

FCC TEST REPORT

Test report
On Behalf of
SHENZHEN FEIBIT ELECTRONIC TECHNOLOGY Co., LTD
For
ZigBee module
Model No.: FNB56A6

FCC ID: 2AE8BFNB56A6F

Prepared for : SHENZHEN FEIBIT ELECTRONIC TECHNOLOGY Co., LTD
Room 505,Building A1,Lilang Software Park,No 31 Bulan Road,Nanwan Street,
Longang District,Shenzhen,China

Prepared By : Laboratory of Shenzhen United Testing Technology Co., Ltd
Room 316-319, Block B, Honghualing Industrial Park of the Fifth Zone, Taoyuan
Street, Nanshan District, Shenzhen, Guangdong, China

Date of Test: Jun. 30, 2017 ~ Jul. 12, 2017

Date of Report: Jul. 12, 2017

Report Number: UNI170630175-E

TEST RESULT CERTIFICATION

Applicant's name : SHENZHEN FEIBIT ELECTRONIC TECHNOLOGY Co., LTD
Address : Room 505,Building A1,Lilang Software Park,No 31 Bulan Road,Nanwan Street, Longang District,Shenzhen,China
Manufacture's Name..... : SHENZHEN FEIBIT ELECTRONIC TECHNOLOGY Co., LTD
Address : Room 505,Building A1,Lilang Software Park,No 31 Bulan Road,Nanwan Street, Longang District,Shenzhen,China

Product description

Trade Mark: N/A
 Product name : ZigBee module
 Model and/or type reference : FNB56A6
Standards : FCC Rules and Regulations Part 15 Subpart C Section 15.249
 ANSI C63.10: 2013

This publication may be reproduced in whole or in part for non-commercial purposes as long as the **Laboratory of Shenzhen United Testing Technology Co., Ltd** is acknowledged as copyright owner and source of the material. **Laboratory of Shenzhen United Testing Technology Co., Ltd** takes no responsibility for and will not assume liability for damages resulting from the reader's interpretation of the reproduced material due to its placement and context.

Date of Test :
 Date (s) of performance of tests : Jun. 30, 2017 ~ Jul. 12, 2017
 Date of Issue..... : Jul. 12, 2017
 Test Result..... : **Pass**

Testing Engineer : Eric Xie
 (Eric Xie)

Technical Manager : Dora Qin
 (Dora Qin)

Authorized Signatory : Kait Chen
 (Kait Chen)

Table of Contents	Page
1 . TEST SUMMARY	4
2 . GENERAL INFORMATION	5
2.1 GENERAL DESCRIPTION OF EUT	5
2.2 Operation of EUT during testing	6
2.3 DESCRIPTION OF TEST SETUP	6
2.4 MEASUREMENT INSTRUMENTS LIST	7
3 . CONDUCTED EMISSIONS TEST	8
3.1 Conducted Power Line Emission Limit	8
3.2 Test Setup	8
3.3 Test Procedure	8
3.4 Test Result	8
4 RADIATED EMISSION TEST	11
4.1 Radiation Limit	11
4.2 Test Setup	11
4.3 Test Procedure	12
4.4 Test Result	12
5 BAND EDGE	18
5.1 Limits	18
5.2 Test Procedure	18
5.3 Test Result	18
6 OCCUPIED BANDWIDTH MEASUREMENT	20
6.1 Test Setup	20
6.2 Test Procedure	20
6.3 Measurement Equipment Used	20
6.4 Test Result	20
7 ANTENNA REQUIREMENT	22
8 PHOTOGRAPH OF TEST	23
8.1 Radiated Emission	23
8.2 Conducted Emission	24

1. TEST SUMMARY

1.1 TEST PROCEDURES AND RESULTS

DESCRIPTION OF TEST	RESULT
CONDUCTED EMISSIONS TEST	COMPLIANT
RADIATED EMISSION TEST	COMPLIANT
BAND EDGE	COMPLIANT
OCCUPIED BANDWIDTH MEASUREMENT	COMPLIANT
ANTENNA REQUIREMENT	COMPLIANT

1.2 TEST FACILITY

Test Firm : QTC Certification & Testing Co., Ltd.
Certificated by FCC, Registration No.: 588523
Address : 2nd Floor,B1 Building,Fengyeyuan Industrial Plant, Liuxian 2st. Road,
Xin'an Street, Bao'an District, Shenzhen, China

1.3 MEASUREMENT UNCERTAINTY

Measurement Uncertainty	
Conducted Emission Expanded Uncertainty	= 2.23dB, k=2
Radiated emission expanded uncertainty(9kHz-30MHz)	= 3.08dB, k=2
Radiated emission expanded uncertainty(30MHz-1000MHz)	= 4.42dB, k=2
Radiated emission expanded uncertainty(Above 1GHz)	= 4.06dB, k=2

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	ZigBee module
Model Name	FNB56A6
Serial No	N/A
Model Difference	N/A
FCC ID	2AE8BFNB56A6F
Antenna Type	External Antenna
Antenna Gain	2 dBi
Operation frequency	2405-2480MHz
Number of Channels	16CH
Modulation Type	MSK
Power Source	DC 3.3V with Installation for Notebook with AC 120V/60Hz
Power Rating	DC 3.3V with Installation for Notebook with AC 120V/60Hz

2.1.1 Carrier Frequency of Channels

Channel List			
Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2405	09	2445
02	2410	10	2450
03	2415	11	2455
04	2420	12	2460
05	2425	13	2465
06	2430	14	2470
07	2435	15	2475
08	2440	16	2480

2.2 Operation of EUT during testing

Operating Mode

The mode is used: **Transmitting mode**

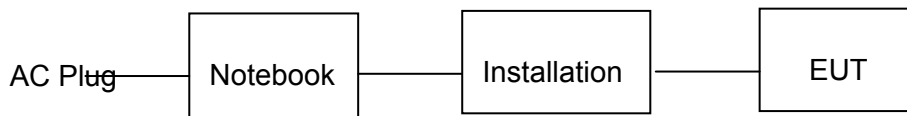
Low Channel: 2405MHz

Middle Channel: 2445MHz

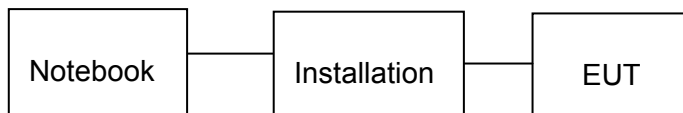
High Channel: 2480MHz

2.3 DESCRIPTION OF TEST SETUP

Operation of EUT during conducted testing:



Operation of EUT during Radiation and Above1GHz Radiation testing:



2.4 MEASUREMENT INSTRUMENTS LIST

Item	Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
2.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
4.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
5.	EMI Test Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
6.	Trilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Feb. 18, 2017	Feb. 17, 2018
7.	Pre-amplifier	Compliance Direction	PAP-0203	22008	Feb. 18, 2017	Feb. 17, 2018
8.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
9.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
10.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
11.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
12.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
13.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
14.	EMI Receiver	Rohde & Schwarz	ESCI	100627	Feb. 18, 2017	Feb. 17, 2018
15.	LISN	SchwarzBeck	NSLK 8126	8126377	Feb. 18, 2017	Feb. 17, 2018
16.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Feb. 18, 2017	Feb. 17, 2018
17.	EMI Test Software ES-K1	Rohde & Schwarz	N/A	N/A	N/A	N/A
18.	Power Meter	R&S	NRVD	SEL0069	Feb. 18, 2017	Feb. 17, 2018
19.	Power Sensor	R&S	URV5-Z2	SEL0071	Feb. 18, 2017	Feb. 17, 2018
20.	Power Sensor	R&S	URV5-Z2	SEL0072	Feb. 18, 2017	Feb. 17, 2018
21.	Software EMC32	R&S	EMC32-S	SEL0082	N/A	N/A
22.	Log-periodic Antenna	Amplifier Reasearch	APT1.580	SEL0073	Feb. 18, 2017	Feb. 17, 2018
23.	Loop Antenna	Schwarz beck	FMZB 1516	9773	Feb. 18, 2017	Feb. 17, 2018
24.	Broadband Antenna	Schwarz beck	VULB9163	9163-333	Feb. 18, 2017	Feb. 17, 2018
25.	Horn Antenna	ETS	3117	00086197	Feb. 18, 2017	Feb. 17, 2018
26.	Horn Antenna	Schwarzbeck	BBHA9170	BBHA91705 82	Feb. 18, 2017	Feb. 17, 2018
27.	Antenna Tripod	Amplifier Reasearch	TP1000A	SEL0074	Feb. 18, 2017	Feb. 17, 2018
28.	High Gain Horn Antenna	Amplifier Reasearch	AT4002A	SEL0075	Feb. 18, 2017	Feb. 17, 2018
29.	Spectrum analyzer	Agilent	N9020A	MY49911004 8	Feb. 18, 2017	Feb. 17, 2018
30.	Spectrum analyzer	Agilent	E4407B	MY46184326	Feb. 18, 2017	Feb. 17, 2018
31.	Spectrum analyzer	R&S	FSP30	836079/035	Feb. 18, 2017	Feb. 17, 2018

3. CONDUCTED EMISSIONS TEST

3.1 Conducted Power Line Emission Limit

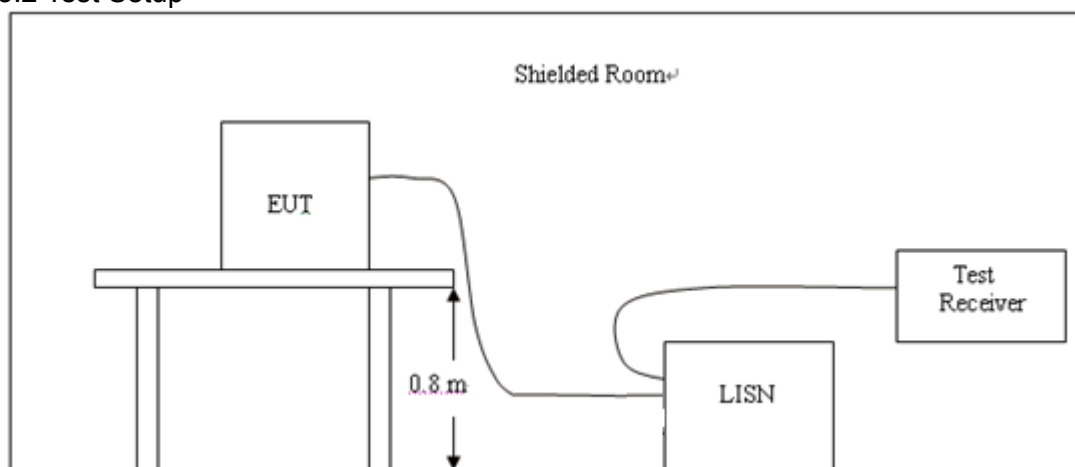
For unintentional device, according to § 15.107(a) Line Conducted Emission Limits is as following

Frequency (MHz)	Maximum RF Line Voltage (dBµV)			
	CLASS A		CLASS B	
	Q.P.	Ave.	Q.P.	Ave.
0.15 - 0.50	79	66	66-56*	56-46*
0.50 - 5.00	73	60	56	46
5.00 - 30.0	73	60	60	50

* Decreasing linearly with the logarithm of the frequency

For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

3.2 Test Setup



3.3 Test Procedure

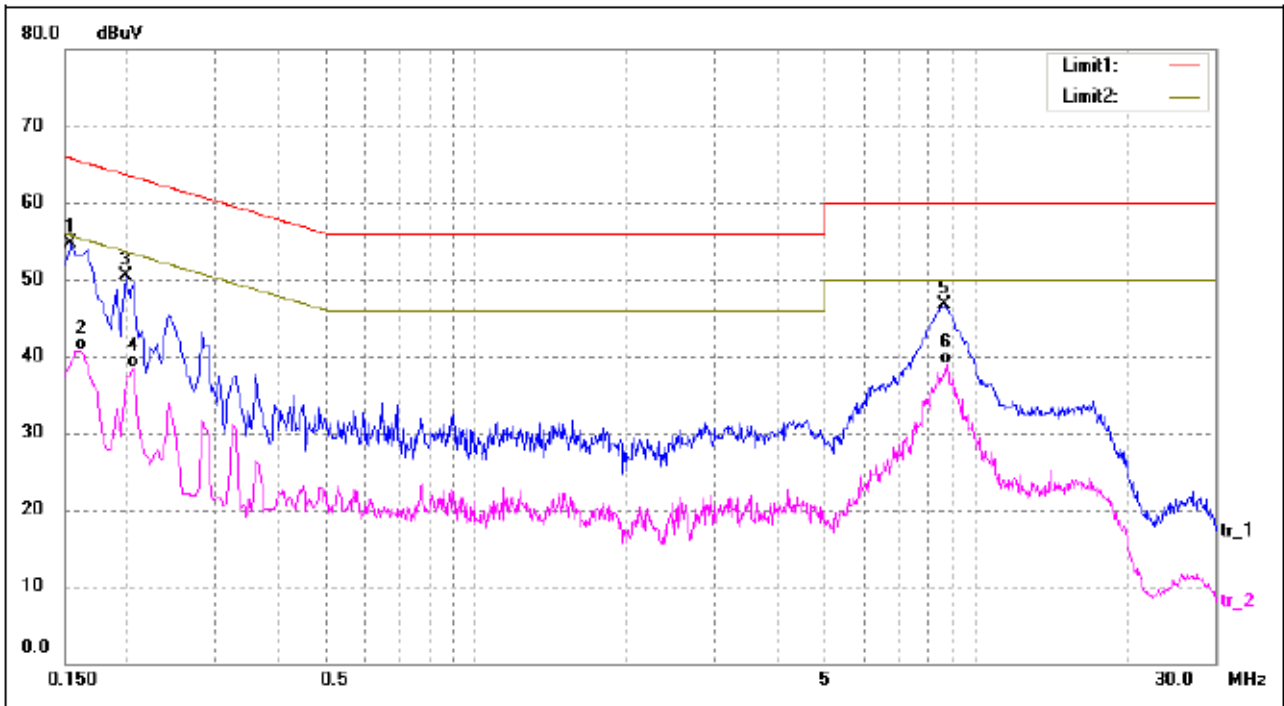
- 1, The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.1 meters is used and is placed on the ground plane as per ANSI C63.10.
- 2, Support equipment, if needed, was placed as per ANSI C63.10.
- 3, All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
- 4, If a EUT received DC power from the USB Port of Notebook PC, the PC's adapter received AC120V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
- 5, All support equipments received AC power from a second LISN, if any.
- 6, The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
- 7, Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

3.4 Test Result

PASS

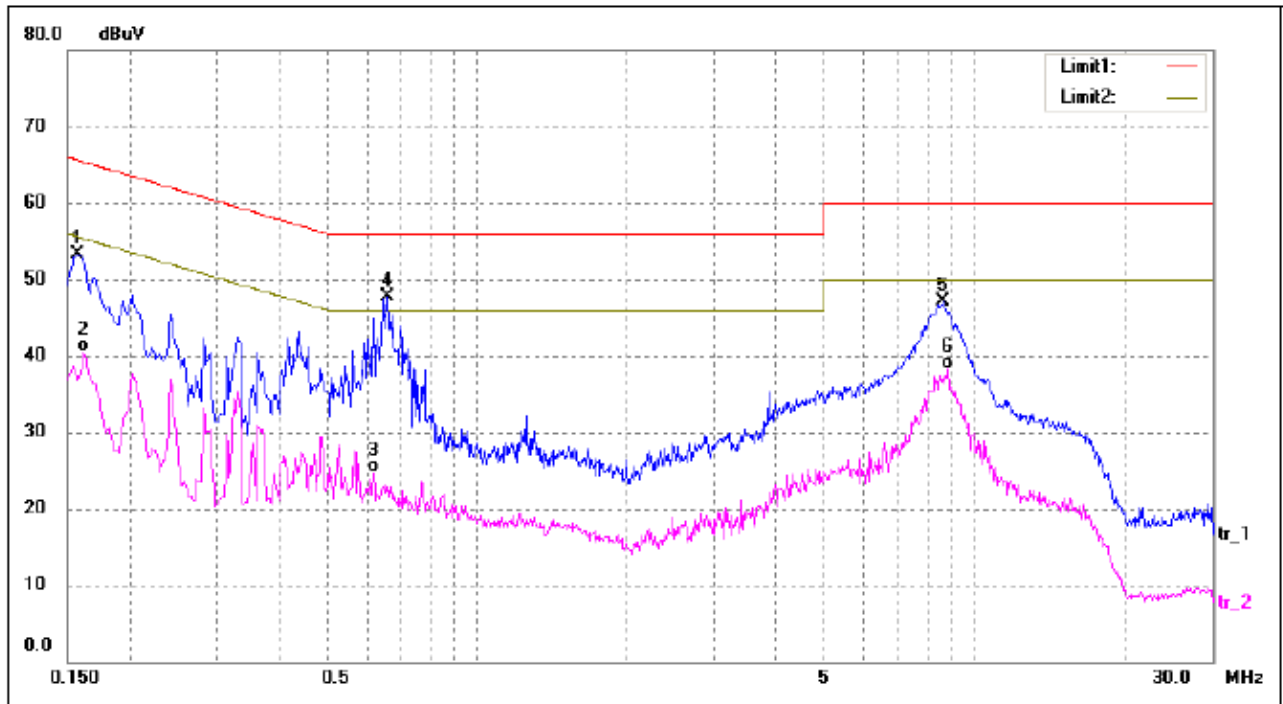
All the test modes completed for test.

Test Specification: Line



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1*	0.1540	45.24	9.50	54.74	65.78	-11.04	peak
2	0.1620	31.28	9.50	40.78	55.36	-14.58	AVG
3	0.1980	41.00	9.50	50.50	63.69	-13.19	peak
4	0.2060	28.95	9.50	38.45	53.37	-14.92	AVG
5	8.6060	36.37	10.33	46.70	60.00	-13.30	peak
6	8.7620	28.51	10.33	38.84	50.00	-11.16	AVG

Test Specification: Neutral



No.	Frequency (MHz)	Reading (dBuV)	Correct (dB/m)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Detector
1	0.1580	43.85	9.50	53.35	65.57	-12.22	peak
2	0.1620	30.96	9.50	40.46	55.36	-14.90	AVG
3	0.6180	15.05	9.59	24.64	46.00	-21.36	AVG
4*	0.6580	38.09	9.60	47.69	56.00	-8.31	peak
5	8.6460	36.70	10.33	47.03	60.00	-12.97	peak
6	8.8460	27.93	10.33	38.26	50.00	-11.74	AVG

4 RADIATED EMISSION TEST

4.1 Radiation Limit

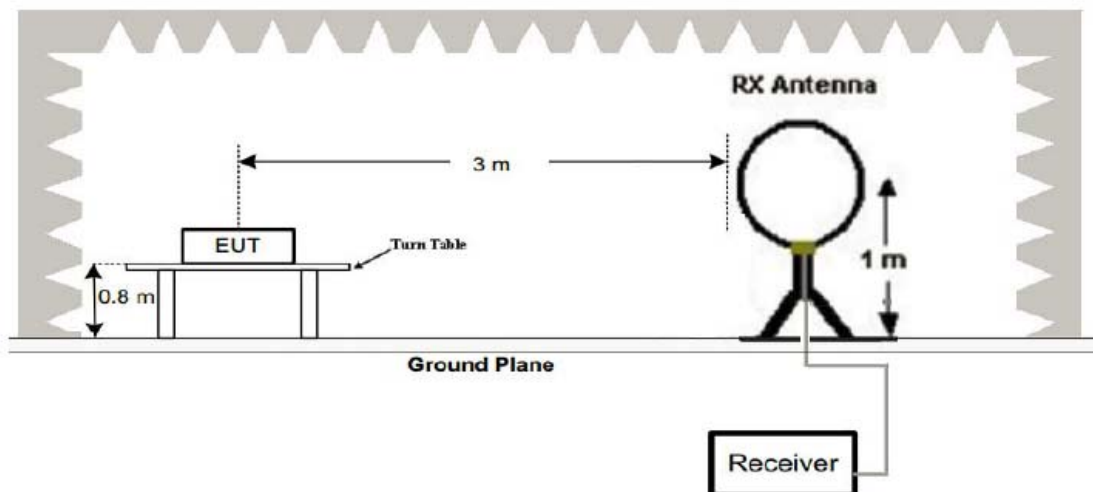
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Distance (Meters)	Radiated (dB μ V/m)	Radiated (μ V/m)
0.009-0.49	3	$20\log(2400/F(\text{KHz}))+40\log(300/3)$	$2400/F(\text{KHz})$
0.49-1.705	3	$20\log(24000/F(\text{KHz}))+40\log(30/3)$	$24000/F(\text{KHz})$
1.705-30	3	$20\log(30)+40\log(30/3)$	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

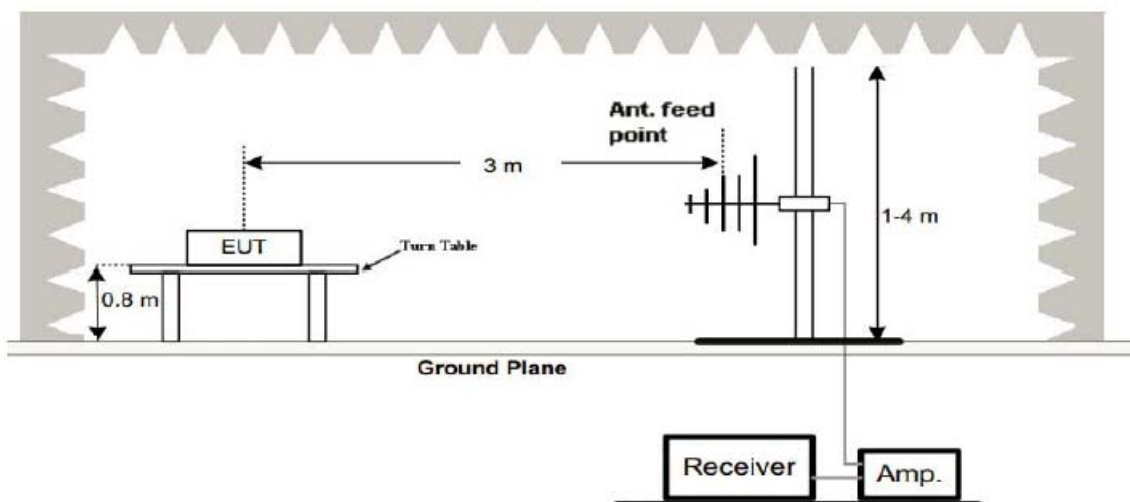
For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the above table.

4.2 Test Setup

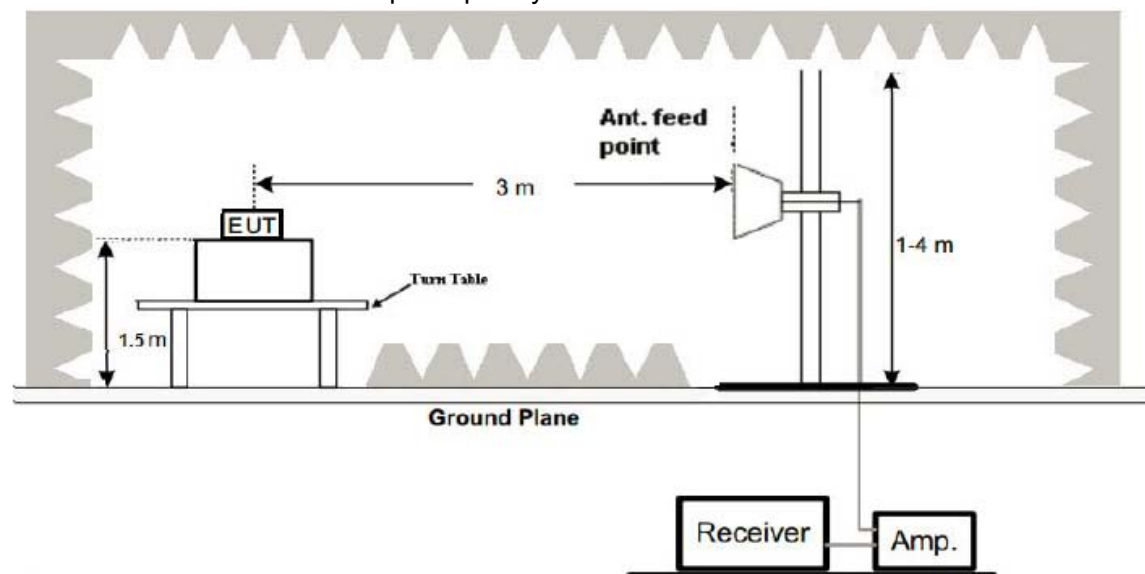
(1) Radiated Emission Test-Up Frequency Below 30MHz



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



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



4.3 Test Procedure

1. Below 1GHz measurement the EUT is placed on turntable which is 0.1m above ground plane. And above 1GHz measurement EUT was placed on low permittivity and low tangent turn table which is 1.5m above ground plane.
2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
6. Repeat above procedures until the measurements for all frequencies are complete.
7. The test frequency range from 9KHz to 25GHz per FCC PART 15.33(a).

Note:

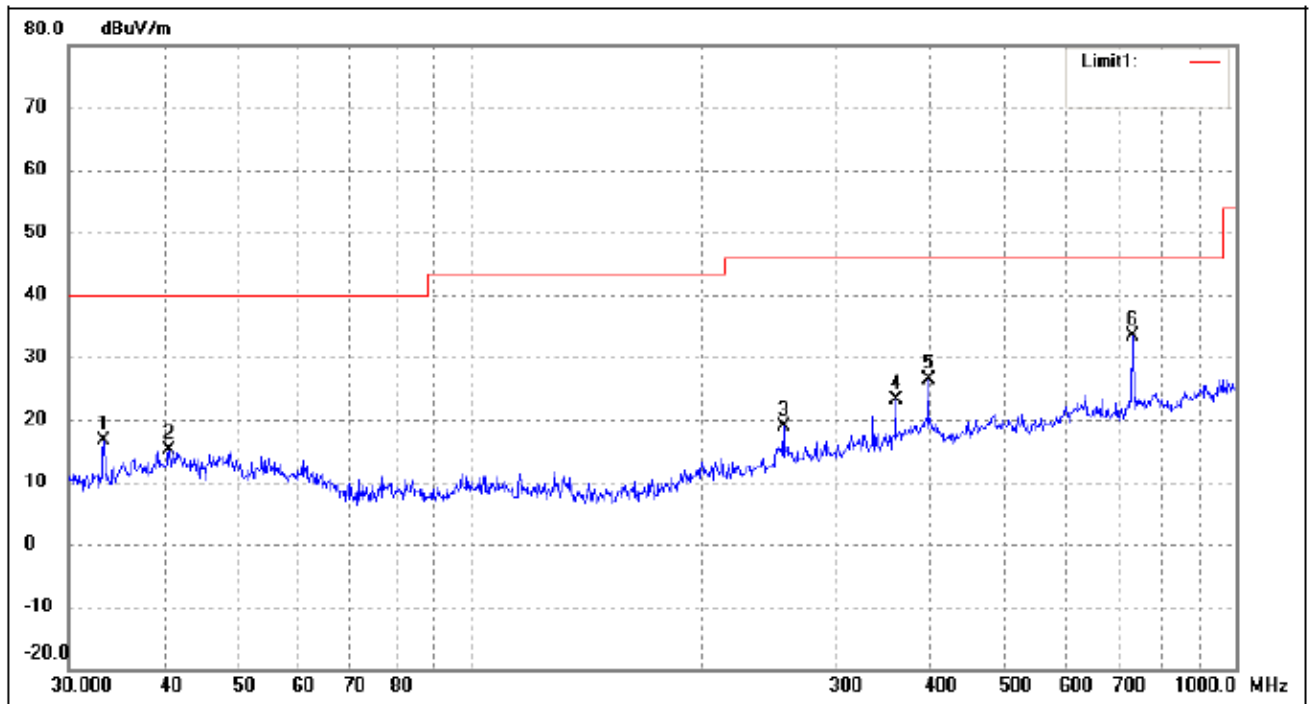
For battery operated equipment, the equipment tests shall be performed using a new battery.

4.4 Test Result

PASS

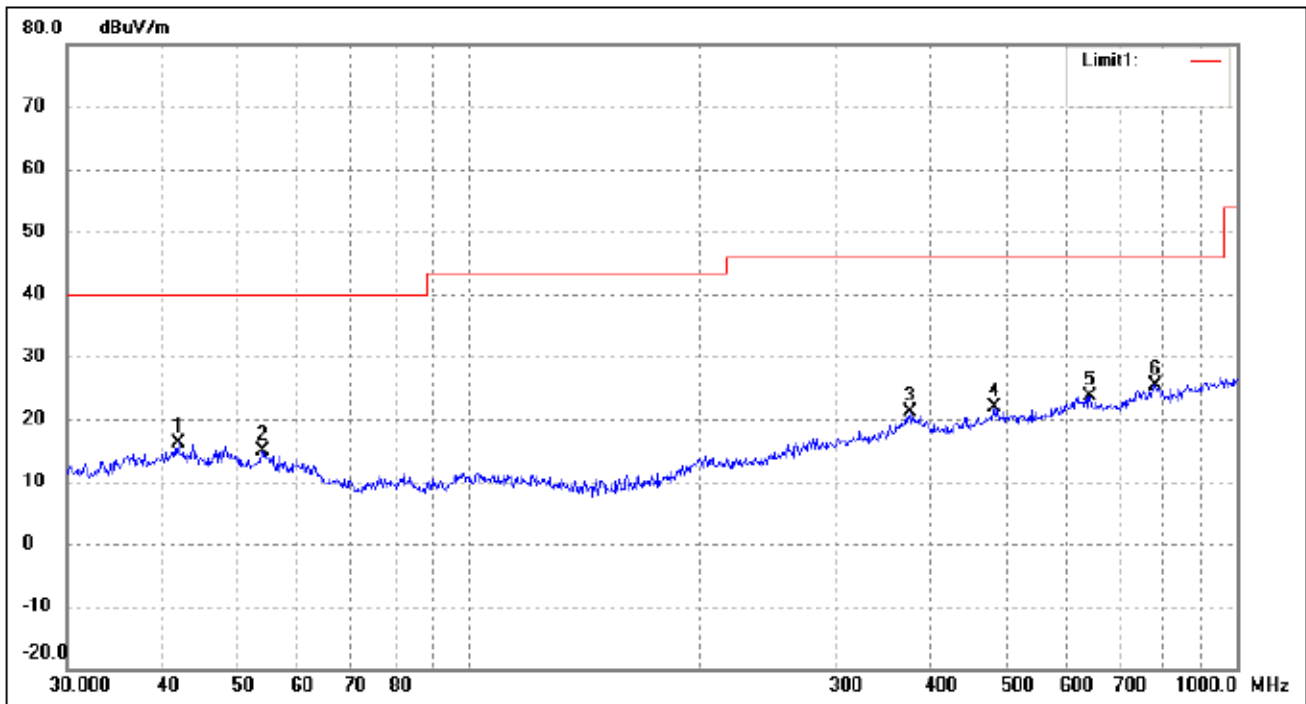
All the test modes completed for test. The worst case of Radiated Emission is CH 2405; the test data of this mode was reported.

Below 1GHz Test Results:
Antenna polarity: H



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	33.3279	26.14	-9.46	16.68	40.00	-23.32	56	100	peak
2	40.5591	22.85	-7.70	15.15	40.00	-24.85	155	100	peak
3	256.5211	26.02	-7.18	18.84	46.00	-27.16	149	100	peak
4	359.1860	26.57	-3.32	23.25	46.00	-22.75	116	100	peak
5	396.2415	29.28	-2.95	26.33	46.00	-19.67	338	100	peak
6	731.9203	31.73	1.66	33.39	46.00	-12.61	256	100	peak

Antenna polarity: V



No.	Frequency (MHz)	Reading (dBuV/m)	Correct dB/m	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Degree ()	Height (cm)	Remark
1	41.8596	23.85	-7.79	16.06	40.00	-23.94	109	100	peak
2	53.8818	23.75	-8.81	14.94	40.00	-25.06	161	100	peak
3	375.9385	23.42	-2.33	21.09	46.00	-24.91	147	100	peak
4	483.9094	23.03	-1.27	21.76	46.00	-24.24	111	100	peak
5	642.8613	22.99	0.65	23.64	46.00	-22.36	119	100	peak
6	782.3453	22.63	2.78	25.41	46.00	-20.59	184	100	peak

Remark:

- (1) Measuring frequencies from 9 KHz to the 1 GHz, Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- (2) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (3) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.

Above 1 GHz Test Results:

CH Low (2405MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2405	112.74	-5.84	106.9	114	-7.1	peak
2405	86.25	-5.84	80.41	94	-13.59	AVG
4810	61.59	-3.64	57.95	74	-16.05	peak
4810	46.17	-3.64	42.53	54	-11.47	AVG
7215	55.43	-0.95	54.48	74	-19.52	peak
7215	41.56	-0.95	40.61	54	-13.39	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2405	112.06	-5.84	106.22	114	-7.78	peak
2405	82.43	-5.84	76.59	94	-17.41	AVG
4810	55.71	-3.64	52.07	74	-21.93	peak
4810	46.25	-3.64	42.61	54	-11.39	AVG
7215	55.84	-0.95	54.89	74	-19.11	peak
7215	40.19	-0.95	39.24	54	-14.76	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---

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

CH Middle (2445MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2445	111.37	-5.71	105.66	114	-8.34	peak
2445	85.42	-5.71	79.71	94	-14.29	AVG
4890	55.86	-3.51	52.35	74	-21.65	peak
4890	45.29	-3.51	41.78	54	-12.22	AVG
7335	55.63	-0.82	54.81	74	-19.19	peak
7335	39.14	-0.82	38.32	54	-15.68	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dB μ V)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)	
2445	110.57	-5.71	104.86	114	-9.14	peak
2445	85.24	-5.71	79.53	94	-14.47	AVG
4890	55.38	-3.51	51.87	74	-22.13	peak
4890	45.11	-3.51	41.6	54	-12.4	AVG
7335	51.62	-0.82	50.8	74	-23.2	peak
7335	39.74	-0.82	38.92	54	-15.08	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---

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

CH High (2480MHz)

Horizontal:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2480	109.19	-5.65	103.54	114	-10.46	peak
2480	85.43	-5.65	79.78	94	-14.22	AVG
4960	55.67	-3.43	52.24	74	-21.76	peak
4960	45.91	-3.43	42.48	54	-11.52	AVG
7440	55.72	-0.75	54.97	74	-19.03	peak
7440	38.54	-0.75	37.79	54	-16.21	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---

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

Vertical:

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2480	108.35	-5.65	102.7	114	-11.3	peak
2480	85.29	-5.65	79.64	94	-14.36	AVG
4960	51.74	-3.43	48.31	74	-25.69	peak
4960	42.66	-3.43	39.23	54	-14.77	AVG
7440	51.08	-0.75	50.33	74	-23.67	peak
7440	38.15	-0.75	37.4	54	-16.6	AVG
---	---	---	---	---	---	---
---	---	---	---	---	---	---

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

Remark:

- (1) Measuring frequencies from 1 GHz to the 25 GHz.
- (2) "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency.
- (3) * denotes emission frequency which appearing within the Restricted Bands specified in provision of 15.205, then the general radiated emission limits in 15.209 apply.
- (4) Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz, 1 MHz for measuring above 1 GHz, below 30MHz was 10KHz.
- (6) When the test results of Peak Detected below the limits of Average Detected, the Average Detected is not need completed. For example: Top Channel at Fundamental 73.16dBuV/m(PK Value) <93.98(AV Limit), at harmonic 53.20 dBuV/m(PK Value) <54 dBuV/m(AV Limit), the Average Detected not need to completed.

5 BAND EDGE

5.1 Limits

FCC PART 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.

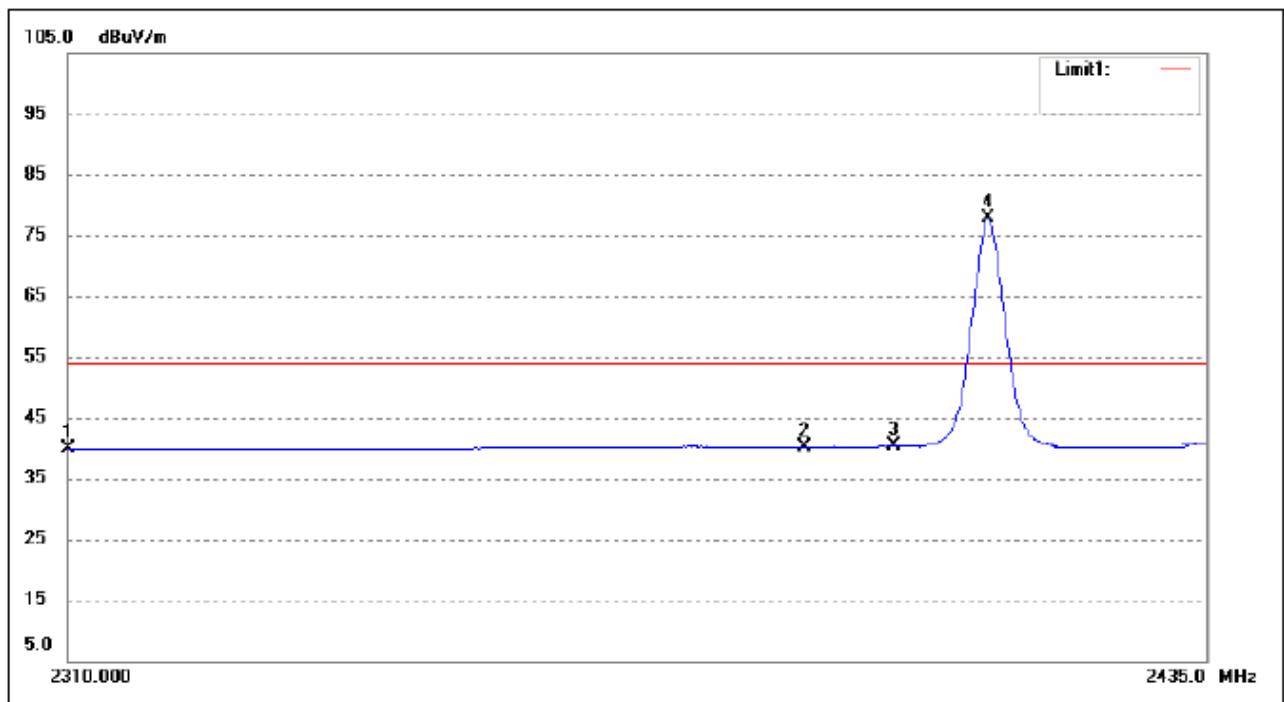
5.2 Test Procedure

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 with respect to maximizing the emission by rotating the EUT, measuring the emission while the EUT is situated in three orthogonal planes (if appropriate), adjusting the measurement antenna height and polarization etc. Set RBW to 100KHz and VBM to 300KHz to measure the peak field strength and set RBW to 1MHz and VBW to 10Hz to measure the average radiated field strength. The conducted RF band edge was measured by using a spectrum analyzer. Set span wide enough to capture the highest in-band emission and the emission at the band edge. Set RBW to 100 KHz and VBW to 300 KHz, to measure the conducted peak band edge.

5.3 Test Result

PASS

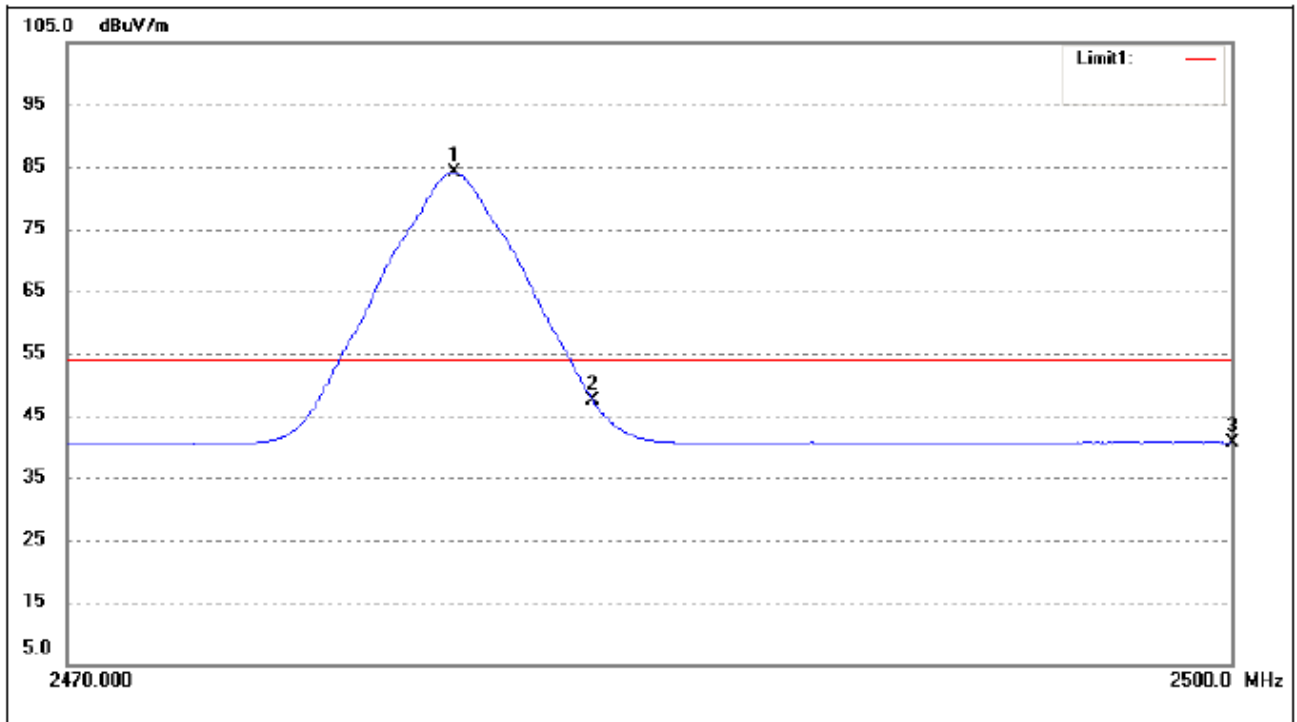
Radiated Band Edge Test:
 Operation Mode: TX CH Low (2405MHz)
 Horizontal (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2310.000	23.56	16.34	39.90	54.00	-14.10	Average Detector
		35.97	16.34	52.31	74.00	-21.69	Peak Detector
2	2390.000	23.12	17.03	40.15	54.00	-13.85	Average Detector
		35.45	17.03	52.48	74.00	-21.52	Peak Detector
3	2400.000	23.18	17.11	40.29	Delta = 36.57 dBc		Average Detector
4	2404.884	60.57	17.29	77.86		Average Detector	

Operation Mode: TX CH High (2480MHz)

Horizontal (Worst case)



No.	Frequency (MHz)	Reading (dBuV/m)	Correct (dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark
1	2479.920	60.51	17.71	78.22	/	/	Average Detector
	2480.369	63.20	17.71	80.91	/	/	Peak Detector
2	2483.500	26.47	17.73	44.20	54.00	-9.80	Average Detector
	2483.500	37.65	17.73	55.38	74.00	-18.62	Peak Detector
3	2483.500	26.47	17.73	44.20	54.00	-9.80	Average Detector
	2500.000	35.88	17.86	53.74	74.00	-20.26	Peak Detector

6 OCCUPIED BANDWIDTH MEASUREMENT

6.1 Test Setup

Same as Radiated Emission Measurement

6.2 Test Procedure

1. The EUT was placed on a turn table which is 0.8m above ground plane.
2. Set EUT as normal operation.
3. Based on FCC Part15 C Section 15.249(a): RBW= 100KHz. VBW= 300 KHz, Span=3MHz.
4. The useful radiated emission from the EUT was detected by the spectrum analyser with peak detector.

6.3 Measurement Equipment Used

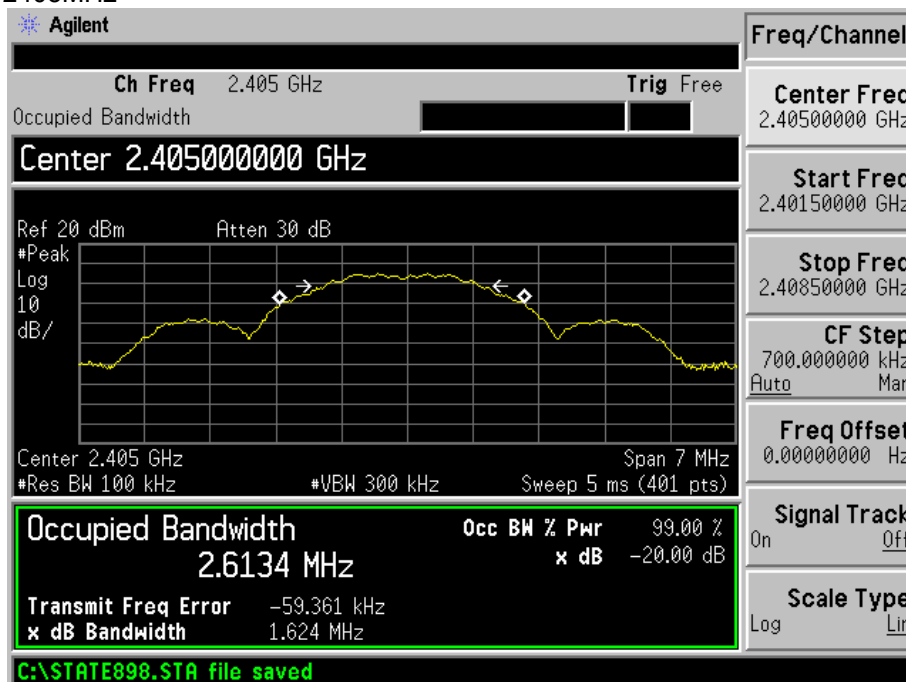
Same as Radiated Emission Measurement

6.4 Test Result

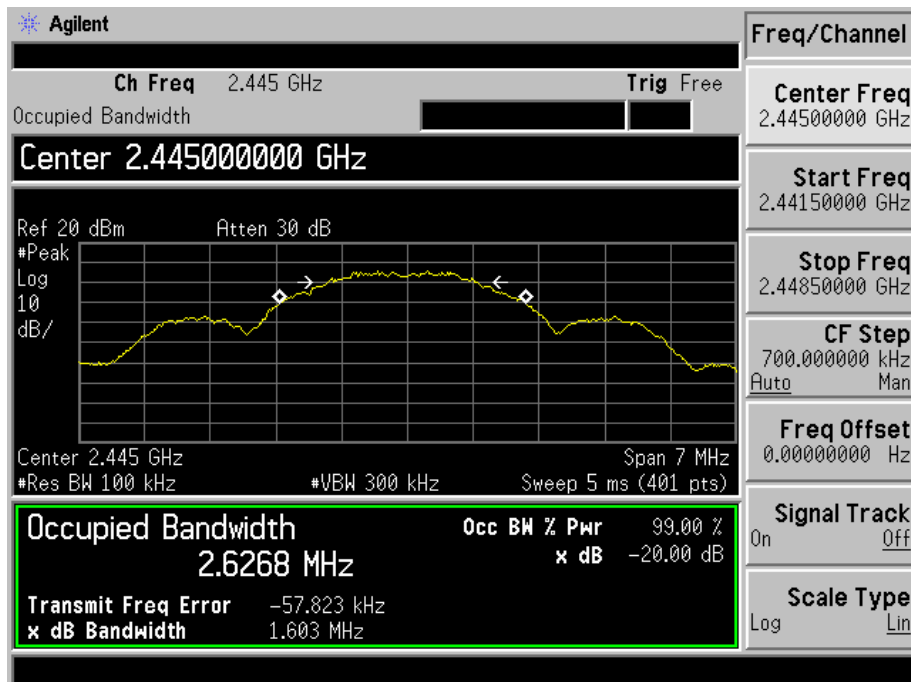
PASS

Frequency	20dB Bandwidth (KHz)	Result
2405 MHz	1624	PASS
2445 MHz	1603	PASS
2480 MHz	1605	PASS

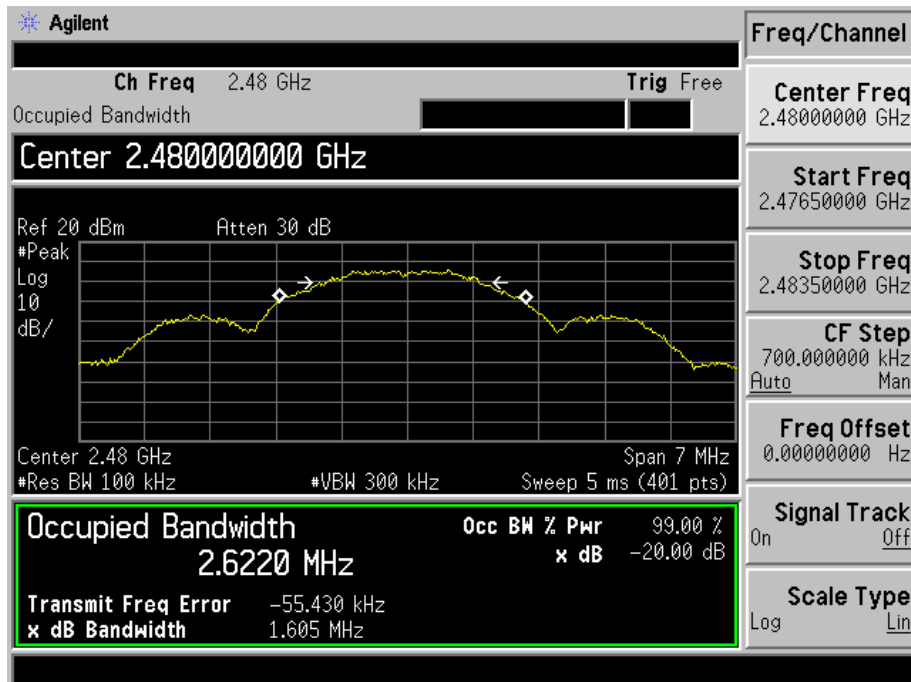
CH: 2405MHz



CH: 2445MHz



CH: 2480MHz



7 ANTENNA REQUIREMENT

Standard Applicable

For intentional device, according to FCC 47 CFR Section 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. And according to FCC 47 CFR Section 15.249, if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

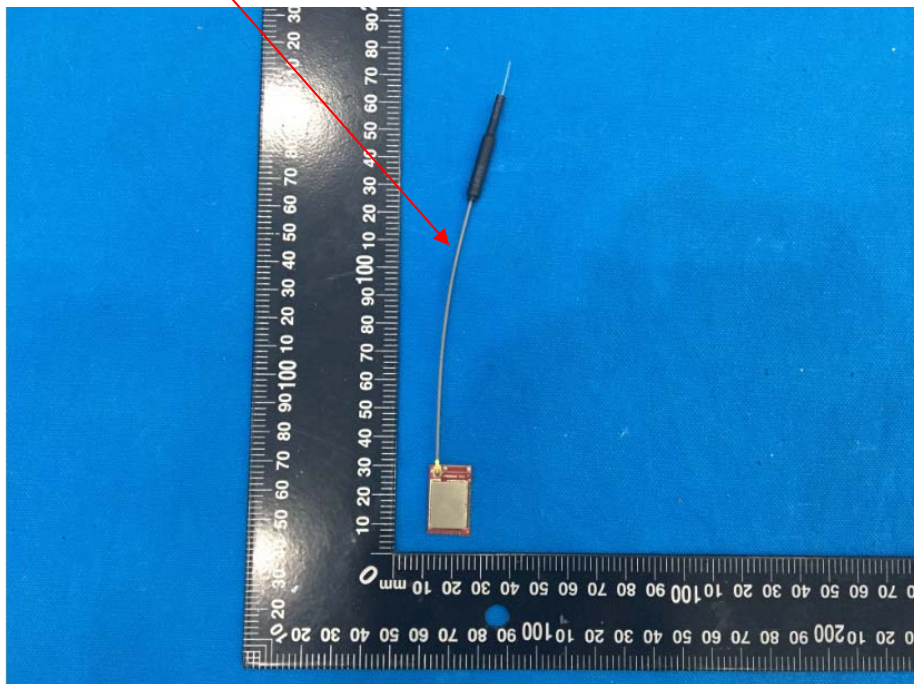
Refer to statement below for compliance.

The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

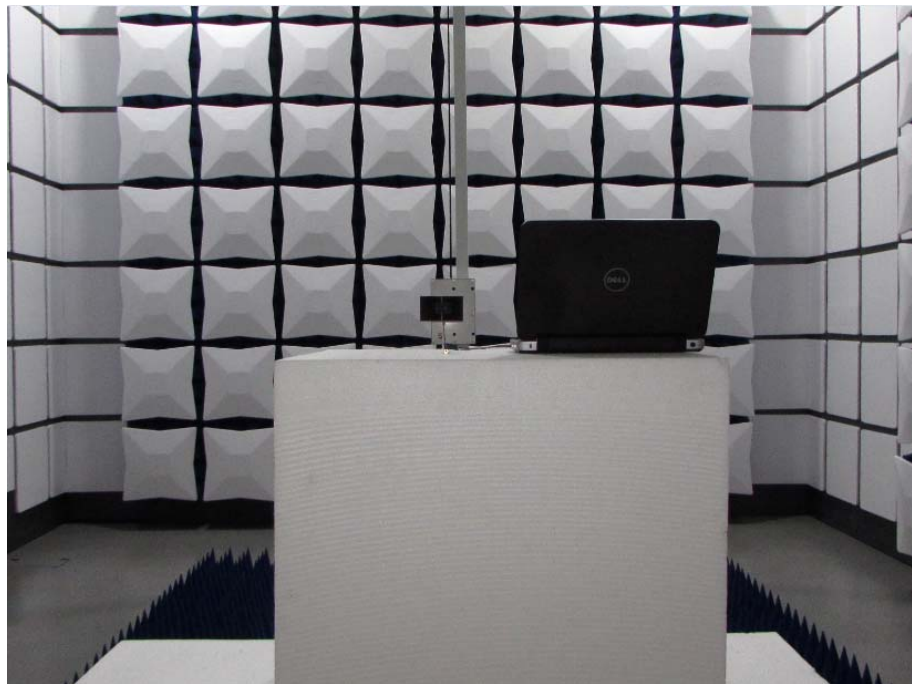
The antenna used in this product is a External Antenna, The directional gains of antenna used for transmitting is 2dBi.

ANTENNA



8 PHOTOGRAPH OF TEST

8.1 Radiated Emission



8.2 Conducted Emission

