



FCC Part 15C Test Report

FCC ID:2AKL5-KMG100

Product Name:	2.4G Mini Wireless Microphone
Trademark:	N/A
Model Name :	KM-G100, KM-G110, KM-G120, KM-G130, KM-G140
Prepared For :	SHENZHEN JHC ELECTRONICS CO,LTD
Address :	No.26, Tongle Industry Area, Longgang District, Shenzhen, China
Prepared By :	Shenzhen BCTC Technology Co., Ltd.
Address :	No.101, Yousong Road, Longhua New District, Shenzhen,China
Test Date:	Nov. 24 - Dec. 09, 2016
Date of Report :	Dec. 09, 2016
Report No.:	BCTC-FY161105651E



VERIFICATION OF COMPLIANCE

Applicant's name.....: SHENZHEN JHC ELECTRONICS CO,LTD
Address.....: No.26, Tongle Industry Area, Longgang District, Shenzhen, China
Manufacture's Name.....: SHENZHEN JHC ELECTRONICS CO,LTD
Address.....: No.26, Tongle Industry Area, Longgang District, Shenzhen, China

Product description

Product name.....: 2.4G Mini Wireless Microphone
Trademark: N/A
Model Name: KM-G100, KM-G110, KM-G120, KM-G130, KM-G140
Standards: FCC Part15.249-2016
ANSI C63.10-2013

This device described above has been tested by BCTC, 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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Test Result.....: Pass

Testing Engineer :

Eric Yang

Reviewer
(Supervisor) :

Simon Wang

Approved &
Authorized
Signer(Manager) :





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. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15 (15.249) , Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.249	Fundamental &Radiated Spurious Emission Measurement	PASS	
15.249	Bandwidth	PASS	
15.205	Band Edge Emission	PASS	
15.203	Antenna Requirement	PASS	

TEST FACILITY

Shenzhen BCTC Technology Co., Ltd.
Add.:No.101,Yousong Road,Longhua New District, Shenzhen,China
FCC Registration No.:187086

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	$\pm 2\%$



. GENERAL INFORMATION

GENERAL DESCRIPTION OF EUT

Equipment	2.4G Mini Wireless Microphone										
Trade Name	N/A										
Model Name	KM-G100										
Serial Model	KM-G110, KM-G120, KM-G130, KM-G140										
Model Difference	N/A										
Product Description	<table border="1"><tr><td>Operation Frequency:</td><td>2403~2478 MHz</td></tr><tr><td>Modulation Type:</td><td>FSK</td></tr><tr><td>Bit Rate of Transmitter</td><td>N/A</td></tr><tr><td>Number Of Channel</td><td>26CH</td></tr><tr><td>Antenna Designation:</td><td>Please see Note 3.</td></tr></table> <p>Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.</p>	Operation Frequency:	2403~2478 MHz	Modulation Type:	FSK	Bit Rate of Transmitter	N/A	Number Of Channel	26CH	Antenna Designation:	Please see Note 3.
Operation Frequency:	2403~2478 MHz										
Modulation Type:	FSK										
Bit Rate of Transmitter	N/A										
Number Of Channel	26CH										
Antenna Designation:	Please see Note 3.										
Channel List	Please refer to the Note 2.										
Battery	TX: Battery: DC 3.7V/500mAh USB :DC 5V RX: Battery: DC 3.7V/500mAh USB :DC 5V										
Connecting I/O Port(s)	Please refer to the User's Manual										
hardware version	TX: AM2802MTX_JHC_V1.3 RX: AM2802MRX_JHC_V1.3										
Software version	V1.0										

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 (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2403	10	2430	19	2457
02	2406	11	2433	20	2460
03	2409	12	2436	21	2463
04	2412	13	2439	22	2466
05	2415	14	2442	23	2469
06	2418	15	2445	24	2472
07	2421	16	2448	25	2475
08	2424	17	2451	26	2478
09	2427	18	2454	/	/

3.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB Antenna	N/A	0dBi	

DESCRIPTION OF TEST MODES

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

For All Mode	Description	Modulation Type
Mode 1	CH01	FSK
Mode 2	CH14	
Mode 3	CH26	
Mode 4	Link mode	

Note:

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

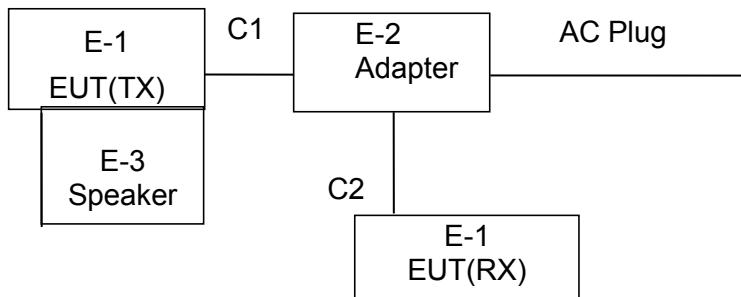
TABLE OF PARAMETERS OF TEXT SOFTWARE SETTING

During testing channel & power controlling software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product power parameters of FHSS

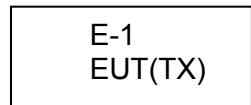
Frequency	2403 MHz	2442 MHz	2478 MHz
Channel	Low	Middle	High

**BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED**

Conducted Emission



Radiated Spurious Emission Test



**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	2.4G Mini Wireless Microphone	N/A	KM-G100	N/A	EUT
E-2	Adapter	N/A	N/A	N/A	Peripheral
E-3	Speaker	N/A	N/A	N/A	Peripheral

Item	Shielded Type	Ferrite Core	Length	Note
C-1	N/A	N/A	0.8m	USB cable
C-2	N/A	N/A	0.8m	USB Cable

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".

**EQUIPMENTS LIST FOR ALL TEST ITEMS**

For Conducted Emission at the mains terminals Test

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	843 Shielded Room	ChengYu	843 Room	843	2016.07.06	2017.07.05	1 year
2	EMI Receiver	R&S	ESCI	101421	2016.06.07	2017.06.06	1 year
3	LISN	Schwarzbeck	NSLK8127	8127739	2016.07.06	2017.07.05	1 year
4	Attenuator	R&S	ESH3-Z2	BCTC021 E	2016.06.07	2017.06.06	1 year

Radiation test, Band-edge test and 20db bandwith test quipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2016.07.06	2017.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2016.06.07	2017.06.06	1 year
3	Bilog Antenna	R&S	VULB 9168	VULB91 68-438	2016.07.06	2017.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2016.06.07	2017.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2016.06.07	2017.06.06	1 year
6	Horn Antenna	R&S	HF906	10027	2016.07.06	2017.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2016.07.06	2017.07.05	1 year
8	Amplifier	R&S	BBV9743	9743-019	2016.08.25	2017.08.24	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2016.06.08	2017.06.07	1 year
10	RF cables	R&S	R203	R20X	2016.07.06	2017.07.05	1 year
11	Antenna connector	Florida RFLabs	Lab-Fle	RF 01#	2016.07.06	2017.07.05	1 year



. EMC EMISSION TEST

CONDUCTED EMISSION MEASUREMENT

POWER LINE CONDUCTED EMISSION Limits (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)		Standard
	Quasi-peak	Average	Quas -peak	Average	
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	CISPR
0.50 -5.0	73.00	60.00	56.00	46.00	CISPR
5.0 -30.0	73.00	60.00	60.00	50.00	CISPR

0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *	FCC
0.50 -5.0	73.00	60.00	56.00	46.00	FCC
5.0 -30.0	73.00	60.00	60.00	50.00	FCC

Note:

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

The following table is the setting of the receiver

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

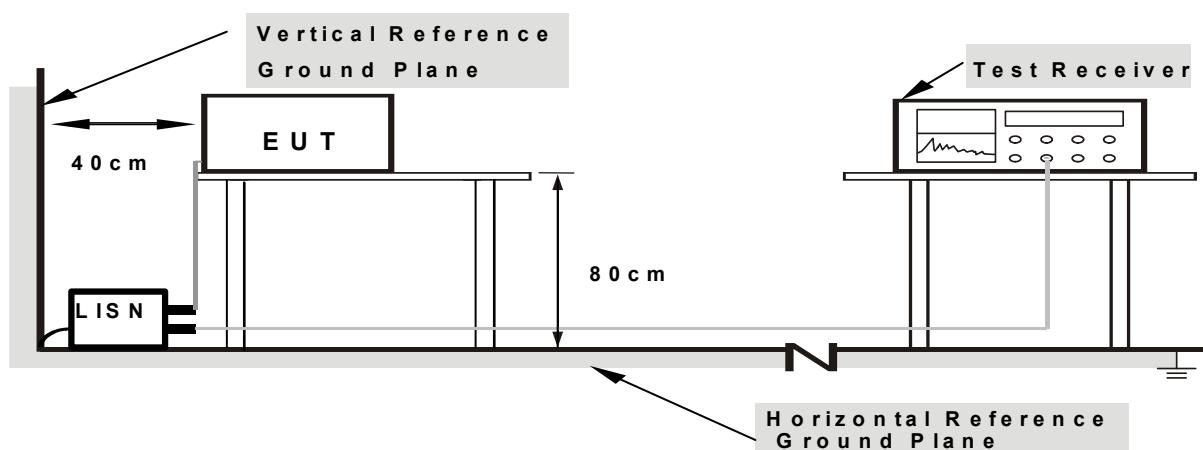
TEST PROCEDURE

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

DEVIATION FROM TEST STANDARD

No deviation

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 cm from other units and other metal planes

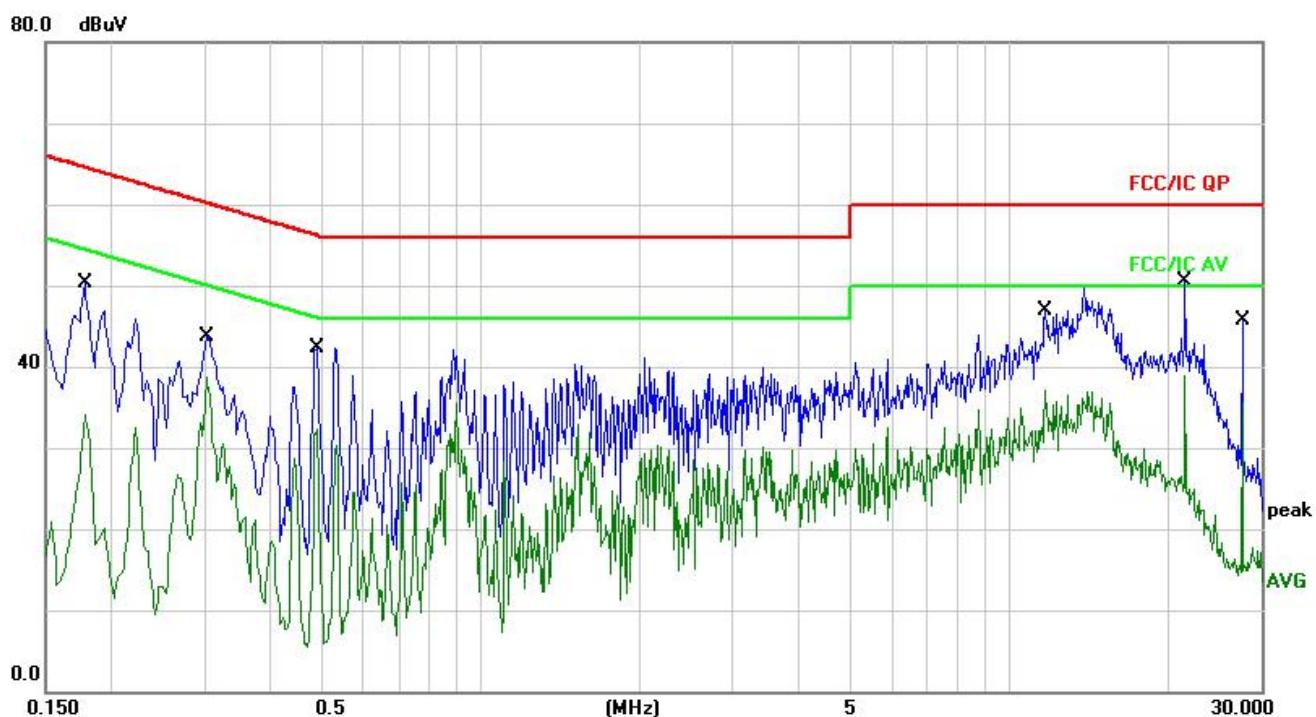
EUT OPERATING CONDITIONS

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.



TEST RESULTS

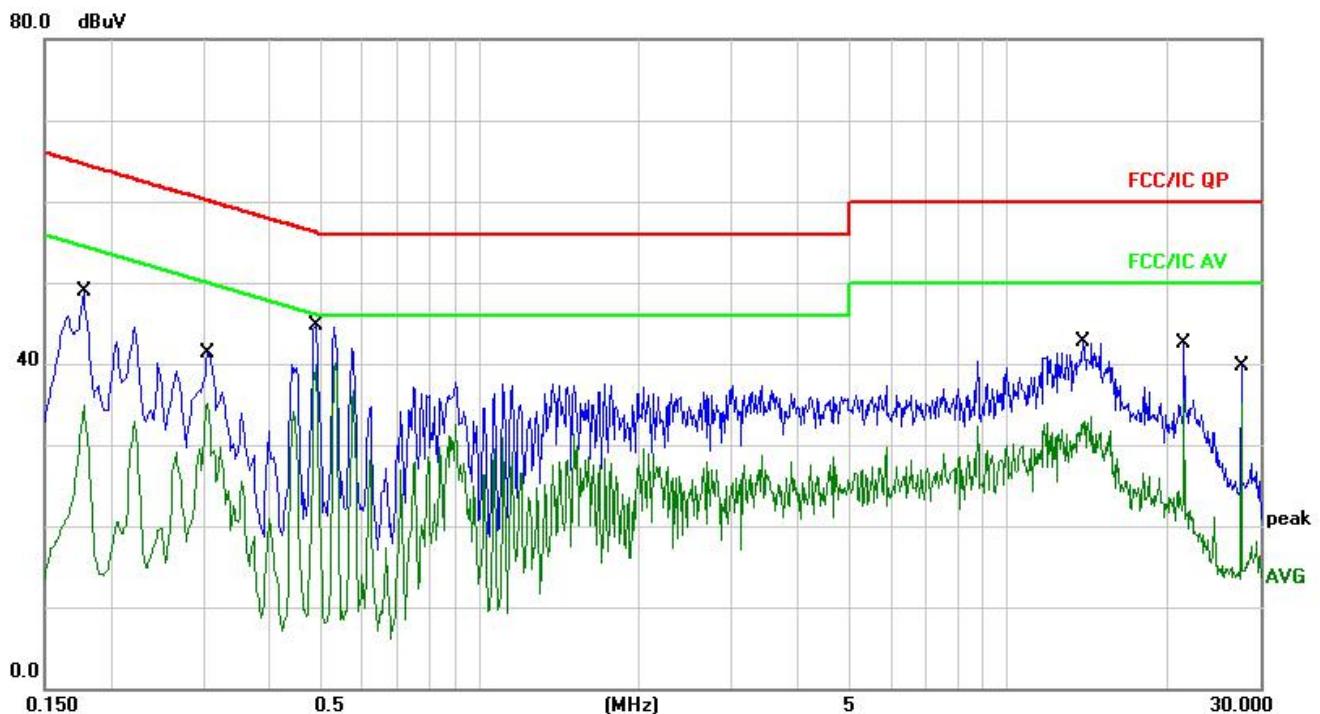
Temperature :	25 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	Input: AC120V/60Hz Output: DC 5V	Test Mode :	Mode4



No.	Mk.	Freq. MHz	Reading	Correct	Measure-	Limit	Over	Comment
			Level dBuV	Factor dB	ment dBuV			
1		0.1780	40.67	9.66	50.33	64.57	-14.24	QP
2		0.1780	24.53	9.66	34.19	54.57	-20.38	AVG
3		0.3020	34.07	9.66	43.73	60.19	-16.46	QP
4		0.3020	29.02	9.66	38.68	50.19	-11.51	AVG
5		0.4900	32.67	9.68	42.35	56.17	-13.82	QP
6		0.4900	22.54	9.68	32.22	46.17	-13.95	AVG
7		11.6899	39.91	9.82	49.73	60.00	-10.27	QP
8		11.6899	27.19	9.82	37.01	50.00	-12.99	AVG
9	*	21.5060	40.63	9.84	50.47	60.00	-9.53	QP
10		21.5060	28.97	9.84	38.81	50.00	-11.19	AVG
11		27.6460	35.84	9.86	45.70	60.00	-14.30	QP
12		27.6460	25.70	9.86	35.56	50.00	-14.44	AVG



Temperature :	25 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	Input: AC120V/60Hz Output: DC 5V	Test Mode :	Mode4



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Detector	Comment
			Level	Factor	ment				
1		0.1780	39.17	9.66	48.83	64.57	-15.74	QP	
2		0.1780	25.19	9.66	34.85	54.57	-19.72	AVG	
3		0.3060	31.70	9.66	41.36	60.08	-18.72	QP	
4		0.3060	25.43	9.66	35.09	50.08	-14.99	AVG	
5		0.4900	34.95	9.68	44.63	56.17	-11.54	QP	
6 *		0.4900	30.32	9.68	40.00	46.17	-6.17	AVG	
7		13.8940	32.90	9.85	42.75	60.00	-17.25	QP	
8		13.8940	23.67	9.85	33.52	50.00	-16.48	AVG	
9		21.5060	32.63	9.84	42.47	60.00	-17.53	QP	
10		21.5060	25.79	9.84	35.63	50.00	-14.37	AVG	
11		27.6500	29.86	9.86	39.72	60.00	-20.28	QP	
12		27.6500	25.15	9.86	35.01	50.00	-14.99	AVG	



RADIATED EMISSION MEASUREMENT

RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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 (Above 1000MHz)

FREQUENCY (MHz)	Class B (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).

FREQUENCY RANGE OF RADIATED MEASUREMENT (For unintentional radiators)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 – 108	1000
108 – 500	2000
500 – 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower



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

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

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 and 1.5 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 0.8 m; 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:

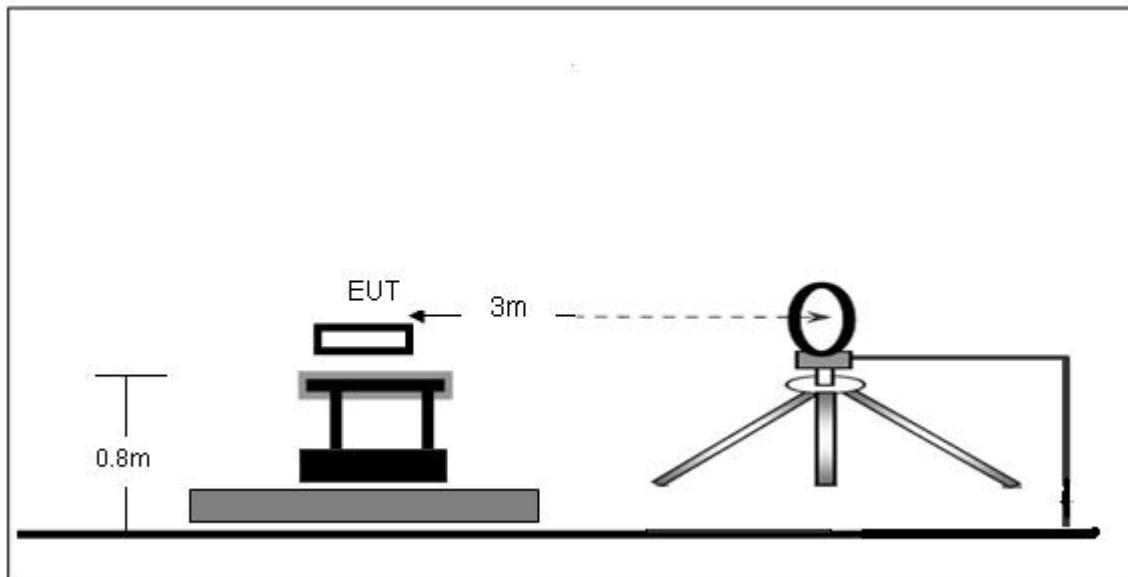
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

DEVIATION FROM TEST STANDARD

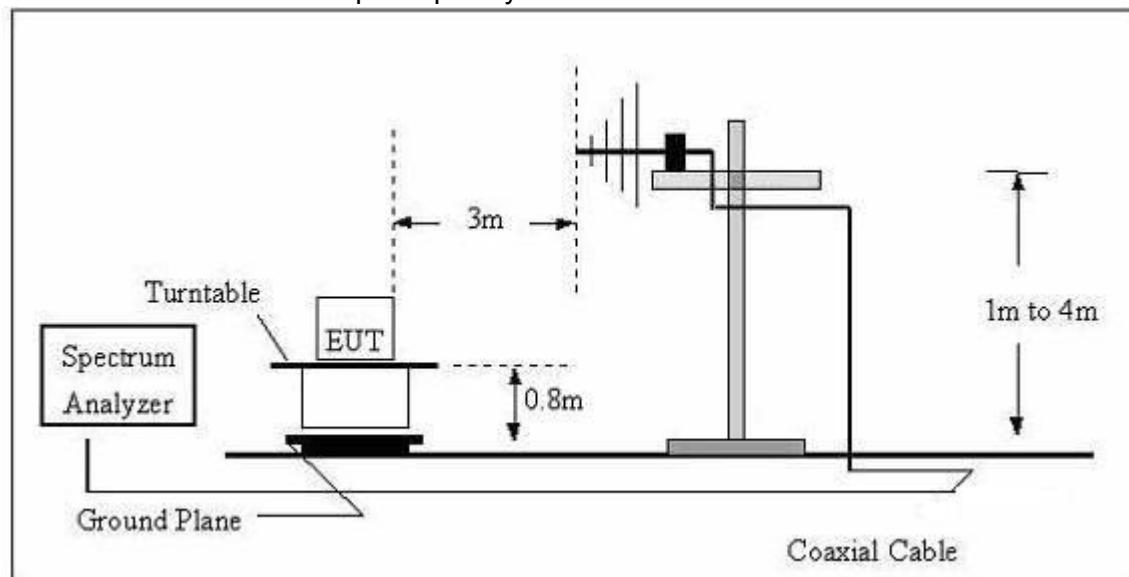
No deviation

TEST SETUP

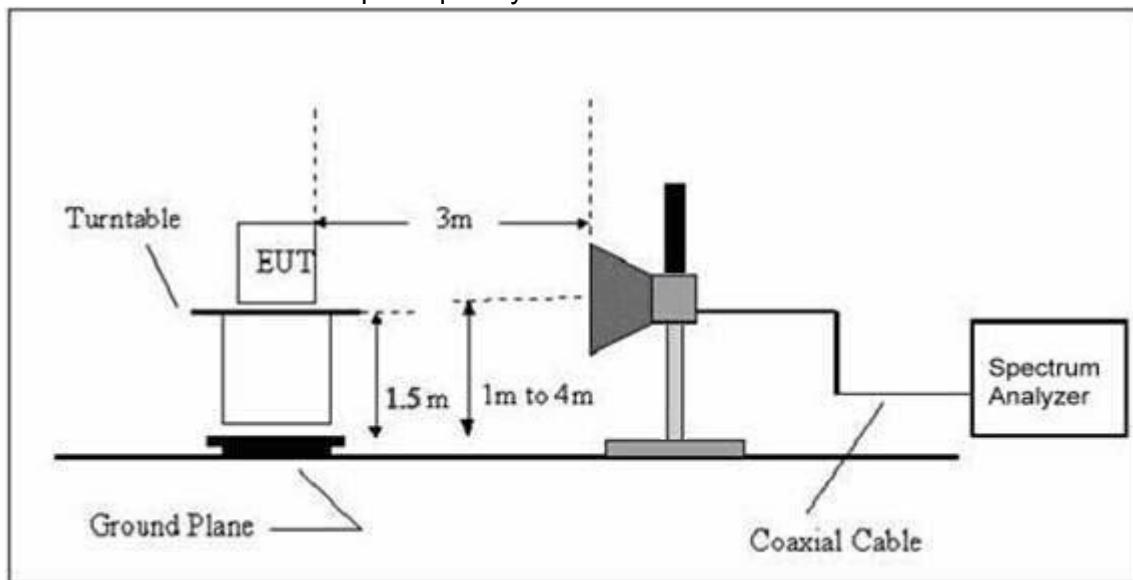
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



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

**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.



TEST RESULTS

Radiated Spurious Emission (Below 30MHz)

Temperature :	25 °C	Relative Humidity :	55%
Pressure :	1010 hPa	Polarization :	---
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1/2/3		

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

NOTE:

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

Distance extrapolation factor =40 log (specific distance/test distance)(dB);

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



Radiated Spurious Emission (Between 30MHz – 1GHz)

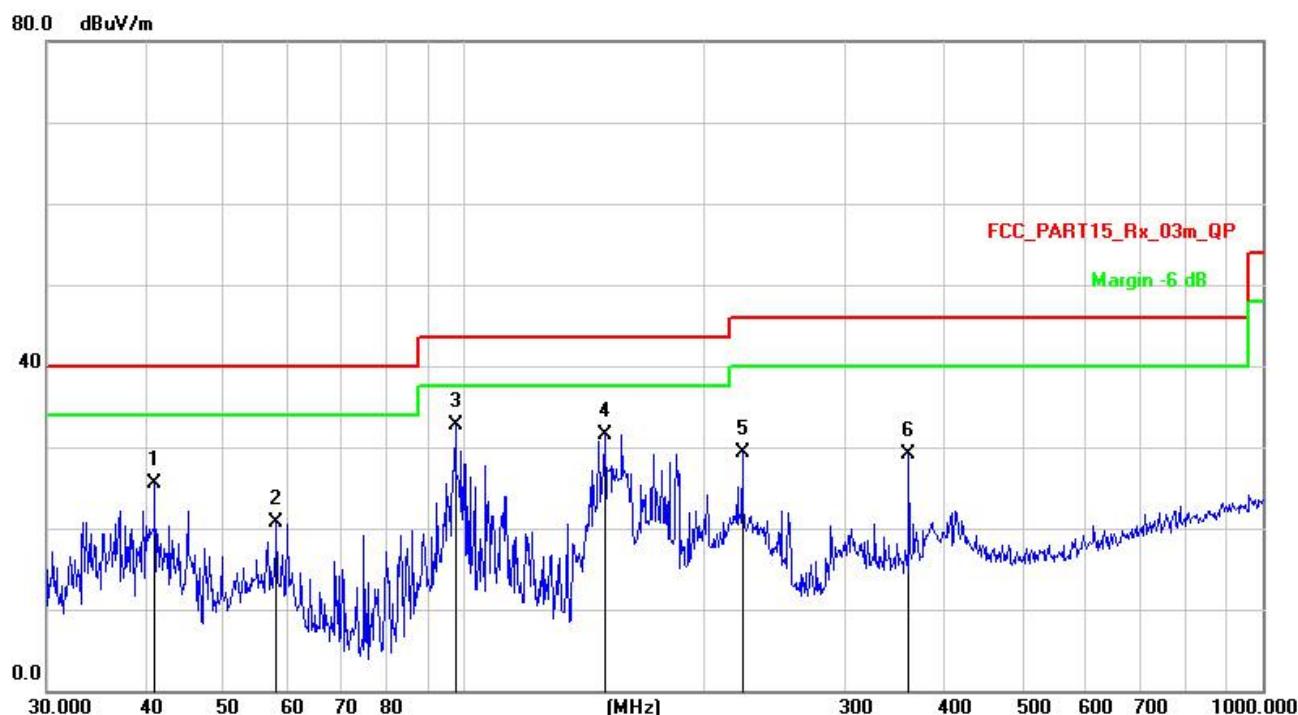
Temperature :	25 °C	Relative Humidity :	55%
Pressure :	1010 hPa	Polarization :	Horizontal
Test Voltage :	DC 3.7V		
Test Mode : (Worst)	Mode 1/2/3		



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dB/m	Over dB	Antenna Height cm			Table Degree	Comment
								Detector	cm	degree		
1		82.9385	45.26	-20.11	25.15	40.00	-14.85	QP				
2		153.2004	50.96	-19.45	31.51	43.50	-11.99	QP				
3		185.1379	48.93	-17.25	31.68	43.50	-11.82	QP				
4	*	199.9856	48.00	-15.63	32.37	43.50	-11.13	QP				
5		222.9502	49.97	-15.13	34.84	46.00	-11.16	QP				
6		440.1963	39.03	-8.55	30.48	46.00	-15.52	QP				



Temperature :	25 °C	Relative Humidity :	55%
Pressure :	1010 hPa	Polarization :	Vertical
Test Voltage :	DC 3.7V		
Test Mode :	Mode 1/2/3 (Worst)		



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Over	Antenna	Table	Degree
			Level	Factor	ment					
MHz		dBuV	dB	dBuV/m	dB/m					
1	40.9881	41.01	-15.45	25.56	40.00	-14.44	QP			
2	58.2030	36.78	-15.99	20.79	40.00	-19.21	QP			
3 *	97.4560	49.72	-17.06	32.66	43.50	-10.84	QP			
4	150.0108	51.14	-19.64	31.50	43.50	-12.00	QP			
5	222.9502	44.42	-15.13	29.29	46.00	-16.71	QP			
6	360.4476	39.42	-10.40	29.02	46.00	-16.98	QP			

Radiated Spurious Emission (1GHz to 10th harmonics)

FSK

	Freq.	Receiver Reading	Detector	Polar	Corrected Factor	Emission Level	Limit	Result
	(MHz)	(dB μ V)	(PK/QP/Ave)	(H/V)	(dB)	(dB μ V/m)	(dB μ V/m)	
Lower Channel 2403MHz	2403	90.75	PK	H	13.85	104.57	114	Pass
	2403	72.46	Ave	H	13.85	86.32	94	Pass
	4806	49.52	PK	H	19.33	68.86	74	Pass
	4806	26.47	Ave	H	19.33	45.77	54	Pass
	12355	26.68	PK	H	17.81	44.43	74	Pass
	17850	19.43	PK	H	25.39	44.85	74	Pass
	2403	89.87	PK	V	13.85	103.70	114	Pass
	2403	71.92	Ave	V	13.85	85.81	94	Pass
	4806	48.86	PK	V	19.33	68.27	74	Pass
	4806	27.71	Ave	V	19.33	47.04	54	Pass
	12355	25.76	PK	V	17.81	43.57	74	Pass
	17850	19.52	PK	V	25.39	44.91	74	Pass
Middle Channel 2442MHz	2442	89.78	PK	H	13.94	103.72	114	Pass
	2442	71.63	Ave	H	13.94	85.57	94	Pass
	4884	47.94	PK	H	19.43	67.37	74	Pass
	4884	29.75	Ave	H	19.43	49.18	54	Pass
	12355	26.95	PK	H	17.81	44.76	74	Pass
	17850	19.36	PK	H	25.39	44.75	74	Pass
	2442	90.52	PK	V	13.94	104.46	114	Pass
	2442	72.85	Ave	V	13.94	86.79	94	Pass
	4884	48.26	PK	V	19.43	67.69	74	Pass
	4884	28.54	Ave	V	19.43	47.97	54	Pass
	12355	26.56	PK	V	17.81	44.37	74	Pass
	17850	19.43	PK	V	25.39	44.82	74	Pass
Upper Channel 2478MHz	2478	90.23	PK	H	14.02	104.25	114	Pass
	2478	71.87	Ave	H	14.02	85.89	94	Pass
	4956	45.43	PK	H	19.51	64.94	74	Pass
	4956	27.96	Ave	H	19.51	47.47	54	Pass



12355	25.73	PK	H	17.81	43.54	74	Pass
17850	19.55	PK	H	25.39	44.94	74	Pass
2478	89.39	PK	V	14.02	103.41	114	Pass
2478	72.83	Ave	V	14.02	86.85	94	Pass
4956	44.72	PK	V	19.51	64.23	74	Pass
4956	27.46	Ave	V	19.51	46.97	54	Pass
12355	26.65	PK	V	17.81	44.46	74	Pass
17850	19.43	PK	V	25.39	44.82	74	Pass

Remark:

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

Emission Level = Meter Reading + Factor

Margin = Emission Level - Limit

Other harmonics emissions are lower than 20dB below the allowable limit.



. BANDWIDTH TEST

APPLIED PROCEDURES / LIMIT

FCC Part15 (15.249) , Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	Result
15.249	Bandwidth	(20dB bandwidth)	2400-2483.5	PASS

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	> Measurement Bandwidth or Channel Separation
RB	30KHz
VB	\geq RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

TEST PROCEDURE

- The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- Spectrum Setting : RBW= 30KHz, VBW \geq RBW, Sweep time = Auto.

DEVIATION FROM STANDARD

No deviation.

TEST SETUP



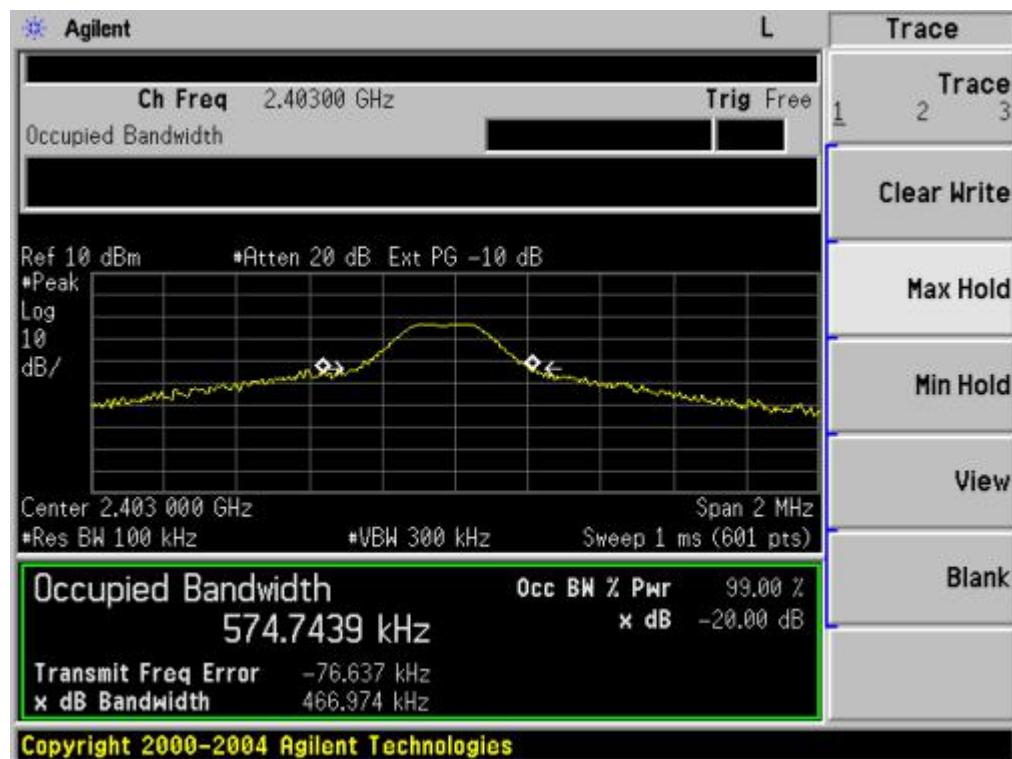
EUT OPERATION CONDITIONS

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.

**TEST RESULTS**

EUT :	2.4G Mini Wireless Microphone	Model Name :	KM-G100
Temperature :	25 °C	Relative Humidity :	55%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH01 / CH14 /C26		

	Frequency	20dB Bandwidth (MHz)	Result
FSK	2403 MHz	0.467	PASS
	2442 MHz	0.564	PASS
	2478 MHz	0.529	PASS

**The Lowest Channel:2403MHz**

**The Middle Channel:2442MHz****The HIGH Channel: 2478MHz**



. 100 KHZ BANDWIDTH OF FREQUENCY BAND EDGE

APPLICABLE STANDARD

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

TEST PROCEDURE

- a) Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- b) Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- c) Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
- d) Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
- e) Repeat above procedures until all measured frequencies were complete.

Note:

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



DEVIATION FROM STANDARD

No deviation.

TEST SETUP

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.

TEST RESULTS

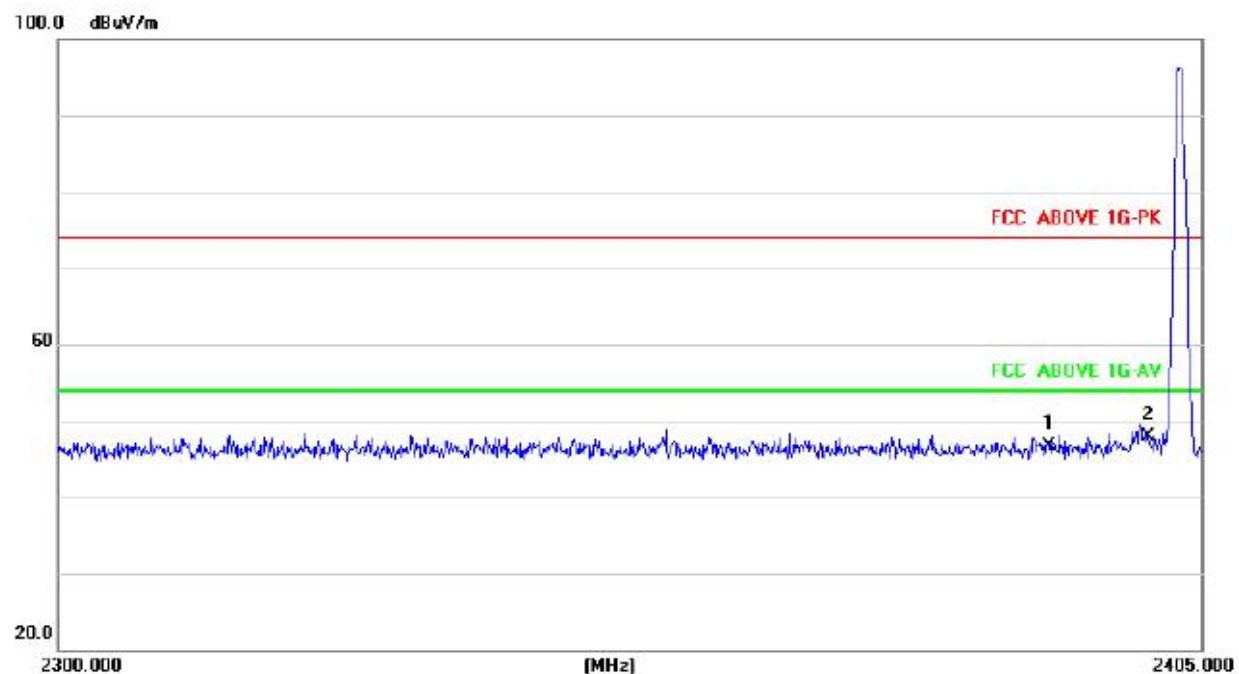
Temperature :	25 °C	Relative Humidity :	54%
Pressure :	1012 hPa	Test Voltage :	DC 3.7V
Test Mode :	CH01/ CH26		

	Frequency (MHz)	Antenna polarization (H/V)	Frequency (MHz)	Meter Reading (dB μ V)	Factor (dB)	Emission (dB μ V/m)	Band edge Limit (dB μ V/m)		Result
							PK	PK	
FSK	<2400	H	2390.00	34.36	13.83	48.19	74.00	54.00	Pass
	<2400	V	2390.00	33.95	13.83	47.78	74.00	54.00	Pass
	<2400	H	2400.00	34.42	13.85	48.27	74.00	54.00	Pass
	<2400	V	2400.00	33.87	13.85	47.72	74.00	54.00	Pass
	>2483.5	H	2483.50	34.45	14.02	48.47	74.00	54.00	Pass
	>2483.5	V	2483.50	33.75	14.02	47.77	74.00	54.00	Pass
	>2483.5	H	2485.50	33.96	14.04	48.00	74.00	54.00	Pass
	>2483.5	V	2485.50	34.33	14.04	48.37	74.00	54.00	Pass

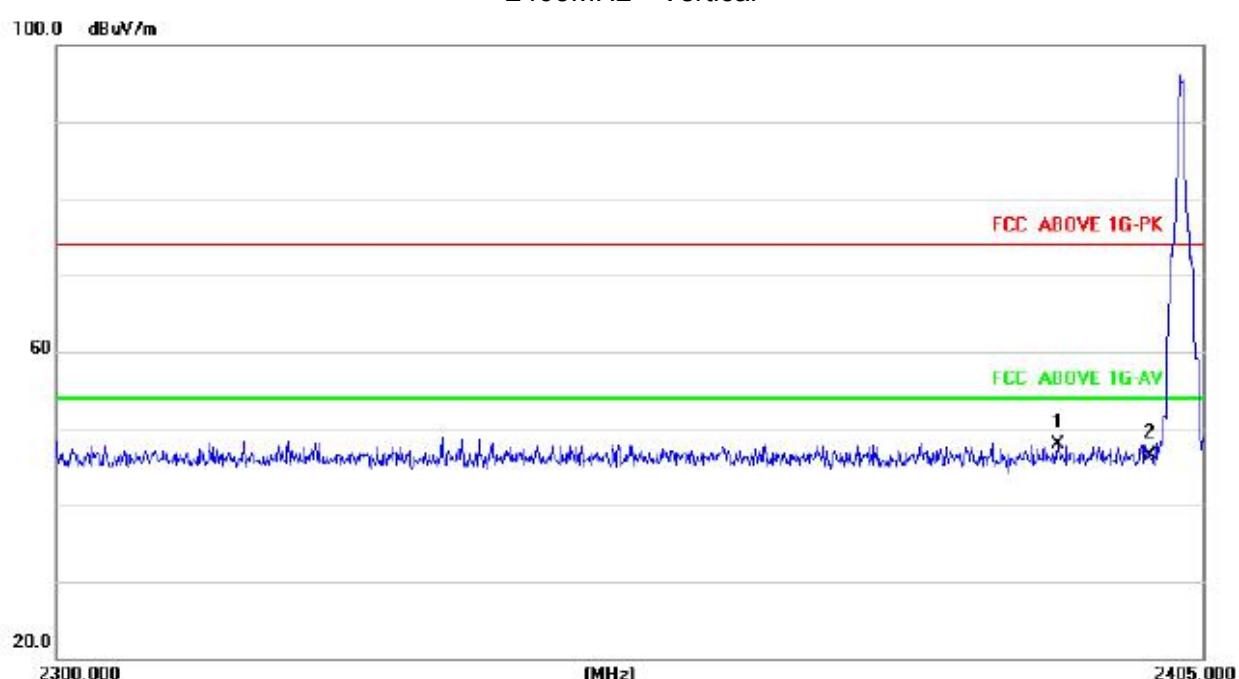
If the PK measured levels comply with average limit, then the average level were deemed to comply with average limit.



2403MHz Horizontal

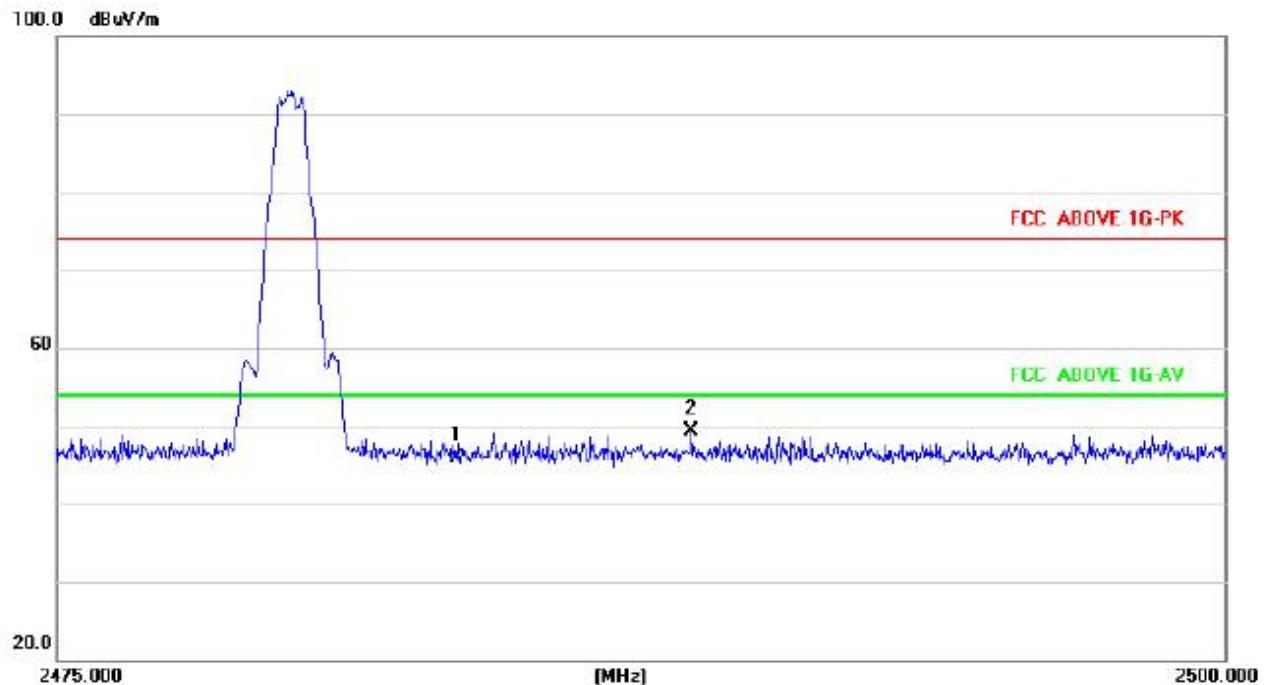


2403MHz Vertical

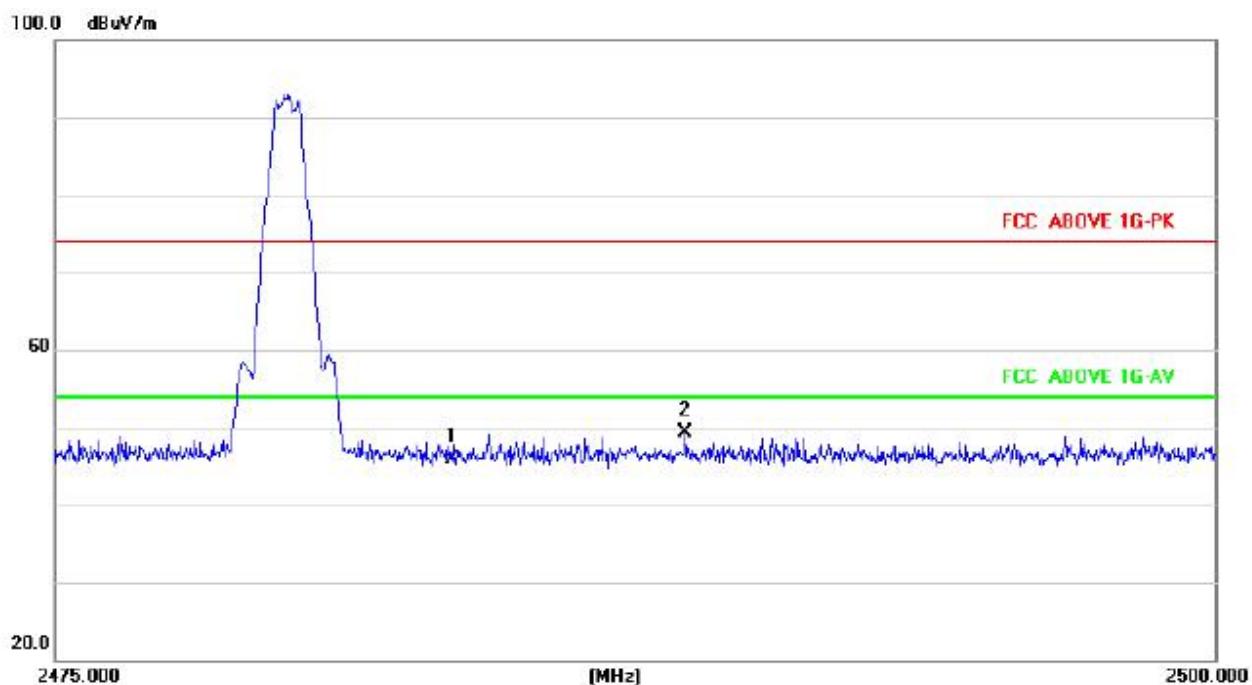




2478MHz Horizontal



2478MHz Vertical





. ANTENNA REQUIREMENT

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.

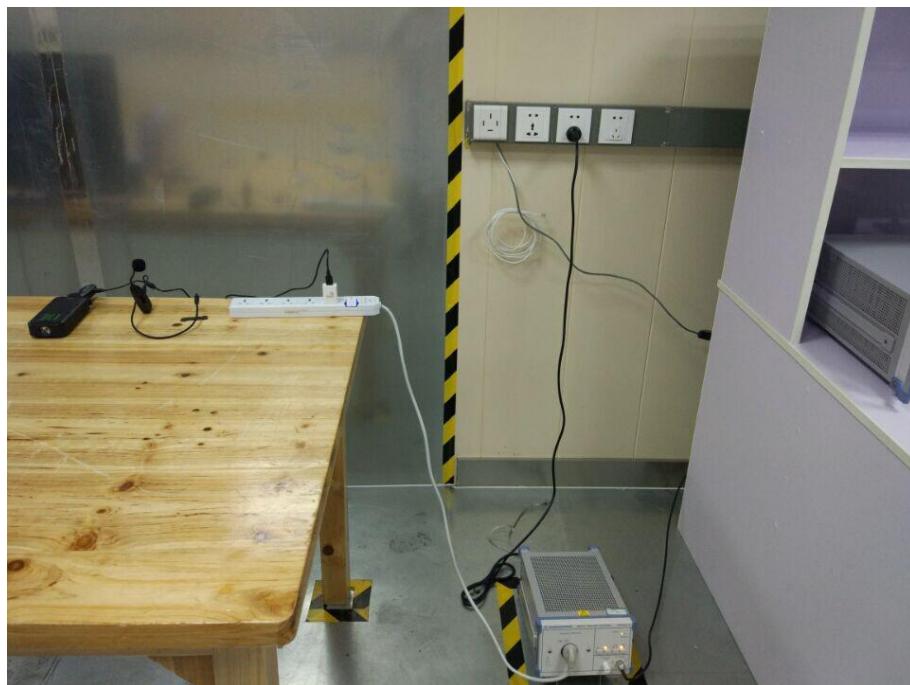
EUT ANTENNA

The EUT antenna is PCB antenna. It complies with the standard requirement.

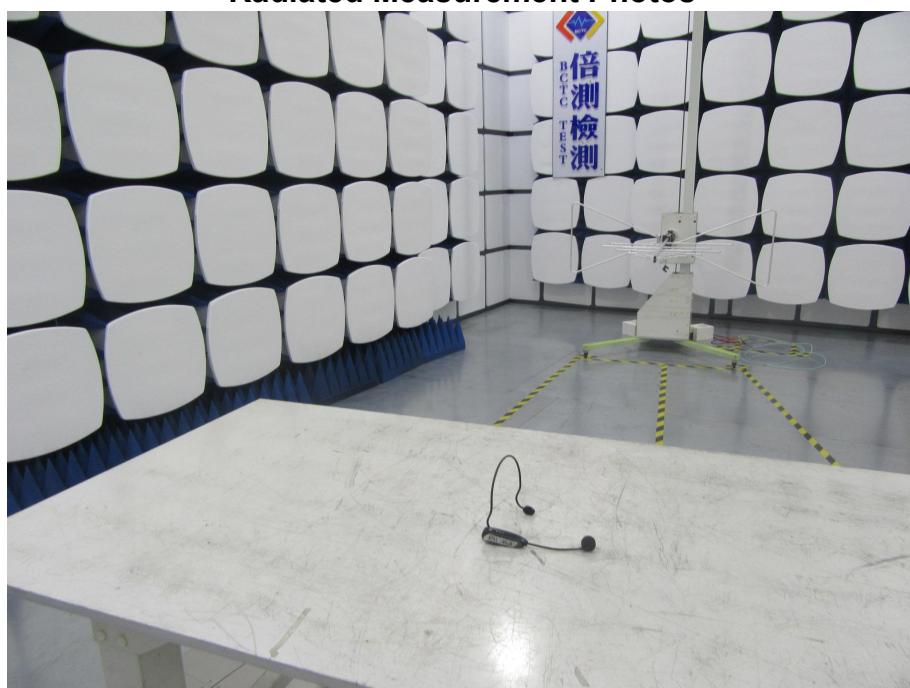


. EUT TEST PHOTO

Conducted Measurement Photos



Radiated Measurement Photos





**. EUT PHOTO**





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