

TEST REPORT

Report No.: **BCTC2502442275E**

Applicant: **SHENZHEN FENDA TECHNOLOGY CO., LTD.**

Product Name: **Wireless Microphone**

Test Model: **U2**

Tested Date: **2025-05-26 to 2025-05-29**

Issued Date: **2025-05-29**

Shenzhen BCTC Testing Co., Ltd.



FCC ID:HBO-U2

Product Name: Wireless Microphone

Trademark:



Model/Type reference: U2

Prepared For: SHENZHEN FENDA TECHNOLOGY CO., LTD.

Address: Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen City, Guangdong, China

Manufacturer: SHENZHEN FENDA TECHNOLOGY CO., LTD.

Address: Fenda Hi-Tech Park, Zhoushi Road, Shiyan Town, Baoan District, Shenzhen City, Guangdong, 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: 2025-05-26

Sample tested Date: 2025-05-26 to 2025-05-29

Issue Date: 2025-05-29

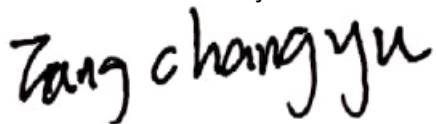
Report No.: BCTC2502442275E

FCC Part74H

Test Standards: ANSI C63.10-2013
ANSI/TIA-603-E:2016

Test Results: PASS

Tested by:



Tang Changyu/ 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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(Note: N/A Means Not Applicable)

1. Version

Report No.	Issue Date	Description	Approved
BCTC2502442275E	2025-05-29	Original	Valid

A circular red stamp is located in the bottom right corner of the page. The text "STAMPED" is curved along the top inner edge, and "ED." is curved along the bottom right inner edge.

2. Test Summary

The Product has been tested according to the following specifications:

No.	Test Parameter	Clause No.	Results
1	Output Power Measurement	§74.861(e)(1)(ii)	PASS
2	Modulation Characteristics	§74.861(e)(3)	PASS
3	Occupied Bandwidth Emission	§74.861(e)(5)	PASS
4	Radiated Spurious Emission	§74.861(e)(6)	PASS
5	Spurious Emission at Antenna Port	§2.1051	PASS
6	Frequency Stability	§74.861(e)(4)	PASS
NOTE1: N/A (Not Applicable)			

 CO.LTS?

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 output power uncertainty Above 1G	U=1.576dB
7	Conducted output power uncertainty below 1G	U=1.28dB
8	humidity uncertainty	U=5.3%
9	Temperature uncertainty	U=0.59°C

4. Product Information And Test Setup

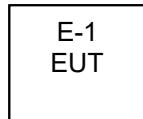
4.1 Product Information

Model/Type reference: U2
 Model differences: N/A
 Hardware Version: N/A
 Software Version: N/A
 Operation Frequency: 655MHz-656.7MHz
 Type of Modulation: FM
 Number Of Channel: 5
 Antenna installation: Integral Antenna
 3.02 dBi
 Remark:
 Antenna Gain:
 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.
 The antenna gain of the product is provided by the customer, and the test data is affected by the customer information.
 Ratings: DC 3.7V From Battery, DC 5V From USB

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		U2	N/A	EUT
E-2	Adapter	UGREEN	CD289	N/A	Auxiliary

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 No.	1	2	3	4	5
Frequency (MHz)	655	655.5	656	656.5	656.7

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 (CH01: 655MHz)
Mode 2	Transmitting (CH03: 656MHz)
Mode 3	Transmitting (CH05: 656.7MHz)

Note:

The measurements are performed at the available channels.

4.6 Test Conditions

	Normal	LTLV	LTHV	HTHV	HTLV
Temperature (°C)	20	-30	-30	50	50
Voltage (V)	3.7	3.33	4.07	3.33	4.07

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

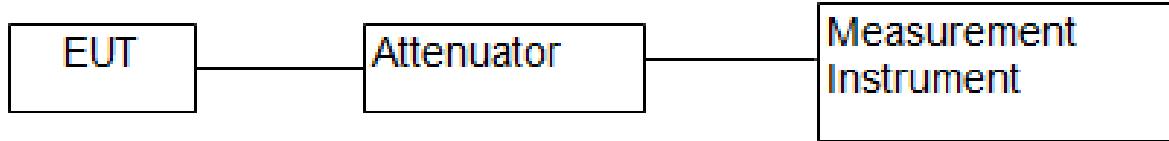
RF Conducted Test					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
Power meter	Keysight	E4419	\	May 14, 2025	May 13, 2026
Power Sensor (AV)	Keysight	E9300A	\	May 14, 2025	May 13, 2026
Signal Analyzer20kHz z-26.5GHz	Keysight	N9020A	MY49100060	May 14, 2025	May 13, 2026
Spectrum Analyzer9kHz-40GHz	R&S	FSP40	100363	May 14, 2025	May 13, 2026
Radio frequency control box	MAIWEI	MW100-RFC B	\	\	\

Radiated Emissions Test (966 Chamber01)					
Equipment	Manufacturer	Model#	Serial#	Last Cal.	Next Cal.
966 chamber	ChengYu	966 Room	966	May 15, 2023	May 14, 2026
Receiver	R&S	ESR	102075	May 08, 2025	May 07, 2026
Receiver	R&S	ESRP	101154	May 14, 2025	May 13, 2026
Amplifier	Schwarzbeck	BBV9744	9744-0037	May 14, 2025	May 13, 2026
TRILOG Broadband Antenna	Schwarzbeck	VULB9163	942	May 24, 2025	May 23, 2026
Loop Antenna(9KHz -30MHz)	Schwarzbeck	FMZB1519B	00014	May 24, 2025	May 23, 2026
Amplifier	SKET	LAPA_01G1 8G-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 24, 2025	May 23, 2026
Horn Antenn(18GH z-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	\	\



6. RF Output Power

6.1 Block Diagram Of Test Setup



6.2 Limit

According to FCC 74.861(e)(1)(iii)

For low power auxiliary stations operating in the 600 MHz duplex gap and the bands allocated for TV broadcasting may not exceed 20mW.

6.3 Test Procedure

1. The maximum peak output power was measured with a Spectrum Analyzer connected to the antenna terminal while EUT was operating in unmodulated situation.
2. Power was supplied to the battery input connector a power supply. The power supply was set for +3.7VDC. The Spectrum Analyzer was connected at antenna terminal to measure RF power of the carrier.
3. A Multimeter was connected in series with final RF Stage to measure the current; A Multimeter was used to measure final RF Stage supply voltage. Then the voltage v.s. current of the final RF Stage can be showed.

Measure and record the results in the test report.

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

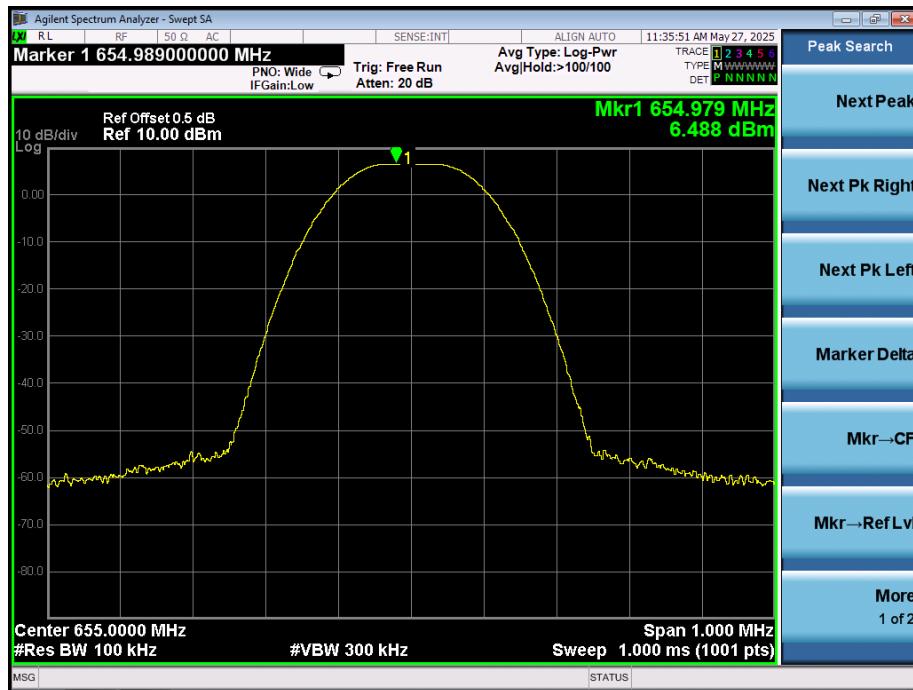
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	655MHz~656.7MHz		

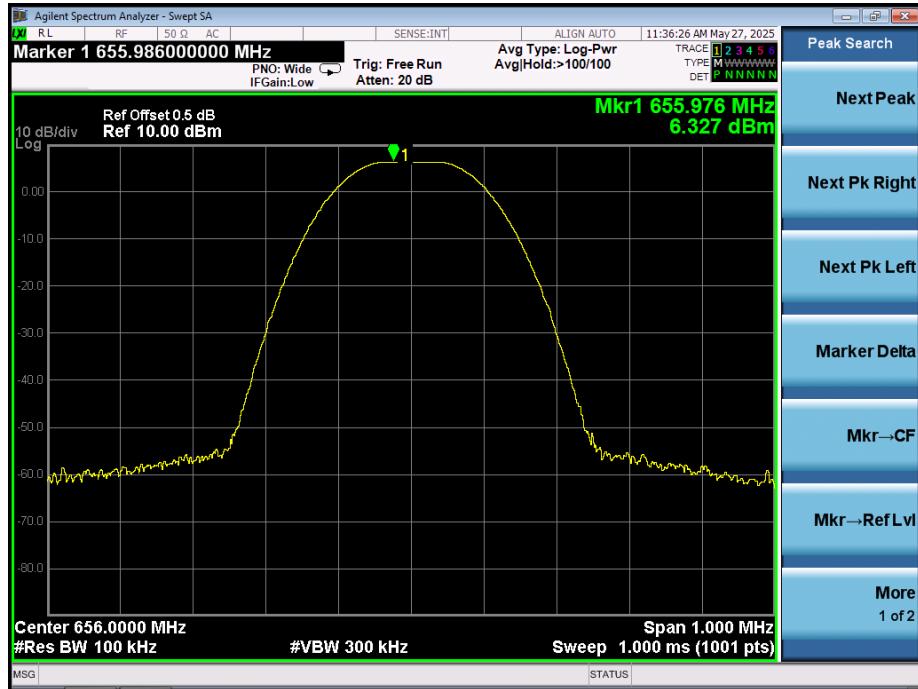
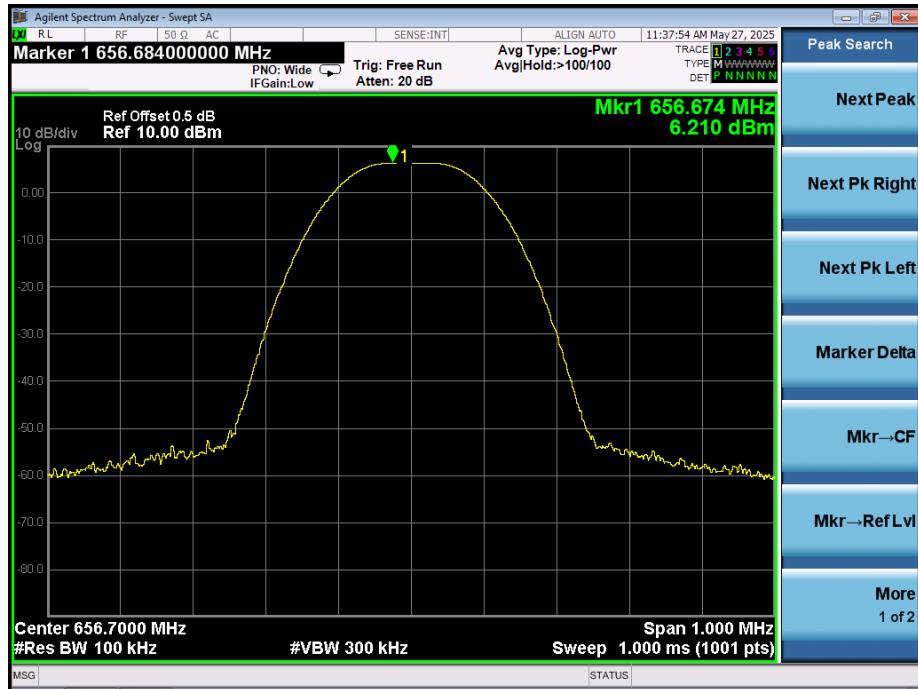
Frequency (MHz)	Conducted Output Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (mW)	FCC Limit (mW)	Result
	(dBm)	(dBi)	(dBm)	(mW)	(mW)	
655	6.488	3.02	9.508	8.930	20	PASS
656	6.327	3.02	9.347	8.604	20	PASS
656.7	6.210	3.02	9.230	8.375	20	PASS

Remark:

EIRP (dBm) = Conducted Output Power (dBm) + Antenna Gain (dBi)

Low Channel (655MHz)

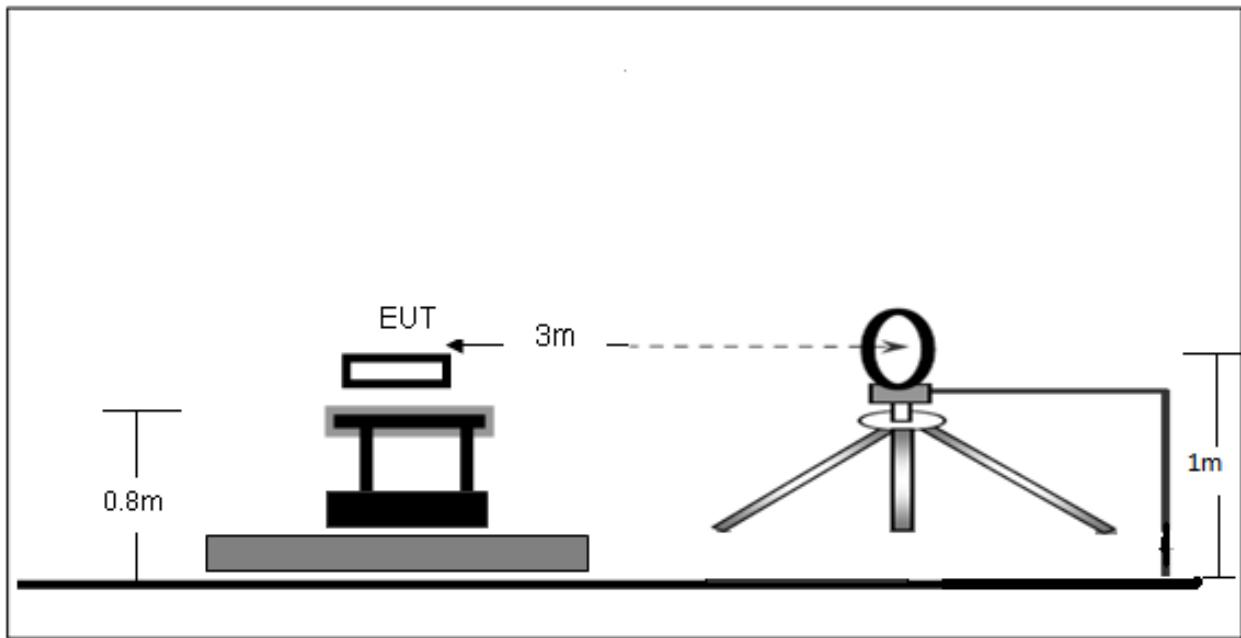


Middle Channel (656MHz)

High Channel (656.7MHz)


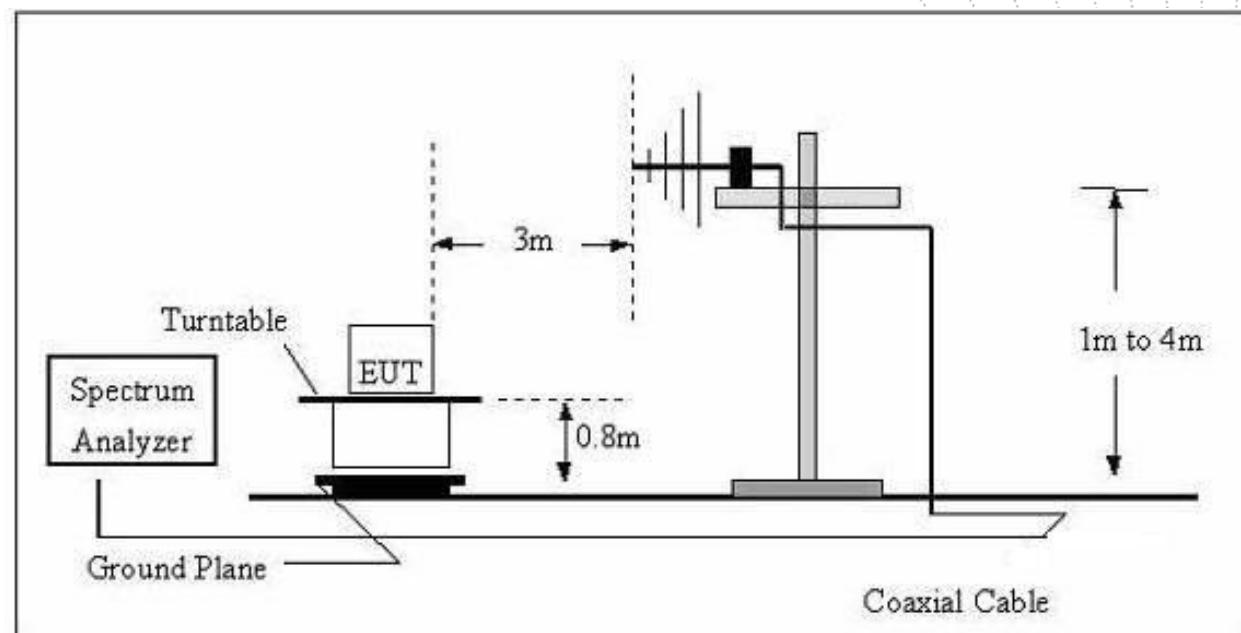
7. Radiated Emissions

7.1 Block Diagram Of Test Setup

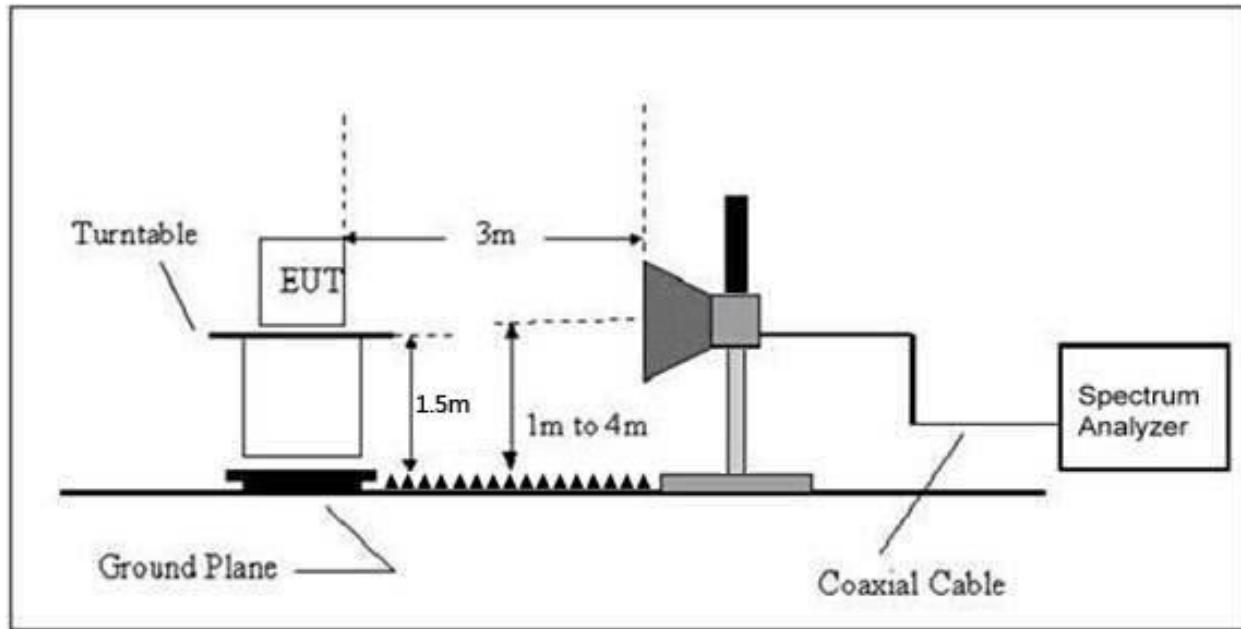
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



7.2 Limit

According to FCC74.861 (e)(7)(IV), Emissions outside of the emission masks listed in paragraphs (e)(7)(i) through (e)(7)(iii) 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 § 74.35).

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 3.7V
Test Mode :	Mode 1(The Worst data)	Polarization :	--

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

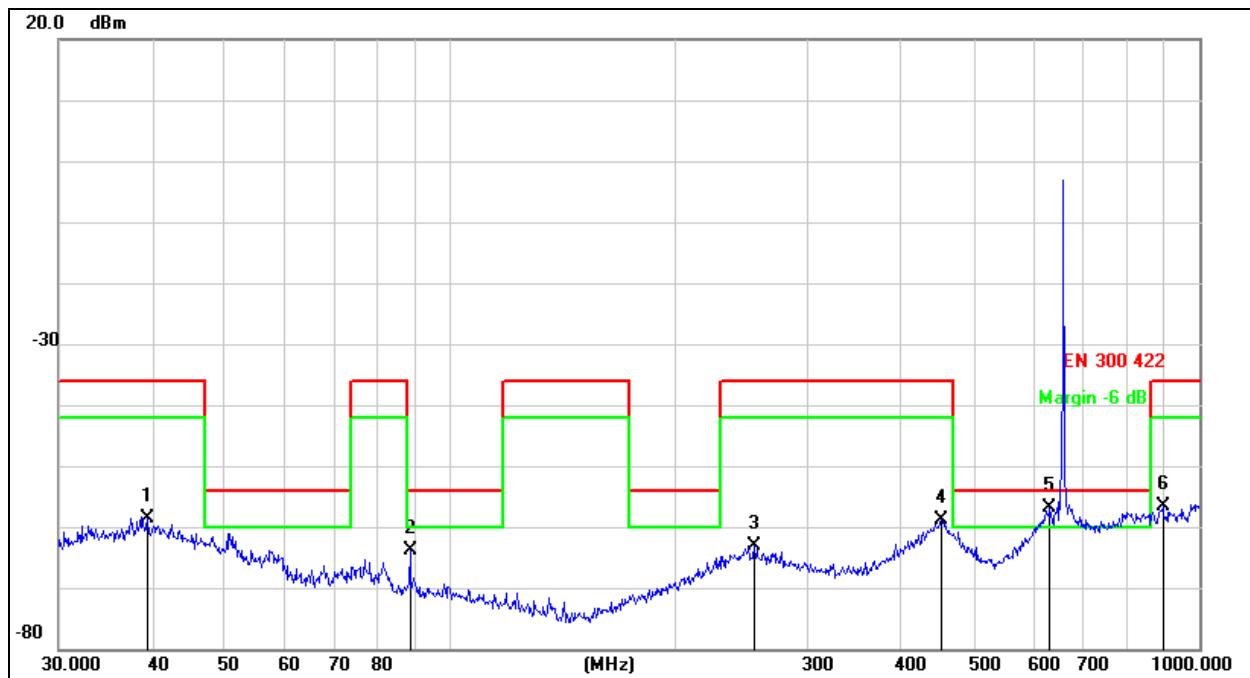
Note:

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 = $40 \log (\text{specific distance}/\text{test distance})(\text{dB})$;
 Limit line = specific limits(dBuV) + distance extrapolation factor.

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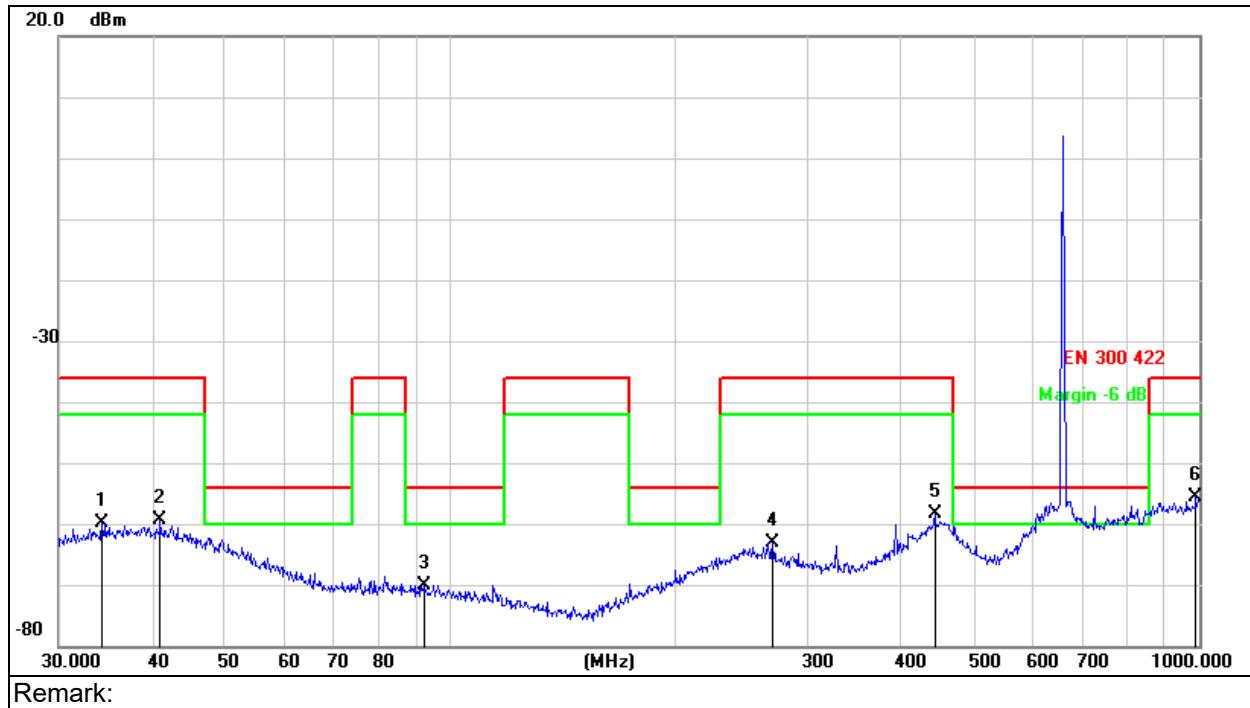
Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Vertical
Frequency	The worst data(Mode 2)	Remark:	N/A


Remark:

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

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over
			Level	Factor	ment		
		MHz	dBm	dB	dBm	dB	Detector
1		39.4371	-61.33	2.66	-58.67	-36.00	-22.67 QP
2		88.3421	-56.75	-7.13	-63.88	-54.00	-9.88 QP
3		254.7283	-61.68	-1.34	-63.02	-36.00	-27.02 QP
4		452.7196	-62.45	3.49	-58.96	-36.00	-22.96 QP
5	*	631.6884	-62.03	5.19	-56.84	-54.00	-2.84 QP
6		893.8567	-62.61	5.90	-56.71	-36.00	-20.71 QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Phase :	Horizontal
Frequency	The worst data(Mode 2)	Remark:	N/A



Remark:

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

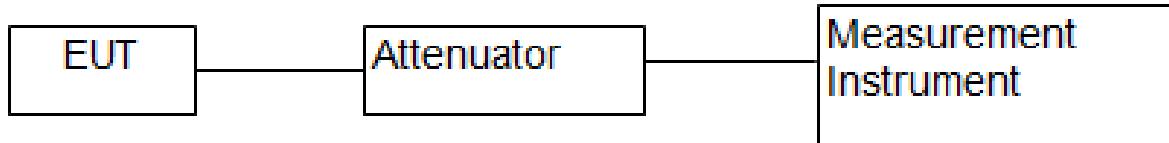
No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over
			Level	Factor	ment		
MHz dBm dB dBm dB dB Detector							
1	34.2760	-61.76	1.89	-59.87	-36.00	-23.87	QP
2	40.9881	-61.95	2.47	-59.48	-36.00	-23.48	QP
3 *	92.1388	-62.79	-7.23	-70.02	-54.00	-16.02	QP
4	269.4284	-61.09	-2.01	-63.10	-36.00	-27.10	QP
5	443.2943	-61.65	3.17	-58.48	-36.00	-22.48	QP
6	989.5353	-61.69	6.00	-55.69	-36.00	-19.69	QP

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	655MHz~656.7MHz		

Frequency (MHz)	Reading (dBm)	Correct dB	Result (dBm)	Limit (dBm)	Margin (dB)	Polar
Low Channel (655MHz)						
1310.00	-21.01	-28.11	-49.12	-30.00	-19.12	H
1965.00	-24.70	-26.66	-51.36	-30.00	-21.36	H
1310.00	-20.63	-28.11	-48.74	-30.00	-18.74	V
1965.00	-26.68	-26.66	-53.34	-30.00	-23.34	V
Middle Channel (656MHz)						
1312.00	-21.27	-28.10	-49.37	-30.00	-19.37	H
1968.00	-24.77	-26.66	-51.43	-30.00	-21.43	H
1312.00	-20.39	-28.1	-48.49	-30.00	-18.49	V
1968.00	-26.59	-26.66	-53.25	-30.00	-23.25	V
High Channel (656.7MHz)						
1313.40	-20.73	-28.10	-48.83	-30.00	-18.83	H
1970.10	-24.87	-26.65	-51.52	-30.00	-21.52	H
1313.40	-20.73	-28.1	-48.83	-30.00	-18.83	V
1970.10	-26.52	-26.65	-53.17	-30.00	-23.17	V

8. Modulation Characteristics

8.1 Block Diagram Of Test Setup



8.2 Limit

According to FCC Part 74.861(e)(3) and 2.1047 (a)

For Voice Modulated Communication Equipment, the frequency response of the audio modulating circuit over a range of 100Hz to 5000Hz shall be measured. For equipment required to have an audio low-pass filter, the frequency response of the filter or of all circuitry installed between the modulation limiter and the modulated stage shall be measured.

Any form of modulation may be used. A maximum deviation of ± 75 kHz is permitted when frequency modulation is employed.

8.3 Test Procedure

1 Position the EUT as shown in figure 1, adjust the audio input frequency to 100 Hz and the input level from 0V to maximum permitted input voltage with recording each carrier frequency deviation responding to respective input level.

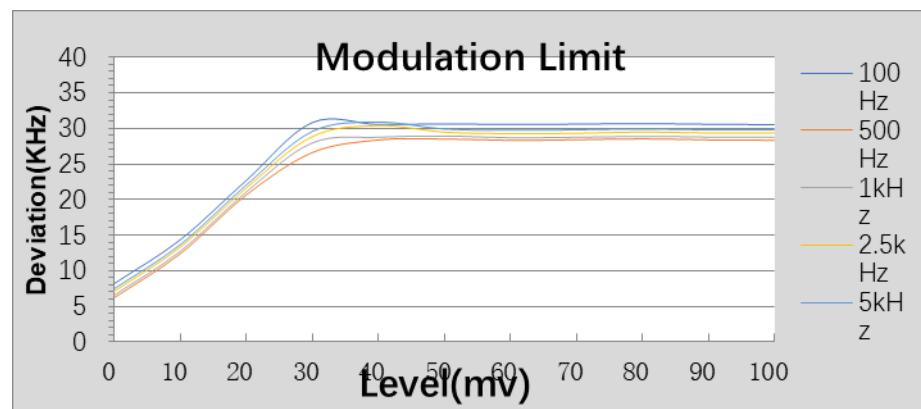
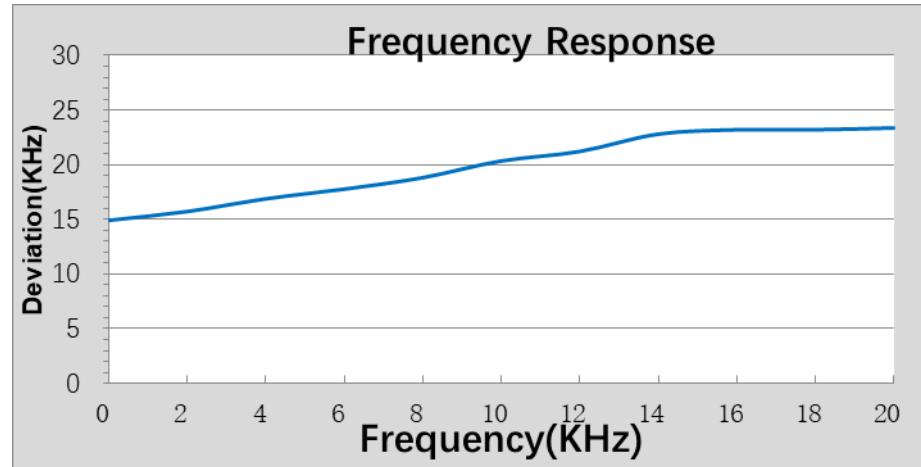
2 Repeat step 1 with changing the input frequency for 100, 300, 1000, 2500 and 3000 Hz in sequence.

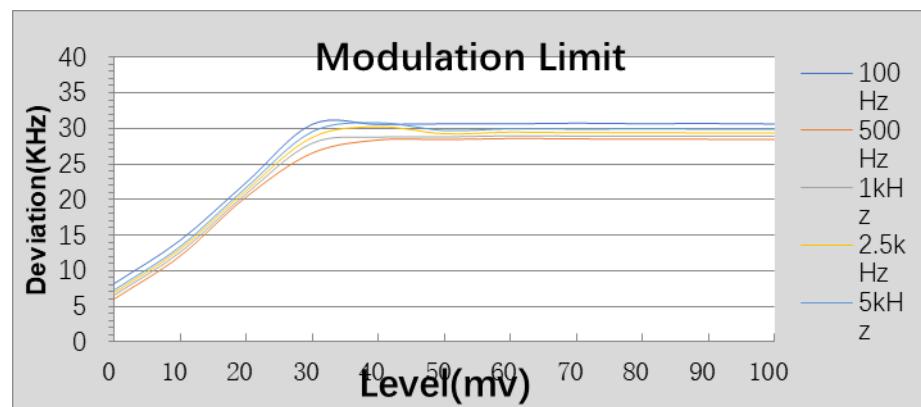
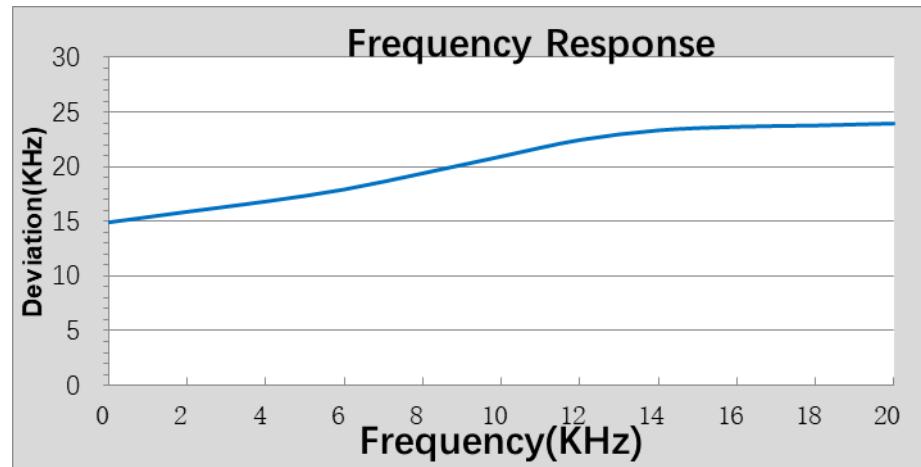
8.4 EUT operating Conditions

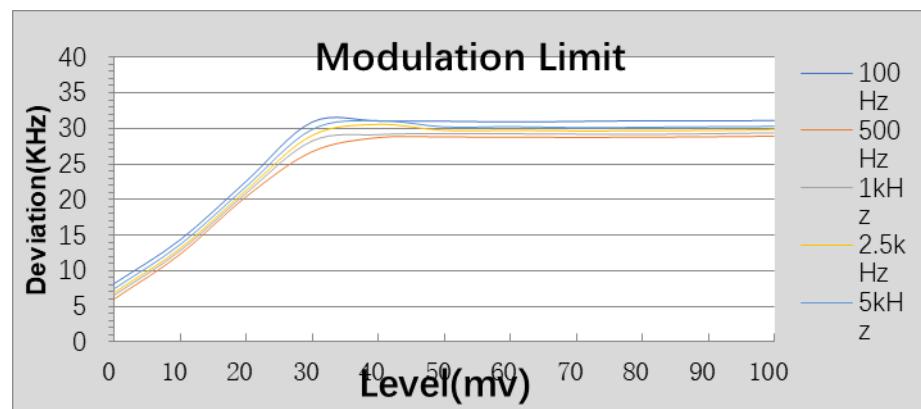
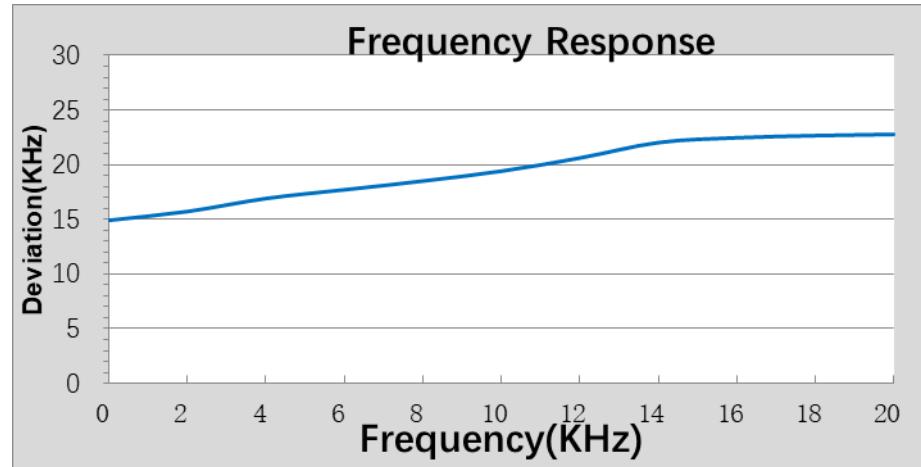
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

8.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	655MHz~656.7MHz		

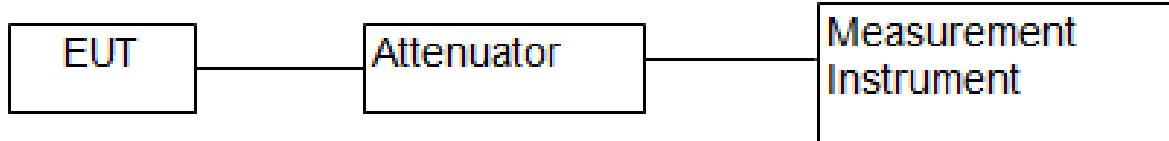
Low Channel (655MHz)

Middle Channel (656MHz)

High Channel (656.7MHz)

9. Occupied Bandwidth

9.1 Block Diagram Of Test Setup



9.2 Limit

According to 74.861(e)(5), 74.861(e)(6), 74.861(e)(7)(I) and FCC 2.1049 (c)(1)

According to FCC 2.1049 (c) (1), for radiotelephone transmitter, other than single sideband or independent sideband transmitter, when modulated by a 2.5 kHz tone at an input level 16 dB greater than that necessary to produce 50 percent modulation.

According to §74.861(e)(5), the operating bandwidth shall not exceed 200 kHz.

According to FCC 74.861(e)(6), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

1 On any frequency removed from the operating frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth: at least 25 dB.

2 On any frequency removed from the operating frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth: at least 35 dB.

3 On any frequency removed from the operating frequency by more than 250 percent up to and the authorized bandwidth shall be attenuated below the un-modulated carrier by at least 43 plus 10 Log (output power in watts) dB.

According to §74.861(e)(7)(I), Emissions within the band from $2.5 \times B$ below to $2.5 \times B$ above the carrier frequency, where B is the channel bandwidth, shall comply with the emission mask in Figure 1 of section 4.2.4.2.2 of ETSI EN 300 422-1 V2.2.1 (2021-11) (incorporated by reference, see § 74.35).

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 -26dB Bandwidth and record it.

9.4 EUT Operating Conditions

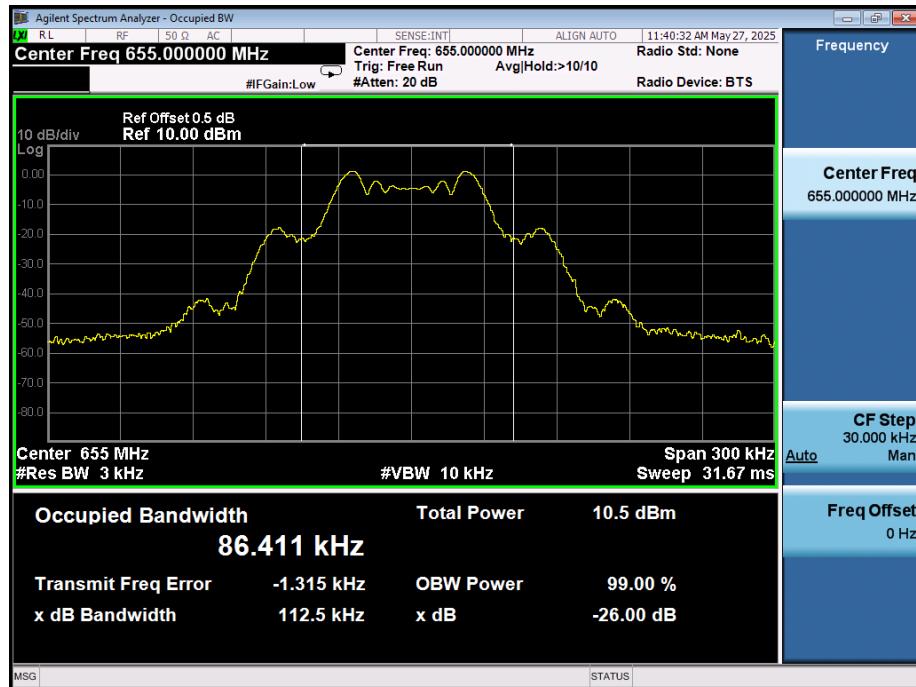
The EUT tested system was configured as the statements of 2.4 unless otherwise a special operating condition is specified in the follows during the testing.

9.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	655MHz~656.7MHz		

Test Channel	Frequency (MHz)	-26dB Bandwidth (kHz)	99% Bandwidth (kHz)	Limit (kHz)
Low	655	112.5	86.411	200
Middle	656	111.1	83.827	200
High	656.7	112.9	87.280	200

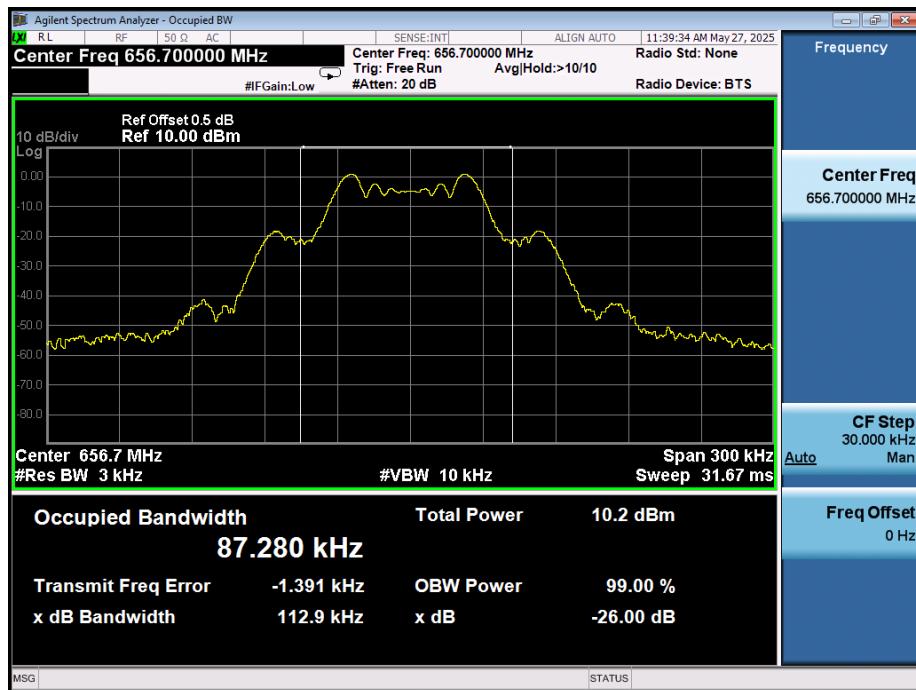
Low Channel (655MHz)

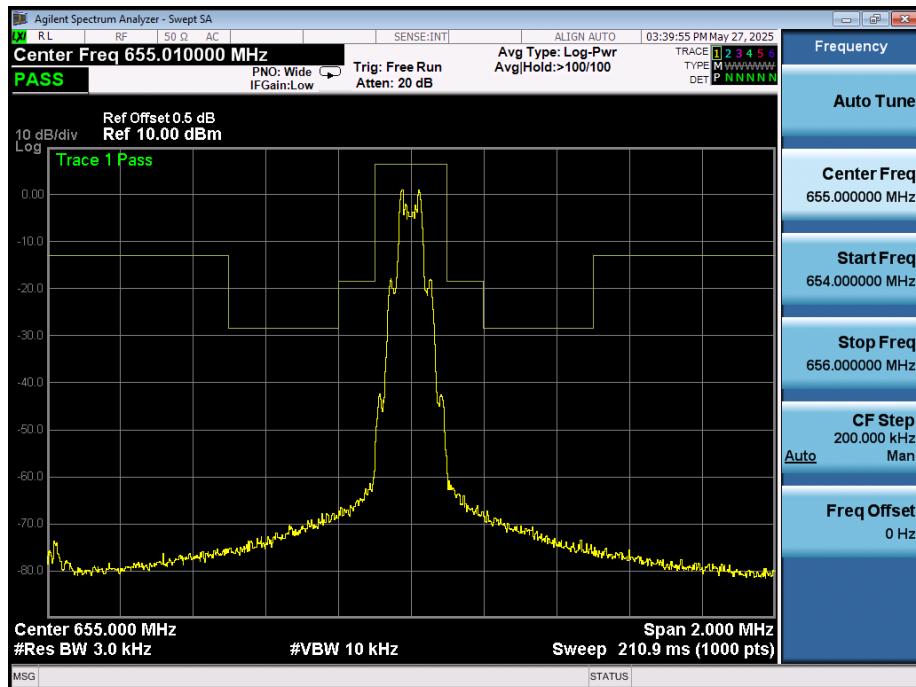
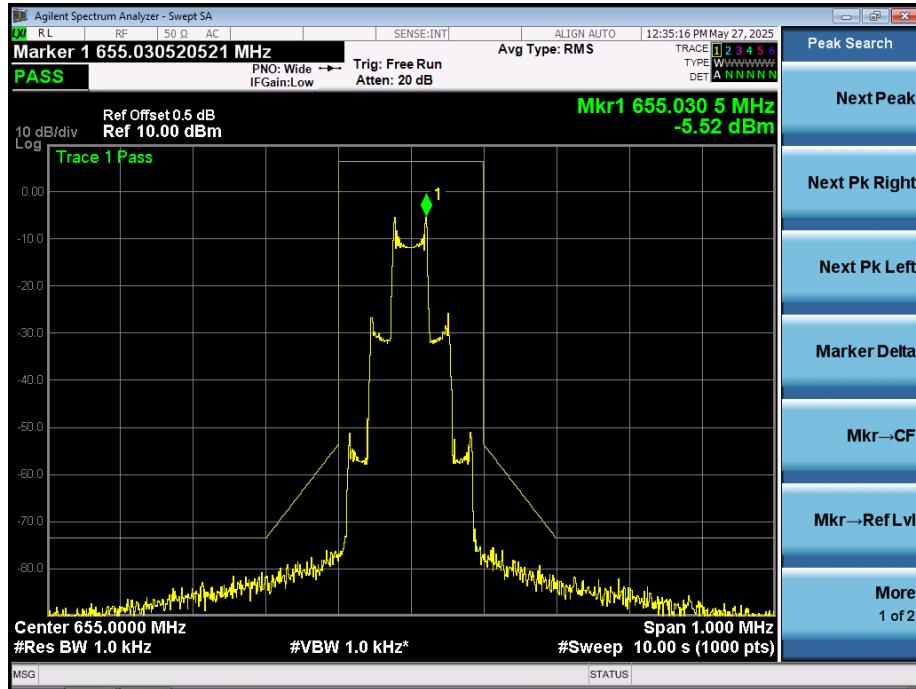


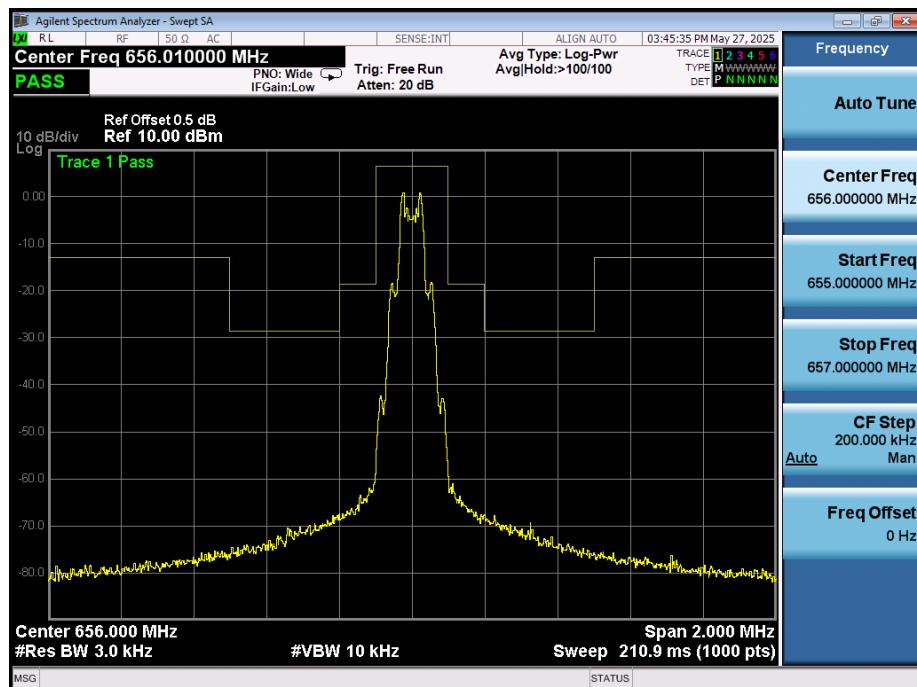
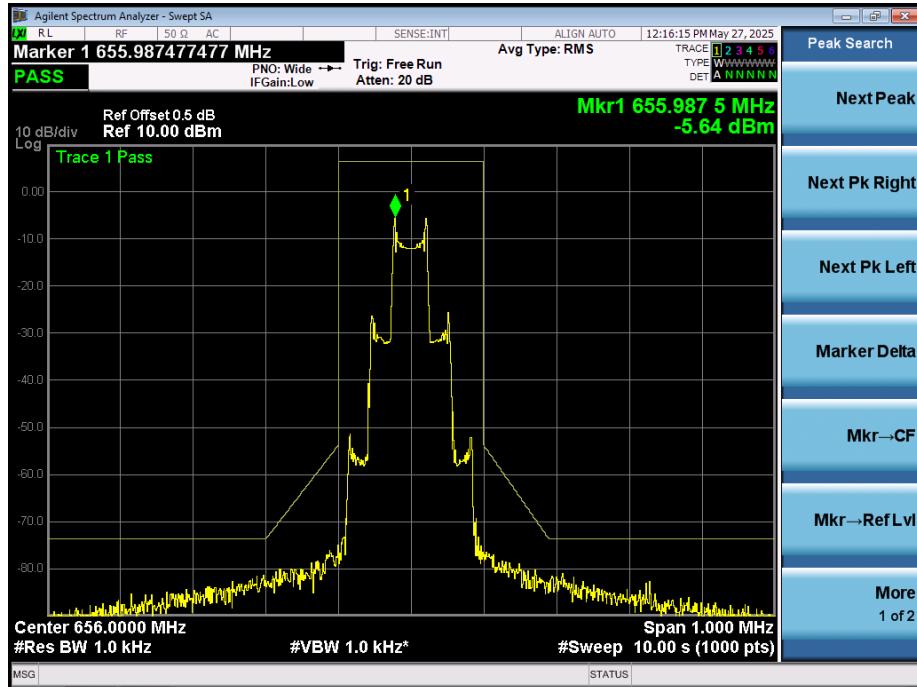
Middle Channel (656MHz)

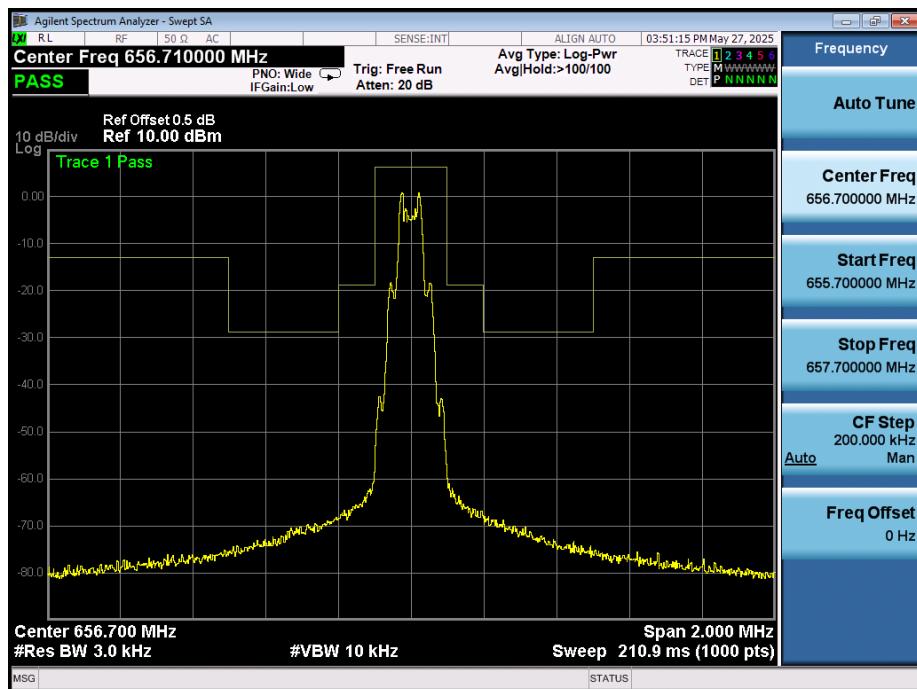
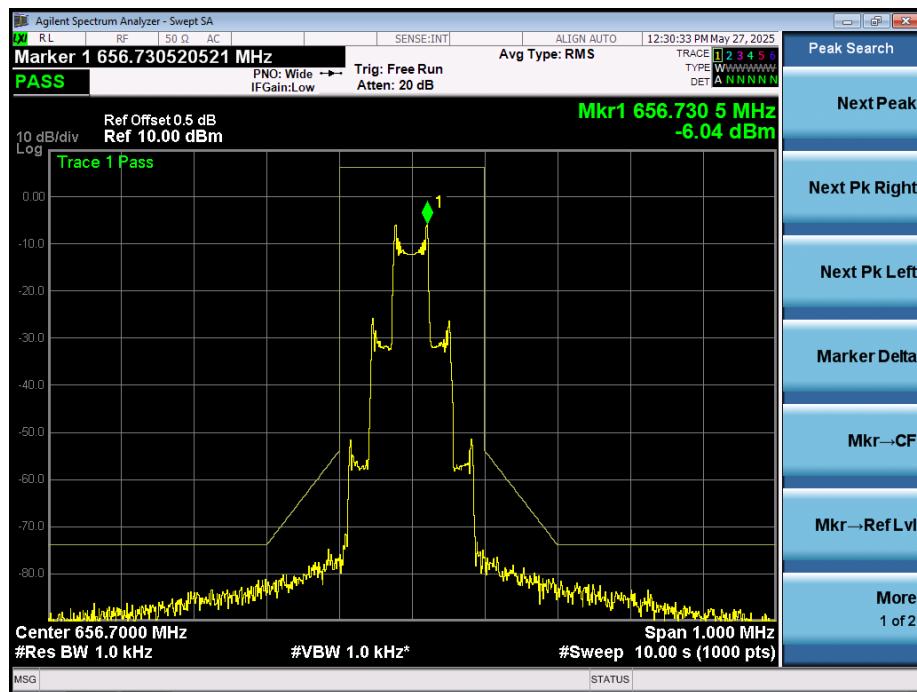


High Channel (656.7MHz)



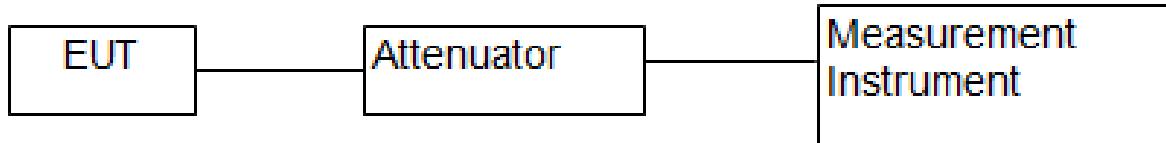
Emission Mask (655MHz)


Emission Mask (656MHz)


Emission Mask (656.7MHz)


10. Spurious Emission At Antenna Terminal

10.1 Block Diagram Of Test Setup



10.2 Limit

According to FCC74.861 (e)(6)

According to §2.1051, the radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emission that can be detected when the equipment is operated under the conditions specified in §2.1049 as appropriate.

According to FCC74.861 (e)(6), the mean power of emissions shall be attenuated below the mean output power of the transmitter in accordance with the following schedule:

On any frequency removed from the operating frequency by more than 250 percent up to and the authorized bandwidth shall be attenuated below the un-modulated carrier by at least $43 + 10 \log$ (output power in watts) dB.

10.3 Test Procedure

The transmitter output (antenna port) was connected to the spectrum analyzer

Reference level measurement

Establish a reference level by using the following procedure:

Set instrument center frequency to EUT center frequency.

Set Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel.

Set the RBW = 100 kHz. Set the VBW $\geq 3 \times$ RBW.

Set Detector = peak. Set Sweep time = auto couple.

Set Trace mode = max hold. Allow trace to fully stabilize.

Use the peak marker function to determine the maximum Maximum conducted level.

Note that the channel found to contain the maximum conducted level can be used to establish the reference level.

Conducted Spurious RF Conducted Emission

Use the following spectrum analyzer settings:

Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic.(30MHz to 25GHz).

Set RBW = 100 kHz (above 1GHz Set RBW = 1 MHz) Set VBW RBW

Set Sweep = auto Set Detector function = peak Set Trace = max hold

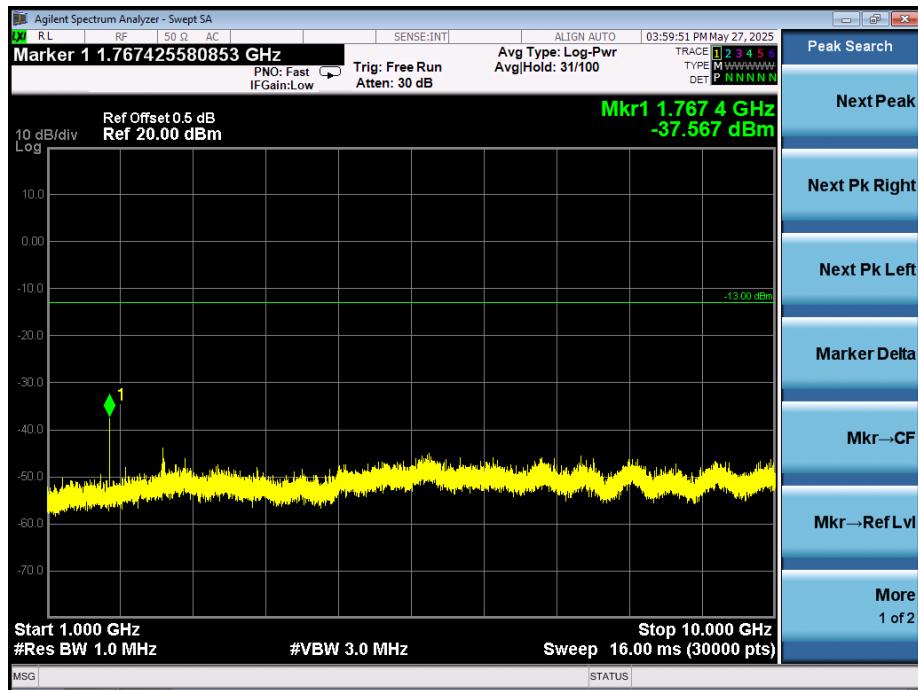
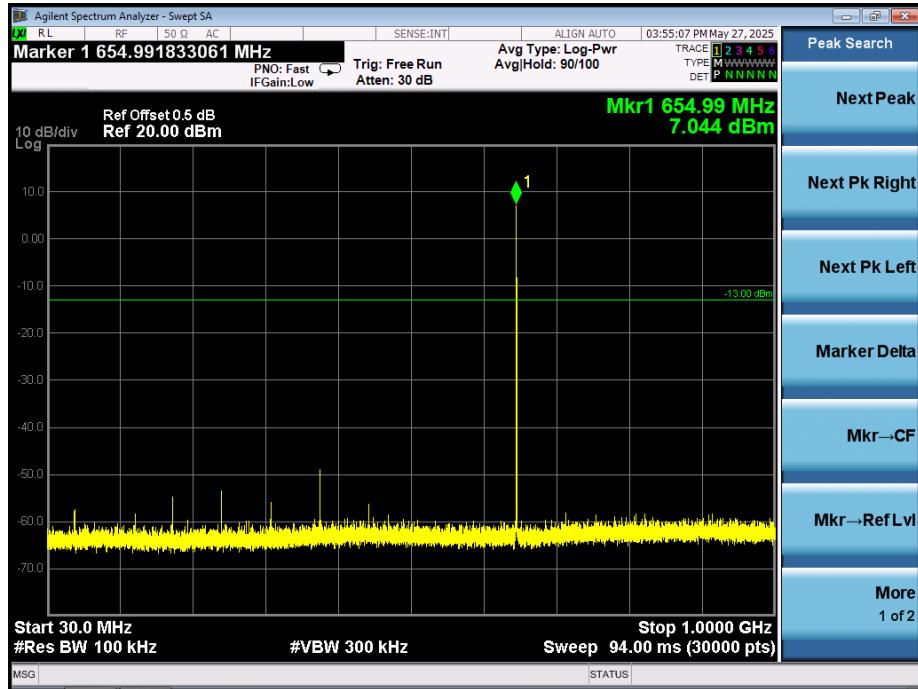
Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded. The level displayed must comply with the limit specified in this Section.

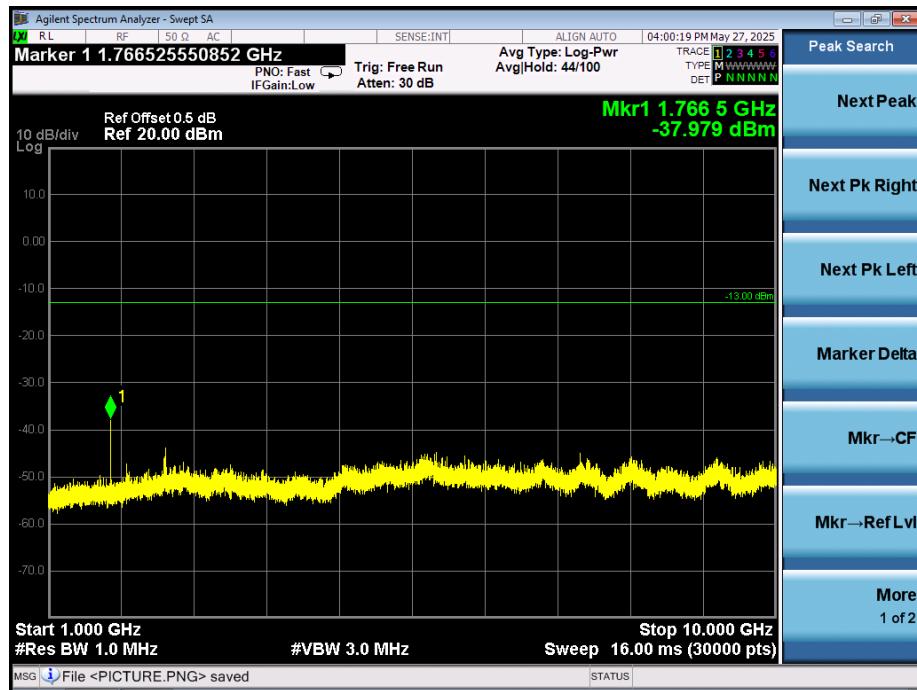
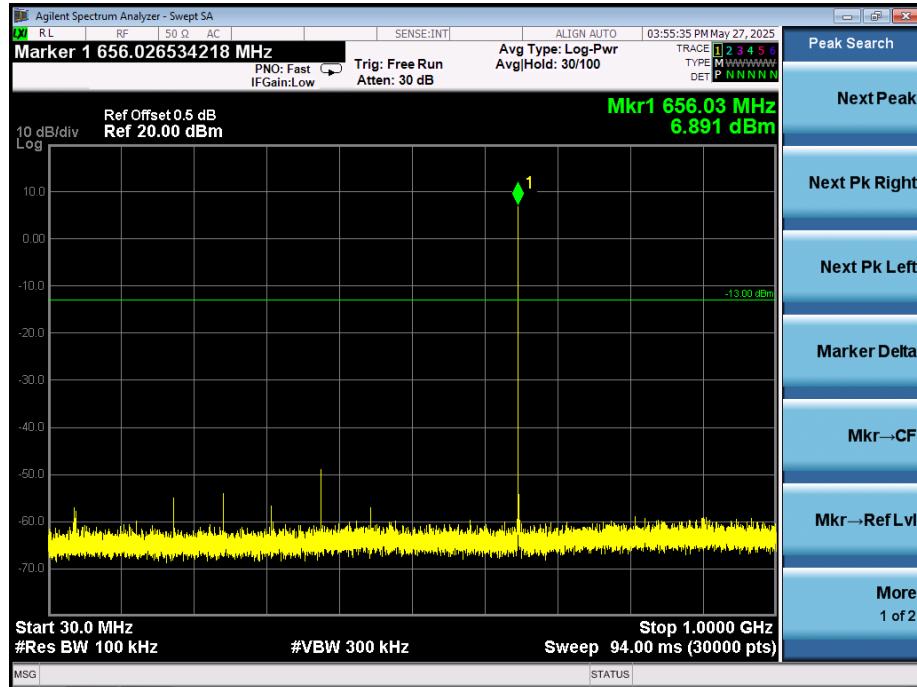
10.4 EUT Operating Conditions

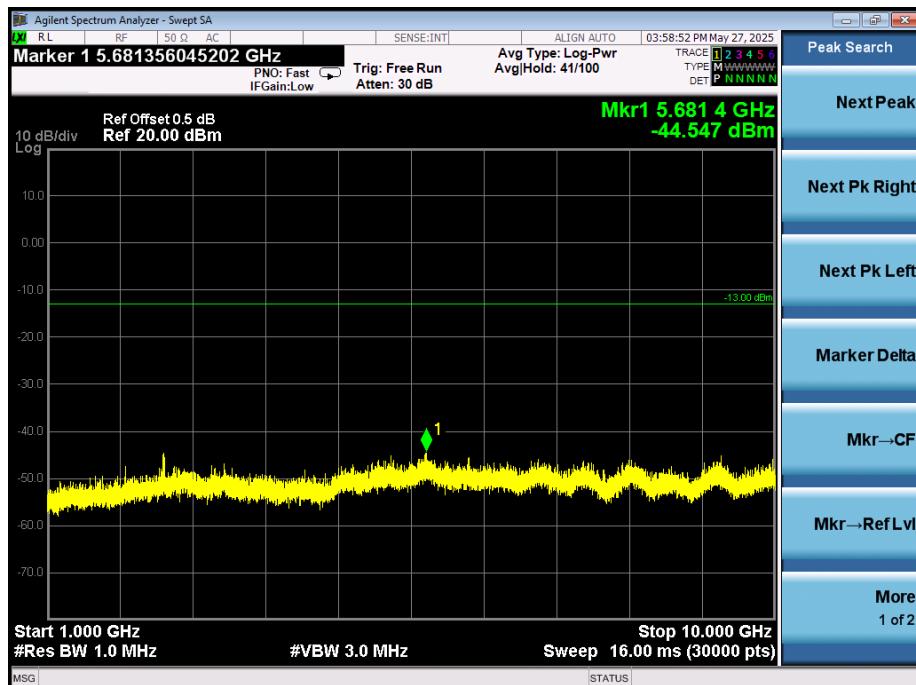
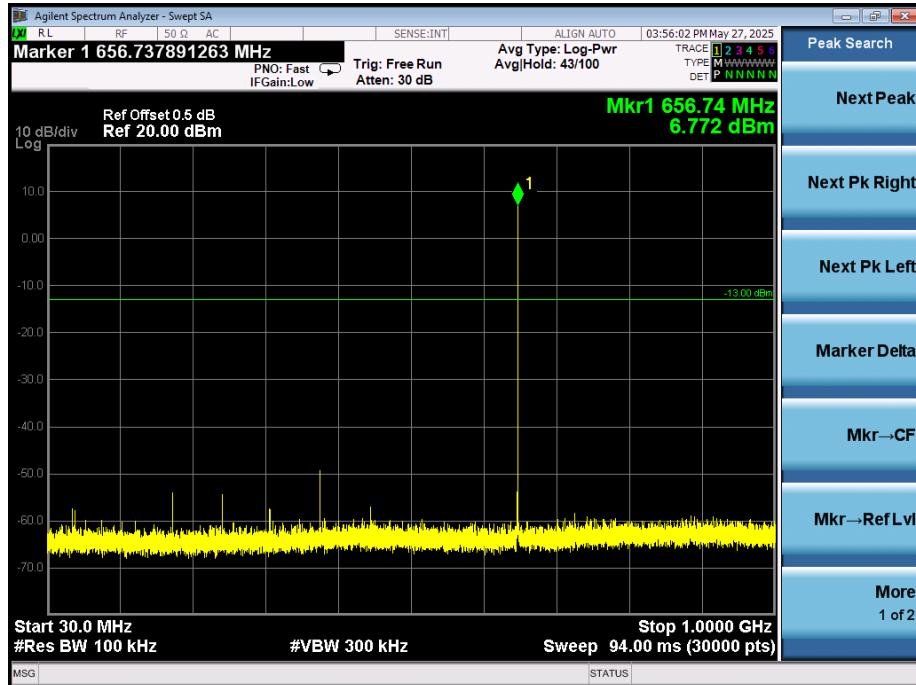
The EUT tested system was configured as the statements of 2.4 unless otherwise a special operating condition is specified in the follows during the testing.

10.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	655MHz~656.7MHz		

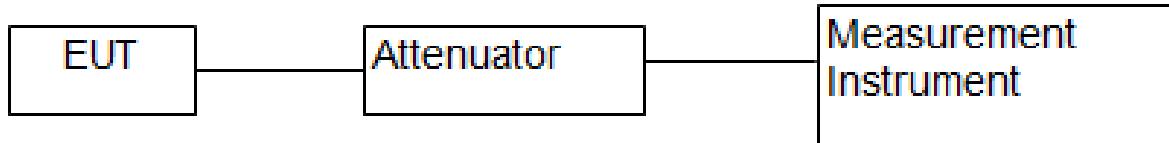
Low Channel(655MHz)


Middle Channel(656MHz)


High Channel(656.7MHz)


11. Frequency Stability

11.1 Block Diagram Of Test Setup



11.2 Limit

According to FCC 74.861

According to FCC 2.1055(a)(1), the frequency stability shall be measured with variation of ambient temperature from -30°C to $+50^{\circ}\text{C}$, and according to FCC 2.1055(d)(2), the frequency stability shall be measured with reducing primary supply voltage to the battery operating end point which is specified by the manufacturer.

According to FCC 74.861, the frequency tolerance of the transmitter shall be 0.005 percent.

11.3 Test Procedure

1 Setup the configuration of the ambient temperature from -30°C to 50°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.

11.4 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.

11.5 Test Result

Temperature:	26 °C	Relative Humidity:	54%
Pressure:	101KPa	Test Voltage :	DC 3.7V
Test Mode:	655MHz~656.7MHz		

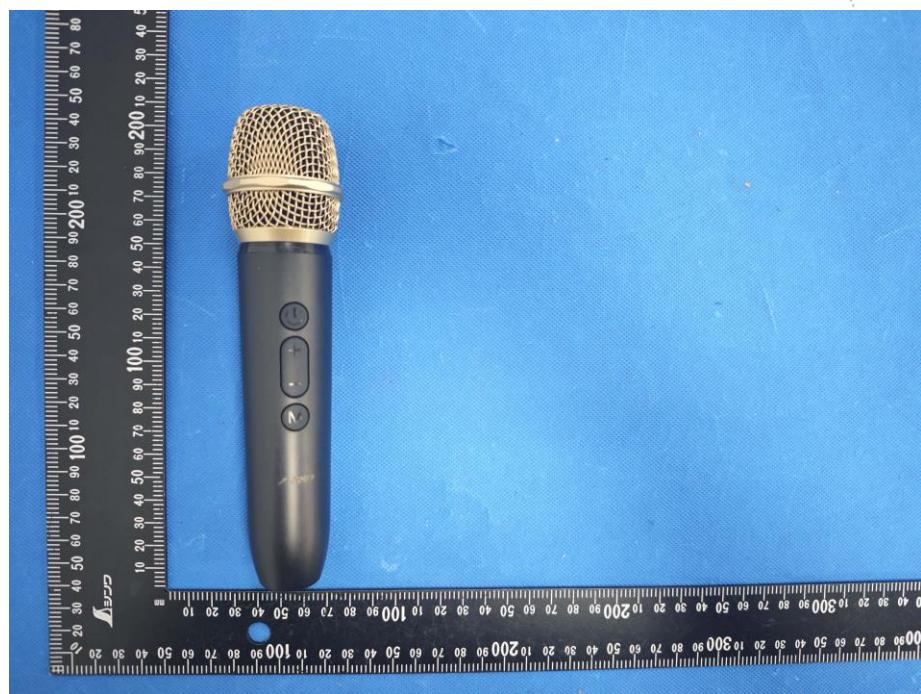
Test conditions		Frequency Error		
		655 MHz	656 MHz	656.7 MHz
T _{min} (-30°C)	V _{min} (3.33V)	655.009	656.007	656.70
	V _{max} (4.07V)	655.006	656.004	656.709
T(-20°C)	V _{nom} (3.7V)	655.002	656.002	656.707
T(-10°C)	V _{nom} (3.7V)	655.000	656.002	656.706
T(0°C)	V _{nom} (3.7V)	654.998	656.000	656.705
T(10°C)	V _{nom} (3.7V)	654.996	655.999	656.704
T _{nom} (20°C)	V _{nom} (3.7V)	654.994	655.995	656.700
T(30°C)	V _{nom} (3.7V)	654.994	655.994	656.697
T(40°C)	V _{nom} (3.7V)	654.993	655.994	656.695
T _{max} (50°C)	V _{min} (3.33V)	654.991	655.993	656.694
	V _{max} (4.07V)	654.990	655.993	656.691
Max. frequency error (ppm)		-16	-11	-14
Limit (ppm)		±50ppm		
End Point		DC 3.7V		

12. EUT Photographs

EUT Photo 1



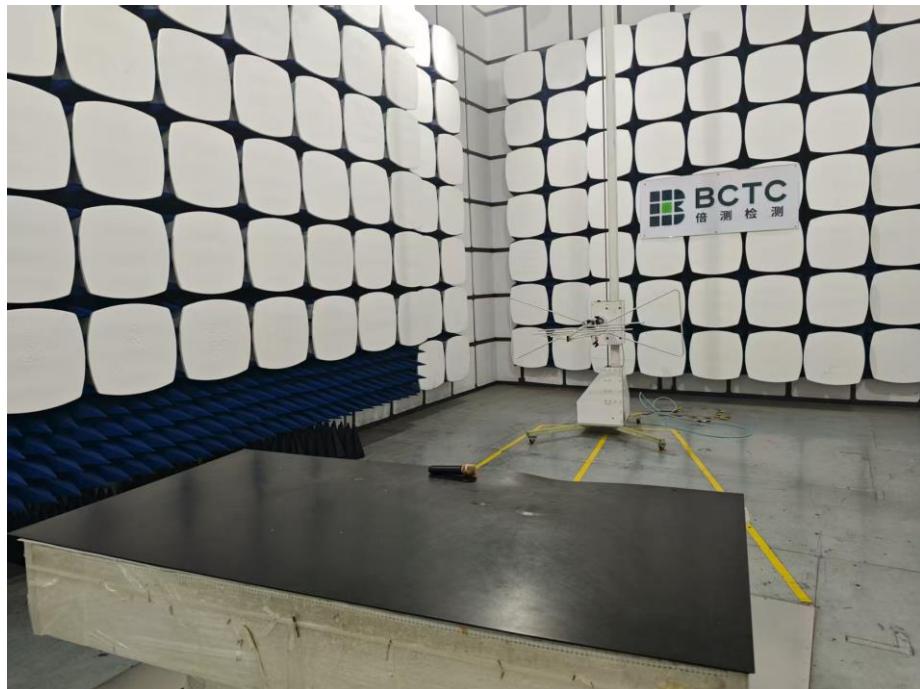
EUT Photo 2



NOTE: Appendix-Photographs Of EUT Constructional Details.

13. EUT Test Setup Photographs

Spurious Emission Test Setup (Below 1GHz)



Spurious Emission Test Setup (Above 1GHz)



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.

Address:

1-2/F., Building B, Pengzhou Industrial Park, No.158, Fuyuan 1st Road, Zhancheng, Fuhai Subdistrict, Bao'an District, Shenzhen, Guangdong, China

TEL: 400-788-9558

P.C.: 518103

FAX: 0755-33229357

Website: <http://www.chnbctc.com>

E-Mail: bctc@bctc-lab.com.cn

***** END *****