

FCC TEST REPORT

FCC ID:2AUN3-YY-802

Report Number..... : ZKT-250304L3607E

Date of Test..... February 28 to March 10, 2025

Date of issue : March 10, 2025

Total number of pages 32

Test Result : PASS

Testing Laboratory..... : Shenzhen ZKT Technology Co., Ltd.

Address : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

Applicant's name : **ENPING YIYANG ELECTRONICS CO., LTD**

Address : B12-2, Chanye Zhuan Yi Yuan Qu, Enping, Guangdong, China

Manufacturer's name : **ENPING YIYANG ELECTRONICS CO., LTD**

Address : B12-2, Chanye Zhuan Yi Yuan Qu, Enping, Guangdong, China

Test specification:

Standard..... : FCC CFR Title 47 Part 15 Subpart C Section 15.249
ANSI C63.10:2013

Test procedure..... : /

Non-standard test method : N/A

Test Report Form No. : TRF-EL-111_V0

Test Report Form(s) Originator : ZKT Testing

Master TRF : Dated: 2023-01-05

This device described above has been tested by ZKT, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Product name..... : UHF Wireless Microphone

Trademark : N/A

Model/Type reference : YY-802, YY-801, YY-301, YY-302, YY-601, YY-078, YY-T1, YM-2, YY-802S, YA-2, YY-901, YY-902, H-U05, H-U25, H-U06, H-U26, H-K26, H-K25, YM-1, YY-920

Battery..... : N/A

Ratings..... : DC3V(1.5*2 AA battery)

Testing procedure and testing location:

Testing Laboratory: Shenzhen ZKT Technology Co., Ltd.

Address: 1/F, No. 101, Building B, No. 6, Tangwei Community
Industrial Avenue, Fuhai Street, Bao'an District,
Shenzhen, China

Tested by (name + signature): Alen He



Reviewer (name + signature).....: Joe Liu



Approved (name + signature): Lake Xie



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1.VERSION

Report No.	Version	Description	Approved
ZKT-250304L3607E	Rev.01	Initial issue of report	March 10, 2025

2 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.249) , Subpart C			
Standard Section	Test Item	Judgment	Remark
FCC part 15.203	Antenna requirement	PASS	
FCC part 15.207	AC Power Line Conducted Emission	N/A	
FCC part 15.249	Fundamental & Radiated Spurious Emission Measurement	PASS	
FCC part 15.215 (c)	20dB Channel Bandwidth	PASS	
FCC part 15.205	Band Edge	PASS	

NOTE:

(1)" N/A" denotes test is not applicable in this Test Report

2.1 TEST FACILITY

Shenzhen ZKT Technology Co., Ltd.

Add. : 1/F, No. 101, Building B, No. 6, Tangwei Community Industrial Avenue, Fuhai Street, Bao'an District, Shenzhen, China

FCC Test Firm Registration Number: 692225

Designation Number: CN1299

IC Registered No.: 27033

2.2 MEASUREMENT UNCERTAINTY

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

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power conducted	$\pm 0.16\text{dB}$
3	Spurious emissions conducted	$\pm 0.21\text{dB}$
4	All emissions radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Product Name:	UHF Wireless Microphone
Model No.:	YY-802, YY-801, YY-301, YY-302, YY-601, YY-078, YY-T1, YM-2, YY-802S, YA-2, YY-901, YY-902, H-U05, H-U25, H-U06, H-U26, H-K26, H-K25, YM-1, YY-920
Model Different.:	All models covered in this report are the same with each other, except for different model No. for trading purpose.
Serial No.:	N/A
Hardware Version:	HV1.0
Software Version:	SV1.0
Sample(s) Status:	Engineer sample
Operation Frequency:	902.6MHz~924.3MHz
Channel Numbers:	60
Channel Separation:	0.3MHz
Modulation Type:	FM
Antenna Type:	Integrated antenna
Antenna gain:	1.5649dBi
Power supply:	DC3V(1.5*2 AA Battery)
SWITCHING POWER ADAPTER:	N/A
Battery	N/A

Operation Frequency each of Channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	902.6MHz	16	907.1	31	915.6	46	920.1
2	902.9MHz	17	907.4	32	915.9	47	920.4
3	903.2MHz	18	907.7	33	916.2	48	920.7
4	903.5MHz	19	908.0	34	916.5	49	921.0
5	903.8MHz	20	908.3	35	916.8	50	921.3
6	904.1MHz	21	908.6	36	917.1	51	921.6
7	904.4MHz	22	908.9	37	917.4	52	921.9
8	904.7MHz	23	909.2	38	917.7	53	922.2
9	905.0MHz	24	909.5	39	918.0	54	922.5
10	905.3MHz	25	909.8	40	918.3	55	922.8
11	905.6MHz	26	910.1	41	918.6	56	923.1
12	905.9	27	910.4	42	918.9	57	923.4

13	906.2	28	910.7	43	919.2	58	923.7
14	906.5	29	911.0	44	919.5	59	924.0
15	906.8	30	911.3	45	919.8	60	924.3

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The lowest channel	902.6MHz
The middle channel	915.6MHz
The Highest channel	924.3MHz

3.2 DESCRIPTION OF TEST MODES

Transmitting mode	Keep the EUT in continuously transmitting mode
Remark: During the test, the test voltage was tuned from 85% to 115% of the nominal rated supply voltage, and found that the worst case was under the nominal rated supply condition. So the report just shows that condition's data.	
Enter test mode for the product, keep EUT in continuously transmitting status with hoping on mode with different packages; find the worst case is TX mode.	

Test Software	TX Test Tool
Power level setup	<0dBm

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Radiated Emission



Conducted Spurious



3.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	UHF Wireless Microphone	N/A	YY-802	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.

3.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Conduction Emissions Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	LISN	R&S	ENV216	101471	N/A	Sep. 30, 2024	Sep. 29, 2025
2	LISN	CYBERTEK	EM5040A	E1850400149	N/A	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	C-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	EMI Test Receiver	R&S	ESCI3	101393	4.42 SP3	Sep. 29, 2024	Sep. 28, 2025
5	EMC Software	Frad	EZ-EMC	Ver.EMC-CON 3A1.1	N/A	\	\

Radiation Emissions & Radiation Spurious Emissions Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	EMI Test Receiver (9kHz-7GHz)	R&S	ESCI7	100969	4.32	Sep. 29, 2024	Sep. 28, 2025
4	Bilog Antenna (30MHz-1500MHz)	Schwarzbeck	VULB9168	00877	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Horn Antenna (1GHz-18GHz)	Agilent	AH-118	071145	N/A	Sep. 30, 2024	Sep. 29, 2025
6	Horn Antenna (15GHz-40GHz)	A.H.System	SAS-574	588	N/A	Sep. 30, 2024	Sep. 29, 2025
7	Loop Antenna	TESEQ	HLA6121	58357	N/A	Oct. 11, 2024	Oct. 10, 2025
8	Amplifier (30-1000MHz)	EM Electronics	EM330 Amplifier	60747	N/A	Sep. 29, 2024	Sep. 28, 2025
9	Amplifier (1GHz-26.5GHz)	HuiPu	8449B	3008A00315	N/A	Sep. 29, 2024	Sep. 28, 2025
10	Amplifier (500MHz-40GHz)	QuanJuDa	DLE-161	097	N/A	Sep. 30, 2024	Sep. 29, 2025
11	Test Cable	N/A	R-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
12	Test Cable	N/A	R-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
13	Test Cable	N/A	R-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
14	D.C. Power Supply	LongWei	TPR-6405D	N/A	N/A	\	\
15	EMC Software	Frad	EZ-EMC	Ver.EMC-CO N 3A1.1	N/A	\	\
16	Turntable	MF	MF-7802BS	N/A	N/A	\	\
17	Antenna tower	MF	MF-7802BS	N/A	N/A	\	\

RF Conducted Test

Item	Equipment	Manufacturer	Type No.	Serial No.	Firmware Version	Last calibration	Calibrated until
1	Spectrum Analyzer (9kHz-26.5GHz)	KEYSIGHT	N9020A	MY55370835	A.17.05	Sep. 29, 2024	Sep. 28, 2025
2	Spectrum Analyzer (10kHz-39.9GHz)	R&S	FSV40-N	100363	1.71 SP2	Sep. 30, 2024	Sep. 29, 2025
3	Test Cable	N/A	RF-01	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
4	Test Cable	N/A	RF-02	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
5	Test Cable	N/A	RF-03	N/A	N/A	Sep. 30, 2024	Sep. 29, 2025
6	ESG Signal Generator	Agilent	E4421B	N/A	B.03.84	Sep. 29, 2024	Sep. 28, 2025
7	Signal Generator	Agilent	N5182A	N/A	A.01.87	Sep. 29, 2024	Sep. 28, 2025
8	Magnetic Field Probe Tester	Narda	ELT-400	0-0344	N/A	Nov. 16, 2023	Nov. 15, 2024
9	Van der Hoofden measuring head	Schwarzbeck Mess-elektronik	VDHH 9502	9502-039	N/A	Sep. 30, 2024	Sep. 29, 2025
10	Wideband Radio Communication Test	R&S	CMW500	106504	V 3.7.22	Sep. 30, 2024	Sep. 29, 2025
11	MWRF Power Meter Test system	MW	MW100-RF CB	N/A	N/A	Sep. 29, 2024	Sep. 28, 2025
12	D.C. Power Supply	LongWei	TPR-6405 D	N/A	N/A	\	\
13	RF Software	MW	MTS8310	V2.0.0.0	N/A	\	\

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.207
Test Method:	ANSI C63.10:2013
Test Frequency Range:	150KHz to 30MHz
Receiver setup:	RBW=9KHz, VBW=30KHz, Sweep time=auto

4.1.1 POWER LINE CONDUCTED EMISSION Limits

REQUENCY (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) *Decreases with the logarithm of the frequency.

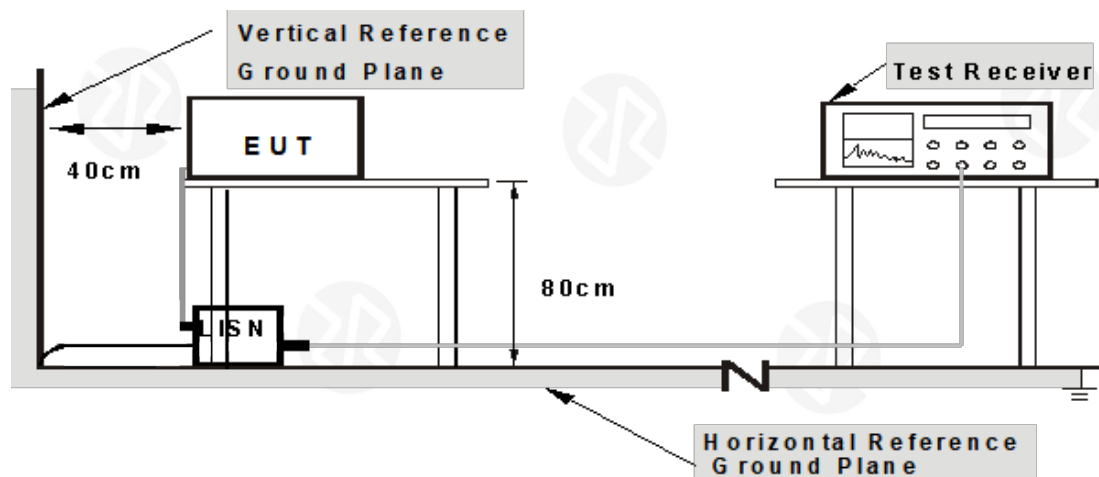
4.1.2 TEST PROCEDURE

- 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.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 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

4.1.5 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.

4.1.6 TEST RESULTS

N/A, Because the EUT employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Measurements to demonstrate compliance with the conducted limits are not required for devices.

4.2 RADIATED EMISSION MEASUREMENT

Test Requirement:	FCC Part15 C Section 15.209				
Test Method:	ANSI C63.10:2013				
Test Frequency Range:	9kHz to 25GHz				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
	150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
	30MHz-1GHz	Quasi-peak	100KHz	300KHz	Quasi-peak
	Above 1GHz	Peak	1MHz	3MHz	Peak
		Peak	1MHz	10Hz	Average

4.2.1 RADIATED EMISSION LIMITS

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

The field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Limit (dBuV/m) (at 3M)	
	PEAK	AVERAGE
Above 1000	74	54

Notes:

(1) The limit for radiated test was performed according to FCC PART 15C.

- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

4.2.2 TEST PROCEDURE

- a. 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.
- b. 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.
- c. 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.
- d. 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.
- e. 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.
- f. 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.

Note:

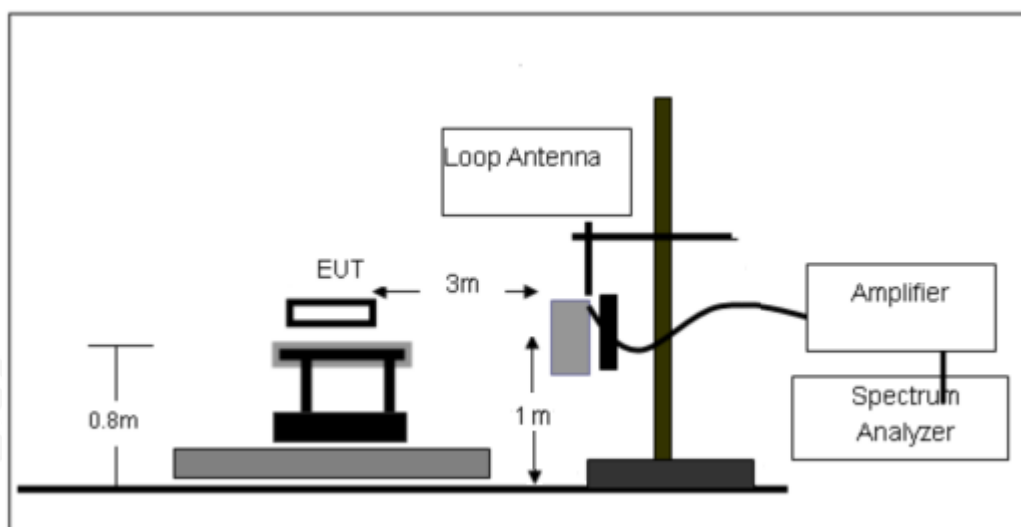
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

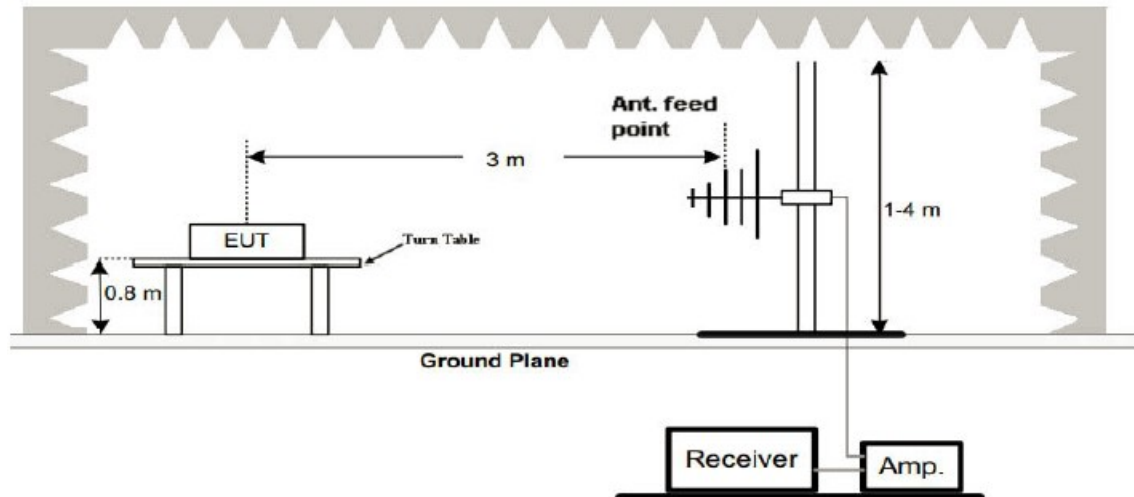
No deviation

4.2.4 TEST SETUP

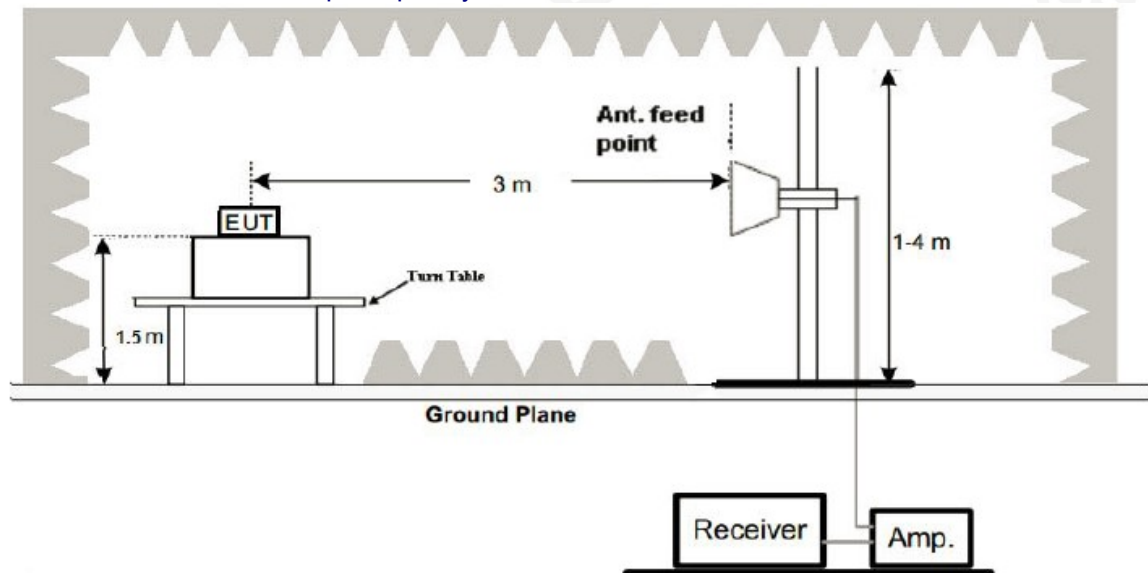
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.2.5 EUT OPERATING CONDITIONS

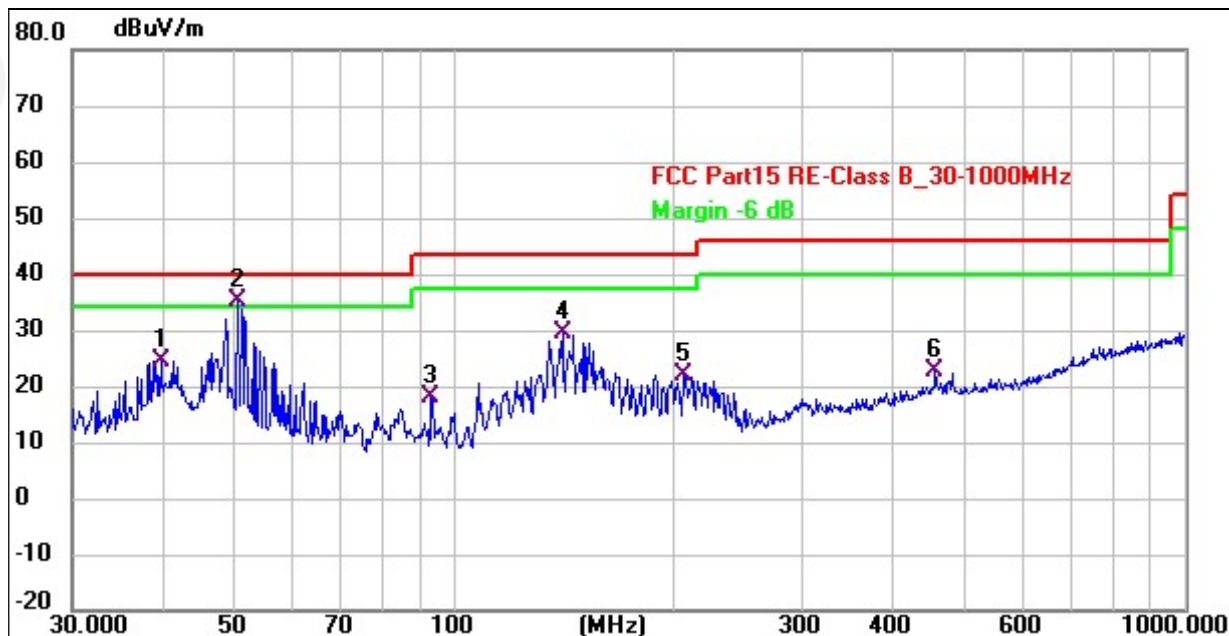
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

4.2.6 TEST RESULTS (Between 9KHz – 30 MHz)

The emission from 9 kHz to 30MHz was pre-tested and found the result was 20dB lower than the limit, and according to 15.31(o) & RSS-Gen 6.13, the test result no need to reported.

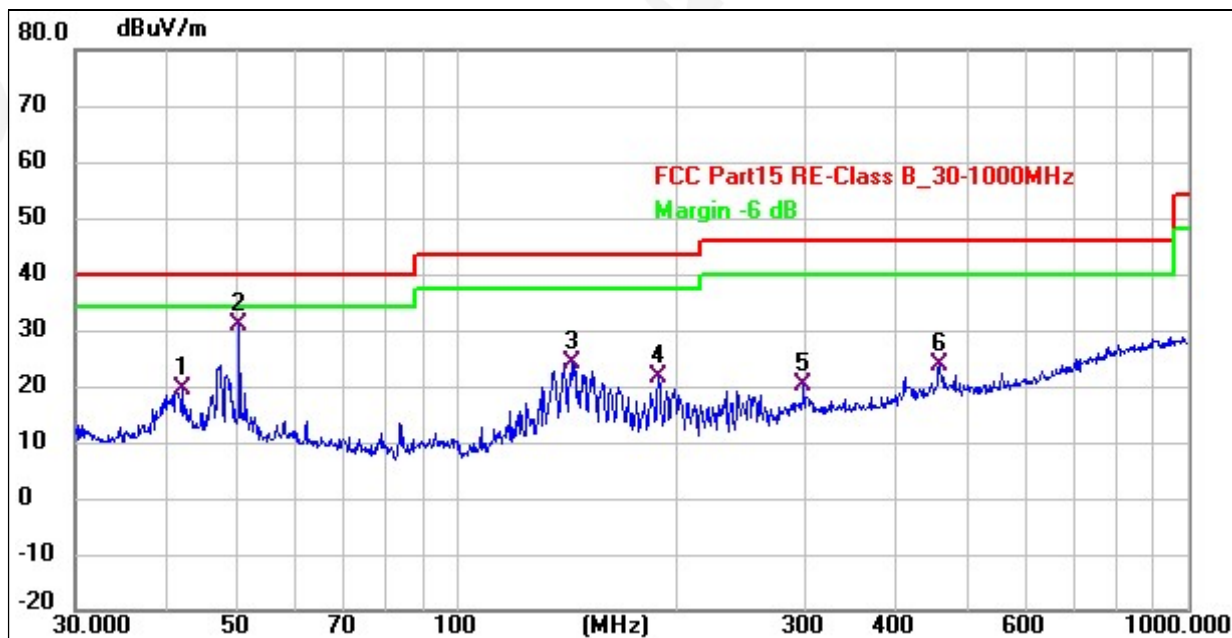
Between 30MHz – 1GHz

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101 kPa	Polarization:	Horizontal
Test Voltage:	DC3.0V	Test Mode:	TX GFSK-902.6MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	39.715	38.31	-13.81	24.50	40.00	-15.50	QP
2 *	50.586	49.33	-14.16	35.17	40.00	-4.83	QP
3	93.113	35.58	-17.54	18.04	43.50	-25.46	QP
4	140.835	42.50	-13.05	29.45	43.50	-14.05	QP
5	206.398	38.13	-16.03	22.10	43.50	-21.40	QP
6	455.906	31.15	-8.32	22.83	46.00	-23.17	QP

Temperature:	26℃	Relative Humidity:	54%
Pressure:	101kPa	Polarization:	Vertical
Test Voltage:	DC3.0V	Test Mode:	TX GFSK-902.6MHz



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB/m)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	42.007	33.07	-13.53	19.54	40.00	-20.46	QP
2 *	50.409	45.18	-14.14	31.04	40.00	-8.96	QP
3	143.326	37.17	-12.90	24.27	43.50	-19.23	QP
4	189.074	37.08	-15.38	21.70	43.50	-21.80	QP
5	298.268	31.04	-10.94	20.10	46.00	-25.90	QP
6	457.507	31.90	-8.28	23.62	46.00	-22.38	QP

Remarks:

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor
- 2.The emission levels of other frequencies are very lower than the limit and not show in test report.

Field Strength of The Fundamental Signal

Quasi-peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
902.6	75.81	31.88	8.68	32.13	84.24	94.00	-9.76	Vertical
902.6	65.47	36.45	11.75	31.86	81.81	94.00	-12.19	Horizontal
915.6	66.50	38.43	14.29	31.68	87.54	94.00	-6.46	Vertical
915.6	81.92	27.55	5.49	29.93	85.03	94.00	-8.97	Horizontal
924.3	83.45	27.59	5.38	34.01	82.41	94.00	-11.59	Vertical
924.3	88.33	27.58	5.39	34.01	87.29	94.00	-6.71	Horizontal

■ Above 1GHz

Test channel:	Lowest channel
---------------	----------------

Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1805.20	41.13	31.78	8.60	32.09	49.42	74	-24.58	Vertical
2707.80	33.41	36.15	11.65	32.00	49.21	74	-24.79	Vertical
3610.40	30.99	37.95	14.14	31.62	51.46	74	-22.54	Vertical
4513.00	*					74		Vertical
5415.60	*					74		Vertical
1805.20	45.50	31.78	8.60	32.09	53.79	74	-20.21	Horizontal
2707.80	37.62	36.15	11.65	32.00	53.42	74	-20.58	Horizontal
3610.40	34.16	37.95	14.14	31.62	54.63	74	-19.37	Horizontal
4513.00	*					74		Horizontal
5415.60	*					74		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1805.20	28.46	31.78	8.60	32.09	36.75	54	-17.25	Vertical
2707.80	22.82	36.15	11.65	32.00	38.62	54	-15.38	Vertical
3610.40	23.52	37.95	14.14	31.62	43.99	54	-10.01	Vertical
4513.00	*					54		Vertical
5415.60	*					54		Vertical
1805.20	32.48	31.78	8.60	32.09	40.77	54	-13.23	Horizontal
2707.80	23.63	36.15	11.65	32.00	39.43	54	-14.57	Horizontal
3610.40	23.34	37.95	14.14	31.62	43.81	54	-10.19	Horizontal
4513.00	*					54		Horizontal
5415.60	*					54		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *“*”, means this data is the too weak instrument of signal is unable to test.*

Test channel:	Middle channel
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Peak value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1831.20	37.08	31.85	8.67	32.12	45.48	74	-28.52	Vertical
2746.80	31.81	36.37	11.72	31.89	48.01	74	-25.99	Vertical
3662.40	29.16	38.35	14.25	31.62	50.14	74	-23.86	Vertical
4578.00	*					74		Vertical
5493.60	*					74		Vertical
1831.20	38.41	31.85	8.67	32.12	46.81	74	-27.19	Horizontal
2746.80	31.52	36.37	11.72	31.89	47.72	74	-26.28	Horizontal
3662.40	27.60	38.35	14.25	31.62	48.58	74	-25.42	Horizontal
4578.00	*					74		Horizontal
5493.60	*					74		Horizontal

Average value:

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	polarization
1831.20	25.89	31.85	8.67	32.12	34.29	54	-19.71	Vertical
2746.80	21.72	36.37	11.72	31.89	37.92	54	-16.08	Vertical
3662.40	20.46	38.35	14.25	31.62	41.44	54	-12.56	Vertical
4578.00	*					54		Vertical
5493.60	*					54		Vertical
1831.20	33.00	31.85	8.67	32.12	41.4	54	-12.60	Horizontal
2746.80	24.05	36.37	11.72	31.89	40.25	54	-13.75	Horizontal
3662.40	20.47	38.35	14.25	31.62	41.45	54	-12.55	Horizontal
4578.00	*					54		Horizontal
5493.60	*					54		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *“*”, means this data is the too weak instrument of signal is unable to test.*

Test channel:	Highest channel
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Peak value:

Frequency (MHz)	Read Level (dBUV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	polarization
1848.60	37.62	31.93	8.73	32.16	46.12	74	-27.88	Vertical
2772.90	33.98	36.59	11.79	31.78	50.58	74	-23.42	Vertical
3697.20	30.57	38.81	14.38	31.88	51.88	74	-22.12	Vertical
4621.50	*					74		Vertical
5548.80	*					74		Vertical
1848.60	39.08	31.93	8.73	32.16	47.58	74	-26.42	Horizontal
2772.90	31.71	36.59	11.79	31.78	48.31	74	-25.69	Horizontal
3697.20	31.33	38.81	14.38	31.88	52.64	74	-21.36	Horizontal
4621.50	*					74		Horizontal
5548.80	*					74		Horizontal

Average value:

Frequency (MHz)	Read Level (dBUV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBUV/m)	Limit Line (dBUV/m)	Over Limit (dB)	polarization
1848.60	29.96	31.93	8.73	32.16	38.46	54	-15.54	Vertical
2772.90	24.40	36.59	11.79	31.78	41	54	-13.00	Vertical
3697.20	22.42	38.81	14.38	31.88	43.73	54	-10.27	Vertical
4621.50	*					54		Vertical
5548.80	*					54		Vertical
1848.60	32.82	31.93	8.73	32.16	41.32	54	-12.68	Horizontal
2772.90	24.56	36.59	11.79	31.78	41.16	54	-12.84	Horizontal
3697.20	24.26	38.81	14.38	31.88	45.57	54	-8.43	Horizontal
4621.50	*					54		Horizontal
5548.80	*					54		Horizontal

Remark:

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*
3. *"*", means this data is the too weak instrument of signal is unable to test.*

5. BANDWIDTH OF FREQUENCY BAND EDGE

5.1 TEST REQUIREMENT:

Test Requirement:	FCC Part15 C Section 15.209 and 15.205				
Test Method:	ANSI C63.10: 2013				
Test Frequency Range:	All of the restrict bands were tested, only the worst band's (2310MHz to 2500MHz) data was showed.				
Test site:	Measurement Distance: 3m				
Receiver setup:	Frequency	Detector	RBW	VBW	Value
	Above	Peak	1MHz	3MHz	Peak
	1GHz	Average	1MHz	3MHz	Average

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation

5.2 TEST PROCEDURE

Above 1GHz test procedure as below:

- The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
- The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- 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.
- 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.
- The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- 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.
- Test the EUT in the lowest channel, the Highest channel

Note:

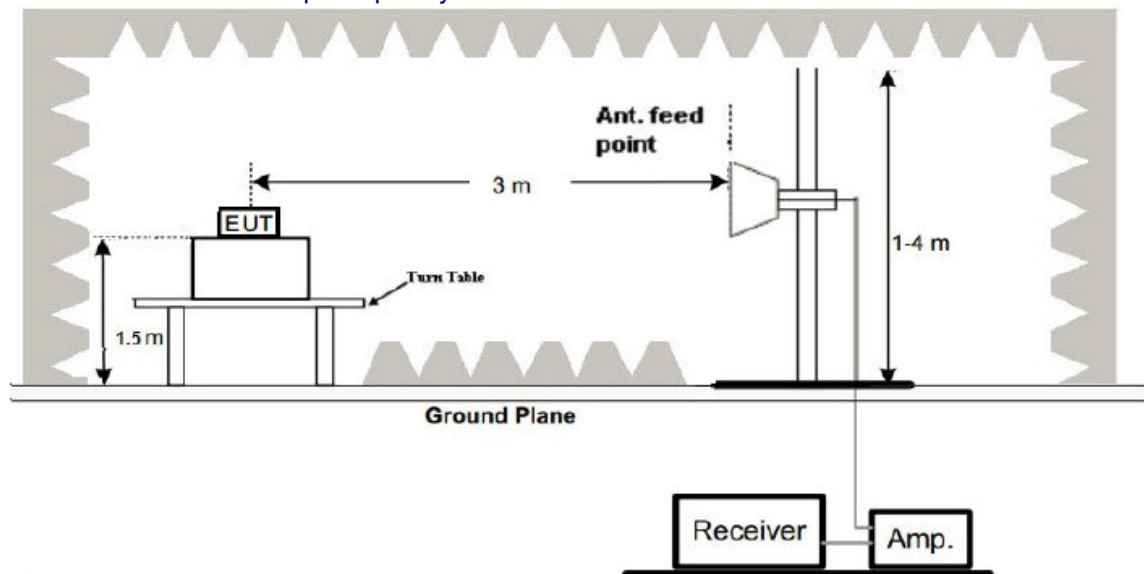
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

5.3 DEVIATION FROM TEST STANDARD

No deviation

5.4 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



5.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

5.6 TEST RESULT

All of the restriction bands were tested, and only the data of worst case was exhibited.

Test channel:	Lowest channel
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QP value:

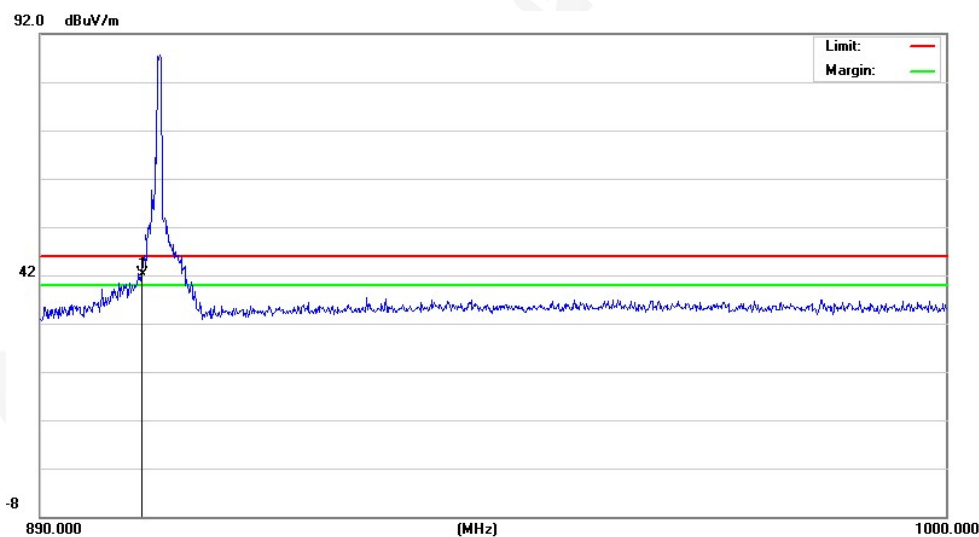
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
902	44.04	27.59	5.38	34.01	43.00	46.00	-3.00	Horizontal
928	37.22	27.58	5.39	34.01	36.18	46.00	-9.82	Horizontal
902	42.61	27.59	5.38	34.01	41.57	46.00	-4.43	Vertical
928	36.87	27.58	5.39	34.01	35.83	46.00	-10.17	Vertical

Remark:

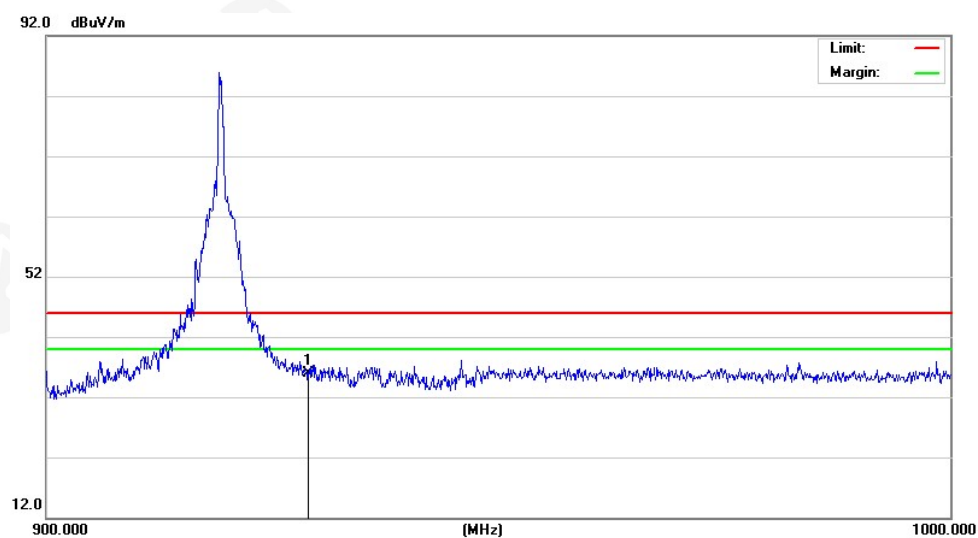
1. Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor

Pre-test horizontal and vertical radiated find that vertical radiated is worst case,only show worst case as follow:

Low channel: Vertical



Highest Channel: Vertical



Test result: The unit does meet the FCC requirements.

6. CHANNEL BANDWIDTH

Test Requirement:	FCC Part15 C Section 15.249/15.215
Test Method:	ANSI C63.10: 2013

6.1 APPLIED PROCEDURES / LIMIT

FCC Part15 (15.249) , Subpart C			
Section	Test Item	Frequency Range (MHz)	Result
15.249(c)	Bandwidth	902-928	PASS

6.2 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = 30kHz
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower) that are attenuated by 20 dB relative to the maximum level measured in the fundamental emission.

6.3 DEVIATION FROM STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATION CONDITIONS

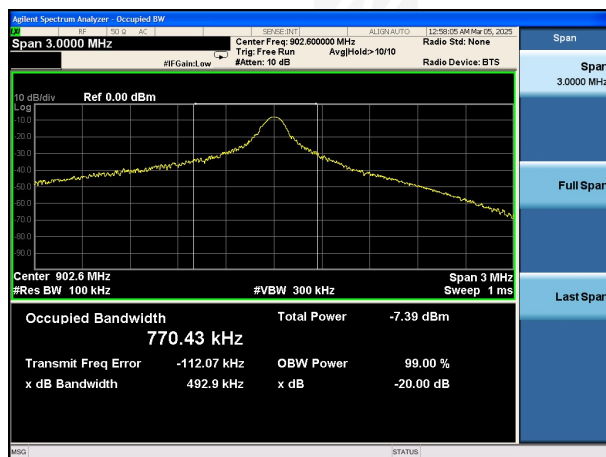
The EUT tested system was configured as the statements of 2.4 Unless otherwise a special operating condition is specified in the follows during the testing.

6.6 TSET RESULTS

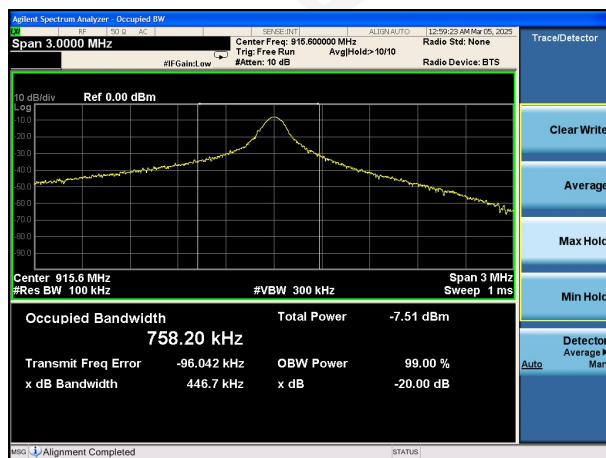
Temperature :	26℃	Relative Humidity :	54%
Test Voltage :	DC3.0V		

Mode	Test channel	20dB Emission Bandwidth (MHz)	Result
GFSK	Lowest	0.4929	Pass
	Middle	0.4467	
	Highest	0.4398	

Test plots



Lowest channel



Middle channel



Highest channel

7.ANTENNA REQUIREMENT

Standard requirement:	FCC Part15 C Section 15.203
15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.	
EUT Antenna:	
The antennas are Integrated antenna, the best case gain of the antennas are 1.5649dBi, reference to the appendix II for details	

8. TEST SETUP PHOTO

Reference to the appendix I for details.

9. EUT CONSTRUCTIONAL DETAILS

Reference to the appendix II for details.

※ ※ ※ ※ ※ END OF REPORT ※ ※ ※ ※ ※