

FCC PART 15 SUBPART C FCC PART 15.249 TEST REPORT

FCC ID:2BMI6-KX6

Report No: CTSL2620330200ER

Product Name: Wireless Microphone

Main Test Model: KX6

Series Models: KX6DG, KX6-WUS, KX6-WW, KX6-US kx6, kx6-wus, kx6-ww, kx6-us (PCB board, structure and internal of these model(s) are the same, only differing in Model name and color. So no additional models were tested)

Applicant: Shenzhen AoMeiRui Lighting Co.,Ltd

EXECUTIVE SUMMARY

A sample of this product was tested and found to be in compliance with
FCC PART 15C, FCC PART 15 SUBPART C (15.249).

Any reproduction of this document must be done in full. No single part of this document may be reproduced without permission from CTSL. All Test Data Presented in this report is only applicable to presented Test sample.

CTSL Testing (Dongguan) Co., Ltd.

Main company address: Building1, Houjie Road Houjie Town,Guangdong Province,
Dongguan City P.R.C.

Test Report**FCC ID:2BMI6-KX6**

Applicant Name	Shenzhen AoMeiRui Lighting Co.,Ltd				
Applicant Address	A231, Building 1, Hongpai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China				
Manufacturer Name	Shenzhen AoMeiRui Lighting Co.,Ltd				
Manufacturer Address	A231, Building 1, Hongpai Industrial Park, Qiaotou Community, Fuhai Street, Bao'an District, Shenzhen City, Guangdong Province, China				
Trade Mark	ZealSound/Haomuren				
Product name	Wireless Microphone				
Main Test Model	KX6				
Series Models	Please refer to the first page of the report				
Standard	FCC Rules and Regulations Part 15 Subpart C, Section 249				
Test Location	ISO/IEC 17025 by ILAC-MRA is A2LA 7556.01 CTSL Testing (Dongguan) Co., Ltd. Room 112, Building 1, No. 15, Jiaoyuansongshan Hetian Village, Houjie Town Dongguan City, Guangdong, People's Republic of China				
Receipt Date	2026.3.3	Test period	2026.3.3-2026.3.10	Issue Date	2026.3.10
Conclusion	The equipment under test was found to be compliance with the requirements of the standards applied.				
Performs Testing:	Ethan Zhao				
Test Report Reviewer:	Steve Qin				
Test Report Authorizer:	Alan Li				

Table of Contents	Page
1. SUMMARY OF TEST RESULTS	5
1.1 TEST FACTORY	6
1.2 MEASUREMENT UNCERTAINTY	6
2. GENERAL INFORMATION	7
2.1 GENERAL DESCRIPTION OF THE EUT	7
2.2 DESCRIPTION OF THE TEST MODES	9
2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS	10
2.4 EQUIPMENTS LIST	11
3 CONDUCTED EMISSION MEASUREMENT	13
3.1 LIMIT	13
3.2 TEST PROCEDURE	13
3.3 TEST SETUP	14
3.4 TEST RESULTS	15
4. RADIATED EMISSION MEASUREMENT	15
4.1 LIMIT	17
4.2 TEST PROCEDURE	18
4.3 TEST SETUP	19
5. BAND EDGE TEST	25
5.1 LIMIT	25
5.2 TEST PROCEDURE	26
5.3 TEST SETUP	27
5.4 TEST RESULTS	28
6. 20 DB BANDWIDTH TEST	28
6.1 LIMIT	29
6.2 TEST PROCEDURE	30
6.3 TEST SETUP	30
6.4 TEST RESULTS	31
7. ANTENNA REQUIREMENT	33
7.1 STANDARD REQUIREMENT	33
7.2 EUT ANTENNA	33

Revision History

Rev.	Issue Date	Effect Page	Contents
00	2026.3.10	N/A	Initial Issue

1. SUMMARY OF TEST RESULTS

FCC Part 15.249,Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	--
15.205(a), 15.209(a), 15.249(a), 15.249(c)	Radiated Spurious Emission	PASS	--
15.209	Field strength of fundamental	PASS	--
15.249(d)	Band Edge Emission	PASS	--
15.215(c)	20dB Bandwidth	PASS	--
15.203	Antenna Requirement	PASS	--

NOTE:

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

(2) All tests are according to ANSI C63.10-2020

1.1 TEST FACTORY

EMC

Lab

A2LA Certificate Number: 7556.01;

CTSL Testing (Dongguan) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform electromagnetic emission measurement.

The 3m-Semi anechoic test site fulfils CISPR 16-1-4 according to ANSI C63.10 and CISPR 16-1-4:2010.

FCC-Registration No.: 0037614732;

Test Firm Registration Number:750639;

CTSL Testing (Dongguan) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform electromagnetic emissions measurements.

Industry Canada Registration Number. Is: 34801;

CAB identifier: CN0192;

CTSL Testing (Dongguan) Co., Ltd. The Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing.

Name

of CTSL Testing (Dongguan) Co.,ltd.

Firm

EMC test location/satellite location:

Room 112, Building 1, No. 15, Jiaoyuansongshan Hetian Village, Houjie Town Dongguan City, Guangdong, People's Republic of China City, Guangdong, China

1.2 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	RF output power, conducted	± 0.71 dB
2	Unwanted Emissions, conducted	± 2.98 dB
3	Conducted Emission (9KHz-150KHz)	± 4.13 dB
4	Conducted Emission (150KHz-30MHz)	± 4.74 dB
5	All emissions,radiated(<1G) 30MHz-1000MHz	± 3.2 dB
6	All emissions,radiated (1GHz -18GHz)	± 3.66 dB
7	All emissions,radiated (18GHz -40GHz)	± 4.31 dB
8	Occupied bandwidth	± 0.3 dB

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF THE EUT

Product Name	Wireless Microphone
Trade Name	ZealSound/Haomuren
Model Name	KX6
Series Model	Please refer to the first page of the report
Model Difference	PCB board, structure and internal of these model(s) are the same, only differing in Model name and color. So no additional models were tested
Channel List	Please refer to the Note 2.
Specification	Frequency:2405-2463MHz Modulation: GFSK Channel number: 3CH
Power Supply	5V, 2A
Battery	N/A
Hardware version number	V1.0
Software version number	V1.0
Connecting I/O Port(s)	Please refer to the User's Manual

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2. Channel List

Channel	Frequency
The low channel	2405
The middle channel	2426
The High channel	2463

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	Chip antenna	N/A	2.0	Antenna

2.2 DESCRIPTION OF THE TEST MODES

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

Test software:

The test software was used to control EUT work in continuous TX mode, and select test channel, Wireless mode as below table

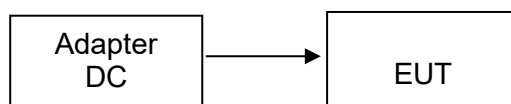
No.	Test model description
1	Low channel GFSK
2	Middle channel GFSK
3	High channel GFSK

Note:

1. All the test modes can be supplied by battery, only the result of the worst case recorded in the report. GFSK mode is worst mode.
2. For radiated emission, 3 axes were chosen for testing for each applicable mode.
3. The EUT used fully charged battery when tested.
4. During the test, the duty cycle > 98%, the test voltage was tuned from 85% to 115% of the Nominal rated supply voltage, and found that the worst case was the nominal rated supply condition, So the report just shows that condition's data

Configuration and peripherals

Mode 1:



2.3 DESCRIPTION OF NECESSARY ACCESSORIES AND SUPPORT UNITS

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.

Necessary accessories

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
N/A	N/A	N/A	N/A	N/A	N/A

Support units

Item	Equipment	Mfr/Brand	Model/Type No.	Serial No.	Note
1	Adapter	XIAOMI	AD652G	N/A	this adapter is for testing only in repor

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) “YES” is means “shielded” “with core”; “NO” is means “unshielded” “without core”.

2.4 EQUIPMENTS LIST

For Radiated Emission Test (9kHz-30MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI TestReceiver	Rohde& Schwarz	ESCI 7	AT001	Ti Group	July 31,24	July 30,26
Active Loop Antenna	ZHINAN	ZN30900C	AT063	LISAI	Aug 03,24	Aug 02,26
Test Software	FARAD	EZ-EMC Ver.3A1.1+	N/A	N/A	N/A	N/A
9kHz-30MHz Cable	Times Microwave	LMR195UF-N MNM-9M	AT045	GUANGZH OU NEM	May 16,25	May 15,26

For Radiated Emissions Test (30MHz-1000MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
EMI Test Receiver	Rohde& Schwarz	ESCI 7	AT001	Ti Group	Jun 12,25	Jun 11,26
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	AT002	LISAI	Aug 03,24	Aug 02,26
Test Software	FARAD	EZ-EMC Ver.3A1.1+	N/A	N/A	May 16,25	May 15,26
30-1000MHz Cable	Times Microwave Systems	LMR195UF-N MRNMR-3.00M+ LMR400UF-N MNM-3.00M+ LMR400UF-N MNM-3.00M	AT042+AT 043+AT04 4	GUANGZH OU NEM	May 16,25	May 15,26

For Radiated Emission test (Above 1000MHz)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Horn Antenna 1-18G	SCHWARZBEC K	BBHA 9120 D	AT003	Shenzhen Academy of Metrology & Quality Inspection	Sep 23,24	Sep 22,26
Horn Antenna 18-40GHz	XIBAO	XB-WDB18-40K	AT064	LISAI	Feb 25,25	Feb 24,26
Broadband Preamplifier	SCHWARZBEC K	BBV 9718 D	AT004	CCIC (Shenzhen)	July 10,25	July 9,26
Low Noise Amplifier	MWRFTest	DLA8-18-40G-2078	AT065	GUANGZHOU NEM	July 10,25	July 9,26
Spectrum Analyzer 40G	Keysight	N9020B	AT066	GUANGZHOU NEM	May 13,25	May 12,26
Spectrum Analyzer 26.5G	Keysight	N9020A	AT050	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Radio switching unit	TiGroup	SU319	AT055	N/A	N/A	N/A
Filtering unit	TiGroup	SU319F	AT056	N/A	N/A	N/A
Test Software	BL	BL410-E V25.5 en	N/A	N/A	N/A	N/A
Above 1GHz Cable	Times Microwave Systems	SFT205-NMN M-7.0M+ SFT205-NMN M-2.0M	AT057+ AT058	N/A	N/A	N/A

For Connect EUT Antenna Terminal Test (RF Test system)						
Equipment	Manufacturer	Model No.	Serial No.	Calibration Body	Last Cal.	Next Cal.
Spectrum analyzer	Keysight	N9020A	AT050	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Analog signal source	Keysight	N5173B	AT051	GUANGZHOU NEM	Jun 12,25	Jun 11,26
WIDEBAND RADIO COMMUNICATION TESTER	Rohde&Schwarz	CMW500	AT052	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Power probe unit	Ti Group	SU319P	AT053	GUANGZHOU NEM	Jun 12,25	Jun 11,26
Switch unit	Ti Group	SU319S	AT054	N/A	N/A	N/A
Test Software	BL	BL410R 3.5.2.621	N/A	N/A	N/A	N/A

Remark: The power sensor is integrated into the Power Probe unit

Test Equipment Calibration

All of the test equipment is effective use and calibration certification institution, GRGT, the address is 163 tianhe district in huangpu road xiping cloud road .Guangzhou,China

3 CONDUCTED EMISSION MEASUREMENT**3.1 LIMIT**

Operating frequency band. In case the emission fall within the restricted band specified on Part 207(a) limit in the table below has to be followed.

FREQUENCY (MHz)	Conducted Emissionlimit (dBUV)	
	Quasi-peak	Average
0.15 -0.5	66 - 56 *	56 - 46 *
0.50 -5.0	56.00	46.00
5.0 -30.0	60.00	50.00

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.

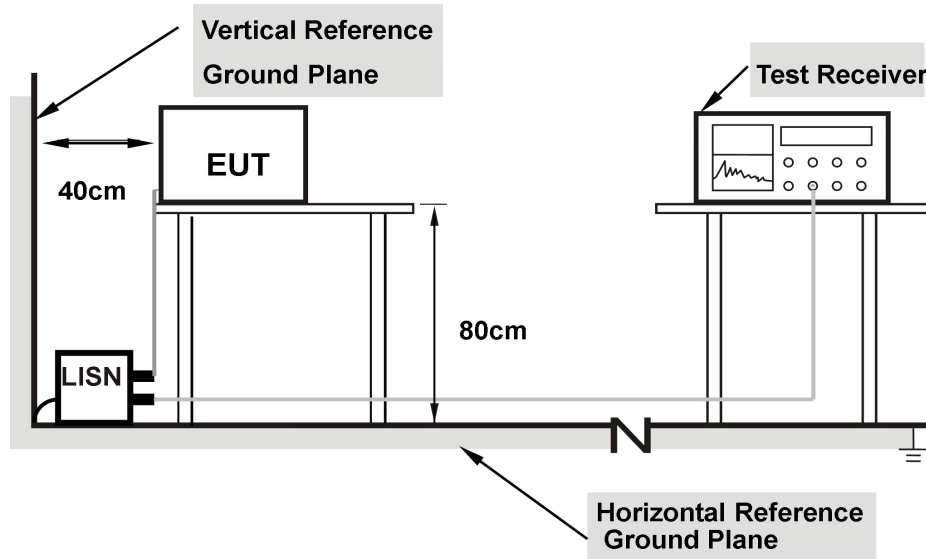
3.2 TEST PROCEDURE

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

- a. The EUT was 0.8 meters from the horizontal ground plane and 0.4 meters from the vertical 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.

3.3 TEST SETUP



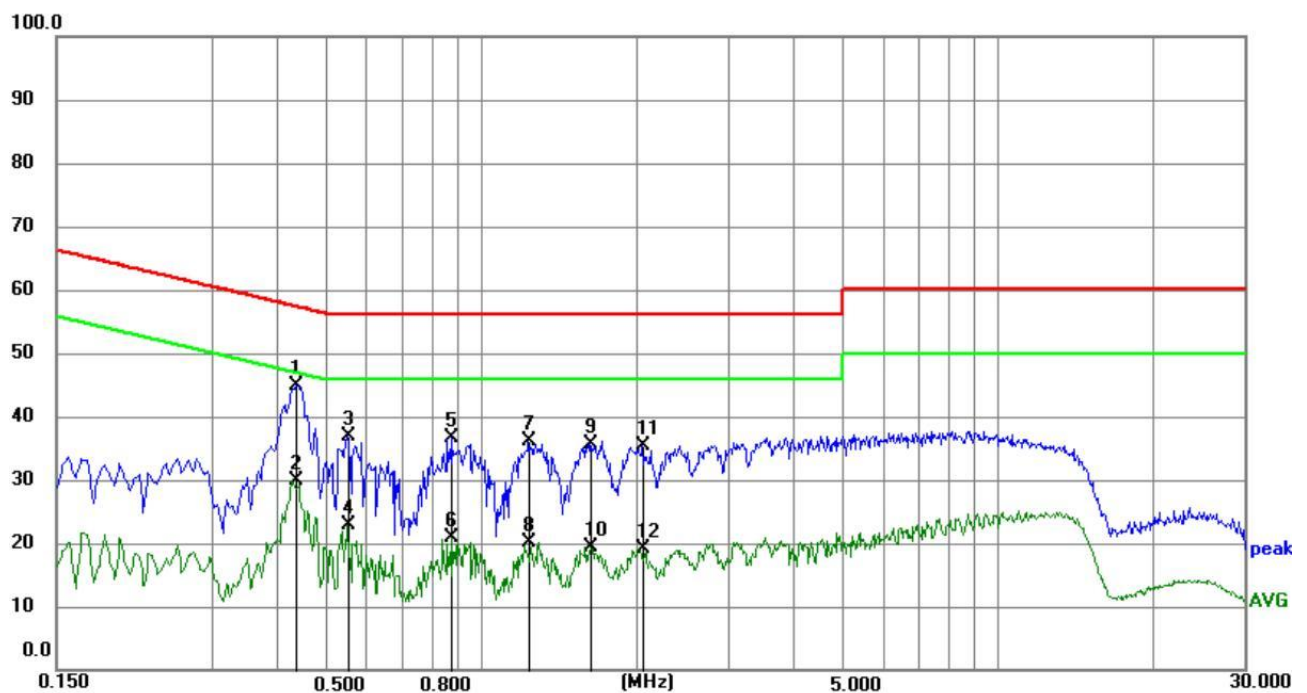
Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.4 TEST RESULTS

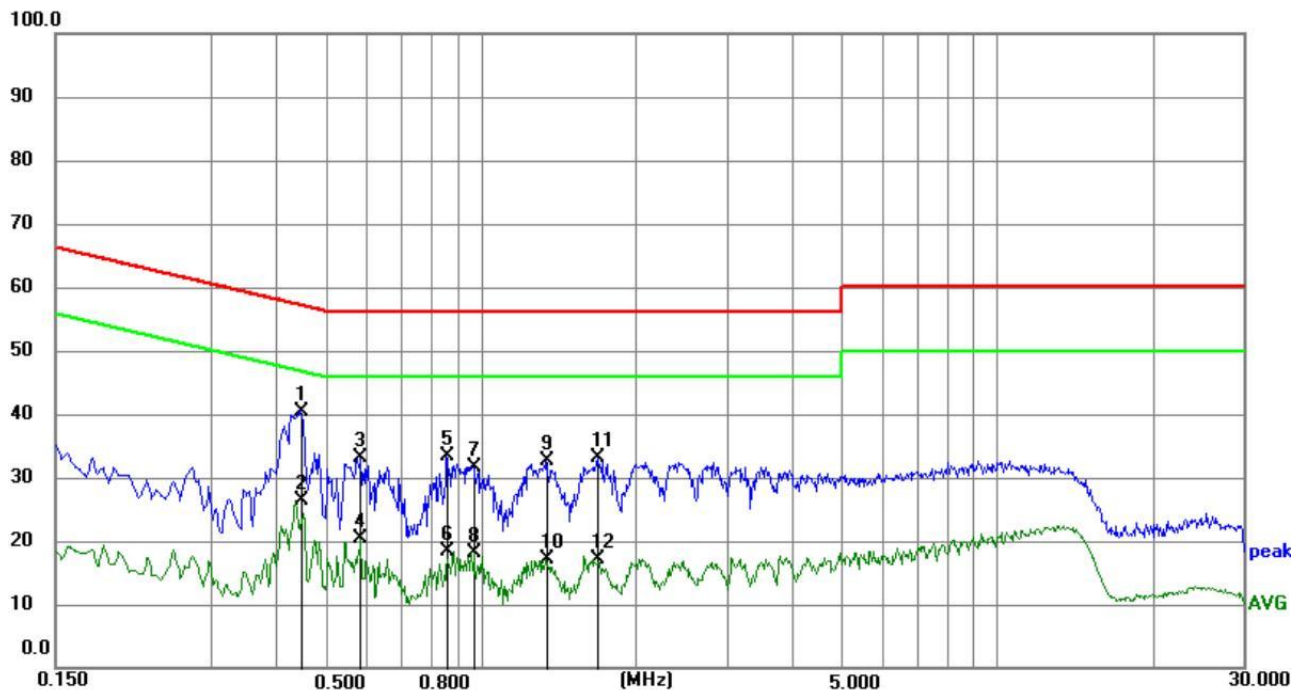
Temperature:	23.5℃	Relative Humidity:	59%
Phase:	L	Test Mode:	GFSK
Test Voltage:	DC 5V(Adapter AC 120V/60Hz)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.4380	34.59	10.21	44.80	57.10	12.30	QP
2	0.4380	19.67	10.21	29.88	47.10	17.22	AVG
3	0.5505	26.75	10.23	36.98	56.00	19.02	QP
4	0.5505	12.67	10.23	22.90	46.00	23.10	AVG
5	0.8745	26.26	10.28	36.54	56.00	19.46	QP
6	0.8745	10.60	10.28	20.88	46.00	25.12	AVG
7	1.2345	25.68	10.35	36.03	56.00	19.97	QP
8	1.2345	9.84	10.35	20.19	46.00	25.81	AVG
9	1.6215	25.38	10.37	35.75	56.00	20.25	QP
10	1.6215	8.99	10.37	19.36	46.00	26.64	AVG
11	2.0490	25.07	10.40	35.47	56.00	20.53	QP
12	2.0490	8.77	10.40	19.17	46.00	26.83	AVG



Temperature:	23.5°C	Relative Humidity:	59%
Phase:	N	Test Mode:	GFSK
Test Voltage:	DC 5V(Adapter AC 120V/60Hz)		

No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	0.4468	30.30	10.20	40.50	56.93	16.43	QP
2	0.4468	16.25	10.20	26.45	46.93	20.48	AVG
3	0.5854	22.95	10.25	33.20	56.00	22.80	QP
4	0.5854	10.24	10.25	20.49	46.00	25.51	AVG
5	0.8573	23.08	10.30	33.38	56.00	22.62	QP
6	0.8573	8.18	10.30	18.48	46.00	27.52	AVG
7	0.9684	21.44	10.31	31.75	56.00	24.25	QP
8	0.9684	7.91	10.31	18.22	46.00	27.78	AVG
9	1.3379	22.17	10.34	32.51	56.00	23.49	QP
10	1.3379	6.91	10.34	17.25	46.00	28.75	AVG
11	1.6802	22.64	10.37	33.01	56.00	22.99	QP
12	1.6802	6.70	10.37	17.07	46.00	28.93	AVG



4. RADIATED EMISSION MEASUREMENT

4.1 LIMIT

In any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the Restricted band specified on Part15.205(a)&209(a) limit in the table and according to ANSI C63.10-2020 below has to be followed

LIMITS OF RADIATED EMISSION MEASUREMENT (0.009mhz - 1000mhz)

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

LIMITS OF RADIATED EMISSION MEASUREMENT (1GHz-25 GHz)

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

LIMITS OF FIELD STRENGTH OF THE FUNDAMENTAL SIGNAL

FREQUENCY (MHz)	(dBuV/m) (at 3M)	
	PEAK	AVERAGE
2400-2483.5	114	94

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 TEST PROCEDURE

Spectrum Parameter	Setting
Attenuation	Auto
Detector	Peak/AV
Start Frequency	1000 MHz(Peak/AV)
Stop Frequency	10th carrier hamonic(Peak/AV)
RB / VB (emission in restricted band)	PK=1MHz / 1MHz, AV=1 MHz /10 Hz

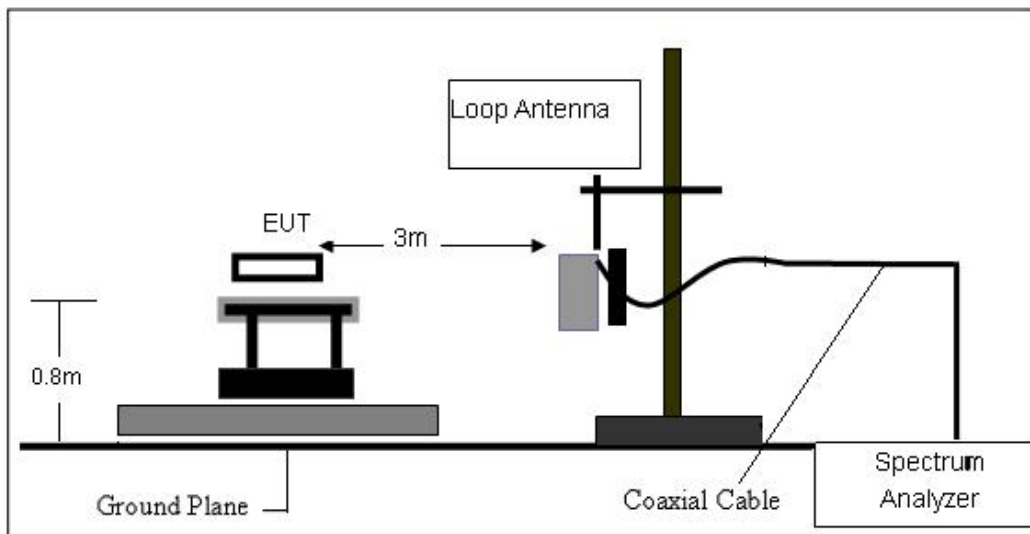
- The measuring distance of at 3 m shall be used for measurements at frequency 0.009MHz up to 1GHz, and above 1GHz.
- The EUT was placed on the top of a rotating table 0.8 meters (above 1GHz is 1.5 m) above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- The height of the equipment shall be 0.8 m(above 1GHz is 1.5 m); the height of the test antenna shall vary between 1 m to 4 m. 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 QuasiPeak 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.

Note:

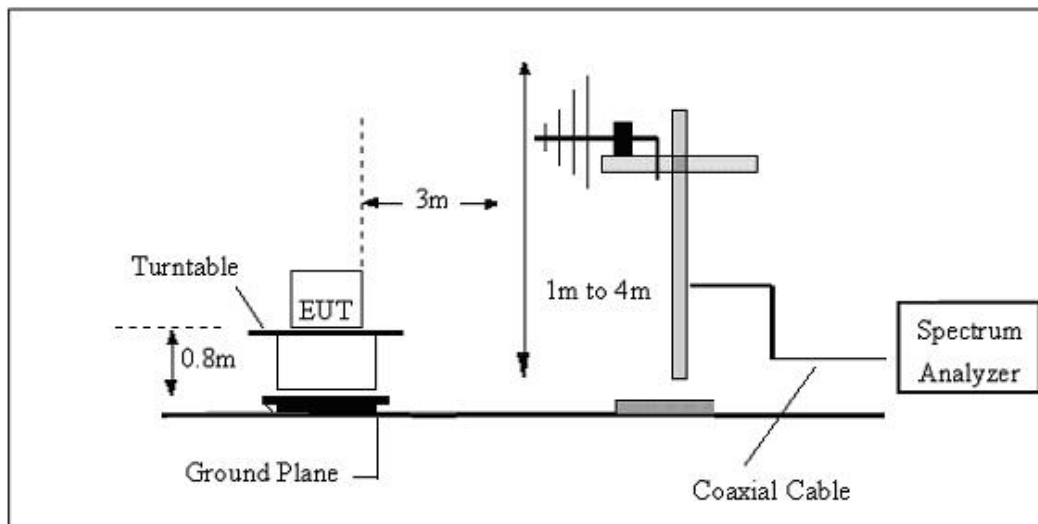
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.3 TEST SETUP

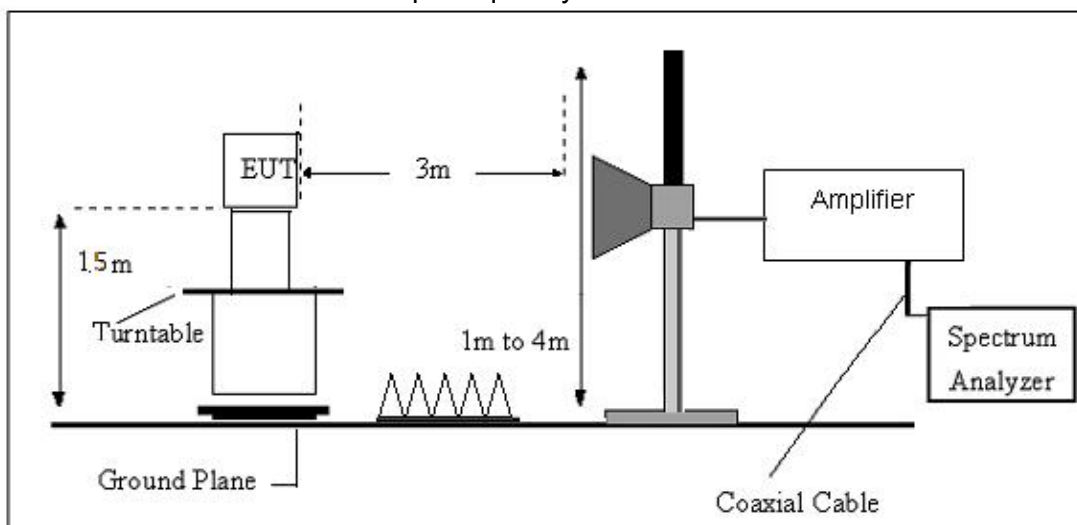
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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



Temperature:	23.7°C	Relative Humidity:	61%
Test Voltage:	DC 3.7V	Test Mode:	GFSK

For field strength of the fundamental signal

Peak

No.	Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2405	92.62	27.58	5.39	30.18	95.41	114.00	-18.59	Horizontal
2	2405	92.6	27.58	5.39	30.18	95.39	114.00	-18.61	Vertical
3	2426	92.29	27.55	5.43	30.06	95.21	114.00	-18.79	Horizontal
4	2426	92.61	27.55	5.43	30.06	95.53	114.00	-18.47	Vertical
5	2463	92.46	27.52	5.47	29.93	95.52	114.00	-18.48	Horizontal
6	2463	92.24	27.52	5.47	29.93	95.3	114.00	-18.7	Vertical

Avg

No.	Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2405	77.55	27.58	5.39	30.18	80.34	94.00	-13.66	Horizontal
2	2405	75.59	27.58	5.39	30.18	78.38	94.00	-15.62	Vertical
3	2426	75.42	27.55	5.43	30.06	78.34	94.00	-15.66	Horizontal
4	2426	71.7	27.55	5.43	30.06	74.62	94.00	-19.38	Vertical
5	2463	73.88	27.52	5.47	29.93	76.94	94.00	-17.06	Horizontal
6	2463	68.59	27.52	5.47	29.93	71.65	94.00	-22.35	Vertical

For spurious emission

(9KHz-30MHz)

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

Note:

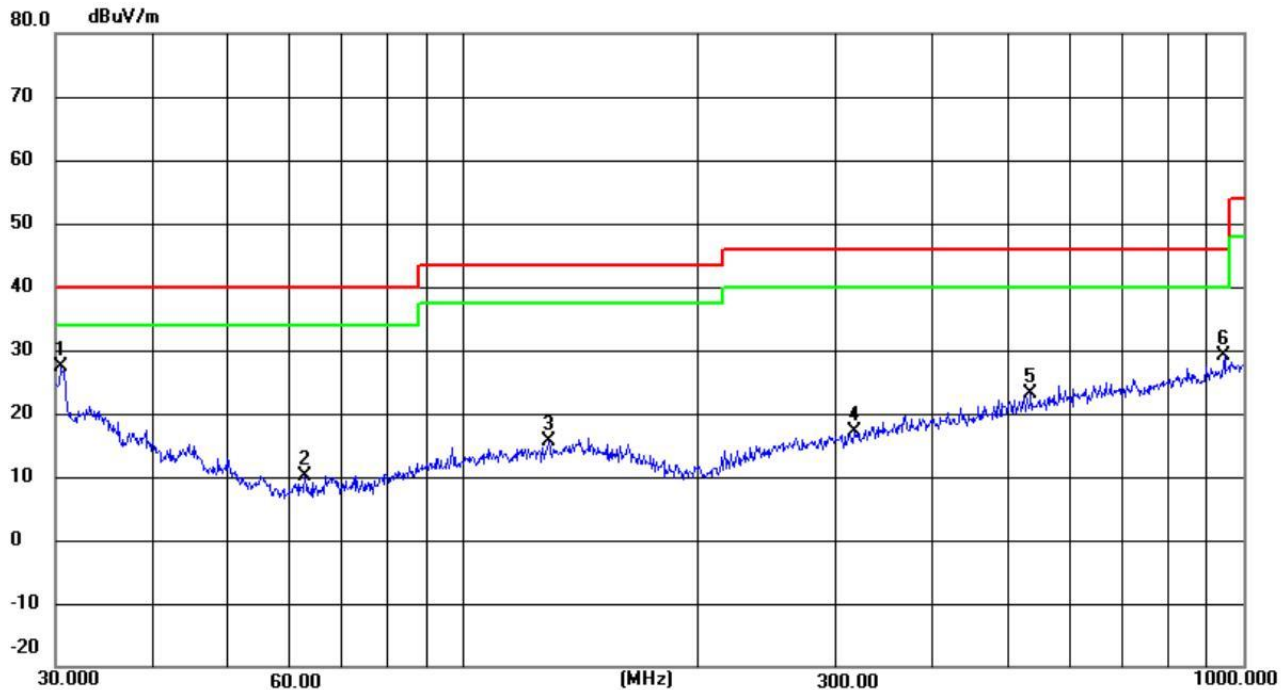
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

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

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

(30MHZ-1000MHZ)

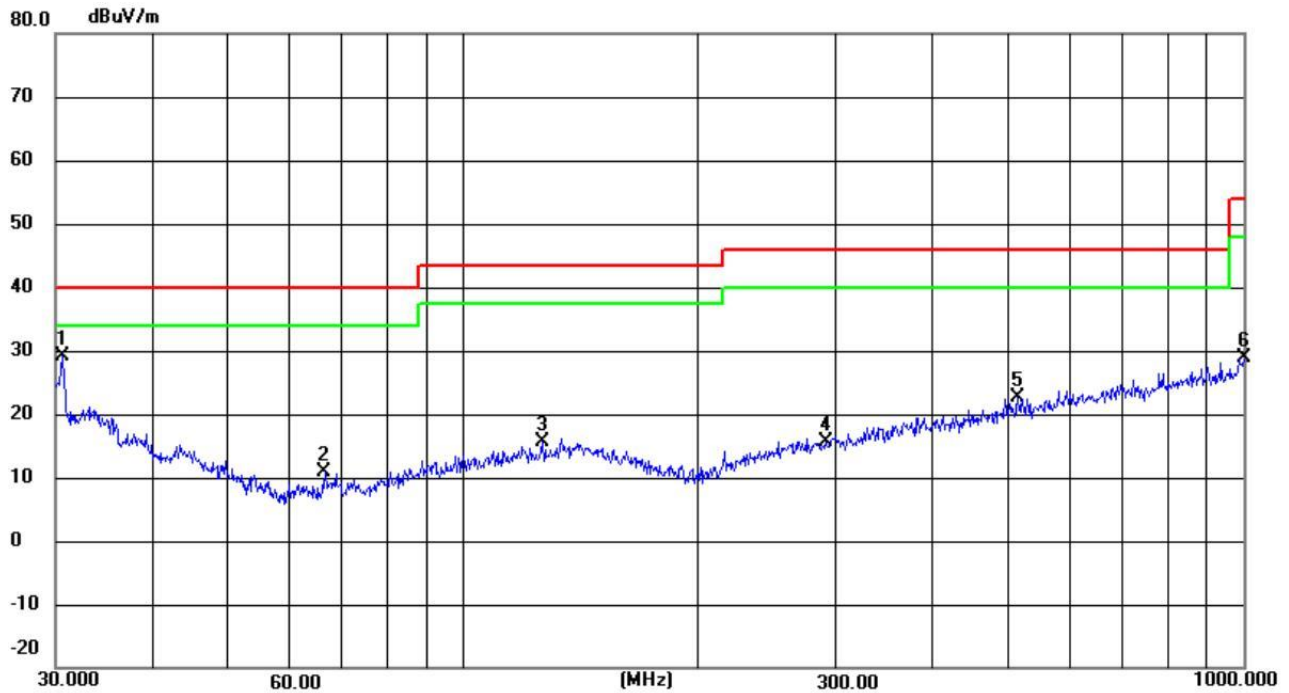
Temperature:	23.7°C	Relative Humidity:	61%
Test Voltage:	DC 3.7V	Phase:	Horizontal
Test Mode:	GFSK		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.4238	34.78	-7.49	27.29	40.00	-12.71	QP
2	62.6507	31.13	-20.98	10.15	40.00	-29.85	QP
3	128.5630	47.94	-32.30	15.64	43.50	-27.86	QP
4	317.7011	49.45	-32.28	17.17	46.00	-28.83	QP
5	533.8321	55.30	-32.10	23.20	46.00	-22.80	QP
6	945.4399	61.01	-31.80	29.21	46.00	-16.79	QP

Note: 1. level= Reading level+ Factor, Margin=Measurement-Limit

Temperature:	22.7°C	Relative Humidity:	61%
Test Voltage:	DC 3.7V	Phase:	Vertical
Test Mode:	GFSK		



No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV)	Factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	
1	30.6379	36.80	-7.63	29.17	40.00	-10.83	QP
2	66.4989	31.48	-20.57	10.91	40.00	-29.09	QP
3	126.3286	47.89	-32.30	15.59	43.50	-27.91	QP
4	291.0360	47.82	-32.30	15.52	46.00	-30.48	QP
5	513.6331	54.72	-32.10	22.62	46.00	-23.38	QP
6	1000.0000	60.79	-31.80	28.99	54.00	-25.01	QP

Note: 1. level= Reading level+ Factor, Margin=Measurement-Limit

(1GHZ~25GHZ)

Low CH, Peak

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4810.00	36.47	31.78	8.60	32.09	44.76	74	-29.24	Vertical
7215.00	34.46	36.15	11.65	32.00	50.26	74	-23.74	Vertical
9620.00	35.34	37.95	14.14	31.62	55.81	74	-18.19	Vertical
12025.00	*					74		Vertical
14430.00	*					74		Vertical
4810.00	39.07	31.78	8.60	32.09	47.36	74	-26.64	Horizontal
7215.00	34.26	36.15	11.65	32.00	50.06	74	-23.94	Horizontal
9620.00	33.39	37.95	14.14	31.62	53.86	74	-20.14	Horizontal
12025.00	*					74		Horizontal
14430.00	*					74		Horizontal

Low CH, AV

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4810.00	29.17	31.78	8.6	32.09	37.46	54	-16.54	Vertical
7215.00	21.31	36.15	11.65	32.00	37.11	54	-16.89	Vertical
9620.00	20.05	37.95	14.14	31.62	40.52	54	-13.48	Vertical
12025.00	*					54		Vertical
14430.00	*					54		Vertical
4810.00	33.19	31.78	8.6	32.09	41.48	54	-12.52	Horizontal
7215.00	23.13	36.15	11.65	32.00	38.93	54	-15.07	Horizontal
9620.00	20.24	37.95	14.14	31.62	40.71	54	-13.29	Horizontal
12025.00	*					54		Horizontal
14430.00	*					54		Horizontal

The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.

Middle Peak

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4852	37.95	31.85	8.67	32.09	46.35	74	-27.65	Vertical
7278	32.16	36.37	11.72	32.00	48.36	74	-25.64	Vertical
9704	32.23	38.35	14.25	31.62	53.21	74	-20.79	Vertical
12130	*					74		Vertical
14556	*					74		Vertical
4852	42.37	31.85	8.67	32.09	50.77	74	-23.23	Horizontal
7278	34.06	36.37	11.72	32.00	50.26	74	-23.74	Horizontal
9704	34.14	38.35	14.25	31.62	55.12	74	-18.88	Horizontal
12130	*					74		Horizontal
14556	*					74		Horizontal

Middle AV

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamplifier Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4852	27.23	31.85	8.67	32.09	35.63	54	-18.37	Vertical
7278	22.16	36.37	11.72	32.00	38.36	54	-15.64	Vertical
9704	18.25	38.35	14.25	31.62	39.23	54	-14.77	Vertical
12130	*					54		Vertical
14556	*					54		Vertical
4852	29.52	31.85	8.67	32.09	37.92	54	-16.08	Horizontal
7278	22.99	36.37	11.72	32.00	39.19	54	-14.81	Horizontal
9704	22.11	38.35	14.25	31.62	43.09	54	-10.91	Horizontal
12130	*					54		Horizontal
14556	*					54		Horizontal

The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.

High Peak

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4926	35.19	31.93	8.73	42.46	43.69	74	-30.31	Vertical
7389	34.01	36.59	11.79	49.38	50.61	74	-23.39	Vertical
9852	34.4	38.81	14.38	54.48	55.71	74	-18.29	Vertical
12315	*					74		Vertical
14778	*					74		Vertical
4926	39.76	31.93	8.73	47.03	48.26	74	-25.74	Horizontal
7389	35.55	36.59	11.79	50.92	52.15	74	-21.85	Horizontal
9852	33.13	38.81	14.38	53.21	54.44	74	-19.56	Horizontal
12315	*					74		Horizontal
14778	*					74		Horizontal

High AV

Frequency (MHz)	Reading (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
4926	25.26	31.93	8.73	32.53	33.76	54	-20.24	Vertical
7389	19.37	36.59	11.79	34.74	35.97	54	-18.03	Vertical
9852	18.49	38.81	14.38	38.57	39.8	54	-14.2	Vertical
12315	*					54		Vertical
14778	*					54		Vertical
4926	33.71	31.93	8.73	40.98	42.21	54	-11.79	Horizontal
7389	23.65	36.59	11.79	39.02	40.25	54	-13.75	Horizontal
9852	20.87	38.81	14.38	40.95	42.18	54	-11.82	Horizontal
12315	*					54		Horizontal
14778	*					54		Horizontal

The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.

5. BAND EDGE TEST

5.1 LIMIT

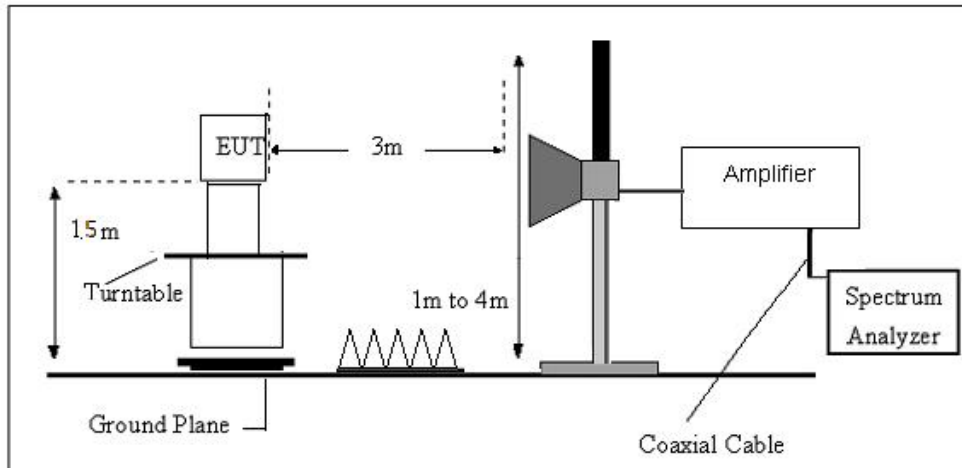
According to §15.249(d), Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

5.2 TEST PROCEDURE

- a. The EUT is placed on a turntable, which is 1.5m above ground plane.
- b. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
Use the following spectrum analyzer settings:
 - c. Span = wide enough to fully capture the emission being measured, RBW = 1 MHz, VBW $\geq$ RBW, Sweep = auto, Detector function = peak, Trace = max hold
Follow the guidelines in ANSI C63.4 with respect to maximizing the emission by rotating the EUT, adjusting the measurement antenna height and polarization, etc.
 - d. The peak reading of the emission, after being corrected by the antenna factor, cable loss, pre-amp gain, etc., is the peak field strength, submit this data. Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. Set the VBW to 10 Hz, while maintaining all of the other instrument settings. This peak level, once corrected, must comply with the limit specified in Section 15.209. If the duty cycle per channel of the hopping signal is less than 100 ms, then the reading obtained with
 - e. the 10 Hz VBW may be further adjusted by a “duty cycle correction factor”, derived from $20\log(\text{duty cycle}/100 \text{ ms})$, in an effort to demonstrate compliance with the 15.209 limit. Submit this data.

5.3 TEST SETUP

Radiated Emission Test-Up Frequency Above 1GHz



5.4 TEST RESULTS

Low CH (GFSK)

Peak

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	40.11	27.61	5.36	30.18	42.9	74	-31.1	Horizontal
2390.00	39.13	27.59	5.38	30.18	41.92	74	-32.08	Horizontal
2400.00	54.25	27.58	5.39	30.18	57.04	74	-16.96	Horizontal
2310.00	37.14	27.61	5.36	30.18	39.93	74	-34.07	Vertical
2390.00	40.33	27.59	5.38	30.18	43.12	74	-30.88	Vertical
2400.00	45.26	27.58	5.39	30.18	48.05	74	-25.95	Vertical

Avg

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2310.00	34.05	27.61	5.36	30.18	36.84	54	-17.16	Horizontal
2390.00	29.16	27.59	5.38	30.18	31.95	54	-22.05	Horizontal
2400.00	42.86	27.58	5.39	30.18	45	54	-9	Horizontal
2310.00	33.86	27.61	5.36	30.18	36.65	54	-17.35	Vertical
2390.00	31.8	27.59	5.38	30.18	34.59	54	-19.41	Vertical
2400.00	40.54	27.58	5.39	30.18	43.33	54	-10.67	Vertical

High CH(GFSK)

Peak

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	39.06	27.53	5.47	29.93	42.13	74	-31.87	Horizontal
2500.00	41.12	27.55	5.49	29.93	44.23	74	-29.77	Horizontal
2483.50	43.85	27.53	5.47	29.93	46.92	74	-27.08	Vertical
2500.00	40.56	27.55	5.49	29.93	43.67	74	-30.33	Vertical

Avg

Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit Line (dBuV/m)	Over Limit (dB)	Polarization
2483.50	34.12	27.53	5.47	29.93	37.19	54	-16.81	Horizontal
2500.00	32.95	27.55	5.49	29.93	36.06	54	-17.94	Horizontal
2483.50	35.19	27.53	5.47	29.93	38.26	54	-15.74	Vertical
2500.00	30.44	27.55	5.49	29.93	33.55	54	-20.45	Vertical

Remark.

- 1.Final Level =Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor
- 2.The amplitude of spurious emissions which are attenuated more than 20 dB below the limits are not reported.
- 3.All restriction band have been tested, and only the worst case is shown in report

6. 20 DB BANDWIDTH TEST

6.1 LIMIT

According to 15.215 (c) Intentional radiators operating under the alternative provisions to the general emission limits, as contained in § 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation

6.2 TEST PROCEDURE

- Check the calibration of the measuring instrument using either an internal calibrator or a
- known signal from an external generator
 - Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
 - Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.

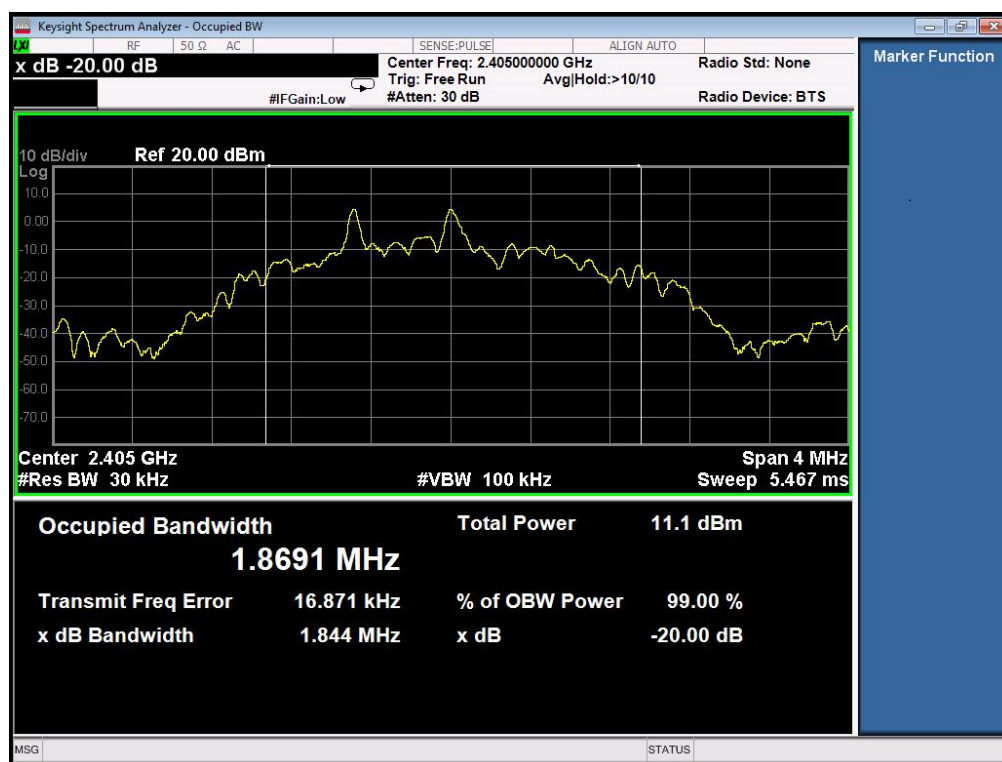
6.3 TEST SETUP

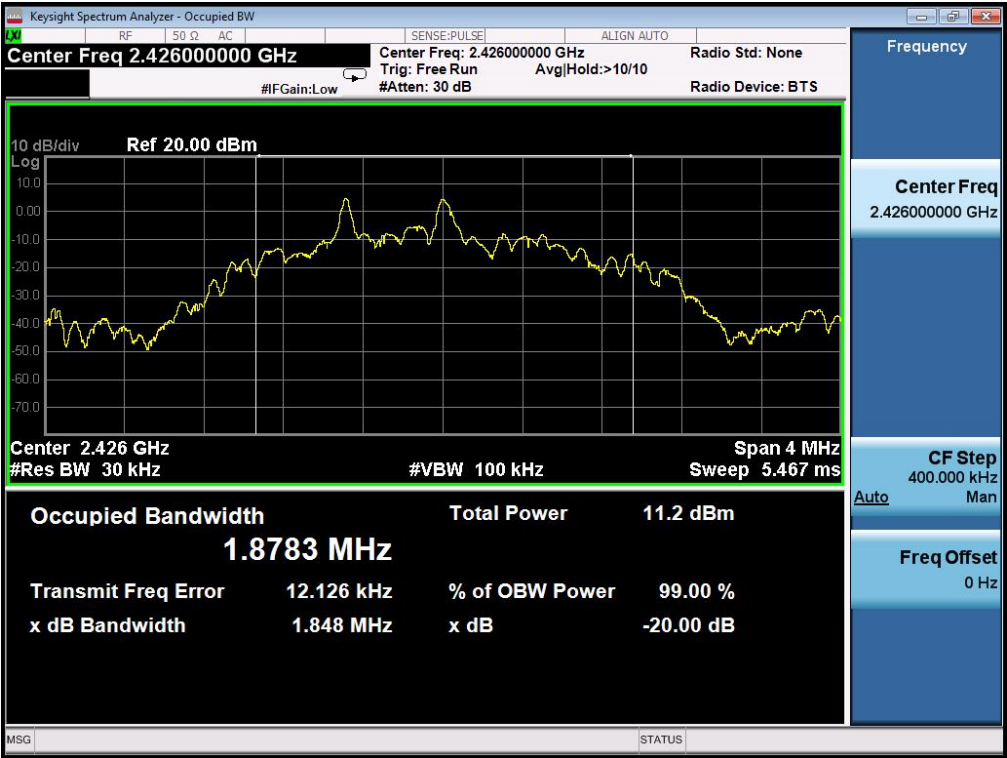


6.4 TEST RESULTS

Temperature:	25°C	Relative Humidity:	50%
Test Mode:	GFSK	Test Voltage:	DC 3.7V

Frequency	20dB Bandwidth (MHz)	99% Bandwidth (MHz)	Result
2405 MHz	1.8440	1.8691	PASS
2426 MHz	1.8480	1.8783	PASS
2463 MHz	1.8480	1.8814	PASS





7. ANTENNA REQUIREMENT

7.1 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.

7.2 EUT ANTENNA

The antennas used for this product are Chip antenna and other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is 2.0dBi.

*****END OF THE REPORT*****