



Shenzhen CTL Electromagnetic Technology Co., Ltd.
Tel: +86-755-89486194 Fax: +86-755-89486194-805

FCC PART 15 SUBPART C TEST REPORT

FCC Part 15.247

Report Reference No......: **CTL120814793-WW**

Compiled by

(position+printed name+signature) .: File administrators Jacky Chen

Jacky Chen

Name of the organization performing the tests

Test Engineer Tracy Qi

Tracy Qi

(position+printed name+signature) .:

Approved by

(position+printed name+signature) .: Manager Tracy Qi

Tracy Qi

Date of issue.....: August 22, 2012

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.....: **PE4VOLGO70TABN**

Trade Mark: 3Q

Model/Type reference: QS0715C

Modulation: DSSS, OFDM

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

Antenna Type.....: Internal

Result: **Positive**

TEST REPORT

Test Report No. :	CTL120814793-WW	August 22, 2012
		Date of issue

Equipment under Test : Tablet

Model /Type : QS0715C

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 Guidance on Measurements for Digital Transmission Systems



2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	August 10, 2012
Testing commenced on	:	August 11, 2012
Testing concluded on	:	August 15, 2012

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)	

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.

2.5. EUT configuration

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

- ☐ - supplied by the manufacturer
- ☐ - supplied by the lab

Manufacturer :

Model No. :

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)	CTL120814793-WW
WLAN 802.11b/g, 802.11n	FCC Per 47 CFR 2.1091(b)	128S011R-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: **PE4VOLGO70TABN** 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.

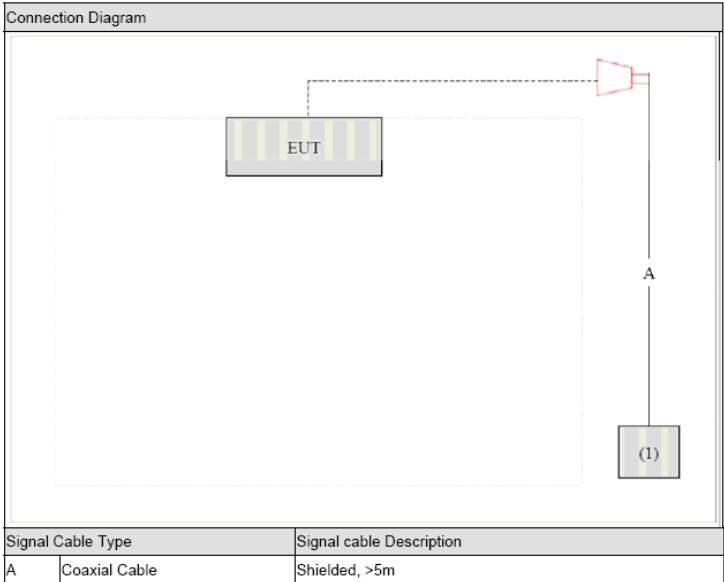
3.3. Environmental conditions

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	1~12.75GHz	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	2012/04/14	2013/04/13
2	Radio Communication Tester	ROHDE & SCHWARZ	CMU200	2012/04/14	2013/04/13
3	Dual Directional Coupler	Agilent	778D	2012/04/14	2013/04/13
4	10dB attenuator	SCHWARZBECK	MTAIMP-136	2012/04/14	2013/04/13
5	Tunable Bandreject filter	K&L	3TNF-800	2012/04/14	2013/04/13
6	Tunable Bandreject filter	K&L	5TNF-1700	2012/04/14	2013/04/13
7	High-Pass Filter	K&L	9SH10-2700/X12750-O/O	2012/04/14	2013/04/13
8	High-Pass Filter	K&L	41H10-1375/U12750-O/O	2012/04/14	2013/04/13
9	Coaxial Cable	Huber+Suhner	AC4-RF-H	2012/04/14	2013/04/13
10	AC Power Supply	IDRC	CF-500TP	2012/04/14	2013/04/13
11	DC Power Supply	IDRC	CD-035-020PR	2012/04/14	2013/04/13
12	RF Current Probe	FCC	F-33-4	2012/04/14	2013/04/13
13	Temperature /Humidity Meter	zhicheng	ZC1-2	2012/04/14	2013/04/13
14	MICROWAVE AMPLIFIER	HP	8349B	2012/04/14	2013/04/13
15	Amplifier	HP	8447D	2012/04/14	2013/04/13
16	SIGNAL GENERATOR	HP	8647A	2012/04/14	2013/04/13
17	Log Periodic Antenna	ELECTRO-METRICS	EM-6950	2012/04/14	2013/04/13
18	Horn Antenna	Schwarzbeck	BBHA9120A	2012/04/14	2013/04/13
19	EMI Test Receiver	R&S	ESPI	2012/04/14	2013/04/13
20	Loop Antenna	ZHINAN	ZN30900A	2012/04/14	2013/04/13
21	Horn Antenna	Schwarzbeck	BBHA9120D	2012/04/14	2013/04/13
22	Horn Antenna	Schwarzbeck	BBHA9170	2012/04/14	2013/04/13
23	Spectrum Analyzer	Agilent	E4446A	2012/04/14	2013/04/13
24	Wideband Peak Power Meter	Anritsu	ML2495A	2012/04/14	2013/04/13
25	Power Sensor	Anritsu	MA2411B	2012/04/14	2013/04/13

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
FCC Per 47 CFR 2.1091(b)	MPE Evaluation	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.

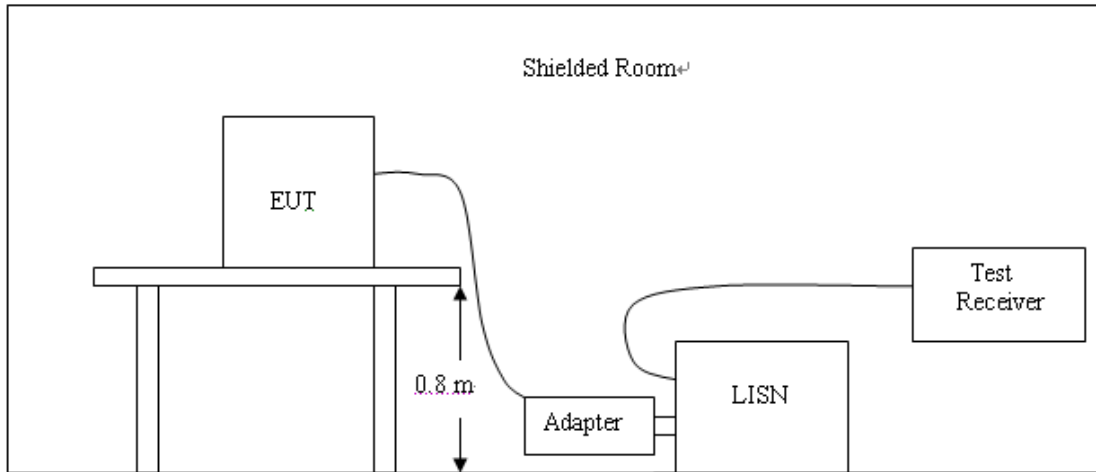
Test Items	Mode	Data Rate	Channel
AC Power Conducted Emission	Normal Link	11 Mbps	1
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission	11b/DSSS	11 Mbps	1/6/11
	11g/OFDM	54 Mbps	1/6/11
	11n(20MHz)/OFDM	65Mbps	1/6/11
	11n(40MHz)/OFDM	150Mbps	3/6/9
Radiated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

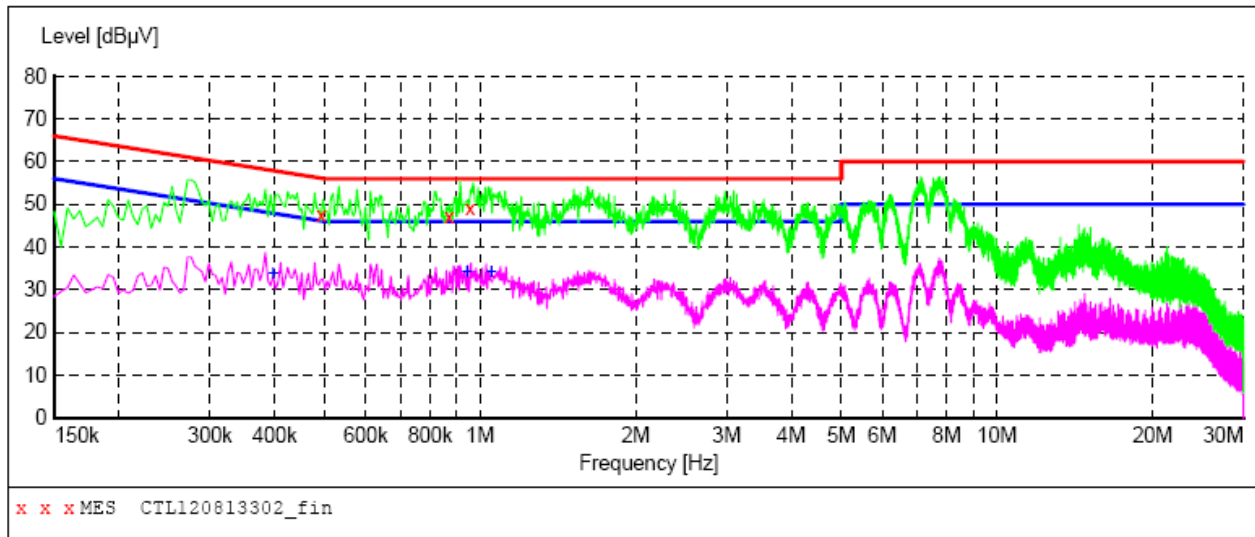
For intentional device, according to §15.207(a) Line Conducted Emission Limit is same as above table.

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL120813302_fin"**

8/13/2012 4:18PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.492000	47.70	10.2	56	8.4	QP	L1	GND
0.870000	47.10	10.2	56	8.9	QP	L1	GND
0.955500	49.10	10.3	56	6.9	QP	L1	GND

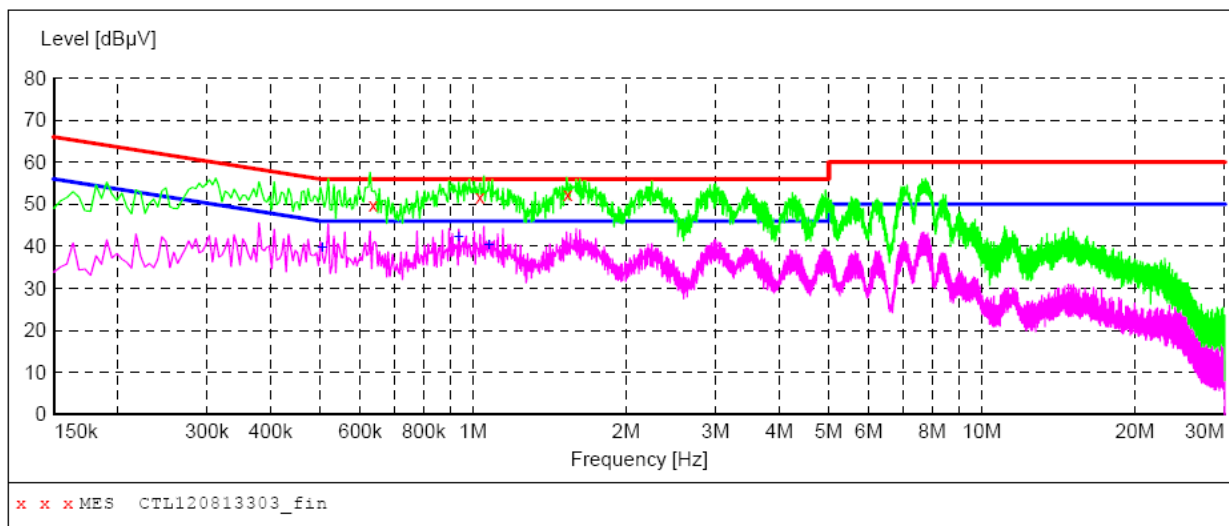
MEASUREMENT RESULT: "CTL120813302_fin2"

8/13/2012 4:18PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.397500	33.90	10.2	48	14.0	AV	L1	GND
0.942000	34.40	10.3	46	11.6	AV	L1	GND
1.050000	34.20	10.3	46	11.8	AV	L1	GND

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

Short Description: 150K-30M Voltage

**MEASUREMENT RESULT: "CTL120813303_fin"**

8/13/2012 4:22PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.636000	49.90	10.2	56	6.1	QP	N	GND
1.032000	51.80	10.3	56	4.2	QP	N	GND
1.536000	52.20	10.3	56	3.8	QP	N	GND

MEASUREMENT RESULT: "CTL120813303_fin2"

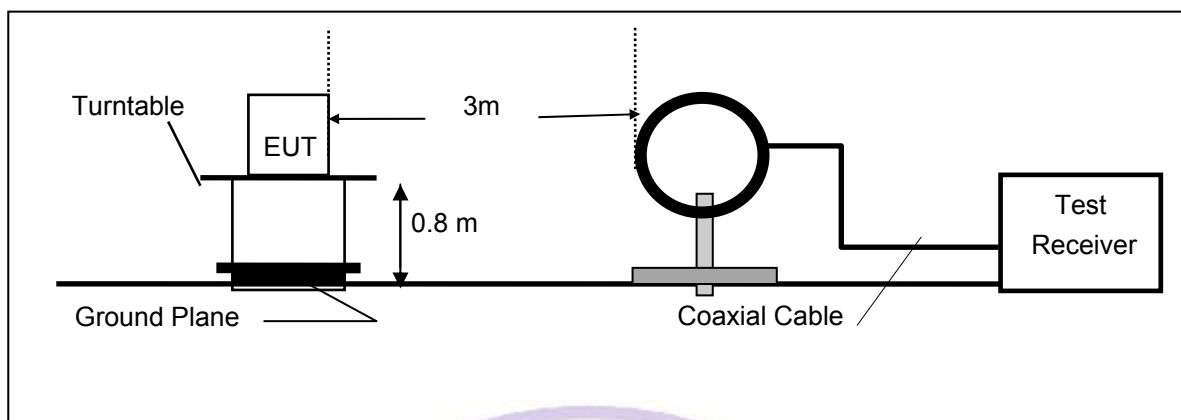
8/13/2012 4:22PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line	PE
0.505500	39.70	10.2	46	6.3	AV	N	GND
0.937500	42.30	10.3	46	3.7	AV	N	GND
1.077000	40.20	10.3	46	5.8	AV	N	GND

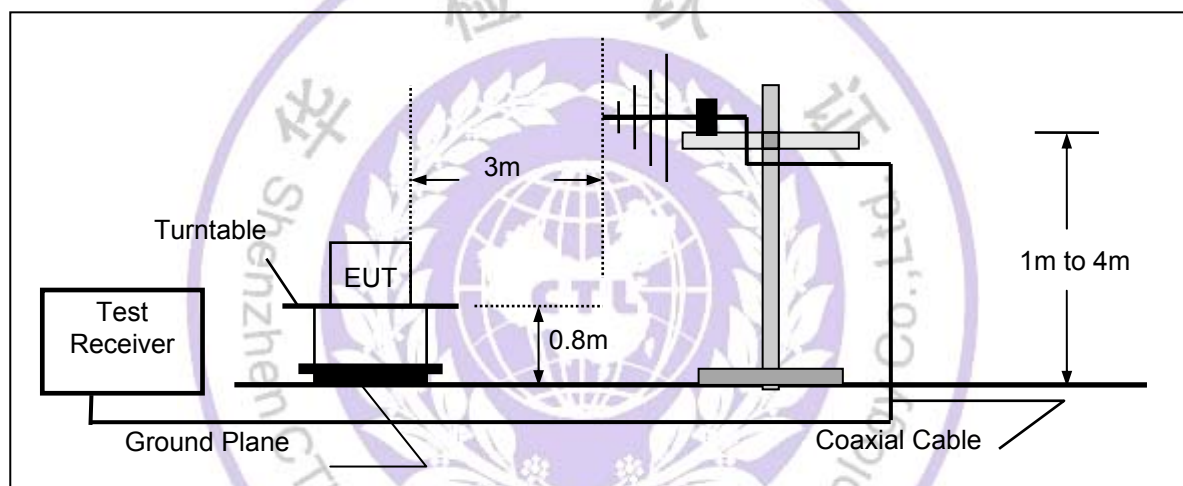
4.2. Radiated Emission Test

TEST CONFIGURATION

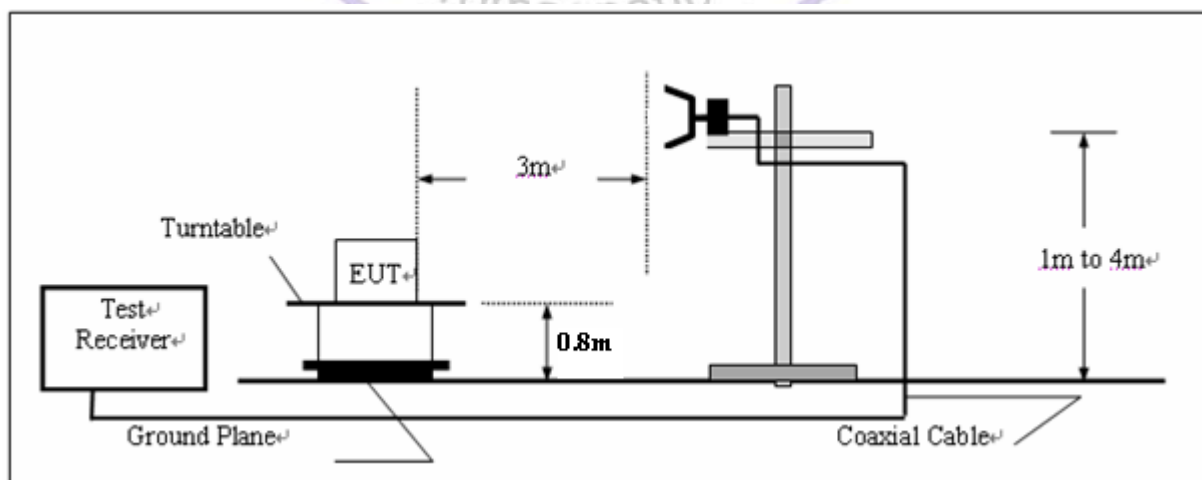
(A) Radiated Emission Test Set-Up, Frequency Below 30MHz



(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 (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.

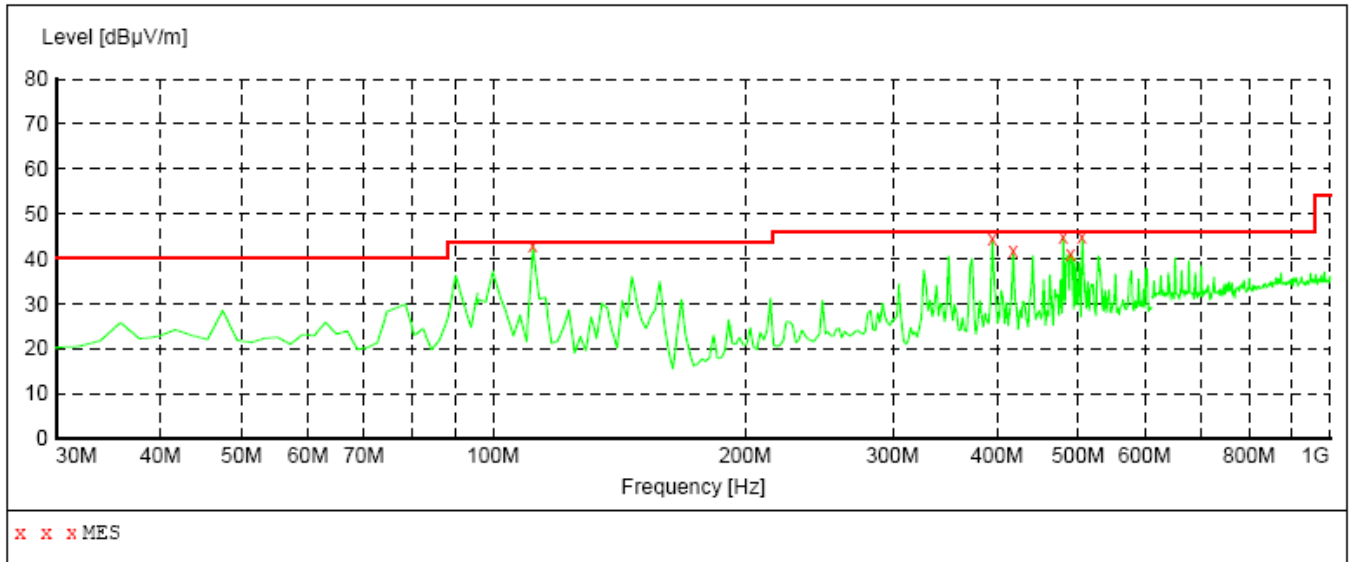
TEST RESULTS

Below 1GHz:

The radiated measurement are performed the each test mode (b/g/n) and channel (low/mid/high), the datum recorded below (802.11b mode, the middle channel) is the worst case for all the test mode and channel.

SWEEP TABLE: "test (30M-1G) "

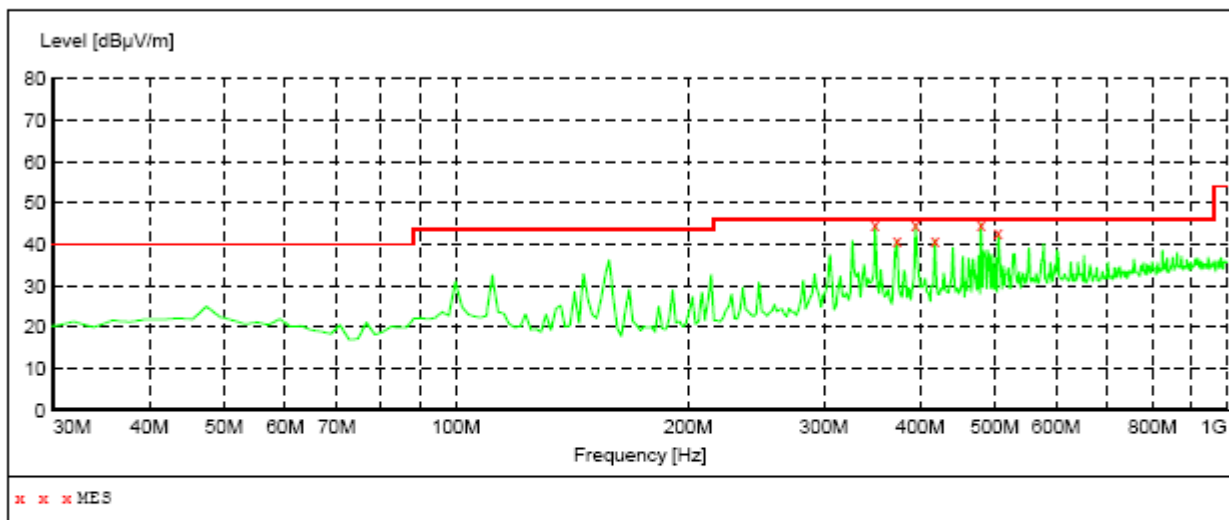
Short Description:		Field Strength			
Start	Stop	Detector	Meas.	IF	Transducer
Frequency	Frequency		Time	Bandw.	
30.0 MHz	1.0 GHz	MaxPeak	Coupled	100 kHz	VULB9163 NEW

**MEASUREMENT RESULT:**

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
111.480000	42.40	16.2	43.5	1.1	---	100.0	0.00	VERTICAL
394.720000	44.00	21.3	46.0	2.0	---	100.0	0.00	VERTICAL
418.000000	41.50	21.9	46.0	4.5	---	100.0	0.00	VERTICAL
480.080000	44.50	23.1	46.0	1.5	---	100.0	0.00	VERTICAL
489.780000	40.60	23.5	46.0	5.4	---	100.0	0.00	VERTICAL
505.300000	44.40	24.0	46.0	1.6	---	100.0	0.00	VERTICAL

SWEEP TABLE: "test (30M-1G)"

Short Description:		Field Strength			
Start	Stop	Detector	Meas. Time	IF Bandw.	Transducer
Frequency 30.0 MHz	Frequency 1.0 GHz	MaxPeak	Coupled	100 kHz	VULB9163 NEW

***MEASUREMENT RESULT:***

Frequency MHz	Level dBμV/m	Transd dB	Limit dBμV/m	Margin dB	Det.	Height cm	Azimuth deg	Polarization
350.100000	44.70	20.4	46.0	1.3	---	100.0	0.00	HORIZONTAL
373.380000	41.10	20.8	46.0	4.9	---	100.0	0.00	HORIZONTAL
394.720000	44.90	21.3	46.0	1.1	---	100.0	0.00	HORIZONTAL
418.000000	41.10	21.9	46.0	4.9	---	100.0	0.00	HORIZONTAL
480.080000	45.00	23.1	46.0	1.0	---	100.0	0.00	HORIZONTAL
505.300000	42.70	24.0	46.0	3.3	---	100.0	0.00	HORIZONTAL

Remark:

- (1) Measuring frequencies from 9 KHz to the 1GHz, Loop Antenna used below 30MHz. See Section 3.6 table item 20. Radiated emission test from 9KHz to 30MHz was verified, and no any emission was found except system noise floor.
- (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) Datas 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. The test results from 9KHz to 25MHz are not reported because the emissions levels that are 20dB below the official limit.
- (5) The IF bandwidth of EMI Test Receiver between 30MHz to 1GHz was 120KHz. Below 30MHz was 10KHz.

Above 1GHz:
802.11b CH1

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	50.46	PK	74.00	23.54	1.00 H	200	53.86	28.3	4.90	36.6	-3.30
1	2390.00	38.49	AV	54.00	15.51	1.00 H	200	41.89	28.3	4.90	36.6	-3.30
2	*2412.00	102.69	PK			1.00 H	333	106.09	28.3	4.90	36.6	-3.30
2	*2412.00	88.75	AV			1.00 H	333	92.15	28.3	4.90	36.6	-3.30
3	4824.00	60.12	PK	74.00	13.88	1.00 H	125	56.92	32.7	7.00	36.5	3.80
3	4824.00	50.00	AV	54.00	4.00	1.00 H	125	46.80	32.7	7.00	36.5	3.80
4	7236.00	62.12	PK	74.00	11.88	1.00 H	66	52.72	35.8	8.90	35.3	9.40
4	7236.00	47.23	AV	54.00	6.77	1.00 H	66	37.83	35.8	8.90	35.3	9.40
5	9648.00	64.20	PK	74.00	9.80	1.00 H	264	51.60	37.2	10.20	34.8	12.60
5	9648.00	50.11	AV	54.00	3.89	1.00 H	264	37.51	37.2	10.20	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	51.61	PK	74.00	22.39	1.0	236	55.01	28.3	4.90	36.6	-3.30
1	2390.00	44.98	AV	54.00	9.02	1.0	236	48.38	28.3	4.90	36.6	-3.30
2	*2412.00	112.56	PK			1.0	100	115.96	28.3	4.90	36.6	-3.30
2	*2412.00	107.78	AV			1.0	100	111.18	28.3	4.90	36.6	-3.30
3	4824.00	61.10	PK	74.00	12.90	1.0	312	57.90	32.7	7.00	36.5	3.80
3	4824.00	48.23	AV	54.00	5.77	1.0	312	45.03	32.7	7.00	36.5	3.80
4	7236.00	63.56	PK	74.00	10.44	1.0	46	54.16	35.8	8.90	35.3	9.40
4	7236.00	49.44	AV	54.00	4.56	1.0	46	40.04	35.8	8.90	35.3	9.40
5	9648.00	66.00	PK	74.00	8.00	1.0	108	53.40	37.2	10.20	34.8	12.60
5	9648.00	49.14	AV	54.00	4.86	1.0	108	36.54	37.2	10.20	34.8	12.60

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
3. The other emission levels were very low against the limit.
4. Margin value = Limit value - Emission level.
5. The limit value is defined as per 15.247
6. "*" : Fundamental frequency
7. For Wireless 802.11b mode at 11Mbps.

802.11b CH6

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	103.23			1.00 H	153	106.43	28.3	5.10	-36.6	-3.20
1	*2437.00	92.33			1.00 H	153	95.53	28.3	5.10	-36.6	-3.20
2	4874.00	52.23	74.00	21.77	1.00 H	202	48.83	32.3	7.60	-36.5	3.40
2	4874.00	40.14	54.00	13.86	1.00 H	202	36.74	32.3	7.60	-36.5	3.40
3	7311.00	56.45	74.00	17.55	1.00 H	355	47.05	36.1	8.60	-35.3	9.40
3	7311.00	42.23	54.00	11.77	1.00 H	355	32.83	36.1	8.60	-35.3	9.40
4	9748.00	60.14	74.00	13.86	1.00 H	28	47.54	37.2	10.20	-34.8	12.60
4	9748.00	48.14	54.00	5.86	1.00 H	28	35.54	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	109.23			1.00 V	121	112.43	28.3	5.10	-36.6	-3.20
1	*2437.00	98.12			1.00 V	121	101.32	28.3	5.10	-36.6	-3.20
2	4874.00	55.44	74.00	18.56	1.00 V	97	52.04	32.3	7.60	-36.5	3.40
2	4874.00	46.17	54.00	7.83	1.00 V	97	42.77	32.3	7.60	-36.5	3.40
3	7311.00	57.23	74.00	16.77	1.00 V	288	47.83	36.1	8.60	-35.3	9.40
3	7311.00	49.10	54.00	4.90	1.00 V	288	39.70	36.1	8.60	-35.3	9.40
4	9748.00	59.36	74.00	14.64	1.00 V	89	46.76	37.2	10.20	-34.8	12.60
4	9748.00	49.20	54.00	4.80	1.00 V	89	36.60	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB))+ Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11b mode at 11Mbps.

802.11b CH11

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	103.35			1.00 H	154	106.65	28.6	4.70	-36.6	-3.30
1	*2462.00	92.99			1.00 H	154	96.29	28.6	4.70	-36.6	-3.30
2	2483.50	49.48	74.00	24.52	1.00 H	146	52.78	28.6	4.70	-36.6	-3.30
2	2483.50	38.43	54.00	15.57	1.00 H	146	41.73	28.6	4.70	-36.6	-3.30
3	4022.04	56.12	74.00	17.88	1.00 H	341	54.22	32.2	6.20	-36.5	1.90
3	4022.04	49.01	54.00	4.99	1.00 H	341	47.11	32.2	6.20	-36.5	1.90
4	4924.00	54.63	74.00	19.37	1.00 H	100	50.83	33.0	7.00	-36.2	3.80
4	4924.00	45.11	54.00	8.89	1.00 H	100	41.31	33.0	7.00	-36.2	3.80
5	7386.00	59.00	74.00	15.00	1.00 H	190	49.60	36.2	8.50	-35.3	9.40
5	7386.00	48.03	54.00	5.97	1.00 H	190	38.63	36.2	8.50	-35.3	9.40
6	9848.00	60.22	74.00	13.78	1.00 H	113	47.62	37.2	10.20	-34.8	12.60
6	9848.00	50.07	54.00	3.93	1.00 H	113	37.47	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	113.06			1.00 V	247	116.36	28.6	4.70	-36.6	-3.30
1	*2462.00	107.69			1.00 V	247	110.99	28.6	4.70	-36.6	-3.30
2	2483.50	51.86	74.00	22.14	1.00 V	150	55.16	28.6	4.70	-36.6	-3.30
2	2483.50	46.52	54.00	7.48	1.00 V	150	49.82	28.6	4.70	-36.6	-3.30
3	4022.04	52.02	74.00	21.98	1.00 V	299	50.12	32.2	6.20	-36.5	1.90
3	4022.04	44.11	54.00	9.89	1.00 V	299	42.21	32.2	6.20	-36.5	1.90
4	4924.00	54.00	74.00	20.00	1.00 V	90	50.20	33.0	7.00	-36.2	3.80
4	4924.00	43.14	54.00	10.86	1.00 V	90	39.34	33.0	7.00	-36.2	3.80
5	7386.00	58.88	74.00	15.12	1.00 V	29	49.48	36.2	8.50	-35.3	9.40
5	7386.00	46.61	54.00	7.39	1.00 V	29	37.21	36.2	8.50	-35.3	9.40
6	9848.00	60.00	74.00	14.00	1.00 V	222	47.40	37.2	10.20	-34.8	12.60
6	9848.00	49.23	54.00	4.77	1.00 V	222	36.63	37.2	10.20	-34.8	12.60

REMARKS:

1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB))+ Pre-amplifier Factor
3. The other emission levels were very low against the limit.
4. Margin value = Limit value- Emission level.
5. The limit value is defined as per 15.247
6. "*" : Fundamental frequency
7. For Wireless 802.11b mode at 11Mbps.

802.11g CH1

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	61.33	PK	74.00	12.67	1.00 H	247	64.63	28.3	5.00	36.6	-3.30
1	2390.00	44.54	AV	54.00	9.46	1.00 H	247	47.84	28.3	5.00	36.6	-3.30
2	*2412.00	100.32	PK			1.00 H	100	103.62	28.3	5.00	36.6	-3.30
2	*2412.00	84.74	AV			1.00 H	100	88.04	28.3	5.00	36.6	-3.30
3	4824.00	58.14	PK	74.00	15.86	1.00 H	89	54.34	32.7	7.30	36.2	3.80
3	4824.00	47.96	AV	54.00	6.04	1.00 H	89	44.16	32.7	7.30	36.2	3.80
4	7236.00	62.22	PK	74.00	11.78	1.00 H	345	52.82	35.8	8.90	35.3	9.40
4	7236.00	48.60	AV	54.00	5.40	1.00 H	345	39.20	35.8	8.90	35.3	9.40
5	9648.00	64.17	PK	74.00	9.83	1.00 H	121	51.57	37.2	10.20	34.8	12.60
5	9648.00	50.25	AV	54.00	3.75	1.00 H	121	37.65	37.2	10.20	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	69.66	PK	74.00	4.34	1.00 V	288	72.96	28.3	5.00	36.6	-3.30
1	2390.00	50.63	AV	54.00	3.37	1.00 V	288	53.93	28.3	5.00	36.6	-3.30
2	*2412.00	110.40	PK			1.00 V	69	113.70	28.3	5.00	36.6	-3.30
2	*2412.00	94.98	AV			1.00 V	69	98.28	28.3	5.00	36.6	-3.30
3	4824.00	58.88	PK	74.00	15.12	1.00 V	291	55.08	32.7	7.30	36.2	3.80
3	4824.00	46.99	AV	54.00	7.01	1.00 V	291	43.19	32.7	7.30	36.2	3.80
4	7236.00	61.44	PK	74.00	12.56	1.00 V	360	52.04	35.8	8.90	35.3	9.40
4	7236.00	48.00	AV	54.00	6.00	1.00 V	360	38.60	35.8	8.90	35.3	9.40
5	9648.00	65.22	PK	74.00	8.78	1.00 V	155	52.62	37.2	10.20	34.8	12.60
5	9648.00	50.47	AV	54.00	3.53	1.00 V	155	37.87	37.2	10.20	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB))+ Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency
 7. For Wireless 802.11g mode at 54Mbps.

802.11g CH6

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	105.25			1.00 H	100	108.45	28.3	5.10	-36.6	-3.20
1	*2437.00	96.00			1.00 H	100	99.20	28.3	5.10	-36.6	-3.20
2	4874.00	56.50	74.00	17.50	1.00 H	214	53.10	32.8	7.10	-36.5	3.40
2	4874.00	47.23	54.00	6.77	1.00 H	214	43.83	32.8	7.10	-36.5	3.40
3	7311.00	57.70	74.00	16.30	1.00 H	0	48.30	36.1	8.60	-35.3	9.40
3	7311.00	48.60	54.00	5.40	1.00 H	0	39.20	36.1	8.60	-35.3	9.40
4	9748.00	59.63	74.00	14.37	1.00 H	163	47.03	37.2	10.20	-34.8	12.60
4	9748.00	49.50	54.00	4.50	1.00 H	163	36.90	37.2	10.20	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	109.50			1.00 V	122	112.70	28.3	5.10	-36.6	-3.20
1	*2437.00	98.80			1.00 V	122	102.00	28.3	5.10	-36.6	-3.20
2	4874.00	56.90	74.00	17.10	1.00 V	100	53.50	32.8	7.10	-36.5	3.40
2	4874.00	45.45	54.00	8.55	1.00 V	100	42.05	32.8	7.10	-36.5	3.40
3	7311.00	58.17	74.00	15.83	1.00 V	356	48.77	36.1	8.60	-35.3	9.40
3	7311.00	48.65	54.00	5.35	1.00 V	356	39.25	36.1	8.60	-35.3	9.40
4	9748.00	60.58	74.00	13.42	1.00 V	26	47.98	37.2	10.20	-34.8	12.60
4	9748.00	49.20	54.00	4.80	1.00 V	26	36.60	37.2	10.20	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. "*" : Fundamental frequency
 7. For Wireless 802.11g mode at 54Mbps.

802.11g CH11

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	100.21			1.00 H	156	103.51	28.2	5.10	-36.6	-3.30
1	*2462.00	84.73			1.00 H	156	88.03	28.2	5.10	-36.6	-3.30
2	2483.50	59.39	74.00	14.61	1.00 H	191	62.69	28.2	5.10	-36.6	-3.30
2	2483.50	42.28	54.00	11.72	1.00 H	191	45.58	28.2	5.10	-36.6	-3.30
3	4924.00	54.26	74.00	19.74	1.00 H	198	50.46	33.0	7.00	-36.2	3.80
3	4924.00	45.22	54.00	8.78	1.00 H	198	41.42	33.0	7.00	-36.2	3.80
4	7386.00	57.36	74.00	16.64	1.00 H	90	47.96	36.2	8.50	-35.3	9.40
4	7386.00	46.65	54.00	7.35	1.00 H	90	37.25	36.2	8.50	-35.3	9.40
5	9848.00	60.14	74.00	13.86	1.00 H	124	47.54	37.3	10.10	-34.8	12.60
5	9848.00	50.00	54.00	4.00	1.00 H	124	37.40	37.3	10.10	-34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	106.70			1.00 V	125	110.00	28.2	5.10	-36.6	-3.30
1	*2462.00	94.49			1.00 V	125	97.79	28.2	5.10	-36.6	-3.30
2	2483.50	66.73	74.00	7.27	1.00 V	348	70.03	28.2	5.10	-36.6	-3.30
2	2483.50	50.92	54.00	3.08	1.00 V	348	54.22	28.2	5.10	-36.6	-3.30
3	4924.00	56.11	74.00	17.89	1.00 V	96	52.31	33.0	7.00	-36.2	3.80
3	4924.00	47.82	54.00	6.18	1.00 V	96	44.02	33.0	7.00	-36.2	3.80
4	7386.00	56.24	74.00	17.76	1.00 V	35	46.84	36.2	8.50	-35.3	9.40
4	7386.00	45.00	54.00	9.00	1.00 V	35	35.60	36.2	8.50	-35.3	9.40
5	9848.00	60.00	74.00	14.00	1.00 V	37	47.40	37.3	10.10	-34.8	12.60
5	9848.00	50.26	54.00	3.74	1.00 V	37	37.66	37.3	10.10	-34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) + Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. " * " : Fundamental frequency
 7. For Wireless 802.11g mode at 54Mbps.

802.11n (20MHz) Channel 1

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	56.96	PK	74.00	17.04	1.00 H	144	60.26	28.3	5.00	36.6	-3.30
1	2390.00	44.33	AV	54.00	9.67	1.00 H	144	47.63	28.3	5.00	36.6	-3.30
2	*2412.00	98.38	PK			1.00 H	256	101.68	28.3	5.00	36.6	-3.30
2	*2412.00	81.55	AV			1.00 H	256	84.85	28.3	5.00	36.6	-3.30
3	4824.00	48.25	PK	74.00	25.75	1.00 H	88	44.45	32.7	7.30	36.2	3.80
3	4824.00	40.00	AV	54.00	14.00	1.00 H	88	36.20	32.7	7.30	36.2	3.80
4	7236.00	54.36	PK	74.00	19.64	1.00 H	331	44.96	35.8	8.90	35.3	9.40
4	7236.00	45.22	AV	54.00	8.78	1.00 H	331	35.82	35.8	8.90	35.3	9.40
5	9648.00	59.68	PK	74.00	14.32	1.00 H	105	47.08	37.2	10.20	34.8	12.60
5	9648.00	49.25	AV	54.00	4.75	1.00 H	105	36.65	37.2	10.20	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	69.20	PK	74.00	4.80	1.00 V	125	72.50	28.3	5.00	36.6	-3.30
1	2390.00	50.90	AV	54.00	3.10	1.00 V	125	54.20	28.3	5.00	36.6	-3.30
2	*2412.00	112.09	PK			1.00 V	236	115.39	28.3	5.00	36.6	-3.30
2	*2412.00	95.33	AV			1.00 V	236	98.63	28.3	5.00	36.6	-3.30
3	4824.00	50.23	PK	74.00	23.77	1.00 V	179	46.43	32.7	7.30	36.2	3.80
3	4824.00	42.02	AV	54.00	11.98	1.00 V	179	38.22	32.7	7.30	36.2	3.80
4	7236.00	56.96	PK	74.00	17.04	1.00 V	313	47.56	35.8	8.90	35.3	9.40
4	7236.00	46.74	AV	54.00	7.26	1.00 V	313	37.34	35.8	8.90	35.3	9.40
5	9648.00	60.23	PK	74.00	13.77	1.00 V	5	47.63	37.2	10.20	34.8	12.60
5	9648.00	50.08	AV	54.00	3.92	1.00 V	5	37.48	37.2	10.20	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) -Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency

802.11n (20MHz) Channel 6

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	102.55	PK			1.00 H	223	105.75	28.3	5.10	36.6	-3.20
1	*2437.00	89.47	AV			1.00 H	122	92.67	28.3	5.10	36.6	-3.20
2	4874.00	56.14	PK	74.00	17.86	1.00 H	5	52.74	32.8	7.10	36.5	3.40
2	4874.00	47.58	AV	54.00	6.42	1.00 H	5	44.18	32.8	7.10	36.5	3.40
3	7311.00	58.67	PK	74.00	15.33	1.00 H	124	49.27	36.1	8.60	35.3	9.40
3	7311.00	46.11	AV	54.00	7.89	1.00 H	124	36.71	36.1	8.60	35.3	9.40
4	9748.00	60.56	PK	74.00	13.44	1.00 H	325	47.96	37.2	10.20	34.8	12.60
4	9748.00	49.98	AV	54.00	4.02	1.00 H	325	37.38	37.2	10.20	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	107.64	PK			1.00 V	125	110.84	28.3	5.10	36.6	-3.20
1	*2437.00	95.47	AV			1.00 V	125	98.67	28.3	5.10	36.6	-3.20
2	4874.00	55.63	PK	74.00	18.37	1.00 V	289	52.23	32.8	7.10	36.5	3.40
2	4874.00	46.85	AV	54.00	7.15	1.00 V	289	43.45	32.8	7.10	36.5	3.40
3	7311.00	58.55	PK	74.00	15.45	1.00 V	0	49.15	36.1	8.60	35.3	9.40
3	7311.00	47.82	AV	54.00	6.18	1.00 V	0	38.42	36.1	8.60	35.3	9.40
4	9748.00	60.28	PK	74.00	13.72	1.00 V	180	47.68	37.2	10.20	34.8	12.60
4	9748.00	50.25	AV	54.00	3.75	1.00 V	180	37.65	37.2	10.20	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. "*" : Fundamental frequency

802.11n (20MHz) Channel 11

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	99.01	PK			1.00 H	122	102.31	28.2	5.10	36.6	-3.30
1	*2462.00	82.48	AV			1.00 H	122	85.78	28.2	5.10	36.6	-3.30
2	2483.50	60.79	PK	74.00	13.21	1.00 H	300	64.09	28.2	5.10	36.6	-3.30
2	2483.50	43.98	AV	54.00	10.02	1.00 H	300	47.28	28.2	5.10	36.6	-3.30
3	4924.00	54.55	PK	74.00	19.45	1.00 H	156	50.75	33.0	7.00	36.2	3.80
3	4924.00	40.29	AV	54.00	13.71	1.00 H	156	36.49	33.0	7.00	36.2	3.80
4	7386.00	58.00	PK	74.00	16.00	1.00 H	334	48.60	36.2	8.50	35.3	9.40
4	7386.00	47.69	AV	54.00	6.31	1.00 H	334	38.29	36.2	8.50	35.3	9.40
5	9848.00	61.23	PK	74.00	12.77	1.00 H	278	48.63	37.3	10.10	34.8	12.60
5	9848.00	50.07	AV	54.00	3.93	1.00 H	278	37.47	37.3	10.10	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2462.00	112.80	PK			1.00 V	125	116.10	28.2	5.10	36.6	-3.30
1	*2462.00	92.96	AV			1.00 V	125	96.26	28.2	5.10	36.6	-3.30
2	2483.50	70.05	PK	74.00	3.95	1.00 V	189	73.35	28.2	5.10	36.6	-3.30
2	2483.50	50.24	AV	54.00	3.76	1.00 V	189	53.54	28.2	5.10	36.6	-3.30
3	4924.00	56.26	PK	74.00	17.74	1.00 V	347	52.46	33.0	7.00	36.2	3.80
3	4924.00	48.11	AV	54.00	5.89	1.00 V	347	44.31	33.0	7.00	36.2	3.80
4	7386.00	58.23	PK	74.00	15.77	1.00 V	12	48.83	36.2	8.50	35.3	9.40
4	7386.00	47.63	AV	54.00	6.37	1.00 V	12	38.23	36.2	8.50	35.3	9.40
5	9848.00	60.12	PK	74.00	13.88	1.00 V	208	47.52	37.3	10.10	34.8	12.60
5	9848.00	50.07	AV	54.00	3.93	1.00 V	208	37.47	37.3	10.10	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. " * " : Fundamental frequency

802.11n (40MHz) Channel 3

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	59.53	PK	74.00	14.47	1.00 H	236	62.83	28.3	5.00	36.6	-3.30
1	2390.00	42.51	AV	54.00	11.49	1.00 H	236	45.81	28.3	5.00	36.6	-3.30
2	*2422.00	94.02	PK			1.00 H	100	97.32	28.3	5.00	36.6	-3.30
2	*2422.00	75.18	AV			1.00 H	100	78.48	28.3	5.00	36.6	-3.30
3	4844.00	54.98	PK	74.00	19.02	1.00 H	197	51.18	32.7	7.30	36.2	3.80
3	4844.00	40.11	AV	54.00	13.89	1.00 H	197	36.31	32.7	7.30	36.2	3.80
4	7266.00	58.36	PK	74.00	15.64	1.00 H	306	48.96	35.8	8.90	35.3	9.40
4	7266.00	47.25	AV	54.00	6.75	1.00 H	306	37.85	35.8	8.90	35.3	9.40
5	9688.00	60.00	PK	74.00	14.00	1.00 H	17	47.40	37.2	10.20	34.8	12.60
5	9688.00	49.00	AV	54.00	5.00	1.00 H	17	36.40	37.2	10.20	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	2390.00	70.83	PK	74.00	3.17	1.00 V	122	74.13	28.3	5.00	36.6	-3.30
1	2390.00	50.46	AV	54.00	3.54	1.00 V	122	53.76	28.3	5.00	36.6	-3.30
2	*2422.00	108.32	PK			1.00 V	189	111.62	28.3	5.00	36.6	-3.30
2	*2422.00	90.93	AV			1.00 V	189	94.23	28.3	5.00	36.6	-3.30
3	4844.00	56.03	PK	74.00	17.97	1.00 V	257	52.23	32.7	7.30	36.2	3.80
3	4844.00	45.11	AV	54.00	8.89	1.00 V	257	41.31	32.7	7.30	36.2	3.80
4	7266.00	58.69	PK	74.00	15.31	1.00 V	155	49.29	35.8	8.90	35.3	9.40
4	7266.00	47.82	AV	54.00	6.18	1.00 V	155	38.42	35.8	8.90	35.3	9.40
5	9688.00	60.56	PK	74.00	13.44	1.00 V	334	47.96	37.2	10.20	34.8	12.60
5	9688.00	50.04	AV	54.00	3.96	1.00 V	334	37.44	37.2	10.20	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m)=Raw Value(dBuV) + Correction Factor(dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) -Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value- Emission level.
 5. The limit value is defined as per 15.247
 6. “* “: Fundamental frequency

802.11n (40MHz) Channel 6

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	99.15	PK			1.00 H	100	102.35	28.3	5.10	36.6	-3.20
1	*2437.00	84.36	AV			1.00 H	100	87.56	28.3	5.10	36.6	-3.20
2	4874.00	55.89	PK	74.00	18.11	1.00 H	198	52.49	32.3	7.60	36.5	3.40
2	4874.00	46.23	AV	54.00	7.77	1.00 H	198	42.83	32.3	7.60	36.5	3.40
3	7311.00	57.85	PK	74.00	16.15	1.00 H	203	48.45	36.1	8.60	35.3	9.40
3	7311.00	46.89	AV	54.00	7.11	1.00 H	203	37.49	36.1	8.60	35.3	9.40
4	9748.00	60.91	PK	74.00	13.09	1.00 H	56	48.31	37.2	10.20	34.8	12.60
4	9748.00	50.17	AV	54.00	3.83	1.00 H	56	37.57	37.2	10.20	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2437.00	109.14	PK			1.00 V	122	112.34	28.3	5.10	36.6	-3.20
1	*2437.00	96.51	AV			1.00 V	122	99.71	28.3	5.10	36.6	-3.20
2	4874.00	55.99	PK	74.00	18.01	1.00 V	96	52.59	32.3	7.60	36.5	3.40
2	4874.00	46.97	AV	54.00	7.03	1.00 V	96	43.57	32.3	7.60	36.5	3.40
3	7311.00	57.36	PK	74.00	16.64	1.00 V	26	47.96	36.1	8.60	35.3	9.40
3	7311.00	46.57	AV	54.00	7.43	1.00 V	26	37.17	36.1	8.60	35.3	9.40
4	9748.00	60.79	PK	74.00	13.21	1.00 V	299	48.19	37.2	10.20	34.8	12.60
4	9748.00	50.07	AV	54.00	3.93	1.00 V	299	37.47	37.2	10.20	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. “*”: Fundamental frequency

802.11n (40MHz) Channel 9

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2452.00	97.62	PK			1.00 H	125	100.92	28.2	5.20	36.6	-3.20
1	*2452.00	79.66	AV			1.00 H	125	82.96	28.2	5.20	36.6	-3.20
2	2483.50	63.38	PK	74.00	10.62	1.00 H	312	66.68	28.2	5.10	36.6	-3.30
2	2483.50	43.53	AV	54.00	10.47	1.00 H	312	46.83	28.2	5.10	36.6	-3.30
3	4904.00	55.87	PK	74.00	18.13	1.00 H	258	52.07	33.0	7.00	36.2	3.80
3	4904.00	45.23	AV	54.00	8.77	1.00 H	258	41.43	33.0	7.00	36.2	3.80
4	7356.00	58.11	PK	74.00	15.89	1.00 H	12	48.71	36.2	8.50	35.3	9.40
4	7356.00	47.36	AV	54.00	6.64	1.00 H	12	37.96	36.2	8.50	35.3	9.40
5	9808.00	60.25	PK	74.00	13.75	1.00 H	100	47.65	37.3	10.10	34.8	12.60
5	9808.00	50.00	AV	54.00	4.00	1.00 H	100	37.40	37.3	10.10	34.8	12.60

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

No.	Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier (dB)	Correction Factor (dB/m)
1	*2452.00	102.05	PK			1.00 V	125	105.35	28.2	5.20	36.6	-3.20
1	*2452.00	86.03	AV			1.00 V	125	89.33	28.2	5.20	36.6	-3.20
2	2483.50	68.26	PK	74.00	5.74	1.00 V	300	71.56	28.2	5.10	36.6	-3.30
2	2483.50	50.94	AV	54.00	3.06	1.00 V	300	54.24	28.2	5.10	36.6	-3.30
3	4904.00	56.01	PK	74.00	17.99	1.00 V	346	52.21	33.0	7.00	36.2	3.80
3	4904.00	46.98	AV	54.00	7.02	1.00 V	346	43.18	33.0	7.00	36.2	3.80
4	7356.00	57.82	PK	74.00	16.18	1.00 V	157	48.42	36.2	8.50	35.3	9.40
4	7356.00	47.96	AV	54.00	6.04	1.00 V	157	38.56	36.2	8.50	35.3	9.40
5	9808.00	60.39	PK	74.00	13.61	1.00 V	287	47.79	37.3	10.10	34.8	12.60
5	9808.00	49.28	AV	54.00	4.72	1.00 V	287	36.68	37.3	10.10	34.8	12.60

- REMARKS:**
1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m)
 2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB) - Pre-amplifier Factor
 3. The other emission levels were very low against the limit.
 4. Margin value = Limit value - Emission level.
 5. The limit value is defined as per 15.247
 6. " * " : Fundamental frequency

Note:

The field strength is calculated by adding the Antenna Factor. Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level = Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor.

Remark: No any other emissions level which are attenuated less than 20dB below the limit

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.

Hence there no other emissions have been reported.

According to 15.31(o), The amplitude of spurious emissions from intentional radiators and emissions from unintentional radiators which are attenuated more than 20 dB below the permissible value need not be reported unless specifically required elsewhere in this Part.

Hence there no other emissions have been reported.

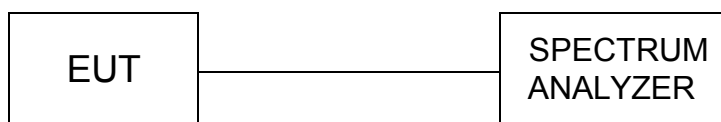
Remark:

- 1). As shown in Section, for frequencies above 1000 MHz. the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.
- 2). The test only perform the EUT in transmitting status since the test frequencies were over 1GHz only required transmitting status.
- 3) Pre-Scan has been conducted to determine the worst-case mode from all possible Combinations between available modulations, data rates and antenna ports, and found the EUT worse case mode: 802.11b (11MHz), 802.11g (54MHz)
- 4) For this intentional radiator operates below 25 GHz. The spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the 4th harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 4th harmonic.



4.3. 6dB Bandwidth Measurement

TEST CONFIGURATION



TEST PROCEDURE

1. The testing follows FCC KDB Publication No. 558074 (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

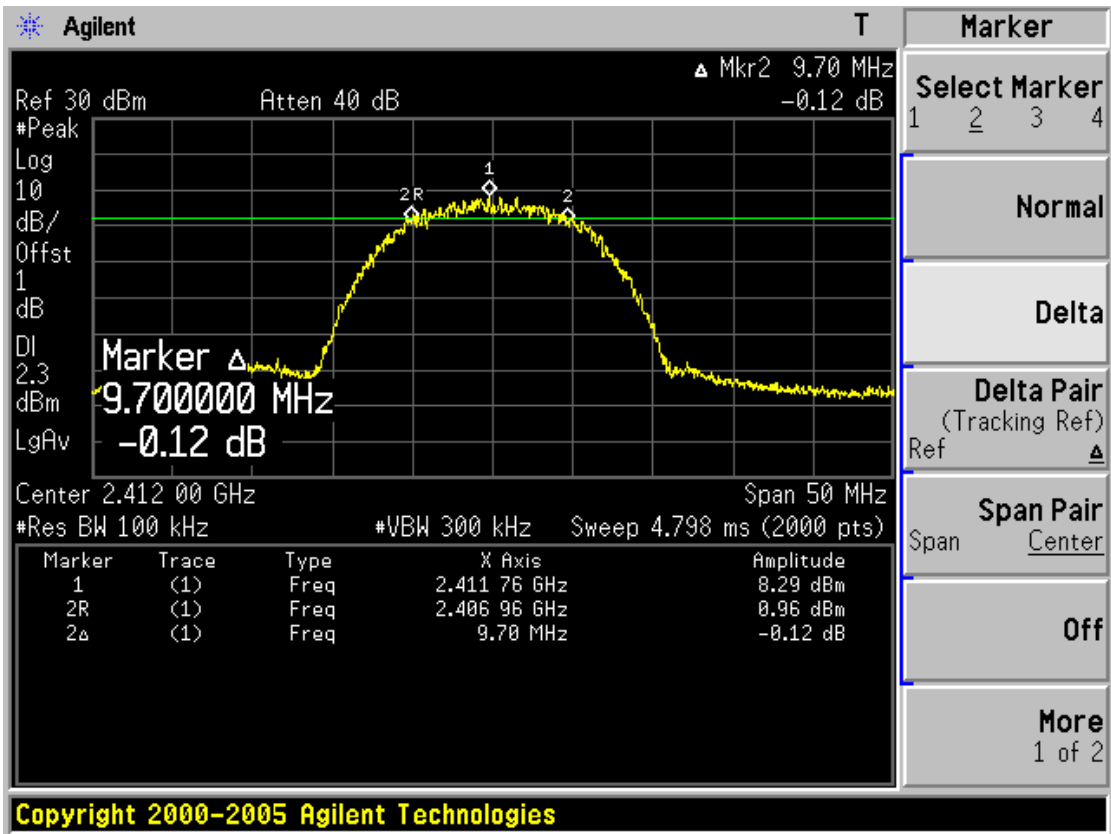
For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz.

TEST RESULTS

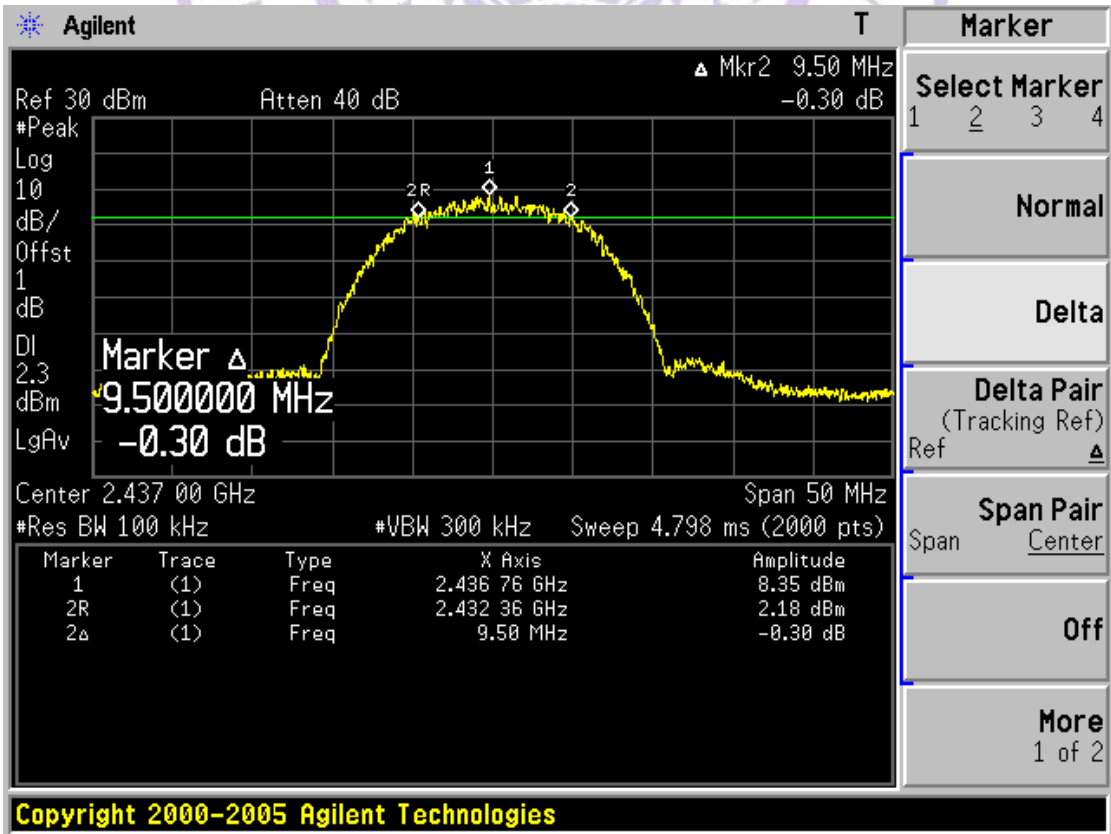
Mode	CHANNEL	6 dB BANDWIDTH (MHz)	MINIMUM LIMIT (MHz)	PASS/FAIL
802.11b	1	9.70	0.5	PASS
	6	9.50	0.5	PASS
	11	9.03	0.5	PASS
802.11g	1	16.58	0.5	PASS
	6	16.58	0.5	PASS
	11	16.58	0.5	PASS
802.11n HT20	1	16.58	0.5	PASS
	6	16.58	0.5	PASS
	11	16.56	0.5	PASS
802.11n HT40	3	35.66	0.5	PASS
	6	35.56	0.5	PASS
	9	35.45	0.5	PASS

For 802.11b:

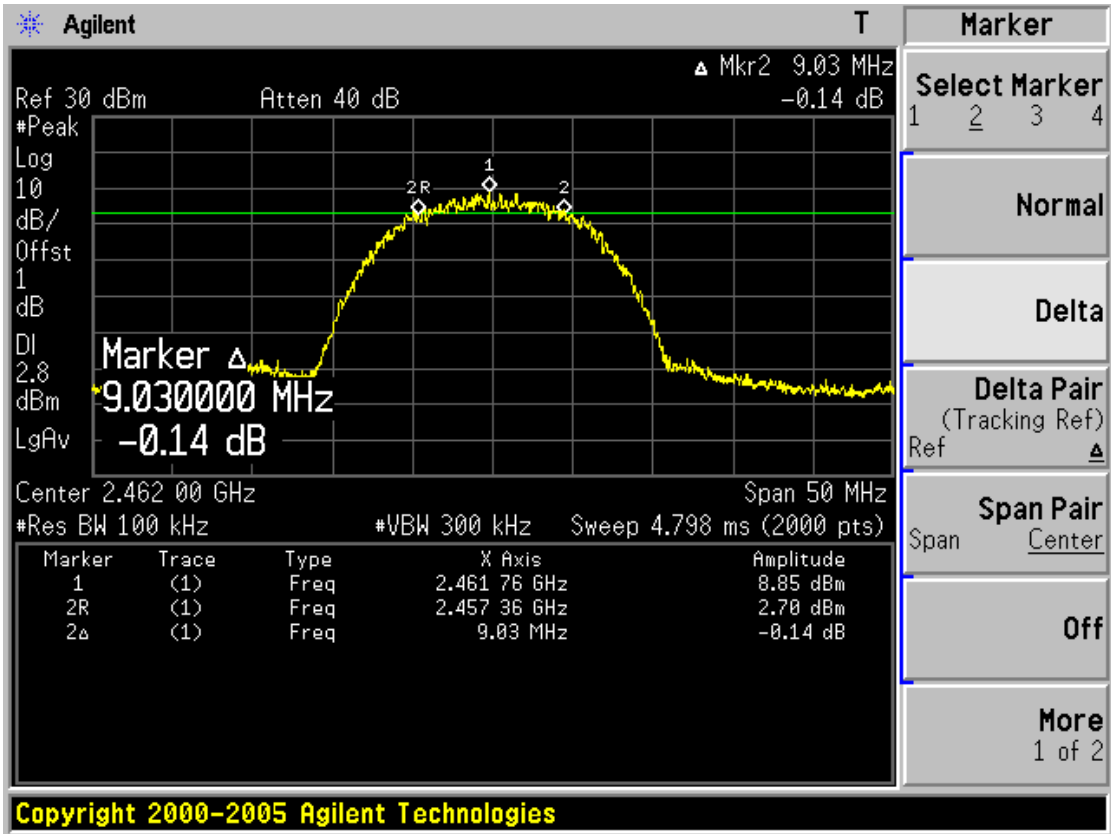
CH1



CH6

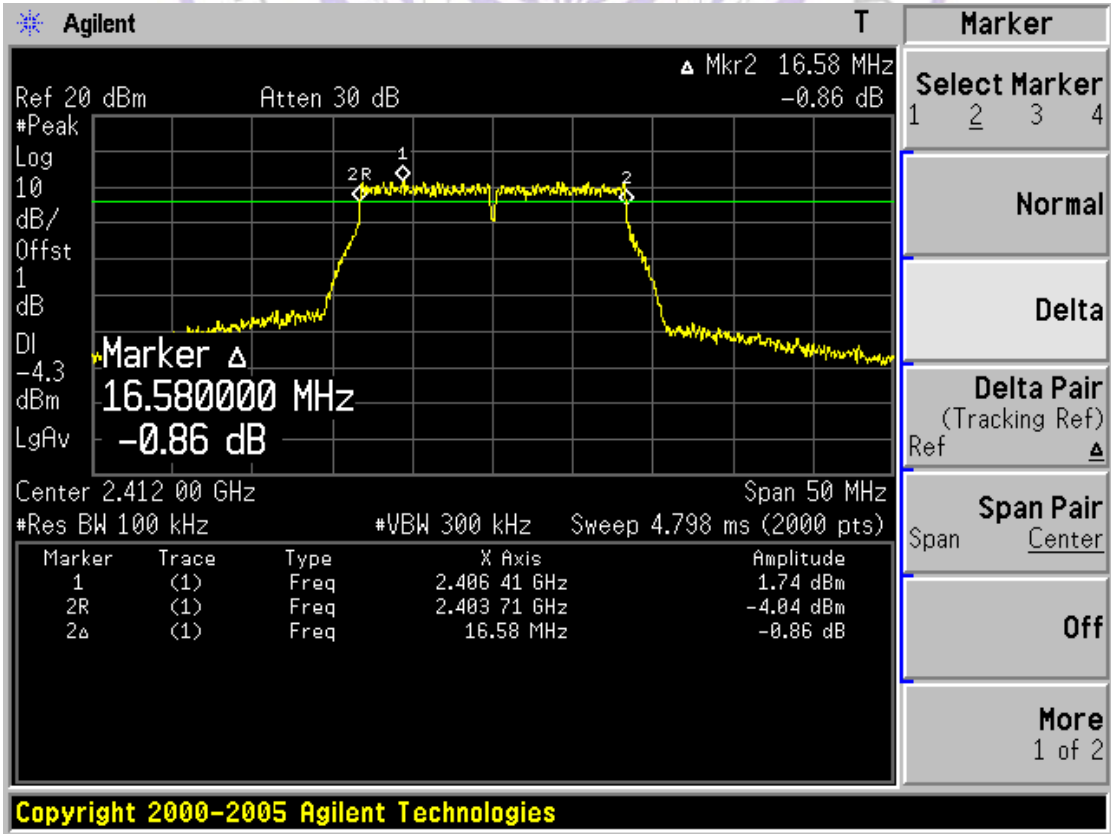


CH11

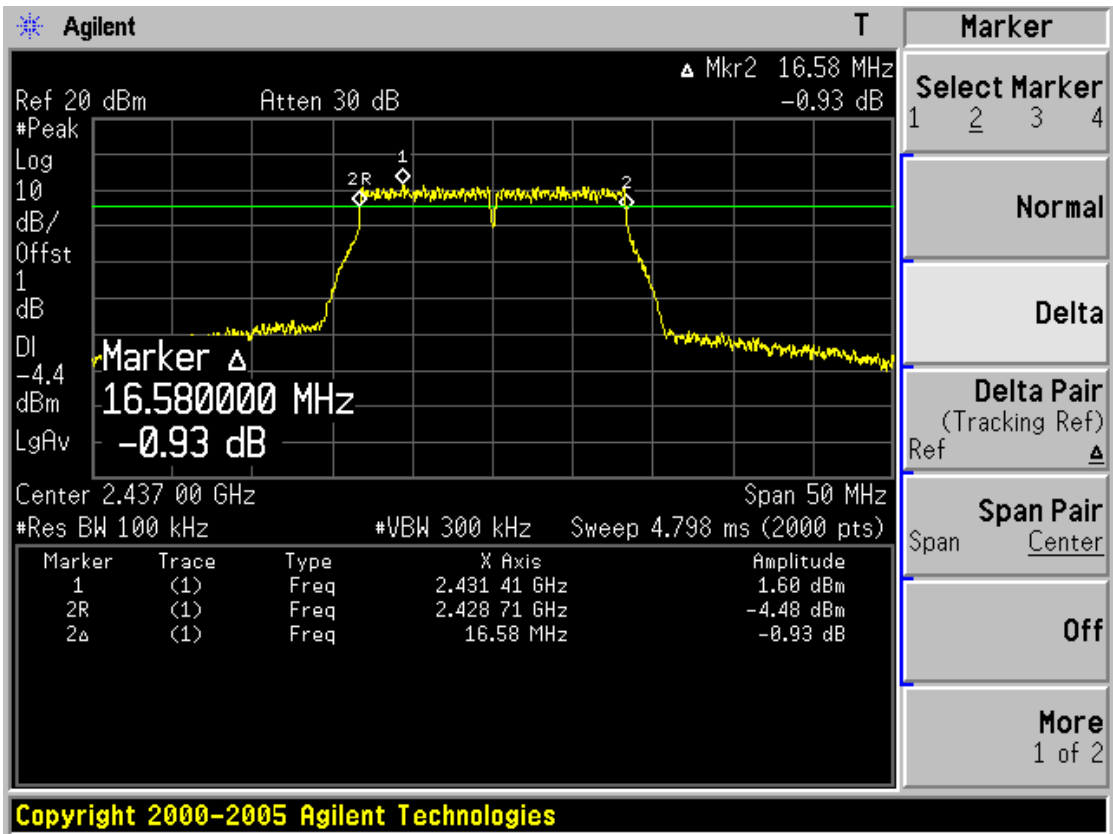


For 802.11g:

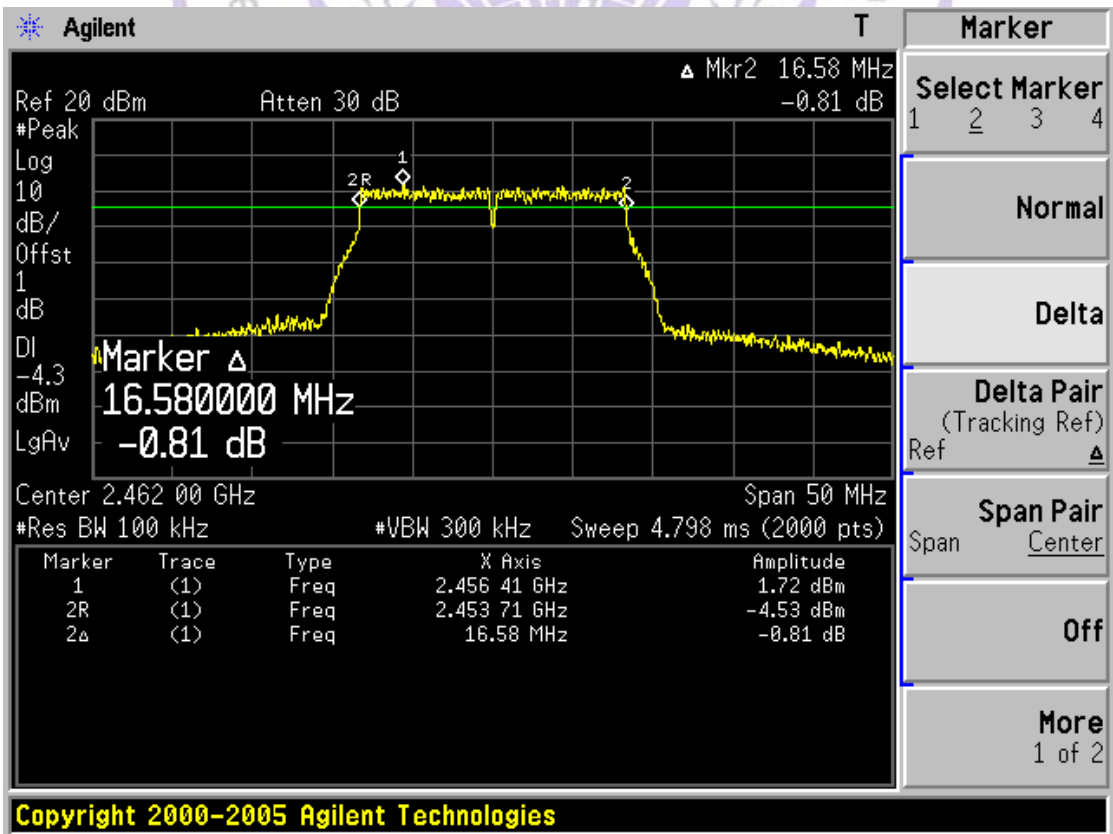
CH1



CH6

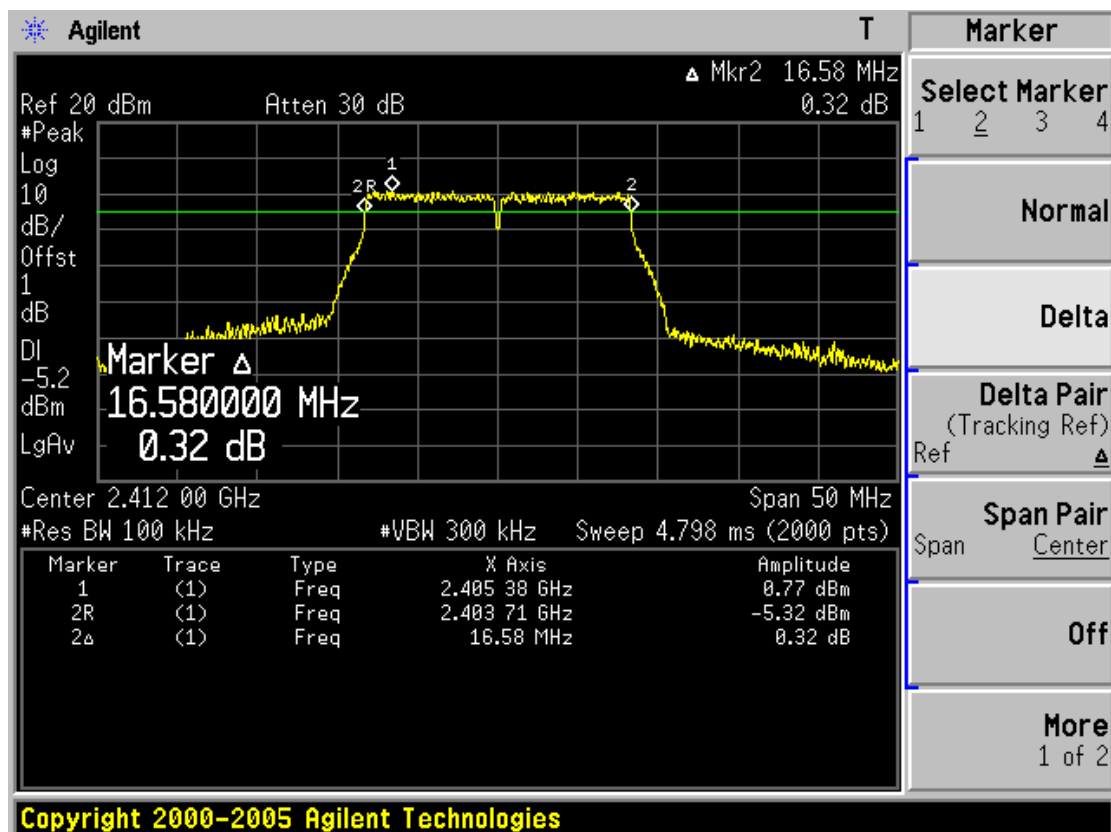


CH11

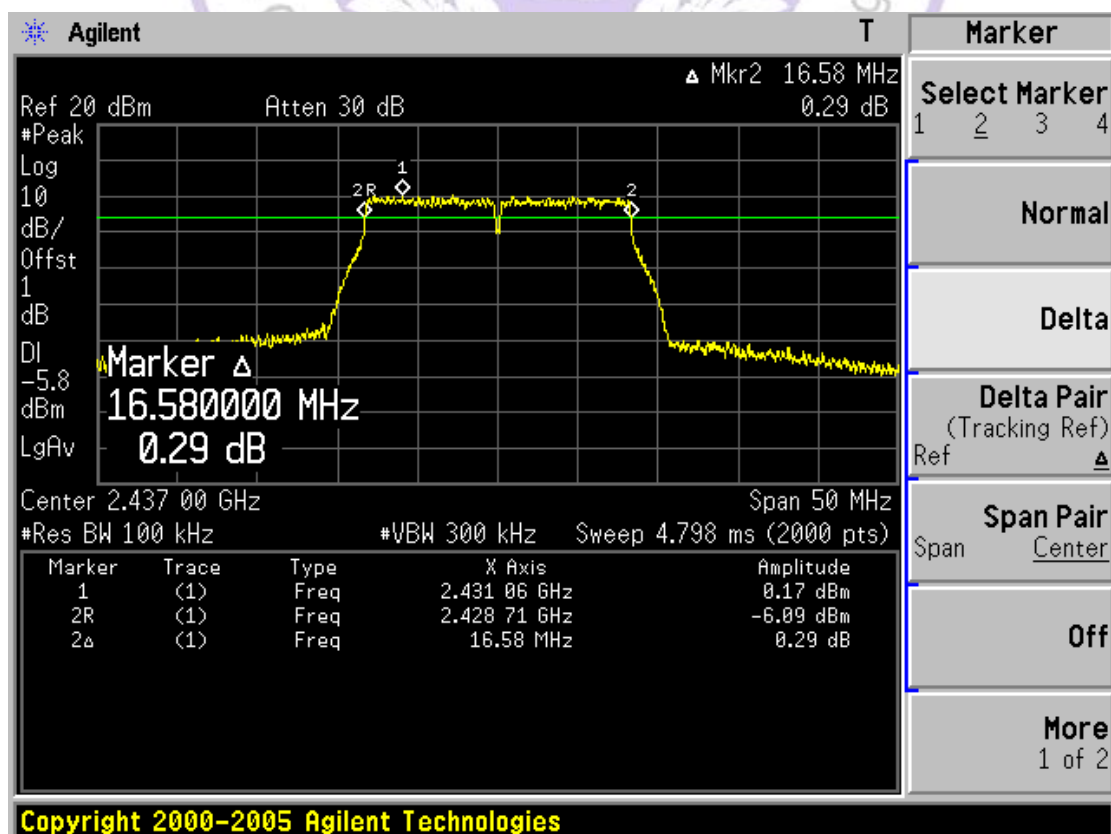


For 802.11n (20MHz) Mode:

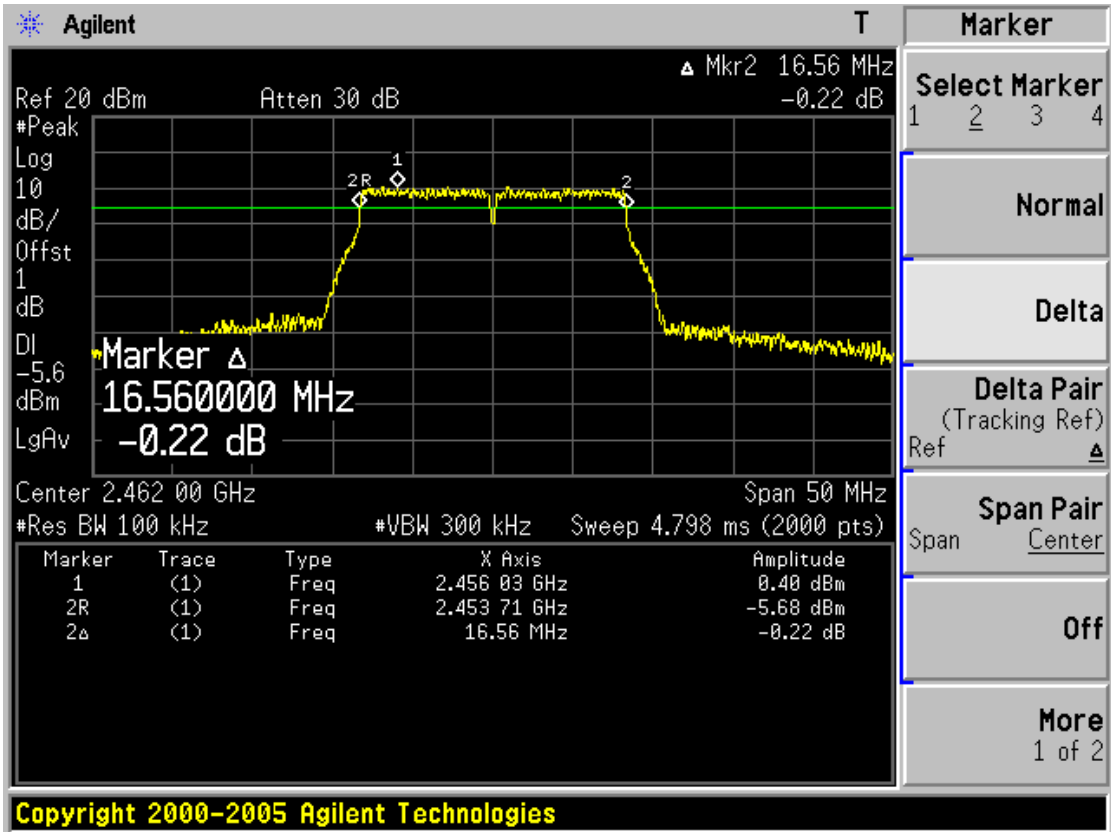
CH1



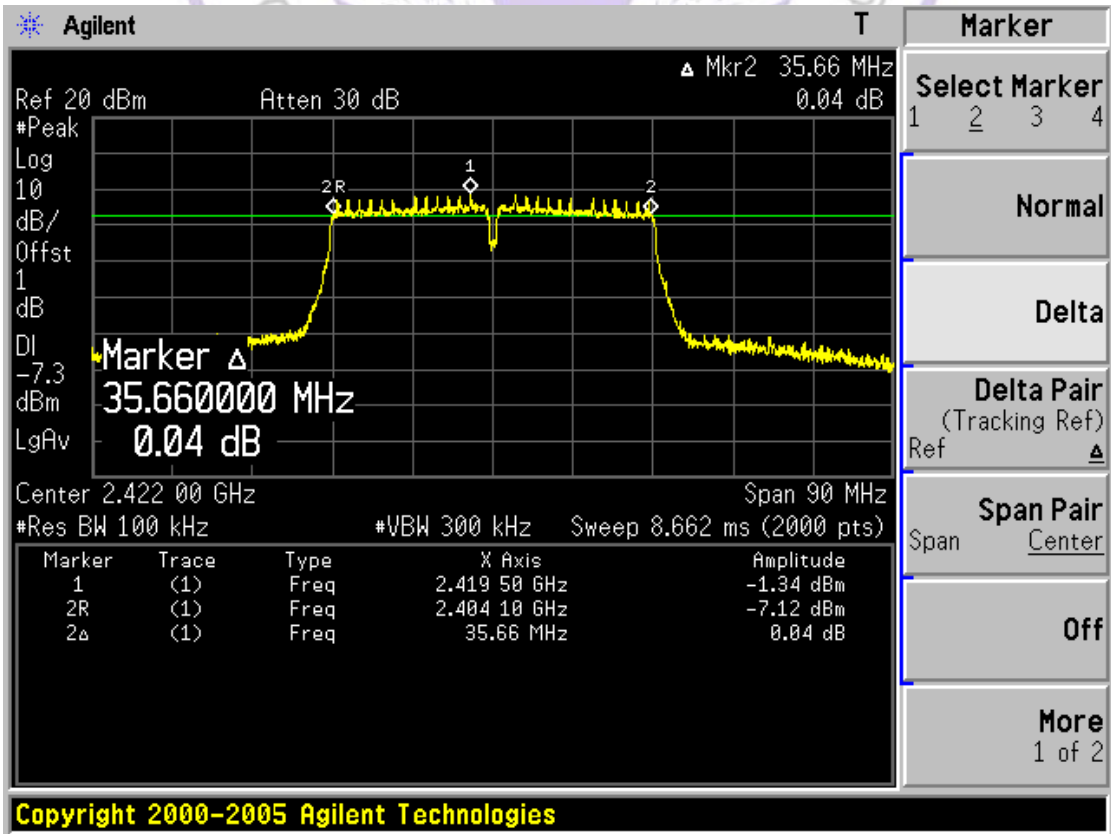
CH6



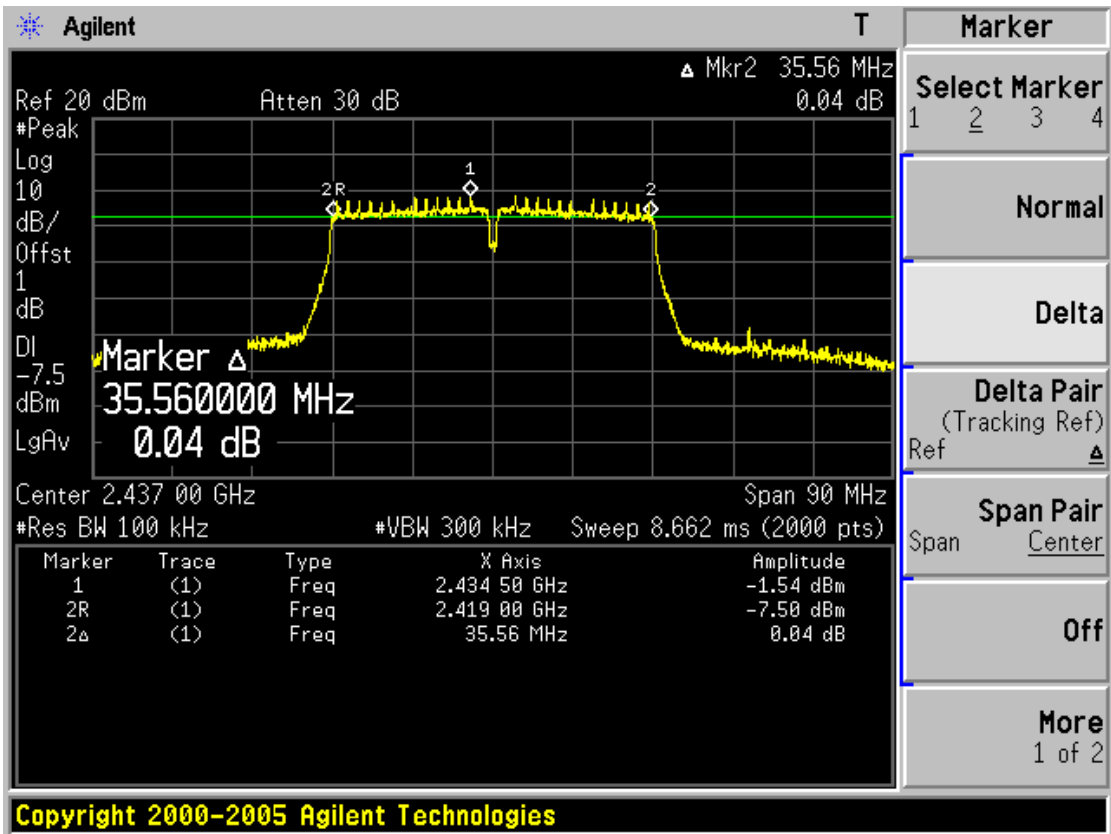
CH11



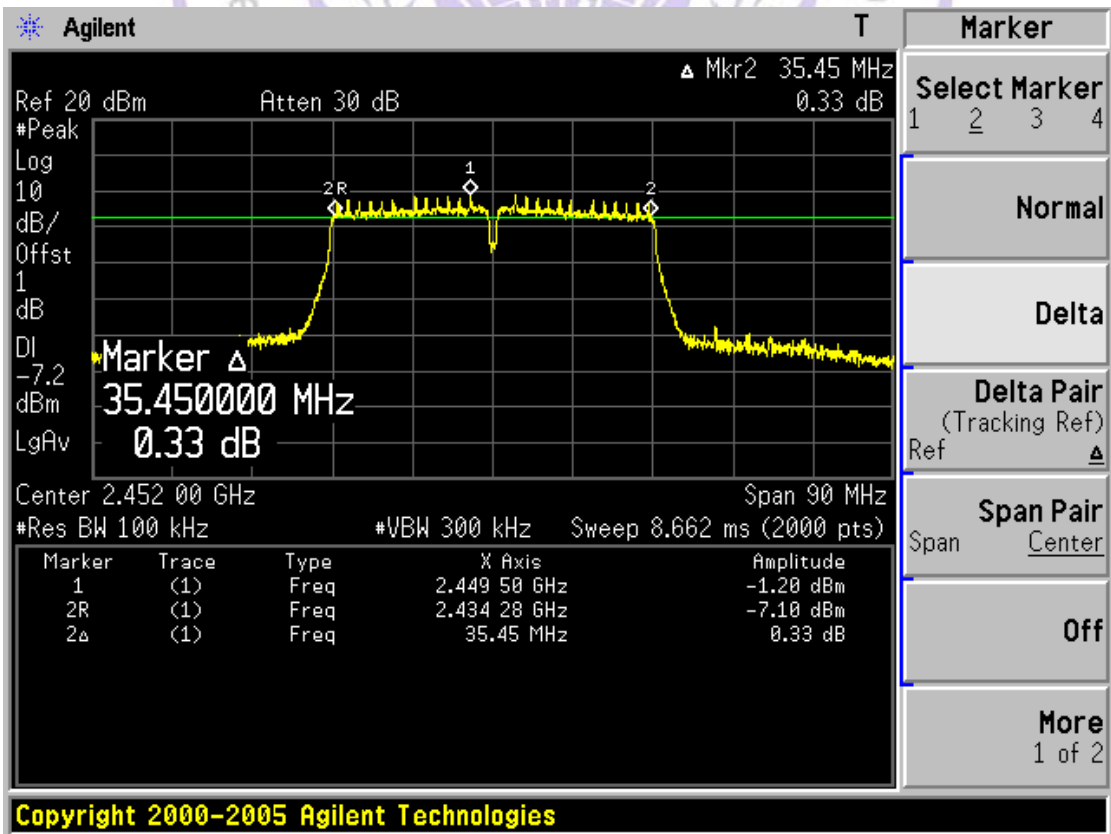
For 802.11n (40MHz) Mode:



CH6

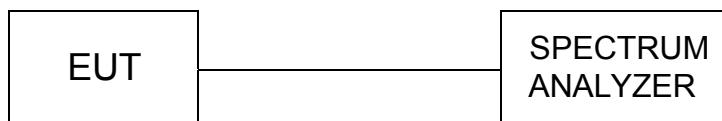


CH9



4.4. Maximum Peak Output Power

TEST CONFIGURATION



TEST PROCEDURE

According to C63.10 -2009 and KDB558074, 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.

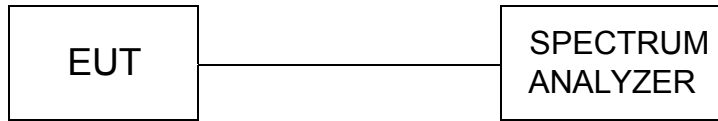
TEST RESULTS

Mode	Channel	Peak Power Output (dBm)	Peak Power Limit (dBm)	PASS / FAIL
802.11b	1	15.05	30	PASS
	6	14.86	30	PASS
	11	14.82	30	PASS
802.11g	1	13.57	30	PASS
	6	13.50	30	PASS
	11	13.16	30	PASS
802.11n HT20	1	13.53	30	PASS
	6	13.22	30	PASS
	11	13.01	30	PASS
802.11n HT40	3	11.82	30	PASS
	6	11.38	30	PASS
	9	11.14	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 (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.

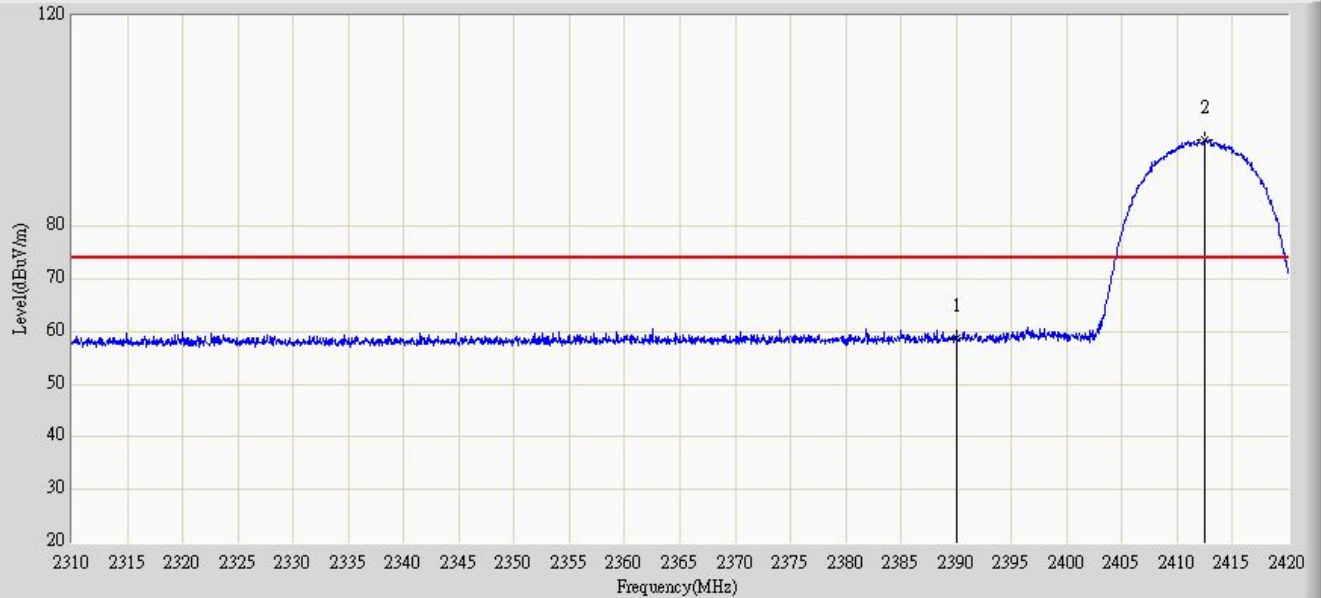
LIMIT

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

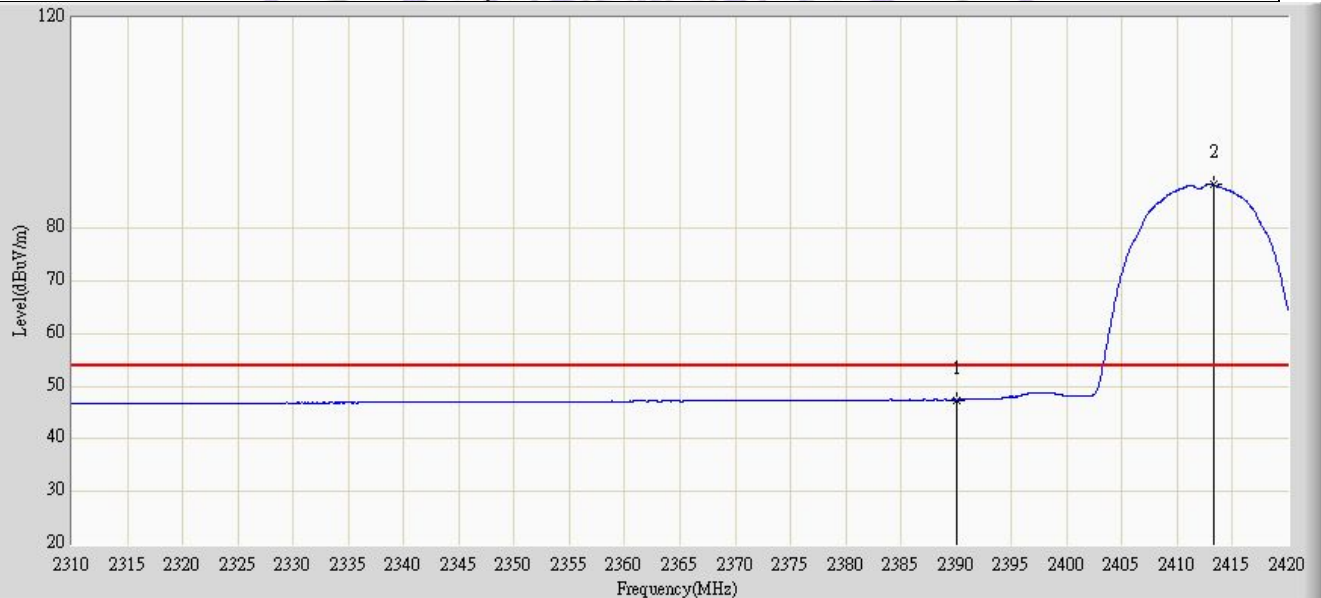
TEST RESULTS

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



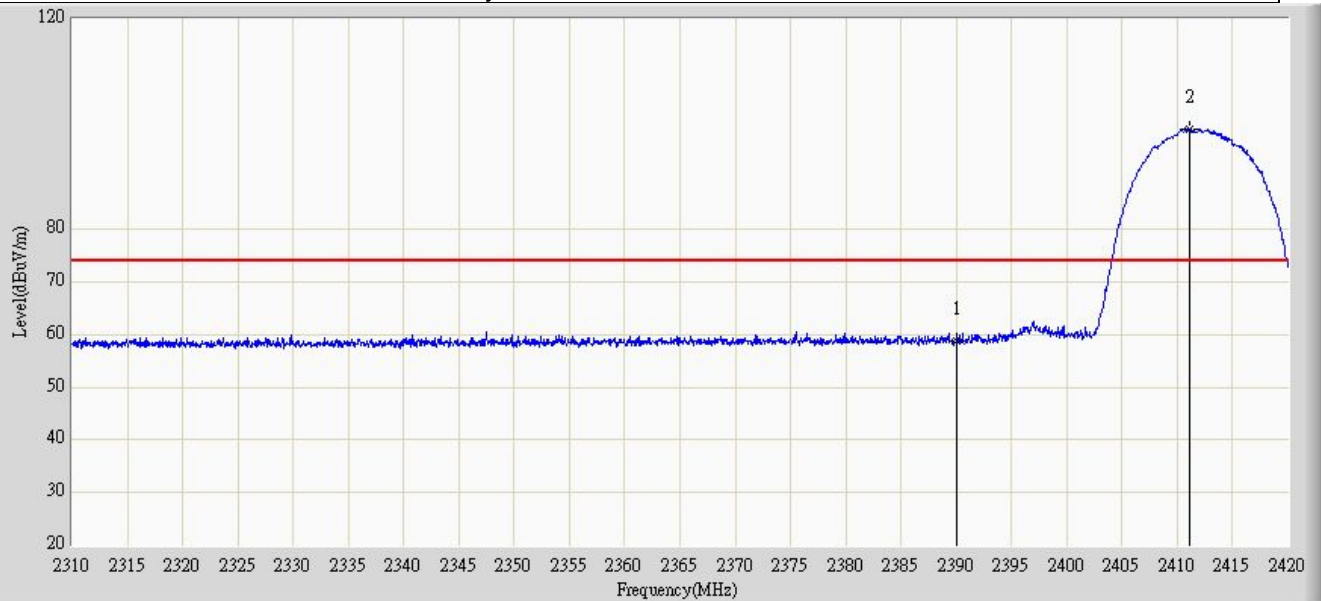
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	58.862	28.512	-15.138	74.000	30.350	PK
2		*	2412.520	96.312	65.908	N/A	N/A	30.404	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



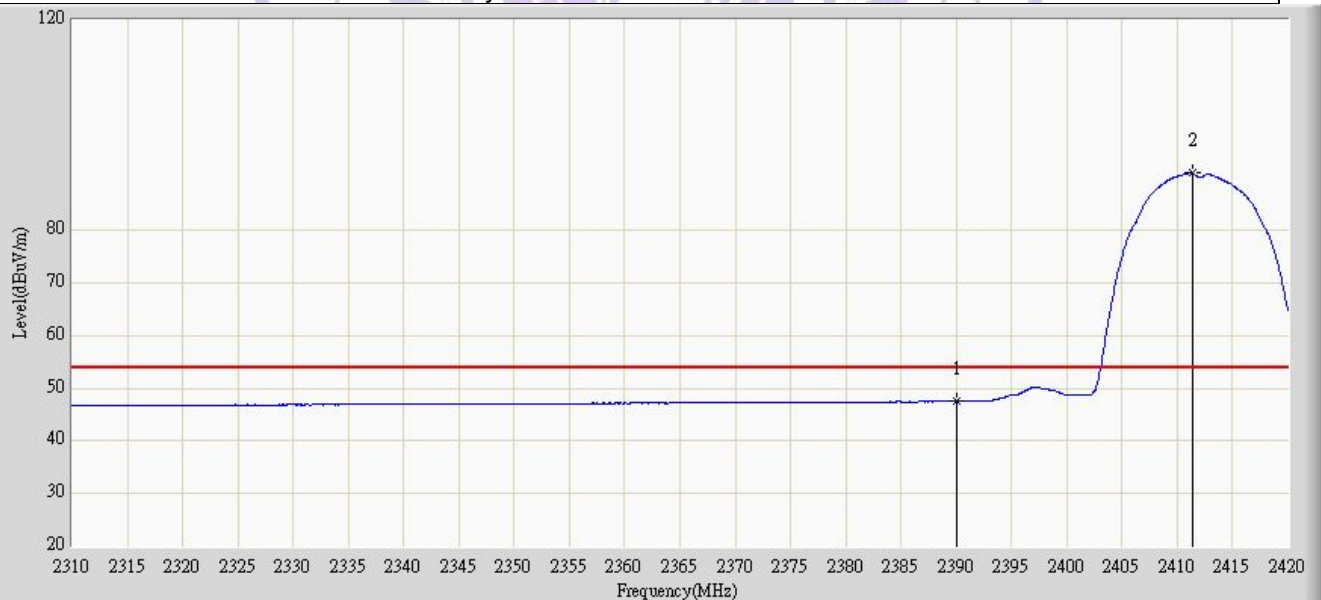
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	47.427	17.077	-6.573	54.000	30.350	AV
2		*	2413.290	88.252	57.846	N/A	N/A	30.406	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



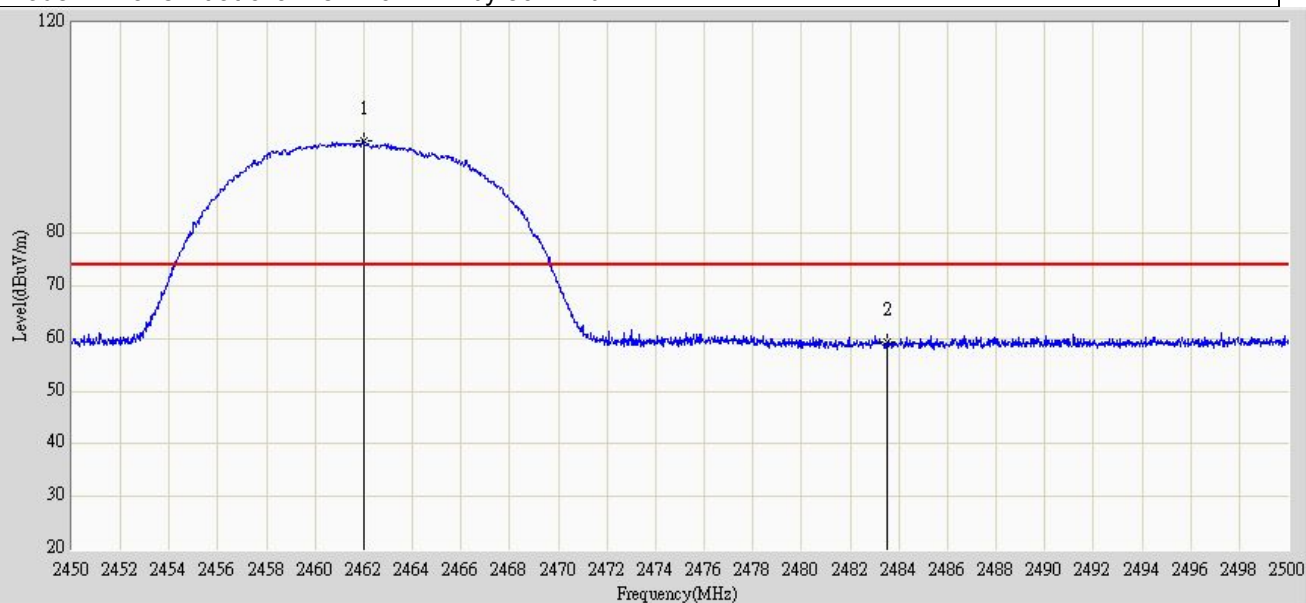
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	58.676	28.326	-15.324	74.000	30.350	PK
2		*	2411.145	99.093	68.693	N/A	N/A	30.400	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2412MHz by 802.11b	



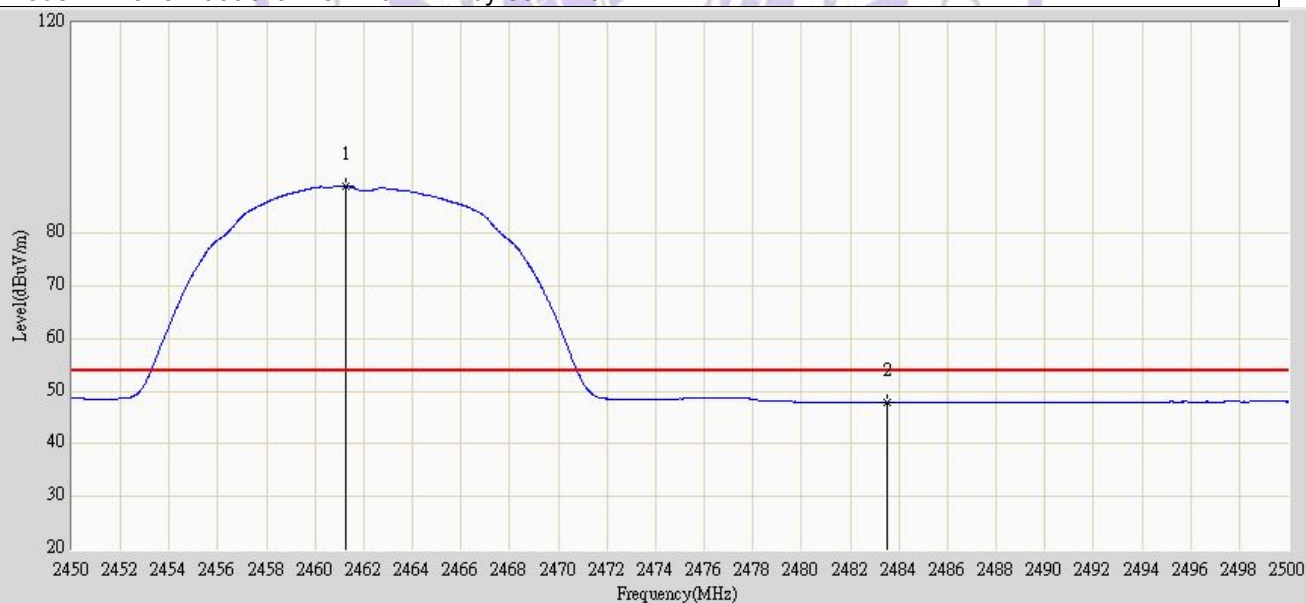
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	47.514	17.164	-6.486	54.000	30.350	AV
2		*	2411.365	90.880	60.479	N/A	N/A	30.401	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



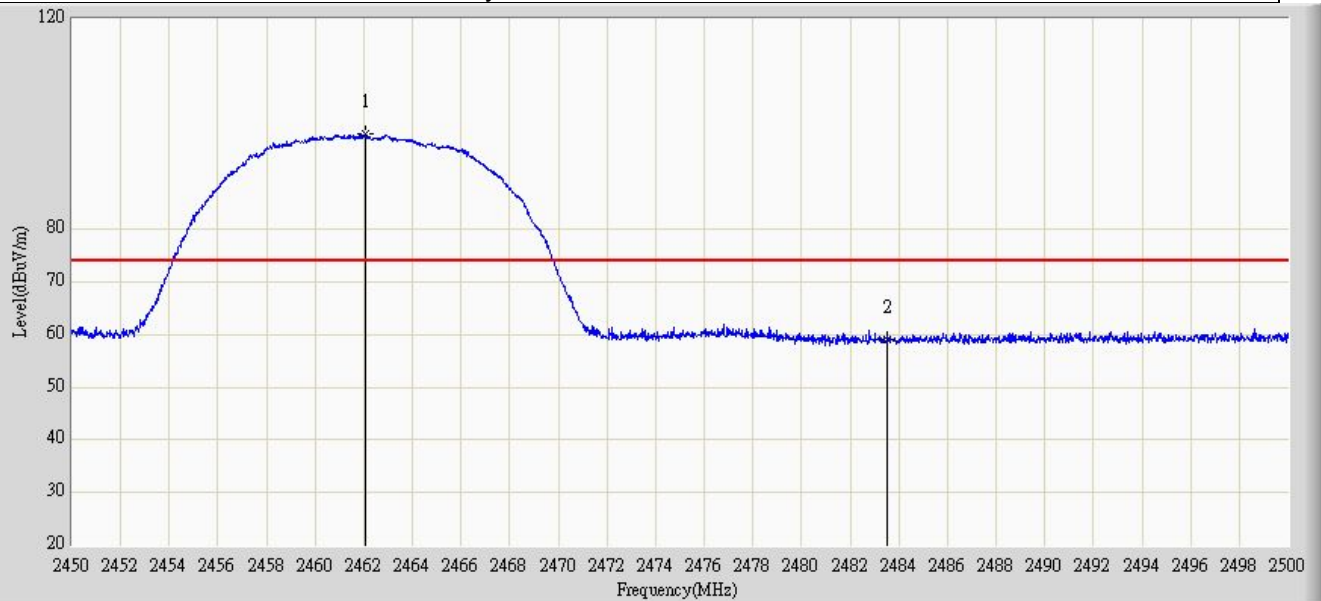
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2461.975	97.522	66.987	N/A	N/A	30.535	PK
2			2483.500	59.445	28.853	-14.555	74.000	30.592	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



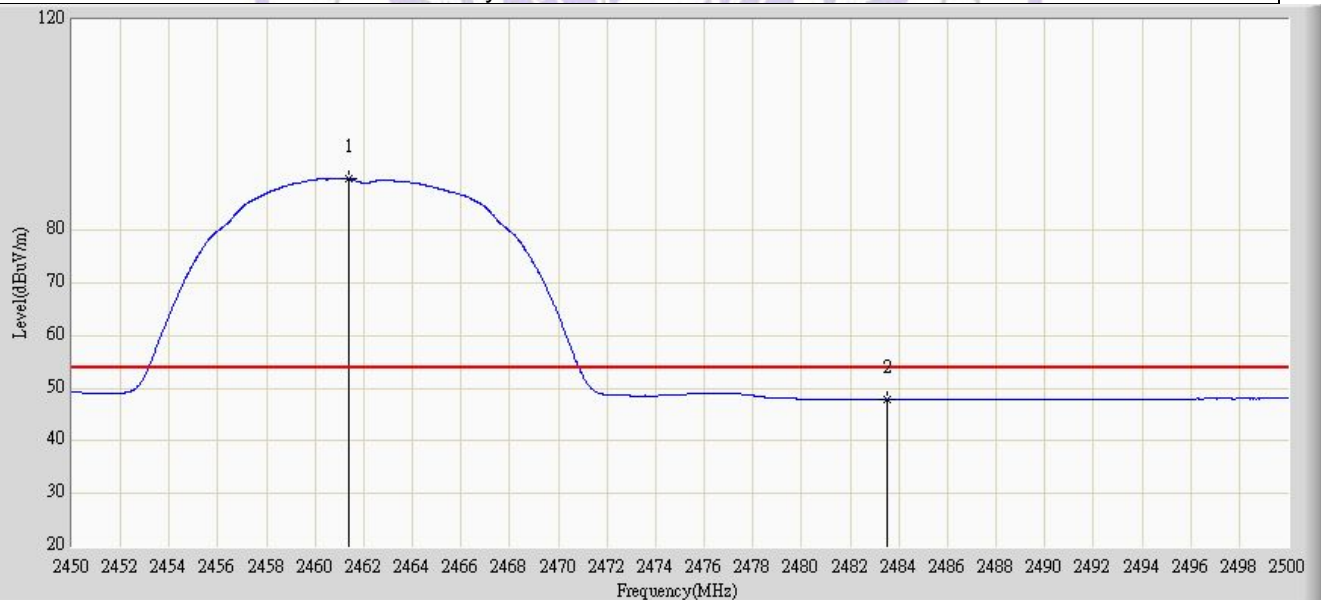
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2461.250	88.941	58.408	N/A	N/A	30.533	AV
2			2483.500	47.832	17.240	-6.168	54.000	30.592	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



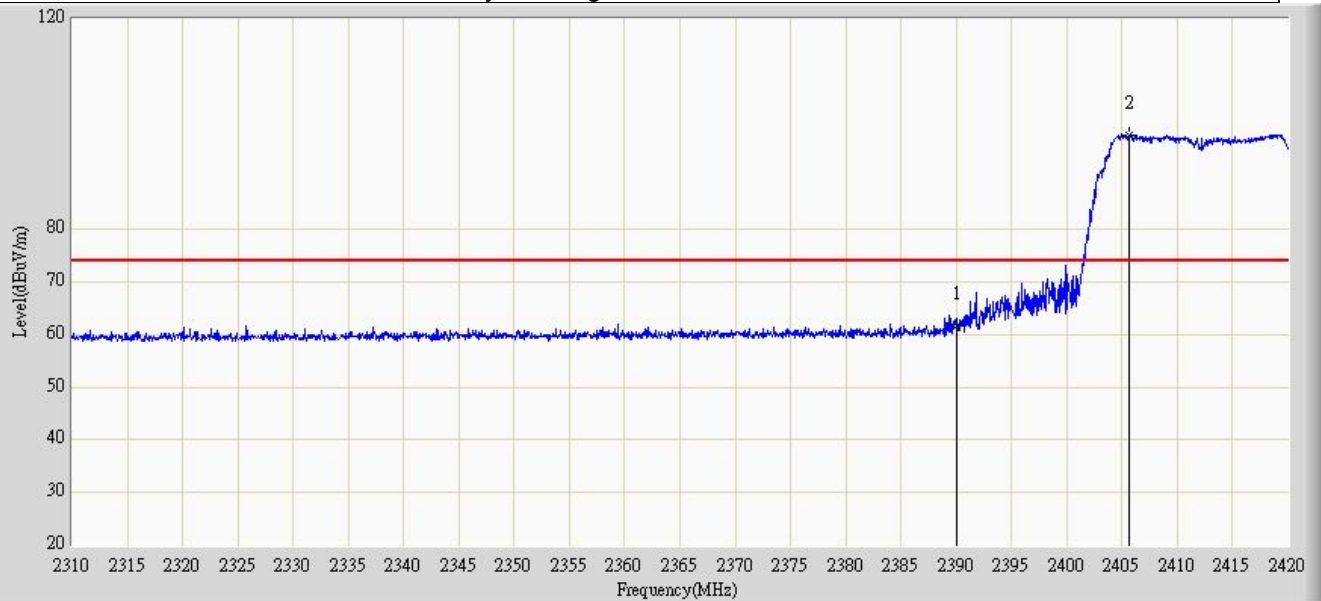
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2462.050	98.180	67.645	N/A	N/A	30.535	PK
2			2483.500	58.954	28.362	-15.046	74.000	30.592	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 1: Transmit at channel 2462MHz by 802.11b	



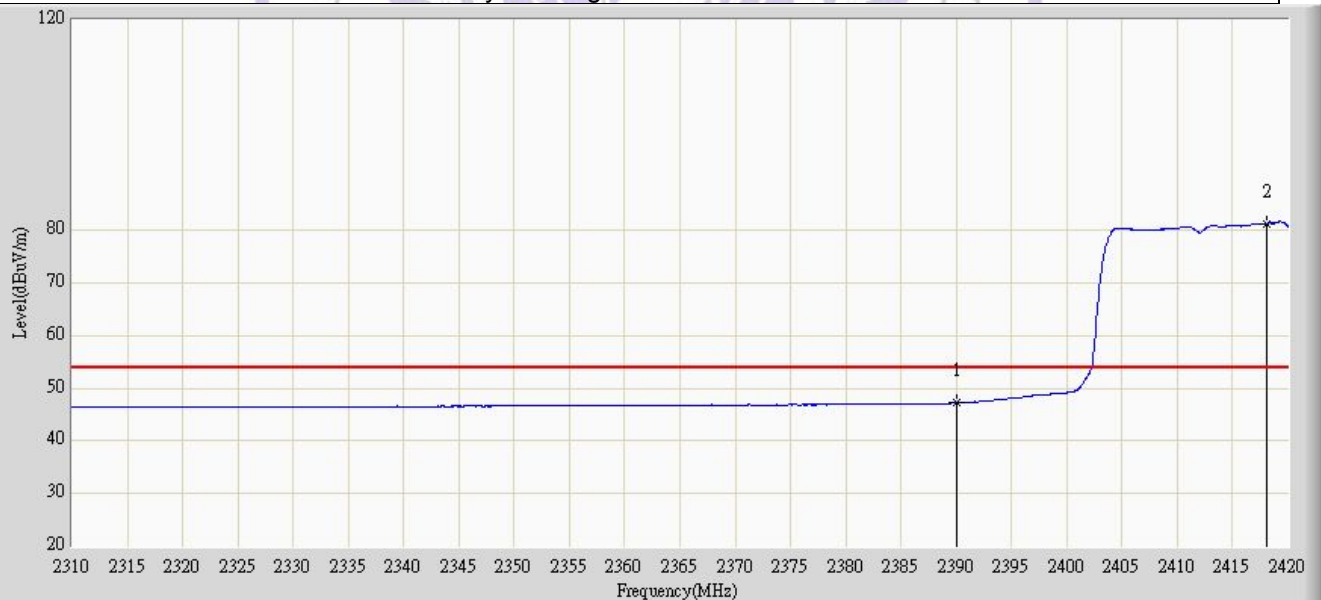
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2461.400	89.782	59.249	N/A	N/A	30.533	AV
2			2483.500	47.878	17.286	-6.122	54.000	30.592	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	



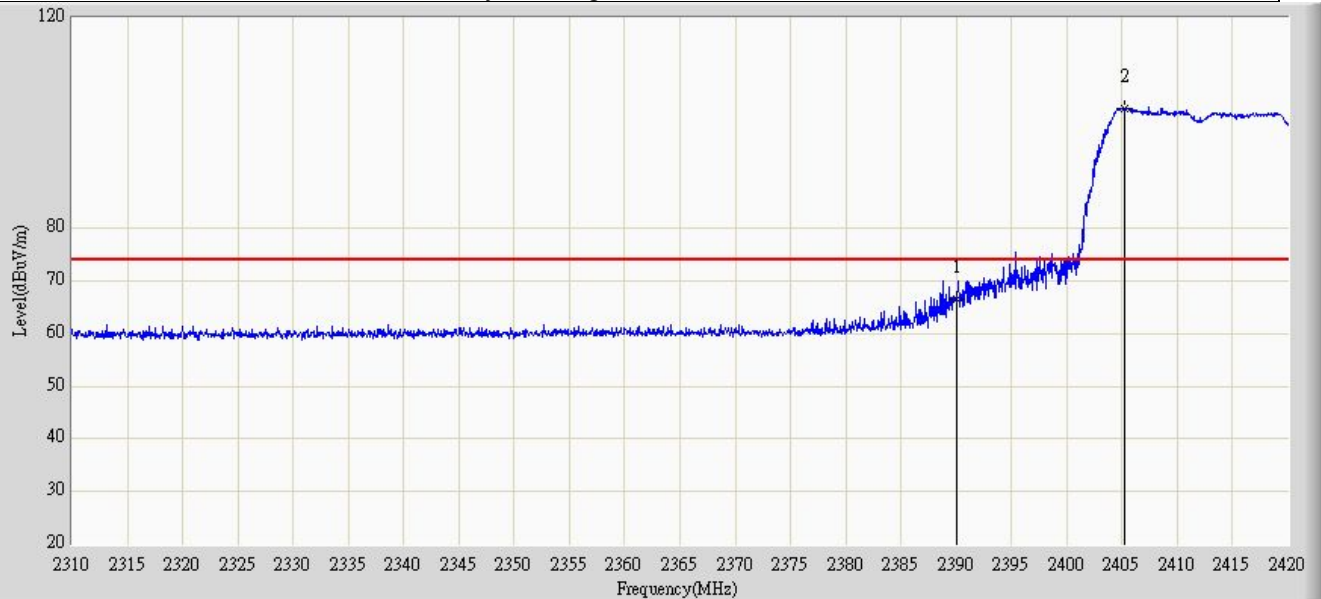
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	61.588	31.238	-12.412	74.000	30.350	PK
2		*	2405.590	97.808	67.420	N/A	N/A	30.388	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	



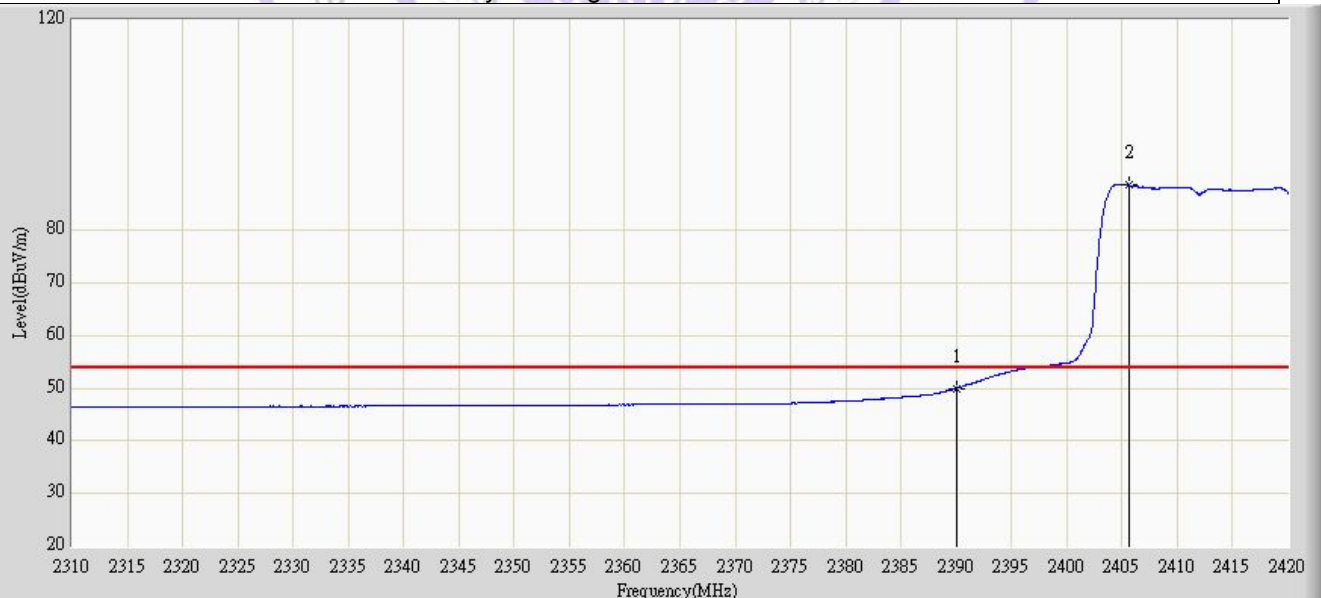
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	47.204	16.854	-6.796	54.000	30.350	AV
2		*	2418.130	81.347	50.928	N/A	N/A	30.420	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	



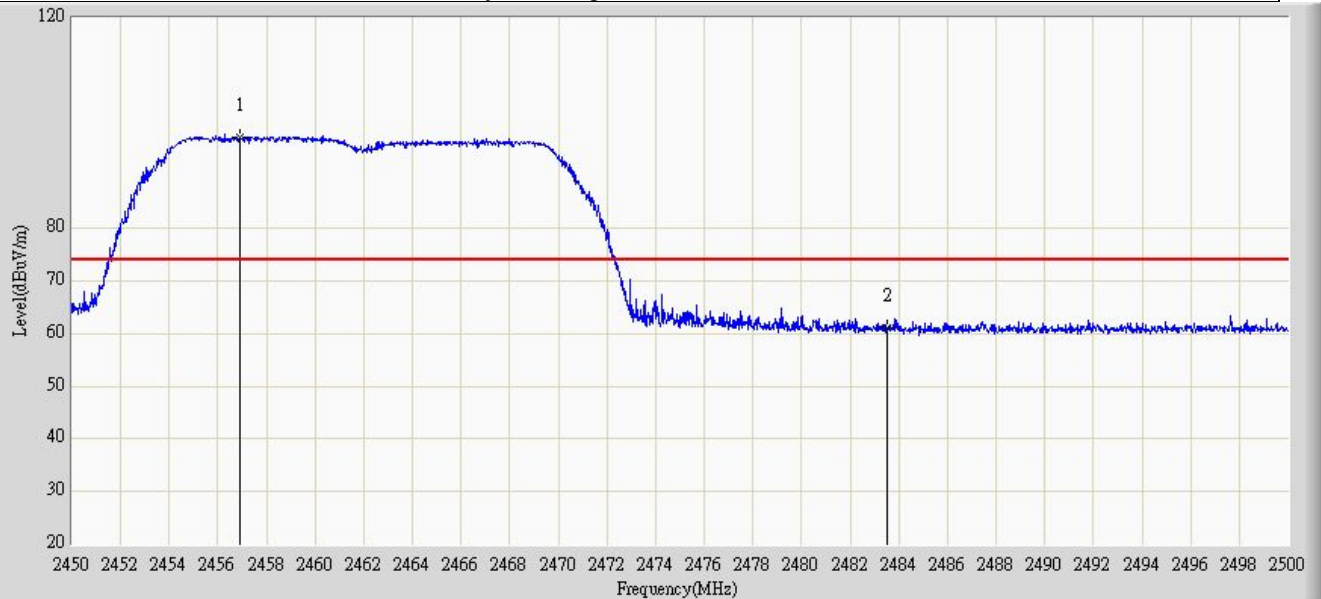
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	66.646	36.296	-7.354	74.000	30.350	PK
2		*	2405.260	102.819	72.432	N/A	N/A	30.388	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2412MHz by 802.11g	



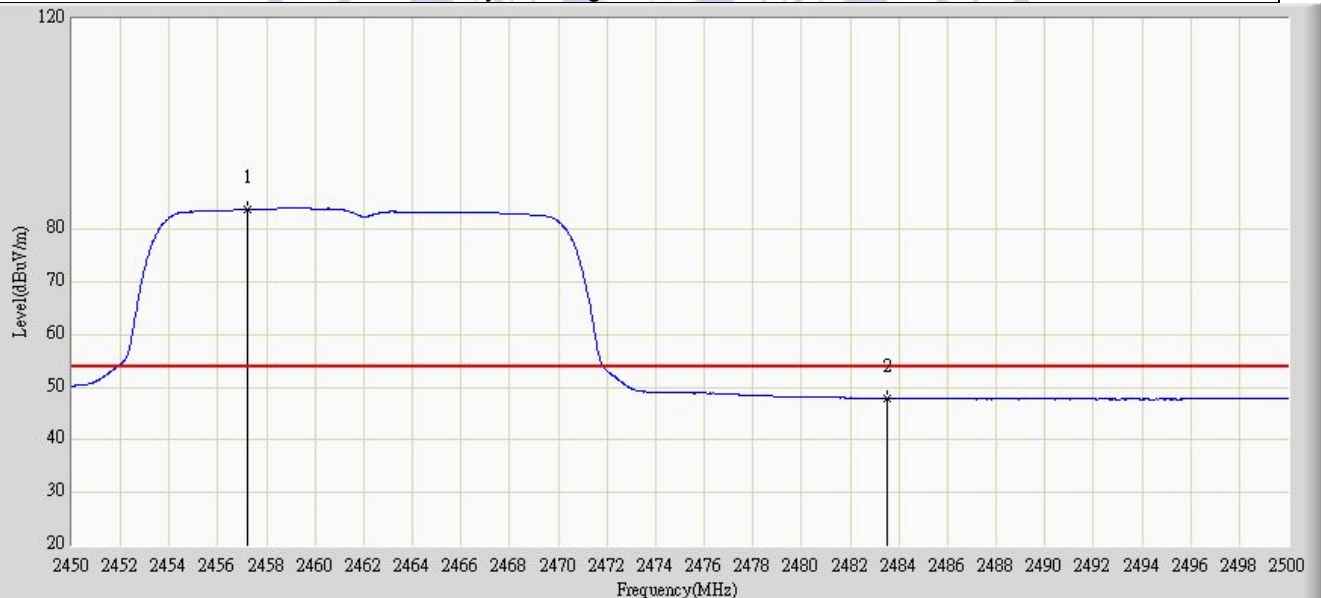
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	49.990	19.640	-4.010	54.000	30.350	AV
2		*	2405.590	88.591	58.203	N/A	N/A	30.388	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



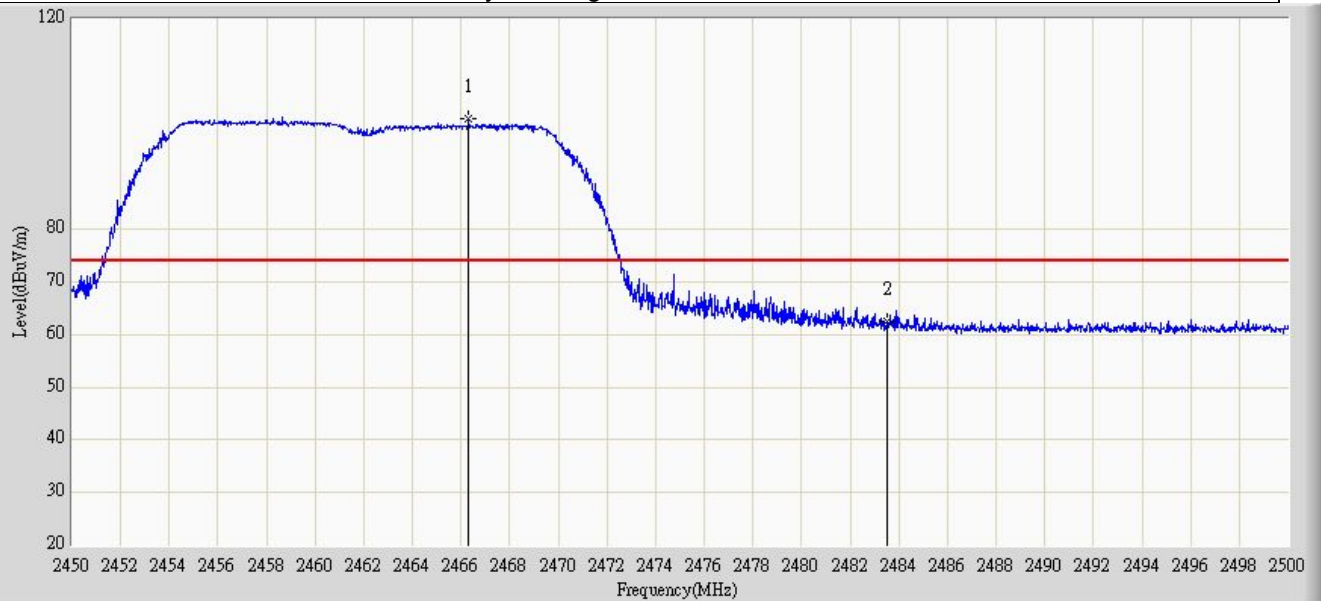
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2456.900	97.264	66.744	N/A	N/A	30.521	PK
2			2483.500	61.192	30.600	-12.808	74.000	30.592	PK

Engineer:	
Site: AC5	Time: 2012/08/13 - 10:07
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



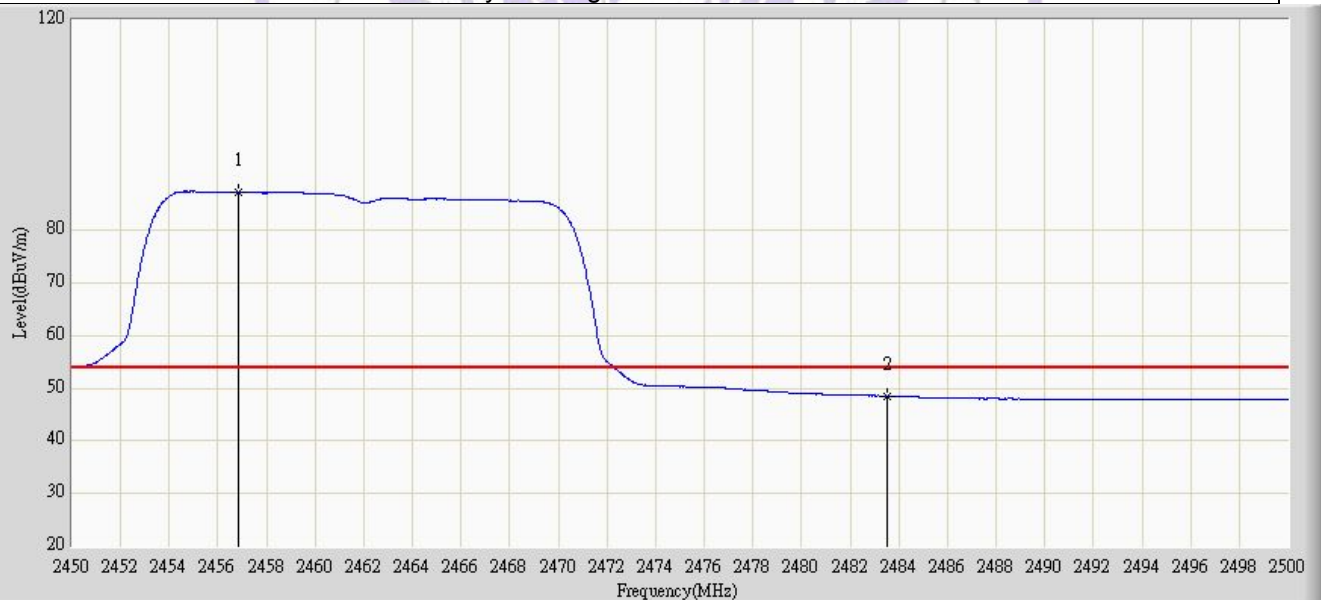
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2457.225	83.822	53.301	N/A	N/A	30.521	AV
2			2483.500	47.937	17.345	-6.063	54.000	30.592	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



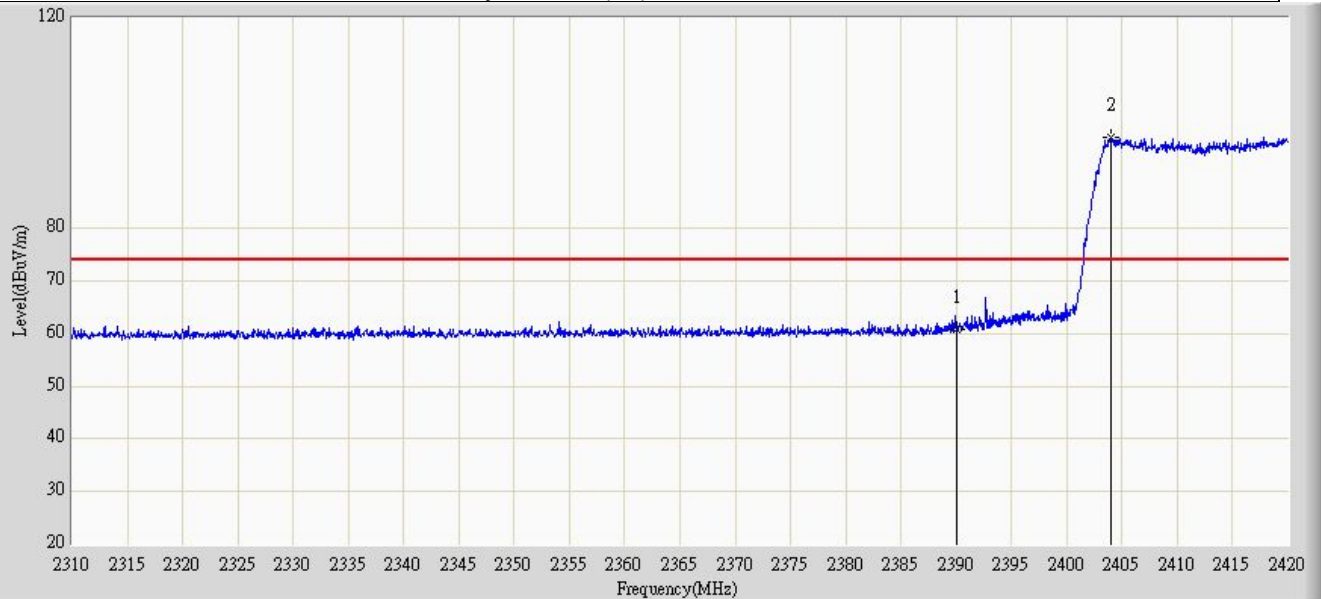
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2466.300	101.027	70.481	N/A	N/A	30.546	PK
2			2483.500	62.544	31.952	-11.456	74.000	30.592	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 2: Transmit at channel 2462MHz by 802.11g	



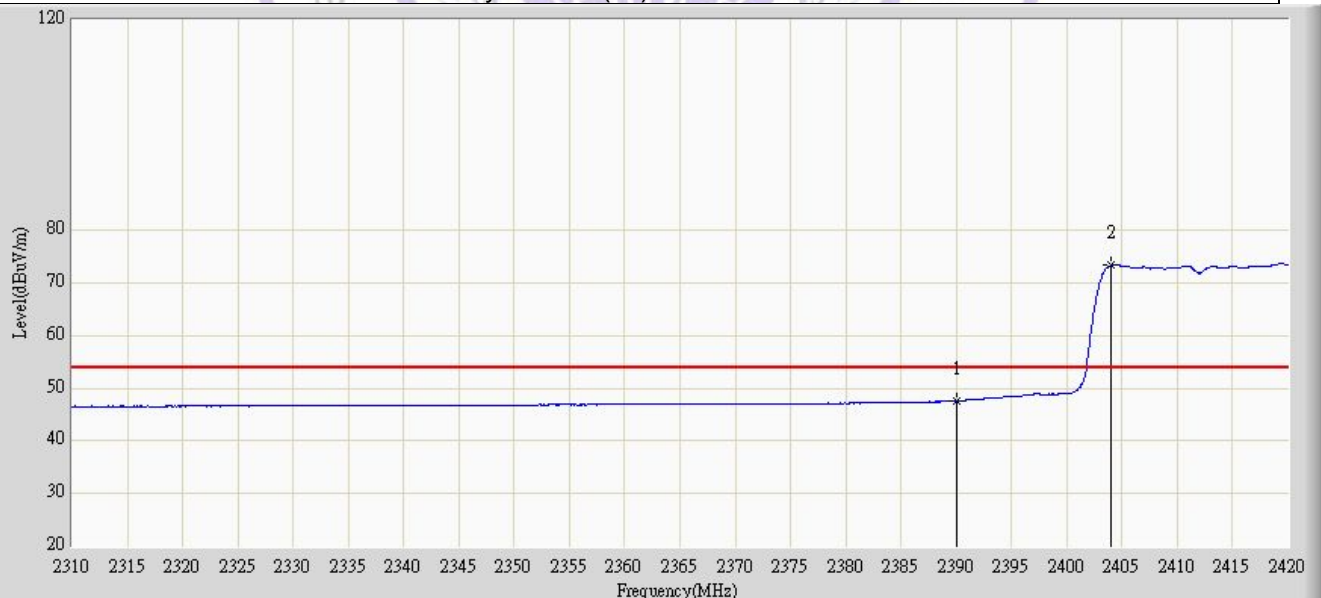
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2456.825	87.238	56.718	N/A	N/A	30.521	AV
2			2483.500	48.528	17.936	-5.472	54.000	30.592	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2412MHz by 802.11n(20)	



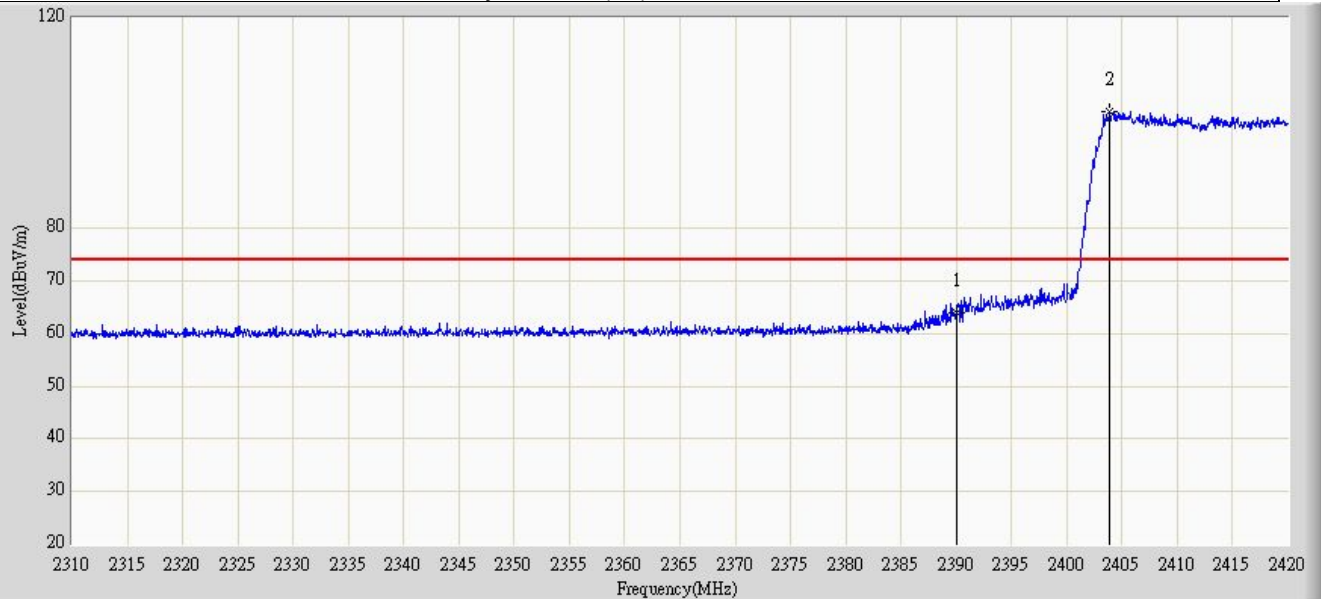
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	60.818	30.468	-13.182	74.000	30.350	PK
2		*	2404.050	97.209	66.825	N/A	N/A	30.384	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2412MHz by 802.11n(20)	



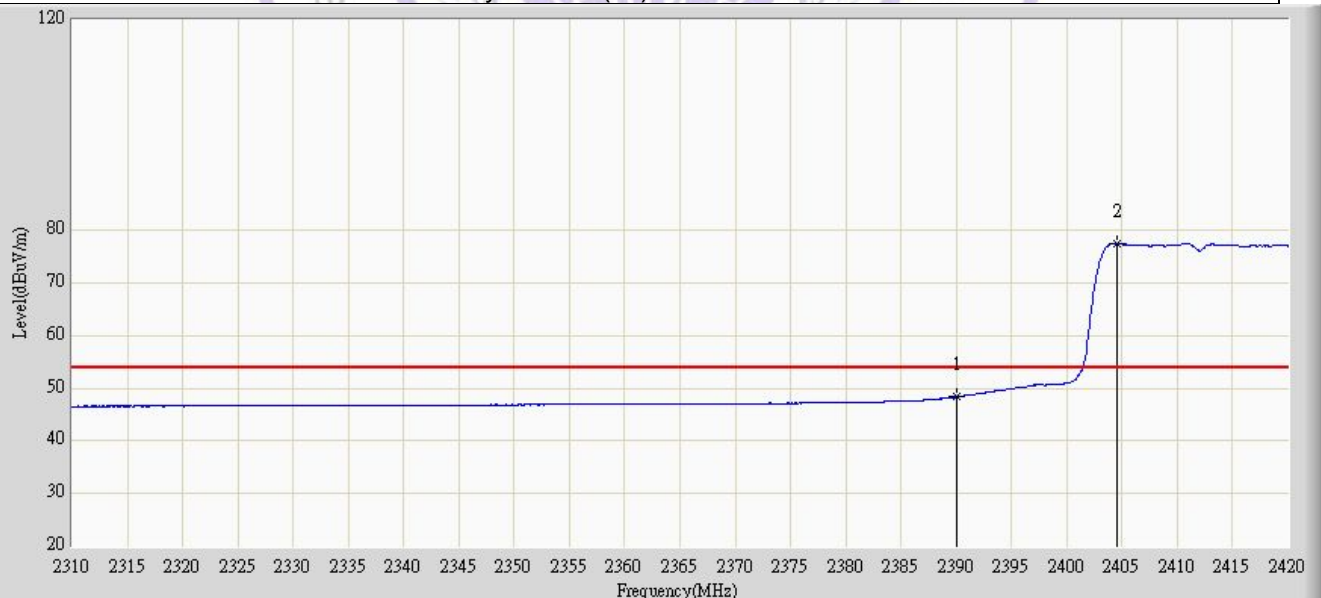
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	47.600	17.250	-6.400	54.000	30.350	AV
2		*	2404.050	73.357	42.973	N/A	N/A	30.384	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2412MHz by 802.11n(20)	



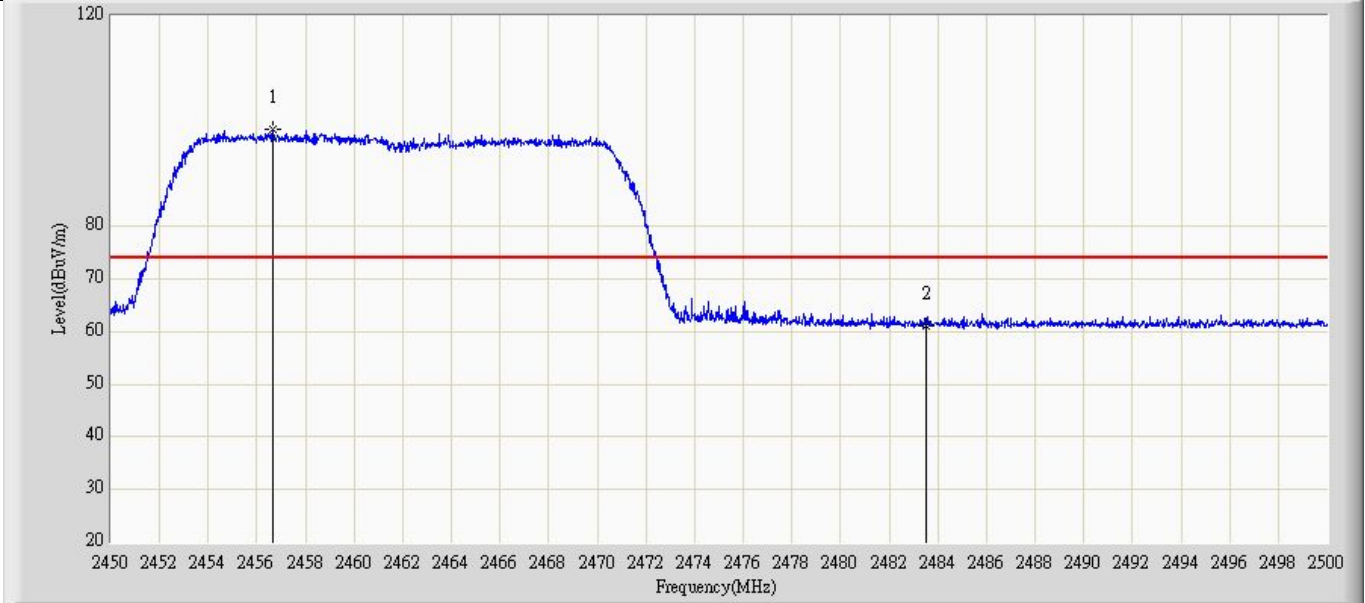
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	64.071	33.721	-9.929	74.000	30.350	PK
2		*	2403.885	102.224	71.840	N/A	N/A	30.384	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2412MHz by 802.11n(20)	

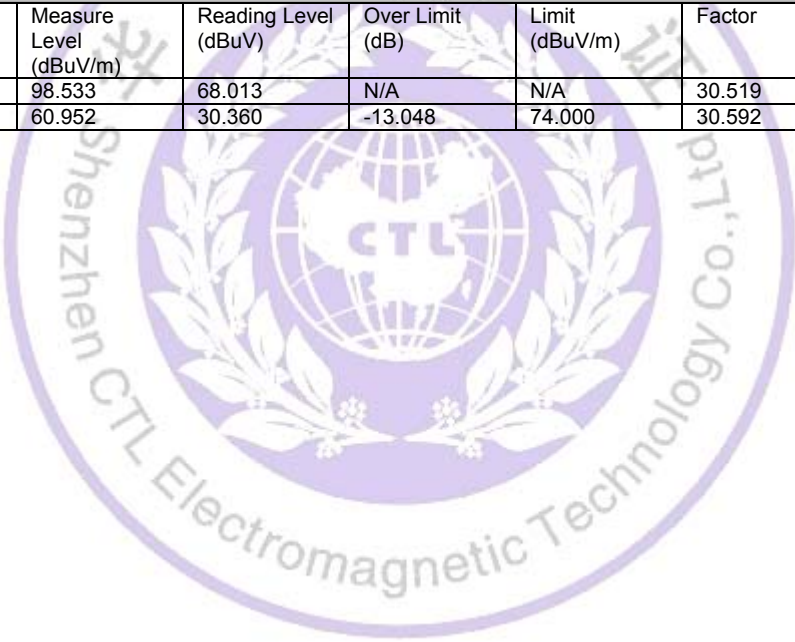


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	48.384	18.034	-5.616	54.000	30.350	AV
2		*	2404.545	77.489	47.103	N/A	N/A	30.385	AV

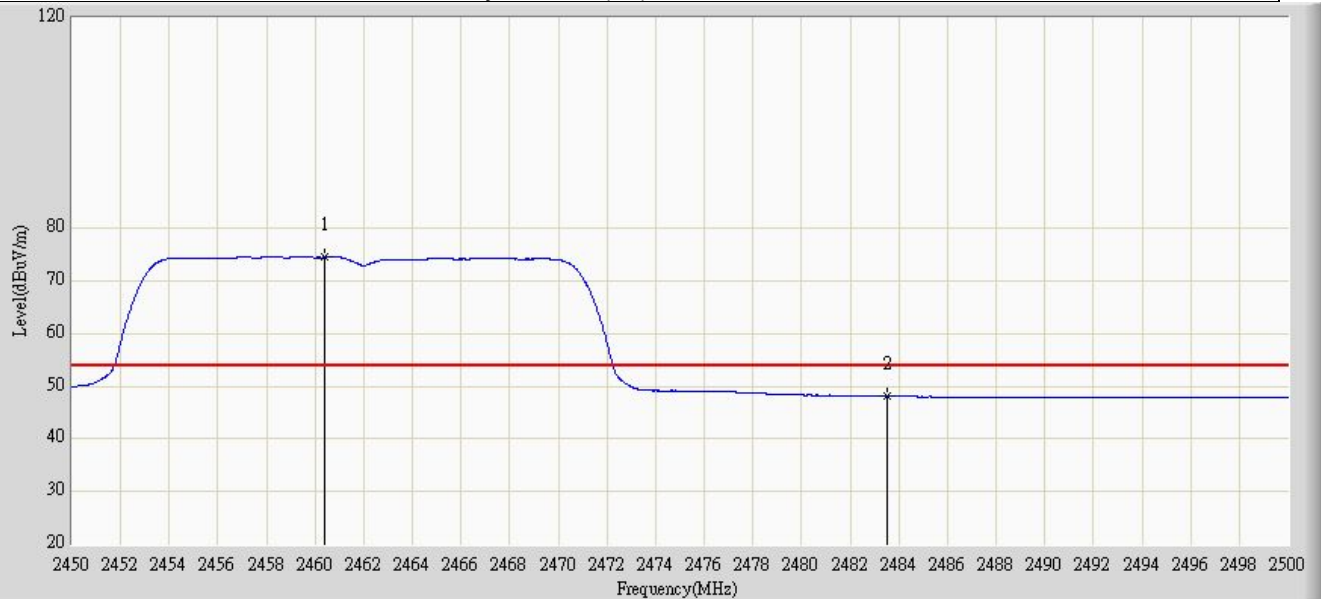
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2462MHz by 802.11n(20)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2456.675	98.533	68.013	N/A	N/A	30.519	PK
2			2483.500	60.952	30.360	-13.048	74.000	30.592	PK

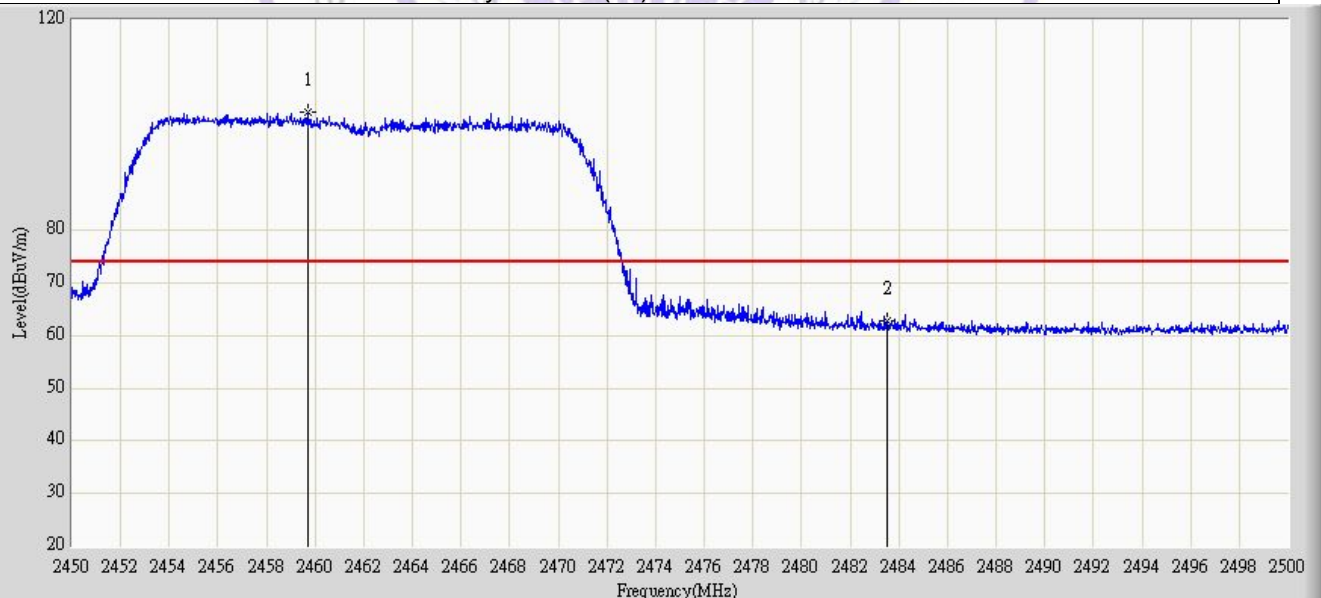


Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2462MHz by 802.11n(20)	



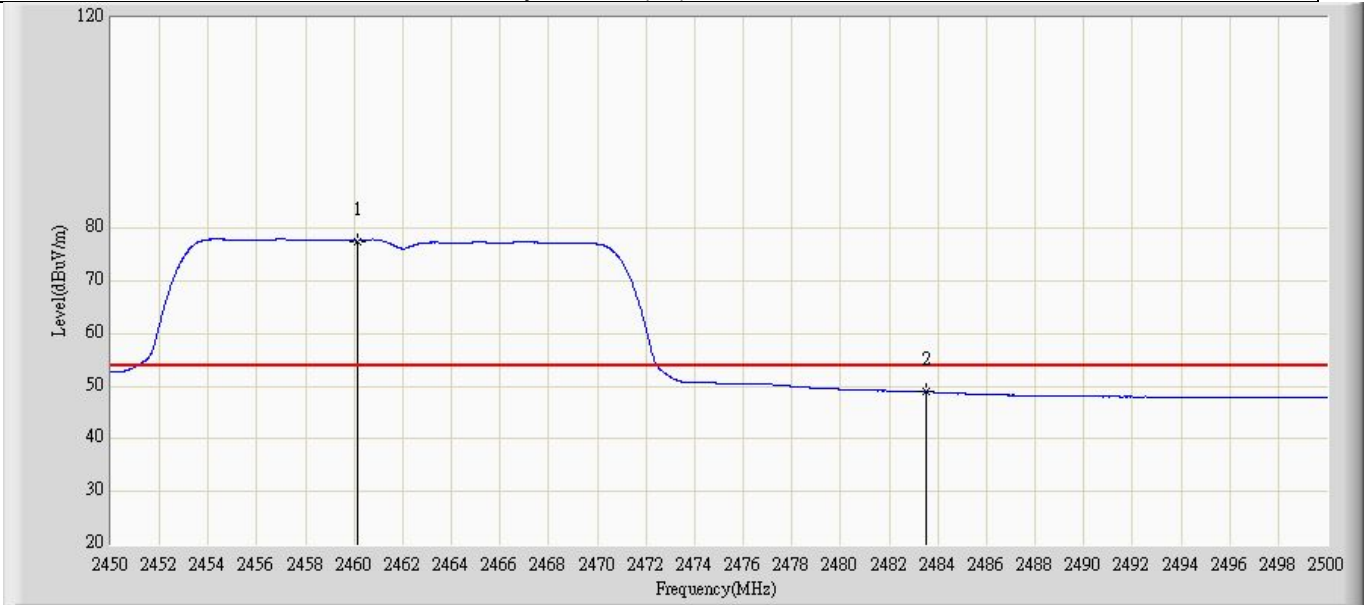
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2460.400	74.523	43.993	N/A	N/A	30.530	AV
2			2483.500	48.151	17.559	-5.849	54.000	30.592	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2462MHz by 802.11n(20)	

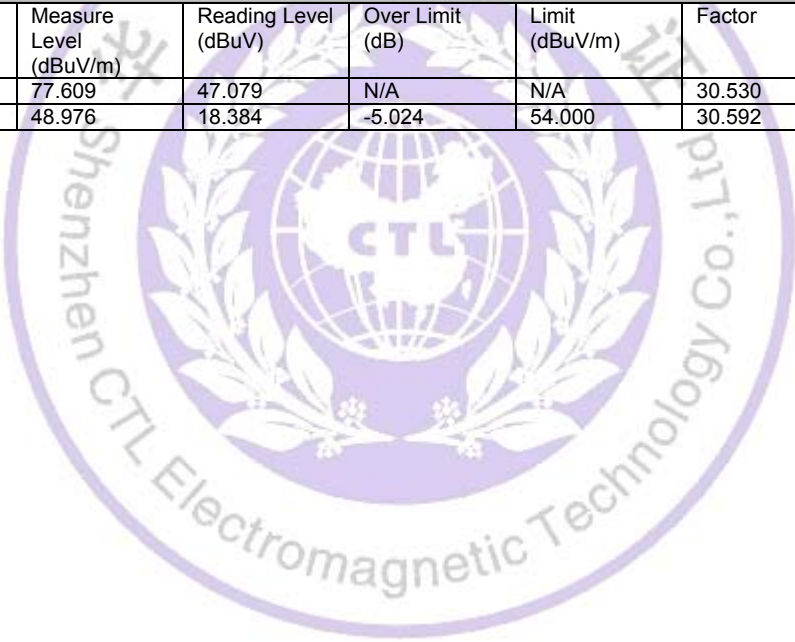


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2459.725	102.497	71.969	N/A	N/A	30.529	PK
2			2483.500	62.872	32.280	-11.128	74.000	30.592	PK

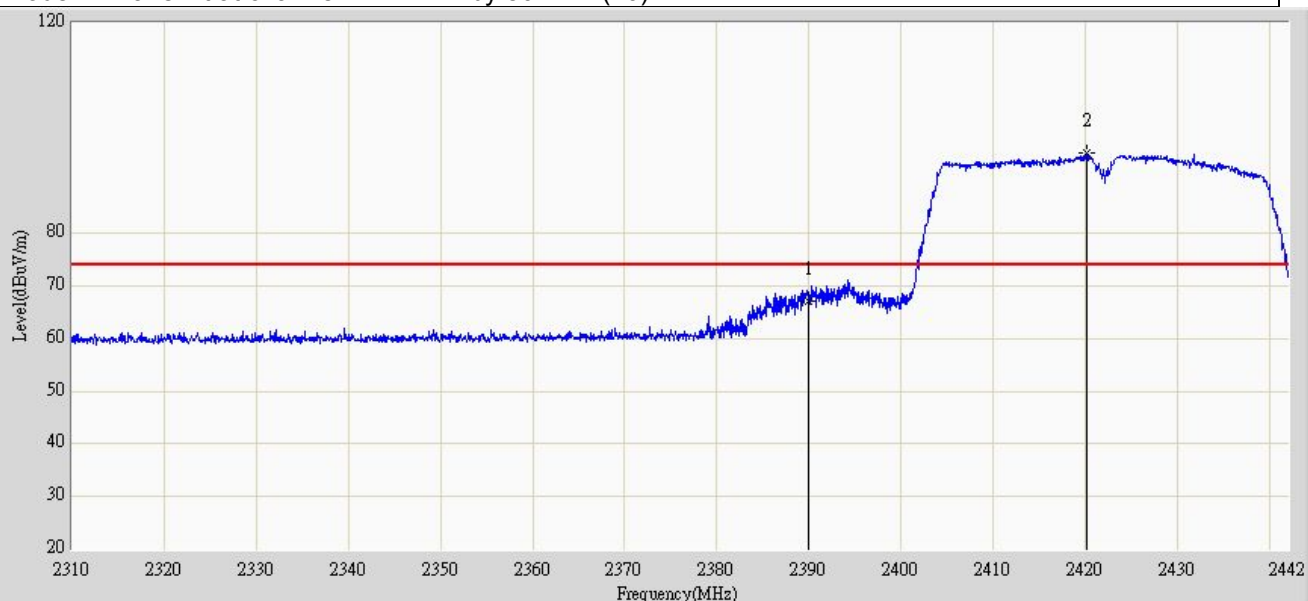
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 3: Transmit at channel 2462MHz by 802.11n(20)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2460.150	77.609	47.079	N/A	N/A	30.530	AV
2			2483.500	48.976	18.384	-5.024	54.000	30.592	AV

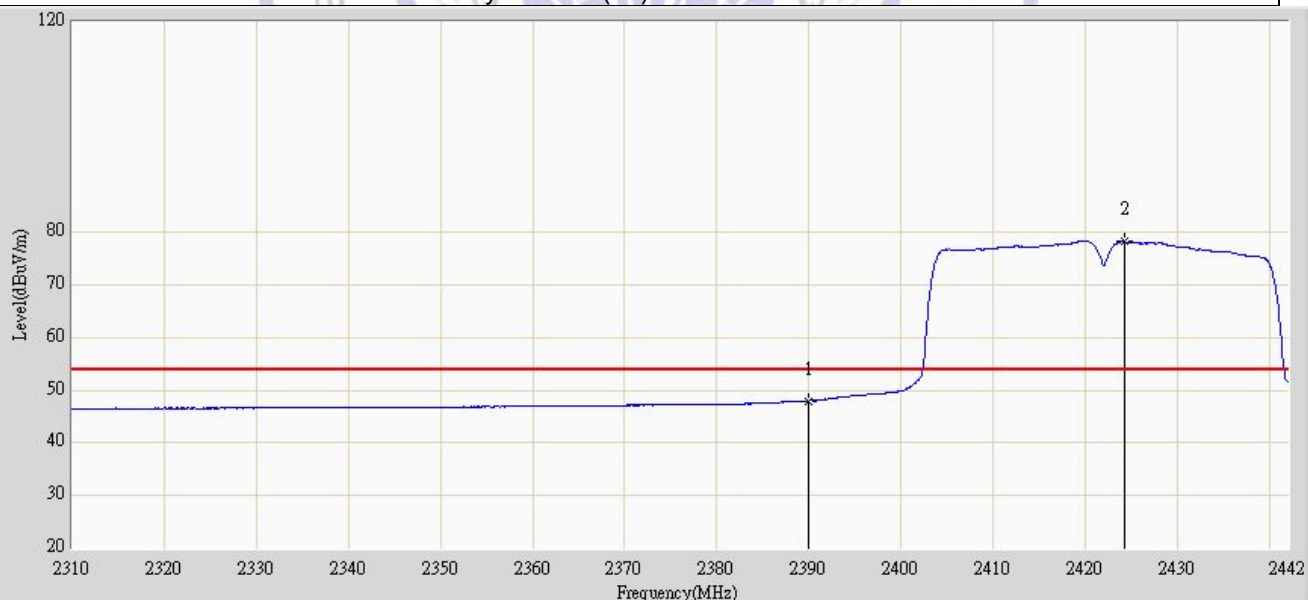


Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2422MHz by 802.11n(40)	



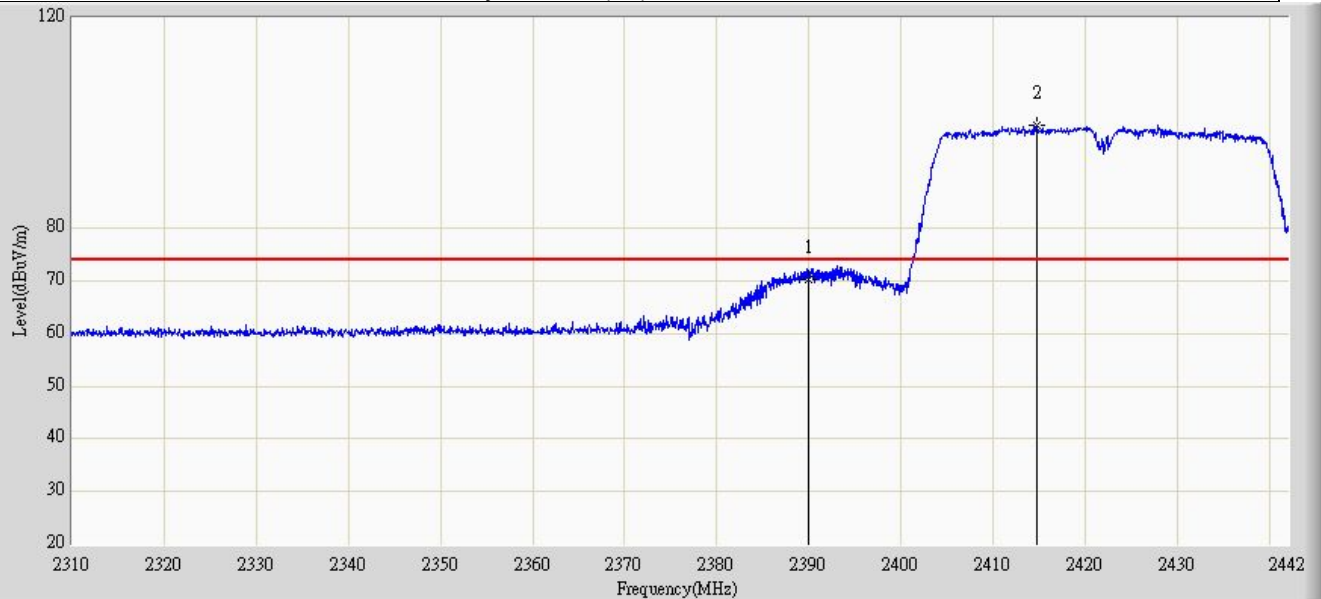
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	67.109	36.759	-6.891	74.000	30.350	PK
2		*	2420.088	95.365	64.940	N/A	N/A	30.425	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2422MHz by 802.11n(40)	



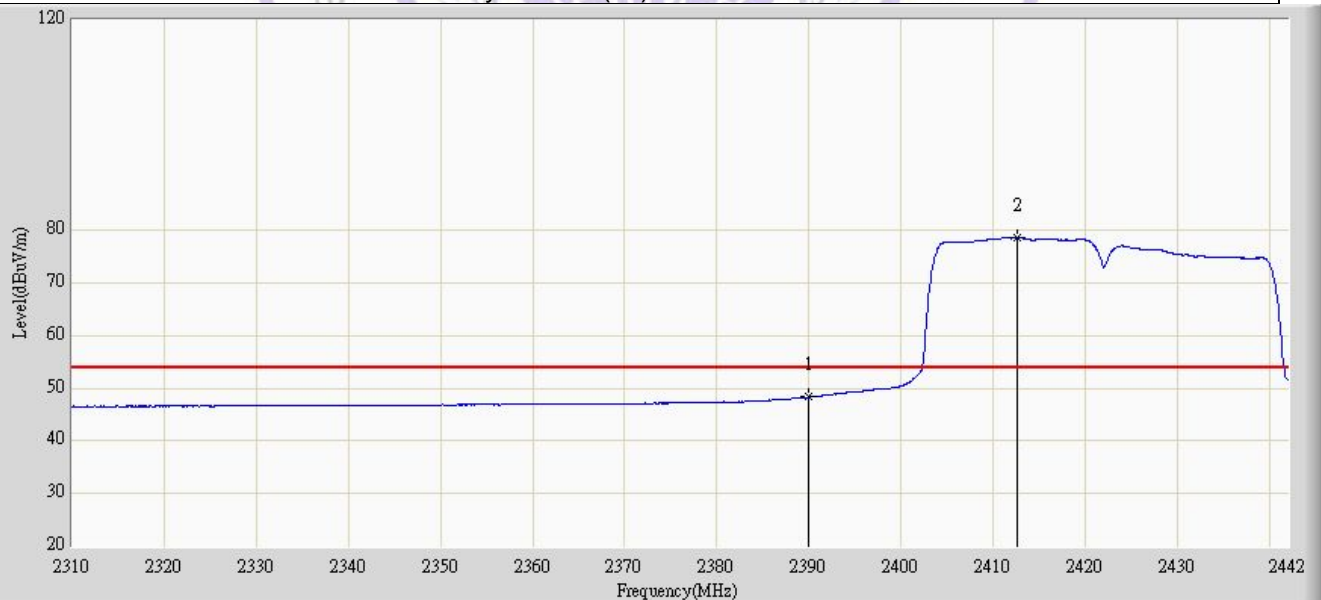
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	48.014	17.664	-5.986	54.000	30.350	AV
2		*	2424.246	78.236	47.800	N/A	N/A	30.435	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2422MHz by 802.11n(40)	



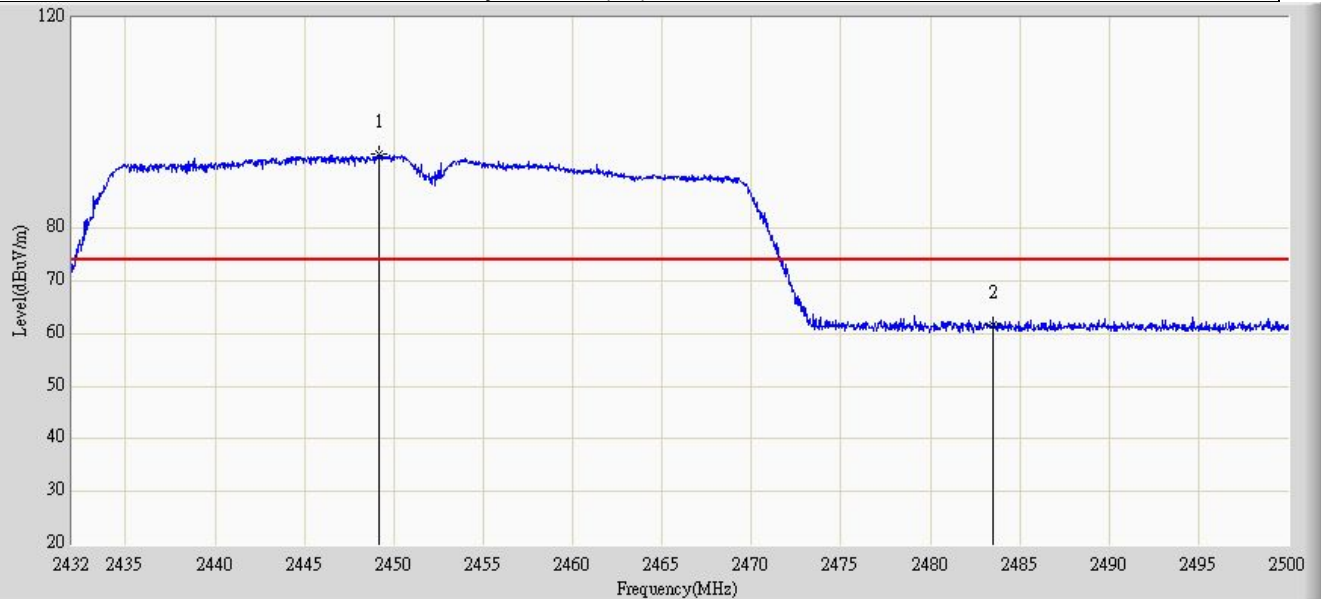
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	70.244	39.894	-3.756	74.000	30.350	PK
2		*	2414.676	99.600	69.190	N/A	N/A	30.409	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2422MHz by 802.11n(40)	



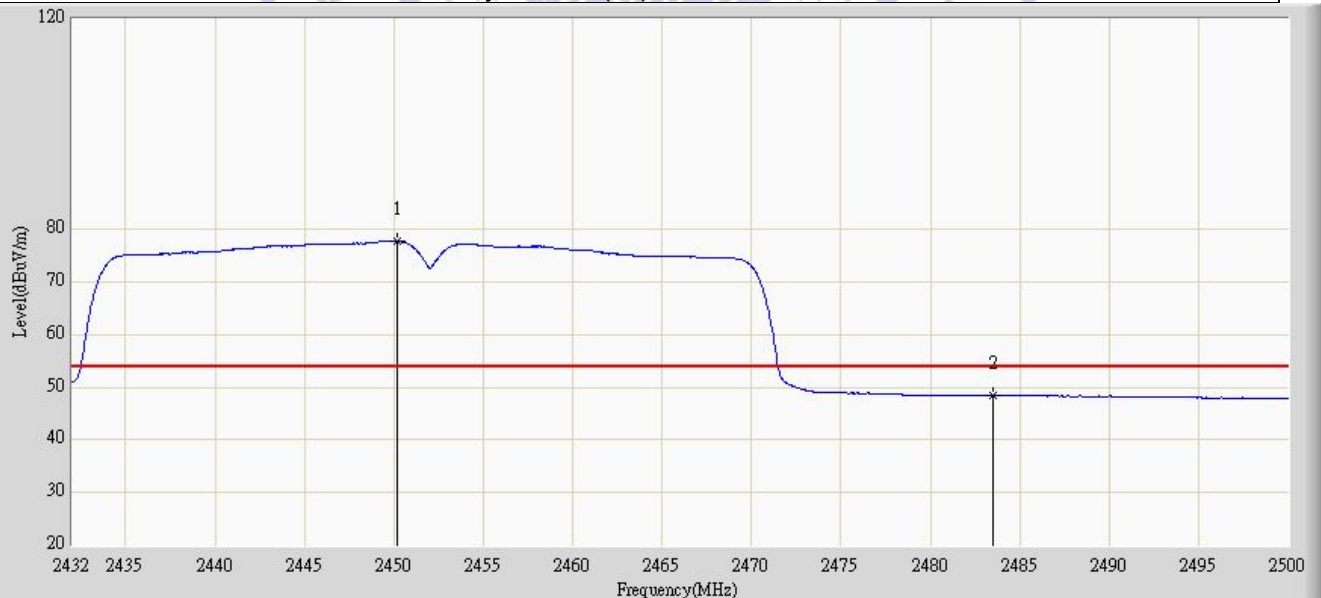
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1			2390.000	48.307	17.957	-5.693	54.000	30.350	AV
2		*	2412.564	78.630	48.226	N/A	N/A	30.404	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2452MHz by 802.11n(40)	



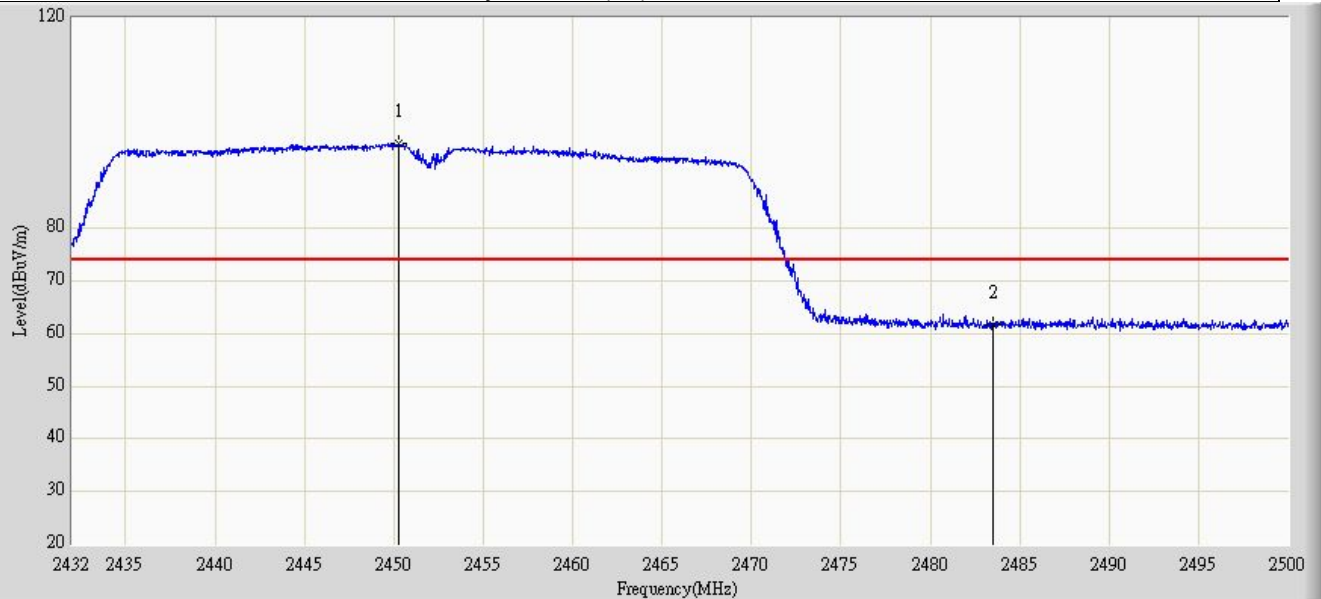
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2449.136	94.126	63.628	N/A	N/A	30.498	PK
2			2483.500	61.675	31.083	-12.325	74.000	30.592	PK

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Horizontal
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2452MHz by 802.11n(40)	



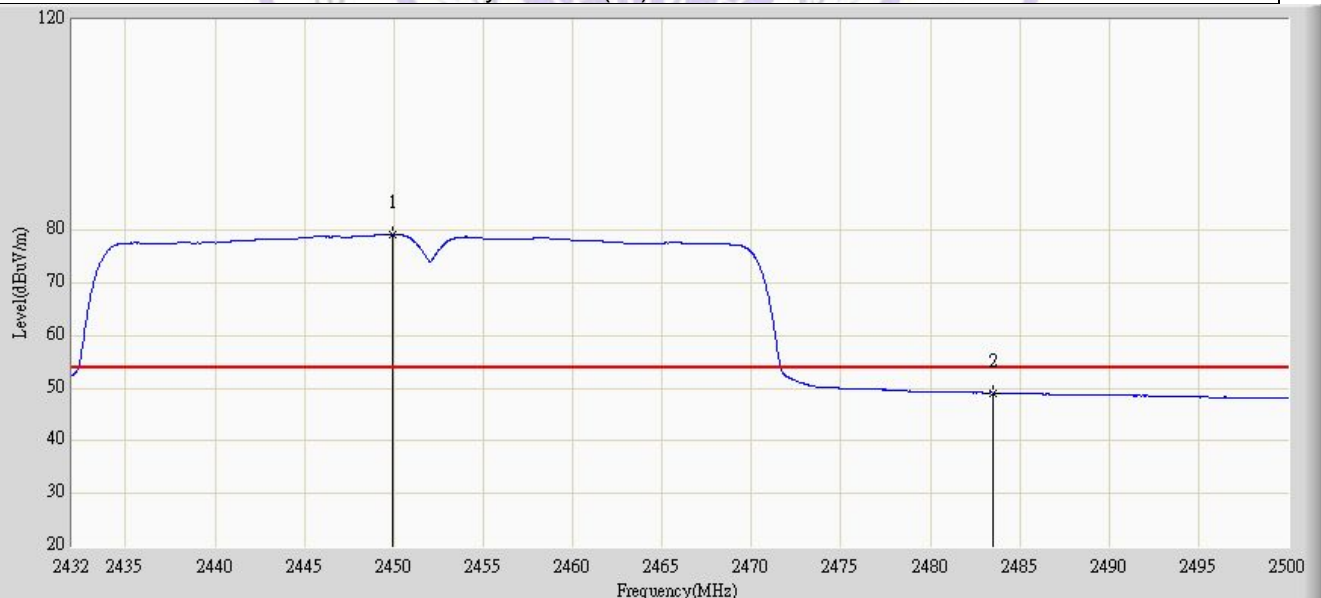
No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2450.156	77.748	47.247	N/A	N/A	30.500	AV
2			2483.500	48.473	17.881	-5.527	54.000	30.592	AV

Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2452MHz by 802.11n(40)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2450.258	96.040	65.539	N/A	N/A	30.502	PK
2			2483.500	61.620	31.028	-12.380	74.000	30.592	PK

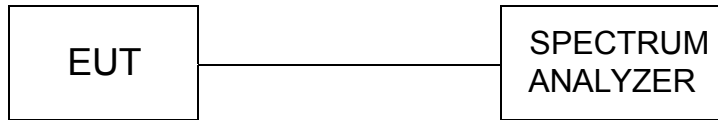
Limit: FCC_Part15.209_RE(3m)	Margin: 0
Probe: BBHA 9120D_499(1-18GHz)	Polarity: Vertical
EUT: Tablet	Power: By Battery
Note: Mode 4: Transmit at channel 2452MHz by 802.11n(40)	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor	Type
1		*	2449.952	79.247	48.747	N/A	N/A	30.500	AV
2			2483.500	49.149	18.557	-4.851	54.000	30.592	AV

4.6. Power Spectral Density Measurement

TEST CONFIGURATION



TEST PROCEDURE

The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements.

Set RBW= 100 kHz, VBW $\geq$ 300kHz, SPAN to 5-30 % greater than the EBW, Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where $BWCF = 10\log(3\text{ kHz}/100\text{kHz}) = -15.2\text{ dB}$.

LIMIT

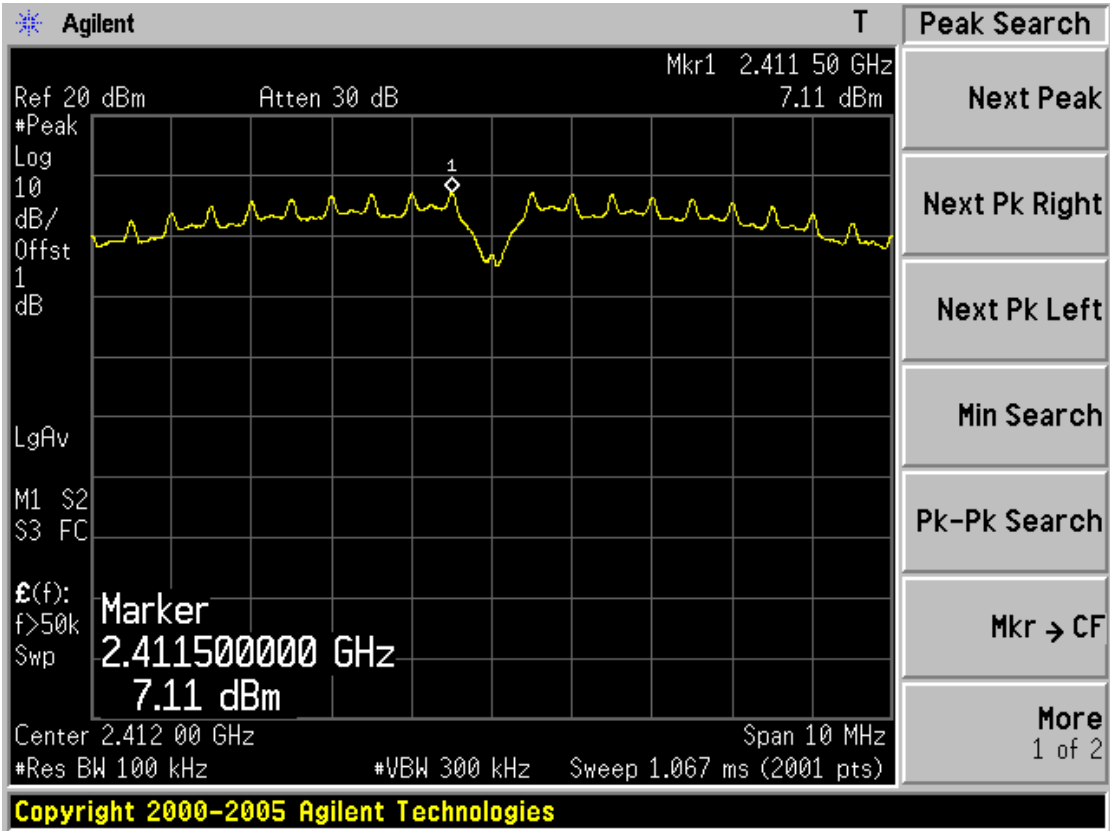
For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

TEST RESULTS

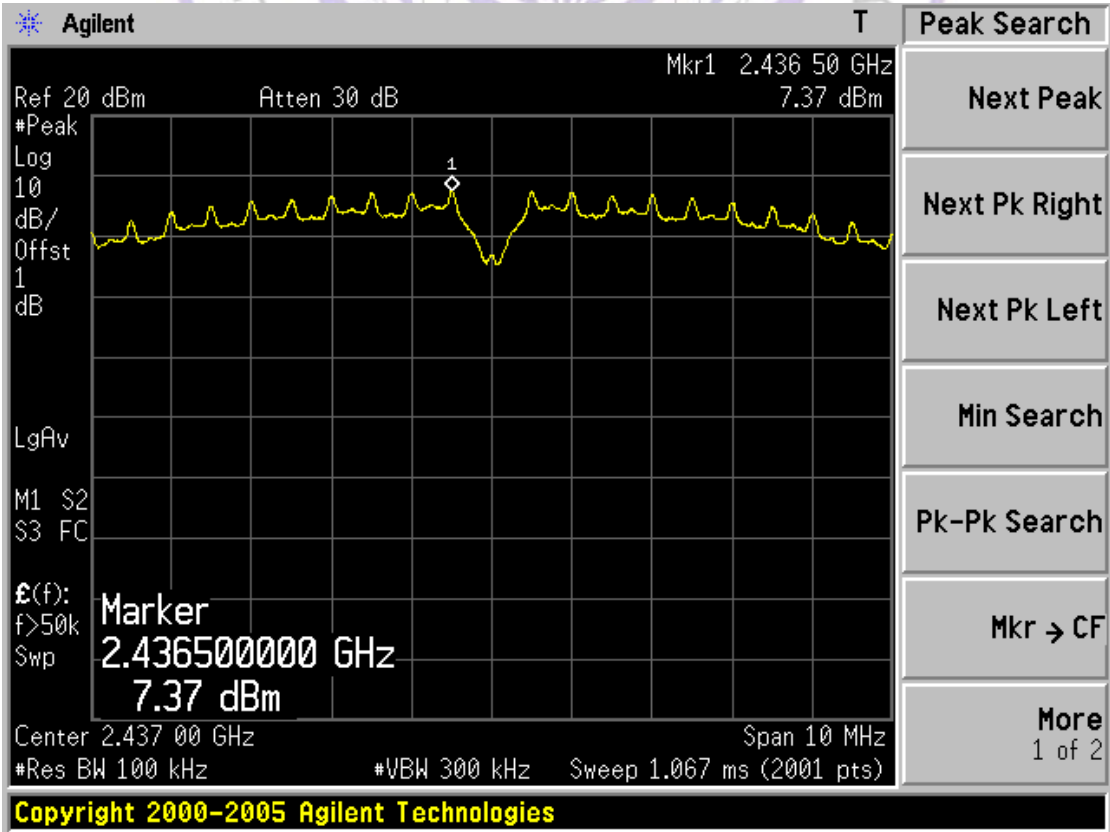
Channel	Channel Frequency (MHz)	Reading Value (dBm)	BWCF (dB)	PSD(dBm)	Maximum limit (dBm)	PASS / FAIL
1	2412	7.11	-15.2	-8.09	8	PASS
6	2437	7.37	-15.2	-7.83	8	PASS
11	2462	7.66	-15.2	-7.54	8	PASS
1	2412	1.67	-15.2	-13.53	8	PASS
6	2437	2.35	-15.2	-12.85	8	PASS
11	2462	2.24	-15.2	-12.96	8	PASS
1	2412	2.10	-15.2	-13.10	8	PASS
6	2437	1.89	-15.2	-13.31	8	PASS
11	2462	2.26	-15.2	-12.94	8	PASS
3	2422	-1.52	-15.2	-16.72	8	PASS
6	2437	-1.59	-15.2	-16.79	8	PASS
9	2452	-1.55	-15.2	-16.77	8	PASS

For 802.11b Mode:

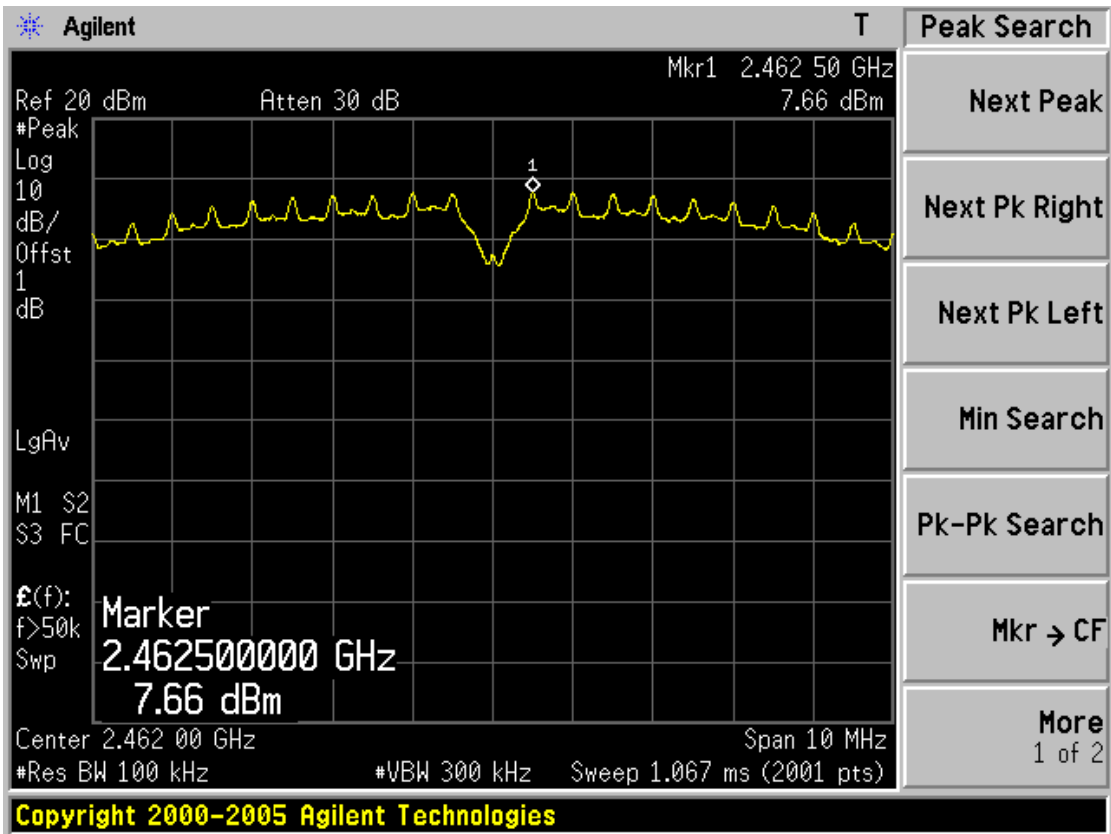
CH1



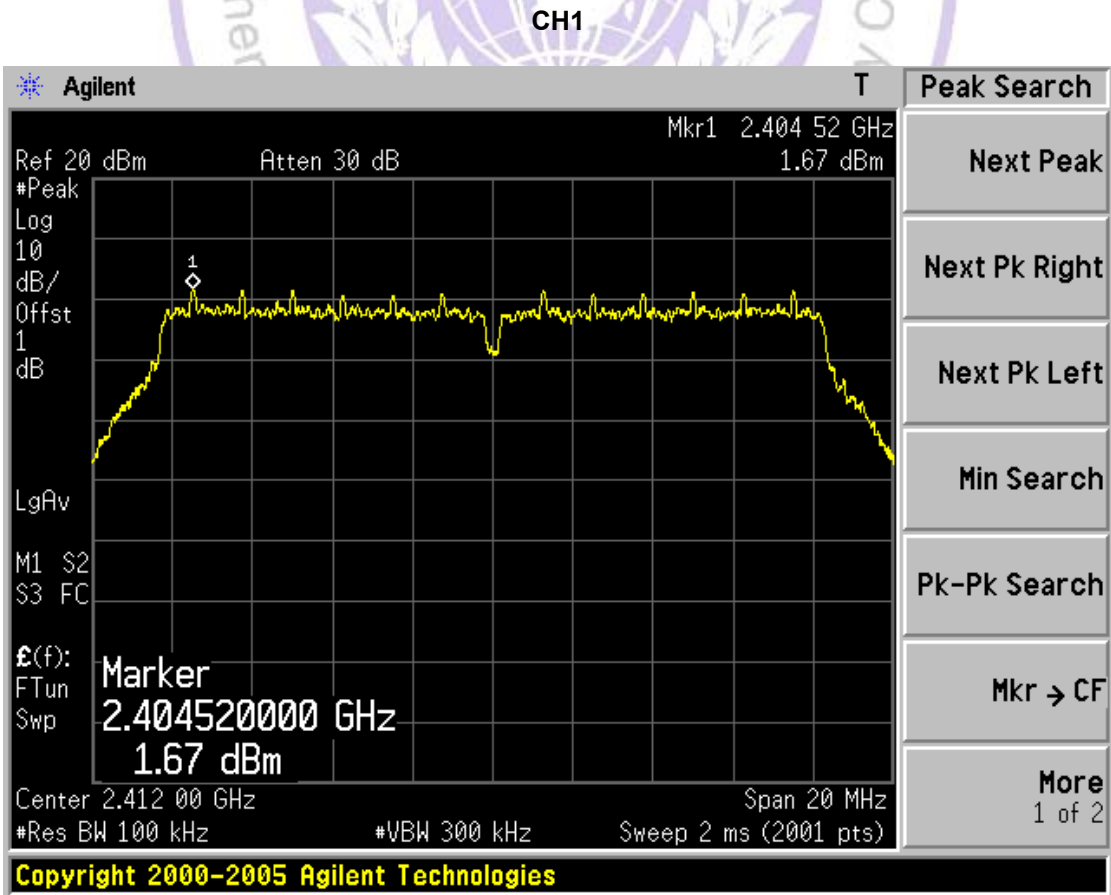
CH6



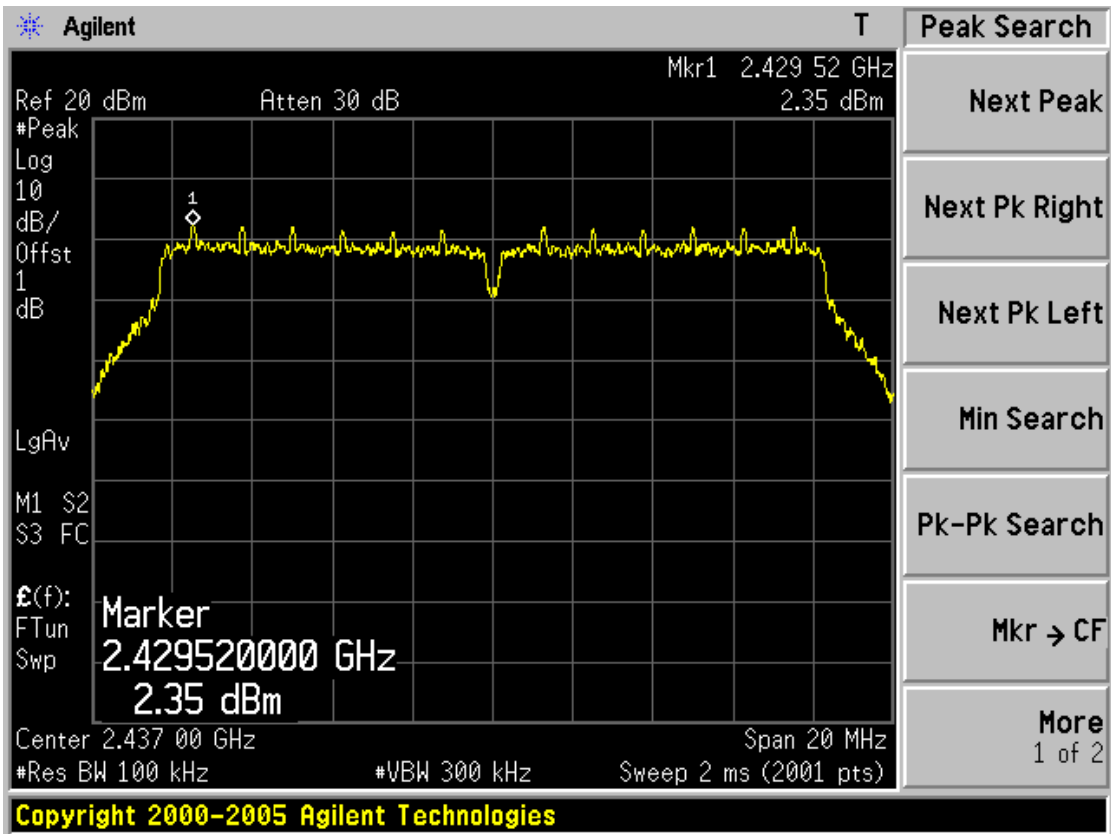
CH11



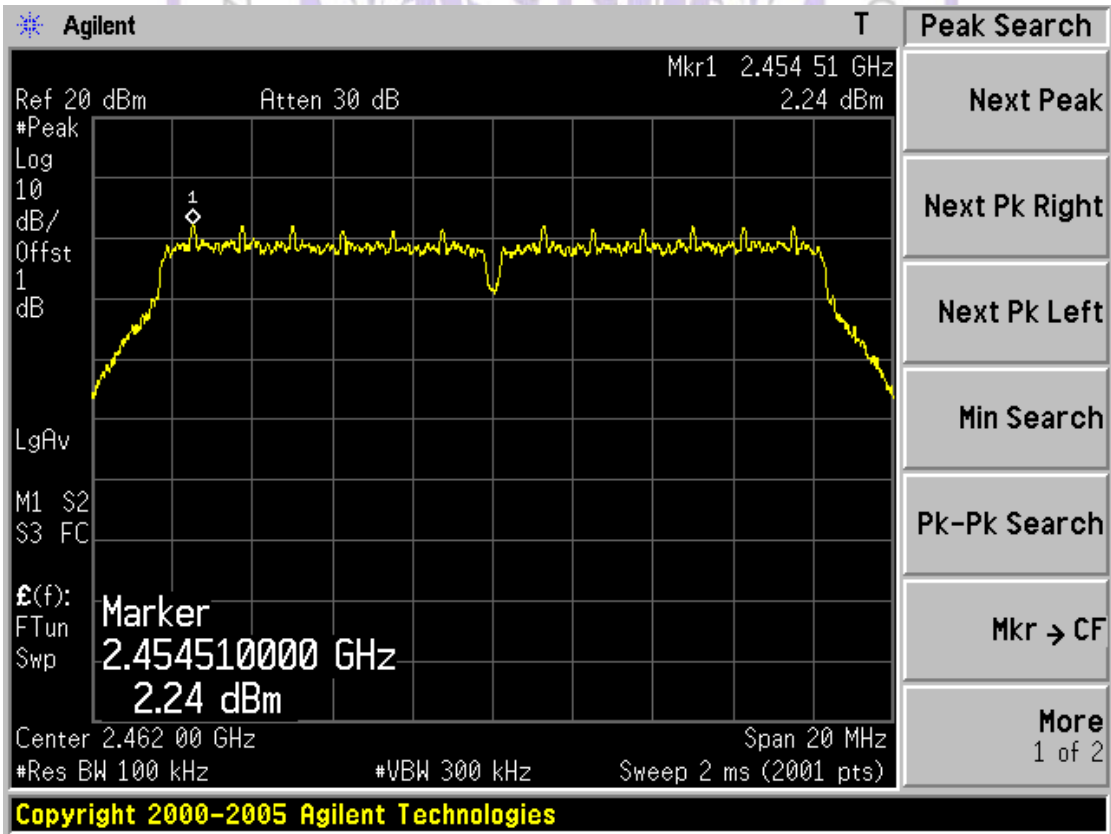
For 802.11g Mode:



CH6

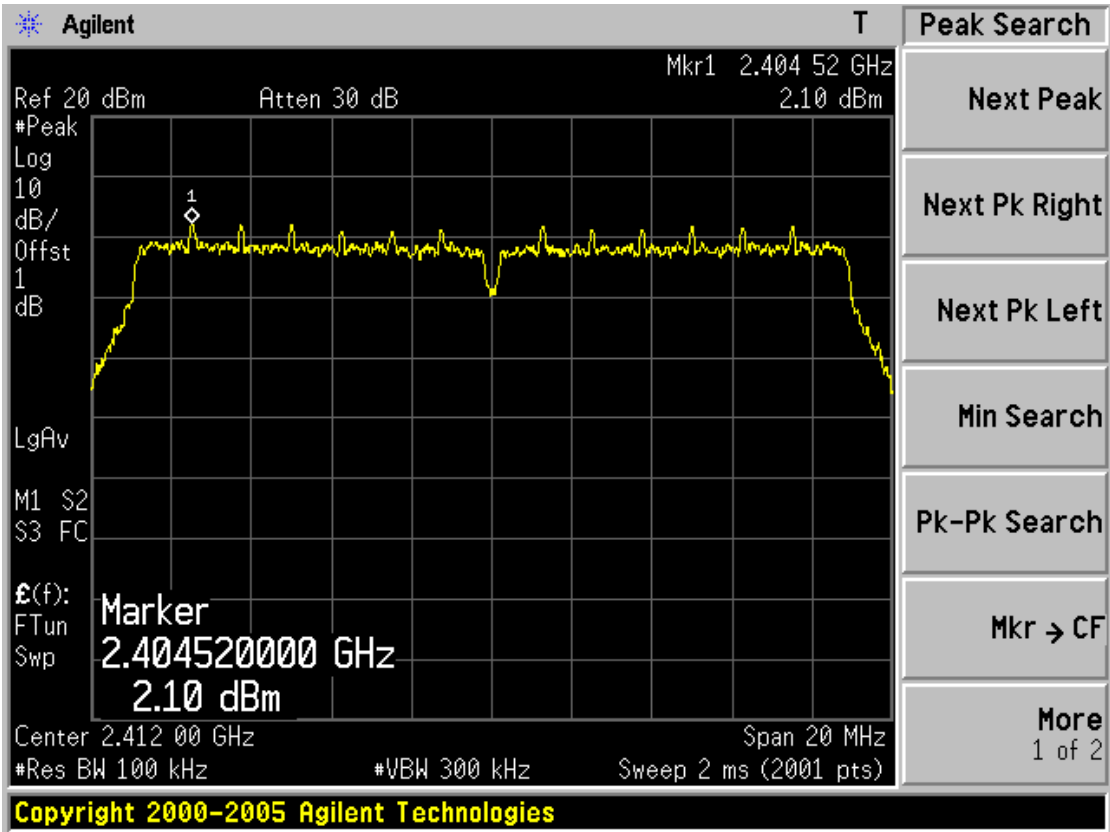


CH11

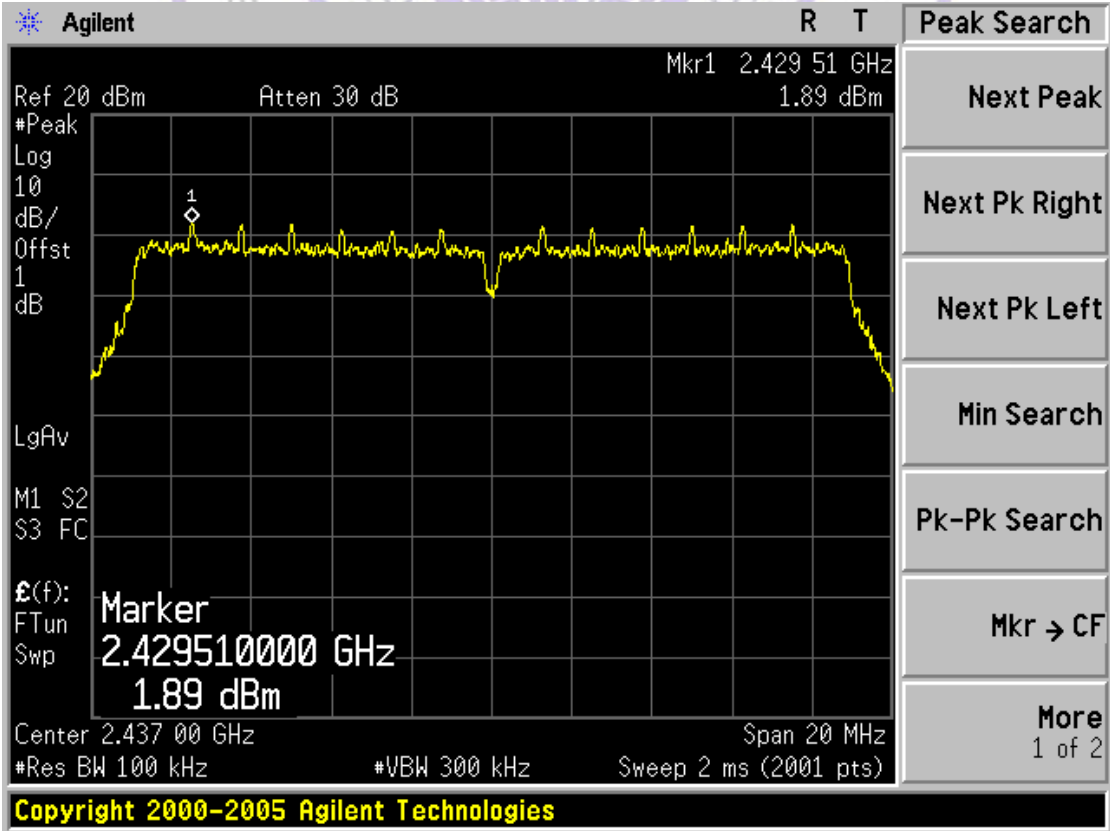


For 802.11n (20MHz) Mode:

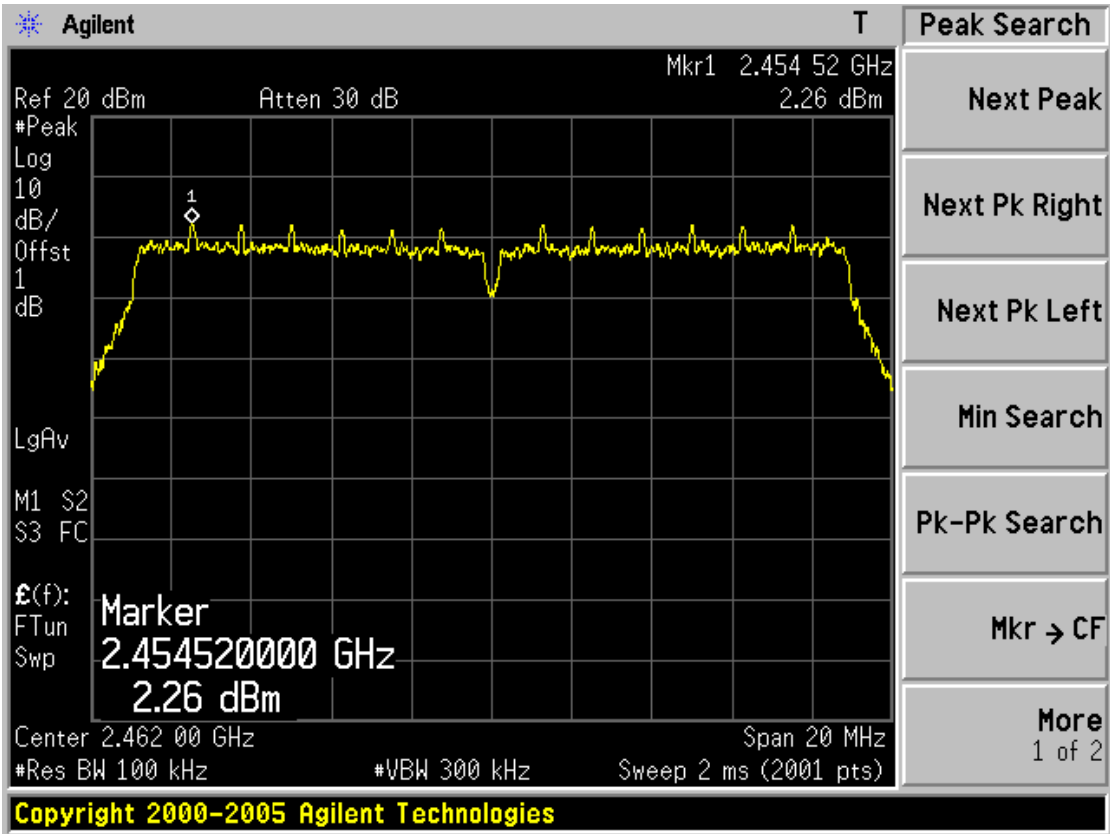
CH1



CH6

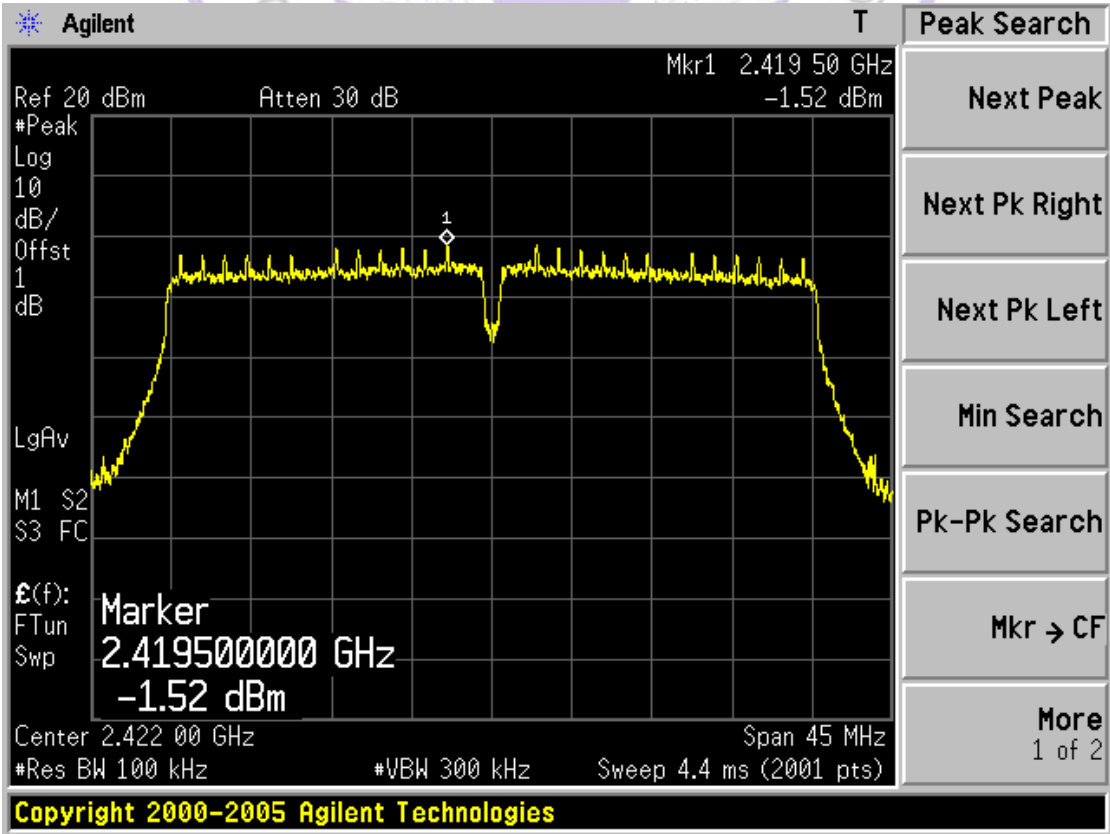


CH11

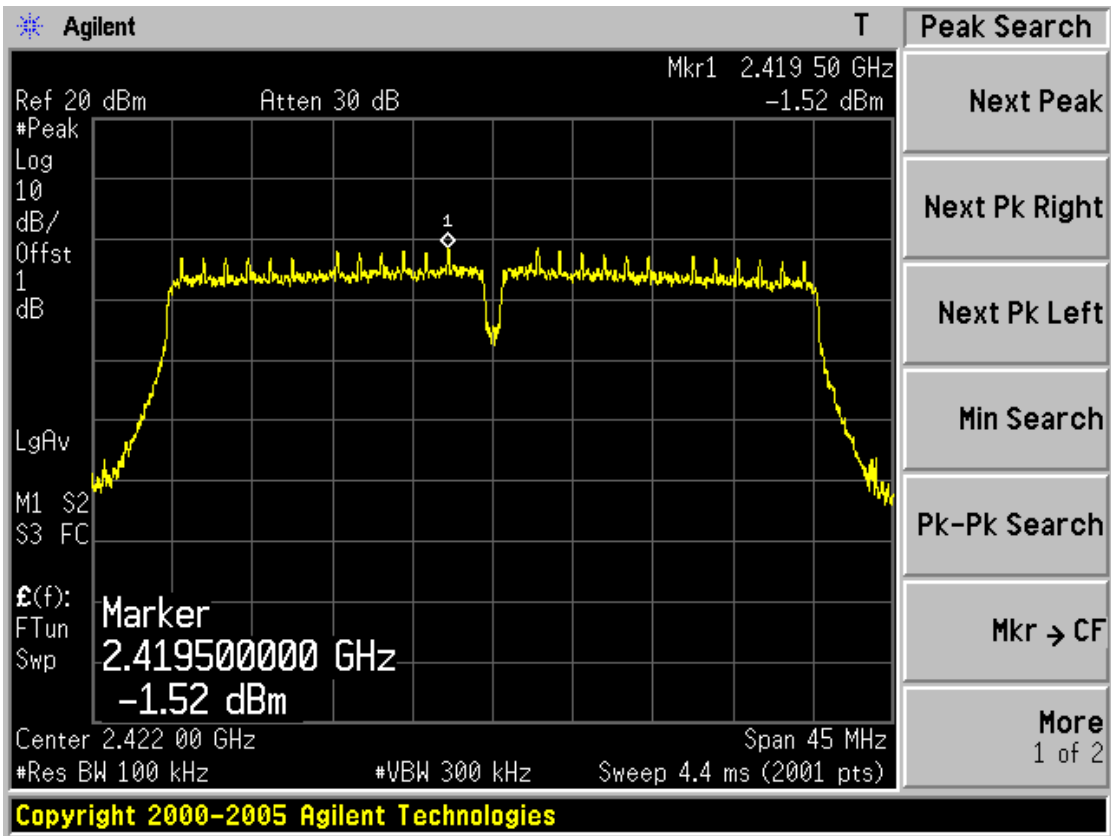


For 802.11n (40MHz) Mode:

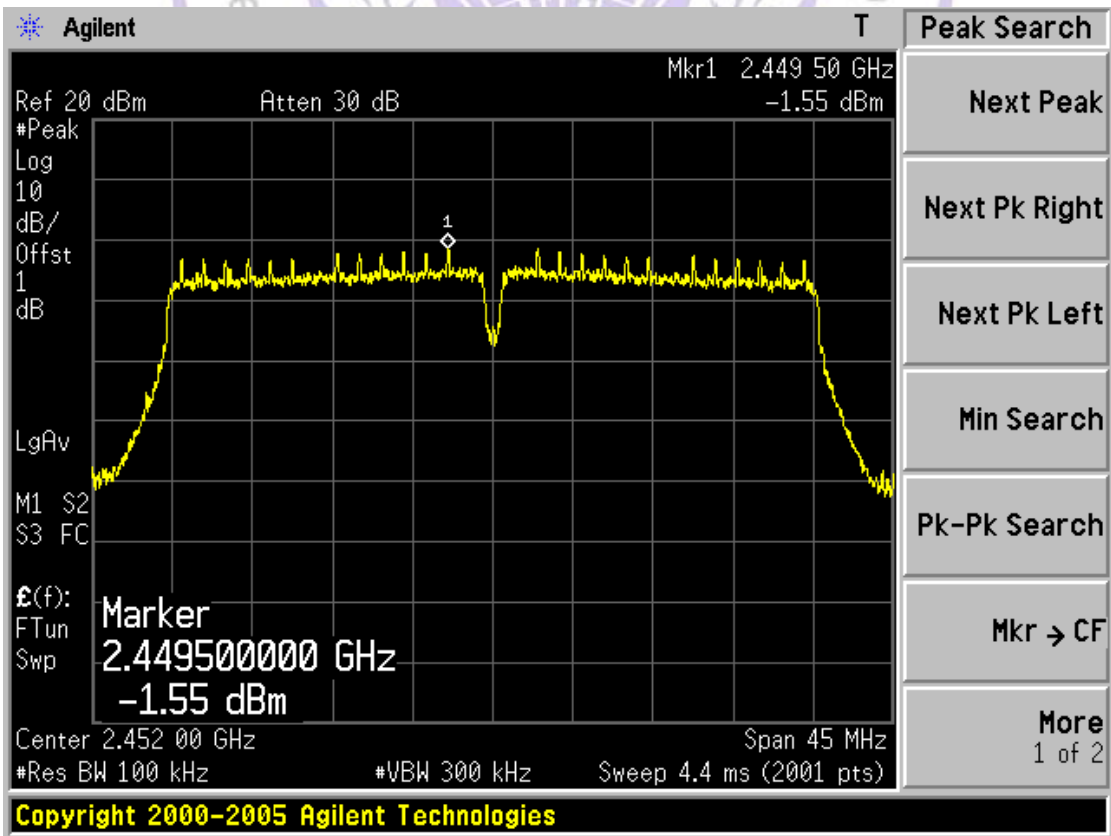
CH3



CH6

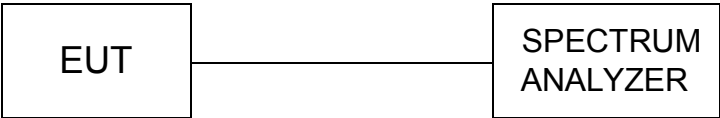


CH9



4.7. Spurious RF Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

The EUT was tested according to KDB 558074 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.

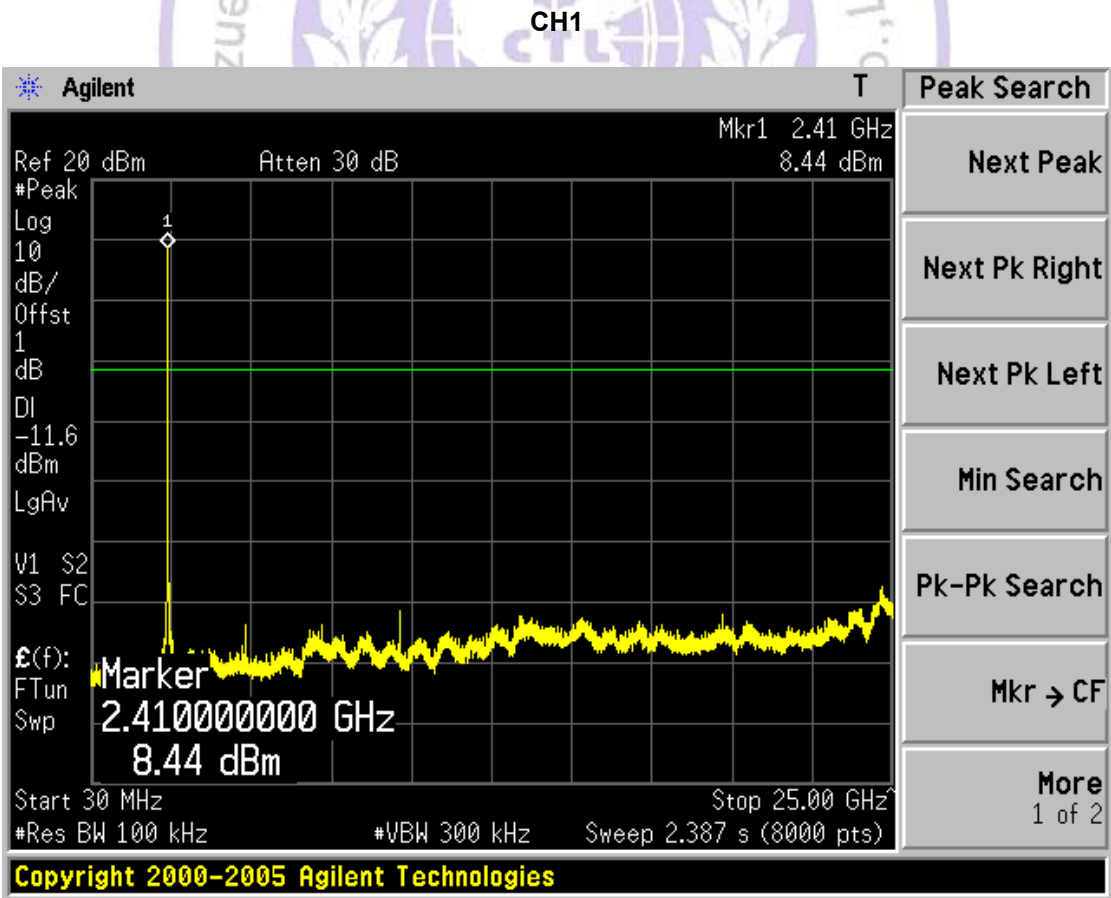
LIMIT

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.

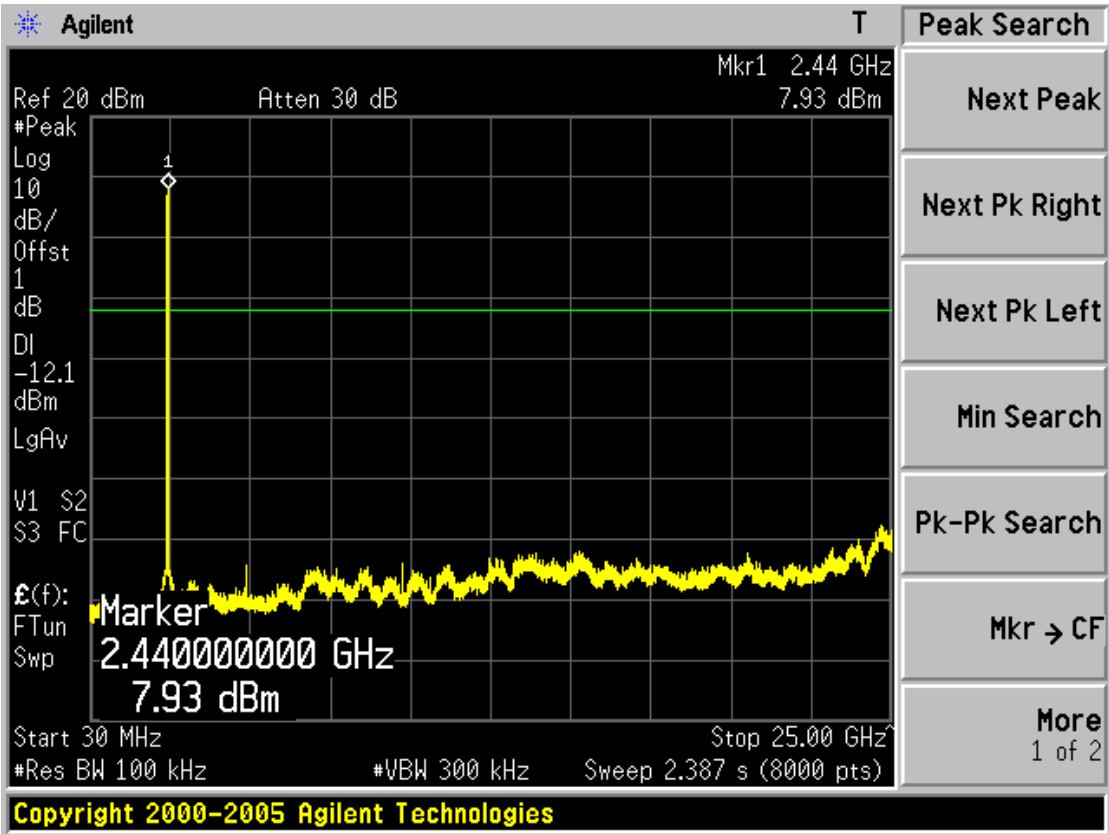
TEST RESULTS

Photos of Spurious RF Conducted Emission Measurement

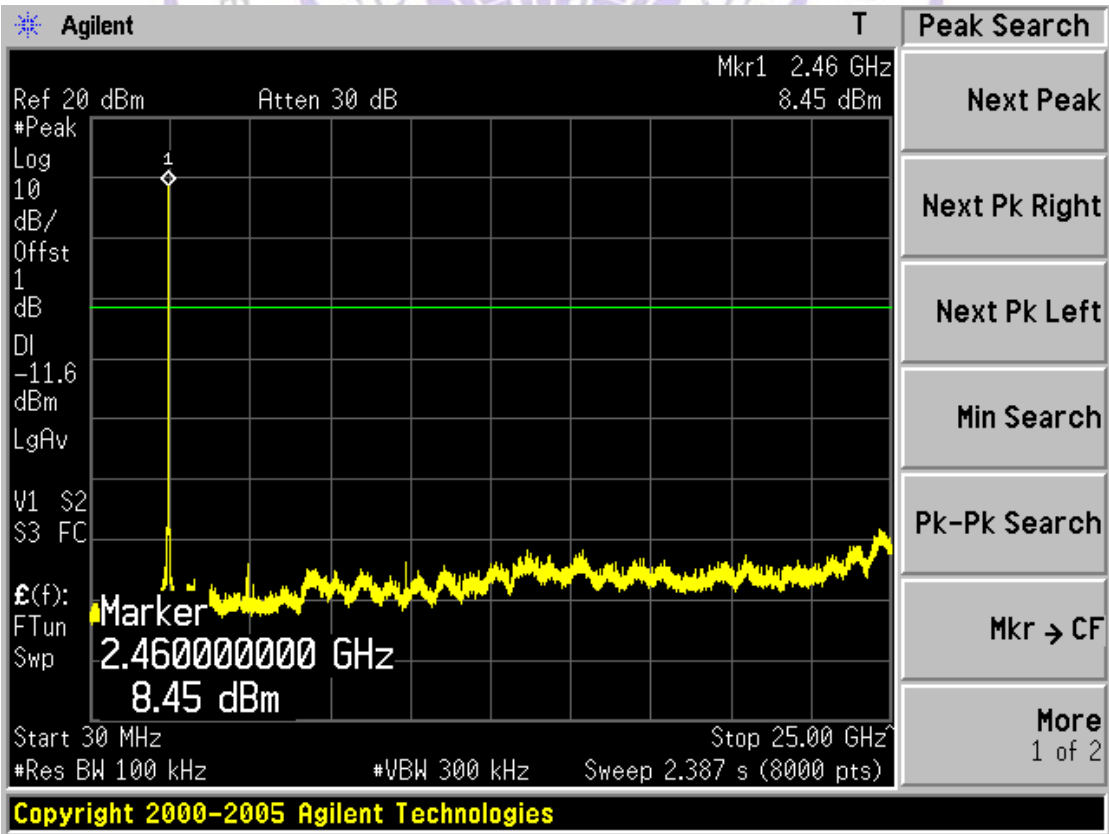
For 802.11b Mode:



CH6

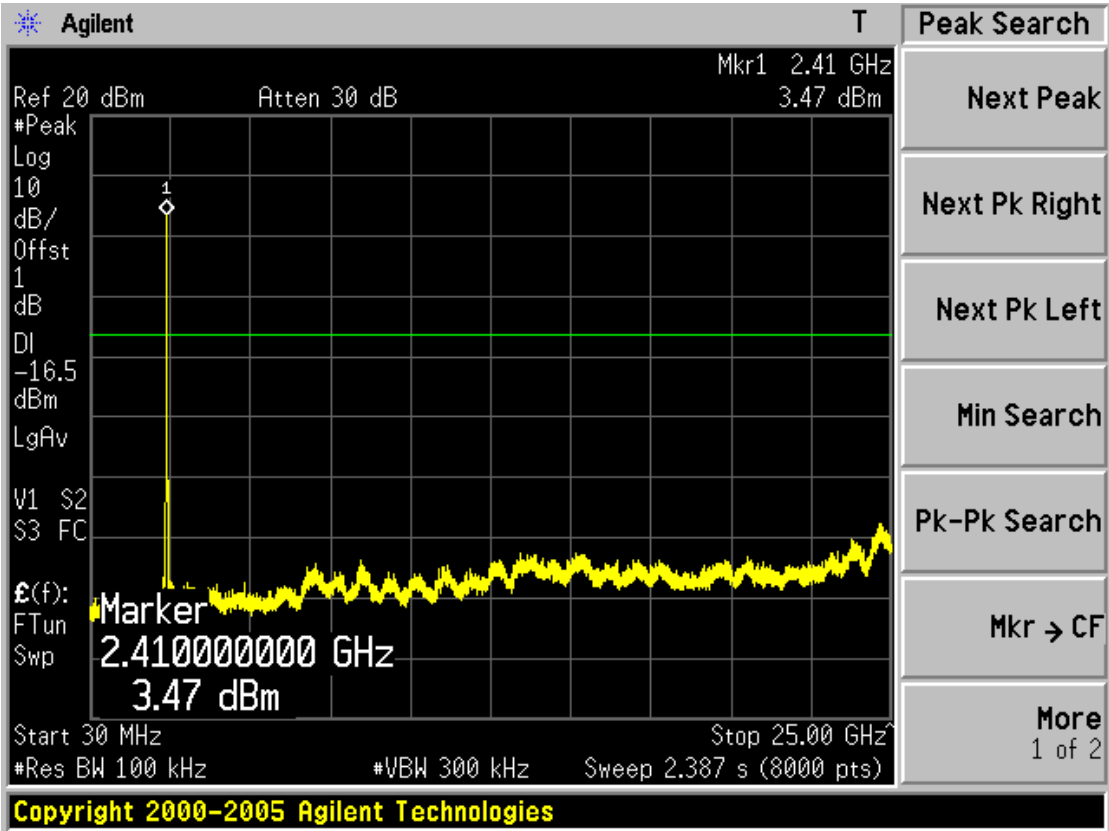


CH11

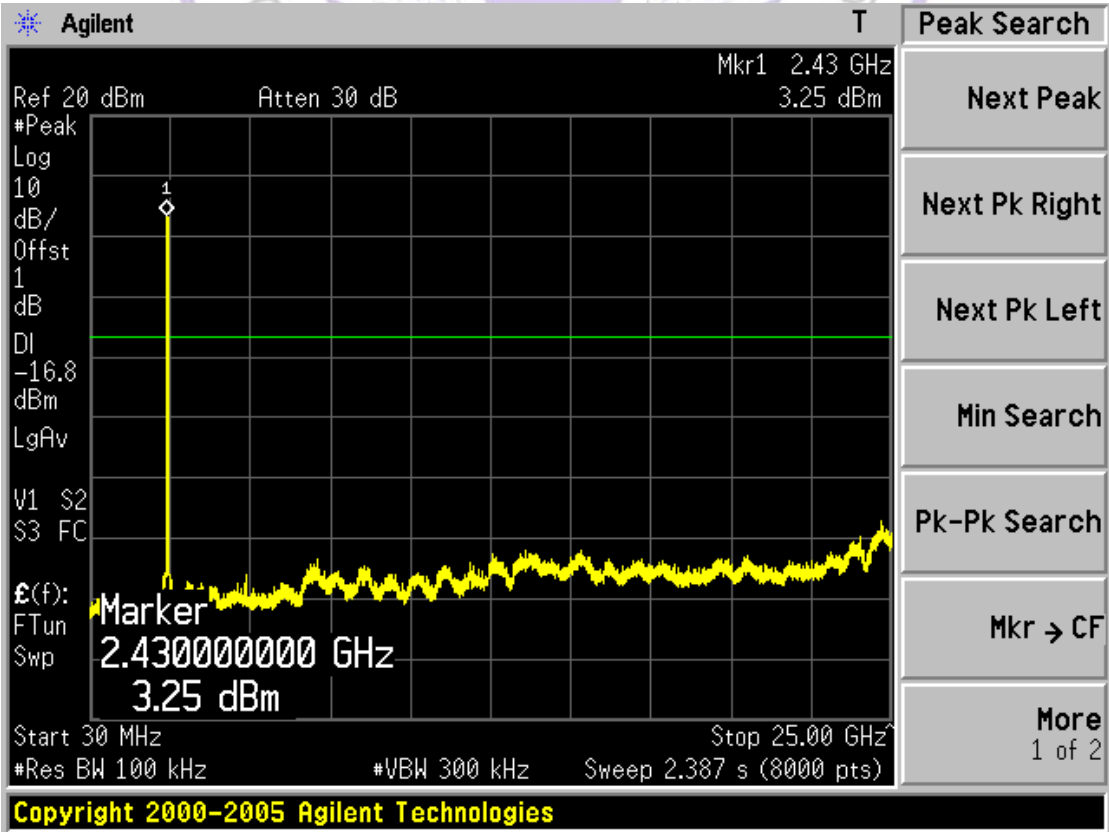


For 802.11g Mode:

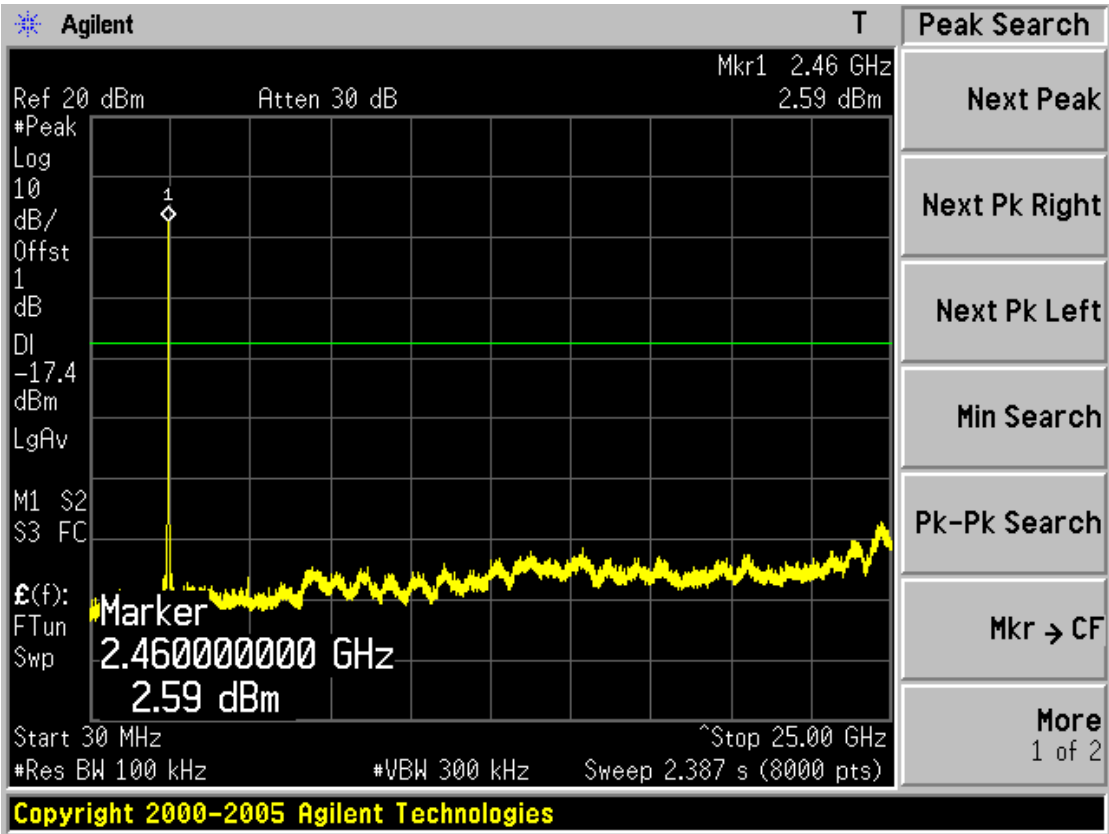
CH1



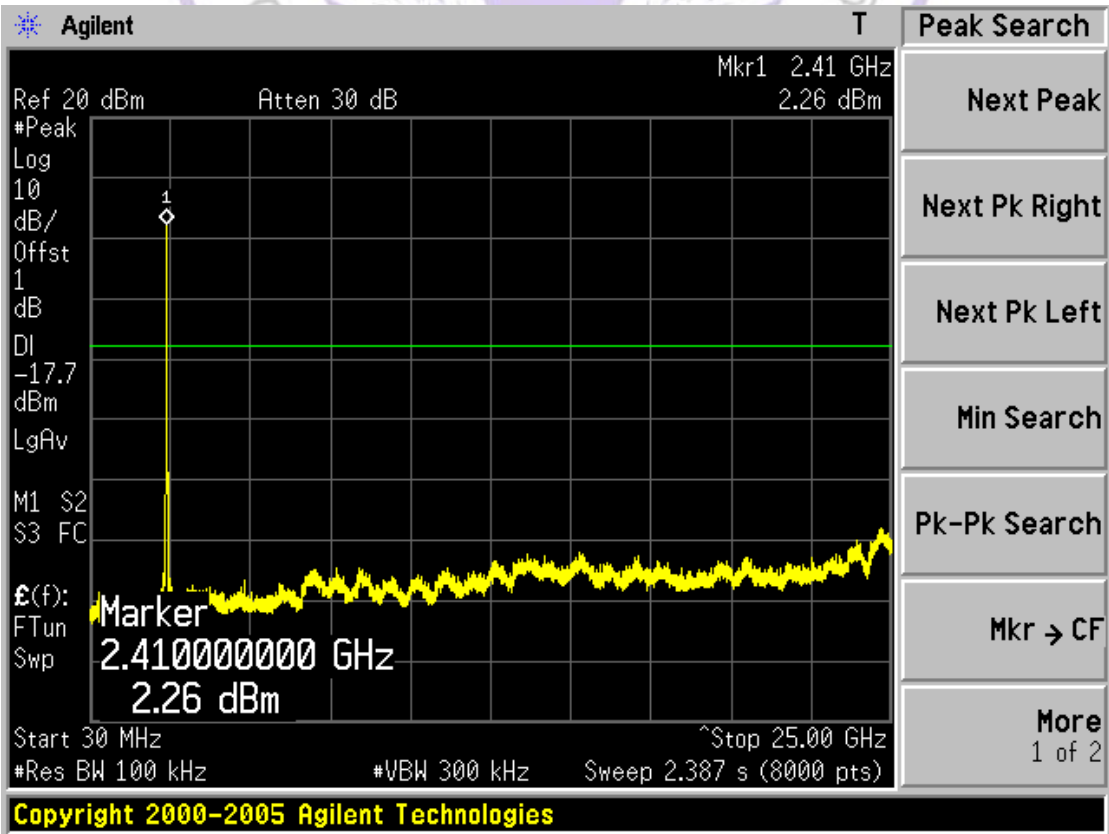
CH6



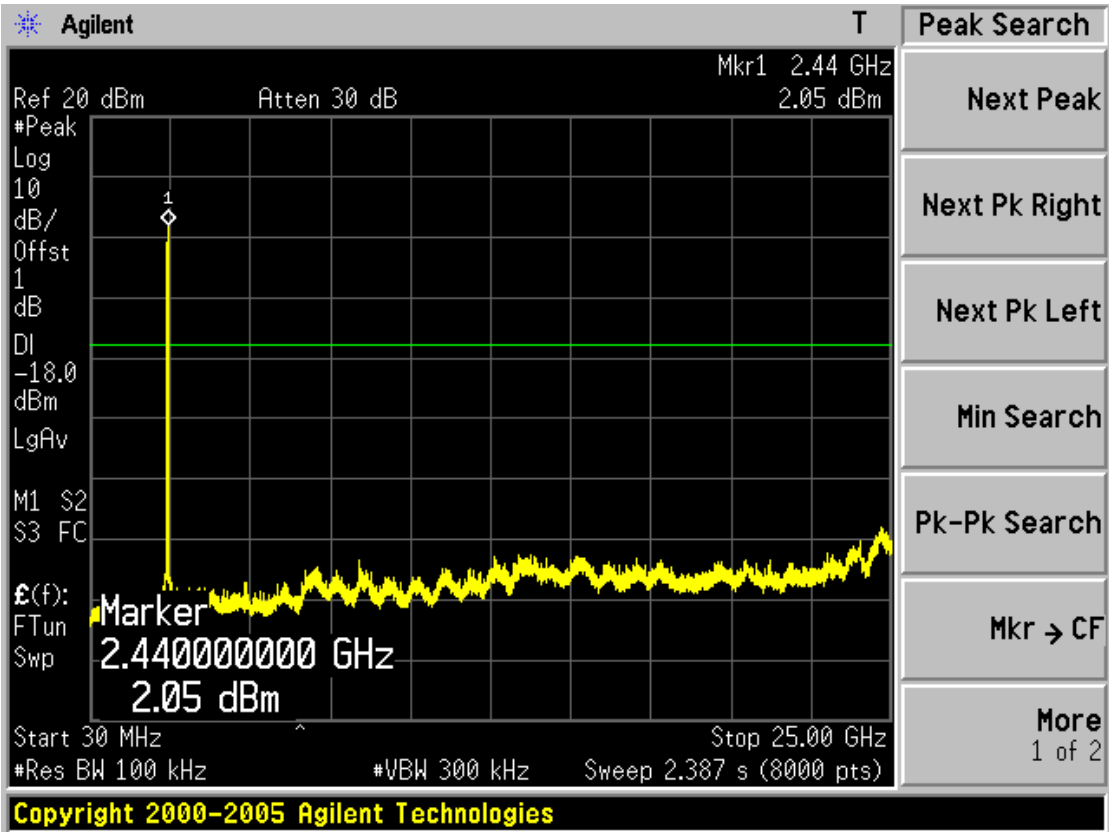
CH11



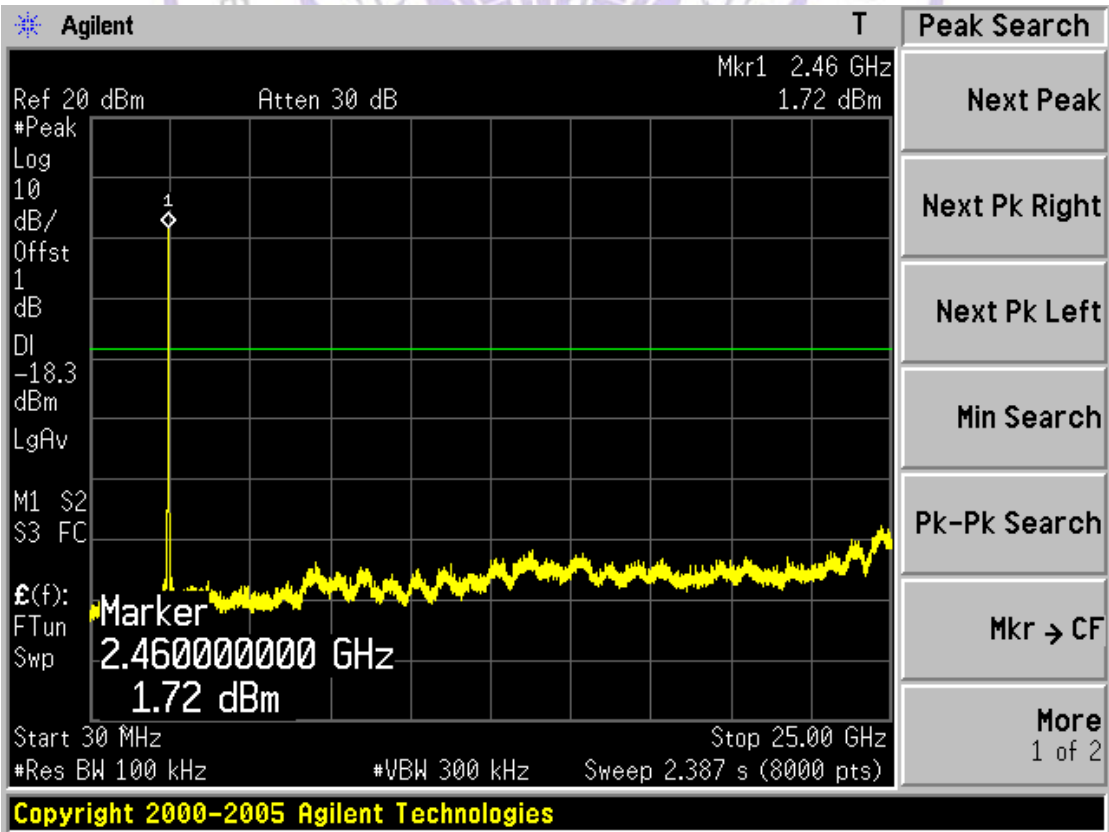
For 802.11n (20MHz) Mode:



CH6

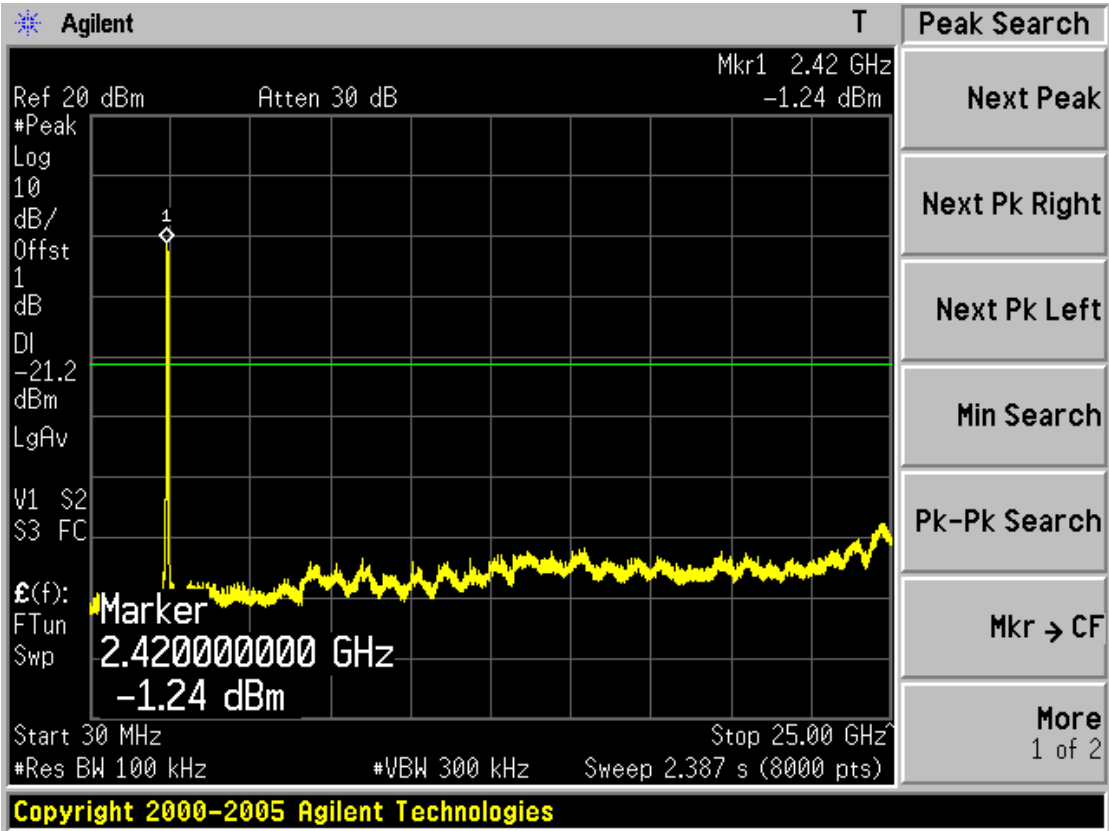


CH11

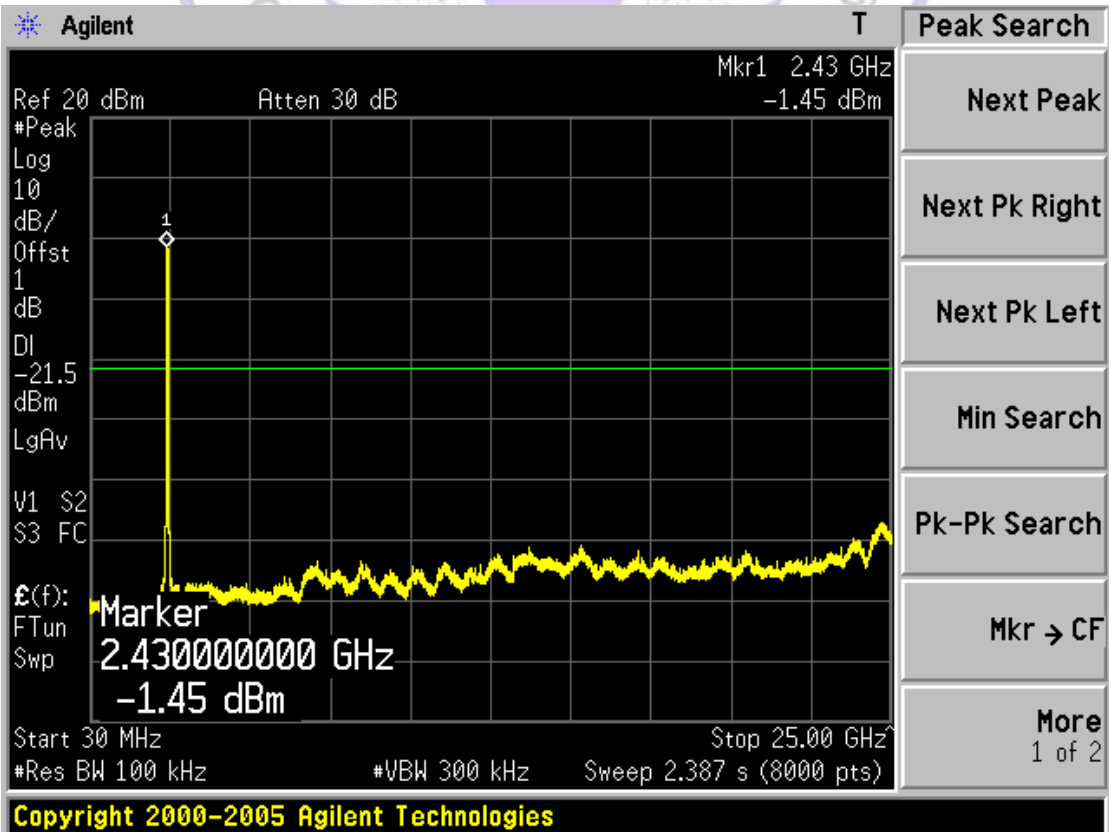


For 802.11n (40MHz) Mode:

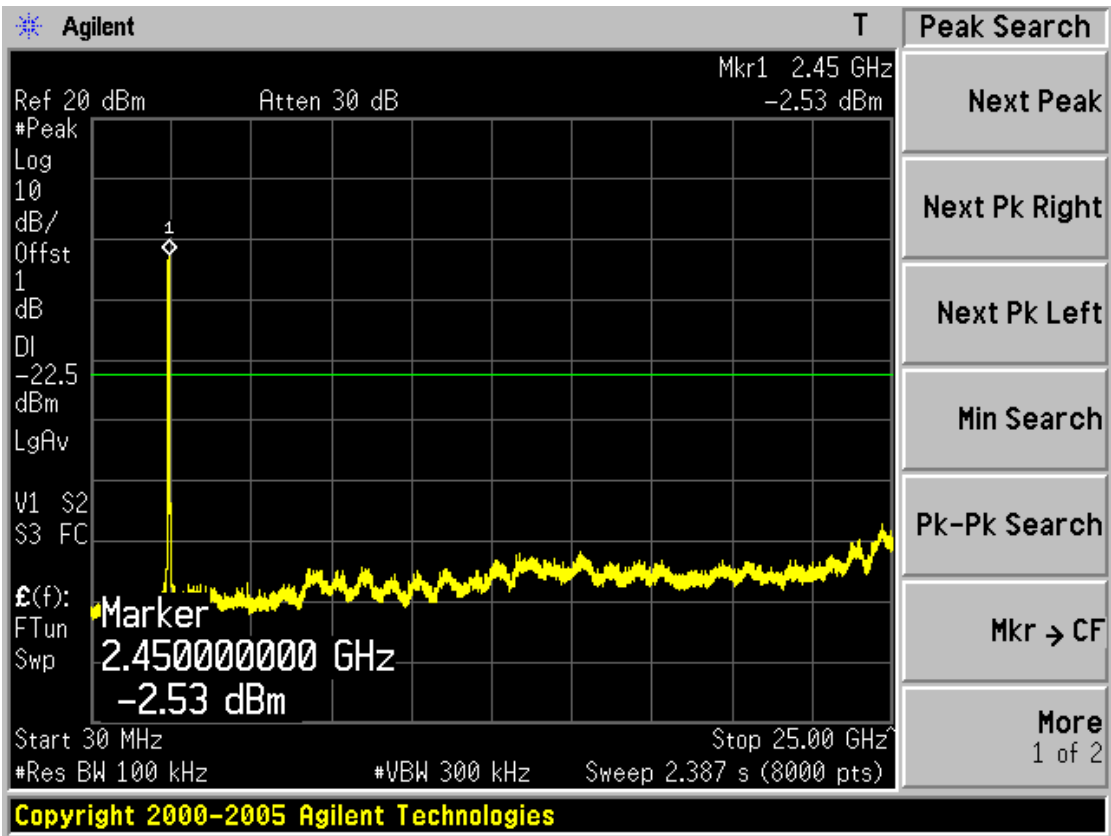
CH3



CH6

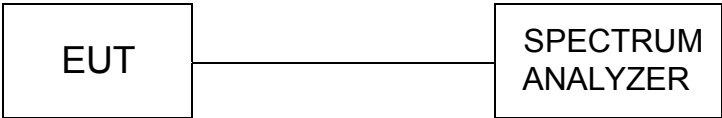


CH9



4.8. Operation Frequency Range of 20dB Bandwidth

TEST CONFIGURATION



TEST PROCEDURE

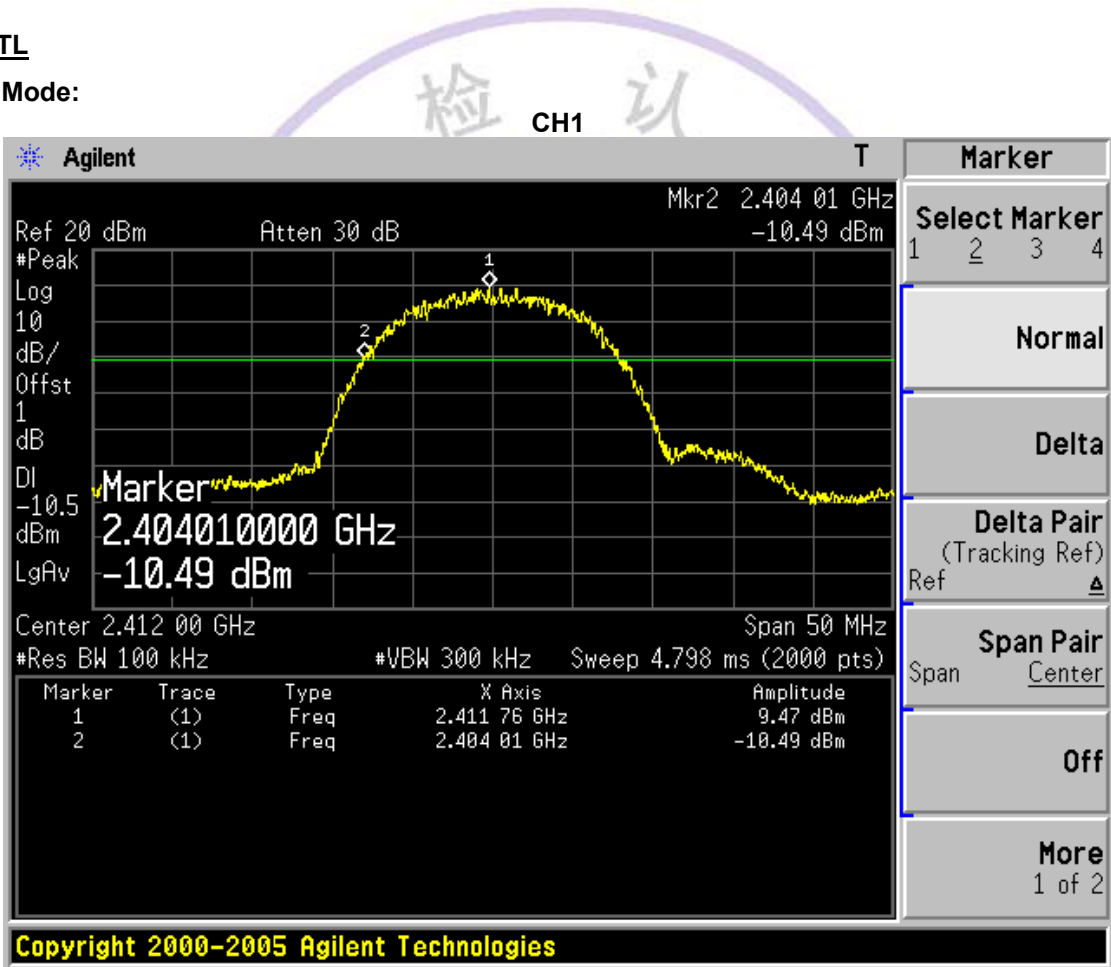
The EUT was tested according to KDB 558074 for compliance to FCC 47CFR 15.247 requirements. Set RBW = 100 kHz, Span greater than RBW.

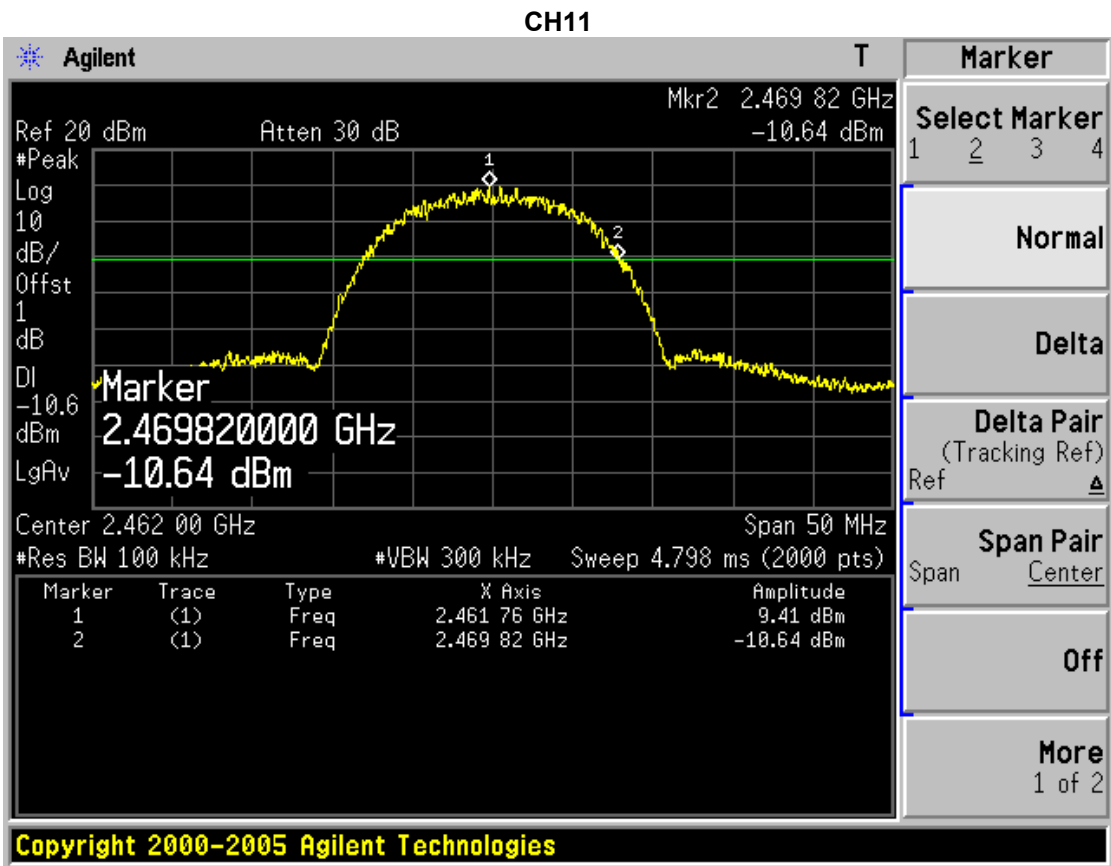
LIMIT

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

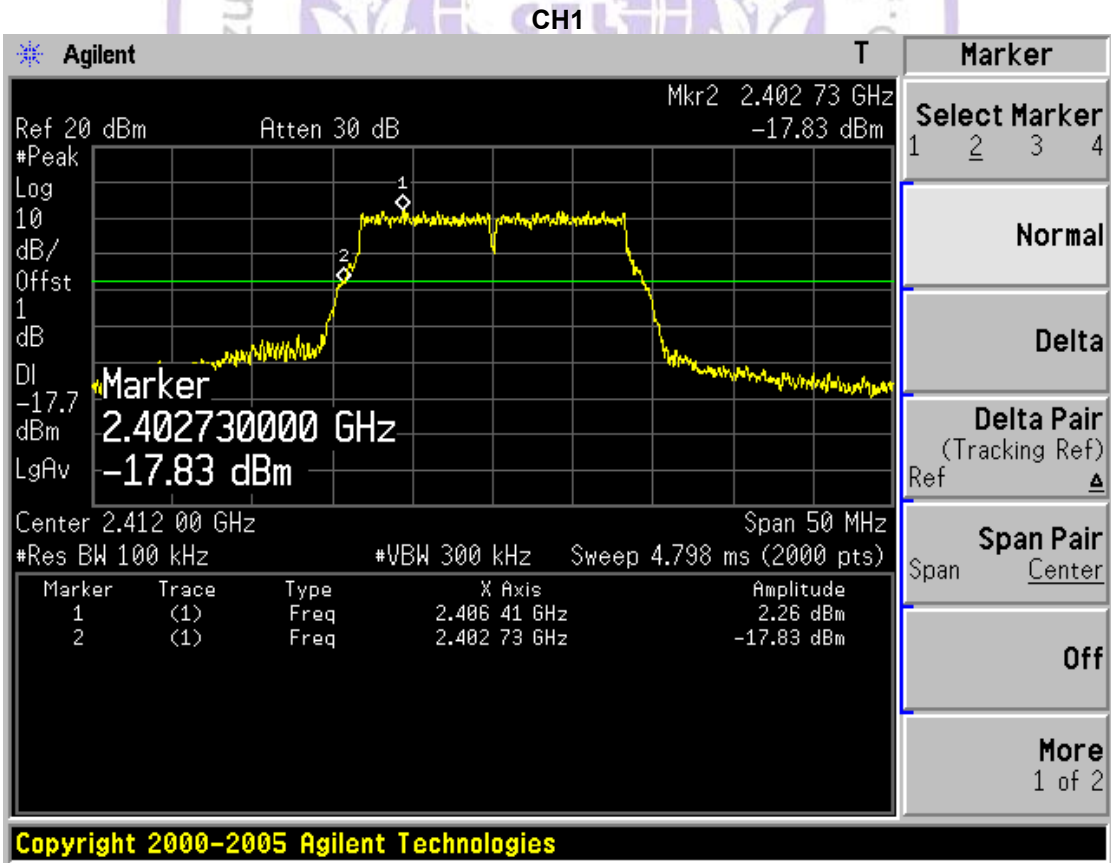
TEST RESULT

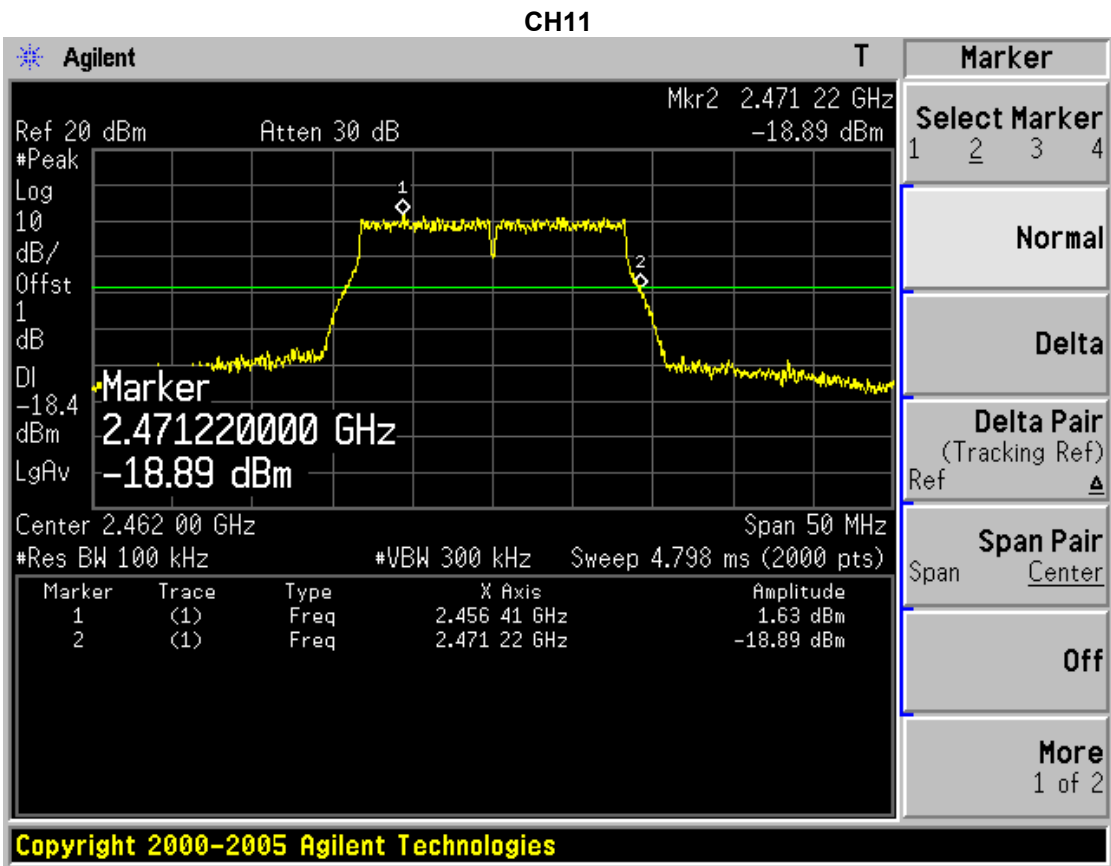
For 802.11b Mode:



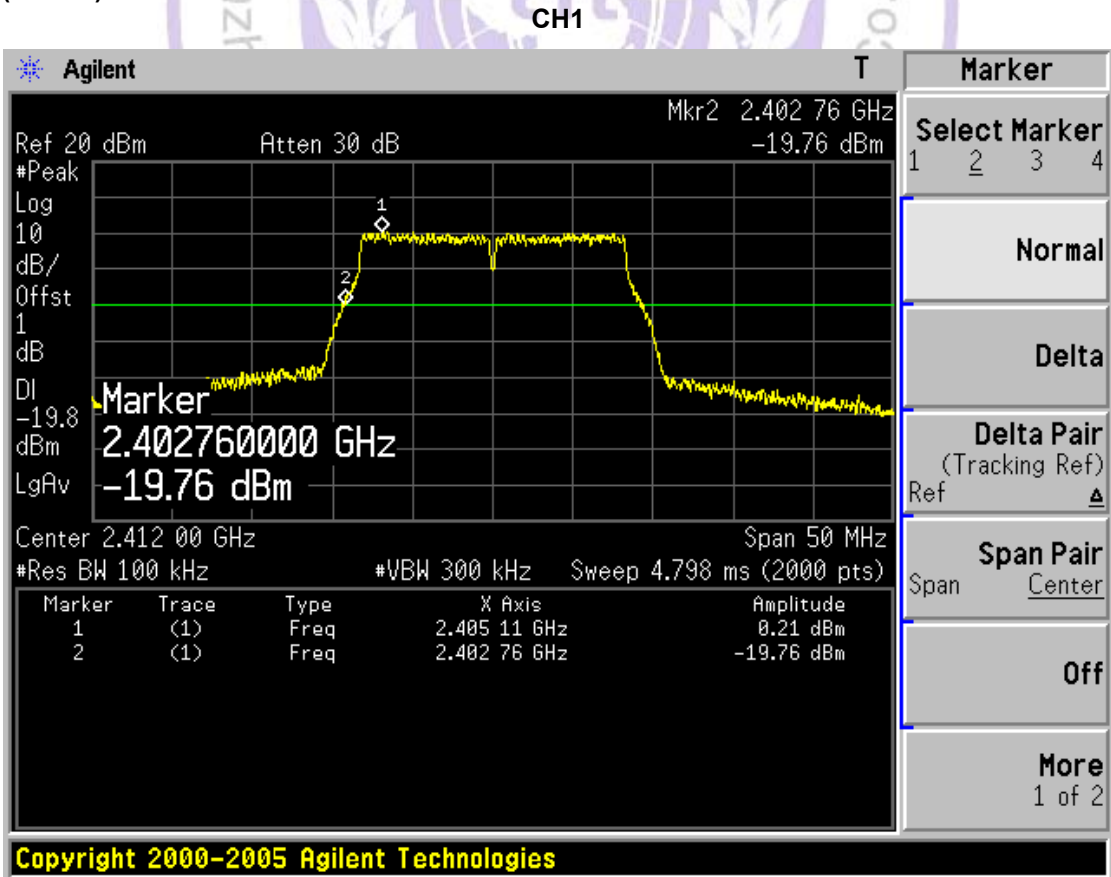


For 802.11g Mode:

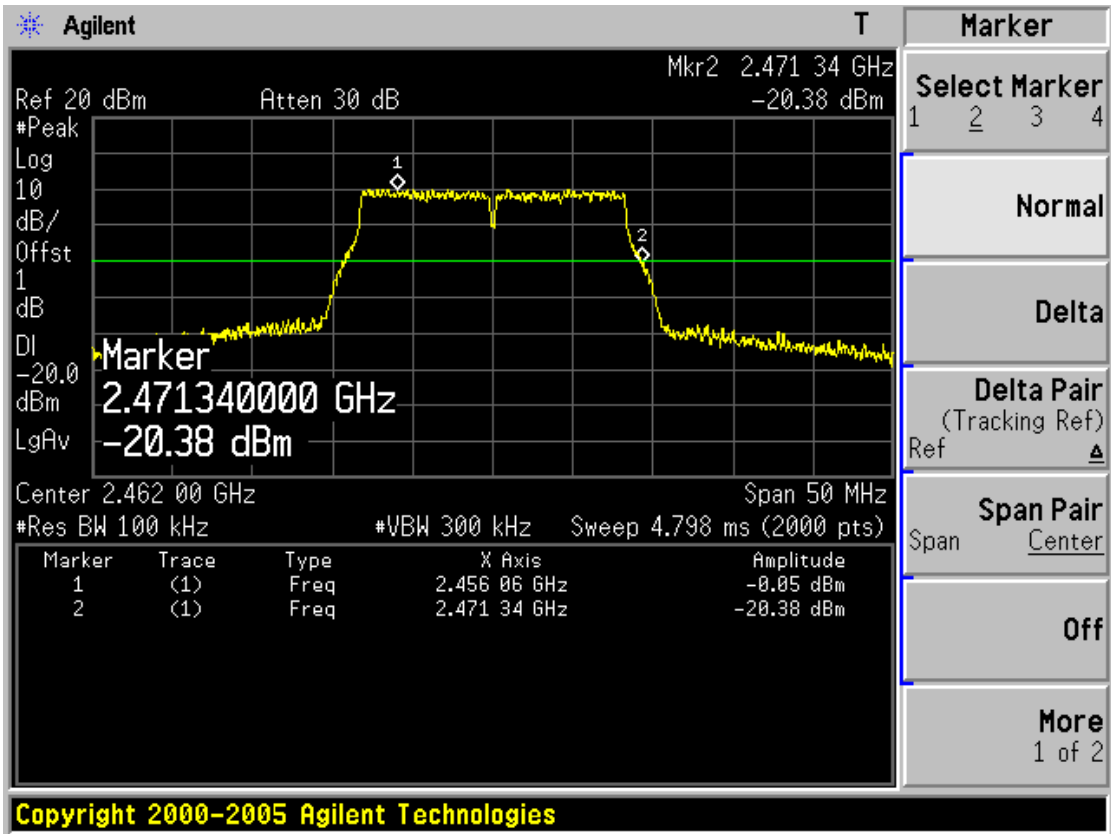




For 802.11n (20MHz) Mode:

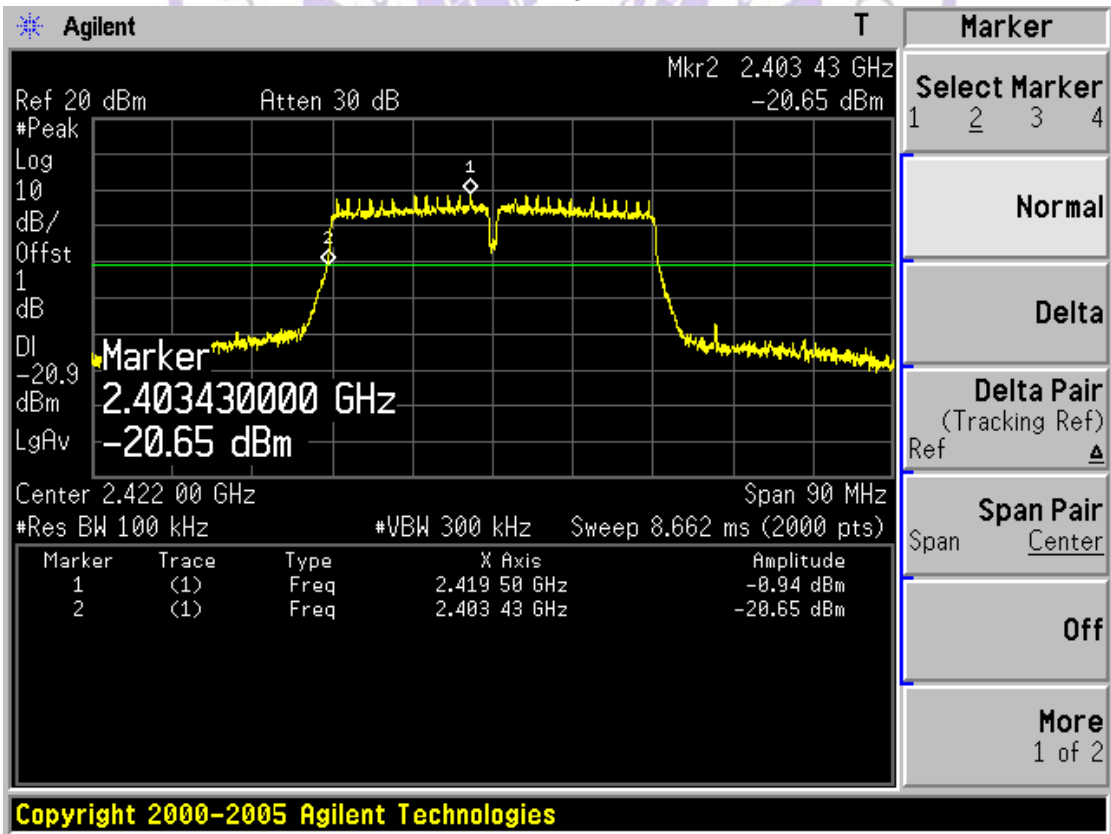


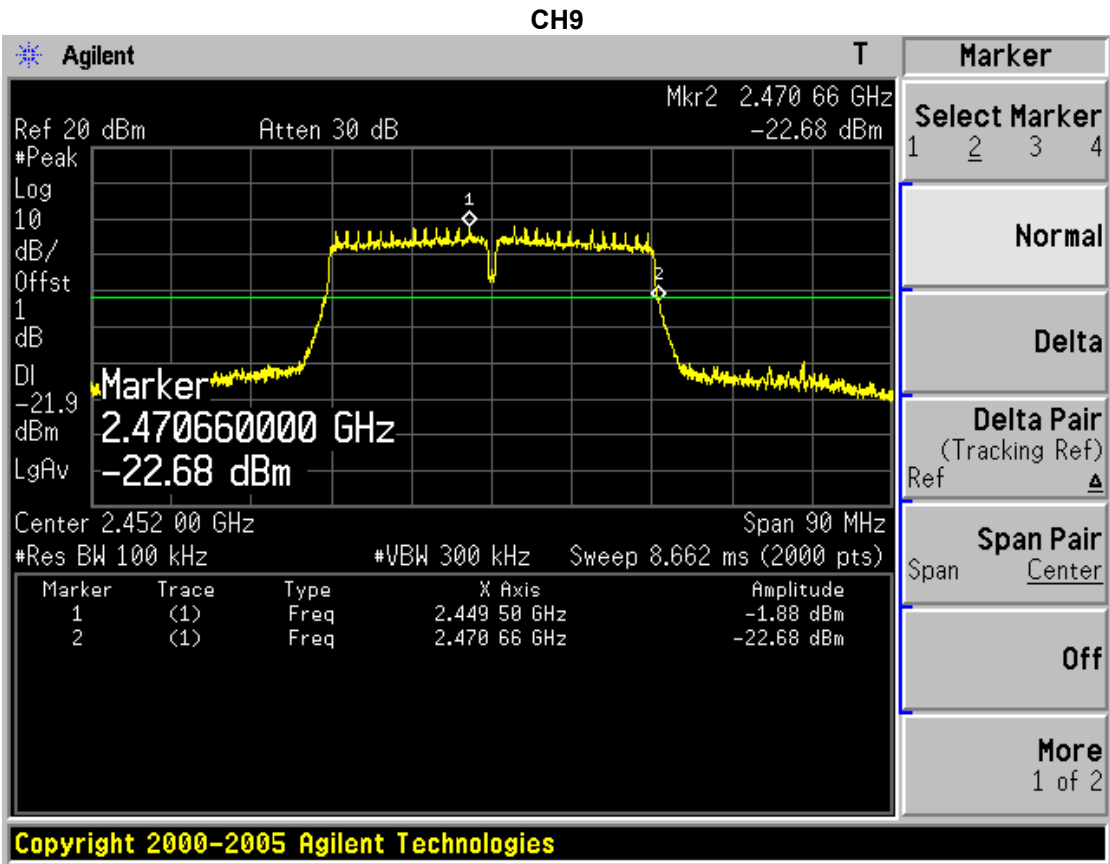
CH11



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.

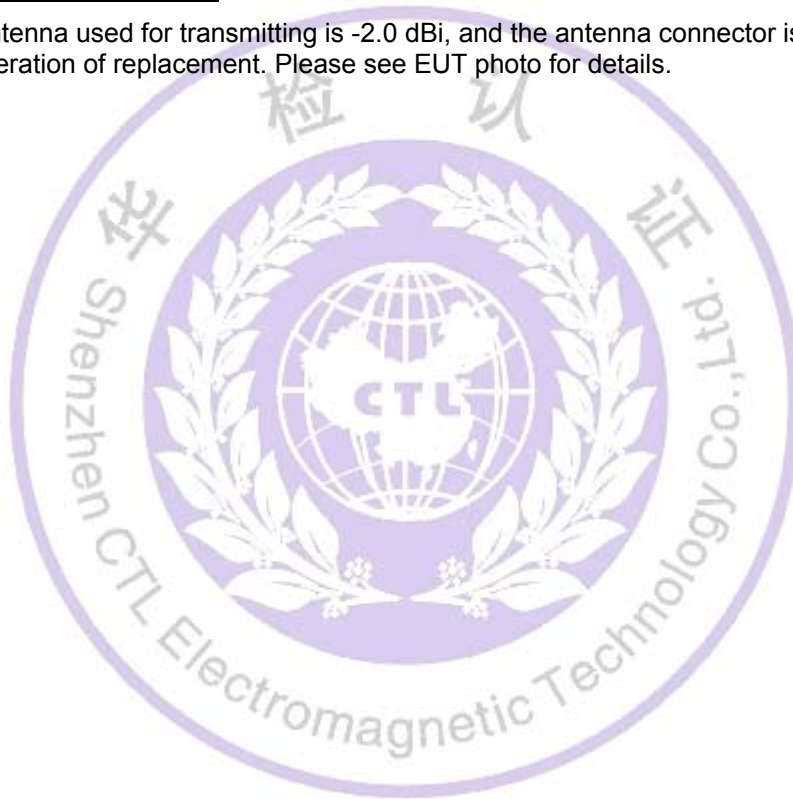
And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

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







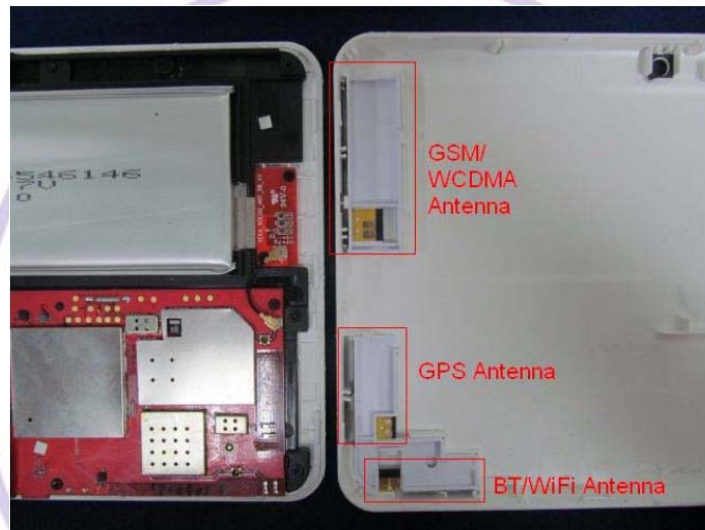
6. External and Internal Photos of the EUT

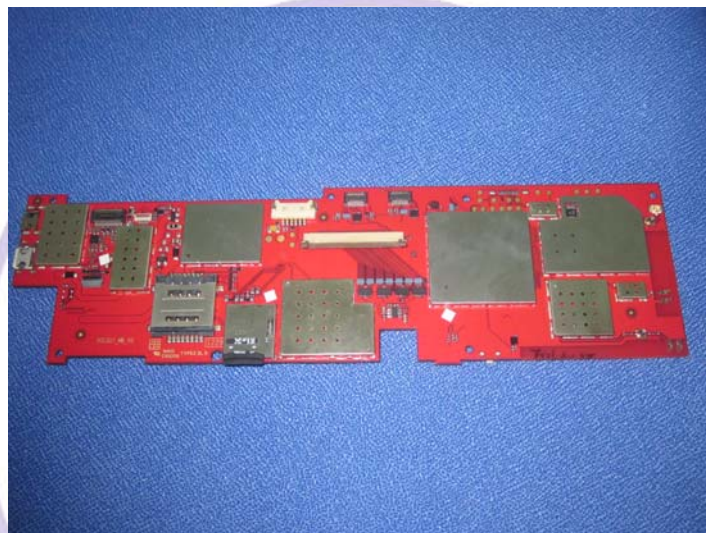
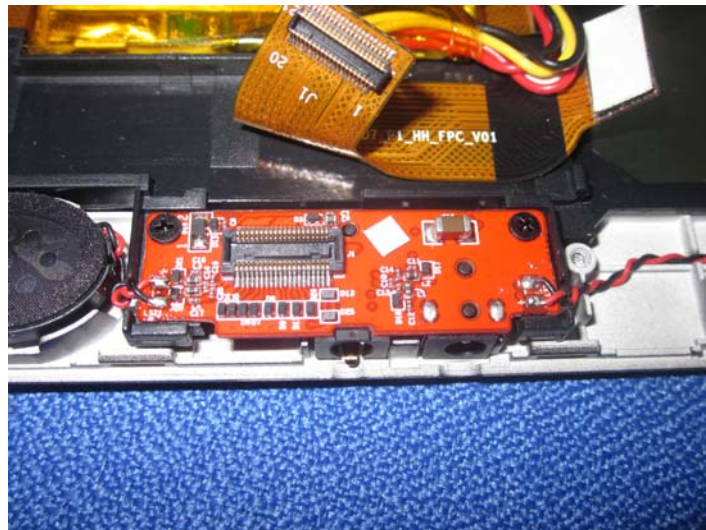
External Photos of EUT



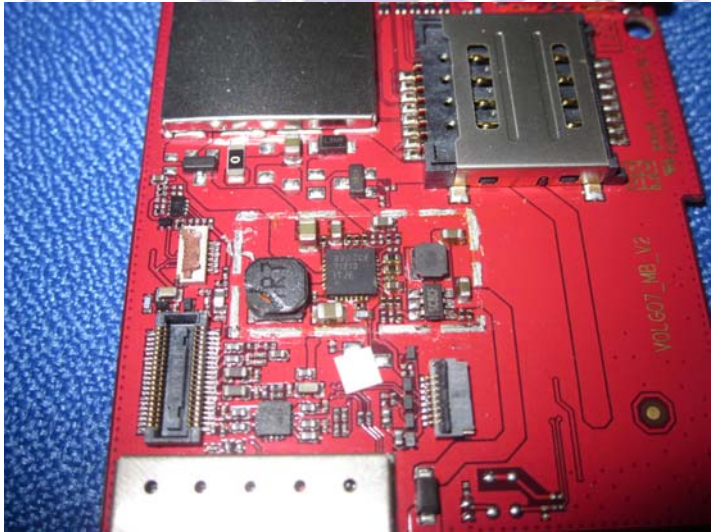
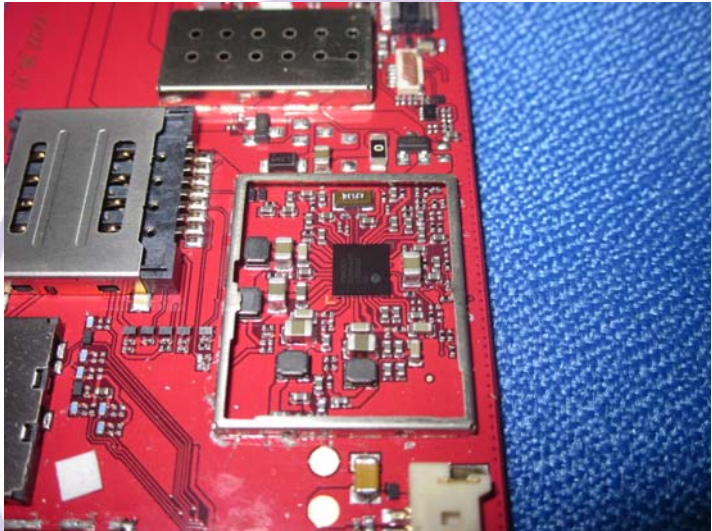
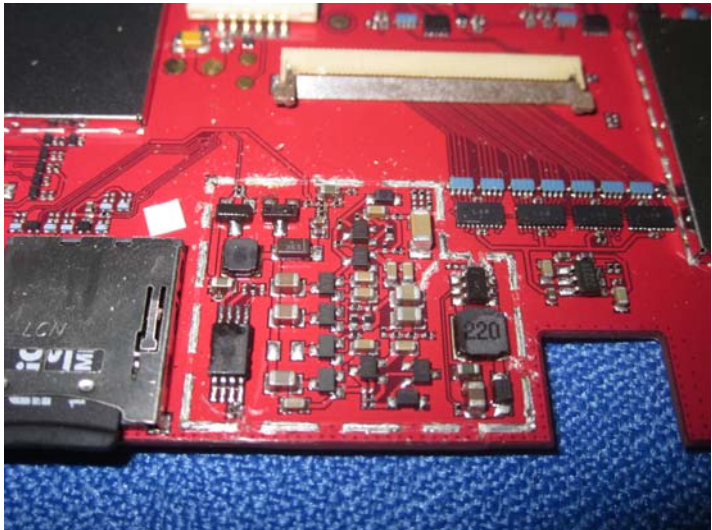




Internal Photos of EUT









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

