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FCC PART 15 SUBPART C TEST REPORT

FCC Part 15.247

Report Reference No......: **CTL130529830-WW**

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Date of issue.....: Jul. 25, 2013

Representative Laboratory Name. : **Shenzhen CTL Electromagnetic Technology Co., Ltd.**

Address: Zone B, 4/F, Block 20, Guangqian Industrial Park, Longzhu Road, Nanshan, Shenzhen 518055 China.

Test Firm: **Bontek Compliance Testing Laboratory Ltd**

Address: 1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China

Applicant's name.....: **New Telecom Holdings Limited**

Address: 2/F, Eton Tower, 8 Hysan Avenue, Causeway, Hong Kong.

Test specification:

Standard.....: FCC Part 15.247: Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz.

TRF Originator.....: Shenzhen CTL Electromagnetic Technology Co., Ltd.

Master TRF.....: Dated 2011-01

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Test item description: **Tablet**

FCC ID.....: **PE4VOLGO80QTN**

Trade Mark: 3Q

Model/Type reference: QS08XXX

Modulation: DSSS, OFDM

Work Frequency Range.....: 2412~2462MHz

Antenna Type.....: Internal

Result: **Positive**

TEST REPORT

Test Report No. : CTL130529830-WW	Jul. 25, 2013 Date of issue
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Equipment under Test : Tablet

Model /Type : QS08XXX

Listed Models : /

Applicant : New Telecom Holdings Limited

Address : 2/F, Eton Tower, 8 Hysan Avenue, Causeway, Hong Kong.

Manufacturer : New Telecom Holdings Limited

Address : 2/F, Eton Tower, 8 Hysan Avenue, Causeway, Hong Kong.

Test Result according to the standards on page 4:

Positive

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

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1. TEST STANDARDS

The tests were performed according to following standards:

FCC Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.

ANSI C63.10-2009: American National Standard for Testing Unlicensed Wireless Devices.

ANSI C63.4-2003

KDB Publication No. 558074 D01 v03r01 Guidance on Measurements for Digital Transmission Systems



2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	May 29, 2013
Testing commenced on	:	May 29, 2013
Testing concluded on	:	Jun. 05, 2013

2.2. Equipment Under Test

Power supply system utilised

Power supply voltage	:	☐ 120V / 60 Hz	☐ 115V / 60Hz
		☐ 12 V DC	☐ 24 V DC
		☒ Other (specified in blank below)	

DC 3.7V from battery

Description of the test mode

IEEE 802.11b/g/n: Thirteen channels are provided to the EUT, but only eleventh channels used for USA.

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432		
6	2437		
7	2442		

2.3. Short description of the Equipment under Test (EUT)

2.4GHz (Tablet support 802.11bgn)

For more details, refer to the user's manual of the EUT.

Serial number: Prototype

2.4. EUT operation mode

Test Mode:

1. The EUT has been tested under normal operating condition.
2. Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed. Channel low (2412MHz), mid (2442MHz) and high (2462MHz) with highest data rate are chosen for full testing.
3. Test Mode:

Test Mode(TM)	Description	Remark
TM1	Playing	Color Bar with 1KHz Audio
TM2	Downloading	Connect to PC
TM3	HDMI	Color Bar with 1KHz Audio
TM4	Charging	Charged by Adapter

2.5. EUT configuration

The following peripheral devices and interface cables were connected during the measurement:

○ - supplied by the manufacturer

● - supplied by the lab

● Notebook PC

Manufacturer : HP

Model No. : 4-1007TX

2.6. NOTE

1. The EUT is an 802.11b/g/n Tablet, The functions of the EUT listed as below:

	Test Standards	Reference Report
WLAN 802.11b/g, 802.11n	FCC Part 15 Subpart C (Section 15.247)	CTL130529830-WW
WLAN 802.11b/g, 802.11n	FCC Per 47 CFR 2.1091(b)	135S067R-HP-US-P03V01

2. The frequency bands used in this EUT are listed as follows:

Frequency Band(MHz)	2400-2483.5	5150-5350	5470-5725	5725-5850
802.11b	✓	—	—	—
802.11g	✓	—	—	—
802.11n(20MHz)	✓	—	—	—
802.11n(40MHz)	✓	—	—	—

3. The EUT incorporates a SISO function, Physically, the EUT provides two completed transmitter and two completed receivers.

Modulation Mode	TX Function
802.11b	1TX
802.11g	1TX
802.11n (20MHz)	1TX
802.11n (40MHz)	1TX

2.7. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: **PE4VOLGO80QTN** filing to comply with of the FCC Part 15.247 Rules.

2.8. Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Bontek Compliance Testing Laboratory Ltd
1/F, Block East H-3, OCT Eastern Ind. Zone, Qiaocheng East Road, Nanshan, Shenzhen, China

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 (2003) and CISPR Publication 22.

3.2. Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

IC Registration No.: 7631A

The 3m alternate test site of Bontek Compliance Testing Laboratory Ltd EMC Laboratory has been registered by Certification and Engineer Bureau of Industry Canada for the performance of with Registration NO.: 7631A on March, 2011.

FCC-Registration No.: 338263

Bontek Compliance Testing Laboratory Ltd EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 338263, March 24, 2008.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

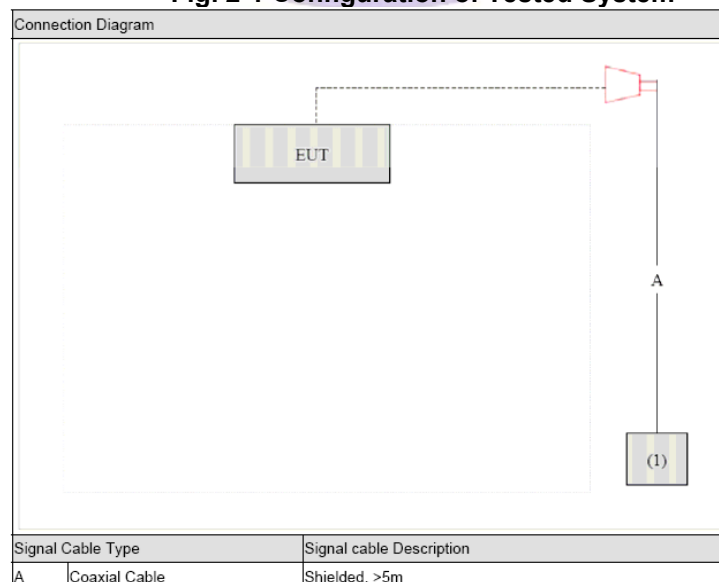
Temperature: 15-35 ° C

Humidity: 30-60 %

Atmospheric pressure: 950-1050mbar

3.4. Configuration of Tested System

Fig. 2-1 Configuration of Tested System



3.5. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Bontek Compliance Testing Laboratory Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Bontek laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10dB	(1)
Radiated Emission	Above 1GHz	4.32dB	(1)
Conducted Disturbance	0.15~30MHz	3.20dB	(1)

- (1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



3.6. Equipments Used during the Test

Item	Test Equipment	Manufacturer	Model No.	Last Cal.	Due. Date
1	EMI Test Receiver	ROHDE & SCHWARZ	ESCI	2013/04/13	2014/04/12
2	Radio Communication Tester	ROHDE & SCHWARZ	CMU200	2013/04/13	2014/04/12
3	Dual Directional Coupler	Agilent	778D	2013/04/13	2014/04/12
4	10dB attenuator	SCHWARZBECK	MTAIMP-136	2013/04/13	2014/04/12
5	Tunable Bandreject filter	K&L	3TNF-800	2013/04/13	2014/04/12
6	Tunable Bandreject filter	K&L	5TNF-1700	2013/04/13	2014/04/12
7	High-Pass Filter	K&L	9SH10-2700/X12750-O/O	2013/04/13	2014/04/12
8	High-Pass Filter	K&L	41H10-1375/U12750-O/O	2013/04/13	2014/04/12
9	Coaxial Cable	Huber+Suhner	AC4-RF-H	2013/04/13	2014/04/12
10	AC Power Supply	IDRC	CF-500TP	2013/04/13	2014/04/12
11	DC Power Supply	IDRC	CD-035-020PR	2013/04/13	2014/04/12
12	RF Current Probe	FCC	F-33-4	2013/04/13	2014/04/12
13	Temperature /Humidity Meter	zhicheng	ZC1-2	2013/04/13	2014/04/12
14	MICROWAVE AMPLIFIER	HP	8349B	2013/04/13	2014/04/12
15	Amplifier	HP	8447D	2013/04/13	2014/04/12
16	SIGNAL GENERATOR	HP	8647A	2013/04/13	2014/04/12
17	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	2013/04/13	2014/04/12
18	Horn Antenna	Schwarzbeck	BBHA9120A	2013/04/13	2014/04/12
19	EMI Test Receiver	R&S	ESPI	2013/04/13	2014/04/12
20	Loop Antenna	ZHINAN	ZN30900A	2013/04/13	2014/04/12
21	Horn Antenna	Schwarzbeck	BBHA9120D	2013/04/13	2014/04/12
22	Horn Antenna	Schwarzbeck	BBHA9170	2013/04/13	2014/04/12
23	Spectrum Analyzer	Agilent	E4446A	2013/04/13	2014/04/12
24	Wideband Peak Power Meter	Anritsu	ML2495A	2013/04/13	2014/04/12
25	Power Sensor	Anritsu	MA2411B	2013/04/13	2014/04/12

3.7. Summary of Test Result

FCC PART 15		
FCC Part 15.207	AC Power Conducted Emission	PASS
FCC Part 15.247(a)(2)	6dB Bandwidth	PASS
FCC Part 15.247(d)	Spurious RF Conducted Emission	PASS
FCC Part 15.247(b)	Maximum Peak Output Power	PASS
FCC Part 15.247(e)	Power Spectral Density	PASS
FCC Part 15.109/ 15.205/ 15.209	Radiated Emissions	PASS
FCC Part 15.247(d)	Band Edge Compliance of RF Emission	PASS
FCC Part 15.203/15.247 (b)	Antenna Requirement	PASS

Remark: The measurement uncertainty is not included in the test result.

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

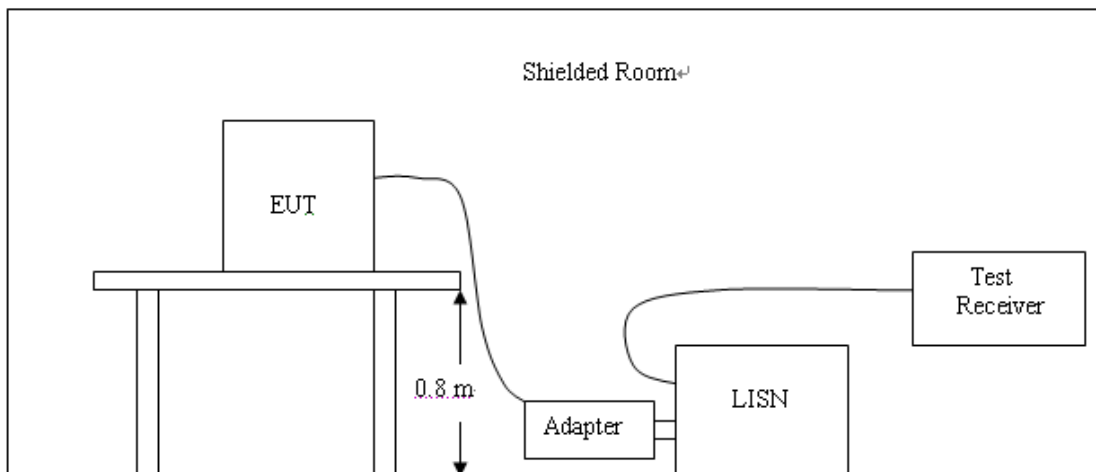
Test Items	Mode	Data Rate	Channel
AC Power Conducted Emission	Normal Link	11 Mbps	1
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65Mbps	1/6/11
	11n(40MHz)/OFDM	150Mbps	3/6/9
Radiated Emission 30MHz~1GHz	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65Mbps	1/6/11
	11n(40MHz)/OFDM	150Mbps	3/6/9
Radiated Emission 1GHz~10th Harmonic	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65Mbps	1/6/11
	11n(40MHz)/OFDM	150Mbps	3/6/9
Band Edge Compliance of RF Emission	11b/DSSS	11 Mbps	1/11
	11g/OFDM	54 Mbps	1/11
	11n(20MHz)/OFDM	65Mbps	1/11
	11n(40MHz)/OFDM	150Mbps	3/9

Note1: According exploratory test, EUT will have maximum output power in those data rate, so those data rate were used for all test.

4. TEST CONDITIONS AND RESULTS

4.1. Conducted Emissions Test

TEST CONFIGURATION



TEST PROCEDURE

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.

1. Please follow the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

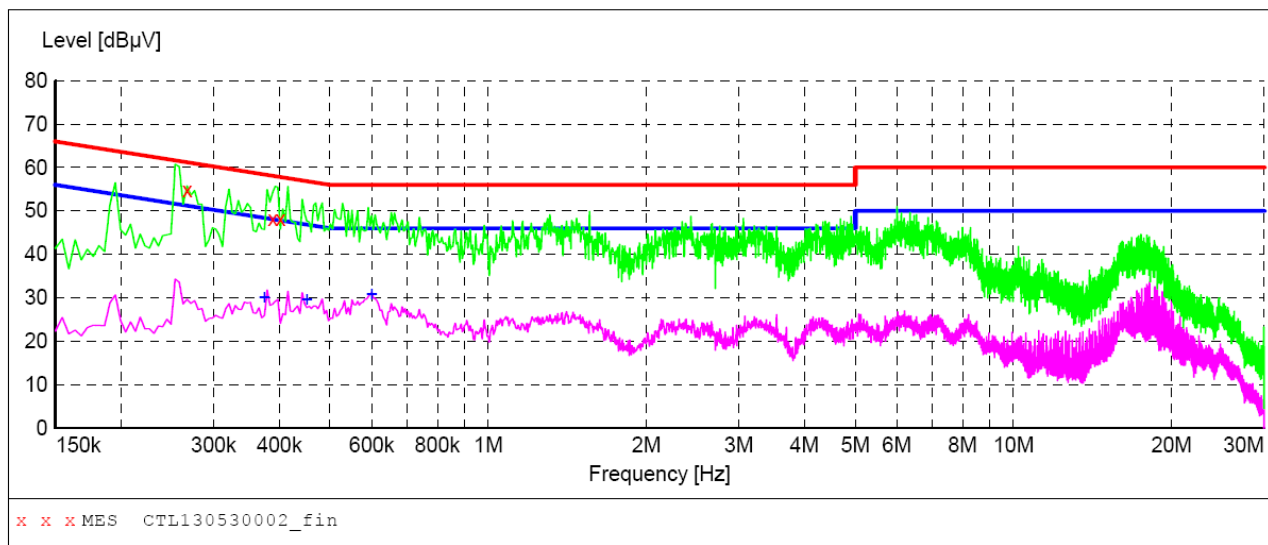
The RBW/VBW for 150KHz to 30MHz: 9KHz

TEST RESULTS

See next pages.

SCAN TABLE: "Voltage (9K-30M) FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL130530002_fin"**

5/30/2013 2:49PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.267000	54.80	9.8	61	6.4	QP	L1	GND
0.388500	48.20	9.8	58	9.9	QP	L1	GND
0.402000	48.10	9.8	58	9.7	QP	L1	GND

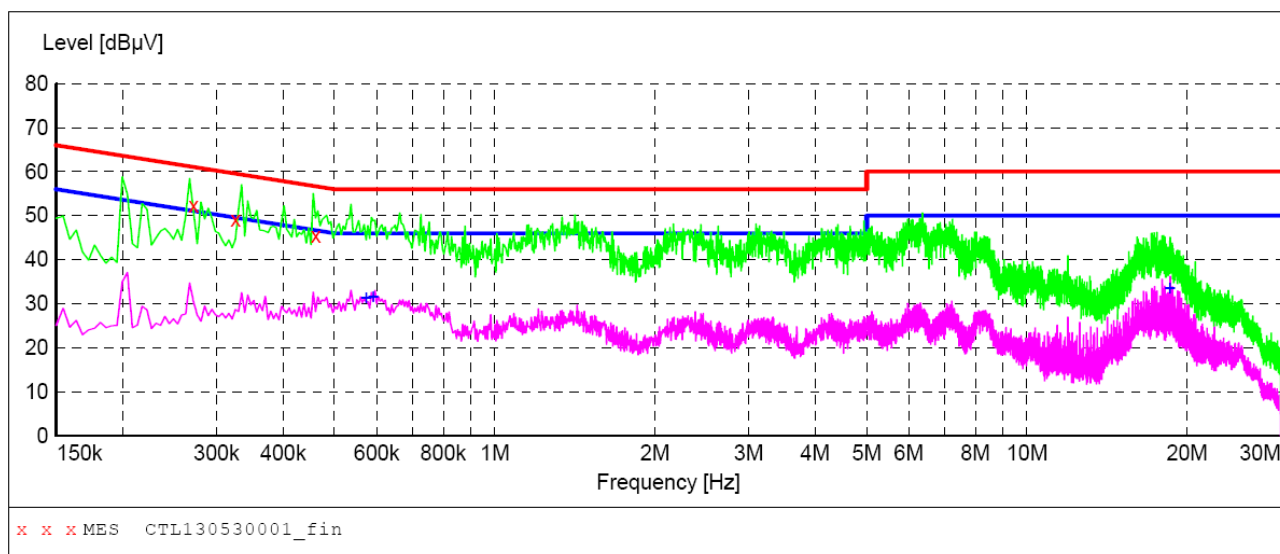
MEASUREMENT RESULT: "CTL130530002_fin2"

5/30/2013 2:49PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.375000	30.10	9.8	48	18.3	AV	L1	GND
0.451500	29.60	9.8	47	17.2	AV	L1	GND
0.600000	30.70	9.8	46	15.3	AV	L1	GND

SCAN TABLE: "Voltage (9K-30M)FIN"

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL130530001_fin"**

5/30/2013 2:46PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.271500	52.40	9.8	61	8.7	QP	N	GND
0.325500	49.00	9.8	60	10.6	QP	N	GND
0.460500	45.40	9.8	57	11.3	QP	N	GND

MEASUREMENT RESULT: "CTL130530001_fin2"

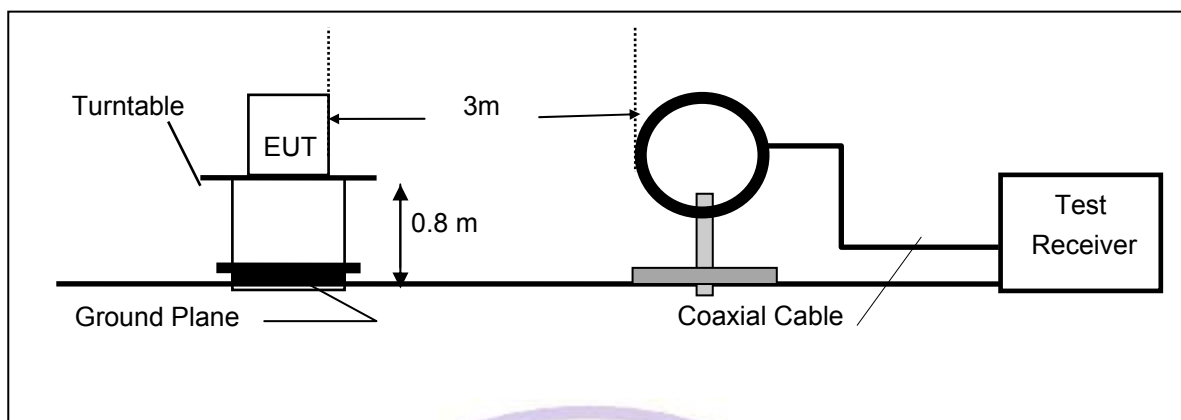
5/30/2013 2:46PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.573000	31.20	9.8	46	14.8	AV	N	GND
0.591000	31.50	9.8	46	14.5	AV	N	GND
18.564000	33.50	10.4	50	16.5	AV	N	GND

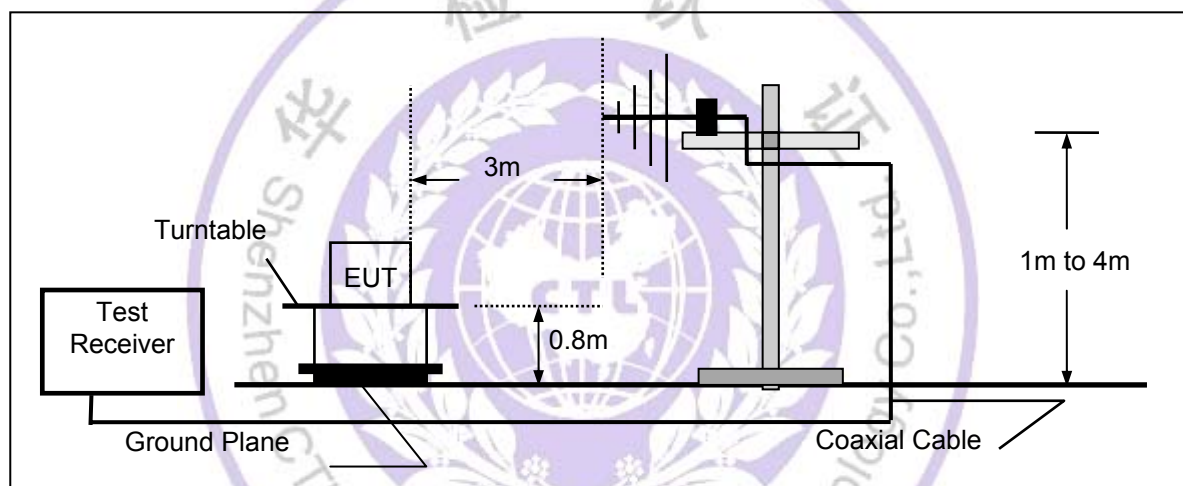
4.2. Radiated Emission Test

TEST CONFIGURATION

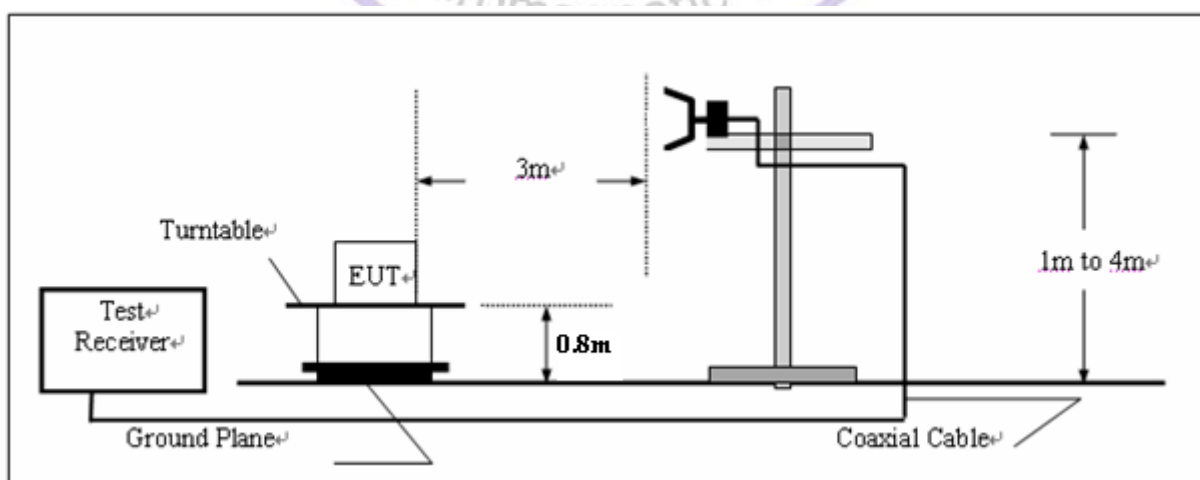
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(B) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(C) Radiated Emission Test Set-Up, Frequency above 1000MHz



FIELD STRENGTH CALCULATION

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

TEST PROCEDURE

1. The testing follows FCC KDB Publication No. 558074 D01 v03r01 (Measurement Guidelines of DTS), the EUT was setup according to ANSI C63.4: and tested according to ANSI C63.10 for compliance to FCC 47CFR 15.247 requirements.
2. The EUT was placed on a turn table which is 0.8m above ground plane.
3. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT
4. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
5. Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for $f > 1$ GHz, 120 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
6. Repeat above procedures until all frequency measurements have been completed.

Note:

When doing emission measurement above 1GHz, the horn antenna will be bended down a little (as horn antenna has the narrow beamwidth) in order to keeping the antenna in the “cone of radiation” of EUT. The 3dB beamwidth is 60 degrees for H-plane and 90 degrees for E-plane.

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)
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. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of desired power.

TEST RESULTS

Mode 1: Transmit by 802.11b

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	2410.6	56.7	30.9	87.6	Fundamental	/	PK
	V	323.4	17.5	13.8	31.3	46	-14.7	QP
	V	500.0	11.9	17.6	29.5	46	-16.5	QP
	H	2929.5	55.7	-17.8	37.9	54(Note)	-16.1	PK
	H	4824.0	56.5	-14.3	42.2	54(Note)	-11.8	PK
	H	7236.0	52.2	-6.1	46.1	54(Note)	-7.9	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
6	H	2439.5	57.5	31.2	88.7	Fundamental	/	PK
	V	303.1	18.5	13.2	31.7	46	-14.3	QP
	V	532.9	11.0	18.6	29.6	46	-16.4	QP
	H	2929.5	56.0	-17.8	38.2	54(Note)	-15.8	PK
	H	4874.0	54.7	-14.0	40.7	54(Note)	-13.3	PK
	H	7311.0	52.1	-6.0	46.1	54(Note)	-7.9	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
11	H	2461.0	57.5	31.0	88.5	Fundamental	/	PK
	V	300.1	18.7	13.1	31.8	46	-14.2	QP
	V	720.2	13.6	19.1	32.7	46	-13.3	QP
	H	2929.5	56.1	-17.8	38.3	54(Note)	-15.7	PK
	H	4924.0	54.6	-14.0	40.6	54(Note)	-13.4	PK
	H	7386.0	52.0	-5.6	46.4	54(Note)	-7.6	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK

Note

- 1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.
- 2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode 2: Transmit by 802.11g

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	2410.8	56.4	30.9	87.3	Fundamental	/	PK
	V	323.4	17.5	13.8	31.3	46	-14.7	QP
	V	778.4	14.7	20.0	34.7	46	-11.3	QP
	H	2929.5	55.7	-17.8	37.9	54(Note)	-16.1	PK
	H	4824.0	54.7	-14.3	40.4	54(Note)	-13.6	PK
	H	7236.0	51.9	-6.1	45.8	54(Note)	-8.2	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
6	H	2434.2	55.4	31.2	86.6	Fundamental	/	PK
	V	303.1	18.5	13.2	31.7	46	-14.3	QP
	V	739.6	14.5	19.5	34.0	46	-12.0	QP
	H	2929.5	55.5	-17.8	37.7	54(Note)	-16.3	PK
	H	4874.0	54.2	-14.0	40.2	54(Note)	-13.8	PK
	H	7311.0	52.3	-6.0	46.3	54(Note)	-7.7	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
11	H	2464.9	55.1	31.0	86.1	Fundamental	/	PK
	V	300.1	18.7	13.1	31.8	46	-14.2	QP
	V	800.2	16.3	20.2	36.5	46	-9.5	QP
	H	2929.5	55.8	-17.8	38.0	54(Note)	-16.0	PK
	H	4924.0	54.7	-14.0	40.7	54(Note)	-13.3	PK
	H	7386.0	52.1	-5.6	46.5	54(Note)	-7.5	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK

Note

1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode 3: Transmit by 802.11n20MHz

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
1	H	2409.1	53.3	30.9	84.2	Fundamental	/	PK
	V	299.7	17.3	13.1	30.5	46	-15.5	QP
	V	744.4	15.1	19.6	34.7	46	-11.3	QP
	H	2929.5	55.3	-17.8	37.5	54(Note)	-16.5	PK
	H	4824.0	54.4	-14.3	40.1	54(Note)	-13.9	PK
	H	7236.0	51.6	-6.1	45.5	54(Note)	-8.5	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
6	H	2439.5	55.5	31.2	86.7	Fundamental	/	PK
	V	306.0	17.1	13.3	30.4	46	-15.7	QP
	V	739.6	12.5	19.5	32.0	46	-14.0	QP
	H	2929.5	55.3	-17.8	37.5	54(Note)	-16.5	PK
	H	4874.0	53.4	-14.0	39.4	54(Note)	-14.6	PK
	H	7311.0	52.7	-6.0	46.7	54(Note)	-7.3	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
11	H	2462.7	55.9	31.0	86.9	Fundamental	/	PK
	V	299.7	17.6	13.1	30.7	46	-15.3	QP
	V	796.3	15.9	20.2	36.1	46	-9.9	QP
	H	2929.5	56.5	-17.8	38.7	54(Note)	-15.3	PK
	H	4924.0	54.2	-14.0	40.2	54(Note)	-13.8	PK
	H	7386.0	51.8	-5.6	46.2	54(Note)	-7.8	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK

Note

1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

Mode 4: Transmit by 802.11n40MHz

CH	Antenna	Frequency (MHz)	Reading Level (dBuV/m)	Factor (dB)	Measure Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector
3	H	2416.3	54.3	30.9	85.2	Fundamental	/	PK
	V	299.2	17.6	13.1	30.7	46	-15.3	QP
	V	731.3	15.0	19.3	34.3	46	-11.7	QP
	H	2929.5	55.4	-17.8	37.6	54(Note)	-16.4	PK
	H	4844.0	54.3	-14.2	40.1	54(Note)	-13.9	PK
	H	7266.0	53.5	-6.2	47.3	54(Note)	-6.7	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
6	H	2434.2	54.4	31.2	85.6	Fundamental	/	PK
	V	299.7	17.3	13.1	30.4	46	-15.6	QP
	V	499.0	11.8	17.6	29.4	46	-16.6	QP
	H	2929.5	56.0	-17.8	38.2	54(Note)	-15.8	PK
	H	4874.0	54.7	-14.0	40.7	54(Note)	-13.3	PK
	H	7311.0	52.1	-6.0	46.1	54(Note)	-7.9	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK
9	H	2437.0	54.6	30.9	85.5	Fundamental	/	PK
	V	336.0	17.9	14.1	32.0	46	-14.0	QP
	V	743.4	15.2	19.6	34.8	46	-11.2	QP
	H	2929.5	55.3	-17.8	37.5	54(Note)	-16.5	PK
	H	4904.0	54.8	-13.9	40.9	54(Note)	-13.1	PK
	H	7356.0	52.0	-5.9	46.1	54(Note)	-7.9	PK
	V	24000.0	59.1	-8.9	50.2	54(Note)	-3.8	PK

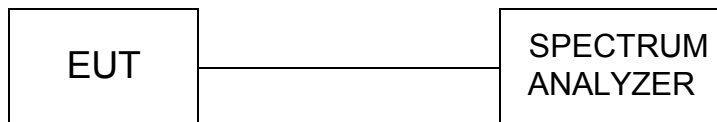
Note

1: The test trace is same as the ambient noise (the test frequency range: 9kHz~30MHz, 18GHz~25GHz), therefore no data appear in the report.

2: This limit applies for using average detector, if the test result on peak is lower than average limit, then average measurement needn't be performed.

4.3. 6dB Bandwidth Measurement

TEST CONFIGURATION



TEST PROCEDURE

1. The testing follows FCC KDB Publication No. 558074 D01 v03r01 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

LIMIT

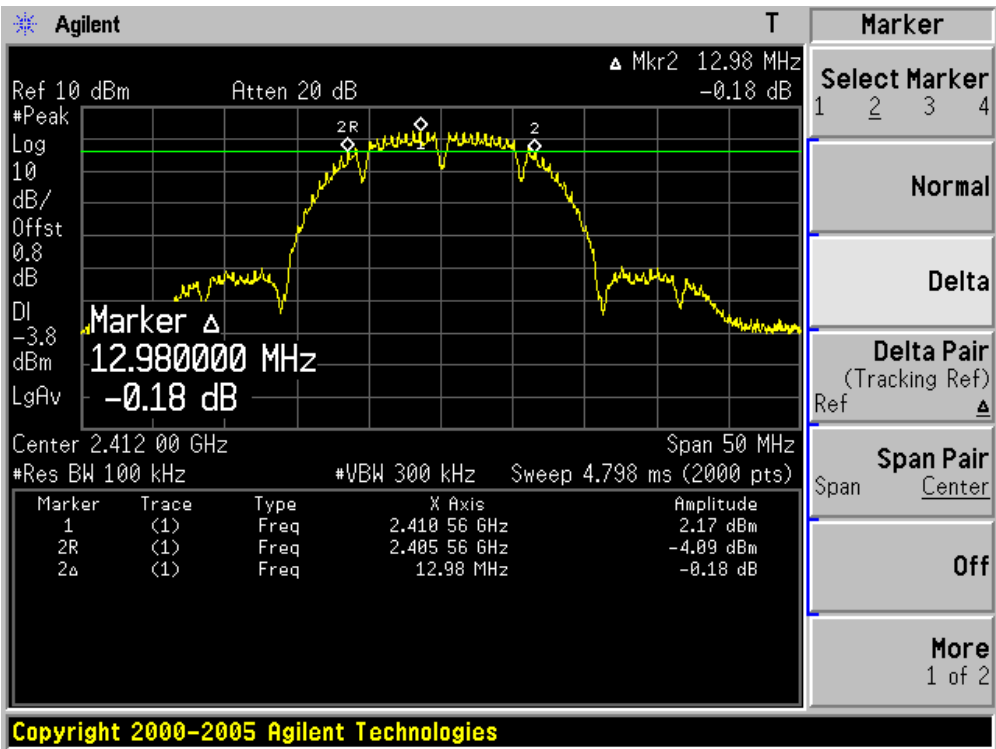
For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

TEST RESULTS

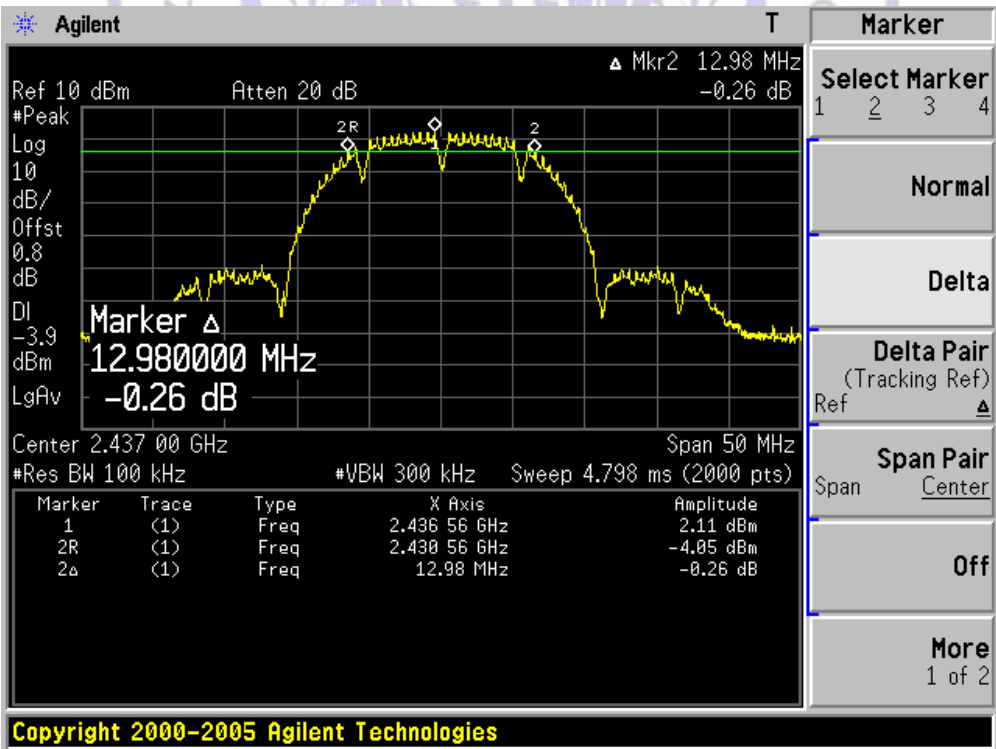
Mode	CHANNEL	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
802.11b	1	12.98	0.5	PASS
	6	12.98	0.5	PASS
	11	12.98	0.5	PASS
802.11g	1	16.41	0.5	PASS
	6	16.43	0.5	PASS
	11	16.38	0.5	PASS
802.11n HT20	1	17.48	0.5	PASS
	6	17.61	0.5	PASS
	11	17.63	0.5	PASS
802.11n HT40	3	36.11	0.5	PASS
	6	36.11	0.5	PASS
	9	36.06	0.5	PASS

For 802.11b:

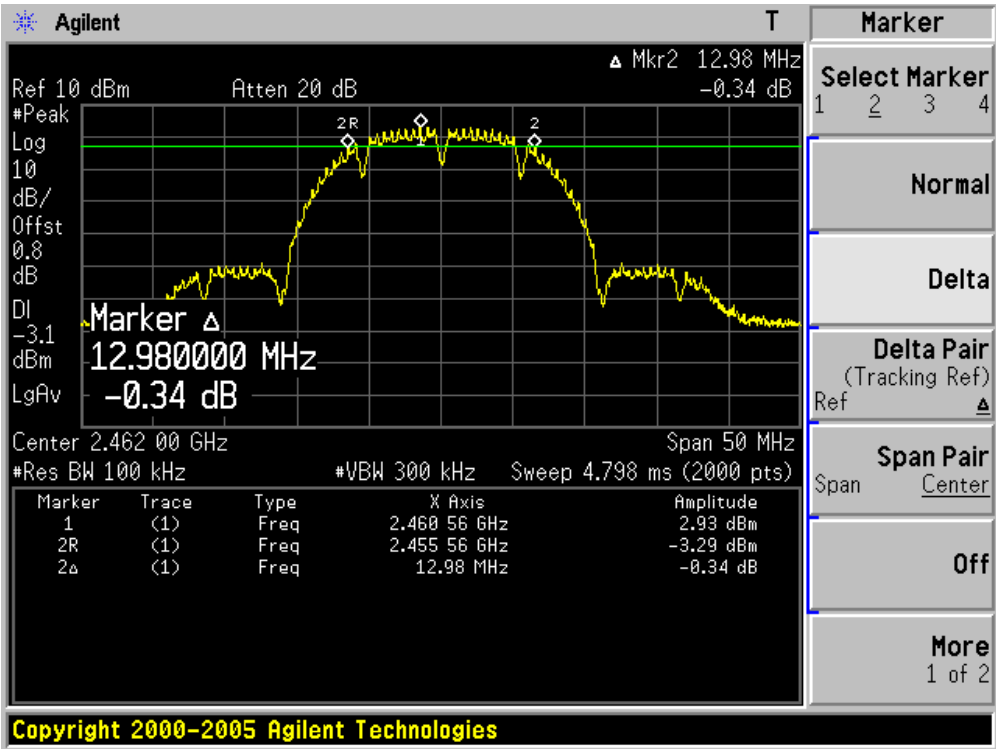
CH1



CH6

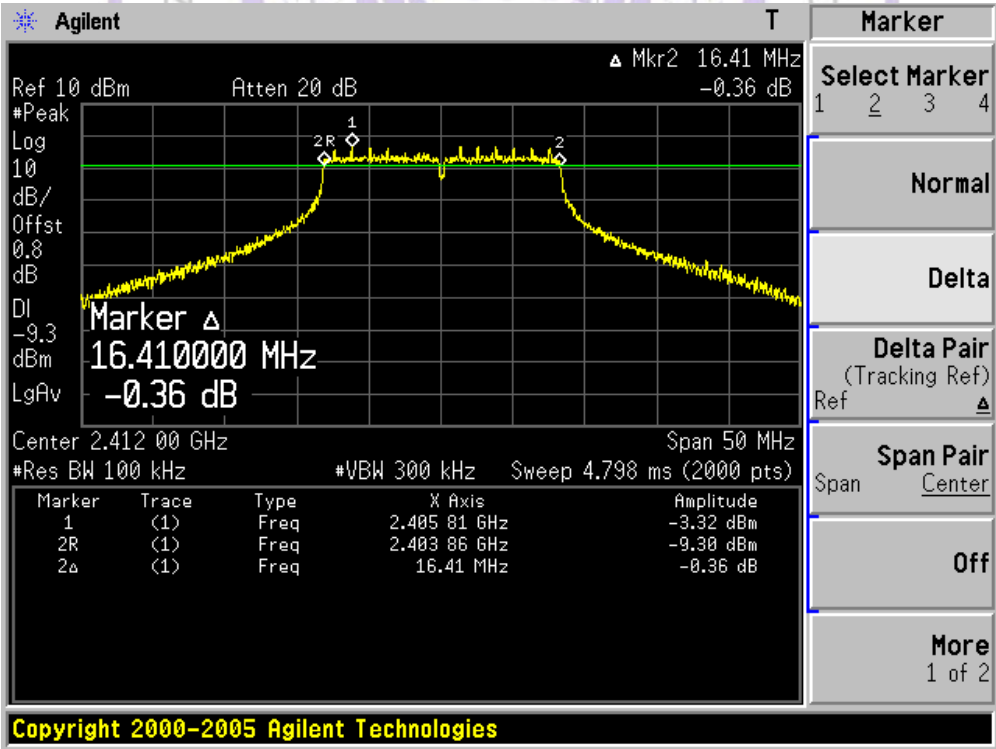


CH11

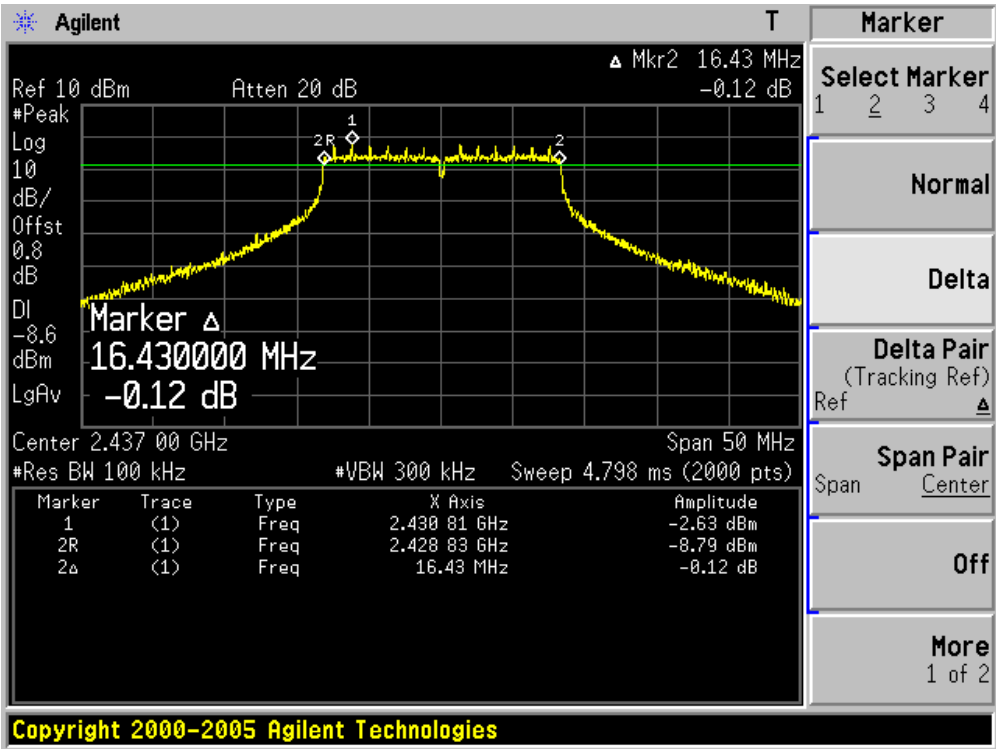


For 802.11g:

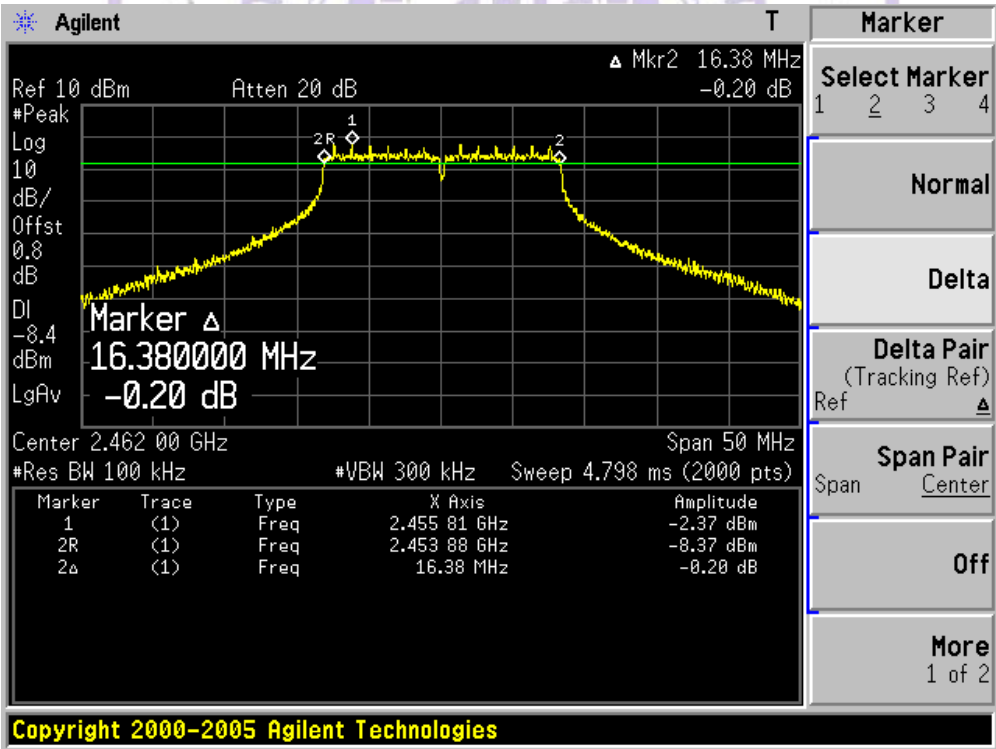
CH1



CH6

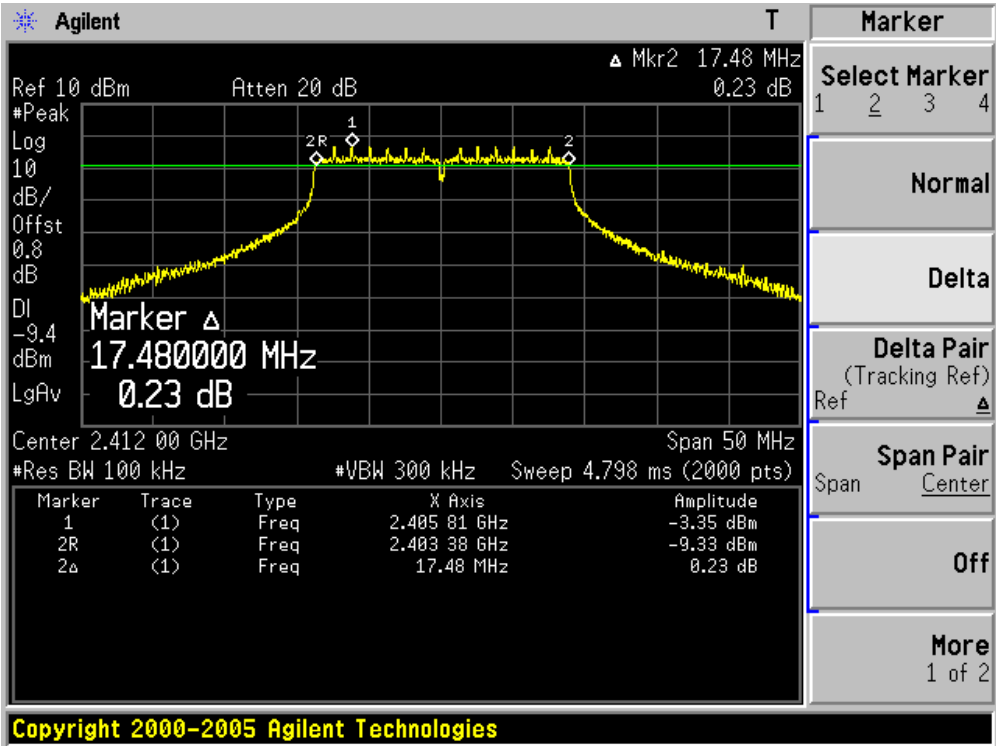


CH11

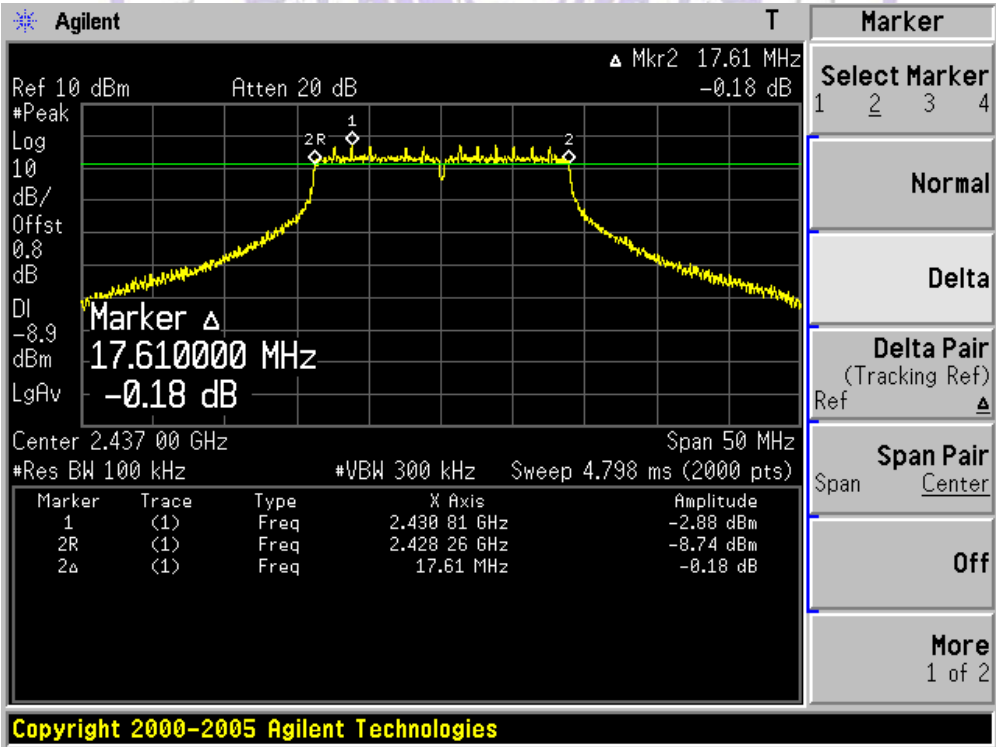


For 802.11n (20MHz) Mode:

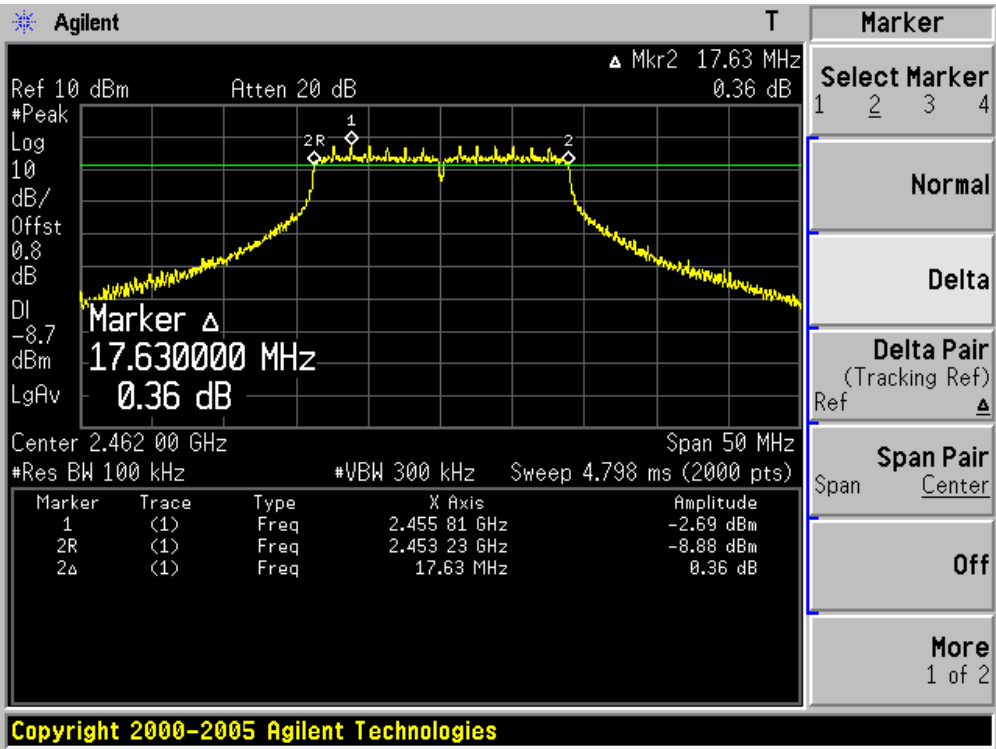
CH1



CH6

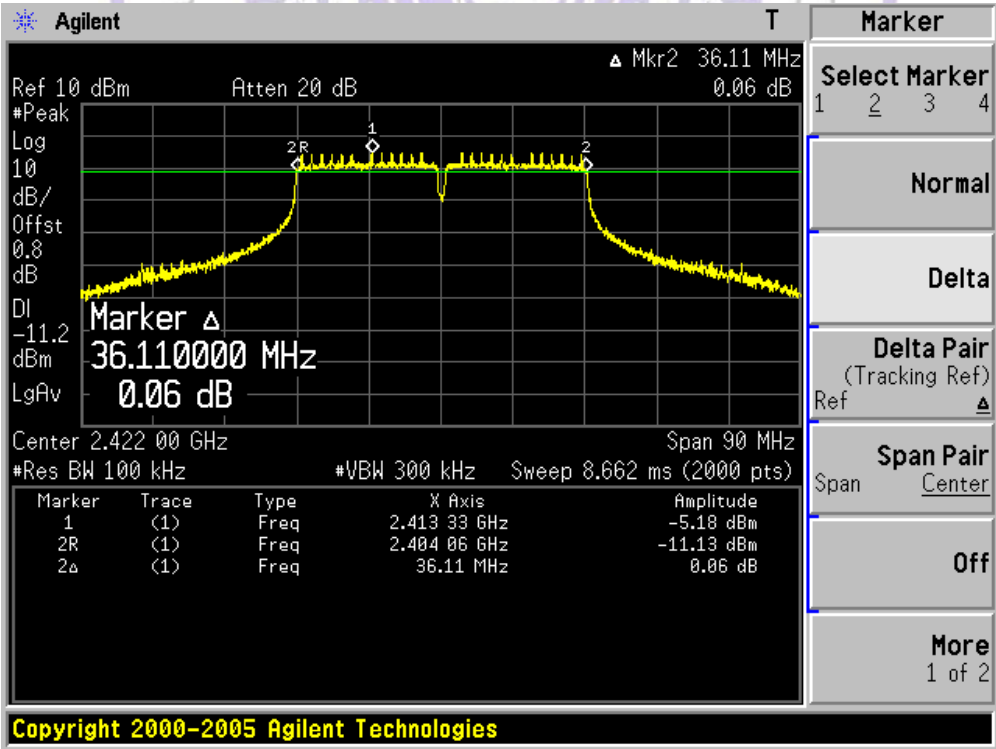


CH11

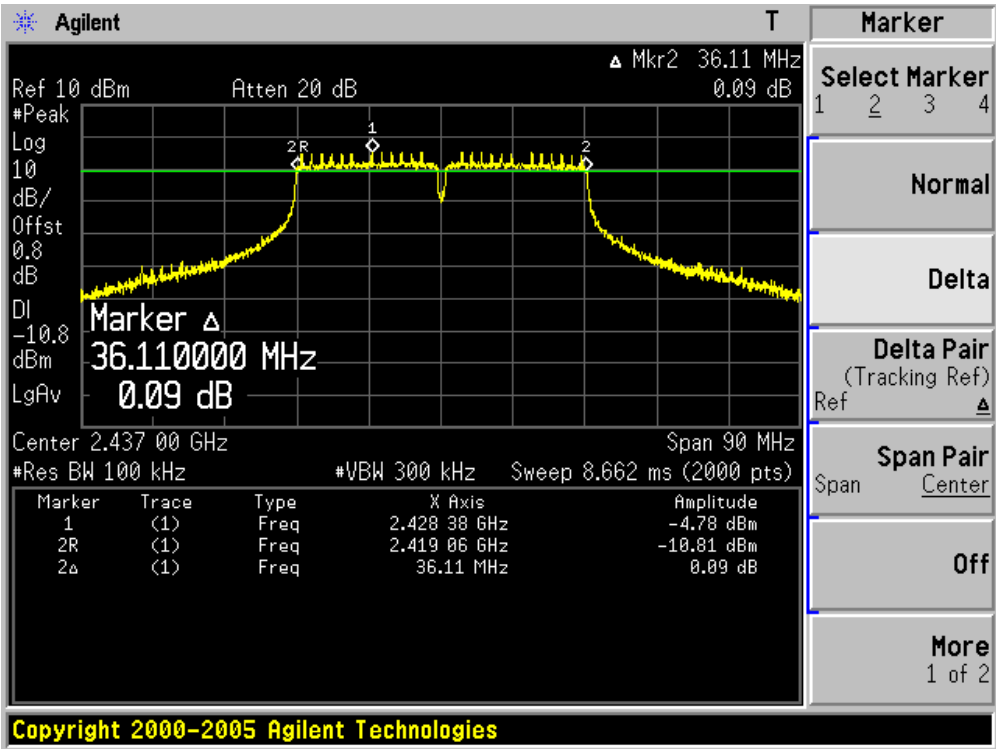


For 802.11n (40MHz) Mode:

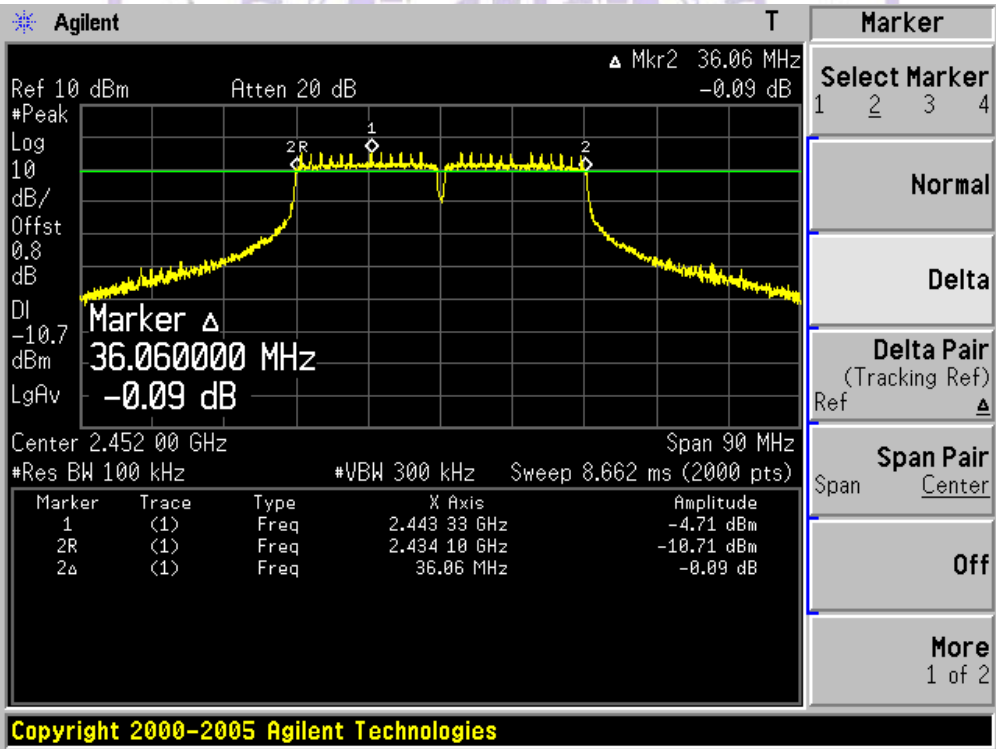
CH3



CH6

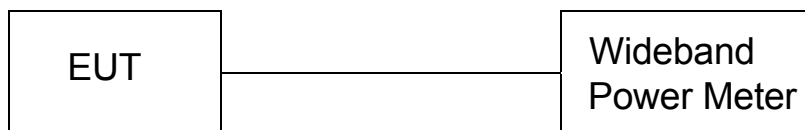


CH9



4.4. Maximum Peak Output Power

TEST CONFIGURATION



TEST PROCEDURE

According to C63.10 -2009 and KDB558074 D01 v03r01, The EUT was directly connected to the power meter / spectrum analyzer and antenna output port as show in the block diagram as TEST CONFIGURATION shows.

Use the wideband power meter to test peak power and record the result.

LIMIT

The Peak Output Power Measurement limits are 30dBm.

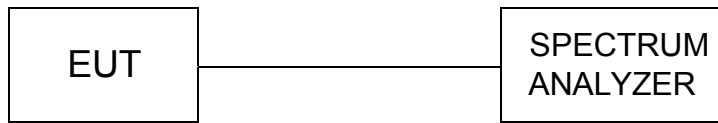
TEST RESULTS

Mode	Channel	Peak Power Output (dBm)	Peak Power Limit (dBm)	PASS / FAIL
802.11b	1	12.79	30	PASS
	6	12.62	30	PASS
	11	12.69	30	PASS
802.11g	1	11.20	30	PASS
	6	11.03	30	PASS
	11	11.11	30	PASS
802.11n HT20	1	11.05	30	PASS
	6	10.87	30	PASS
	11	10.96	30	PASS
802.11n HT40	3	9.92	30	PASS
	6	9.78	30	PASS
	9	9.85	30	PASS

Note: The test results including the cable lose.

4.5. Band Edge Measurement

TEST CONFIGURATION



TEST PROCEDURE

The band edge compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10 and FCC KDB Publication No. 558074 D01 v03r01 (Measurement Guidelines of DTS) 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=100kHz and VBM= 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 and VBW to 100 kHz, to measure the conducted peak band edge.

Connect the spectrum analyzer to the EUT using an appropriate RF cable connected to the EUT output. Configure the spectrum analyzer settings as described below (be sure to enter all losses between the unlicensed wireless device output and the spectrum analyzer).

- Span: Set Span for minimum 50 MHz - Reference Level: 110 dB μ V (corrected for gains and losses of test antenna factor, preamp gain and cable loss) - Attenuation: 10 dB
- Sweep Time: Coupled - Resolution Bandwidth: Up to and including 1 GHz = $\geq$ 100 kHz
- Resolution Bandwidth: Above 1 GHz = 1 MHz - Video Bandwidth: Below 1 GHz = 300 kHz
- Video Bandwidth: Up to and including 1 GHz = $\geq$ 3 MHz for peak and 10 Hz for average
- Detector: Peak

Place a marker at the end of the restricted band closest to the transmit frequency to show compliance. Also measure any emissions in the restricted bands. Save the spectrum analyzer plot. Repeat for each power and modulation for lowest and highest channel.

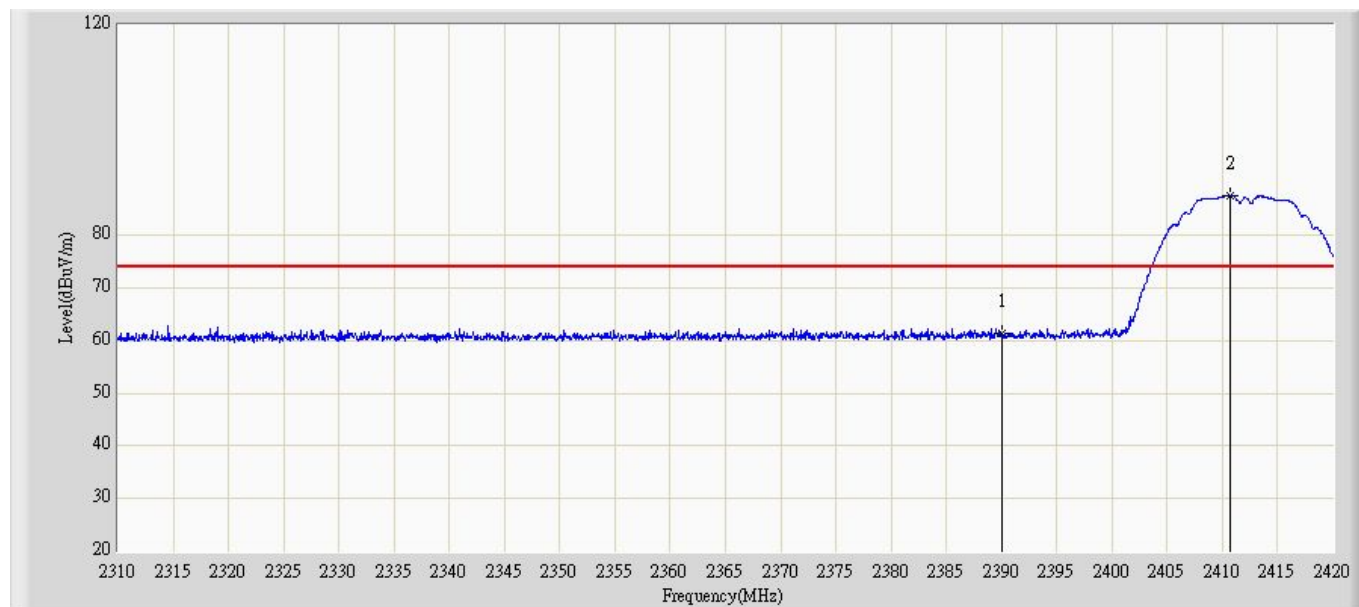
LIMIT

1. Below -20dB of the highest emission level in operating band.
2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209 (see Section 15.205(c)).

Frequency (MHz)	Limit Average (dB μ V/m)	Limit Peak (dB μ V/m)
Below 2390 or Above 2483.5	54	74

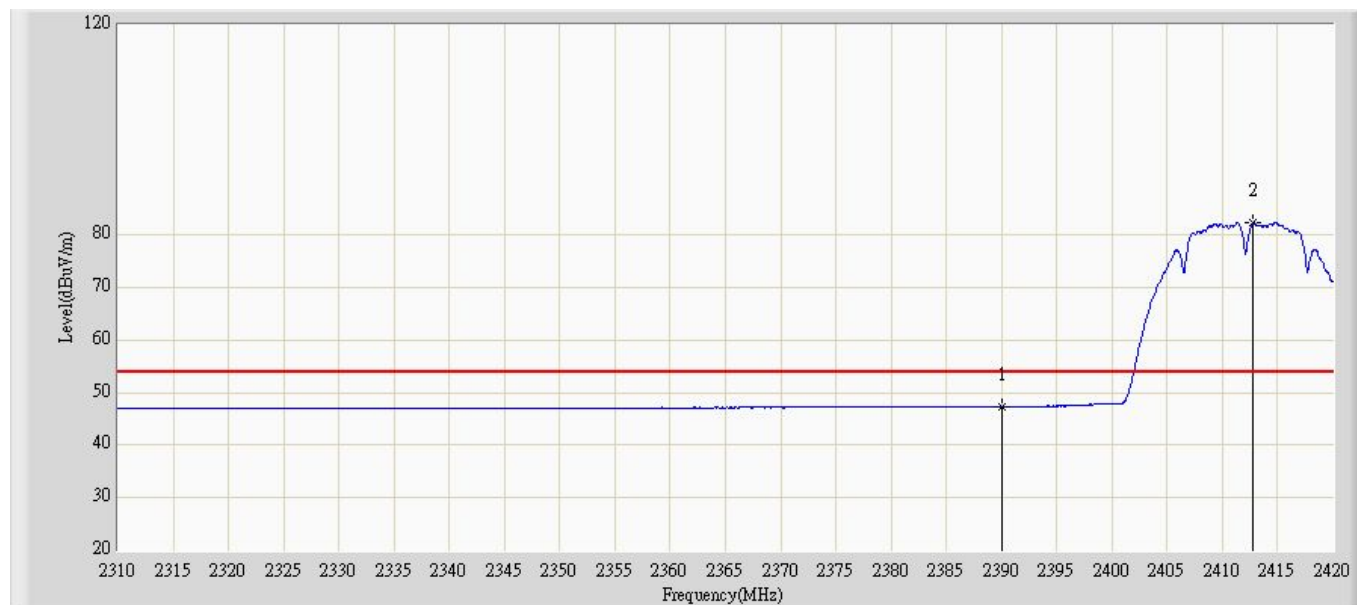
TEST RESULTS

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 09:58
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



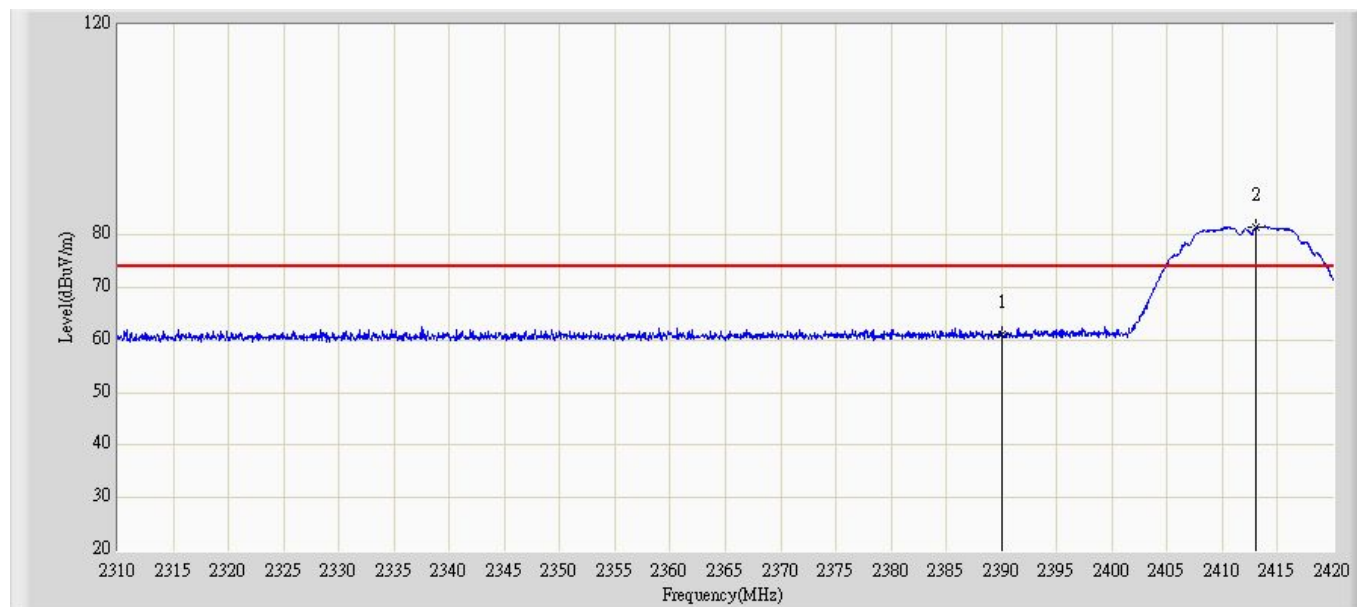
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	61.252	30.340	-12.748	74.000	30.911	PK
2	*	2410.650	87.623	56.745	N/A	N/A	30.878	PK

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 09:59
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



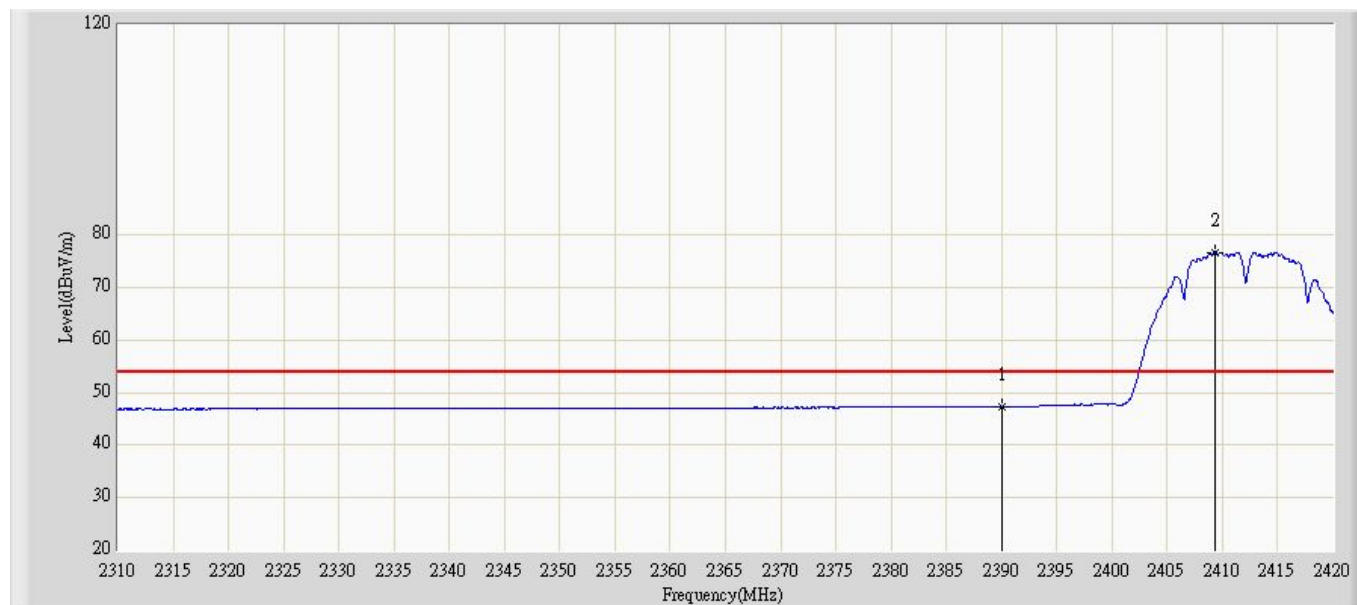
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.325	16.413	-6.675	54.000	30.911	AV
2	*	2412.795	82.297	51.426	N/A	N/A	30.871	AV

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:01
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



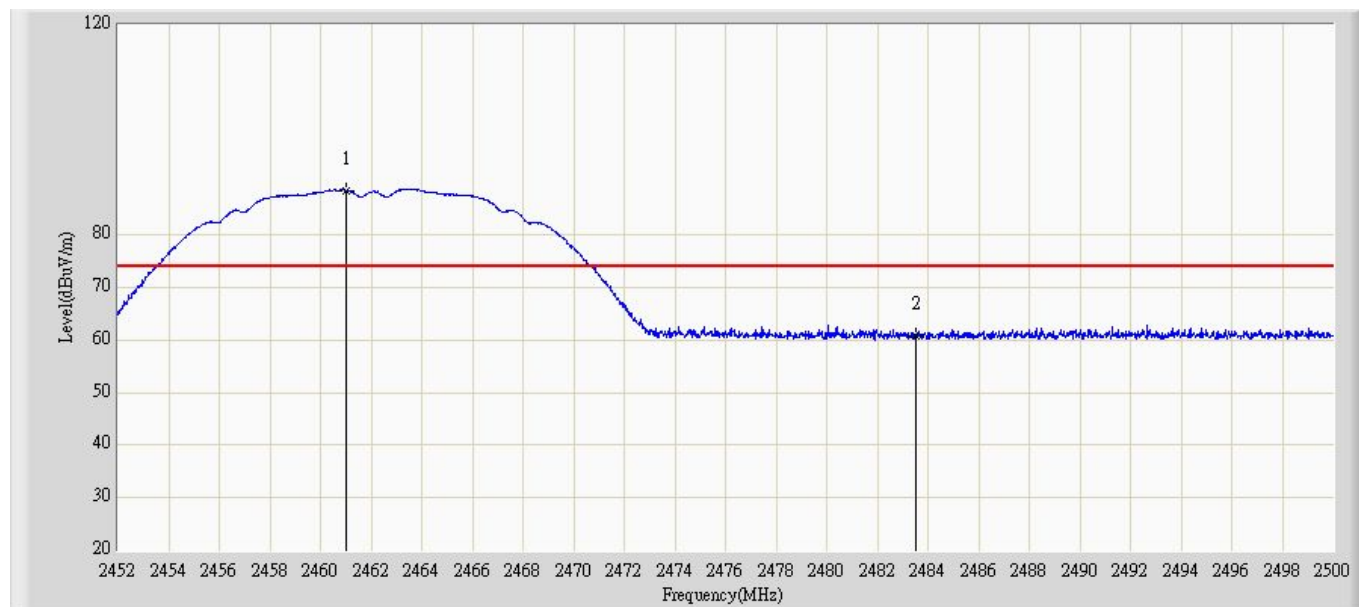
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	61.083	30.171	-12.917	74.000	30.911	PK
2	*	2413.070	81.398	50.528	N/A	N/A	30.870	PK

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:03
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.331	16.419	-6.669	54.000	30.911	AV
2	*	2409.275	76.733	45.852	N/A	N/A	30.881	AV

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:04
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



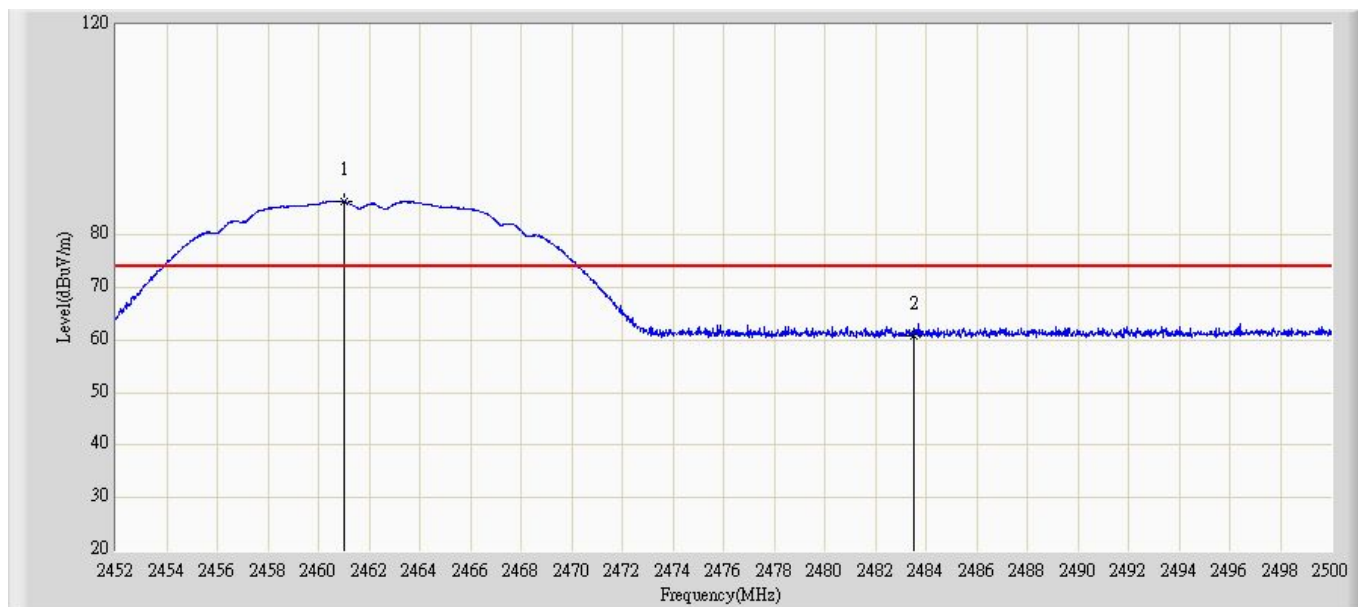
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.000	88.520	57.487	N/A	N/A	31.033	PK
2		2483.500	60.806	29.872	-13.194	74.000	30.934	PK

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:05
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	83.523	52.487	N/A	N/A	31.036	AV
2		2483.500	47.402	16.468	-6.598	54.000	30.934	AV

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



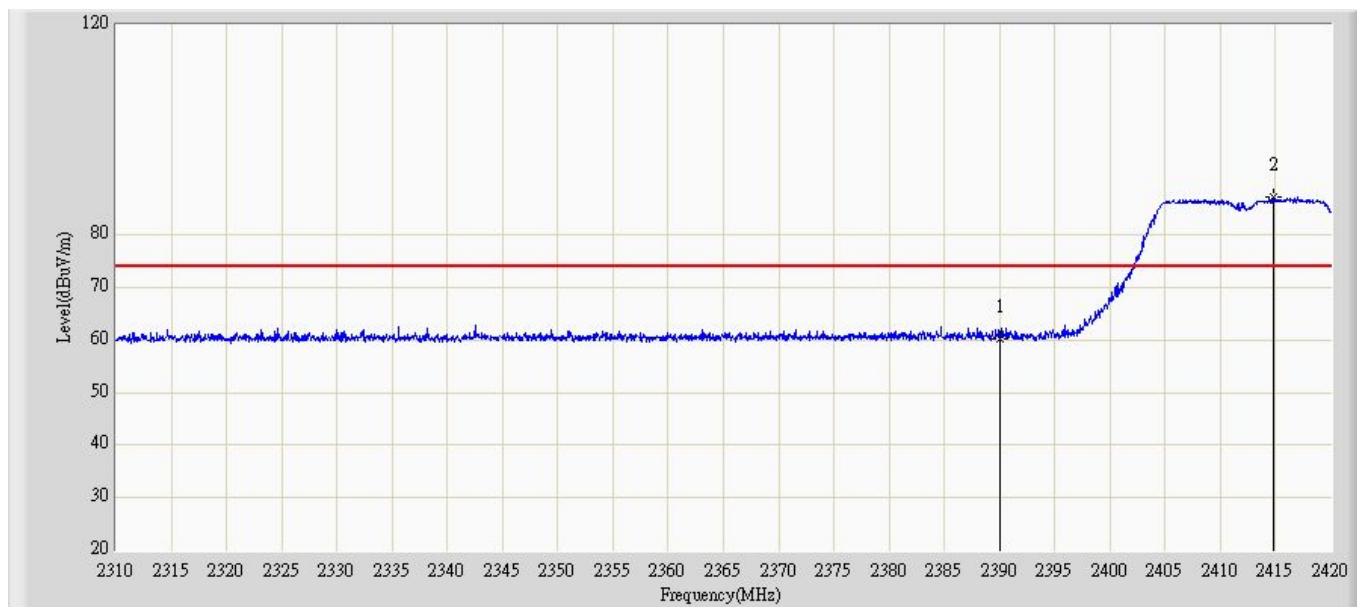
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.024	86.340	55.306	N/A	N/A	31.034	PK
2		2483.500	60.816	29.882	-13.184	74.000	30.934	PK

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:08
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



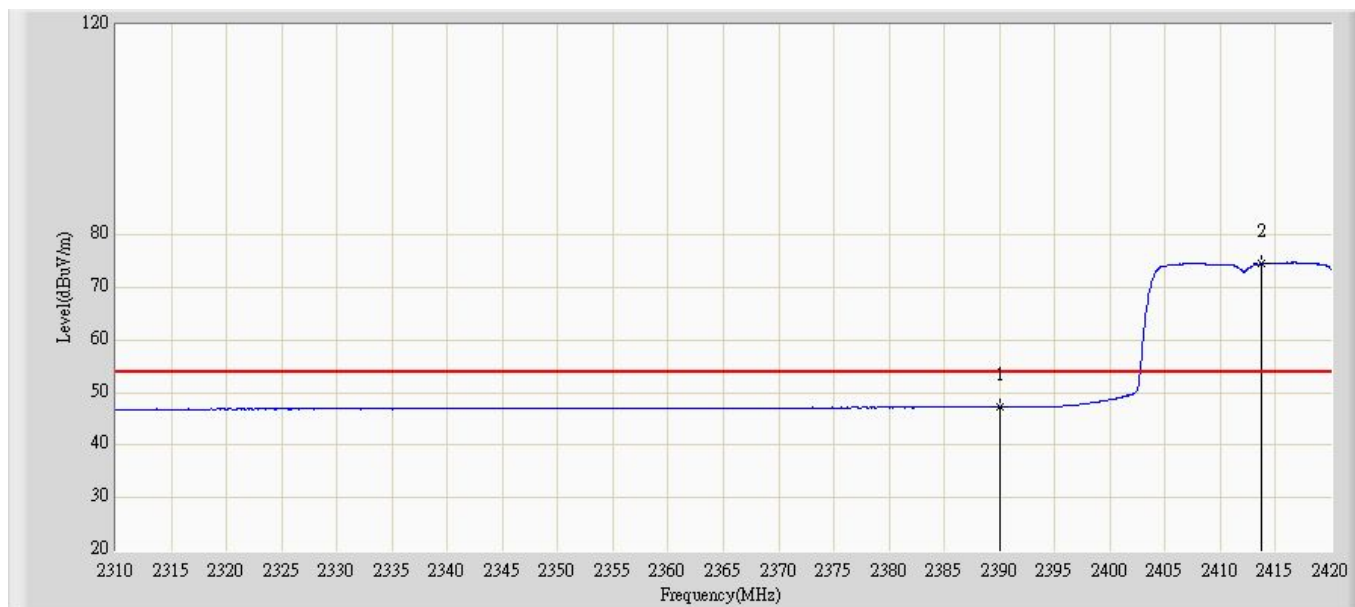
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.360	80.911	49.875	N/A	N/A	31.036	AV
2		2483.500	47.461	16.527	-6.539	54.000	30.934	AV

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:10
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	



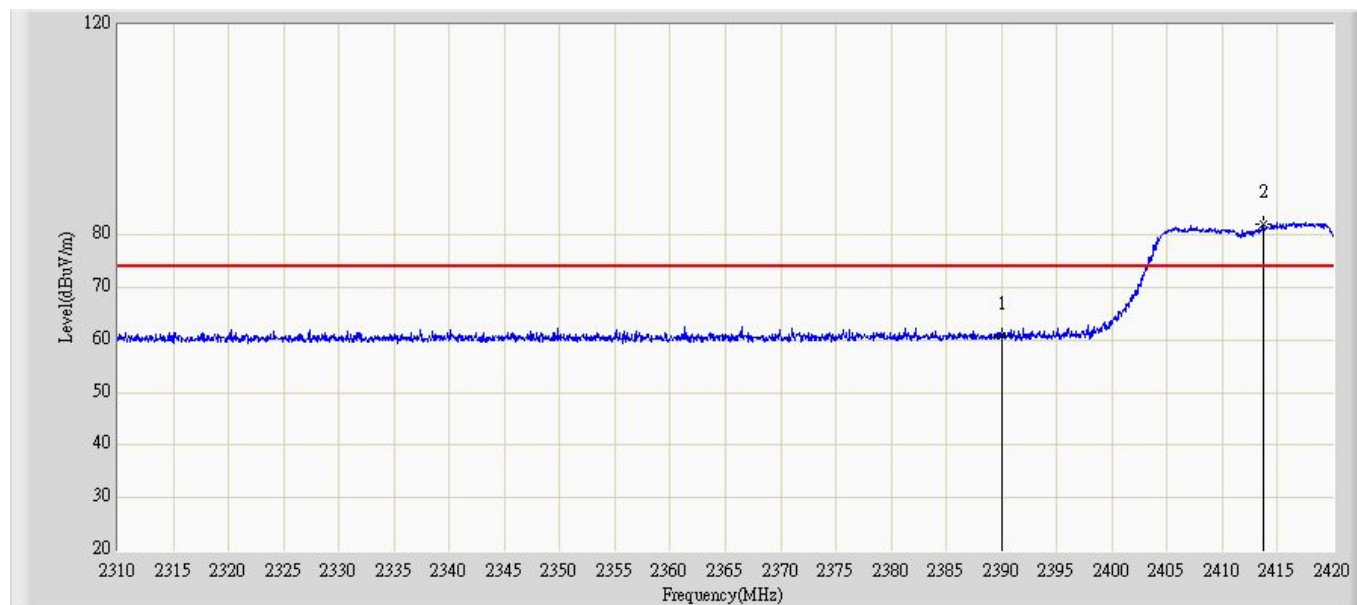
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.164	29.252	-13.836	74.000	30.911	PK
2	*	2414.775	87.298	56.433	N/A	N/A	30.865	PK

Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:11
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	

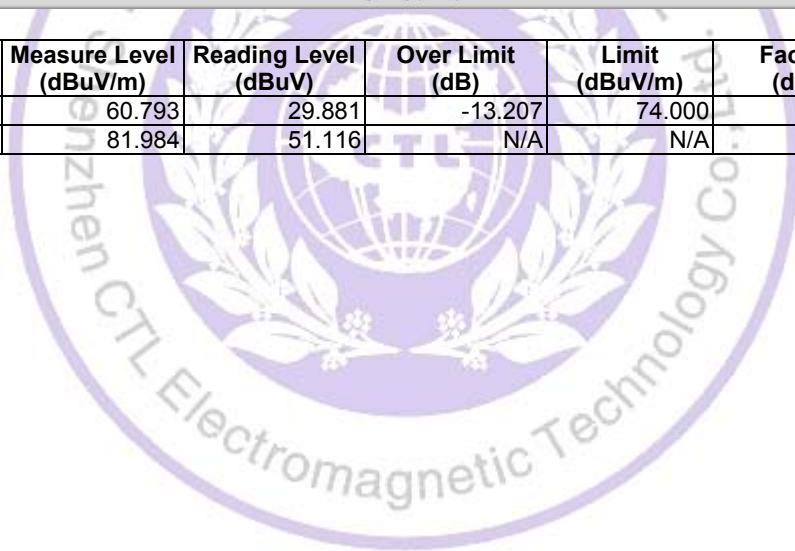


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.271	16.359	-6.729	54.000	30.911	AV
2	*	2413.730	74.504	43.636	N/A	N/A	30.868	AV

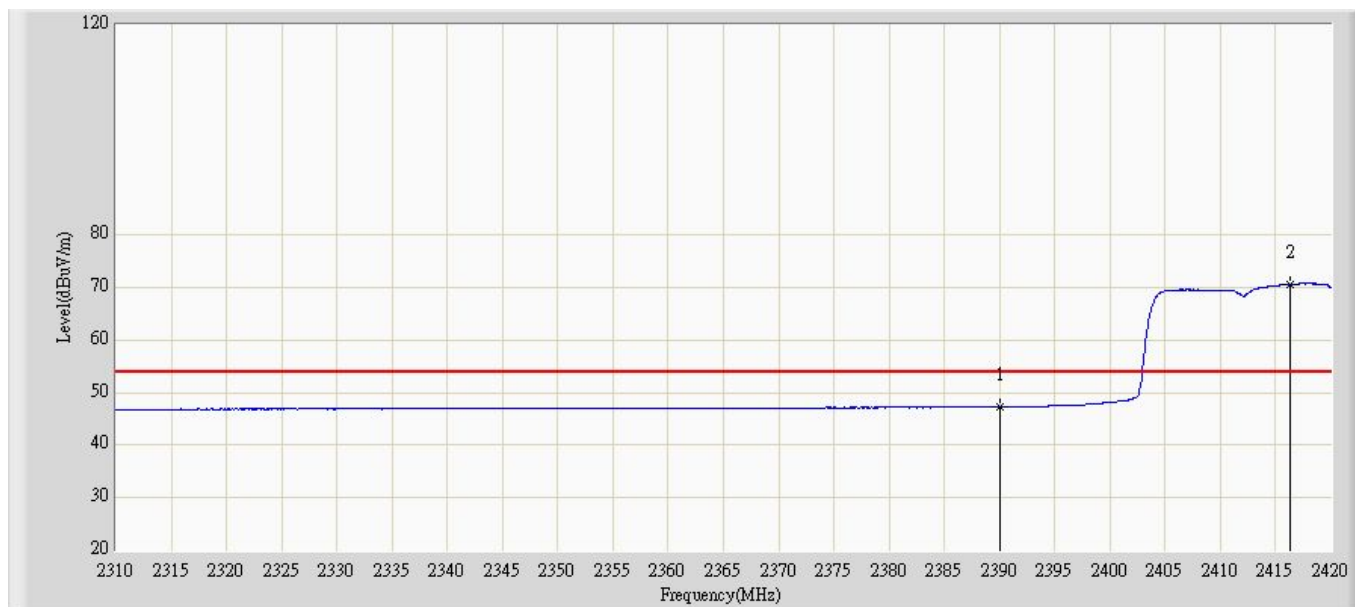
Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:12
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.793	29.881	-13.207	74.000	30.911	PK
2	*	2413.675	81.984	51.116	N/A	N/A	30.868	PK

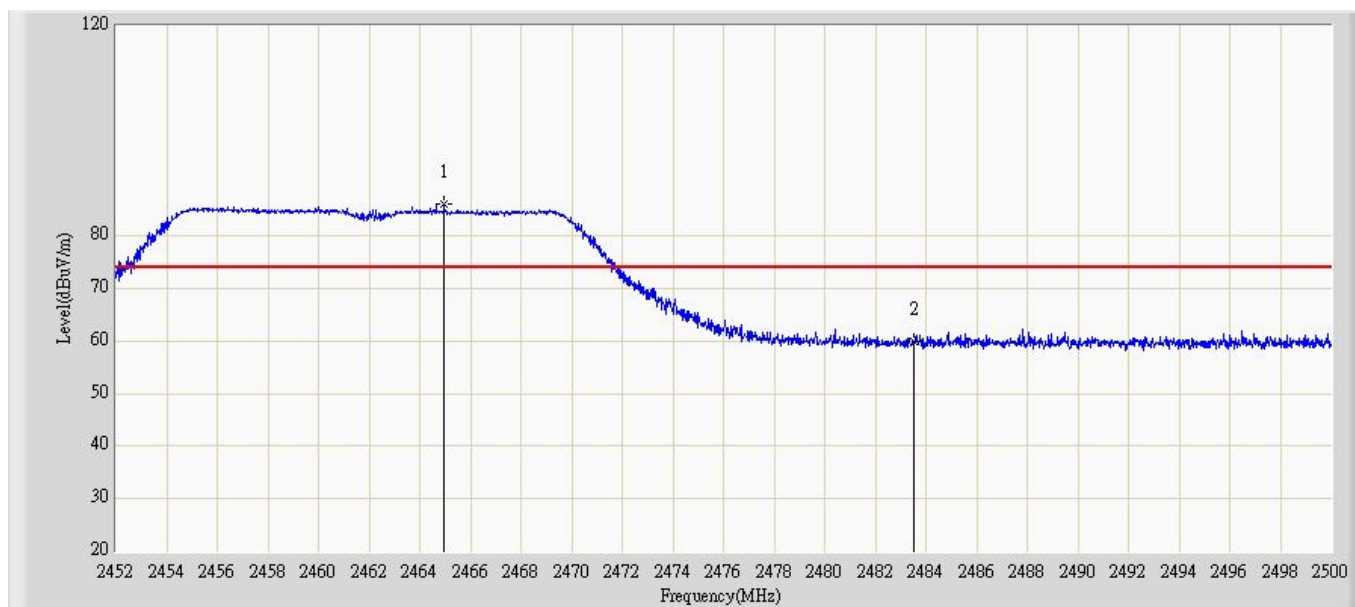


Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:15
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	

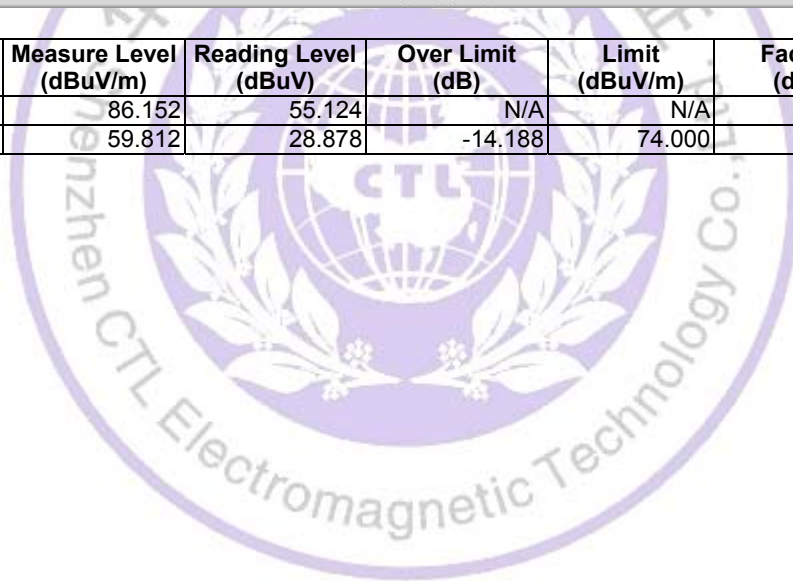


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.289	16.377	-6.711	54.000	30.911	AV
2	*	2416.315	70.661	39.802	N/A	N/A	30.860	AV

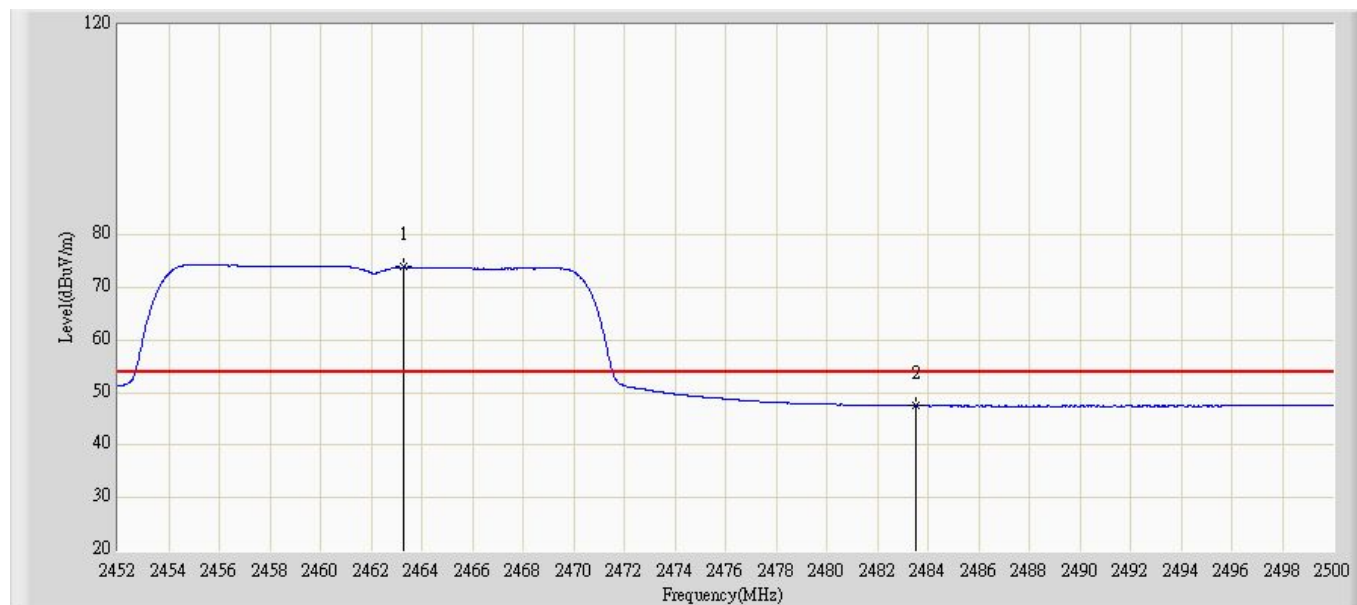
Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:16
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



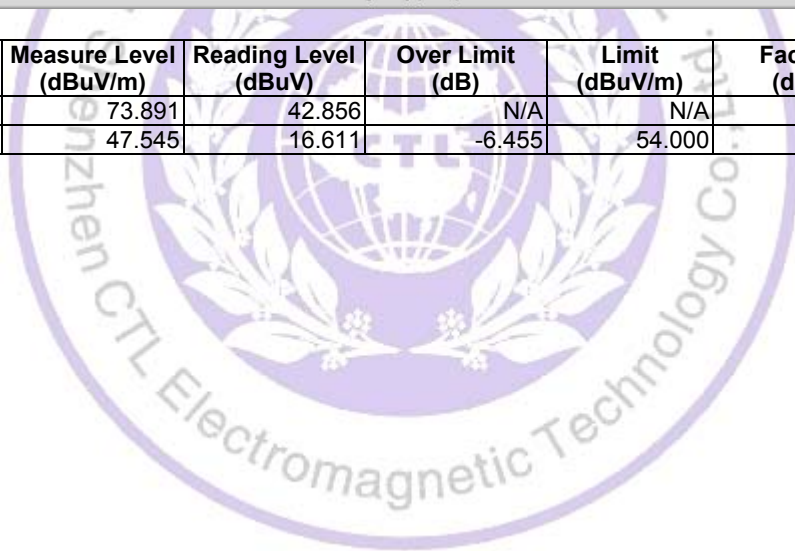
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2464.960	86.152	55.124	N/A	N/A	31.028	PK
2		2483.500	59.812	28.878	-14.188	74.000	30.934	PK



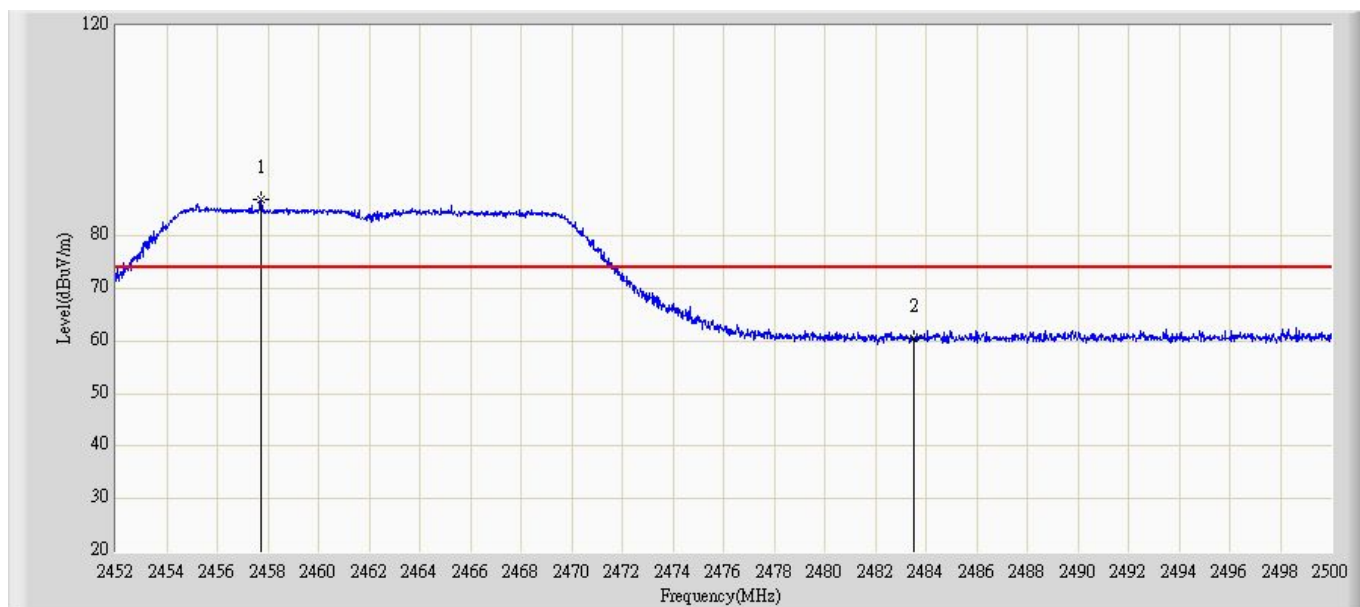
Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:18
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



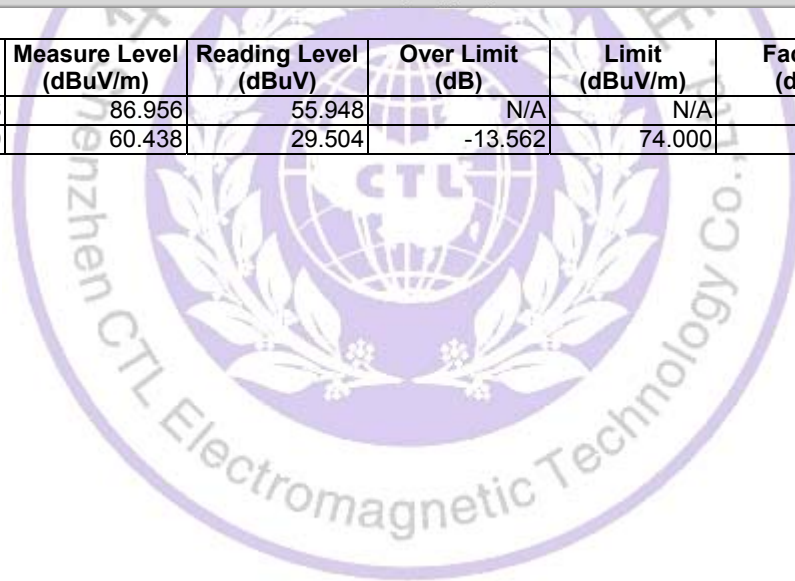
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2463.304	73.891	42.856	N/A	N/A	31.035	AV
2		2483.500	47.545	16.611	-6.455	54.000	30.934	AV



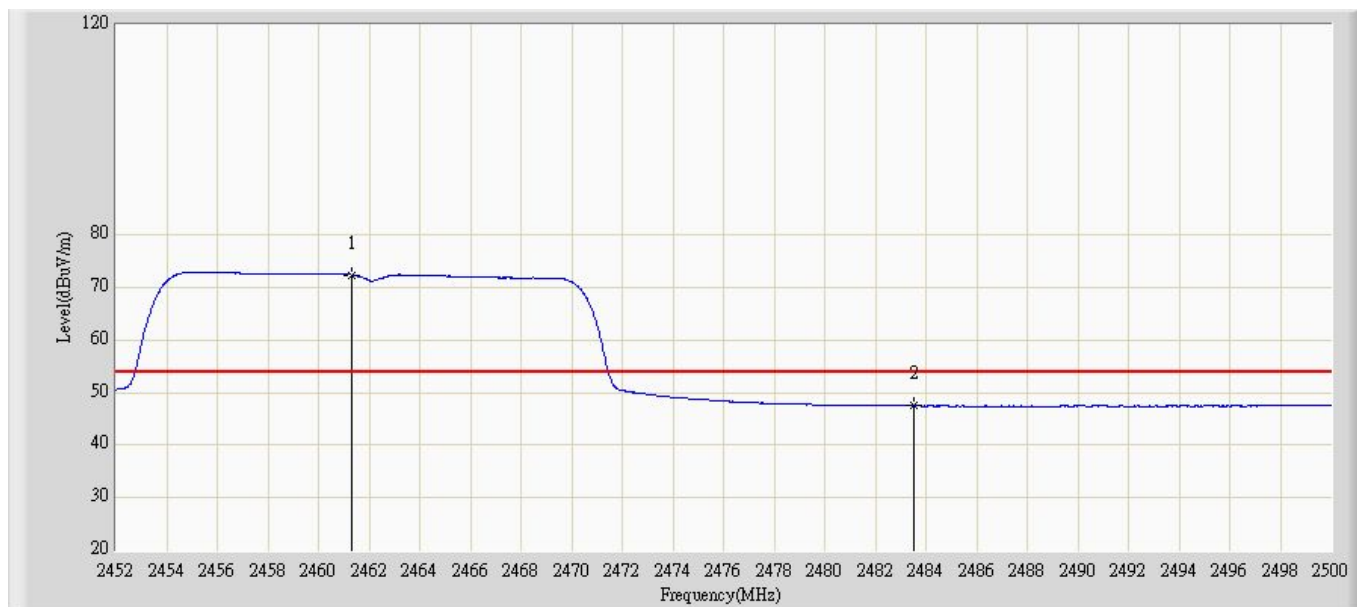
Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:20
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.736	86.956	55.948	N/A	N/A	31.008	PK
2		2483.500	60.438	29.504	-13.562	74.000	30.934	PK

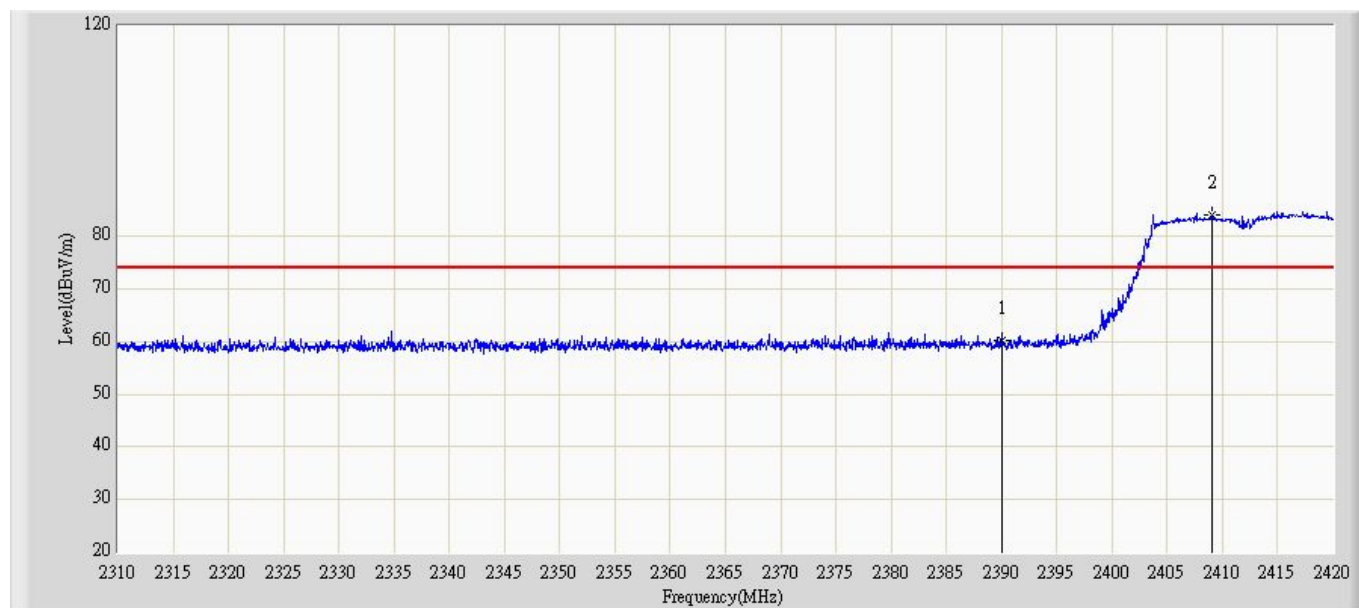


Engineer: Jame	
Site: SITE #3	Time: 2013/05/31 - 10:21
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	

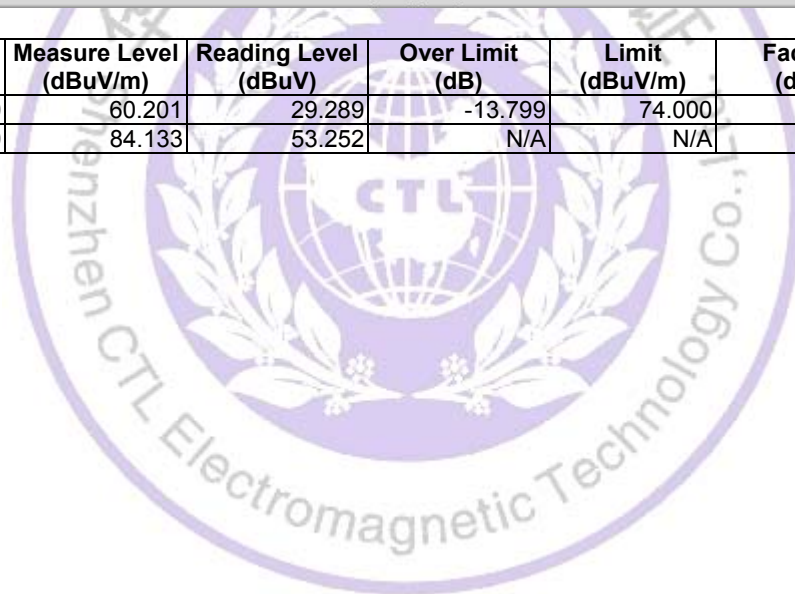


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2461.288	72.438	41.402	N/A	N/A	31.036	AV
2		2483.500	47.467	16.533	-6.533	54.000	30.934	AV

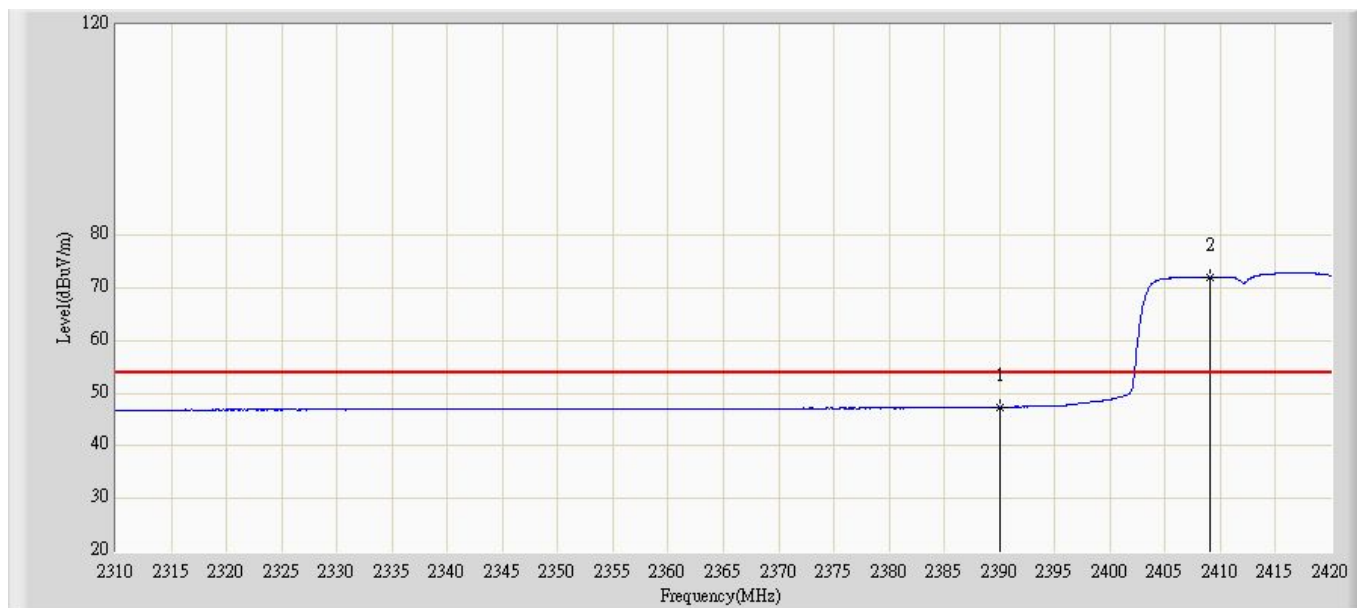
Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:22
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.201	29.289	-13.799	74.000	30.911	PK
2	*	2409.110	84.133	53.252	N/A	N/A	30.881	PK

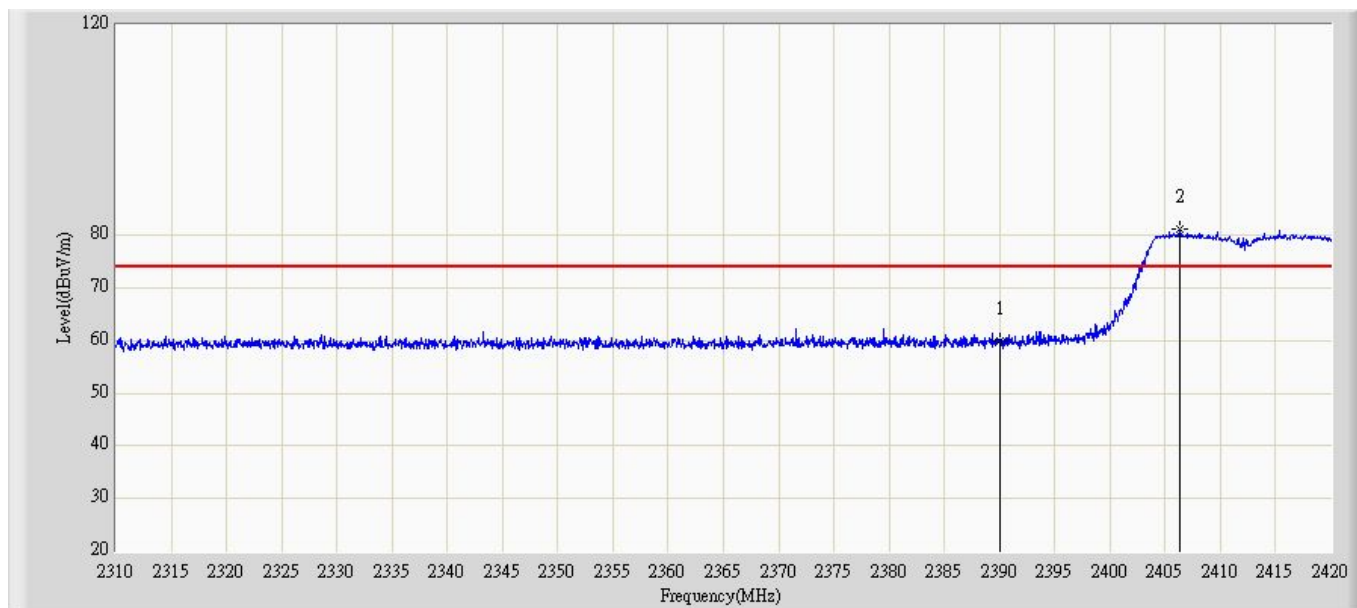


Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:24
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)	



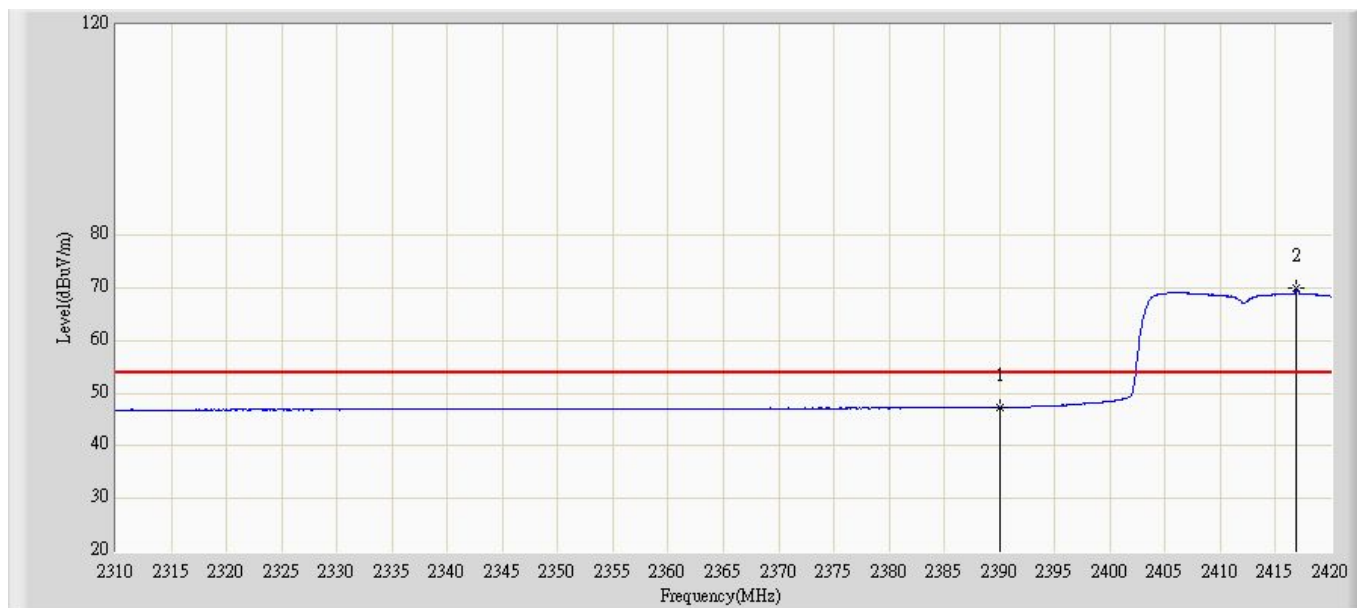
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.405	16.493	-6.595	54.000	30.911	AV
2	*	2409.110	72.085	41.204	N/A	N/A	30.881	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:25
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)	



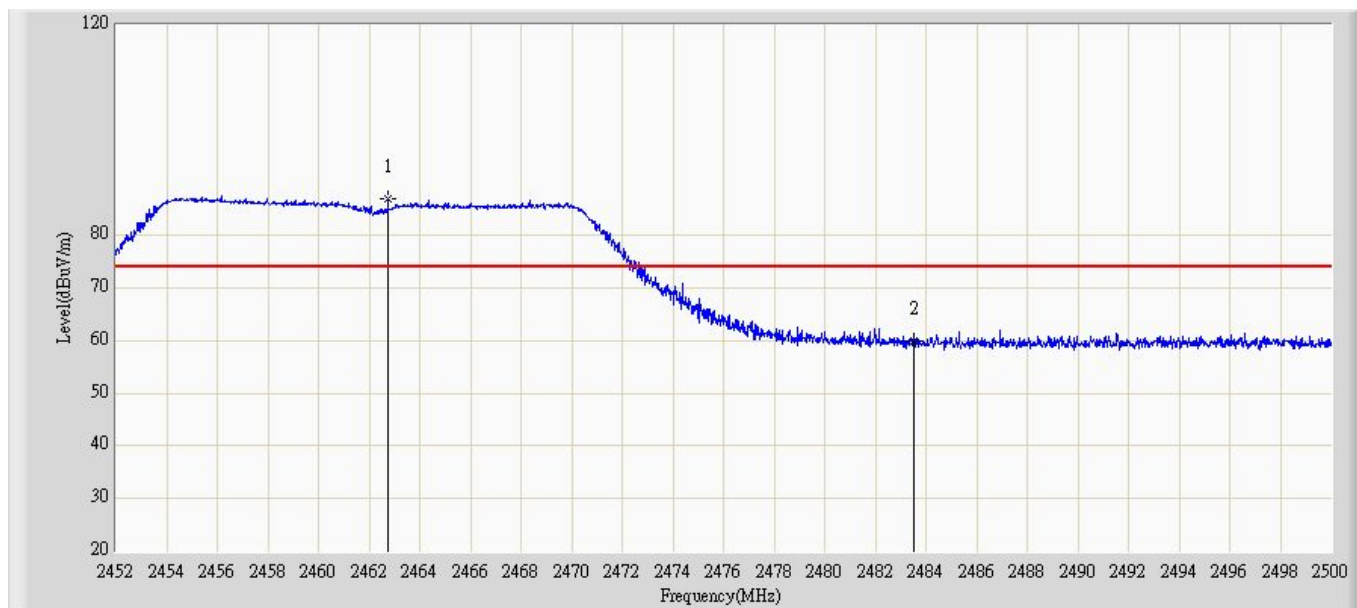
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	59.992	29.080	-14.008	74.000	30.911	PK
2	*	2406.360	81.117	50.229	N/A	N/A	30.888	PK

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:27
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2412MHz By 802.11n(20MHz)	



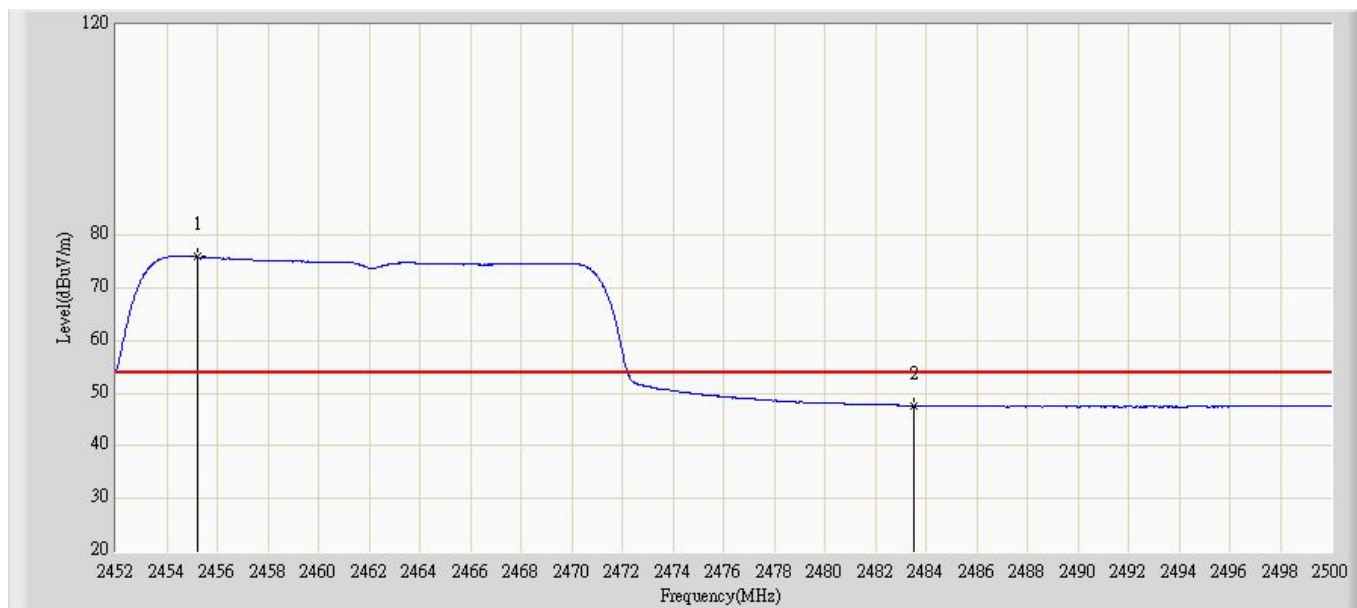
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.328	16.416	-6.672	54.000	30.911	AV
2	*	2416.865	69.950	39.092	N/A	N/A	30.858	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:28
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)	



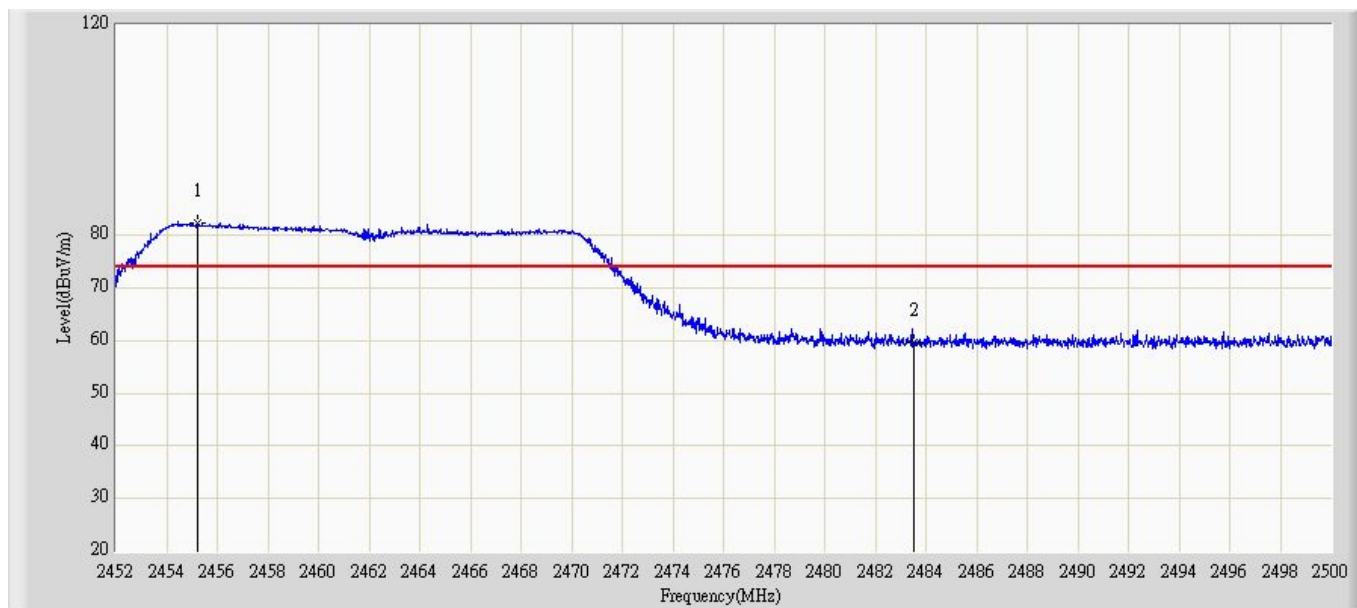
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2462.752	86.959	55.921	N/A	N/A	31.038	PK
2		2483.500	60.073	29.139	-13.927	74.000	30.934	PK

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:30
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)	



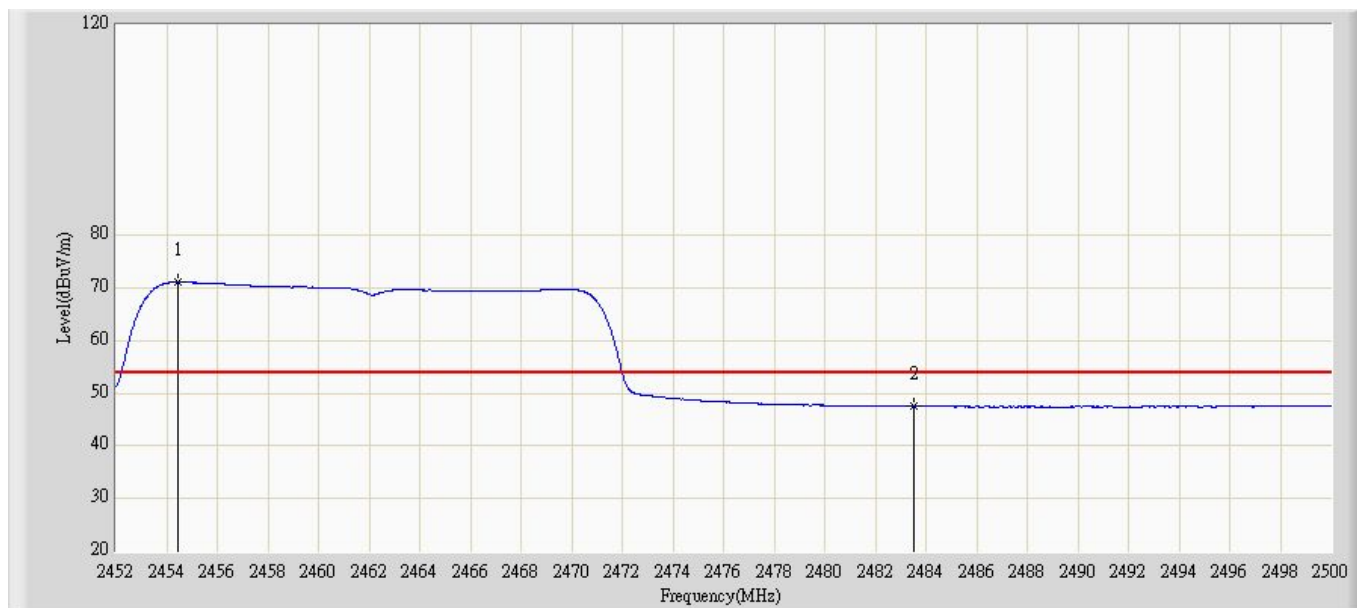
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.216	75.913	44.924	N/A	N/A	30.989	AV
2		2483.500	47.673	16.739	-6.327	54.000	30.934	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:31
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)	



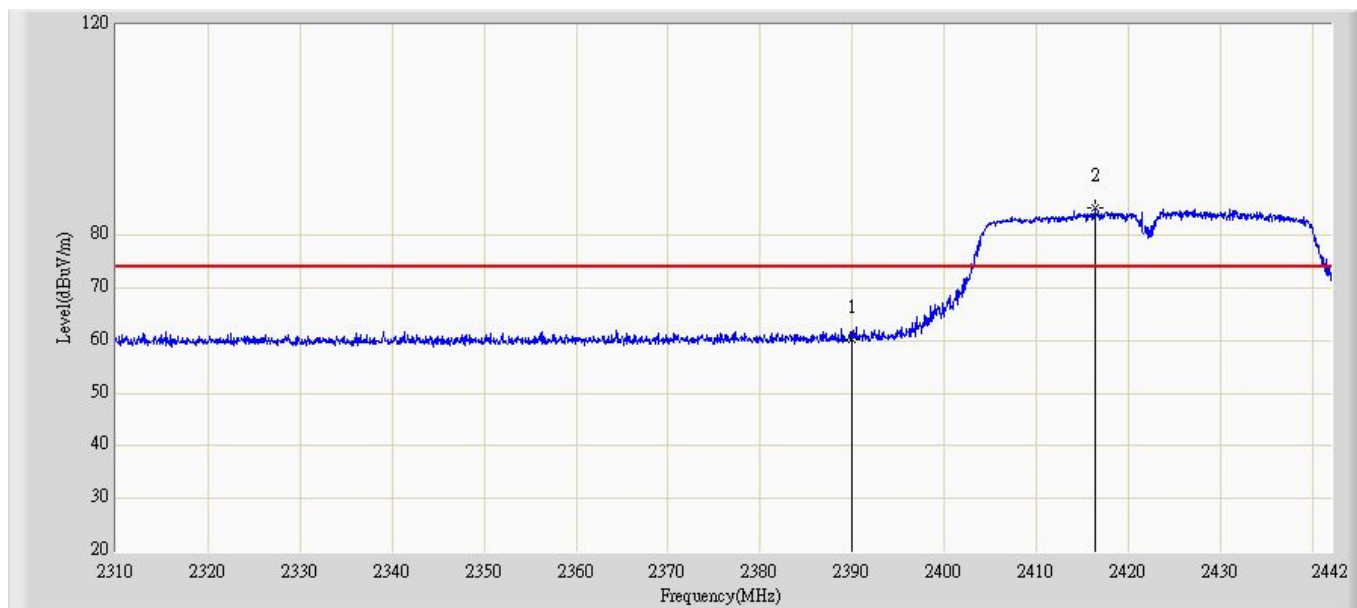
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2455.216	82.308	51.319	N/A	N/A	30.989	PK
2		2483.500	59.691	28.757	-14.309	74.000	30.934	PK

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:33
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 3: Transmit at channel 2462MHz By 802.11n(20MHz)	



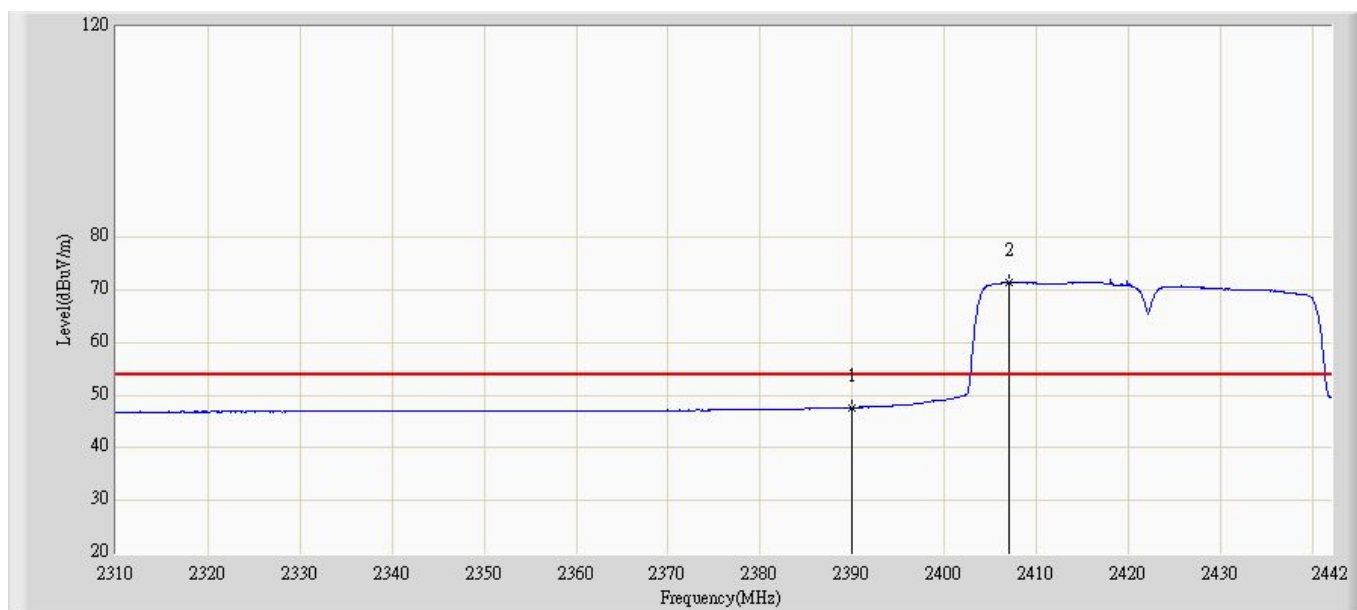
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.448	71.087	40.104	N/A	N/A	30.983	AV
2		2483.500	47.500	16.566	-6.500	54.000	30.934	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:34
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)	



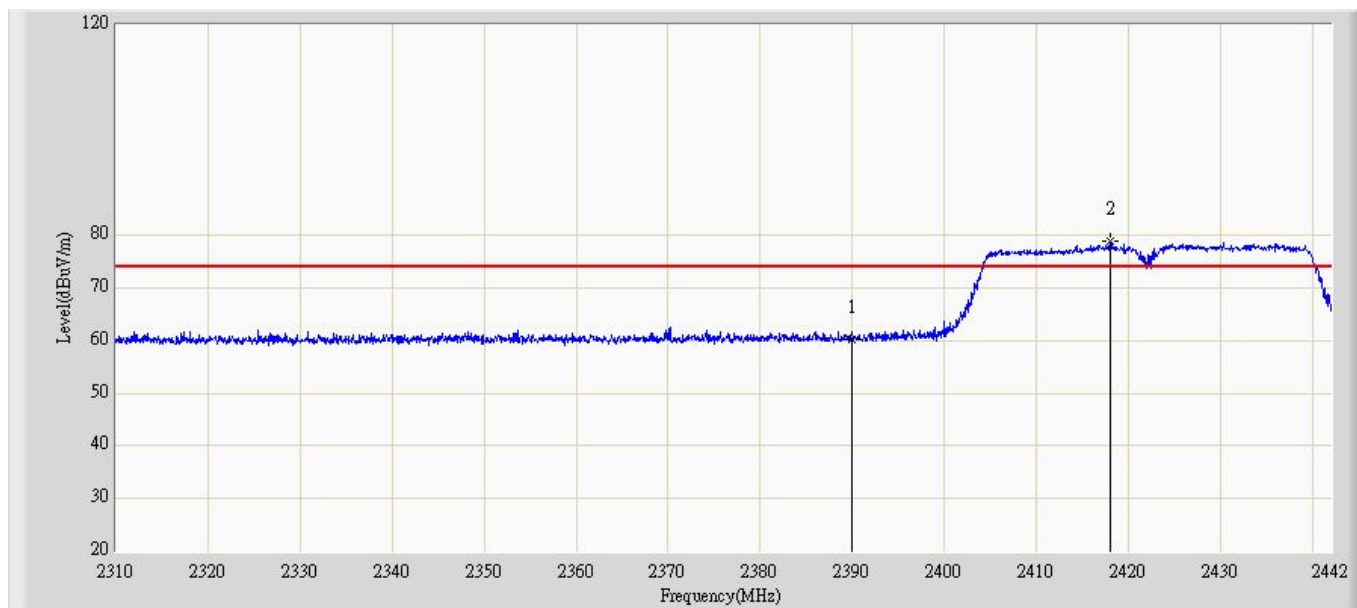
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.193	29.281	-13.807	74.000	30.911	PK
2	*	2416.392	85.201	54.342	N/A	N/A	30.859	PK

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:36
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)	



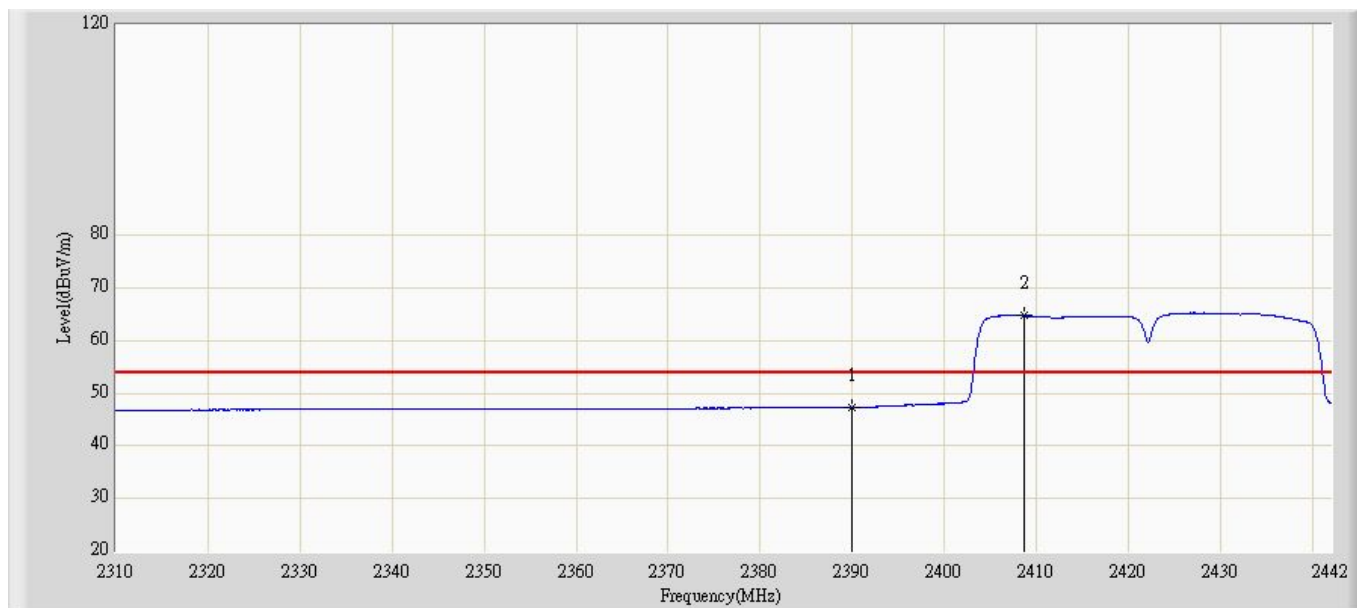
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.672	16.760	-6.328	54.000	30.911	AV
2	*	2407.020	71.414	40.528	N/A	N/A	30.886	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:37
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)	



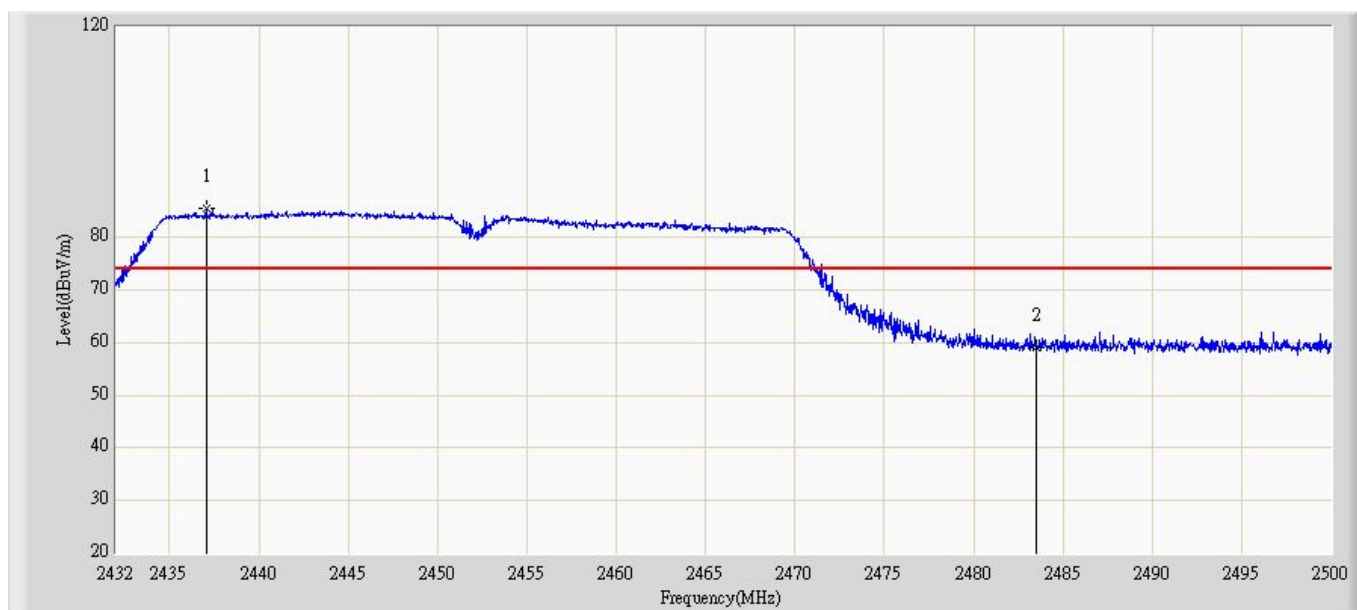
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	60.244	29.332	-13.756	74.000	30.911	PK
2	*	2417.976	78.840	47.986	N/A	N/A	30.854	PK

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:39
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2422MHz By 802.11n(40MHz)	



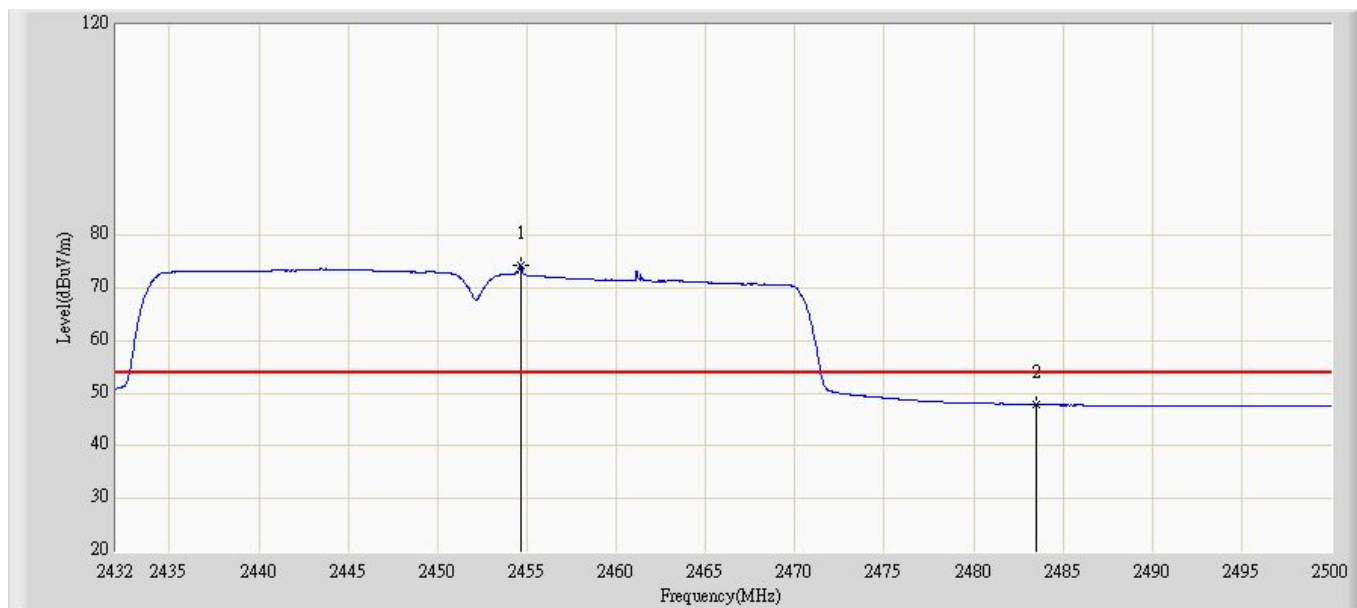
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2390.000	47.372	16.460	-6.628	54.000	30.911	AV
2	*	2408.670	64.764	33.882	N/A	N/A	30.882	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:40
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)	



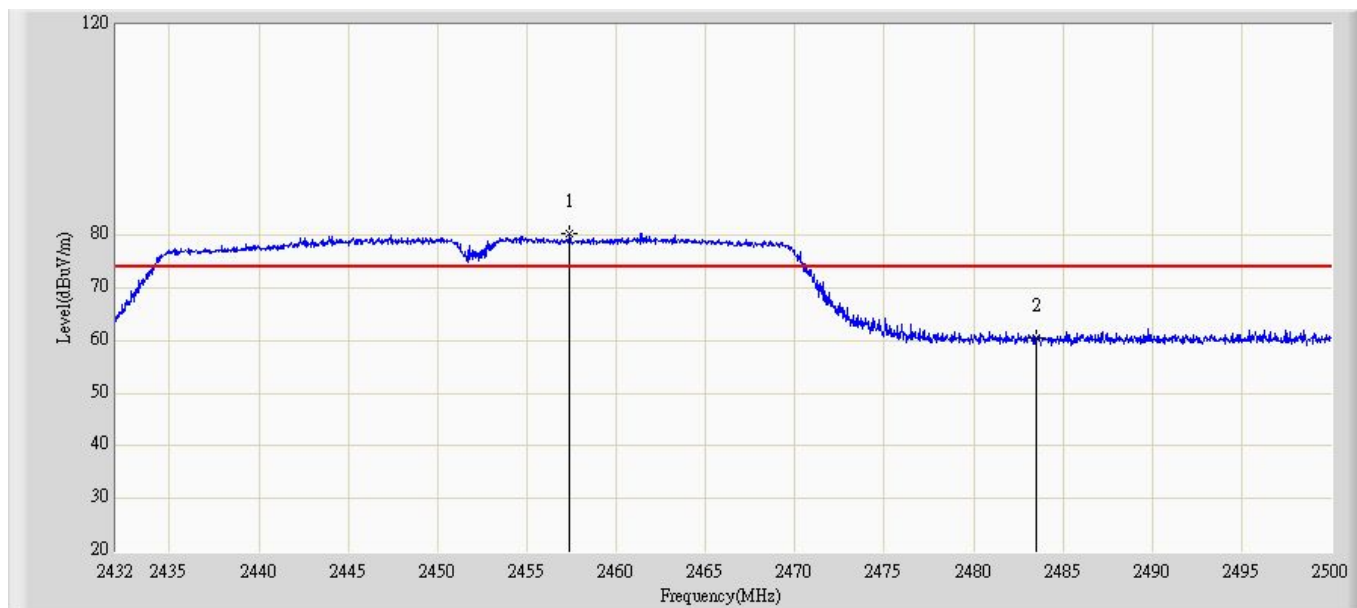
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2437.066	85.494	54.625	N/A	N/A	30.869	PK
2		2483.500	58.997	28.063	-15.003	74.000	30.934	PK

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:42
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)	



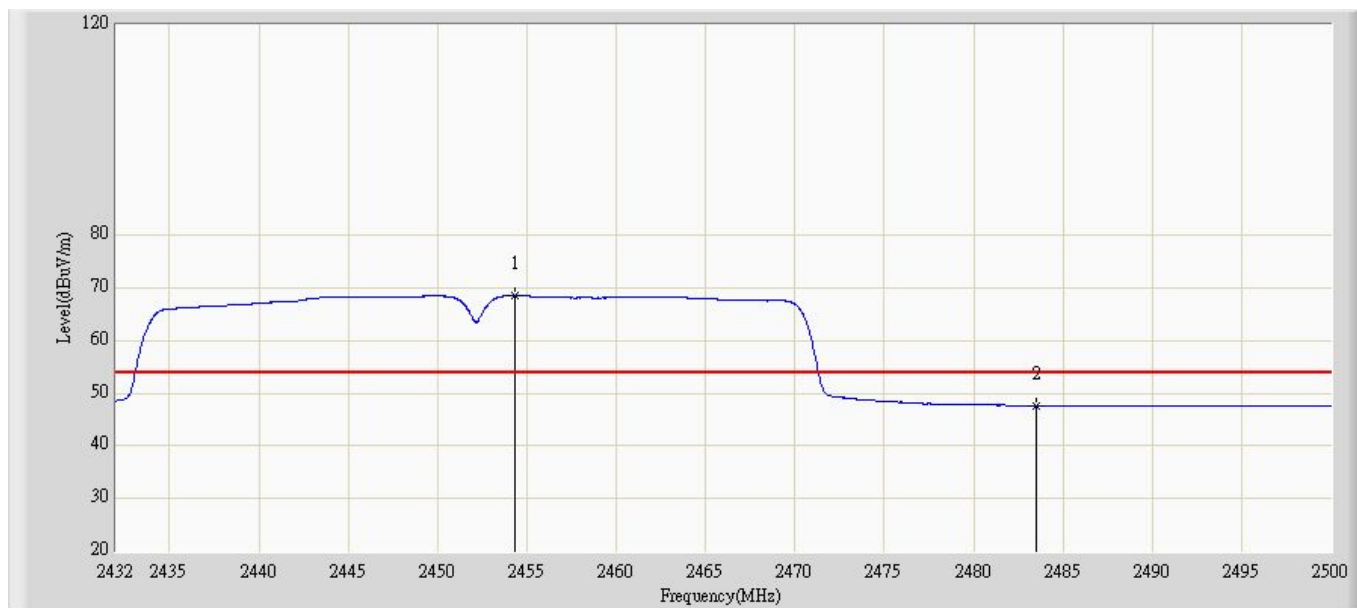
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.678	74.242	43.257	N/A	N/A	30.985	AV
2		2483.500	47.835	16.901	-6.165	54.000	30.934	AV

Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:43
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2457.398	80.248	49.242	N/A	N/A	31.006	PK
2		2483.500	60.378	29.444	-13.622	74.000	30.934	PK

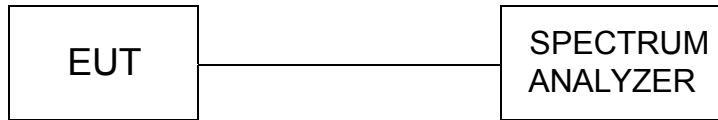
Engineer: Jame	
Site: SITE #3	Time: 2012/10/15- 10:45
Limit: FCC Part15.209 RE(3m)	Margin: 0
Probe: BBHA9120D_305(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: AC 120V/60Hz
Note: Mode 4: Transmit at channel 2452MHz By 802.11n(40MHz)	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1	*	2454.304	68.532	37.550	N/A	N/A	30.982	AV
2		2483.500	47.673	16.739	-6.327	54.000	30.934	AV

4.6. Power Spectral Density Measurement

TEST CONFIGURATION



TEST PROCEDURE

The EUT was tested according to KDB558074 D01 v03r01 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 3 kHz, VBW $\geq$ 10KHz, SPAN to 1.5 times greater than the EBW,.

LIMIT

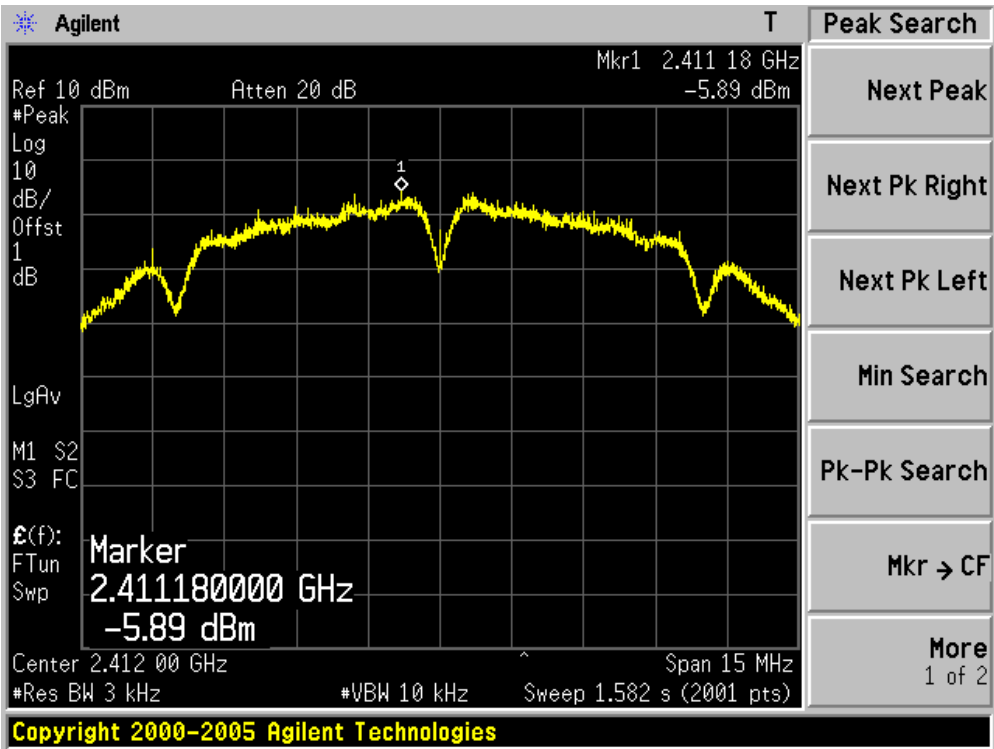
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST RESULTS

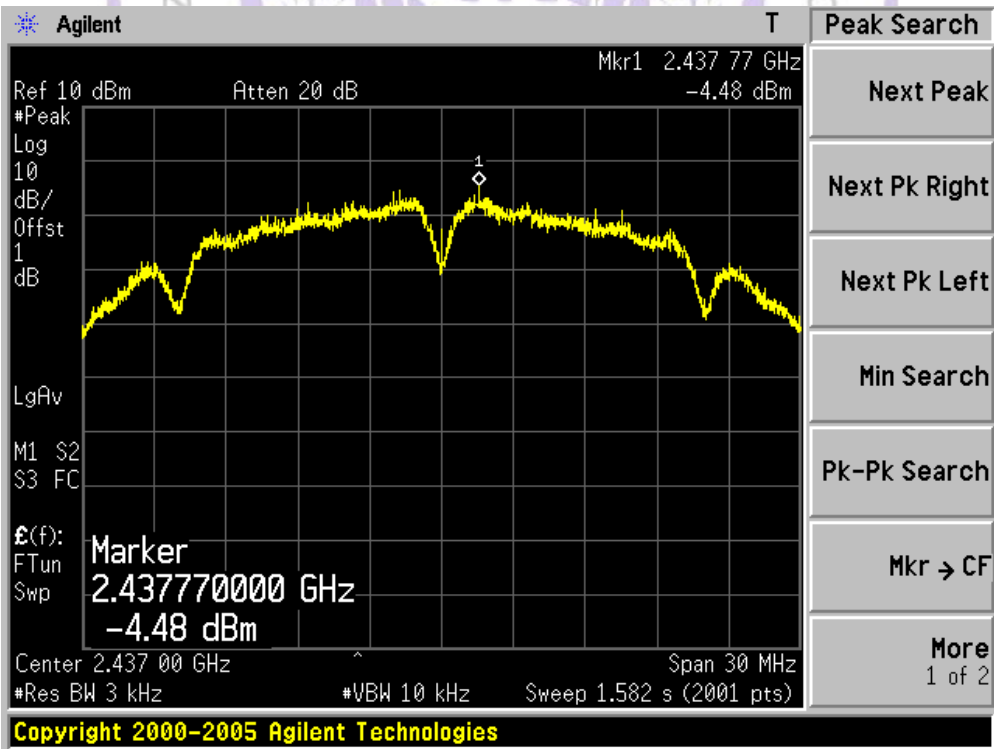
Modulation Mode	Channel	Channel Frequency (MHz)	PSD (dBm/3KHz)	Maximum limit (dBm/3KHz)	PASS / FAIL
802.11b	1	2412	-5.89	8	PASS
	6	2437	-4.48	8	PASS
	11	2462	-6.62	8	PASS
802.11g	1	2412	-10.83	8	PASS
	6	2437	-11.05	8	PASS
	11	2462	-10.54	8	PASS
802.11n HT20	1	2412	-12.30	8	PASS
	6	2437	-12.40	8	PASS
	11	2462	-12.08	8	PASS
802.11n HT40	3	2422	-13.19	8	PASS
	6	2437	-12.90	8	PASS
	9	2452	-13.10	8	PASS

For 802.11b Mode:

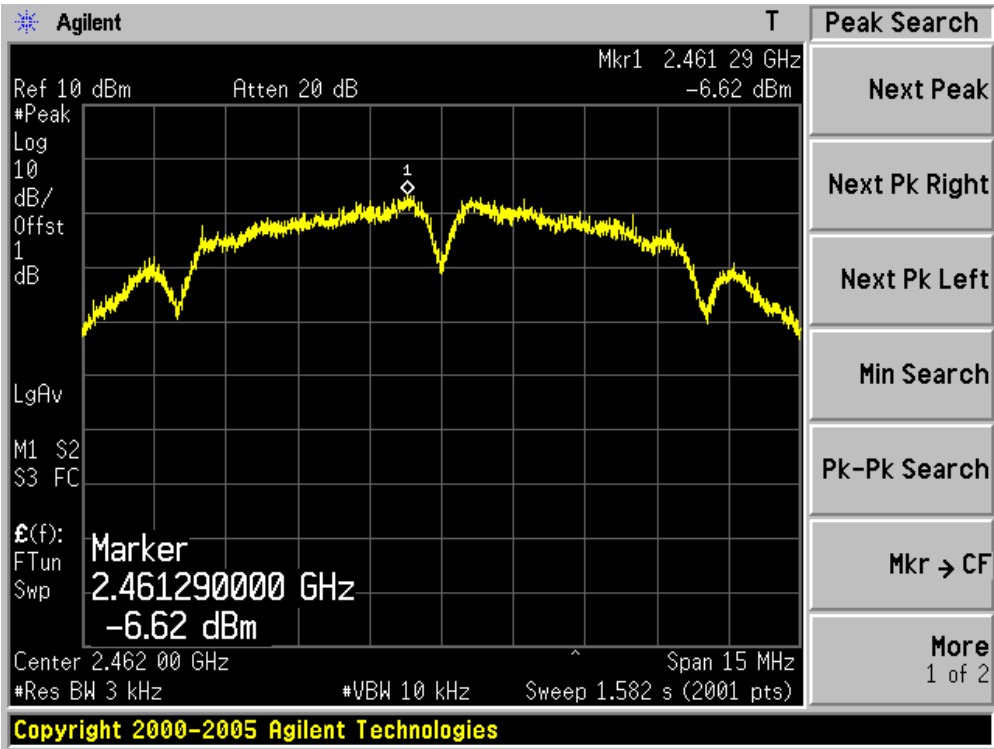
CH1



CH6

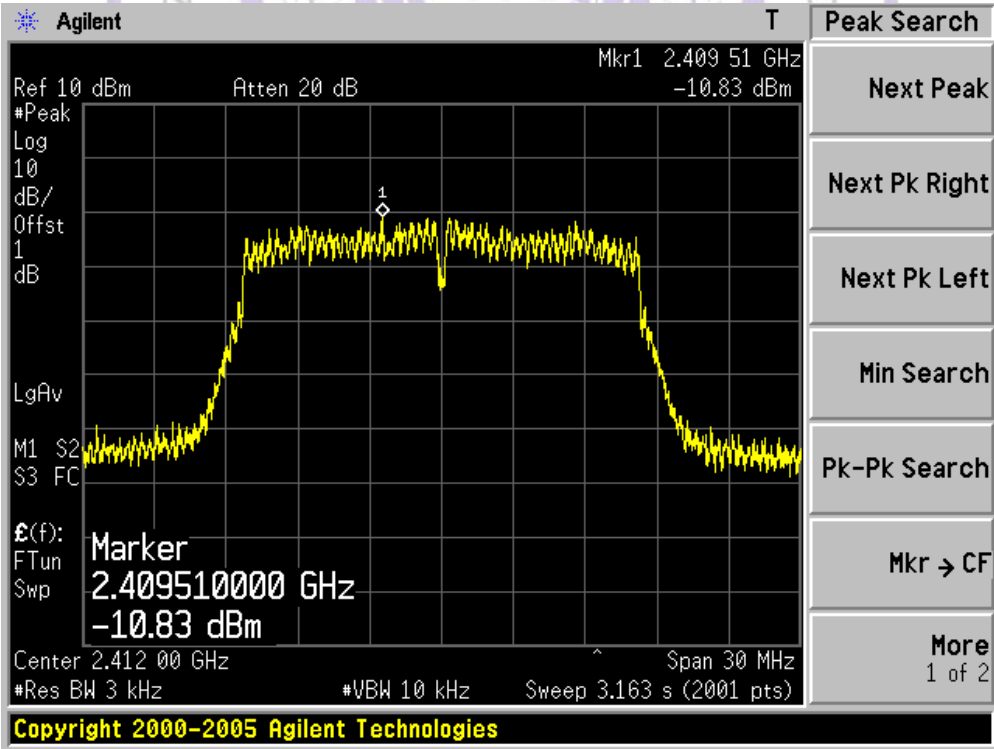


CH11

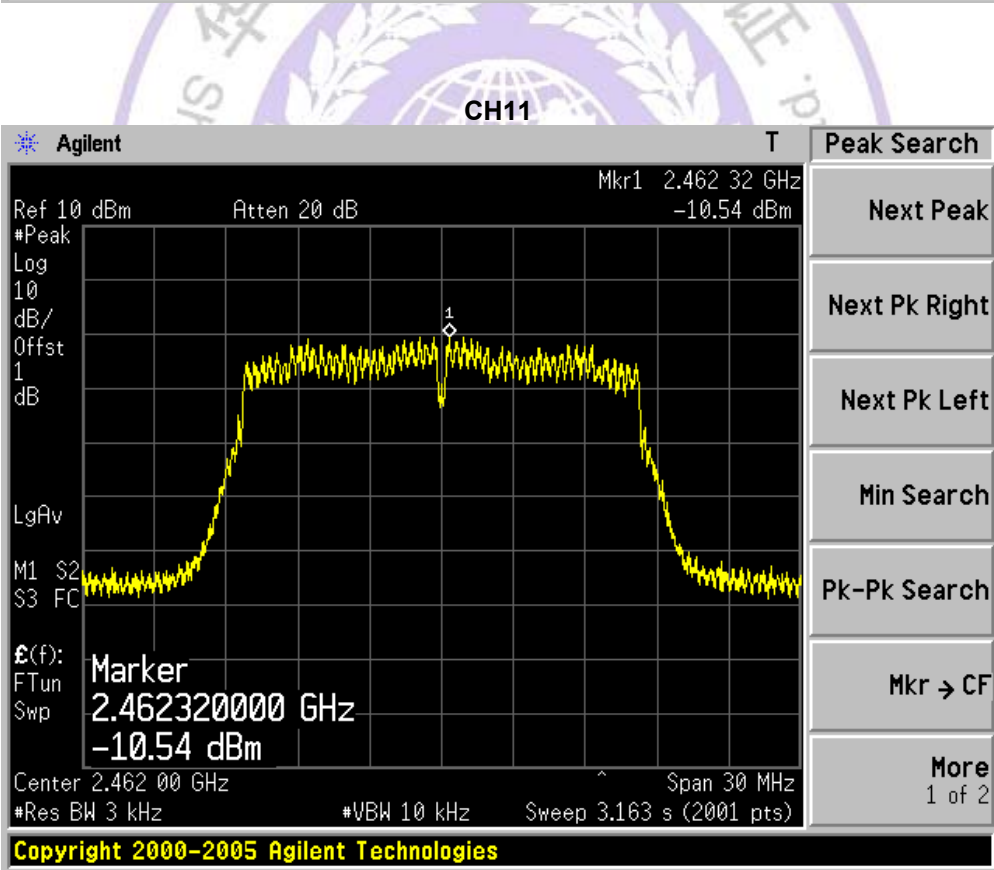
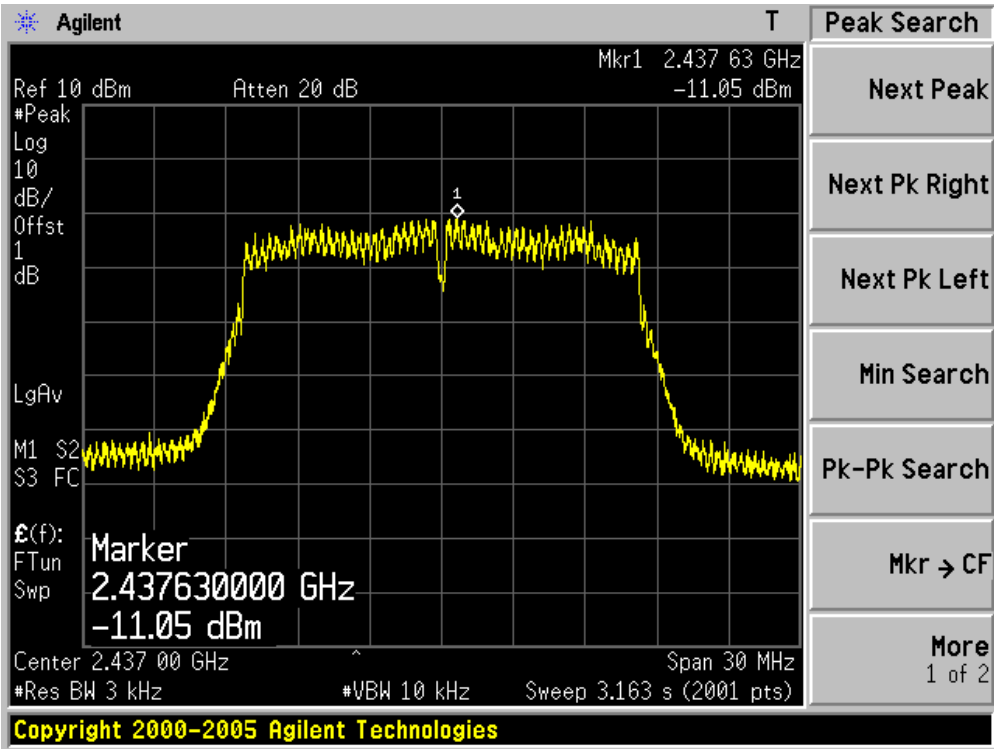


For 802.11g Mode:

CH1

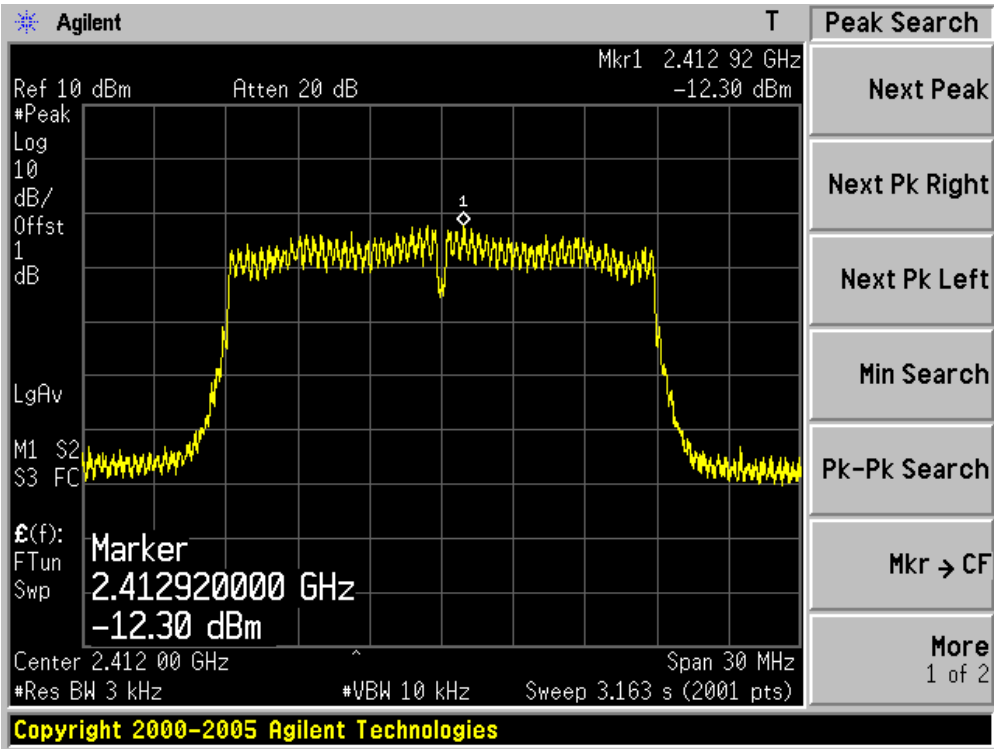


CH6

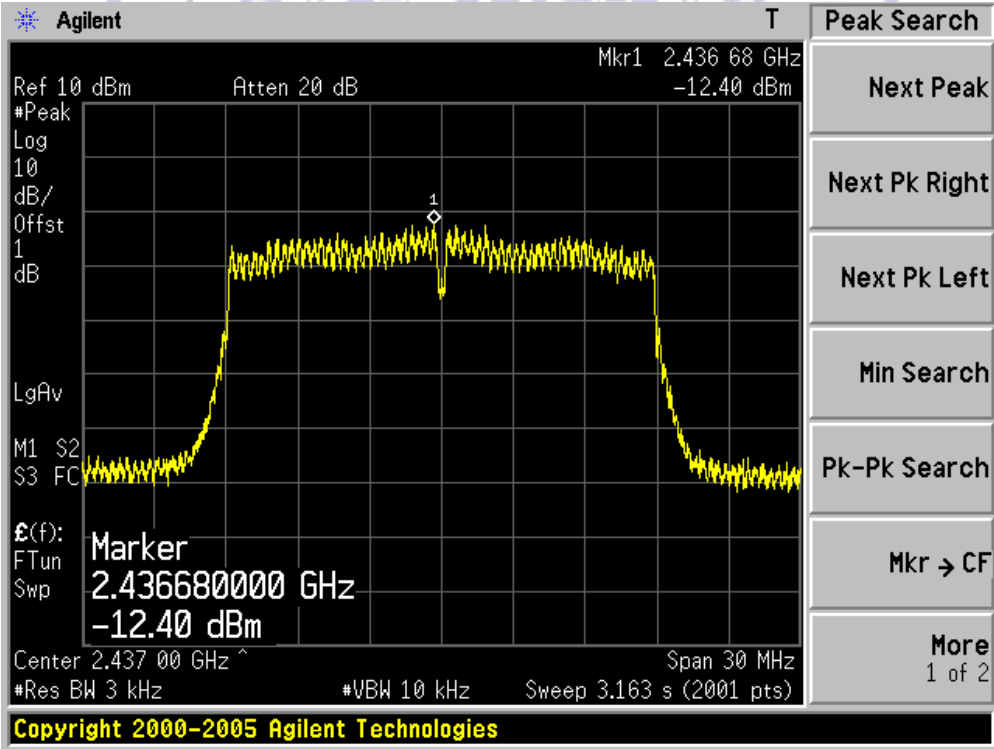


For 802.11n (20MHz) Mode:

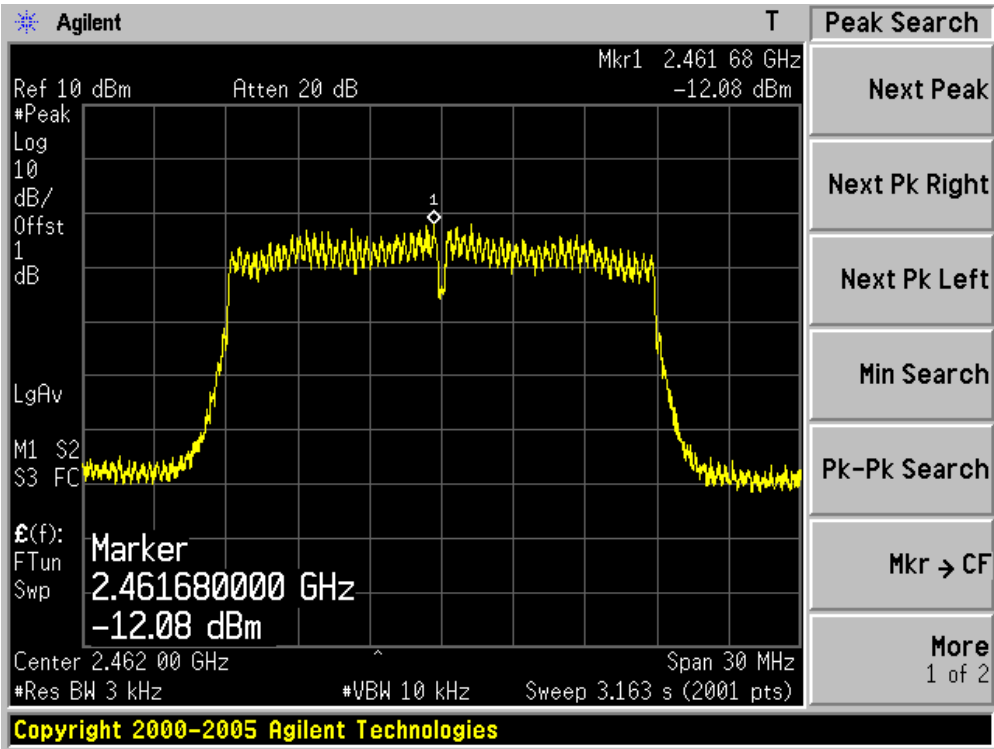
CH1



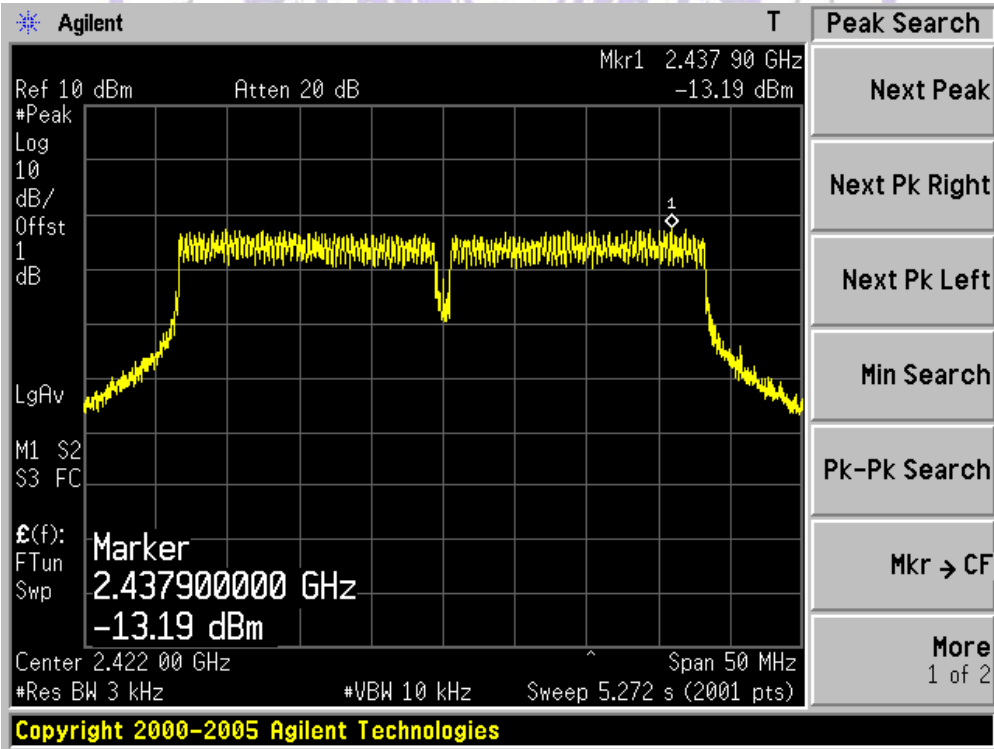
CH6



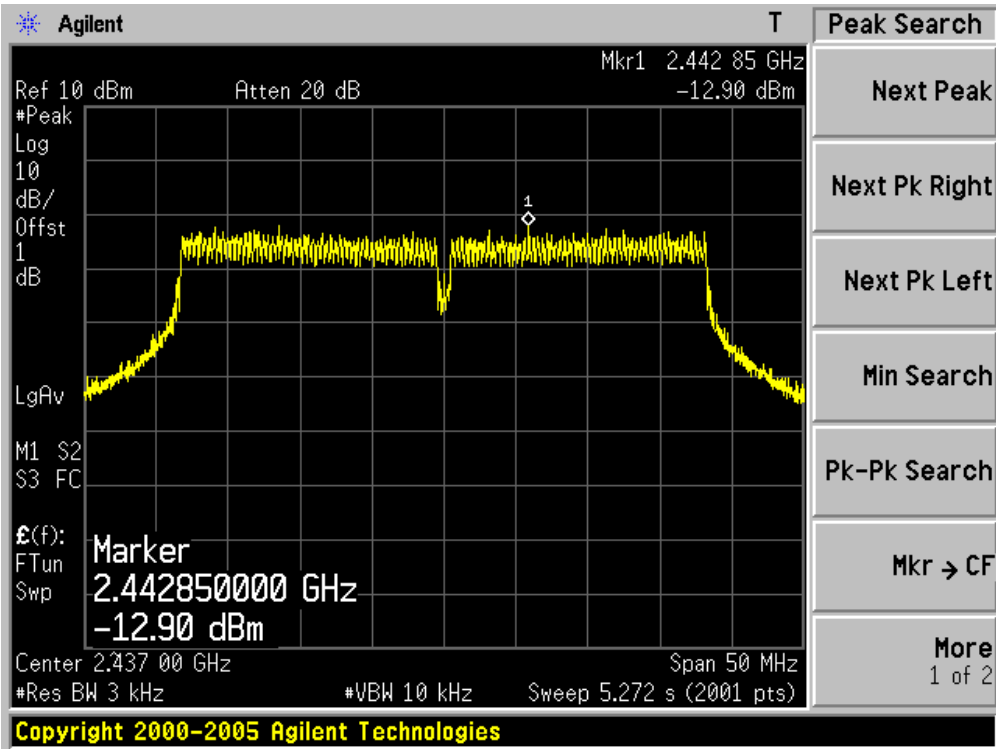
CH11



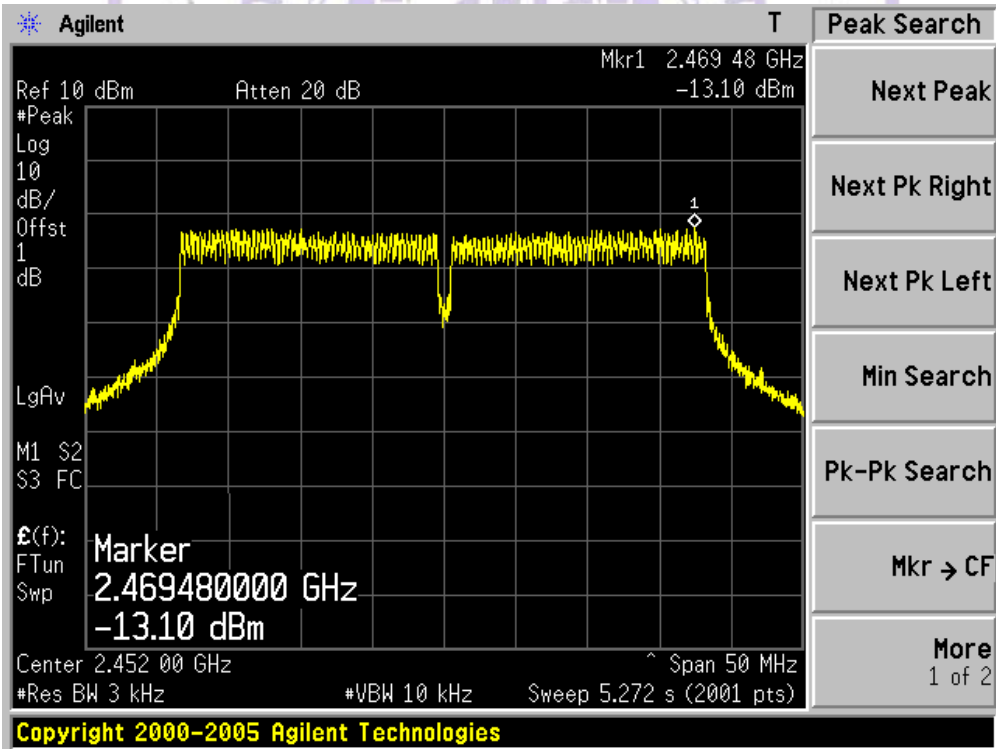
For 802.11n (40MHz) Mode:



CH6

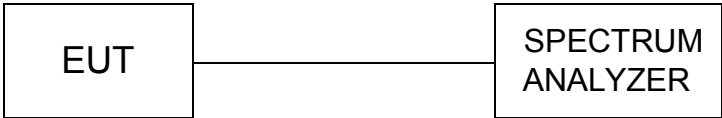


CH9



4.7. Spurious RF Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

The EUT was tested according to KDB558074 D01 v03r01 for compliance to FCC 47CFR 15.247 requirements.

The Spurious RF conducted emissions compliance of RF radiated emission should be measured by following the guidance in ANSI C63.10-2009 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=100kHz and VBM= 300KHz to measure the peak field strength , and measure frequency range from 30MHz to 26.5GHz.

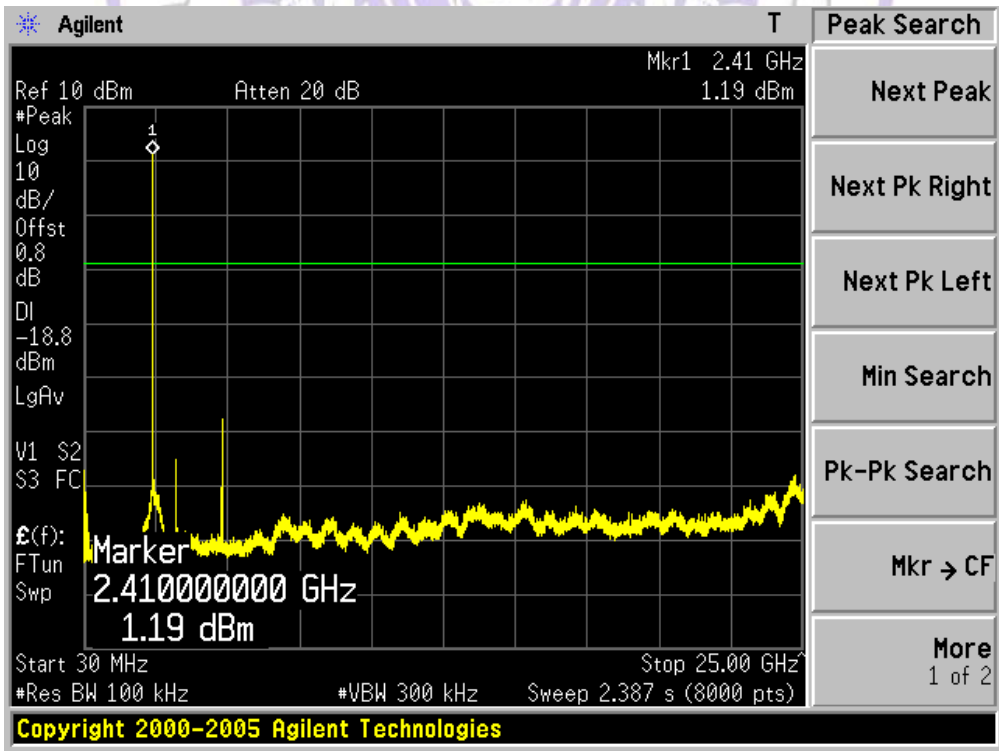
LIMIT

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.

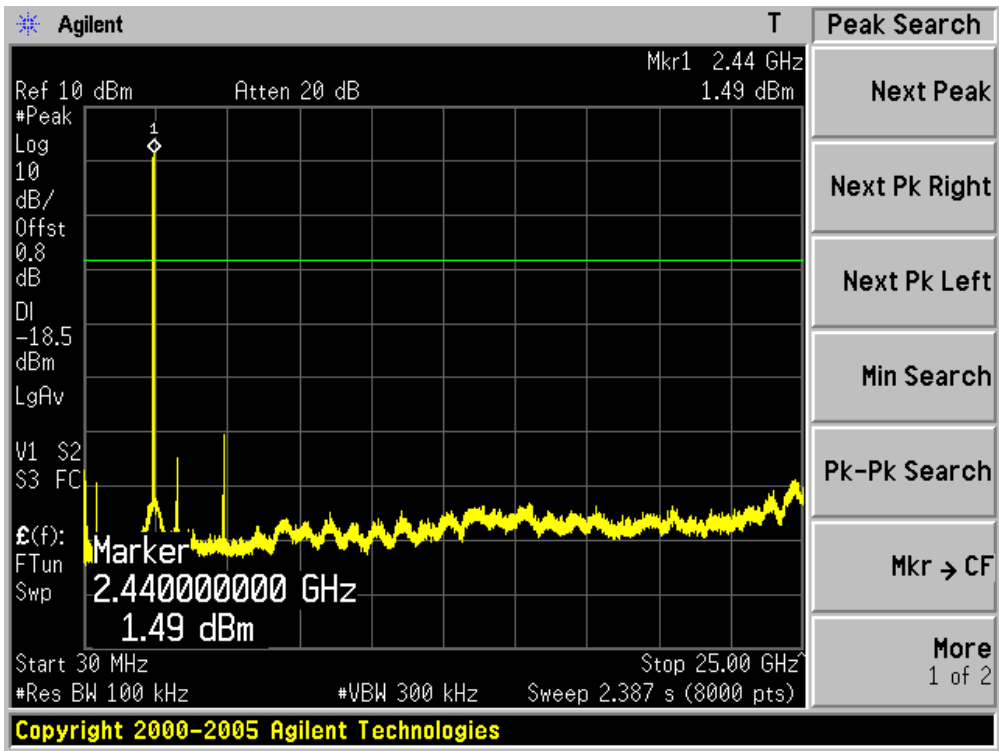
TEST RESULTS

Photos of Spurious RF Conducted Emission Measurement

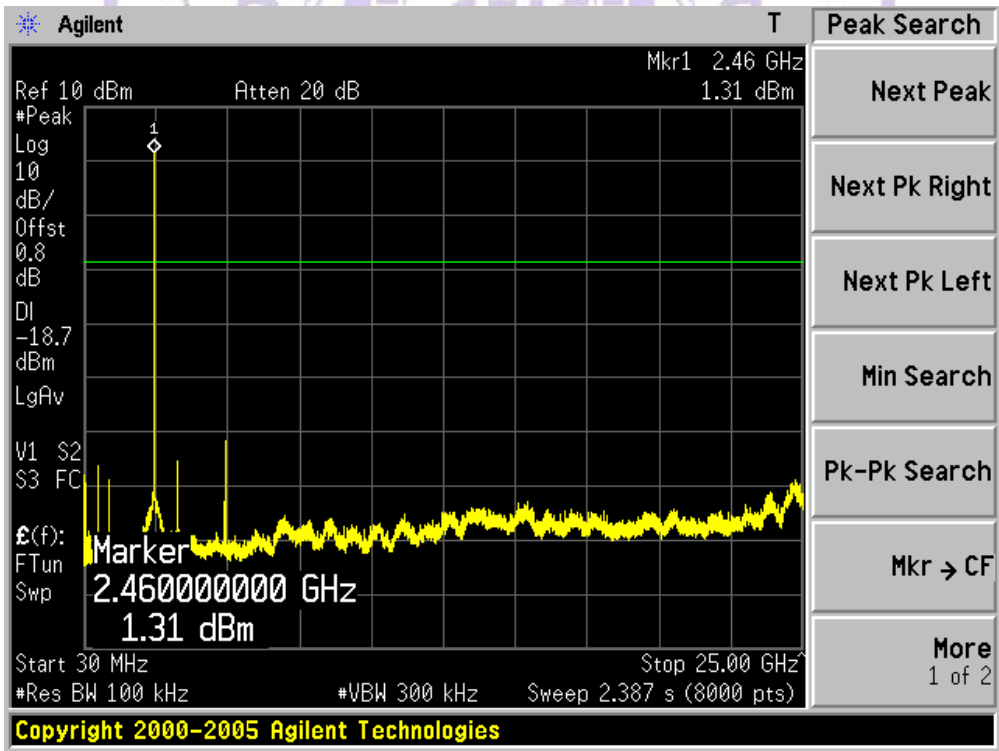
For 802.11b Mode:



CH6

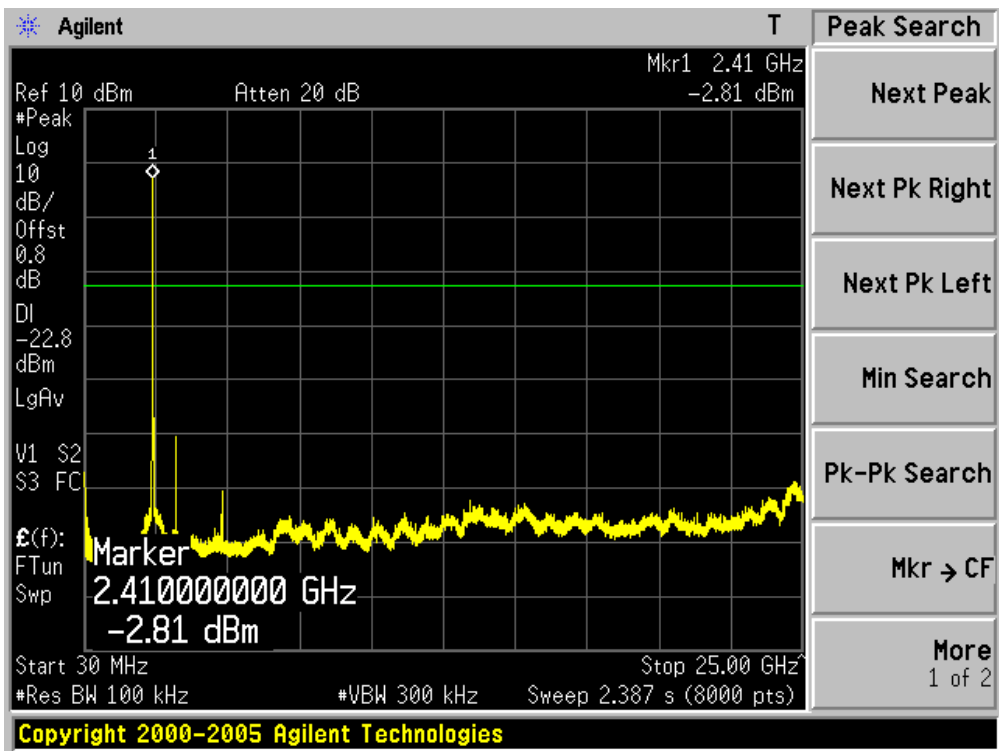


CH11

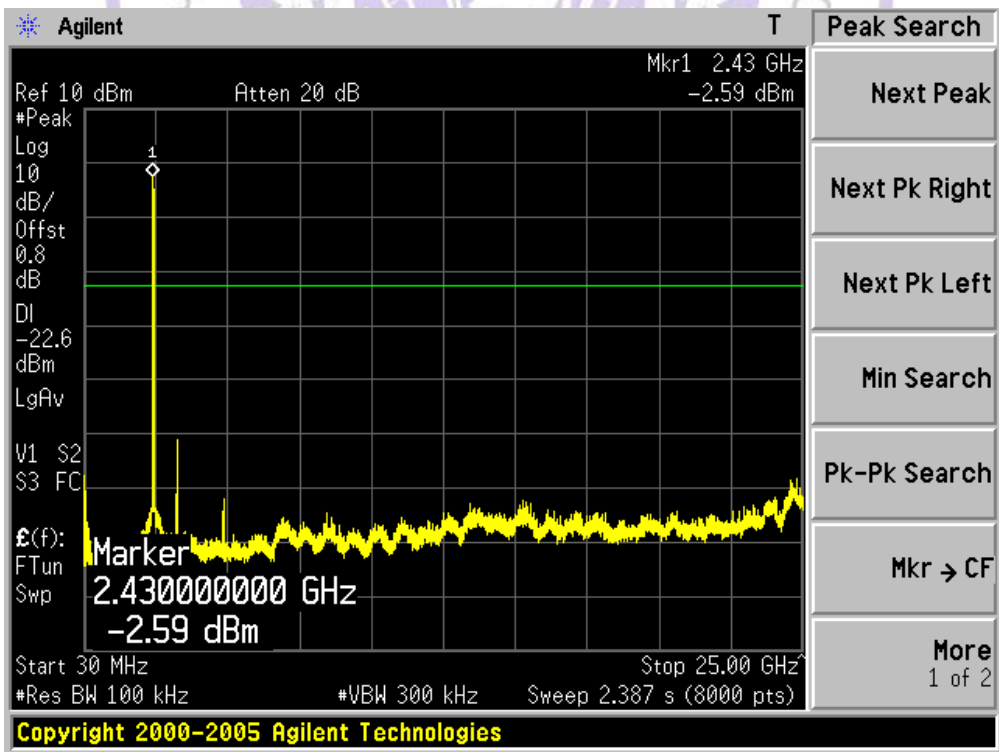


For 802.11g Mode:

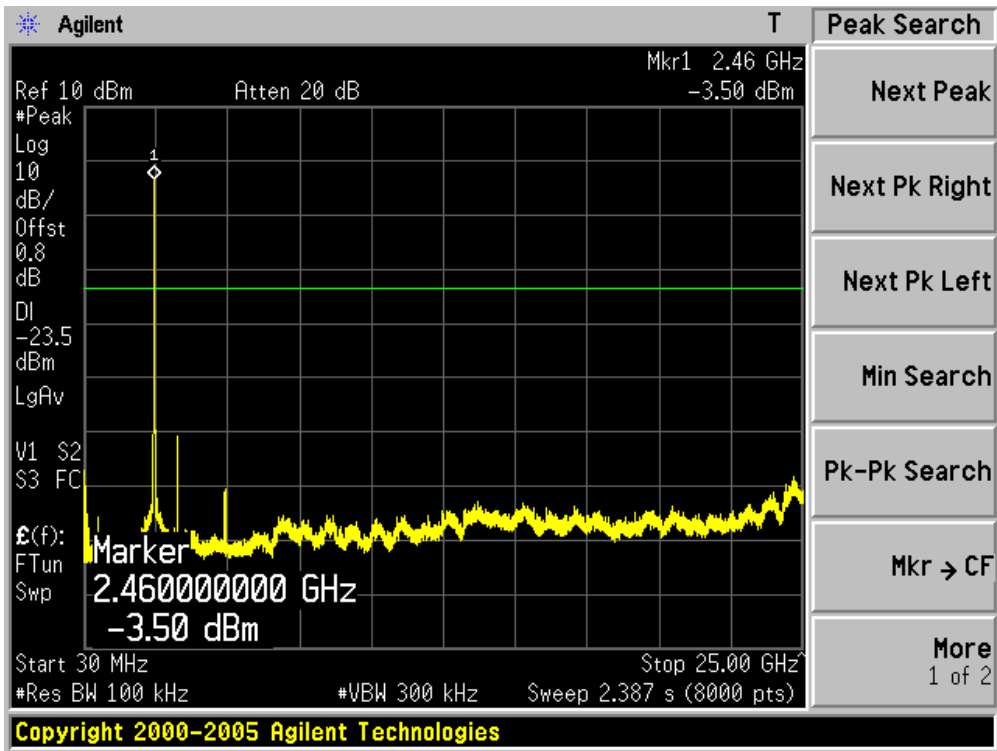
CH1



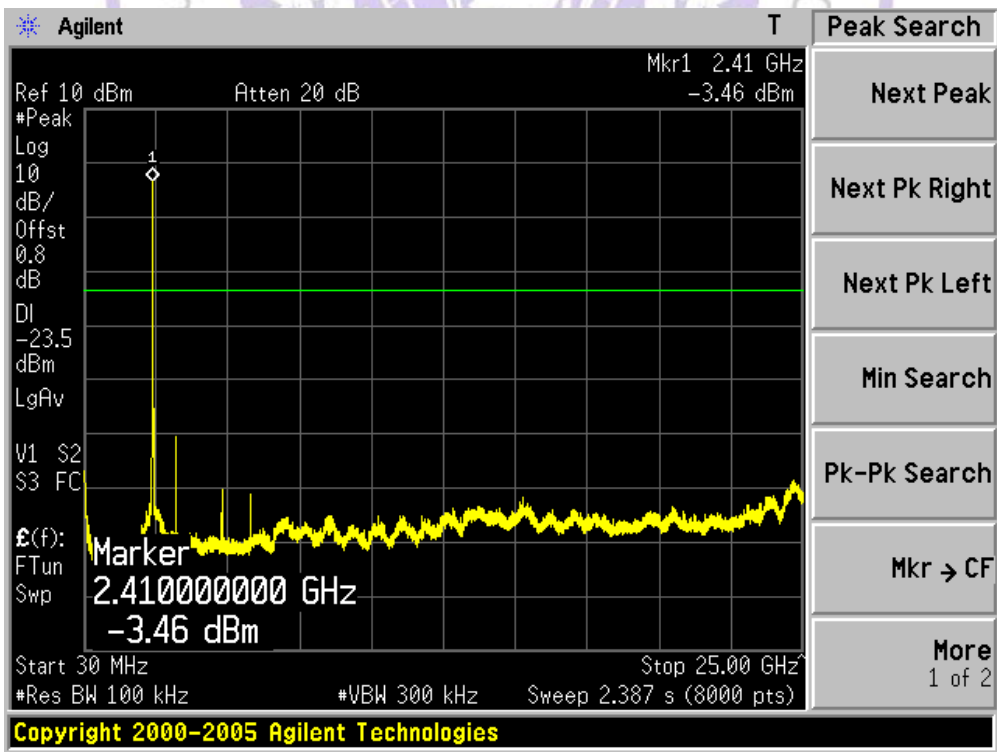
CH6



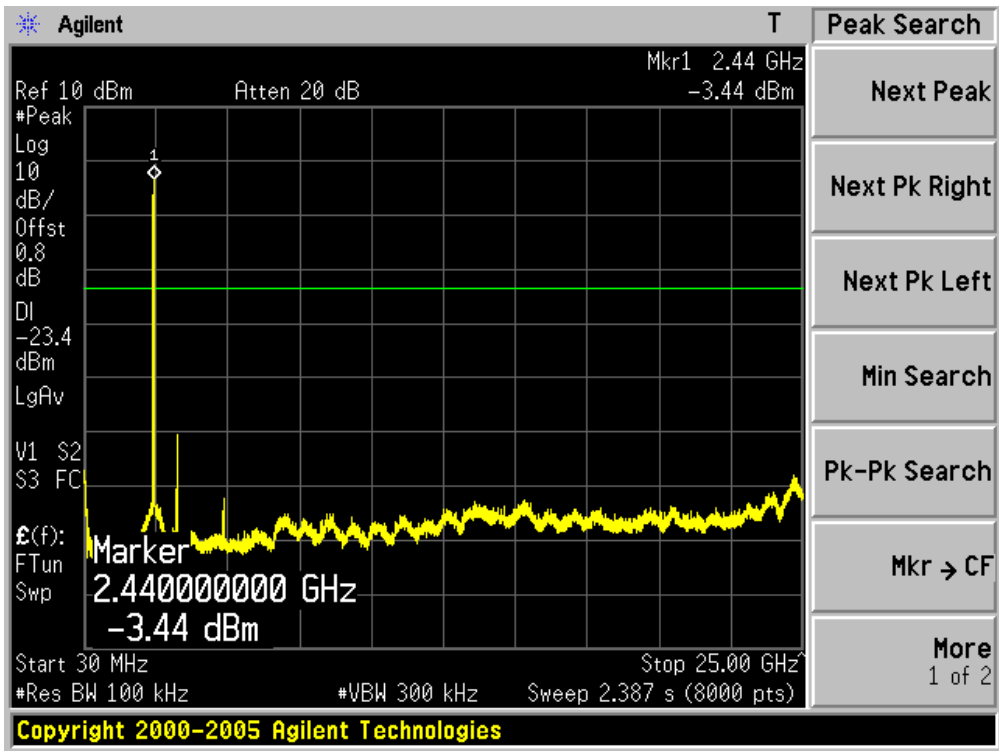
CH11



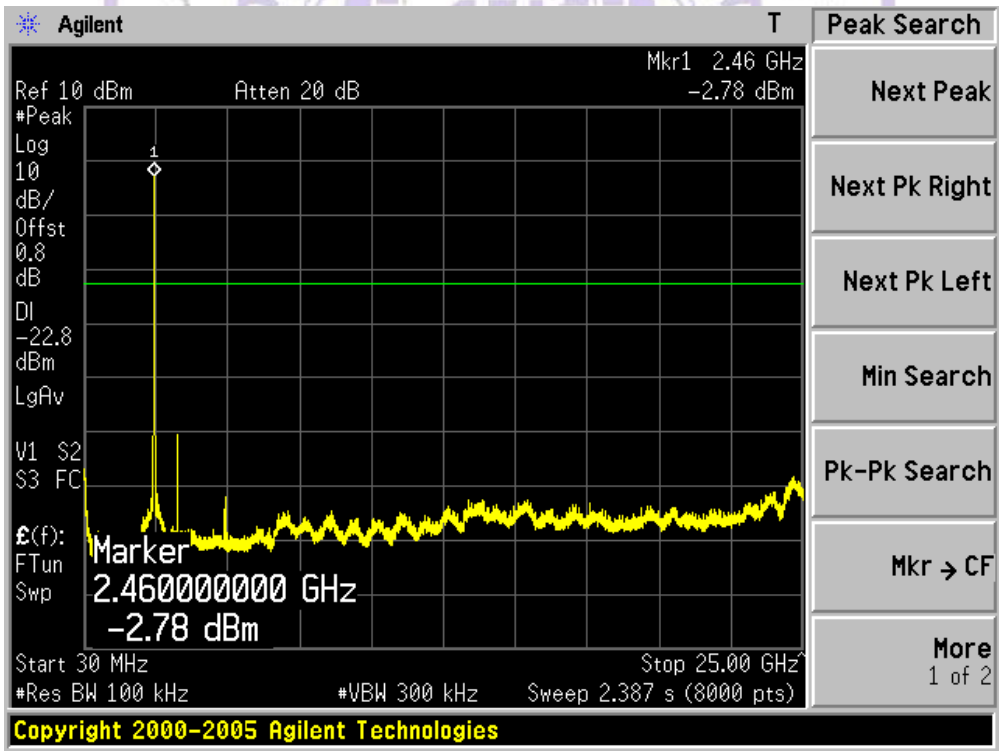
For 802.11n (20MHz) Mode:



CH6

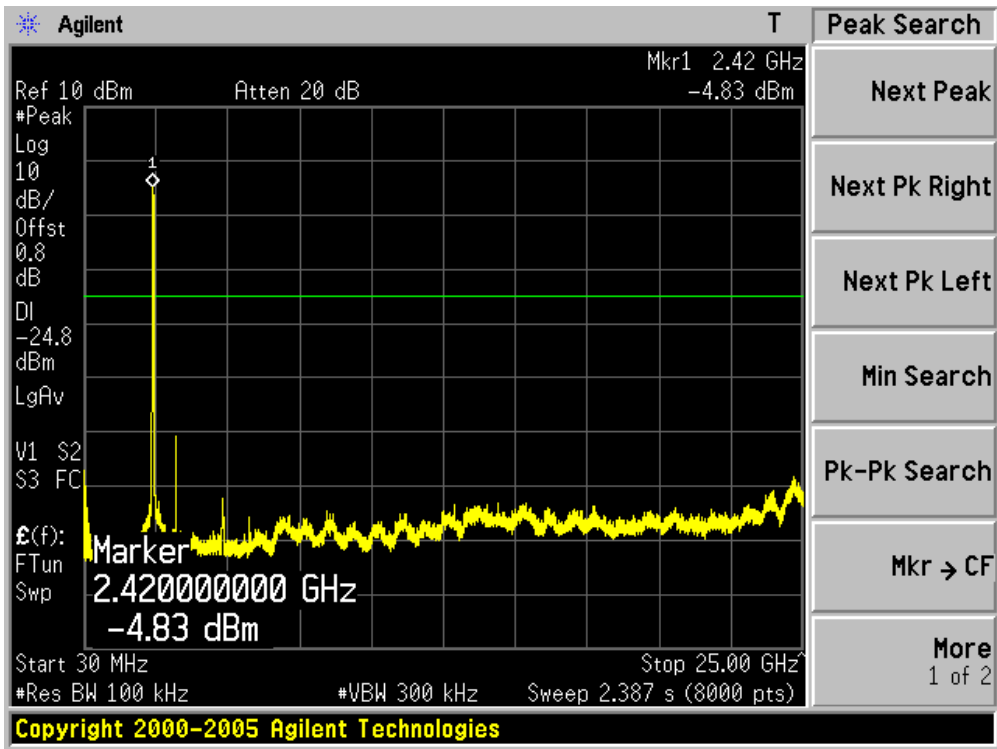


CH11

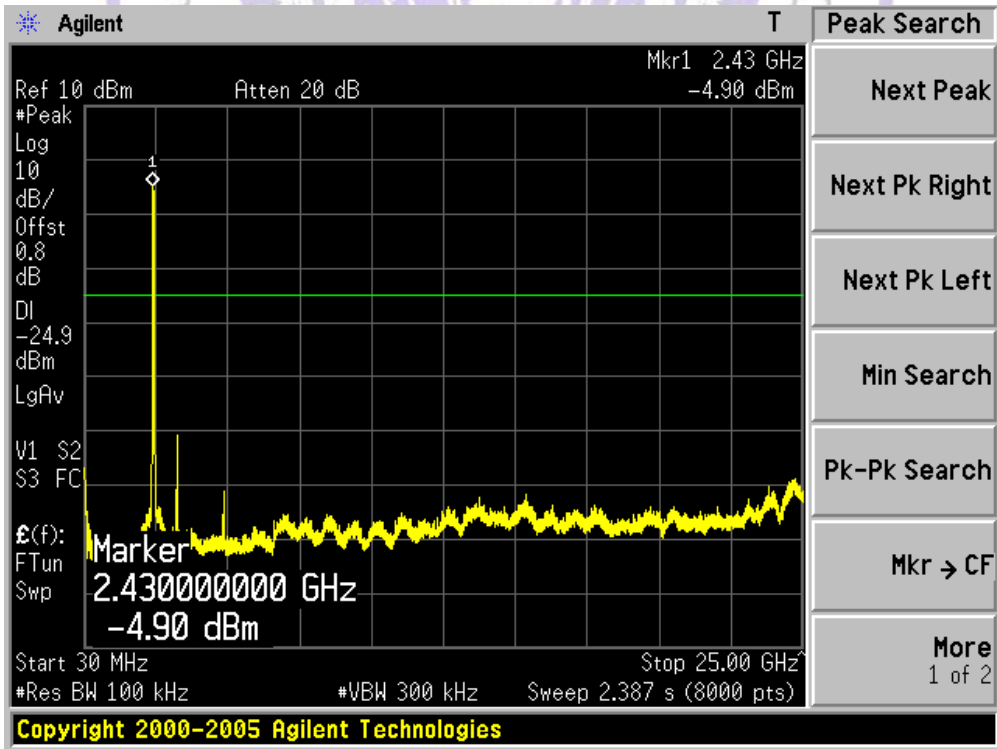


For 802.11n (40MHz) Mode:

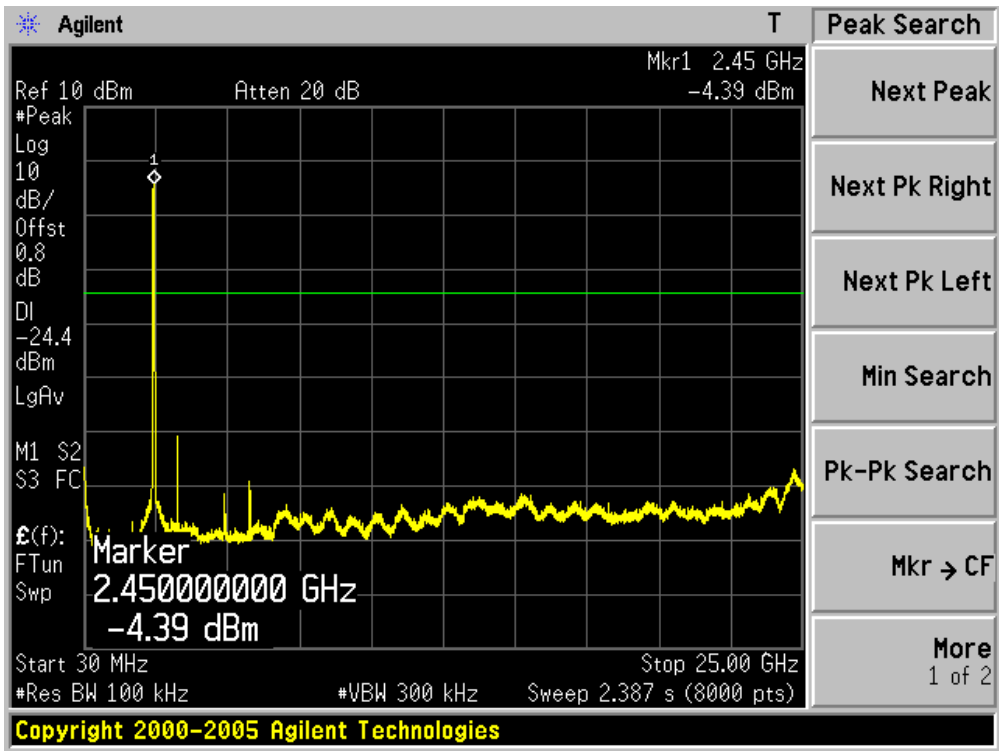
CH3



CH6

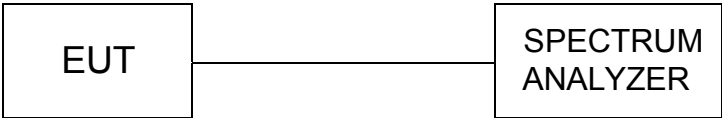


CH9



4.8. Operation Frequency Range of 20dB Bandwidth

TEST CONFIGURATION



TEST PROCEDURE

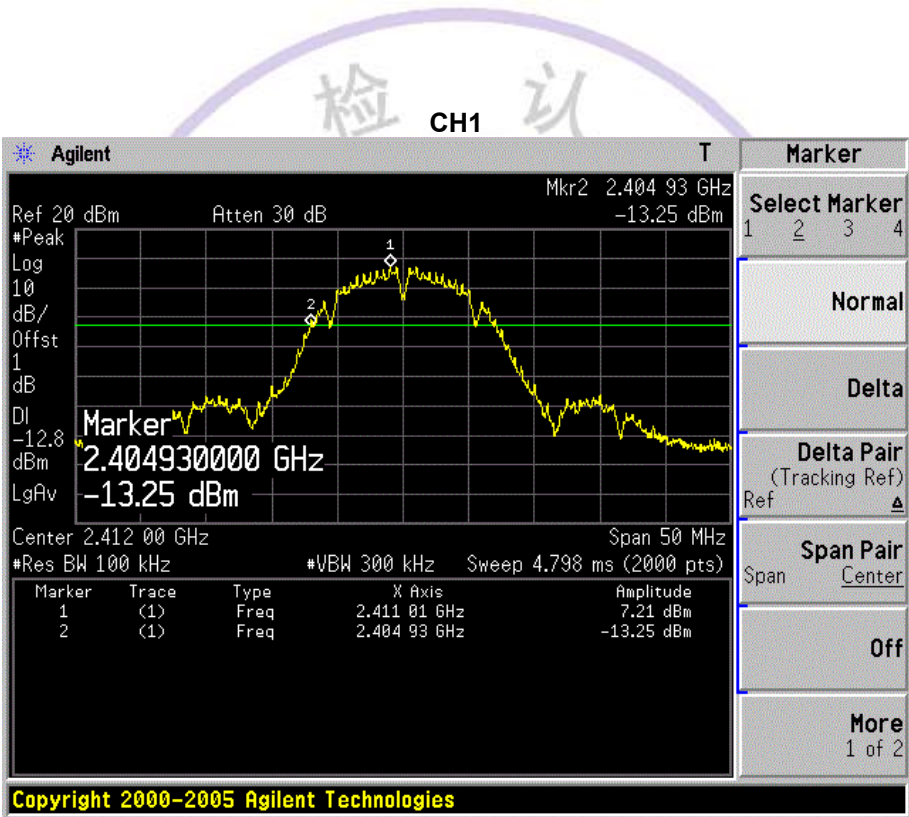
The EUT was tested according to KDB558074 D01 v03r01 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Span greater than RBW.

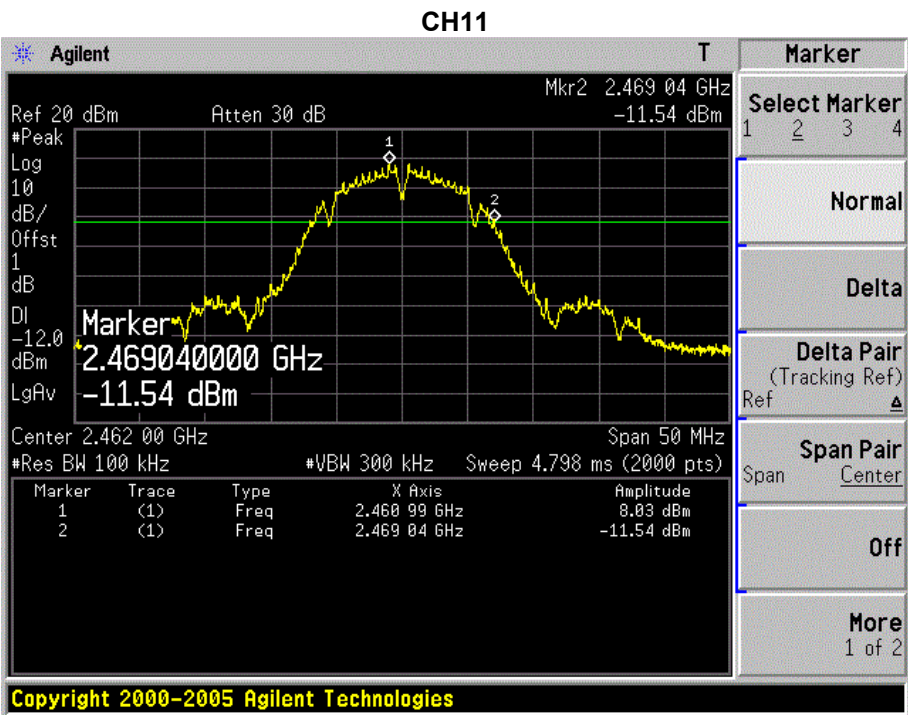
LIMIT

20 dB bandwidth of the emission is contained within the operation frequency band.

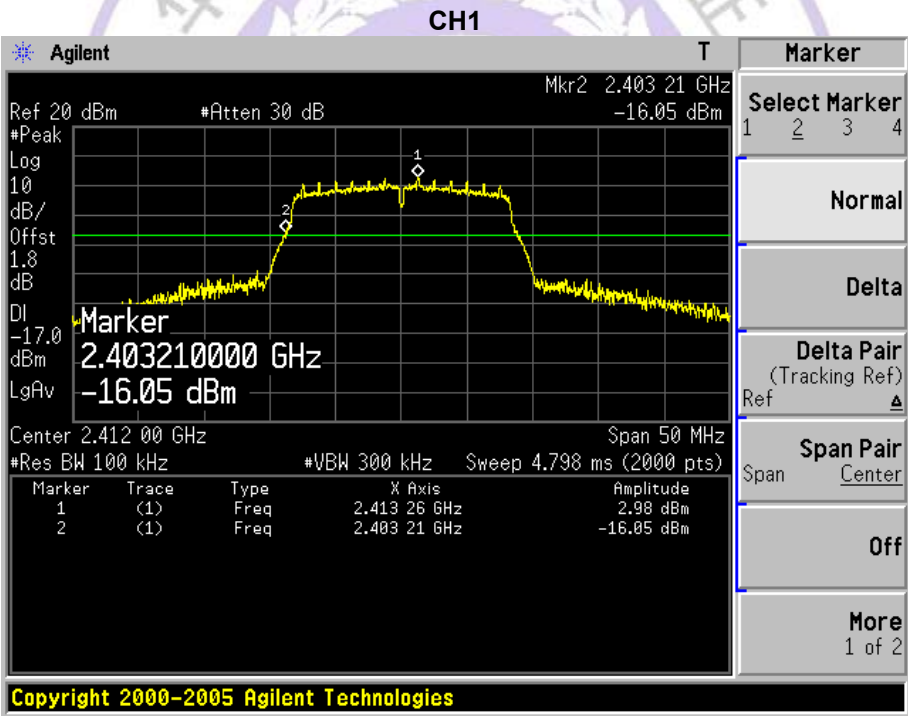
TEST RESULT

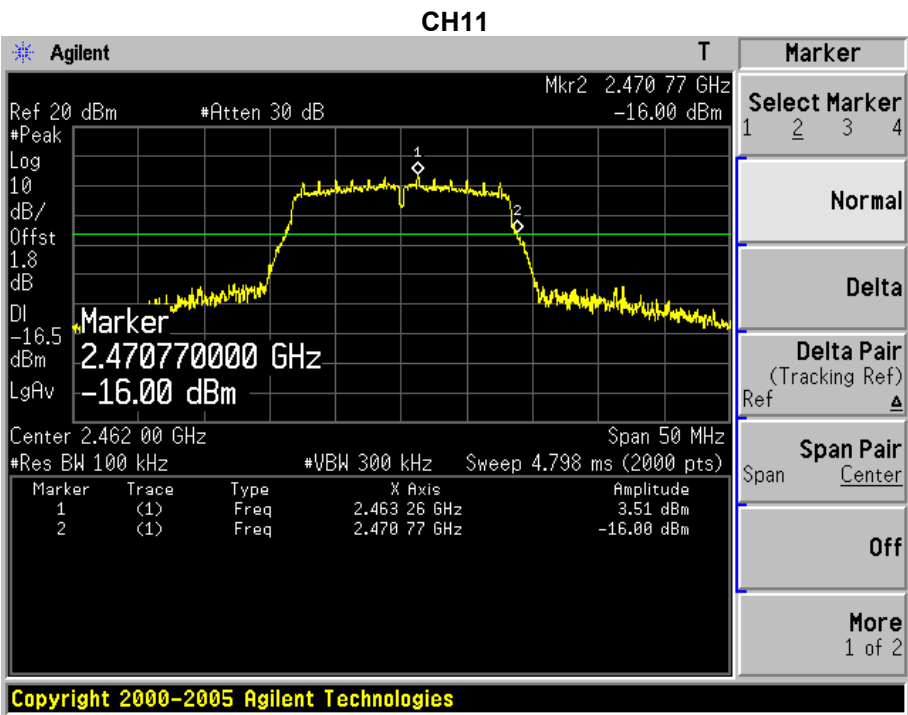
For 802.11b Mode:



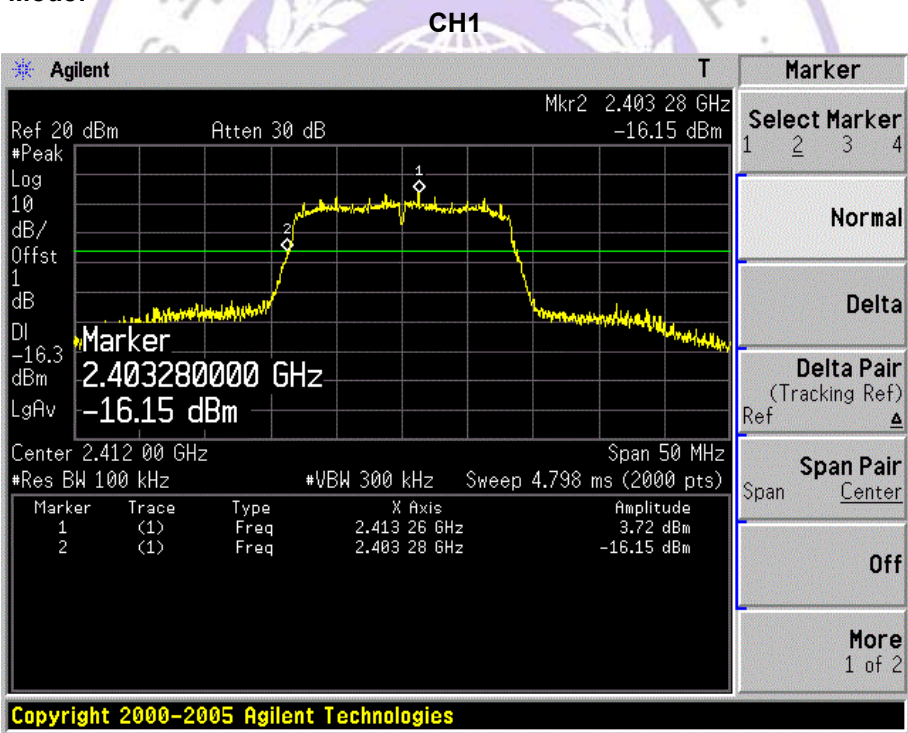


For 802.11g Mode:

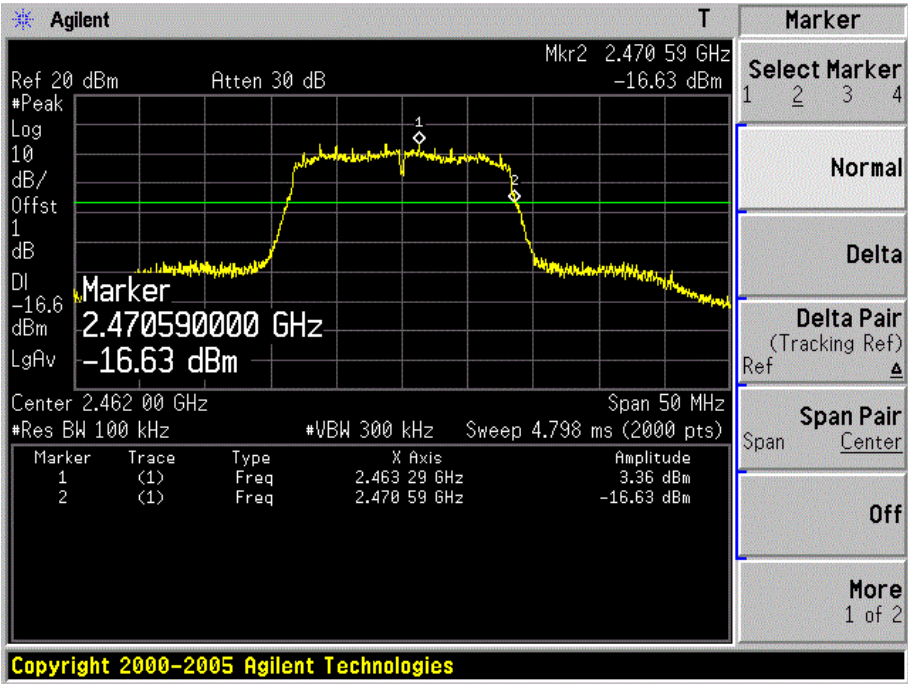




For 802.11n (20MHz) Mode:

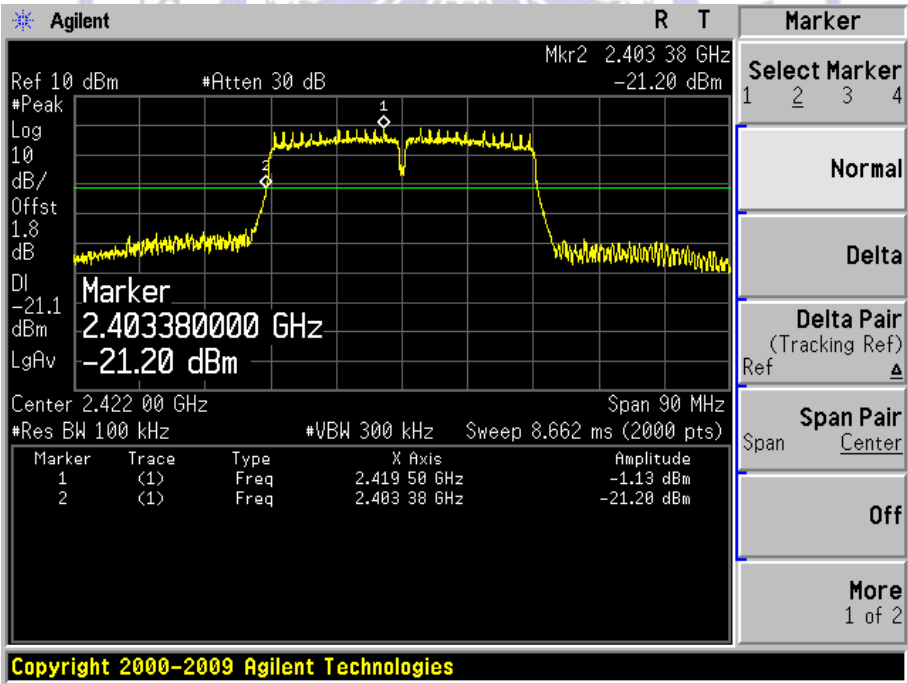


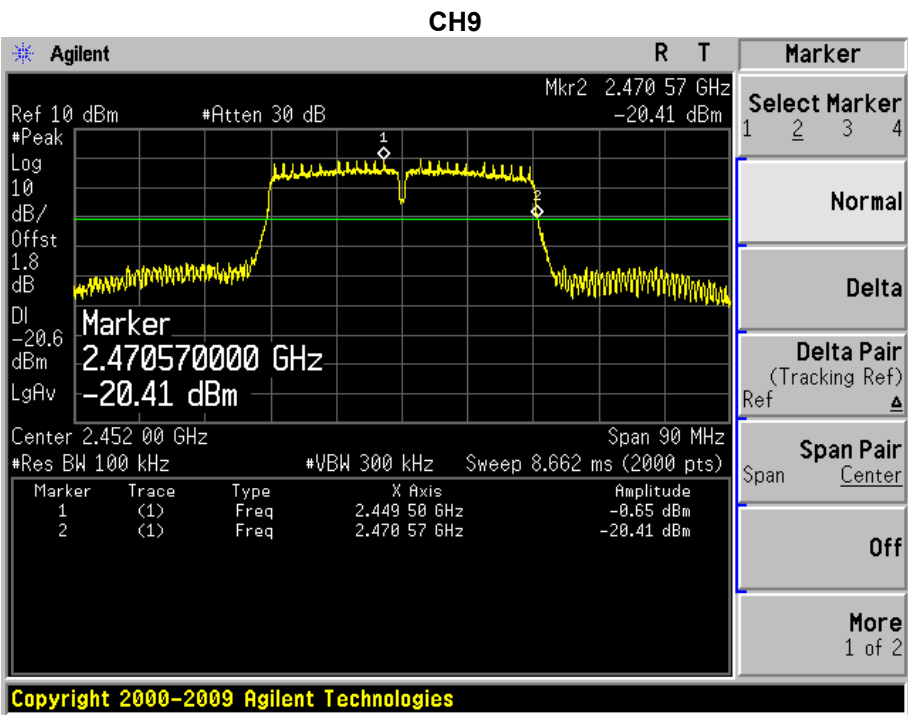
CH11



For 802.11n (40MHz) Mode:

CH3





4.9. 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.

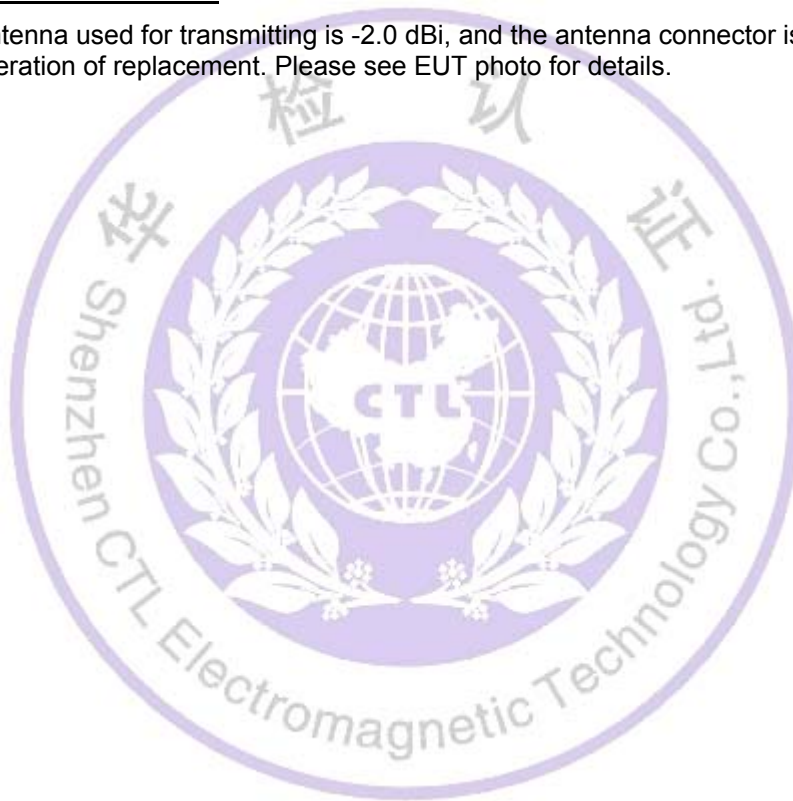
And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Refer to statement below for compliance.

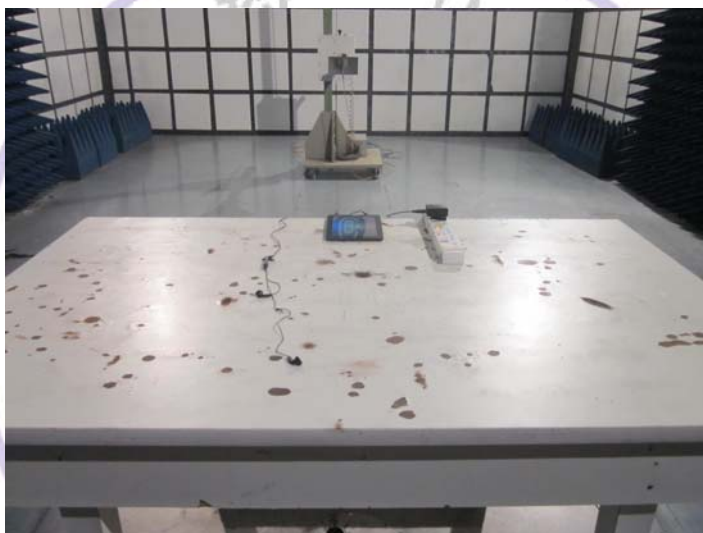
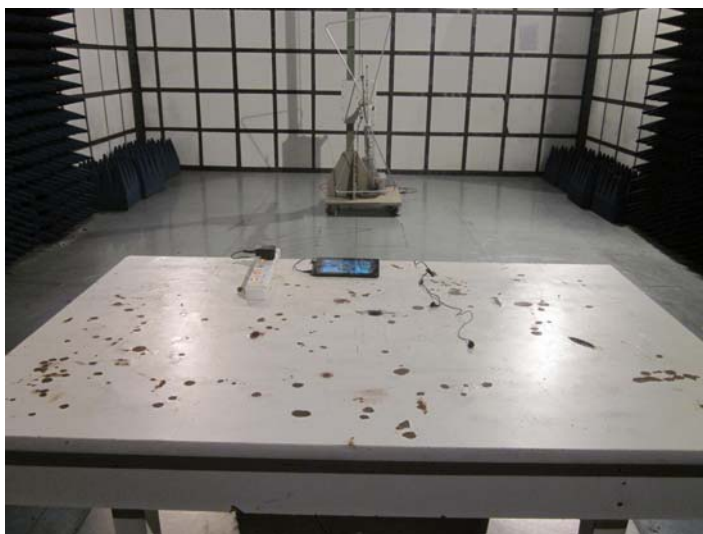
The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

ANTENNA CONNECTED CONSTRUCTION

The directional gains of antenna used for transmitting is -2.0 dBi, and the antenna connector is designed with permanent attachment and no consideration of replacement. Please see EUT photo for details.



5. Test Setup Photos of the EUT





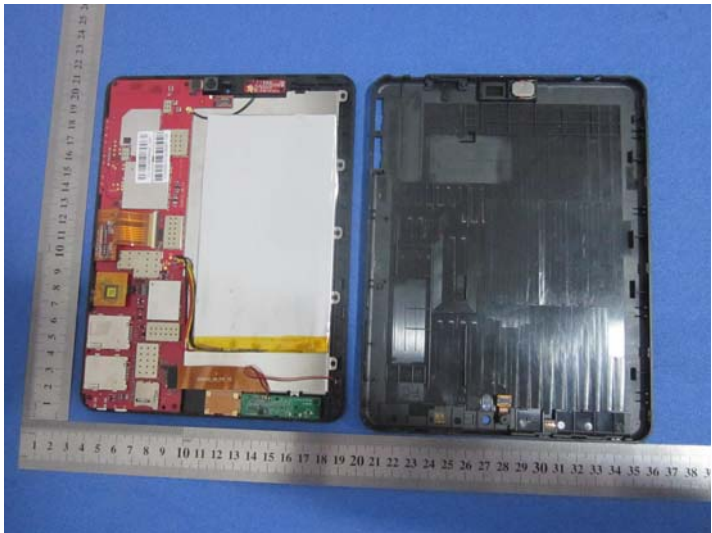
6. External and Internal Photos of the EUT

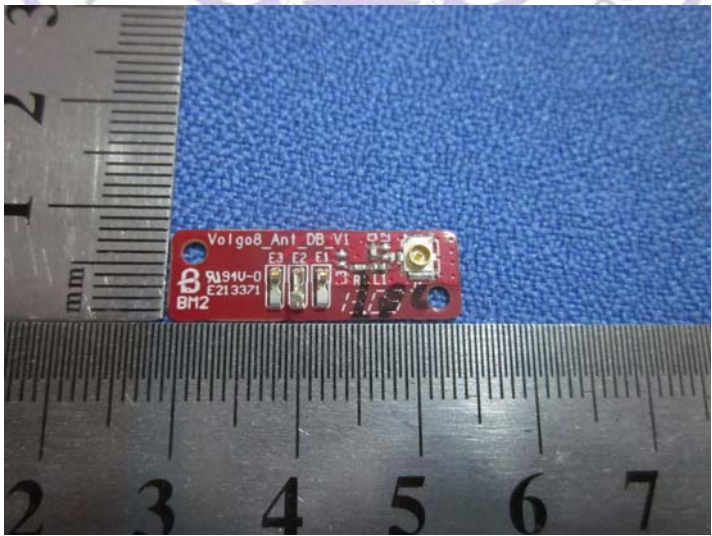
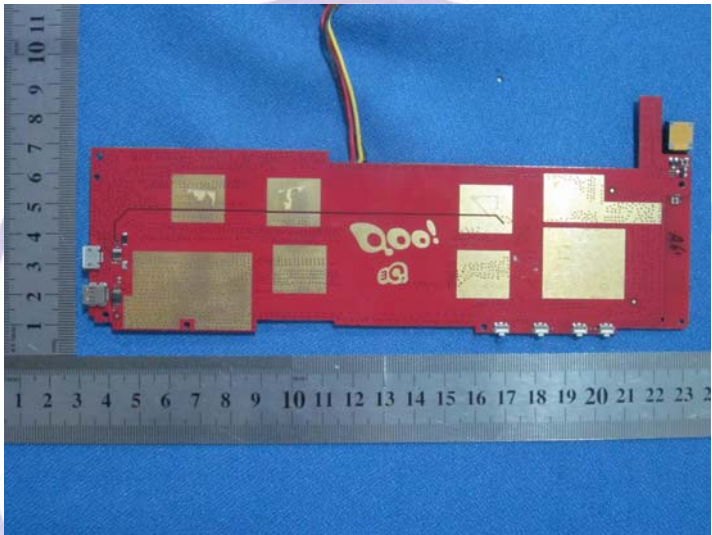
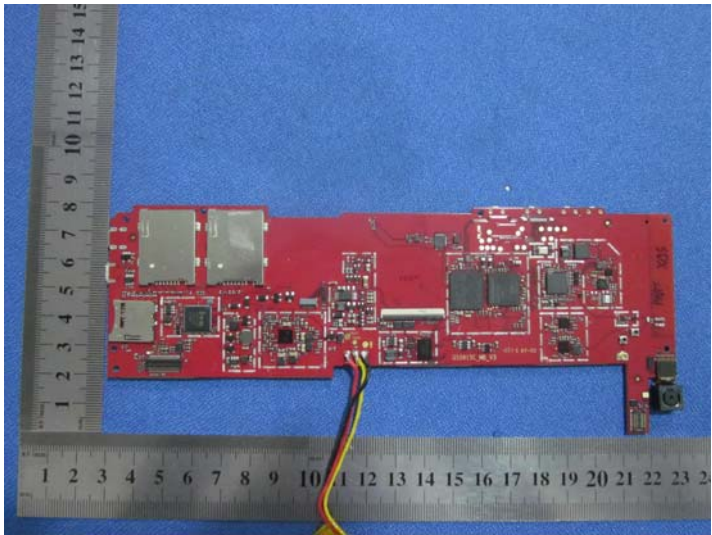
External Photos of EUT

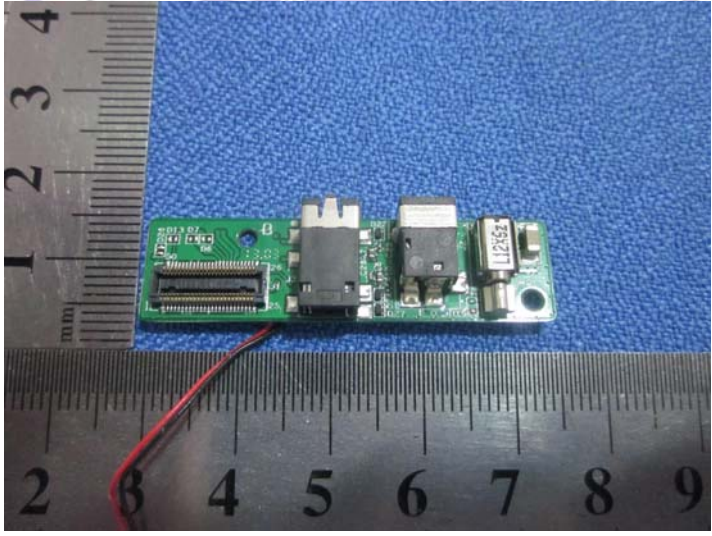
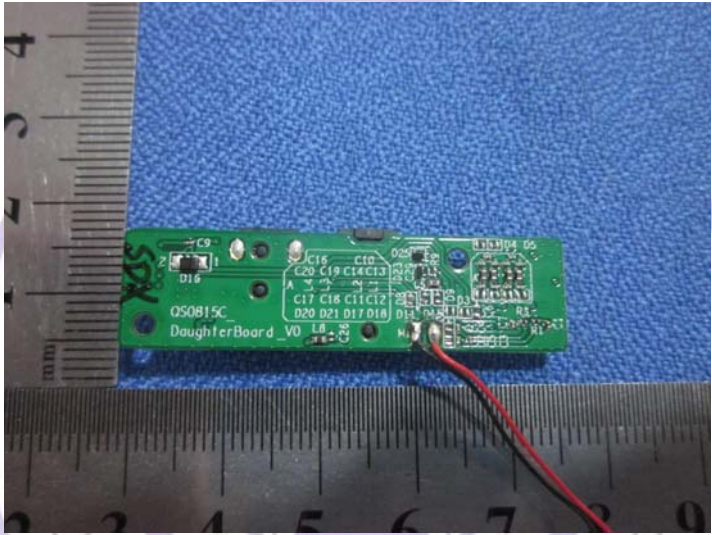
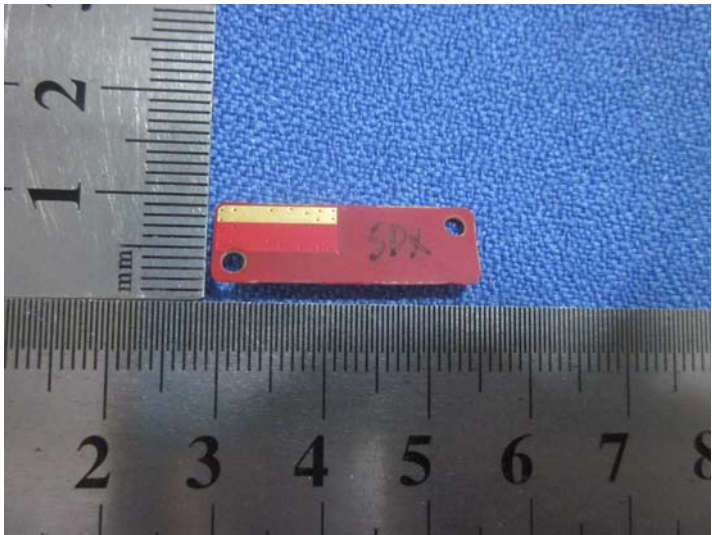


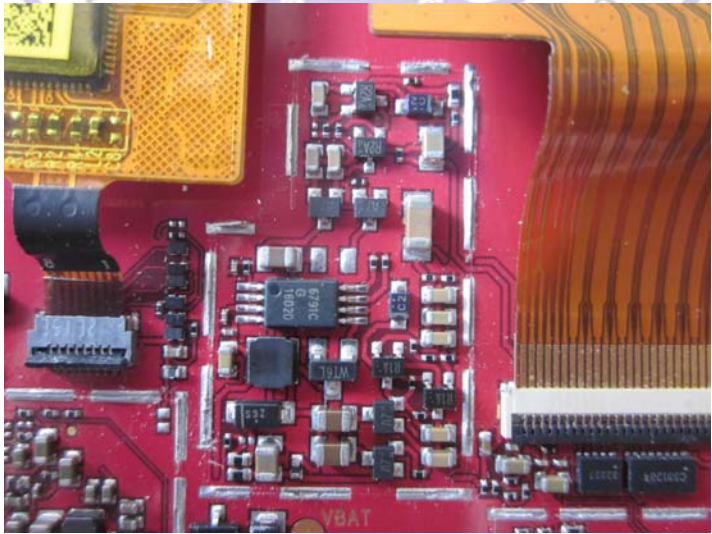
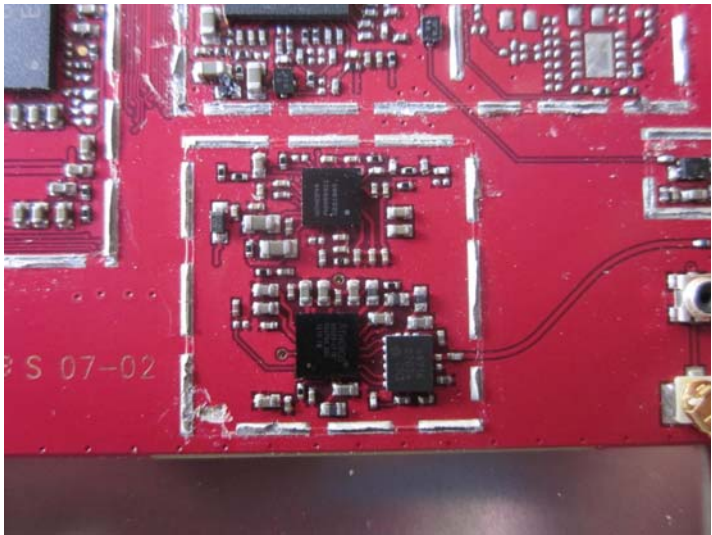


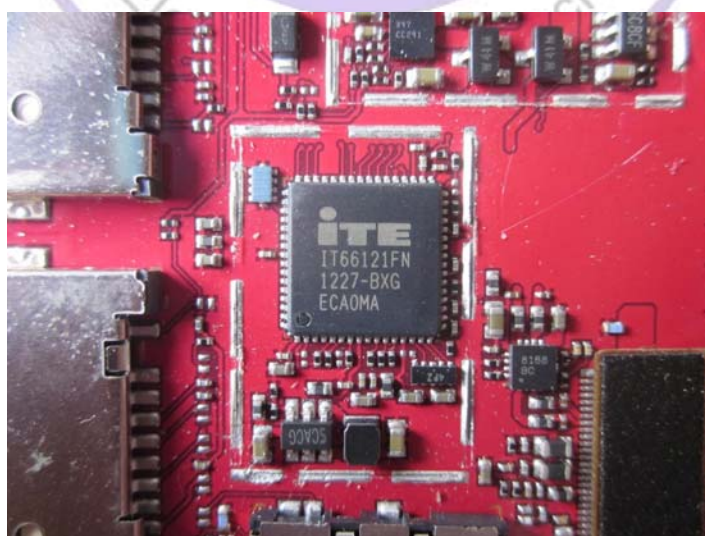
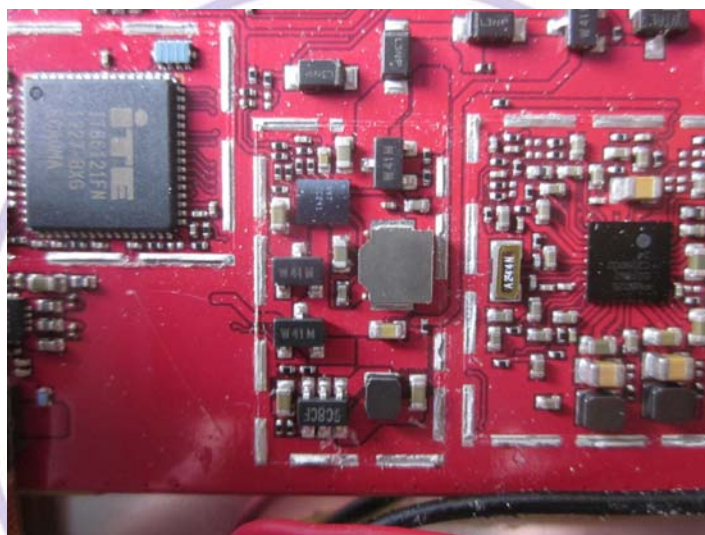
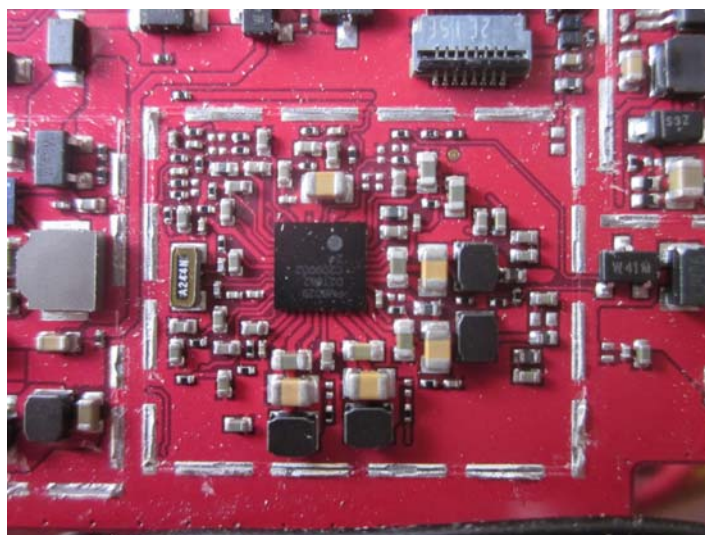
Internal Photos of EUT

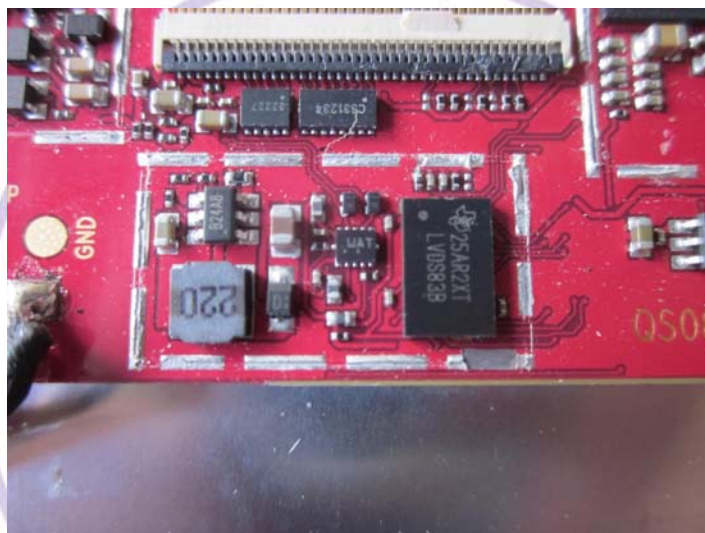
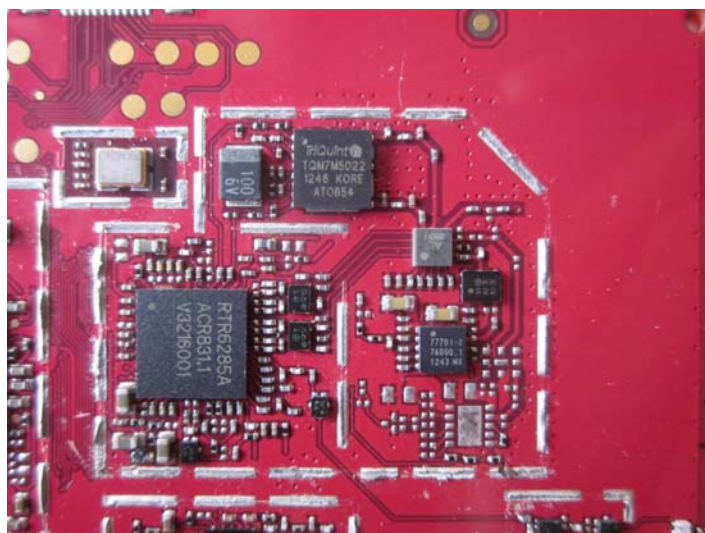












.....End of Report.....