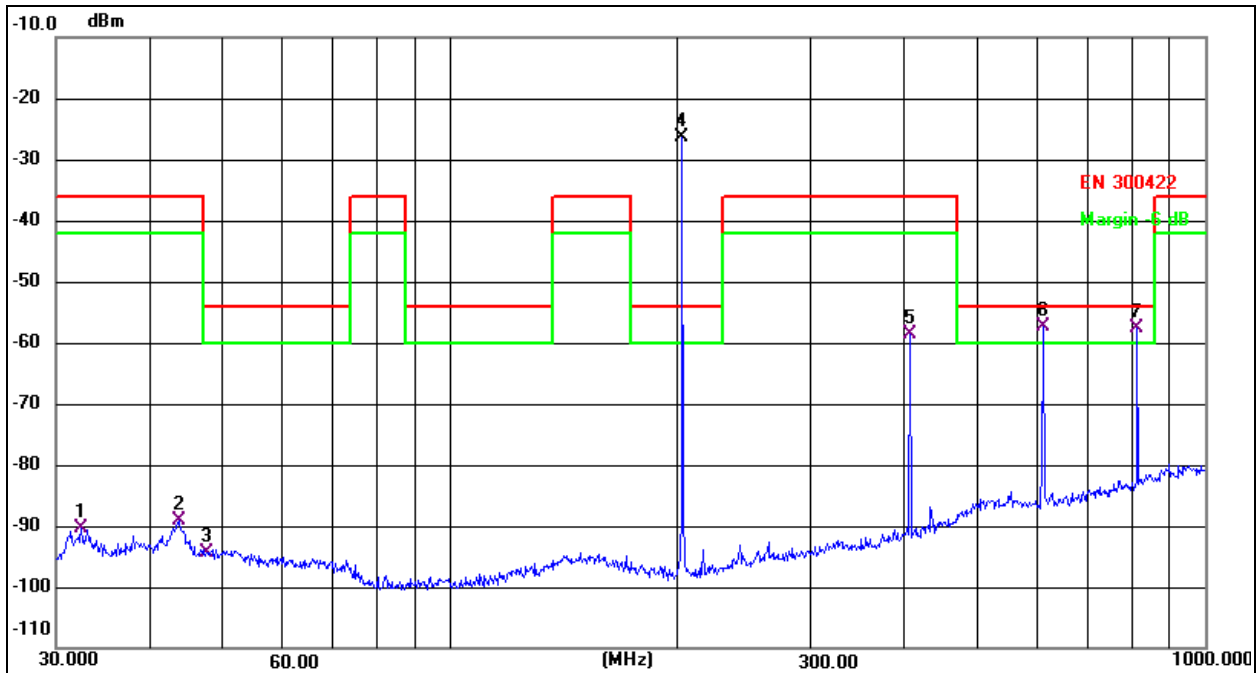
Distance extrapolation factor =  $40 \log(\text{specific distance/test distance})(\text{dB})$ ;

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



Between 30MHz – 1GHz

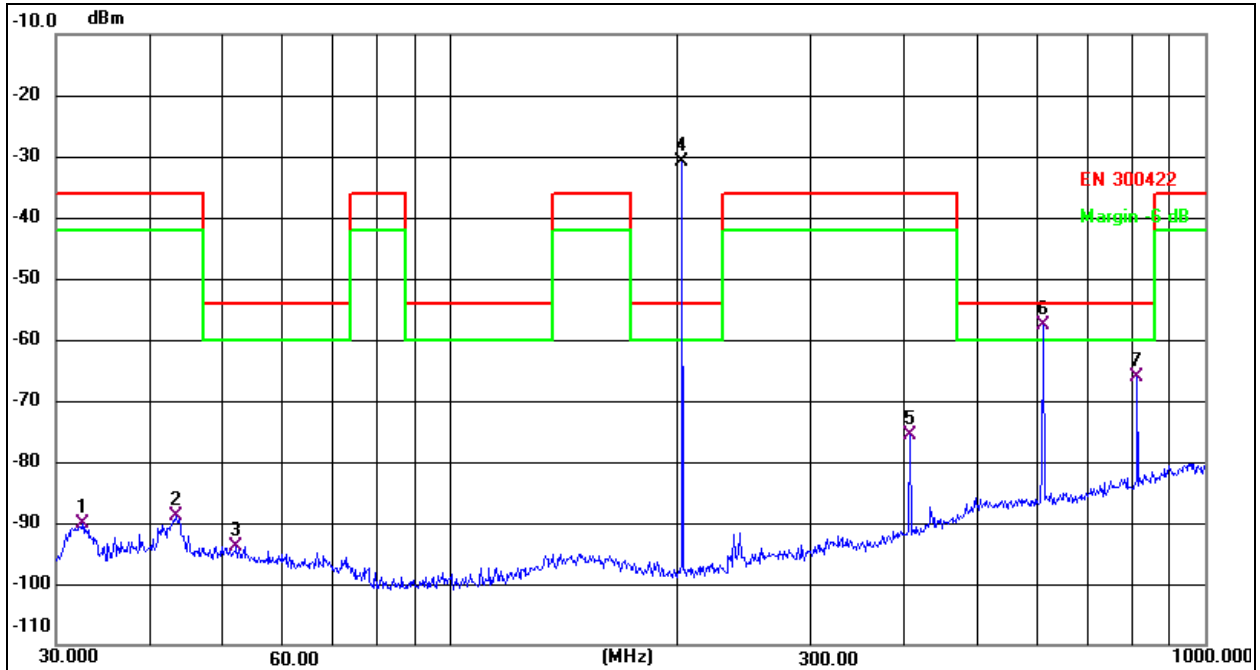
Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kPa	Test Voltage :	DC 3V
Test Mode :	Mode 1	Polarization :	Horizontal


**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	32.4059	-75.80	-14.69	-90.49	-36.00	-54.49	QP
2	43.6584	-75.50	-13.72	-89.22	-36.00	-53.22	QP
3	47.4917	-80.53	-13.92	-94.45	-54.00	-40.45	QP
4 *	202.8103	-9.43	-16.94	-26.37	-54.00	27.63	peak
5	406.0880	-48.43	-10.16	-58.59	-36.00	-22.59	QP
6 !	609.9217	-52.73	-4.75	-57.48	-54.00	-3.48	QP
7 !	813.1115	-56.07	-1.43	-57.50	-54.00	-3.50	QP

Temperature:	26°C	Relative Humidity:	54%
Pressure:	101 kpa	Test Voltage :	DC 3V
Test Mode :	Mode 1	Polarization :	Vertical


**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	32.5197	-75.56	-14.67	-90.23	-36.00	-54.23	QP
2	43.2016	-75.21	-13.69	-88.90	-36.00	-52.90	QP
3	52.0251	-79.48	-14.30	-93.78	-54.00	-39.78	QP
4 *	202.8103	-13.83	-16.94	-30.77	-54.00	23.23	peak
5	406.0880	-65.57	-10.16	-75.73	-36.00	-39.73	QP
6 !	609.9217	-52.76	-4.75	-57.51	-54.00	-3.51	QP
7	813.1115	-64.67	-1.43	-66.10	-54.00	-12.10	QP

**Remark:**

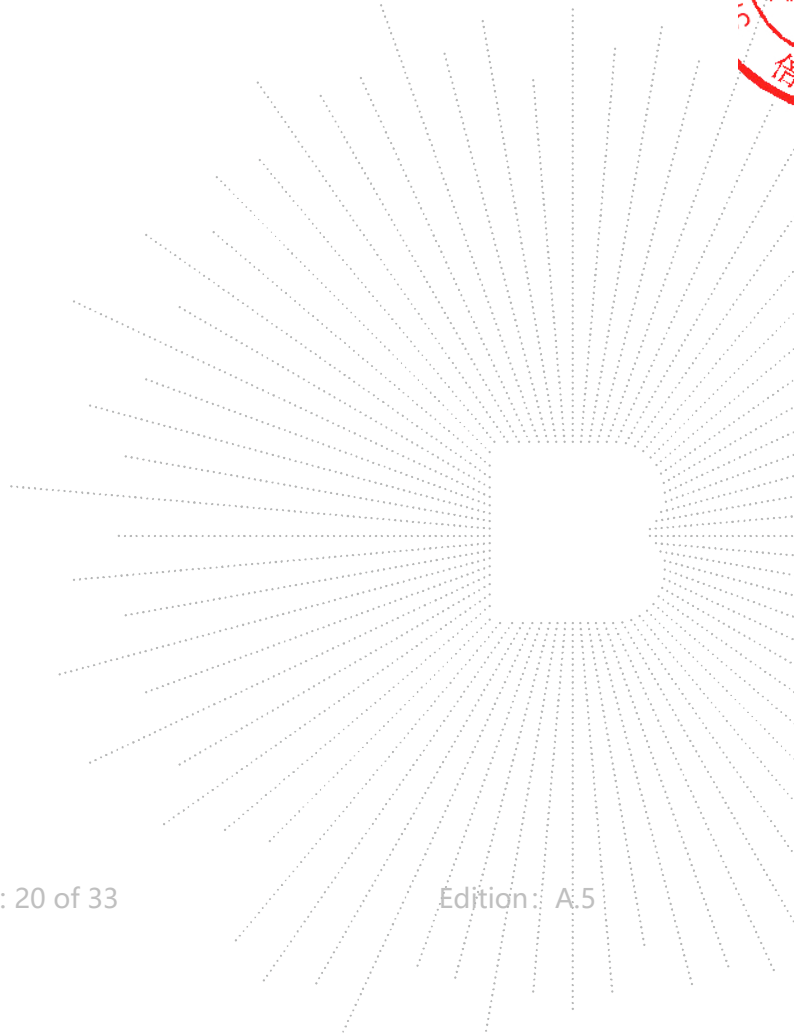
Test all the modes and only worst case was reported.

Between 1GHz – 12.75GHz

Frequency	Receiver Reading	Turn table Angle	RX Antenna		Correct	Absolute Level	Result	
			Height	Polar	Factor		Limit	Margin
(MHz)	(dBm)	Degree	(m)	(H/V)	(dBm)	(dBm)	(dBm)	(dB)
CH01								
1216.25	-83.35	262	1.5	H	24.4	-58.95	-30	-28.95
1216.25	-81.81	78	1.2	V	24.4	-57.41	-30	-27.41
3649.57	-85.58	197	1.6	H	29.1	-56.48	-30	-26.48
3649.57	-83.84	208	1.9	V	29.1	-54.74	-30	-24.74
8921.23	-94.42	145	1.3	H	37.5	-56.92	-30	-26.92
8921.23	-95.03	233	1	V	37.5	-57.53	-30	-27.53

Remark:

$$\text{Absolute Level} = \text{Receiver Reading} + \text{Factor}$$

$$\text{Factor} = \text{Antenna Factor} + \text{Cable Loss} - \text{Pre-amplifier}$$


## 8. Maximum Radiated Power

### 8.1 Test Requirement

FCC Part15 (15.236) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.236	EIRP	50mW	174-216	PASS

### 8.2 Test Procedure

1. EUT was placed on a 1.50meter high non-conductive stand at a 3meter test distance form the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.50m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.

2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.

3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, And the maximum value of the receiver should be recorded as ( $P_r$ ).

4. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power ( $P_{Mea}$ ) is applied to the input of the substitution antenna , and adjust the level of the signal generator output until the value of the receiver reach the previously recorded ( $P_r$ ). The power of signal source ( $P_{Mea}$ ) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.

5. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss ( $P_{cl}$ ), the substitution Antenna Gain ( $G_a$ ) and the Amplifier Gain ( $P_{Ag}$ ) should be recorded after test.

6. The measurement results are obtained ad described below:

$$\text{Power(EIRP)}=P_{Mea}+ P_{Ag}-P_{cl}+G_a$$

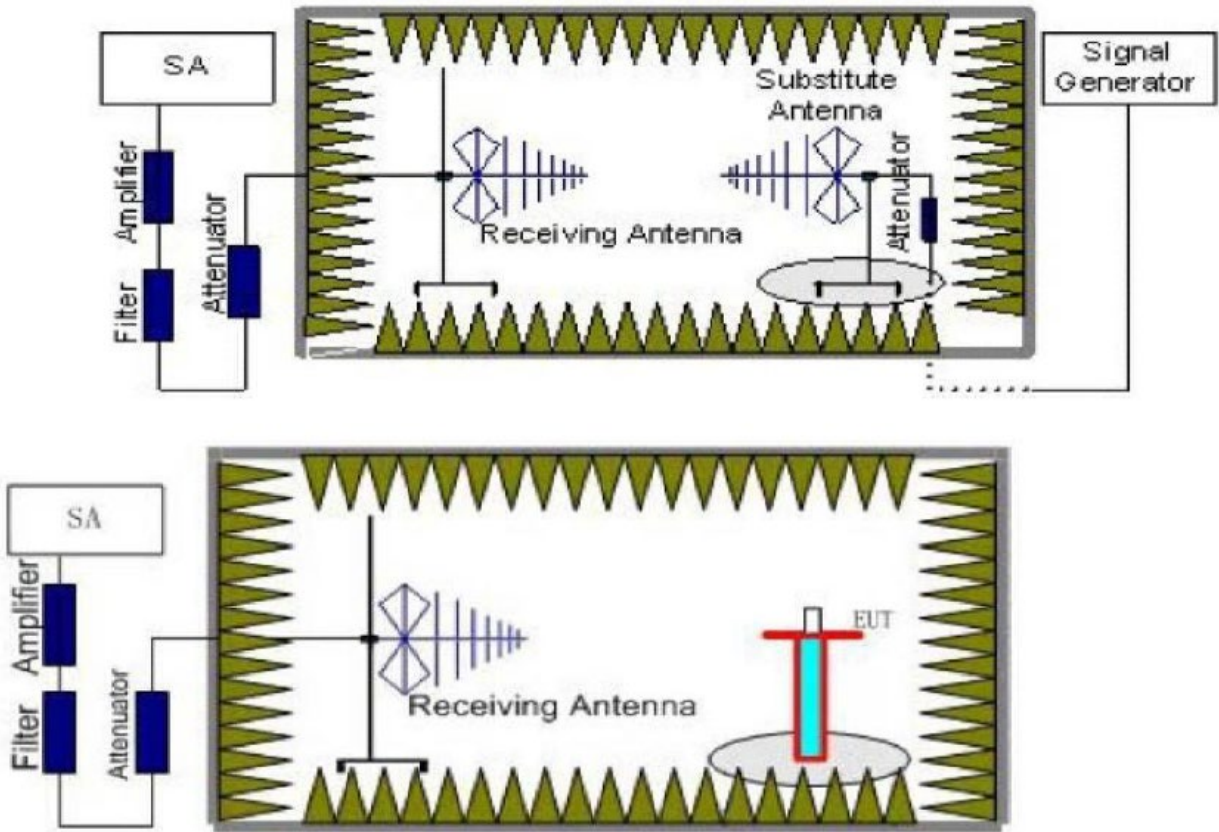
This value is EIRP since the measurement is calibrated using an antenna of known gain(0 dBi) and known input power.

ERP can be calculated from EIRP by subtracting the gain of the dipole,  $ERP = EIRP-0dBi$ .

### 8.3 Deviation From Standard

No deviation.

### 8.4 Test Setup



### 8.5 EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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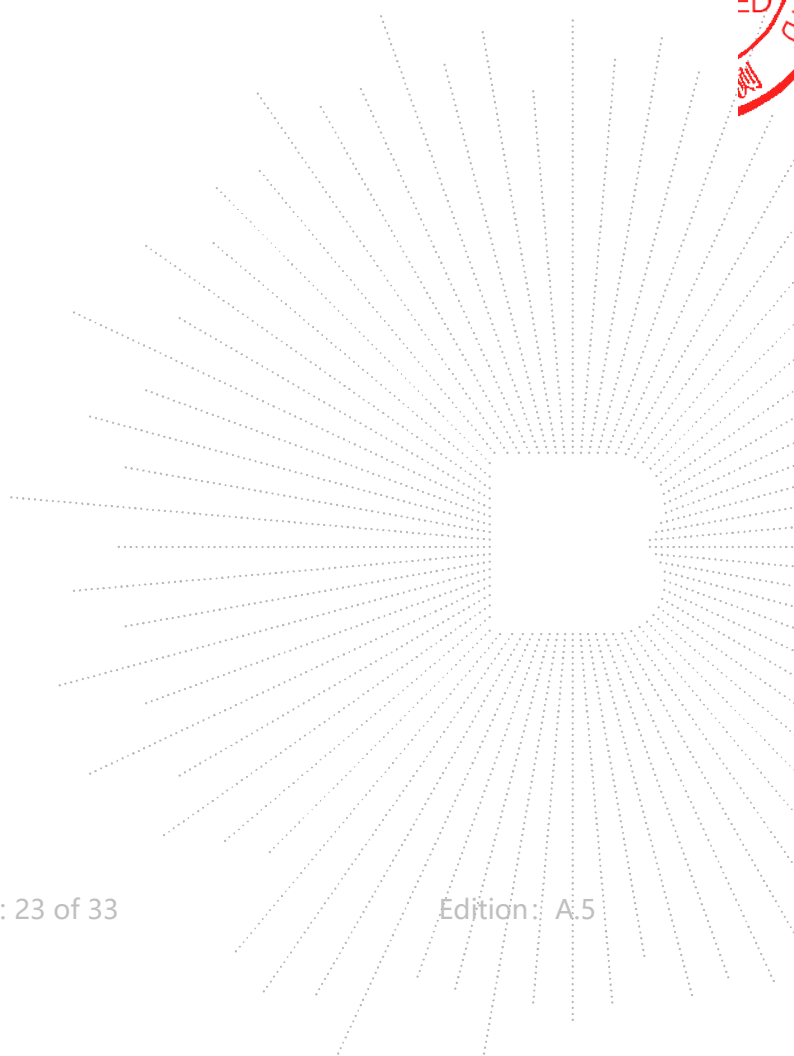
## 8.6 Test Result

Temperature:	26°C	Relative Humidity:	54%
Test Mode :	Mode 1	Test Voltage :	DC 3V

Test Mode	Channel	Frequency (MHz)	EIRP power (dBm)	Limits EIRP (dBm)	Verdict
TX	01	202.75	-6.683	17.00	Pass

## Remark:

1.  $EIRP = P_{Mea}(dBm) - P_{cl}(dB) + P_{Ag}(dB) + G_a(dBi)$
2.  $ERP = EIRP - 0dB_i$  as EIRP by subtracting the gain of the dipole.
3. Margin = Emission Level – Limit
4. We test the H direction and V direction recorded worst case.



## 9. Bandwidth Test & Emission Mask

### 9.1 Applied Procedures / Limit

According to FCC 15.236(f), The operating frequency within a permissible band of operation as defined in paragraph (c) must comply with the following requirements.

(1) The frequency selection shall be offset from the upper or lower band limits by 25 kHz or an integral multiple thereof.

(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.

Emissions within the band from one megahertz below to one megahertz above the carrier frequency shall comply with the emission mask in Section 8.3 of ETSI EN 300 422-1 V1.4.2 (2011-08) (incorporated by reference, see §15.38). Emissions outside this band shall comply with the limit specified at the edges of the ETSI mask

### 9.2 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..

Emission Mask test procedure:

Necessary Bandwidth (BN) for Analogue Systems

Method of Measurement

The arrangement of test equipment as shown in figure B.1 shall be used. Note that the noise meter conforms to (quasi peak) without weighting filter (flat).

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.

The corresponding audio output level from the demodulator shall be measured and recorded.

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. 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  $\leq 10$  dB.

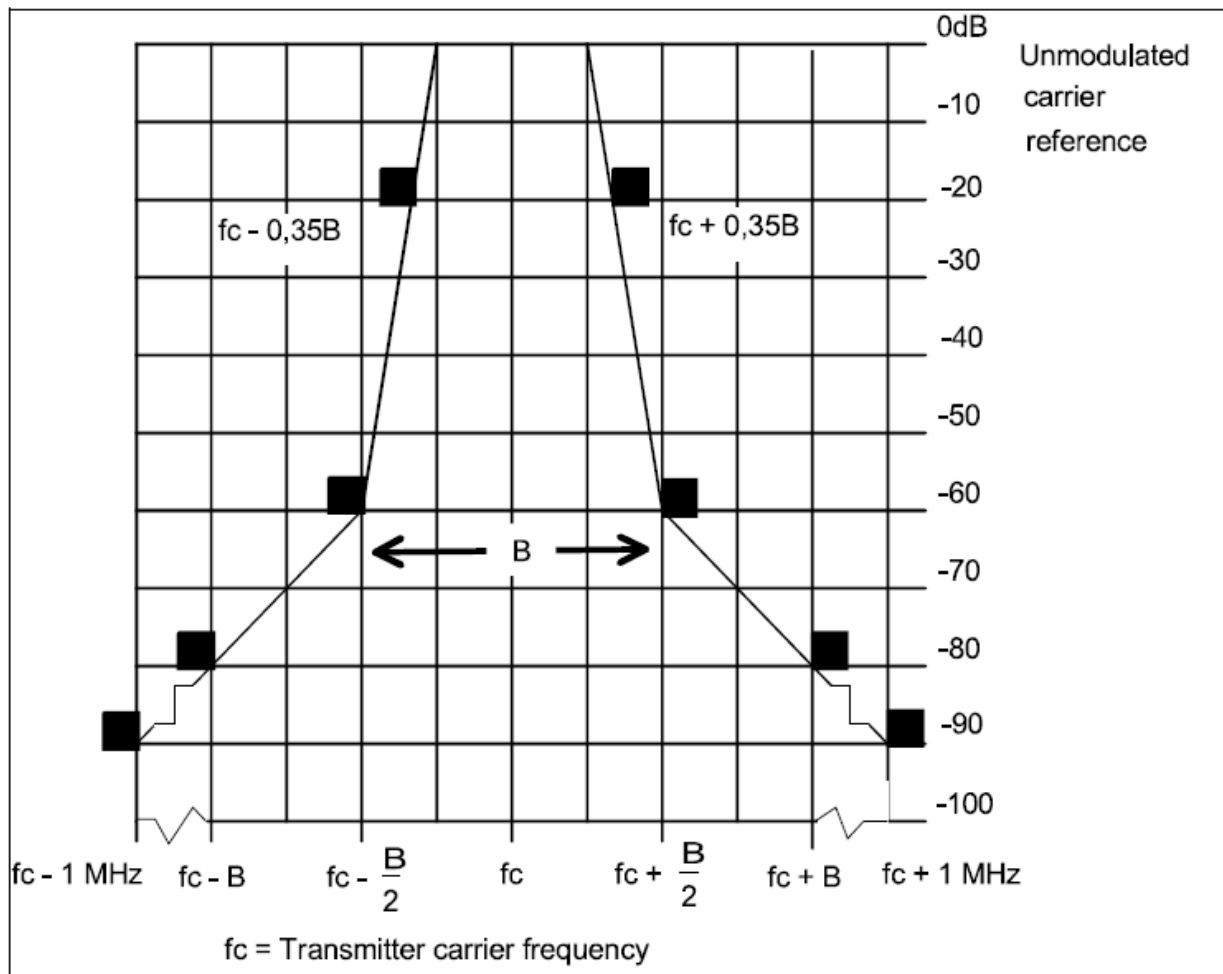
If this condition is not met, the initial audio input level shall be increased from -8 dB (lim) in 1 dB steps until the above condition is fulfilled, and the input level recorded in the test report. This level replaces the value derived from the manufacturer's declaration and is defined as -8 dB (lim).

If the transmitter incorporates more than one audio input, e.g. stereo systems, the second and subsequent channels shall be simultaneously driven from the same noise source, attenuated to a level of -6 dB (lim).

The transmitter RF output spectrum shall be measured, using a spectrum analyser with the following settings:

centre frequency:	fc: Transmitter (Tx) nominal frequency;
dispersion (Span):	fc - 1 MHz to fc + 1 MHz;
Resolution BandWidth (RBW):	1 kHz;
Video BandWidth (VBW):	1 kHz;
detector:	Peak hold.

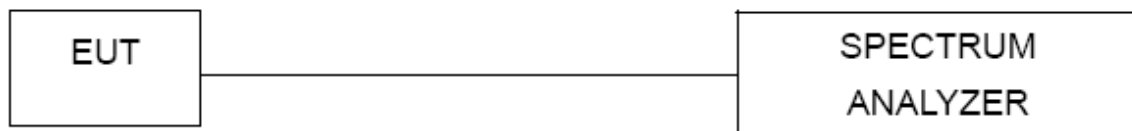




### 9.3 Deviation From Standard

No deviation..

### 9.4 Test Setup



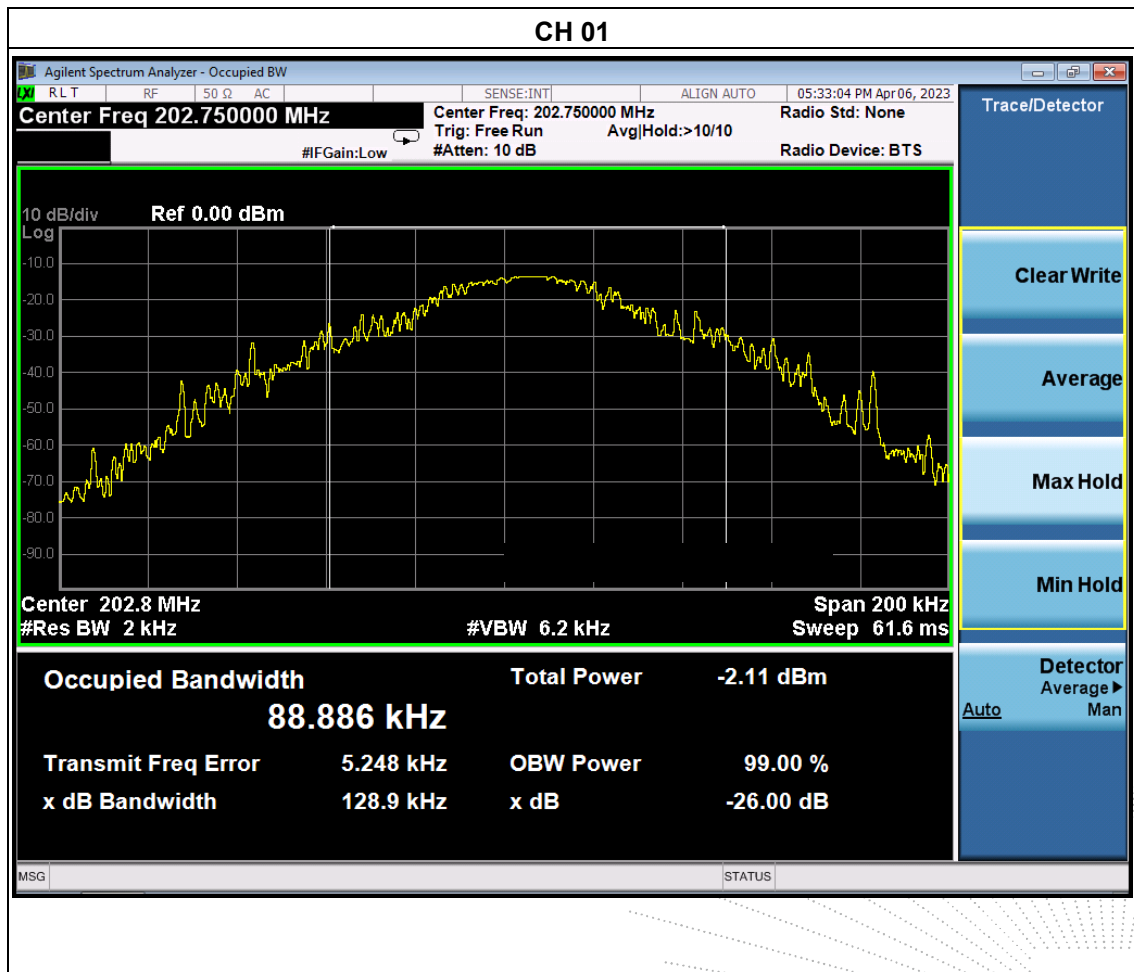
### 9.5 EUT Operation Conditions

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

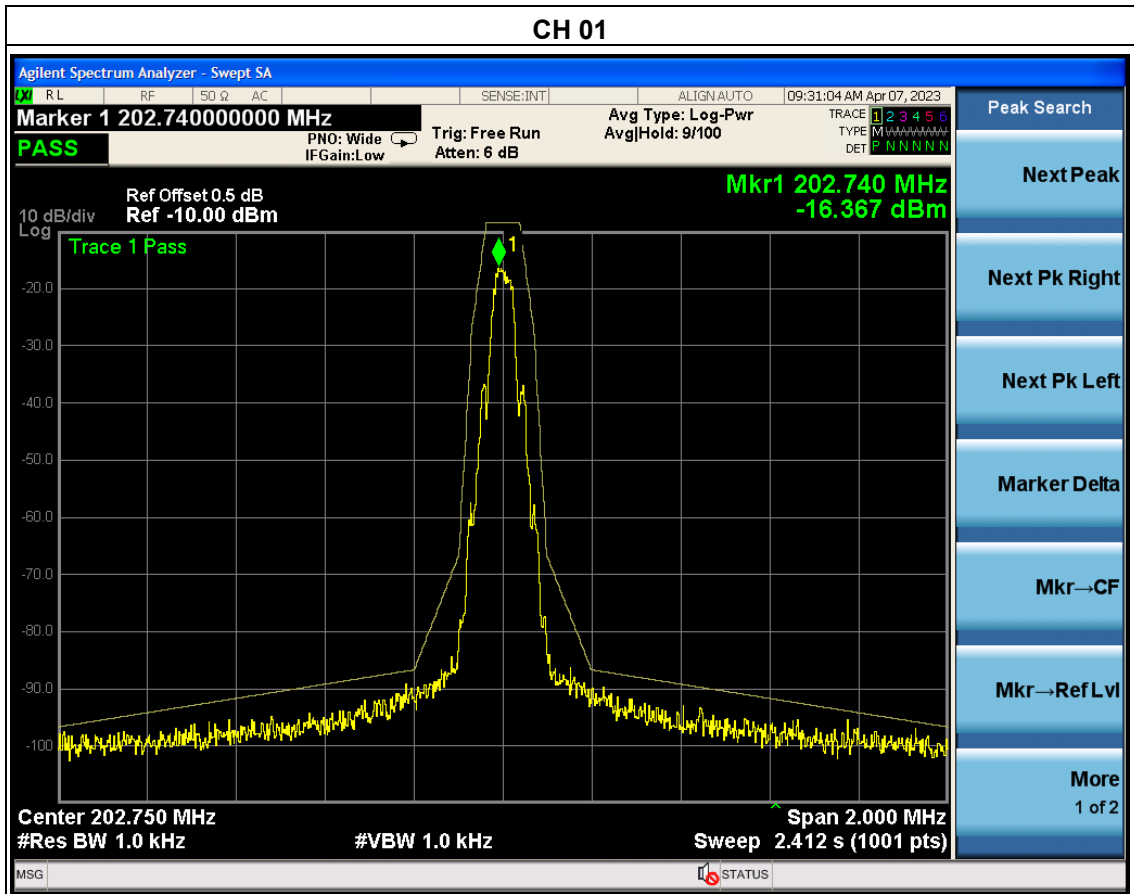
## 9.6 Test Results

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

Frequency (MHz)	-26dB bandwidth (kHz)	99% Bandwidth (kHz)	Limit (kHz)	Result
202.75	128.9	88.886	200	Pass



## Emission Mask



## 10. Frequency Stability

### 10.1 Applicable Standard

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.

### 10.2 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.

### 10.3 Deviation From Standard

No deviation.

### 10.4 Test Setup

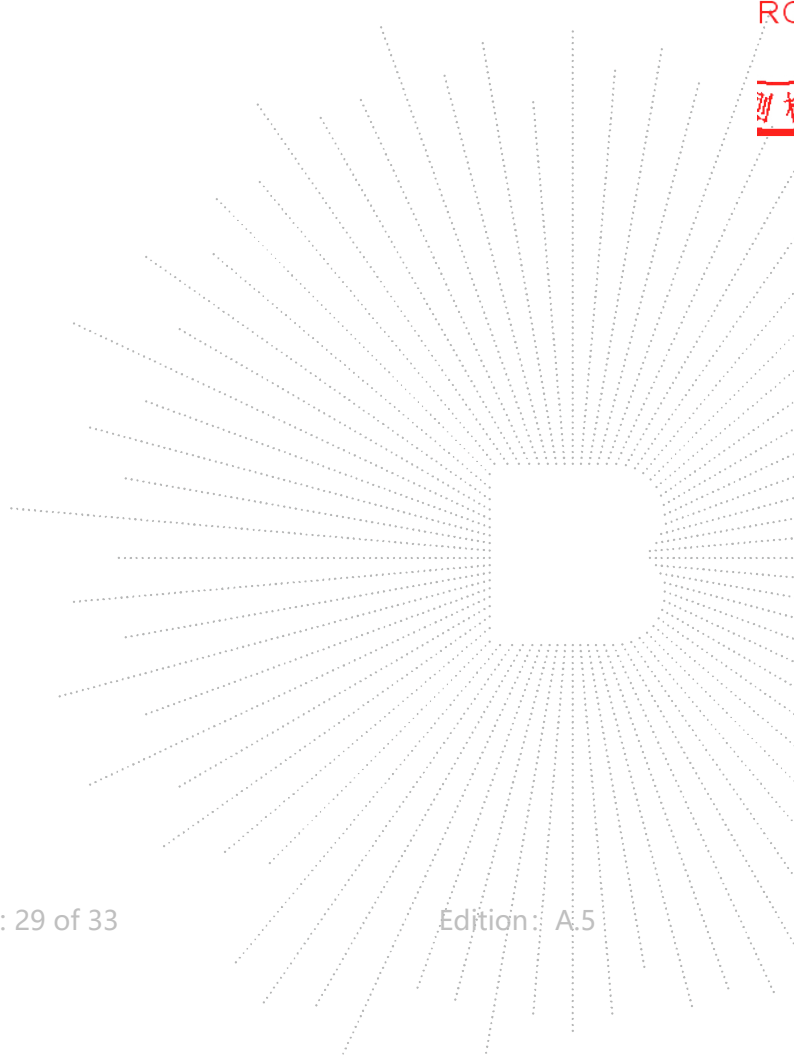


### 10.5 EUT Operation Conditions

The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

## 10.6 Test Result

Test conditions		Frequency Error
		202.75 MHz
T <sub>nom</sub> (20°C)	V <sub>min</sub> (2.55V)	202.7557
	V <sub>max</sub> (3.45V)	202.7420
T(-20°C)	V <sub>nom</sub> (3V)	202.7127
T(-10°C)	V <sub>nom</sub> (3V)	202.7059
T(0°C)	V <sub>nom</sub> (3V)	202.6585
T(10°C)	V <sub>nom</sub> (3V)	202.6277
T <sub>nom</sub> (20°C)	V <sub>nom</sub> (3V)	202.5825
T(30°C)	V <sub>nom</sub> (3V)	202.5487
T(40°C)	V <sub>nom</sub> (3V)	202.5454
T(50°C)	V <sub>nom</sub> (3V)	202.5187
T <sub>nom</sub> (20°C)	V <sub>min</sub> (2.55V)	202.4952
	V <sub>max</sub> (3.45V)	202.4496
Max. frequency error (ppm)		1.10
Limit (ppm)		±50ppm
End Point		DC 3V



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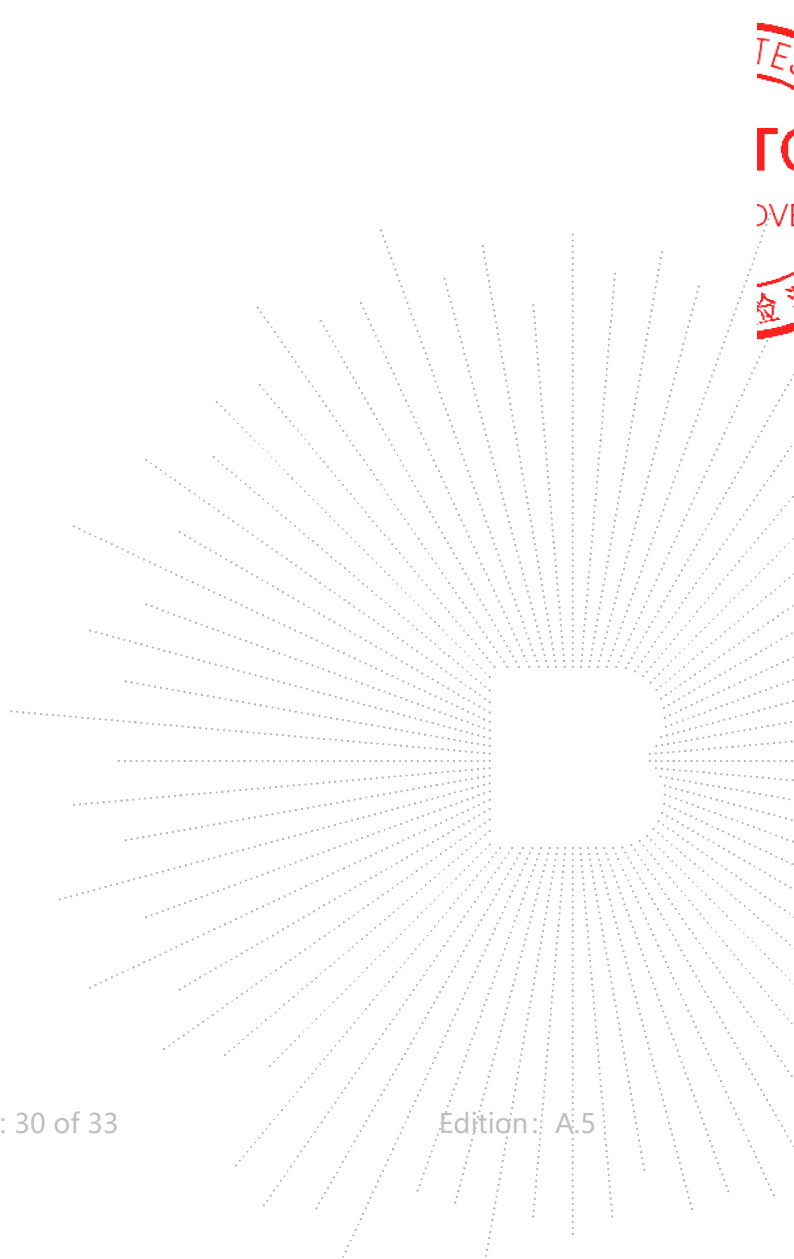
## 11. Antenna Requirement

### 11.1 Standard Requirement

15.203 requirement: For intentional device, according to 15.203: 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.

### 11.2 EUT Antenna

The EUT antenna is Spring antenna, The antenna gain is 0dBi, fulfill the requirement of this section.



## 12. EUT Photographs

EUT Photo 1



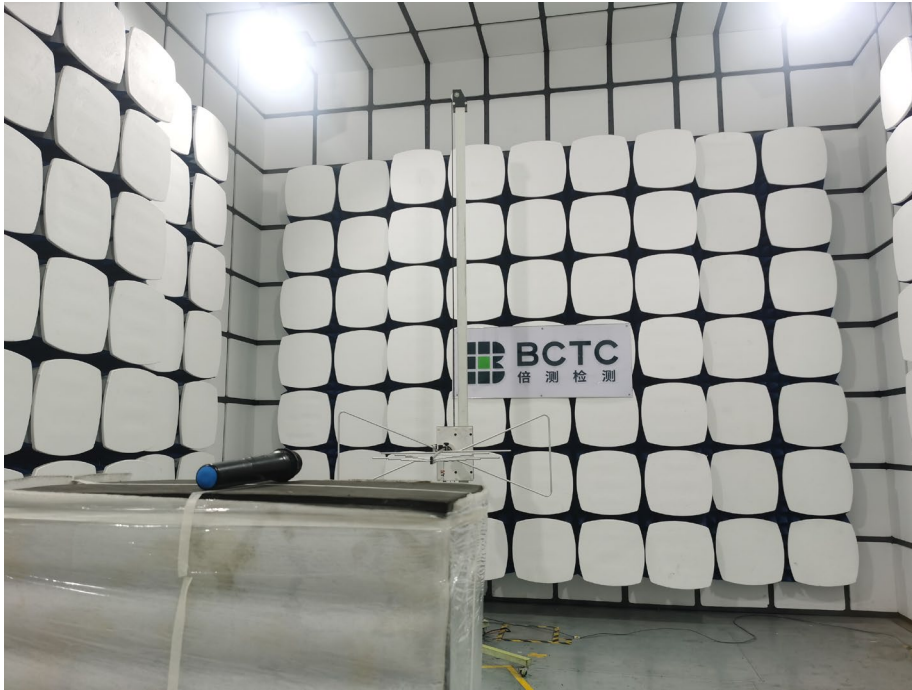
EUT Photo 2



ST  
ED

### 13. EUT Test Setup Photographs

#### Radiated Measurement Photos



ING CO., LTD



**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 test report without CMA mark is only used for scientific research, teaching, enterprise product development and internal quality control purposes.
8. The quality system of our laboratory is in accordance with ISO/IEC17025.
9. 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 \*\*\*\*\***