

FCC/IC RF Test Report

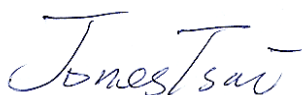
APPLICANT : Sony Mobile Communications AB
EQUIPMENT : Smart phone
BRAND NAME : SONY
MODEL NAME : D2302
TYPE NAME : PM-0721-BV
FCC ID : PY7PM-0721
STANDARD : FCC Part 15 Subpart C §15.247
IC RSS-210 issue 8
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Nov. 02, 2013 and testing was completed on Jan. 16, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.



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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR3N0205C	Rev. 01	Initial issue of report	Jan. 20, 2014
FR3N0205C	Rev. 02	Update report for adding Loop Antenna in section 4.	Jan. 31, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-210 A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	RSS-Gen 4.6.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	RSS-210 A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	RSS-210 A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	RSS-210 A8.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 4.39 dB at 2483.500 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 10.20 dB at 2.974 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Sony Mobile Communications AB
Nya Vattentorget, 22188 Lund, Sweden

1.2 Manufacturer

Compal Communications, INC.
No. 385, Yangguang Street, Neihu, Taipei 11491, Taiwan

1.3 Feature of Equipment Under Test

The Equipment Under Test (hereafter called: EUT) is smart phone supporting, GSM / WCDMA / Wi-Fi 2.4GHz 802.11b/g/n, Wi-Fi 5GHz 802.11a/n, Bluetooth with FM Receiver, GPS, and NFC features, and below is details of information.

General Information of Equipment Under Test	
Equipment	Smart phone
Brand Name	SONY
Model Name	D2302
Type Name	PM-0721-BV
FCC ID	PY7PM-0721
GSM Operating Band(s)	GSM 850/900/1800/1900MHz
GPRS / EGPRS Multi Slot Class	GPRS Class 33 , EGPRS Class 33
WCDMA Operating Band(s)	FDD Band I / II / V / VIII
WCDMA Rel. Version	Rel. 7
Wi-Fi Specification	802.11b/g/n (HT20) / 802.11a/n (HT20/HT40)
Bluetooth Version	v3.0+EDR / v4.0-LE
NFC Specification	ISO14443A / ISO14443B / Felica
Power Supply	Battery / AC Adapter / Car Charger

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.
Maximum Output Power to Antenna	<2412 MHz ~ 2462 MHz> 802.11b : 19.77 dBm (0.0948 W) 802.11g : 22.02 dBm (0.1592 W) 802.11n HT20 : 21.88 dBm (0.1542 W) <5745 MHz ~ 5825 MHz> 802.11a : 20.25 dBm (0.1059 W) 802.11n HT20 : 20.35 dBm (0.1084 W) 802.11n HT40 : 20.15 dBm (0.1035 W)
Antenna Type	802.11b/g/n : PIFA Antenna type with gain 1.31 dBi 802.11a/n : PIFA Antenna type with gain -1.33 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT #1	IMEI 1 : 004402146971357 IMEI 2 : 004402146971365 S/N : ZH8001K0XF
EUT #2	IMEI 1 : 004402147201424 IMEI 2 : 004402147201432 S/N : ZH8001YT43
EUT #3	IMEI 1 : 004402146969419 IMEI 2 : 004402146969427 S/N : ZH8001HJSF
HW Version	A
SW Version	18.0.B.0.23
EUT Stage	Production Unit

Accessory List	
AC Adapter	Model No. : EP800
	Type No. : CAA-0002016-US B
Battery	Model No. : LIS1502ERPC
	Type No. : Sony LIS1502ERPC
Earphone	Model No. : MH410c
	Type No. : AG-1100
USB Cable	Model No. : AHAB EC450
	Part No. : 1242-6715.4

Note:

1. Above EUT list and accessory list used are electrically identical per declared by manufacturer.
2. Above the accessories list are used to exercise the EUT during test, and the serial number of each type of accessories is listed in each section of this report.
3. For other wireless features of this EUT, test report will be issued separately.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH02-HY	CO05-HY	03CH08-HY	636805/4086B-2

Note: The test site complies with ANSI C63.4 2003 requirement.

1.7 Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ♦ ANSI C63.4-2003
- ♦ IC RSS-210 Issue 8
- ♦ IC RSS-Gen Issue 3
- ♦ NOTICE 2012-DRS0126

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. Per the section 2.2.3 of Notice of 2012-DRS0126, “ Receivers Excluded from Industry Canada Requirements”, only radiocommunication receivers operating in stand-alone mode within the band 30-960 MHz and scanner receivers are subject to Industry Canada requirements.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

The final configuration from all the combinations and the worst-case data rates were investigated by measuring the maximum power across all the data rates and modulation modes under section 2.2.

Based on the worst configuration found above, the RF power setting is set individually to meet FCC compliance limit for the final conducted and radiated tests shown in section 2.3.

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437	-	-

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4	149	5745	159	5795
	151	5755	161	5805
	153	5765	165	5825
	157	5785	-	-

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	19.77	19.72	19.59	19.55

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	22.02	22.00	21.98	21.95	21.94	21.91	21.88	21.85

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.88	21.83	21.71	21.64	21.77	21.72	21.69	21.62

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	20.25	20.24	20.23	20.17	20.23	20.21	20.23	20.20

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.35	20.30	20.34	20.32	20.31	20.33	20.30	20.34

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.15	20.07	20.07	20.08	20.07	20.04	20.08	20.04

2.3 Test Mode

Final results of test modes, data rates and test channels are shown as following table.

<2.4GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and 99% BW Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MCS0	1/11
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MCS0	1/11
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11

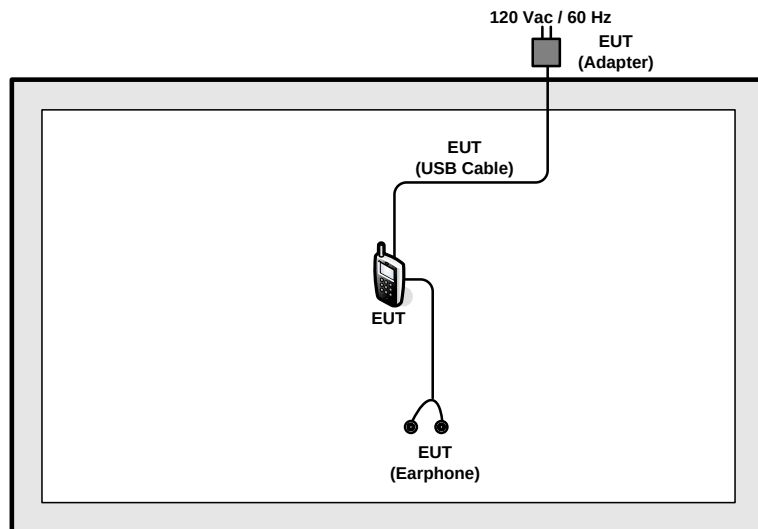
<5GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and 99% BW Power Spectral Density	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
	Conducted Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	MCS0	149/165
		802.11n HT40	MCS0	151/159
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
Radiated TCs	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159

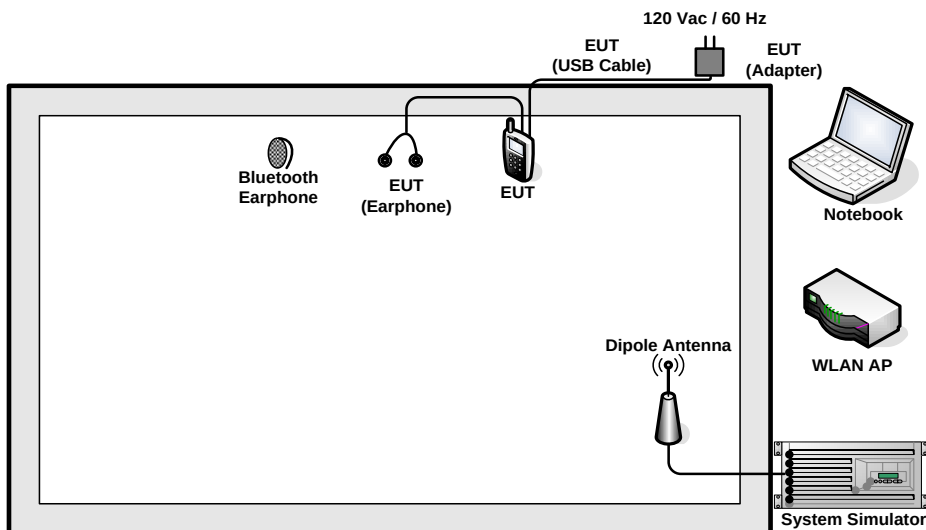
Test Cases	
AC Conducted Emission	Mode 1: GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1
	Mode 2: GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1

2.4 Connection Diagram of Test System

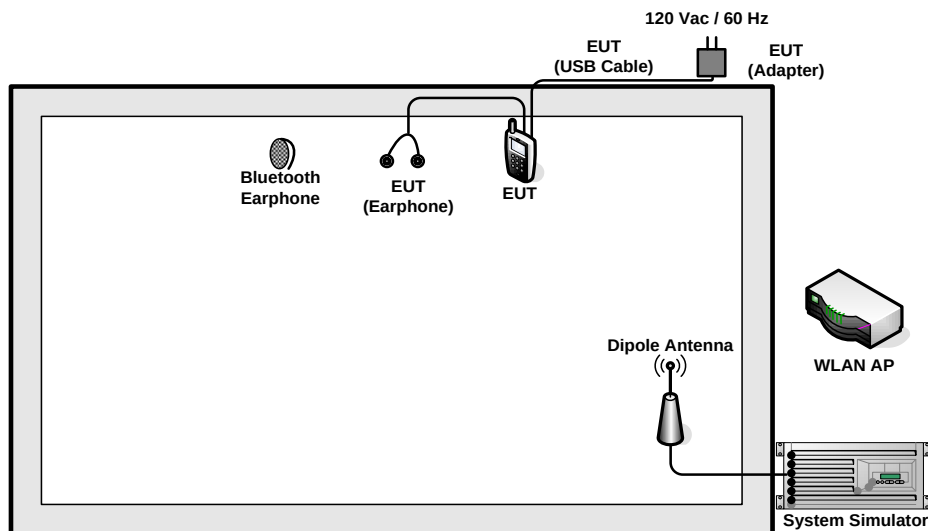
<WLAN Tx Mode>



<AC Conducted Emission Mode in WLAN Link>



<AC Conducted Emission Mode in WLAN Idle>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MH755	FCC DoC	N/A	N/A
5.	Bluetooth Body	Sony Ericsson	SBH20	PY7-RD0010	N/A	N/A
6.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.

2.7 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

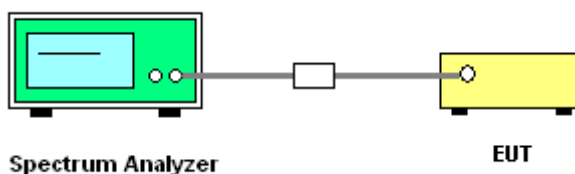
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

3.1.4 Test Setup

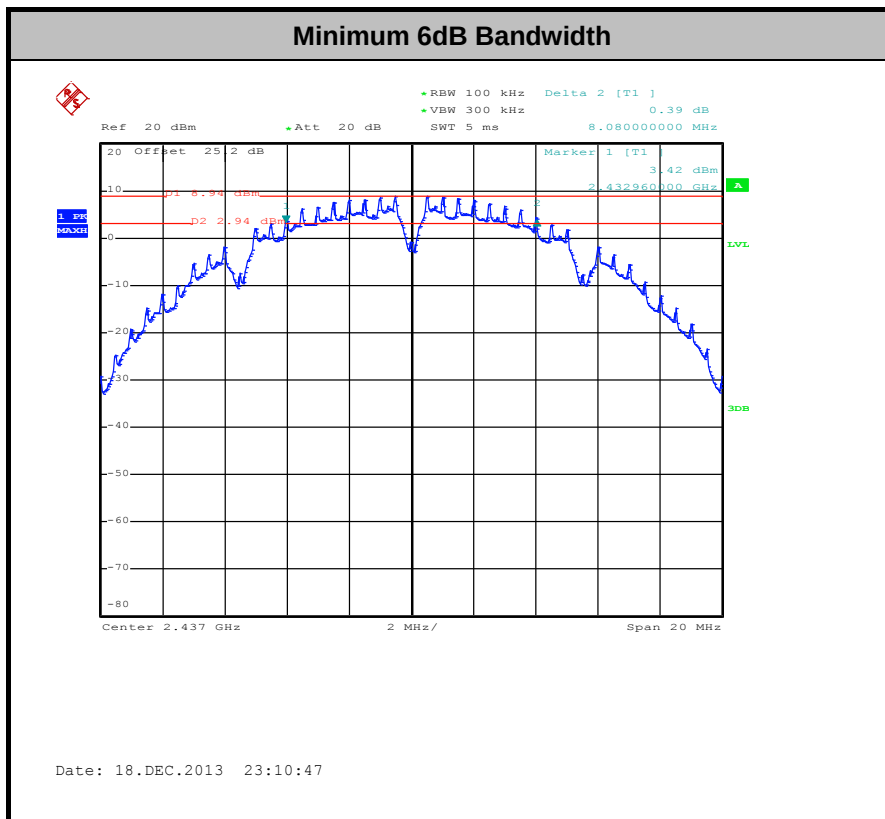


**3.1.5 Test Result of 6dB and 99% Occupied Bandwidth**

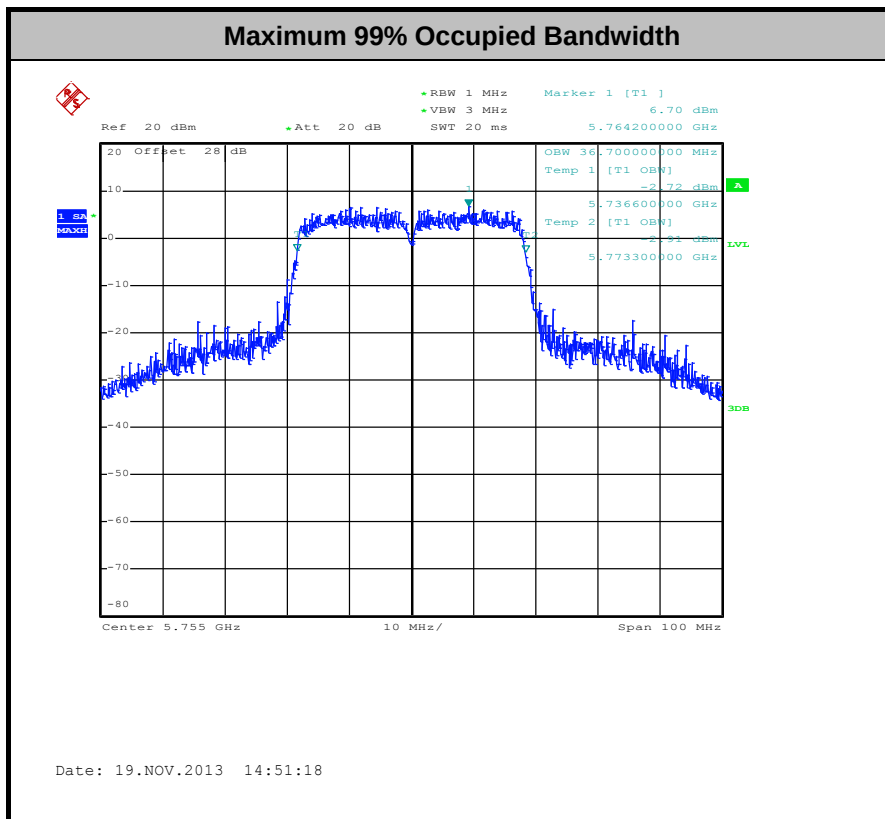
Test Band :	2.4GHz + 5GHz band 4	Temperature :	20~25℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	13.95	8.56	0.5	Pass
11b	1Mbps	1	6	2437	13.85	8.08	0.5	Pass
11b	1Mbps	1	11	2462	13.95	9.00	0.5	Pass
11g	6Mbps	1	1	2412	18.45	16.32	0.5	Pass
11g	6Mbps	1	6	2437	18.65	16.34	0.5	Pass
11g	6Mbps	1	11	2462	18.80	16.34	0.5	Pass
HT20	MCS0	1	1	2412	19.05	17.34	0.5	Pass
HT20	MCS0	1	6	2437	19.20	17.58	0.5	Pass
HT20	MCS0	1	11	2462	19.05	17.58	0.5	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11a	6Mbps	1	149	5745	18.60	16.34	0.5	Pass
11a	6Mbps	1	157	5785	18.85	16.32	0.5	Pass
11a	6Mbps	1	165	5825	18.55	16.36	0.5	Pass
HT20	MCS0	1	149	5745	19.45	17.56	0.5	Pass
HT20	MCS0	1	157	5785	19.40	17.56	0.5	Pass
HT20	MCS0	1	165	5825	19.50	17.54	0.5	Pass
HT40	MCS0	1	151	5755	36.70	35.52	0.5	Pass
HT40	MCS0	1	159	5795	36.70	35.20	0.5	Pass



Note: The total loss is 25.2 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.



Note: The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for peak output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the Antenna exceeds 6dBi.

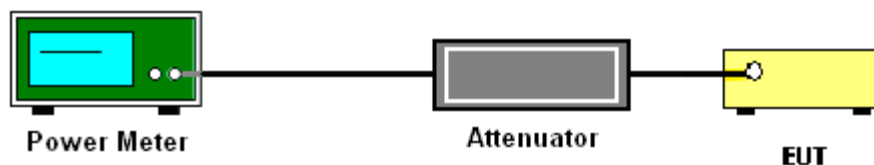
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	20~25℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	19.42	30	1.31	Pass
11b	1Mbps	1	6	2437	19.77	30	1.31	Pass
11b	1Mbps	1	11	2462	19.62	30	1.31	Pass
11g	6Mbps	1	1	2412	21.71	30	1.31	Pass
11g	6Mbps	1	6	2437	22.02	30	1.31	Pass
11g	6Mbps	1	11	2462	21.97	30	1.31	Pass
HT20	MCS0	1	1	2412	21.51	30	1.31	Pass
HT20	MCS0	1	6	2437	21.88	30	1.31	Pass
HT20	MCS0	1	11	2462	21.46	30	1.31	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	20.25	30	-1.33	Pass
11a	6Mbps	1	157	5785	20.24	30	-1.33	Pass
11a	6Mbps	1	165	5825	19.85	30	-1.33	Pass
HT20	MCS0	1	149	5745	20.35	30	-1.33	Pass
HT20	MCS0	1	157	5785	20.31	30	-1.33	Pass
HT20	MCS0	1	165	5825	19.98	30	-1.33	Pass
HT40	MCS0	1	151	5755	20.15	30	-1.33	Pass
HT40	MCS0	1	159	5795	20.07	30	-1.33	Pass

Note: Measured power (dBm) has offset with cable loss.

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	20~25℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	0.10	16.90	30	1.31	Pass
11b	1Mbps	1	6	2437	0.10	16.98	30	1.31	Pass
11b	1Mbps	1	11	2462	0.10	16.92	30	1.31	Pass
11g	6Mbps	1	1	2412	0.59	14.86	30	1.31	Pass
11g	6Mbps	1	6	2437	0.59	14.97	30	1.31	Pass
11g	6Mbps	1	11	2462	0.59	14.78	30	1.31	Pass
HT20	MCS0	1	1	2412	0.63	13.76	30	1.31	Pass
HT20	MCS0	1	6	2437	0.63	13.98	30	1.31	Pass
HT20	MCS0	1	11	2462	0.63	13.75	30	1.31	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	0.59	13.99	30	-1.33	Pass
11a	6Mbps	1	157	5785	0.59	13.95	30	-1.33	Pass
11a	6Mbps	1	165	5825	0.59	13.77	30	-1.33	Pass
HT20	MCS0	1	149	5745	0.63	13.99	30	-1.33	Pass
HT20	MCS0	1	157	5785	0.63	13.96	30	-1.33	Pass
HT20	MCS0	1	165	5825	0.63	13.79	30	-1.33	Pass
HT40	MCS0	1	151	5755	1.21	13.72	30	-1.33	Pass
HT40	MCS0	1	159	5795	1.21	13.67	30	-1.33	Pass

Note: Measured power (dBm) has offset with cable loss and duty factor.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

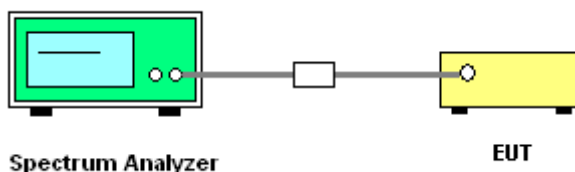
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

3.3.4 Test Setup



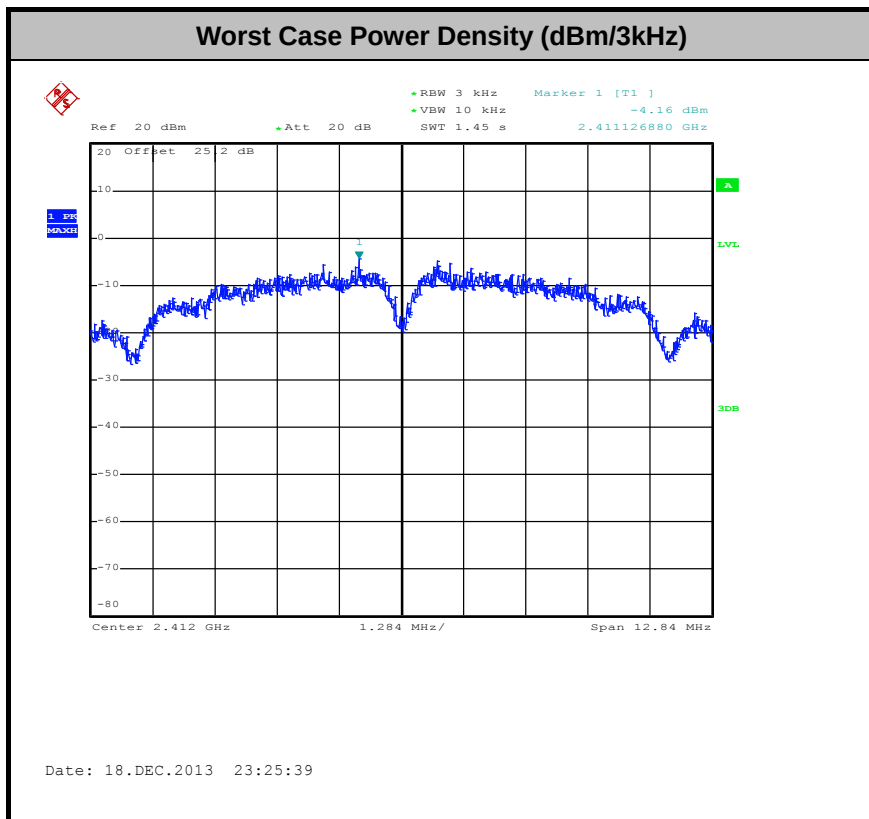
3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	20~25℃
Test Engineer :	Stuart Lin	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	-4.16	8	1.31	Pass
11b	1Mbps	1	6	2437	-4.89	8	1.31	Pass
11b	1Mbps	1	11	2462	-6.19	8	1.31	Pass
11g	6Mbps	1	1	2412	-9.26	8	1.31	Pass
11g	6Mbps	1	6	2437	-9.57	8	1.31	Pass
11g	6Mbps	1	11	2462	-8.94	8	1.31	Pass
HT20	MCS0	1	1	2412	-10.99	8	1.31	Pass
HT20	MCS0	1	6	2437	-10.64	8	1.31	Pass
HT20	MCS0	1	11	2462	-12.26	8	1.31	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	-11.45	8	-1.33	Pass
11a	6Mbps	1	157	5785	-10.68	8	-1.33	Pass
11a	6Mbps	1	165	5825	-11.36	8	-1.33	Pass
HT20	MCS0	1	149	5745	-11.40	8	-1.33	Pass
HT20	MCS0	1	157	5785	-11.17	8	-1.33	Pass
HT20	MCS0	1	165	5825	-12.58	8	-1.33	Pass
HT40	MCS0	1	151	5755	-16.20	8	-1.33	Pass
HT40	MCS0	1	159	5795	-14.20	8	-1.33	Pass

Note: Measured power density (dBm) has offset with cable loss.



Note: The total loss is 25.2 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement and radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a).

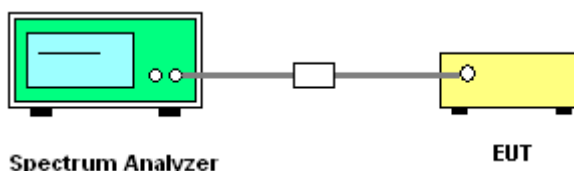
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

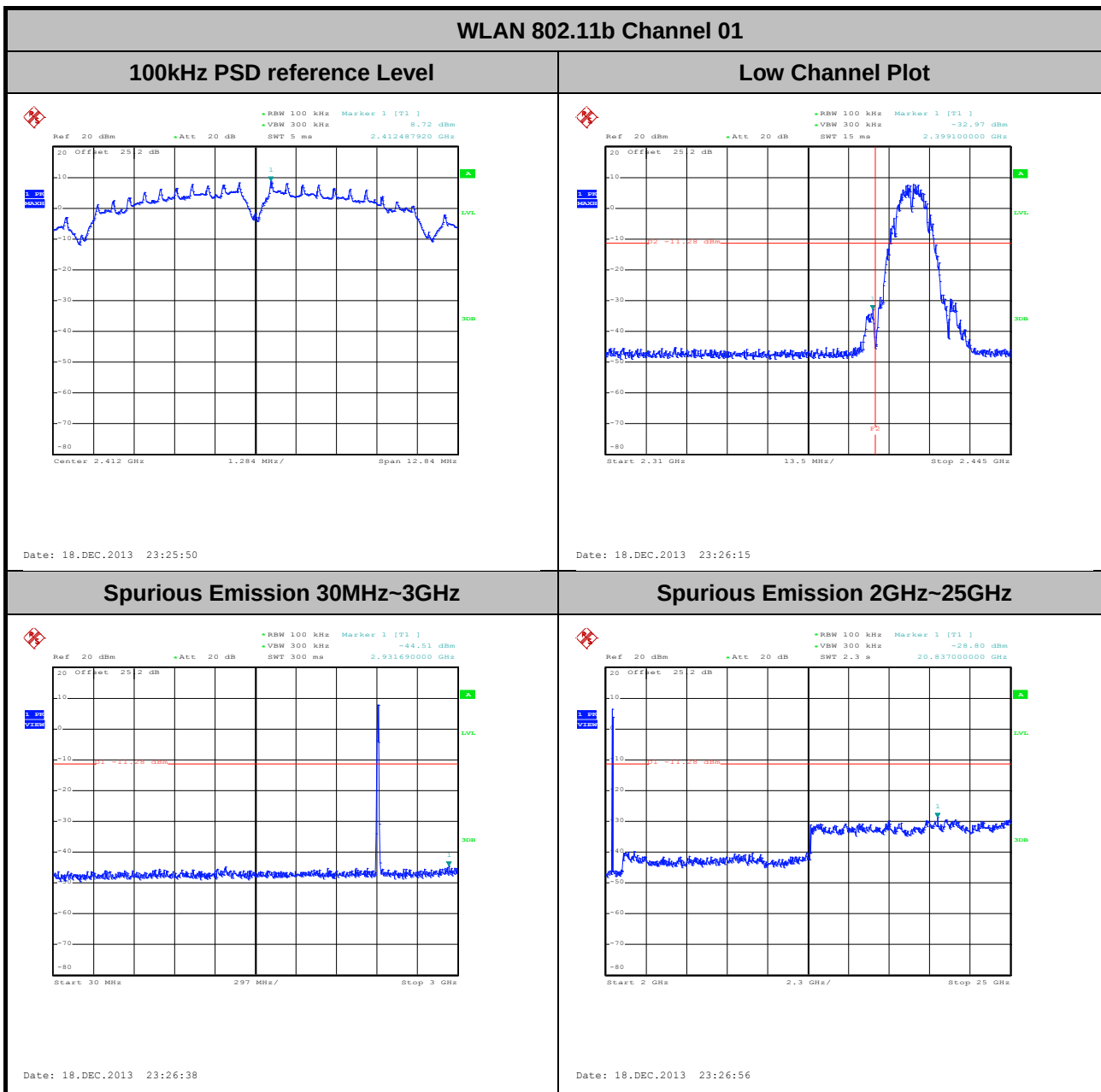
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	20~25℃
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin


Note:

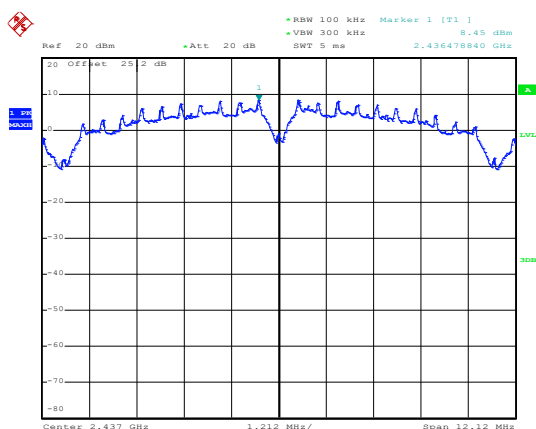
1. The total loss is 25.2 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11b	Temperature :	20~25°C
Test Band :	2.4GHz Mid.	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin

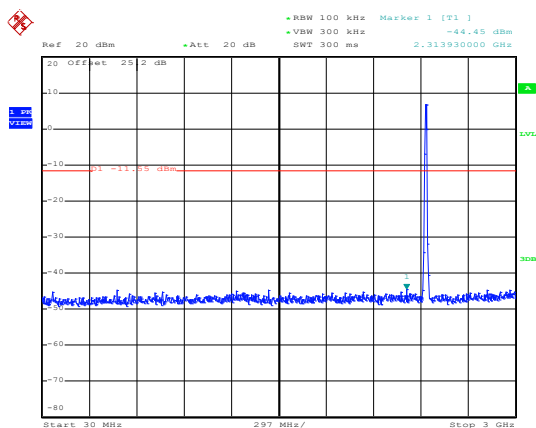
WLAN 802.11b Channel 06

100kHz PSD reference Level



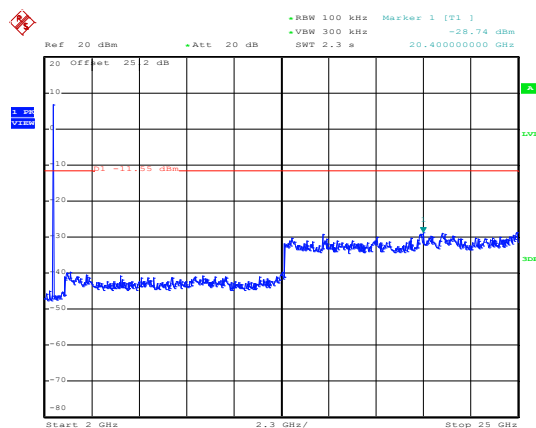
Date: 18.DEC.2013 23:11:20

Spurious Emission 30MHz~3GHz



Date: 18.DEC.2013 23:11:45

Spurious Emission 2GHz~25GHz

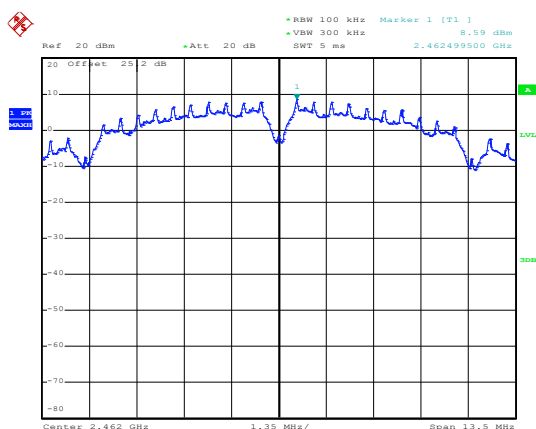


Date: 18.DEC.2013 23:12:04

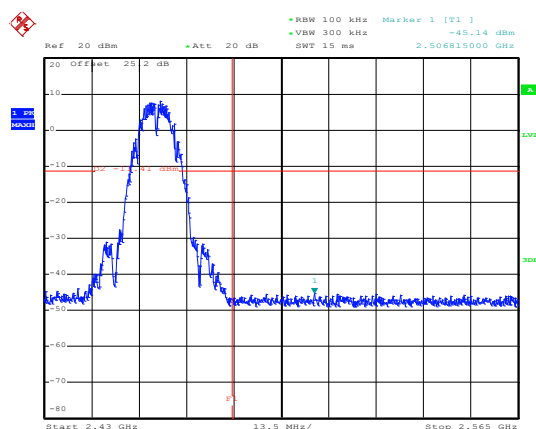
Note:

1. The total loss is 25.2 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

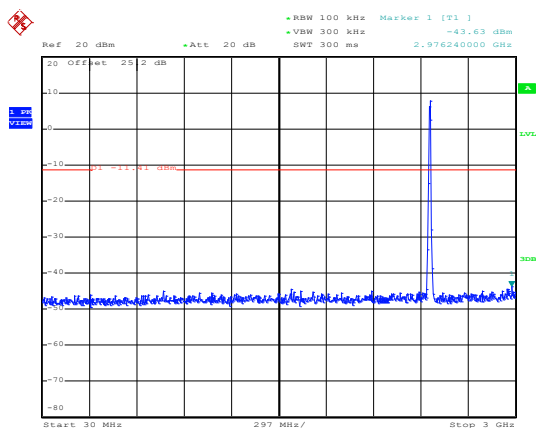
Test Mode :	802.11b	Temperature :	20~25°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin

WLAN 802.11b Channel 11
100kHz PSD reference Level


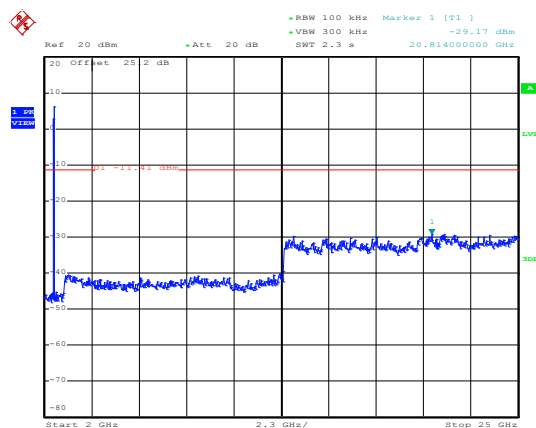
Date: 18.DEC.2013 23:33:09

High Channel Plot


Date: 18.DEC.2013 23:33:25

Spurious Emission 30MHz~3GHz


Date: 18.DEC.2013 23:33:57

Spurious Emission 2GHz~25GHz


Date: 18.DEC.2013 23:34:15

Note:

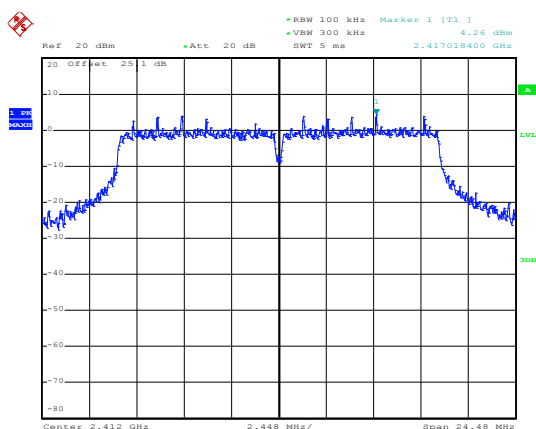
- The total loss is 25.2 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11g	Temperature :	20~25°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin

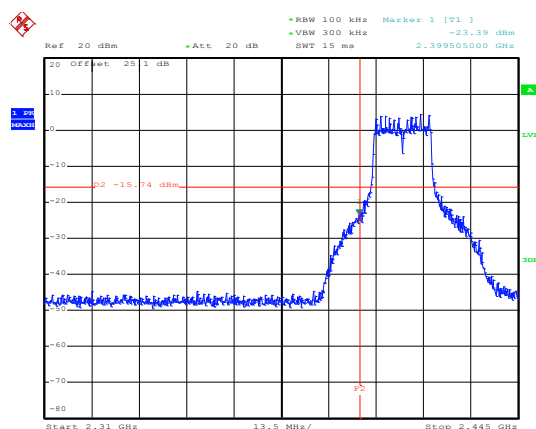
WLAN 802.11g Channel 01

100kHz PSD reference Level



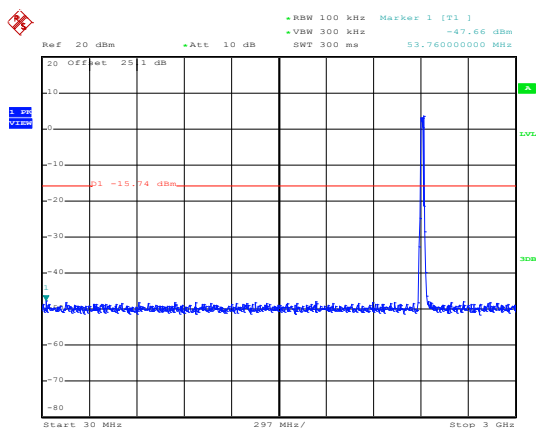
Date: 19.NOV.2013 14:18:07

Low Channel Plot



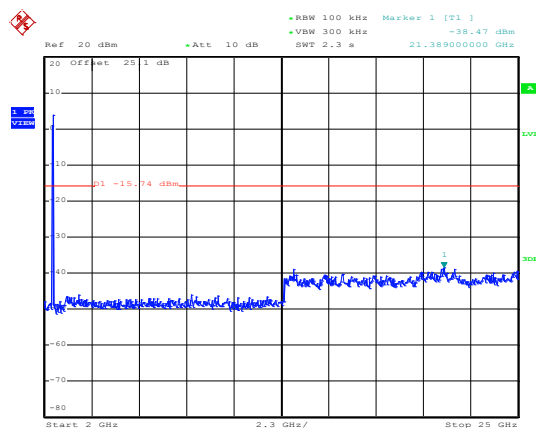
Date: 19.NOV.2013 17:15:43

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2013 14:18:56

Spurious Emission 2GHz~25GHz



Date: 19.NOV.2013 14:19:15

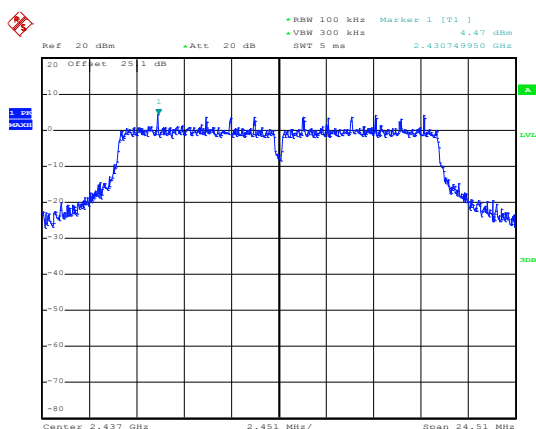
Note:

1. The total loss is 25.1 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Test Mode :	802.11g	Temperature :	20~25℃
Test Band :	2.4GHz Mid.	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin

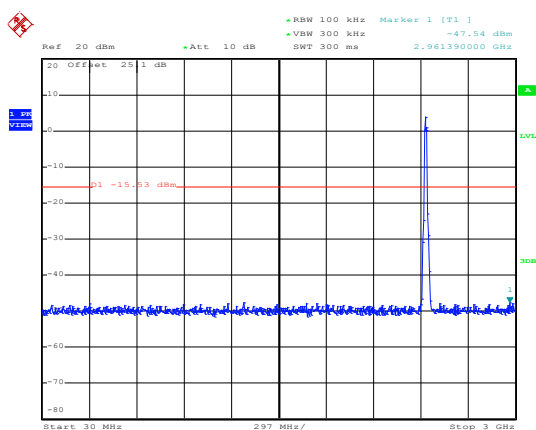
WLAN 802.11g Channel 06

100kHz PSD reference Level



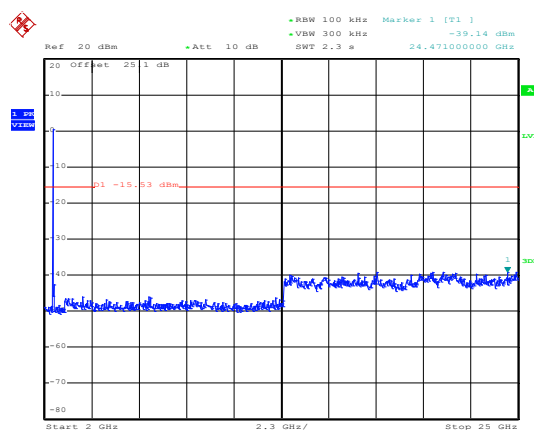
Date: 19.NOV.2013 14:11:53

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2013 14:12:20

Spurious Emission 2GHz~25GHz



Date: 19.NOV.2013 14:12:38

Note:

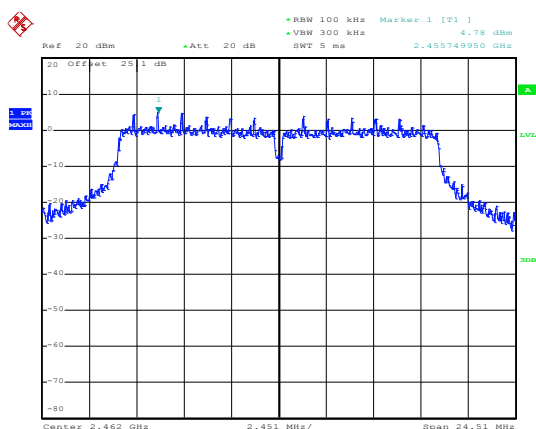
1. The total loss is 25.1 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11g	Temperature :	20~25°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin

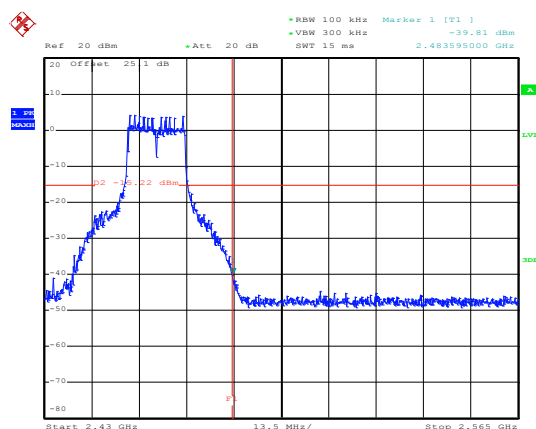
WLAN 802.11g Channel 11

100kHz PSD reference Level



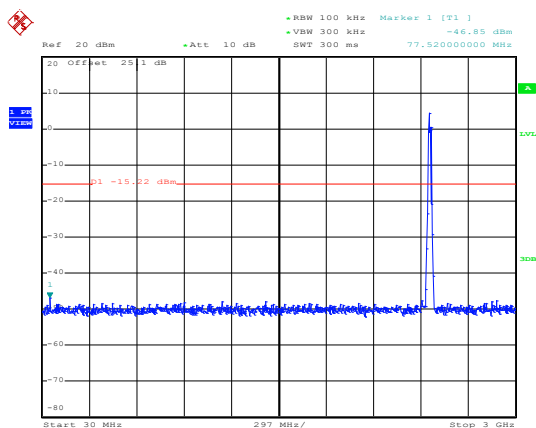
Date: 19.NOV.2013 14:08:49

High Channel Plot



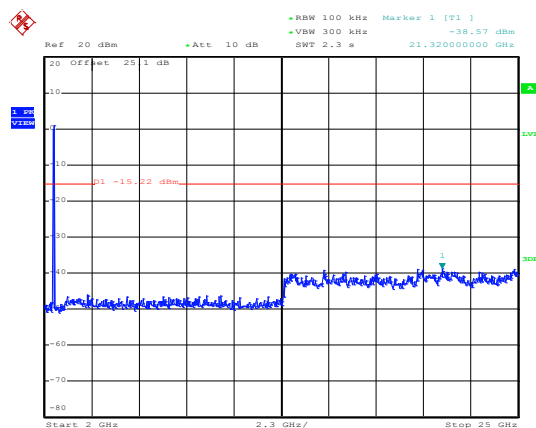
Date: 19.NOV.2013 14:09:12

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2013 14:15:54

Spurious Emission 2GHz~25GHz

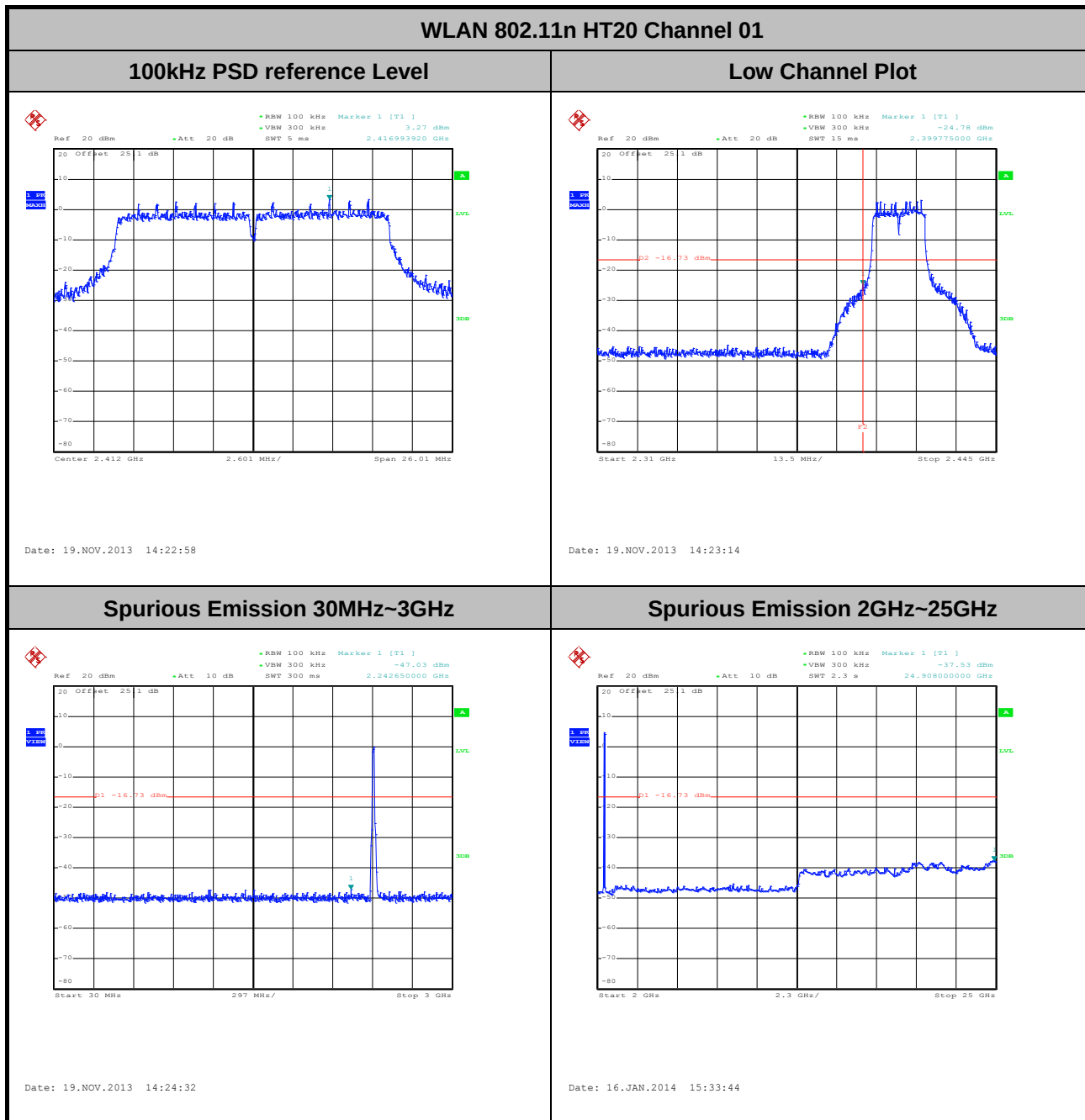


Date: 19.NOV.2013 14:15:08

Note:

1. The total loss is 25.1 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Test Mode :	802.11n HT20	Temperature :	20~25°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin


Note:

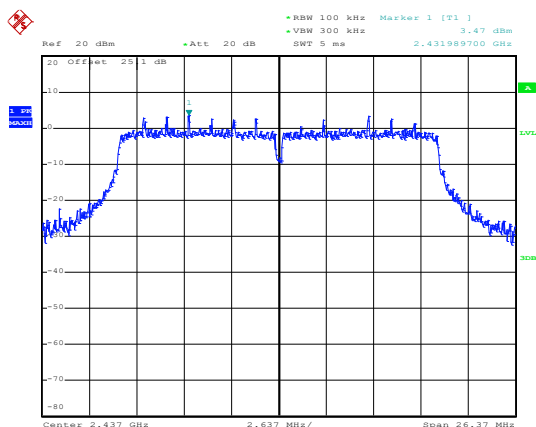
- The total loss is 25.1 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11n HT20	Temperature :	20~25°C
Test Band :	2.4GHz Mid.	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin

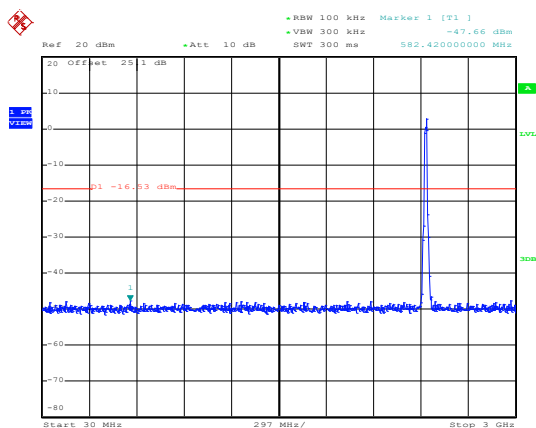
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



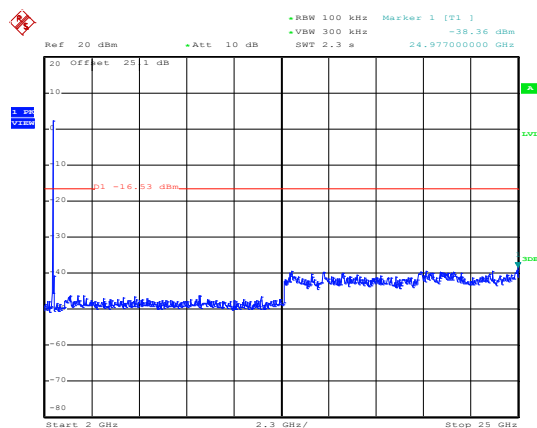
Date: 19.NOV.2013 14:26:27

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2013 17:27:47

Spurious Emission 2GHz~25GHz



Date: 19.NOV.2013 17:28:05

Note:

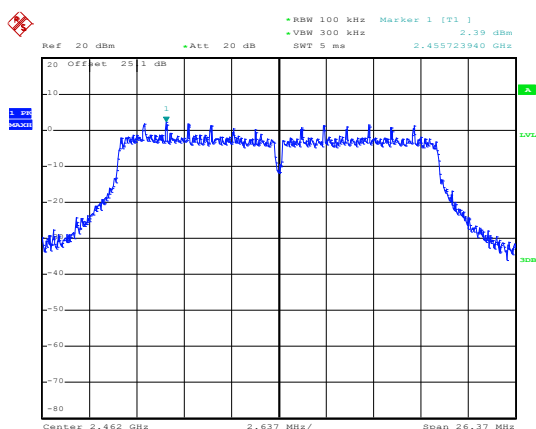
1. The total loss is 25.1 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11n HT20	Temperature :	20~25°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin

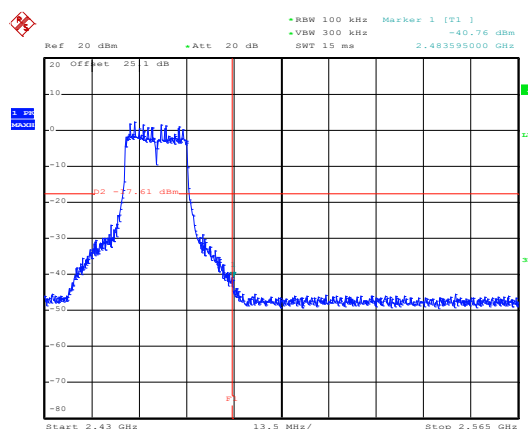
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



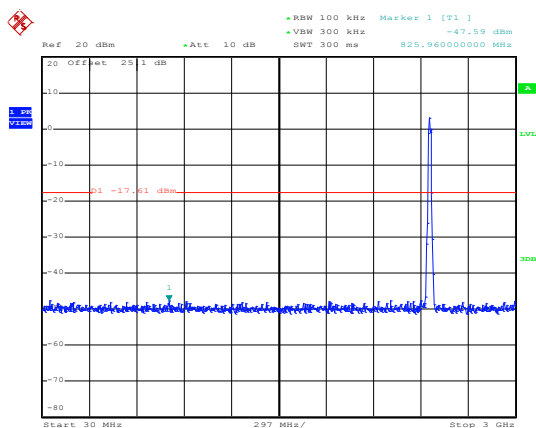
Date: 19.NOV.2013 14:30:36

High Channel Plot



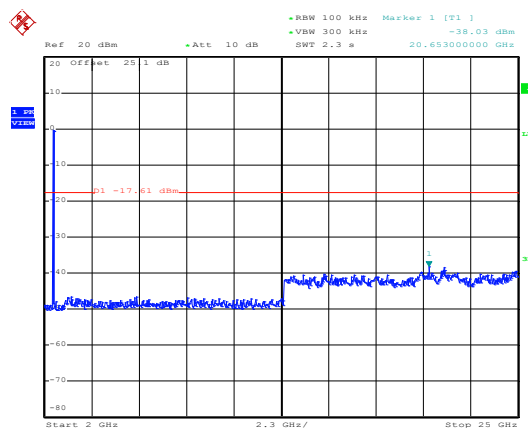
Date: 19.NOV.2013 14:30:56

Spurious Emission 30MHz~3GHz



Date: 19.NOV.2013 17:25:44

Spurious Emission 2GHz~25GHz



Date: 19.NOV.2013 17:26:02

Note:

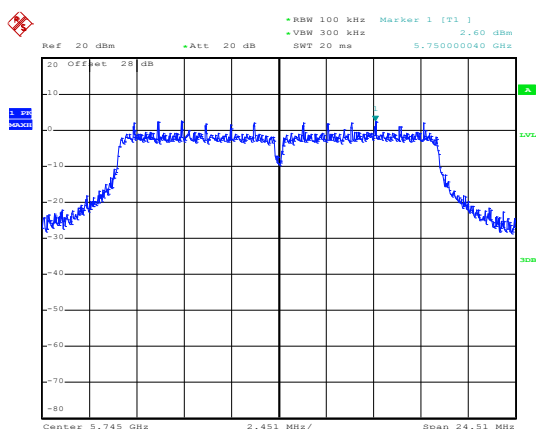
1. The total loss is 25.1 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11a	Temperature :	20~25°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	149	Test Engineer :	Stuart Lin

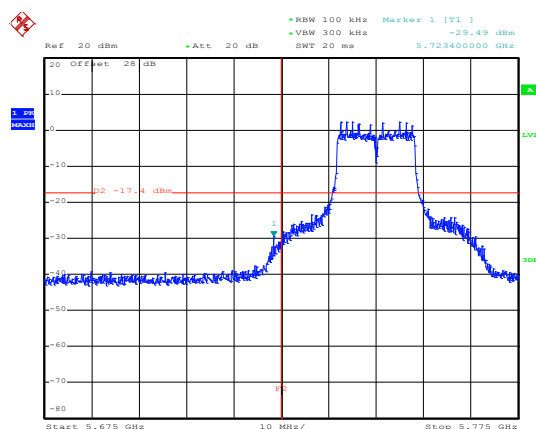
WLAN 802.11a Channel 149

100kHz PSD reference Level



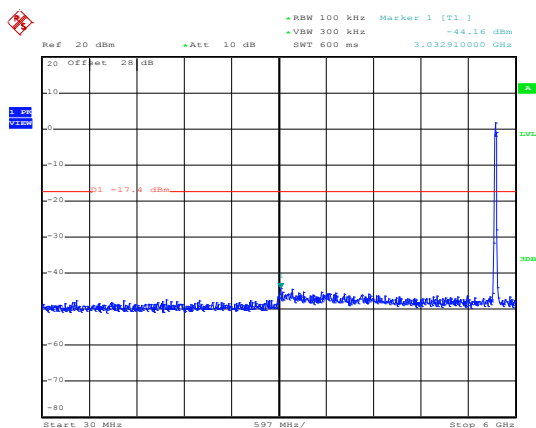
Date: 19.NOV.2013 15:13:28

Low Channel Plot



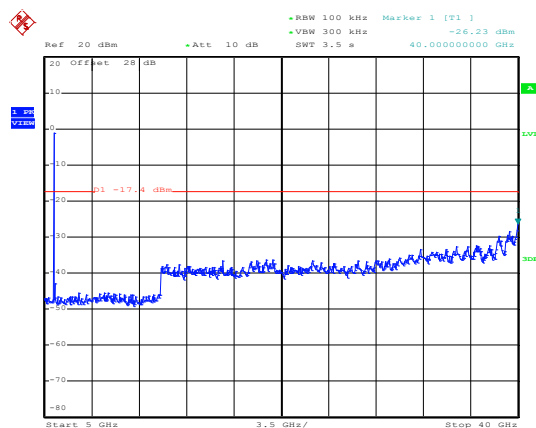
Date: 19.NOV.2013 15:13:43

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 15:14:15

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 15:14:34

Note:

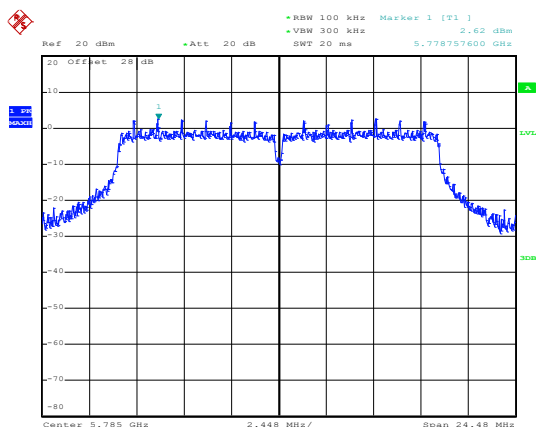
1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11a	Temperature :	20~25°C
Test Band :	5GHz Mid.	Relative Humidity :	45~54%
Test Channel :	157	Test Engineer :	Stuart Lin

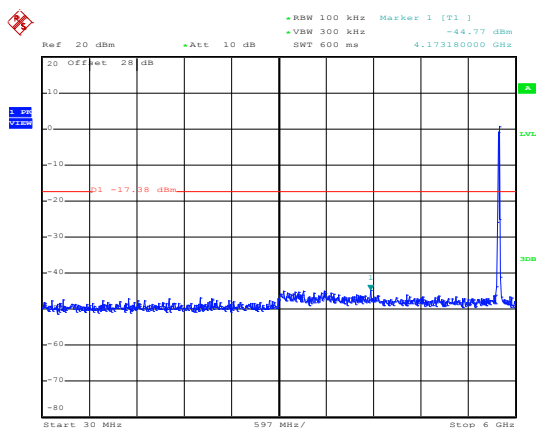
WLAN 802.11a Channel 157

100kHz PSD reference Level



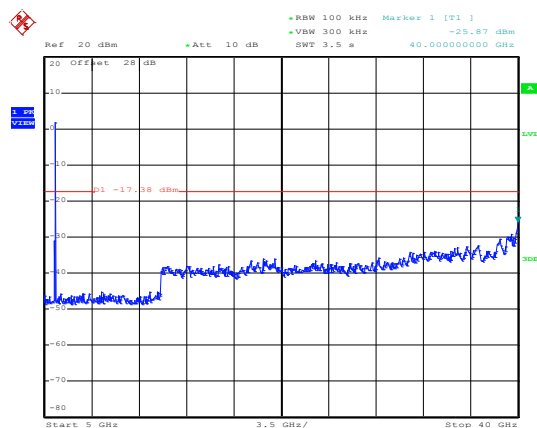
Date: 19.NOV.2013 15:10:54

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 15:11:19

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 15:11:38

Note:

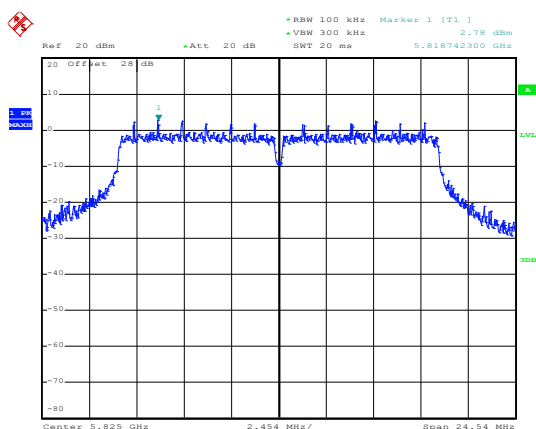
1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11a	Temperature :	20~25°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	165	Test Engineer :	Stuart Lin

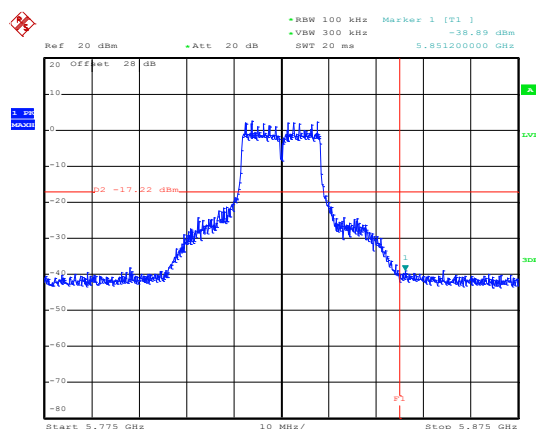
WLAN 802.11a Channel 165

100kHz PSD reference Level



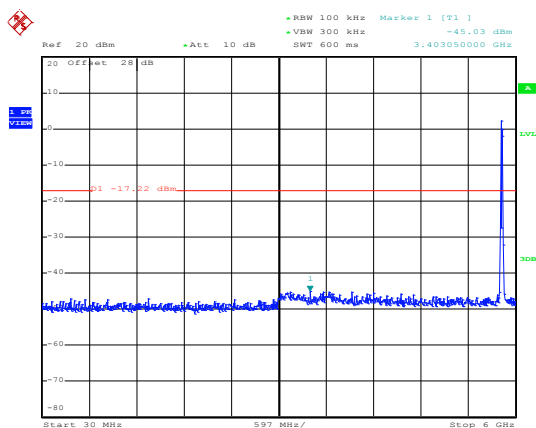
Date: 19.NOV.2013 15:06:59

High Channel Plot



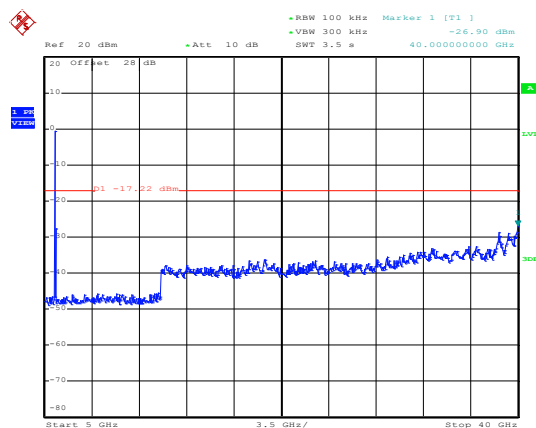
Date: 19.NOV.2013 15:07:23

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 15:07:43

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 15:08:02

Note:

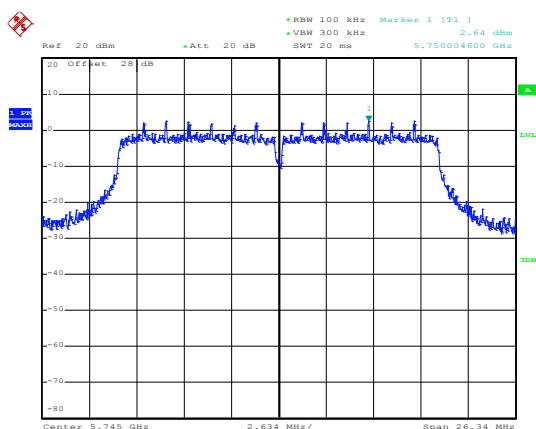
1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11n HT20	Temperature :	20~25°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	149	Test Engineer :	Stuart Lin

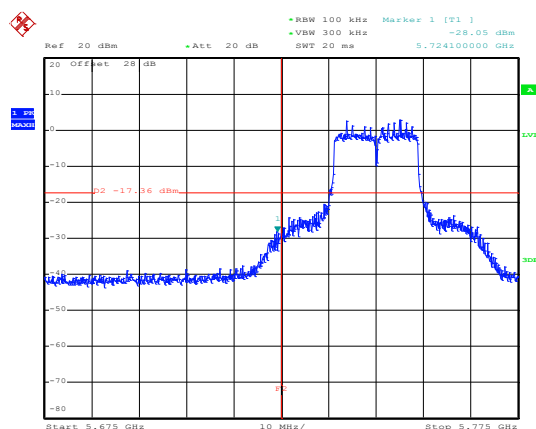
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



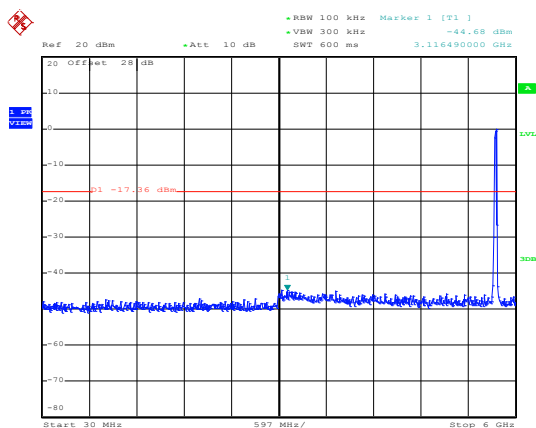
Date: 19.NOV.2013 14:57:05

Low Channel Plot



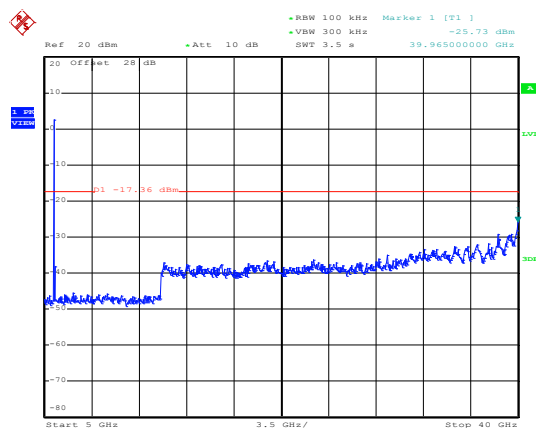
Date: 19.NOV.2013 14:57:21

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 14:57:45

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 14:58:04

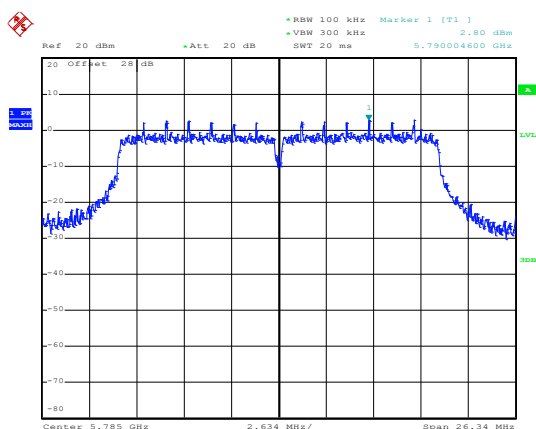
Note:

1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Test Mode :	802.11n HT20	Temperature :	20~25℃
Test Band :	5GHz Mid.	Relative Humidity :	45~54%
Test Channel :	157	Test Engineer :	Stuart Lin

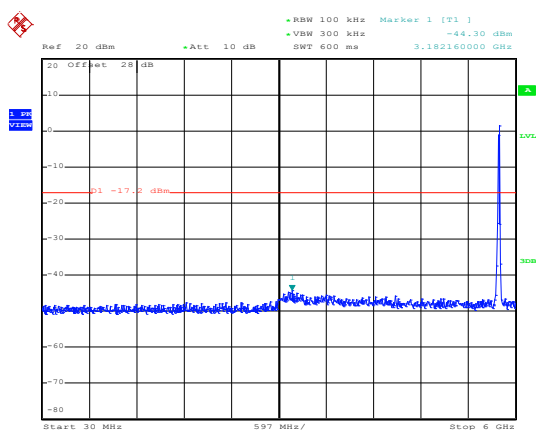
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



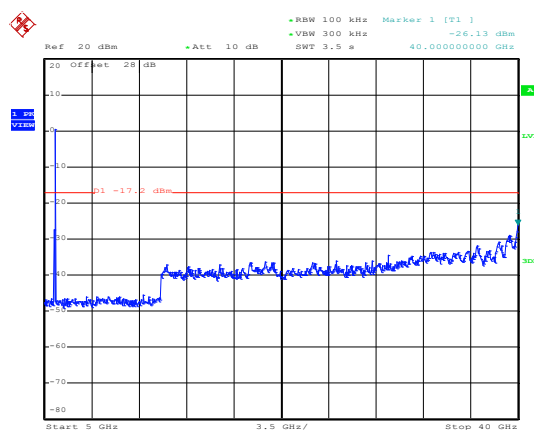
Date: 19.NOV.2013 15:00:29

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 15:00:58

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 15:01:17

Note:

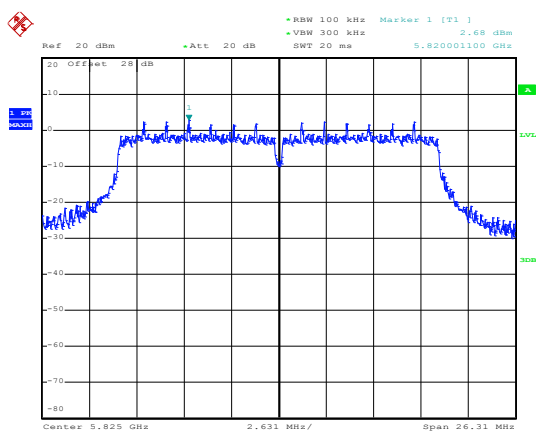
1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11n HT20	Temperature :	20~25°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	165	Test Engineer :	Stuart Lin

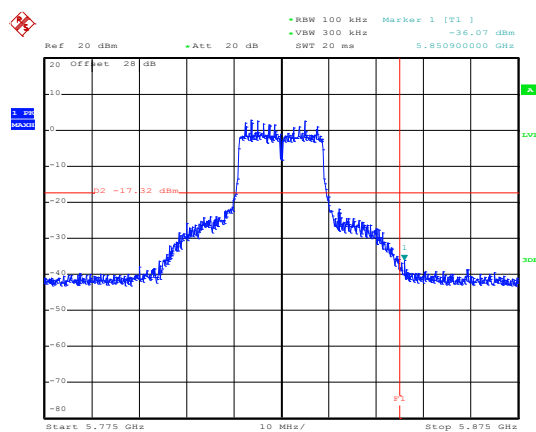
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



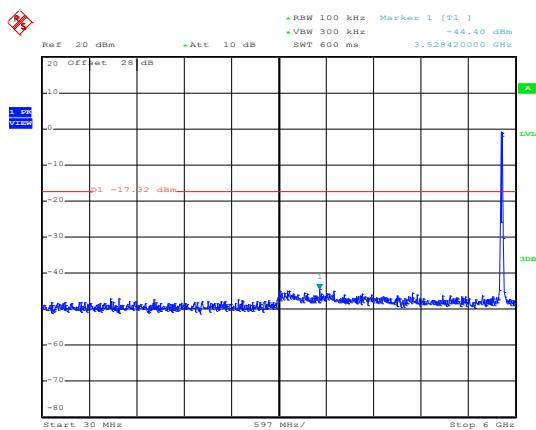
Date: 19.NOV.2013 15:03:47

High Channel Plot



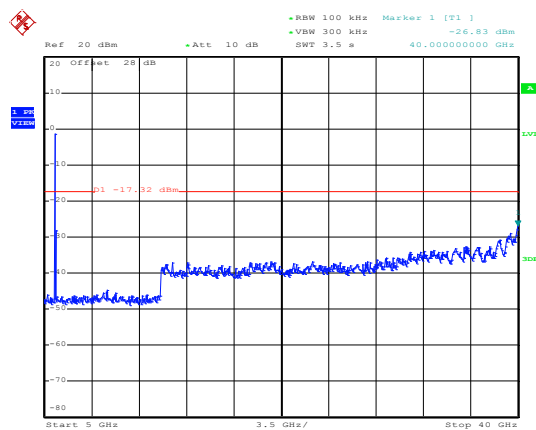
Date: 19.NOV.2013 15:04:08

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 15:04:39

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 15:04:58

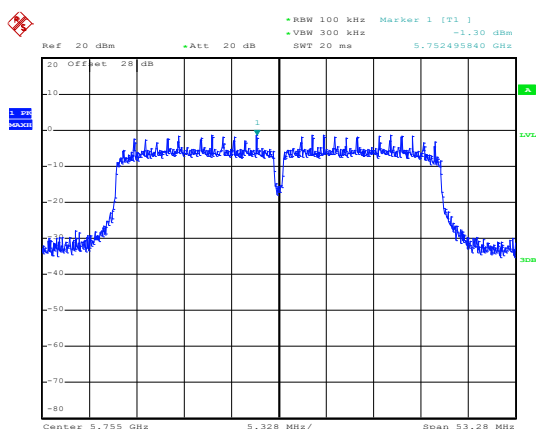
Note:

1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

Test Mode :	802.11n HT40	Temperature :	20~25℃
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	151	Test Engineer :	Stuart Lin

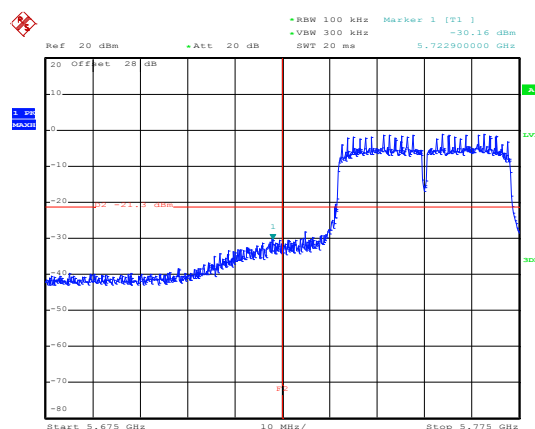
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



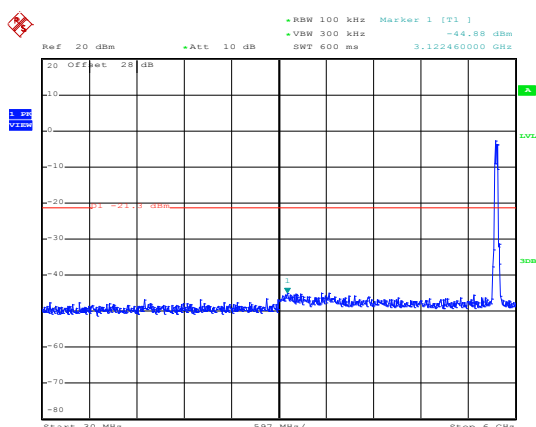
Date: 19.NOV.2013 14:50:06

Low Channel Plot



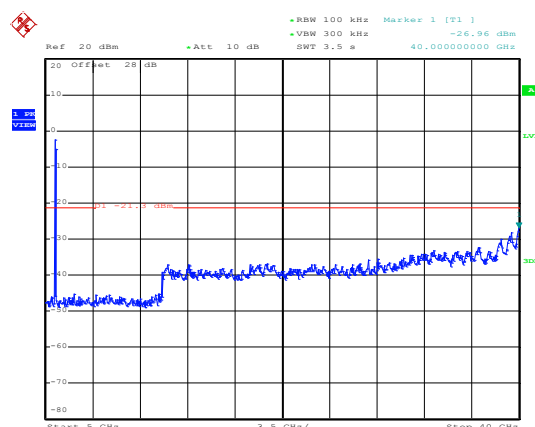
Date: 19.NOV.2013 14:50:22

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 14:50:43

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 14:51:01

Note:

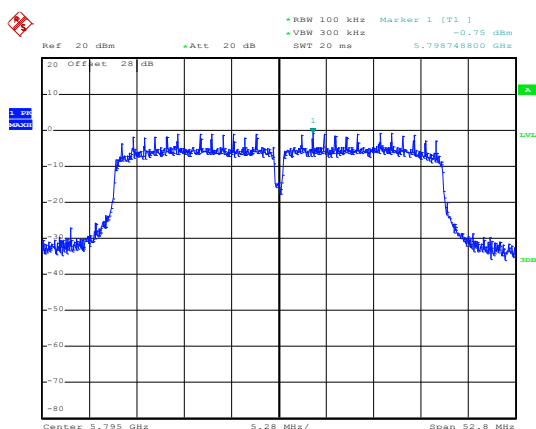
1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



Test Mode :	802.11n HT40	Temperature :	20~25°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	159	Test Engineer :	Stuart Lin

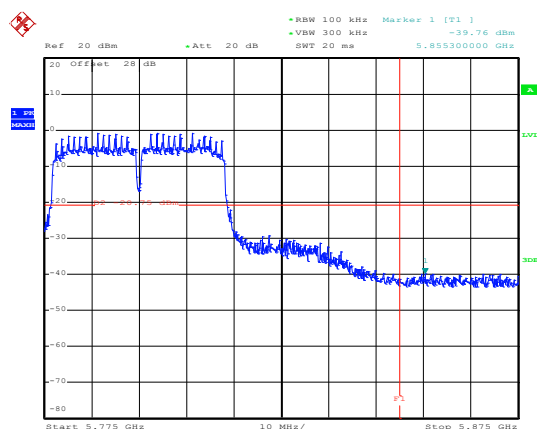
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



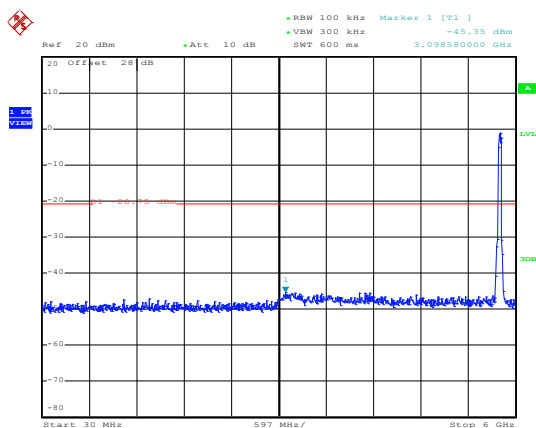
Date: 19.NOV.2013 14:53:45

High Channel Plot



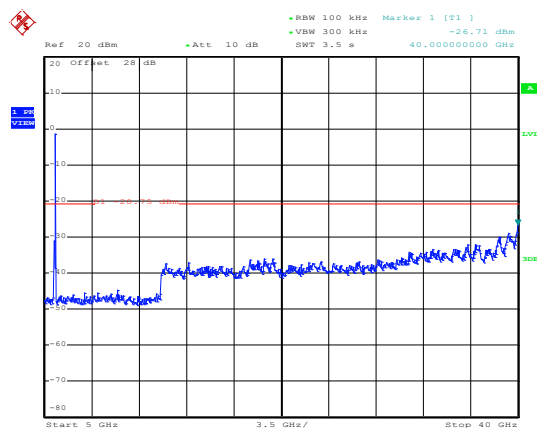
Date: 19.NOV.2013 14:54:02

Spurious Emission 30MHz~6GHz



Date: 19.NOV.2013 14:54:26

Spurious Emission 5GHz~40GHz



Date: 19.NOV.2013 14:54:45

Note:

1. The total loss is 28 dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer offset.
2. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the FCC section 15.209 limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

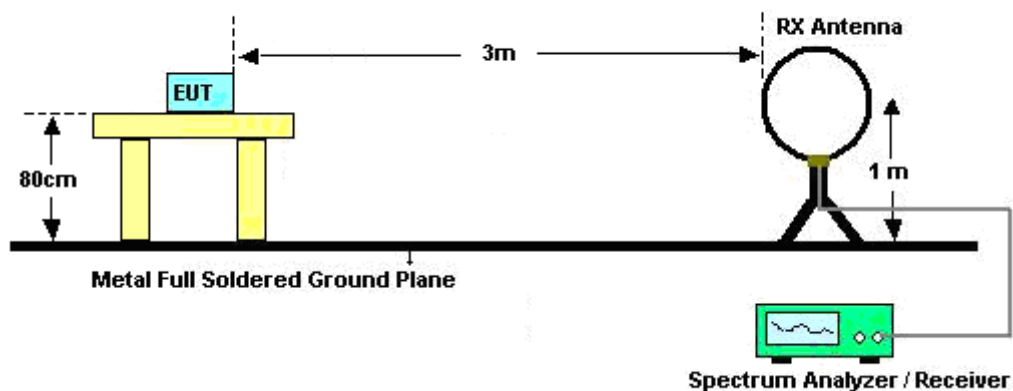
For average measurement:

 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

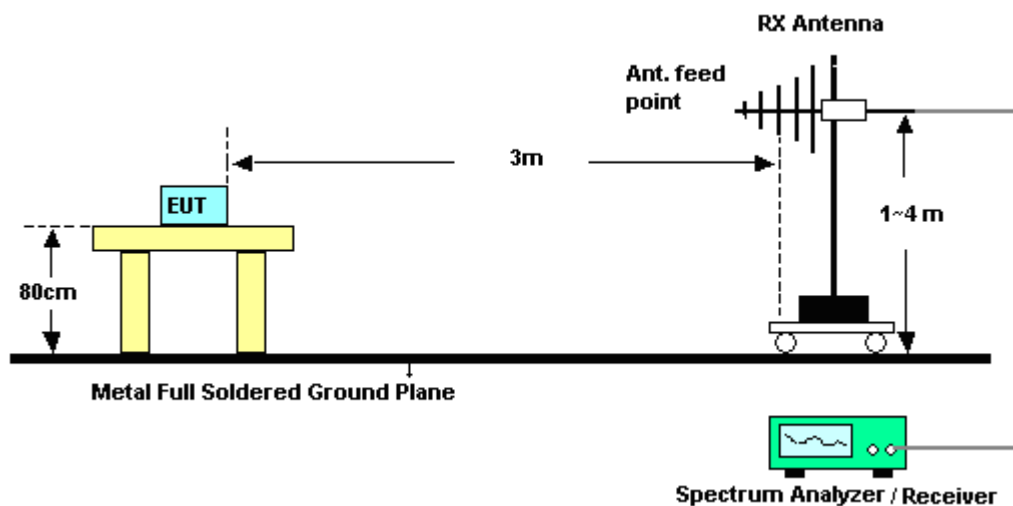
Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	97.63	8240.00	0.12	300Hz
802.11g	87.26	1370.00	0.73	1kHz
2.4GHz 802.11n HT20	86.49	1280.00	0.78	1kHz
802.11a	87.26	1370.00	0.73	1kHz
5GHz 802.11n HT20	86.49	1280.00	0.78	1kHz
5GHz 802.11n HT40	75.71	636.00	1.57	3kHz

3.5.4 Test Setup

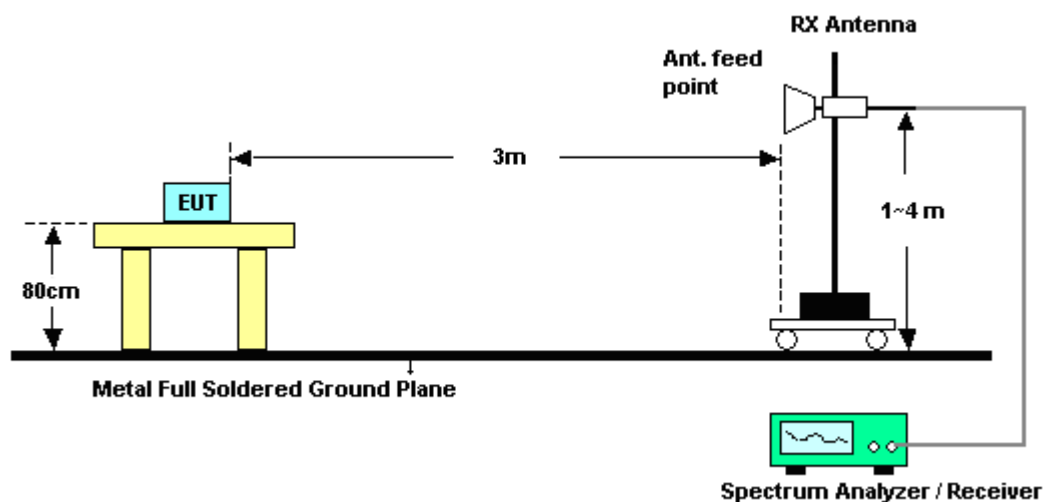
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



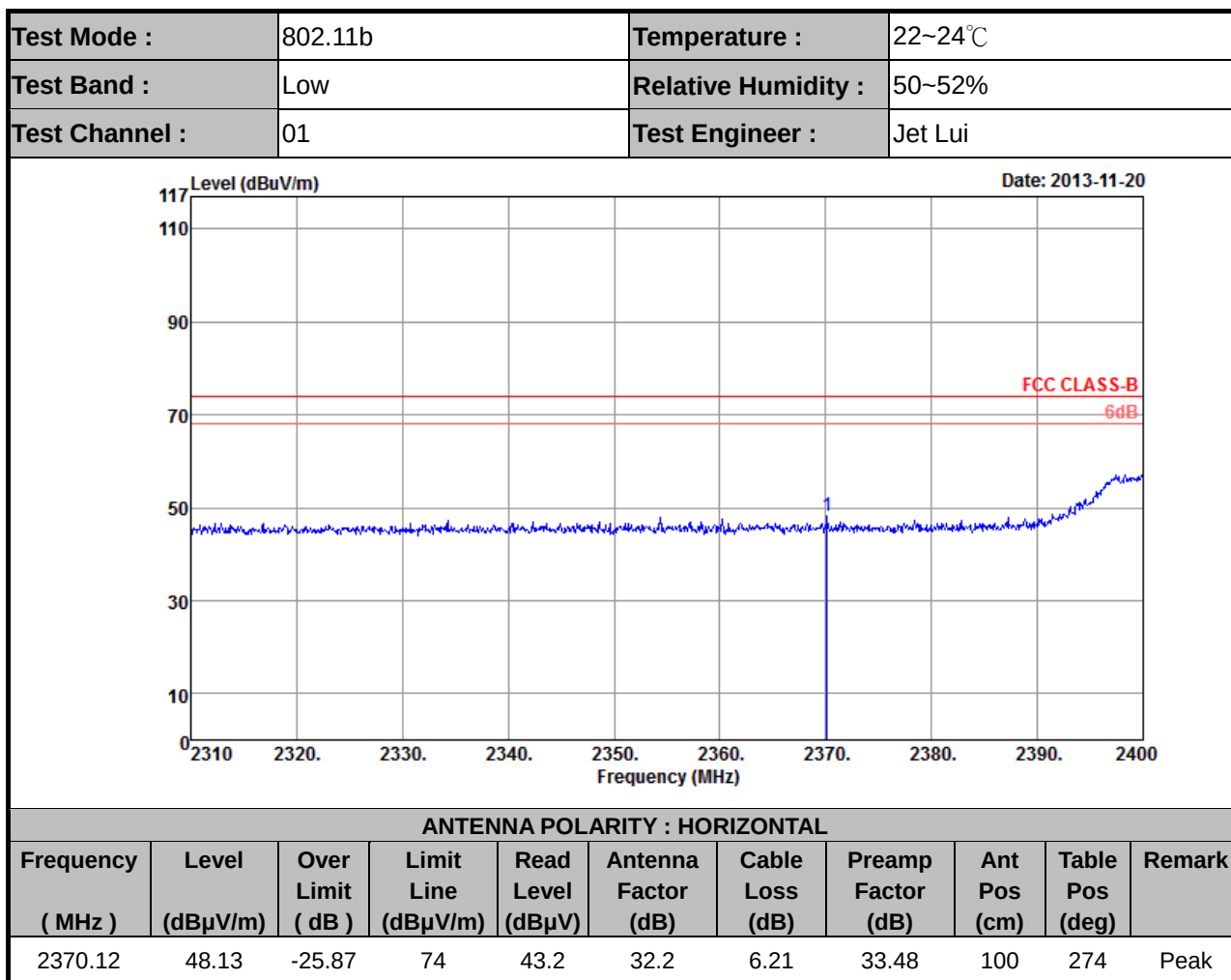
For radiated emissions above 1GHz



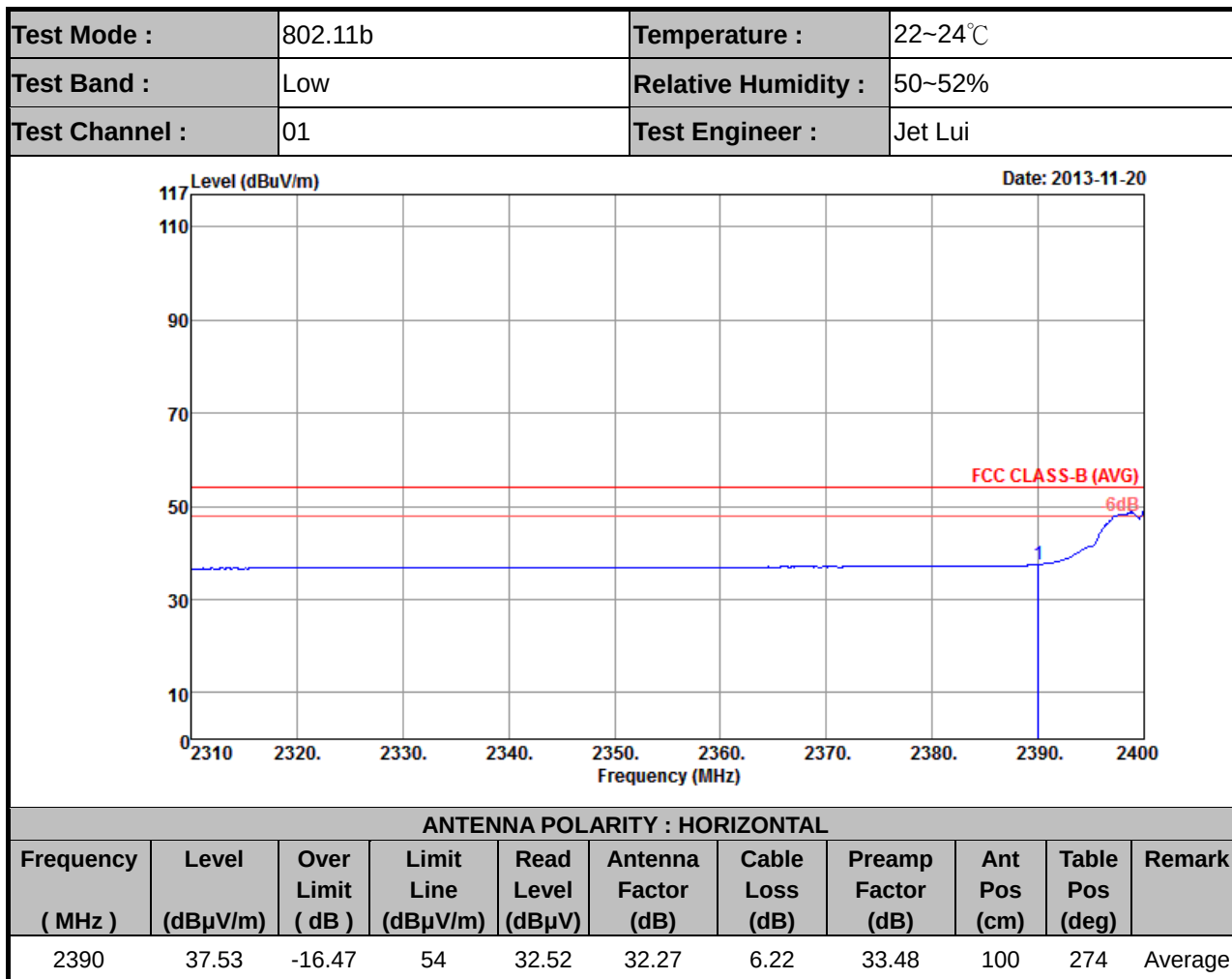
3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

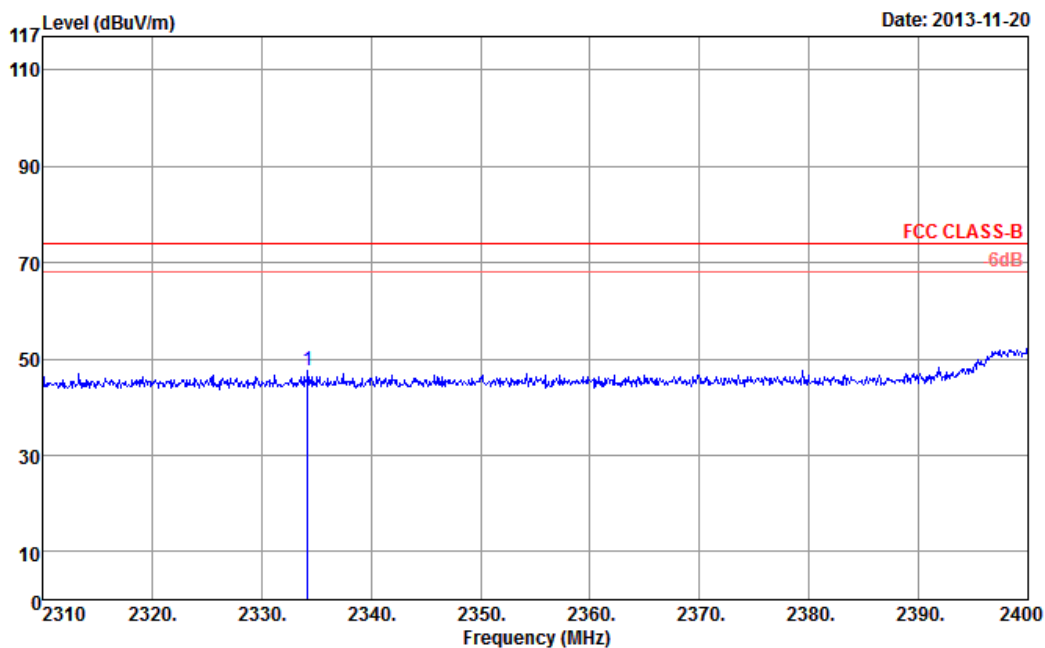


Note: Worst case measurement on 2370.12 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.



Note: Worst case measurement on 2390 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

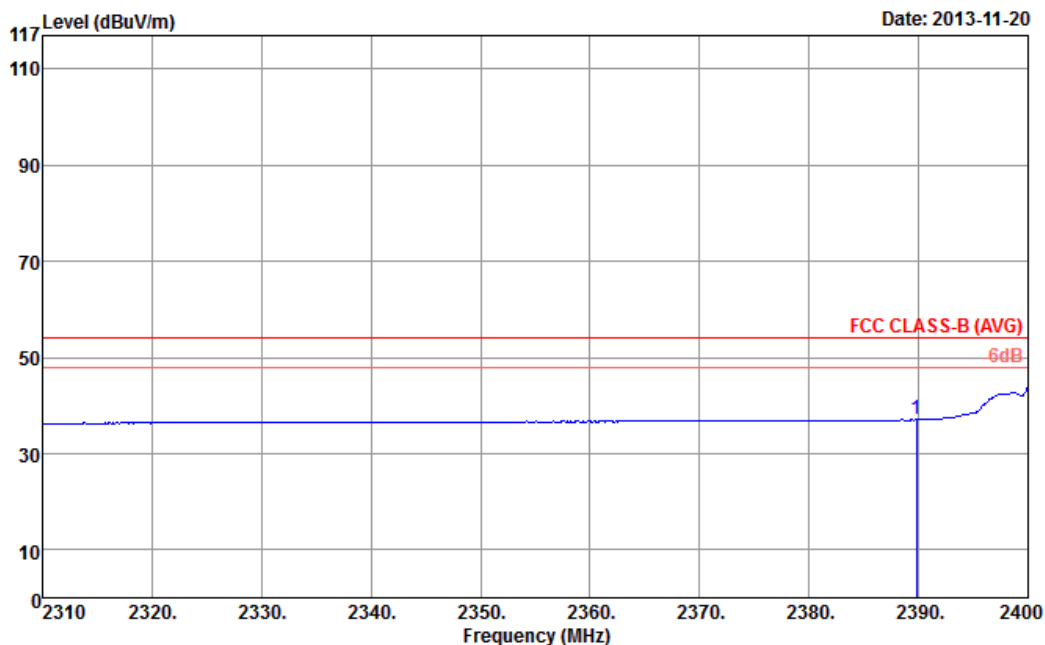
Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2334.21	47.53	-26.47	74	43.2	31.63	6.19	33.49	167	121	Peak

Note: Worst case measurement on 2334.21 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

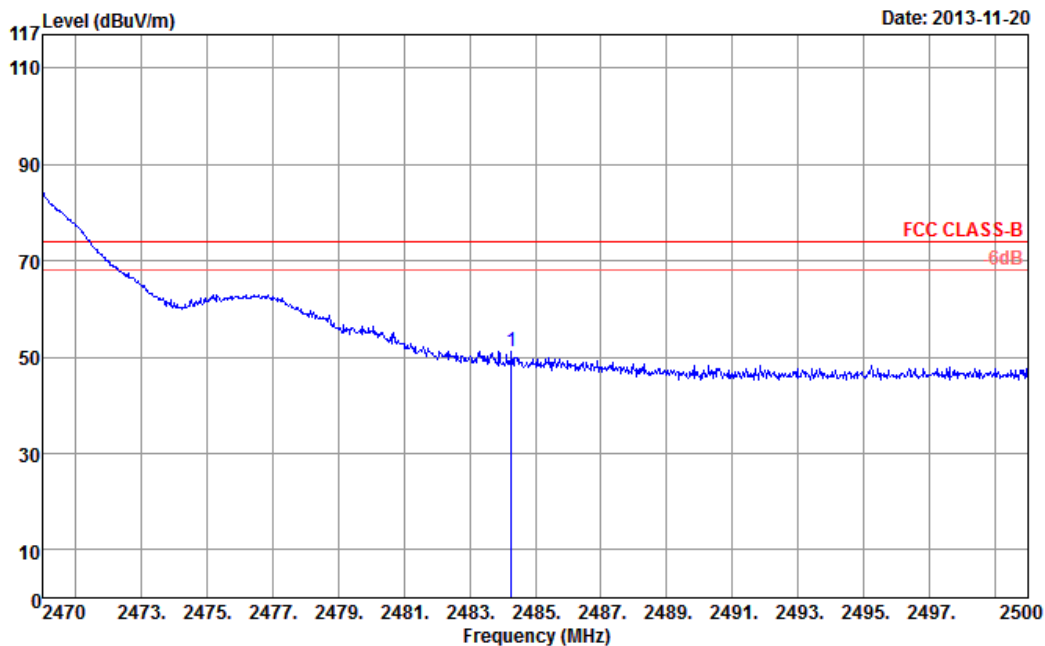
Test Mode :	802.11b	Temperature :	22~24℃
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	37.05	-16.95	54	32.25	32.06	6.22	33.48	167	121	Average

Note: Worst case measurement on 2389.83 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

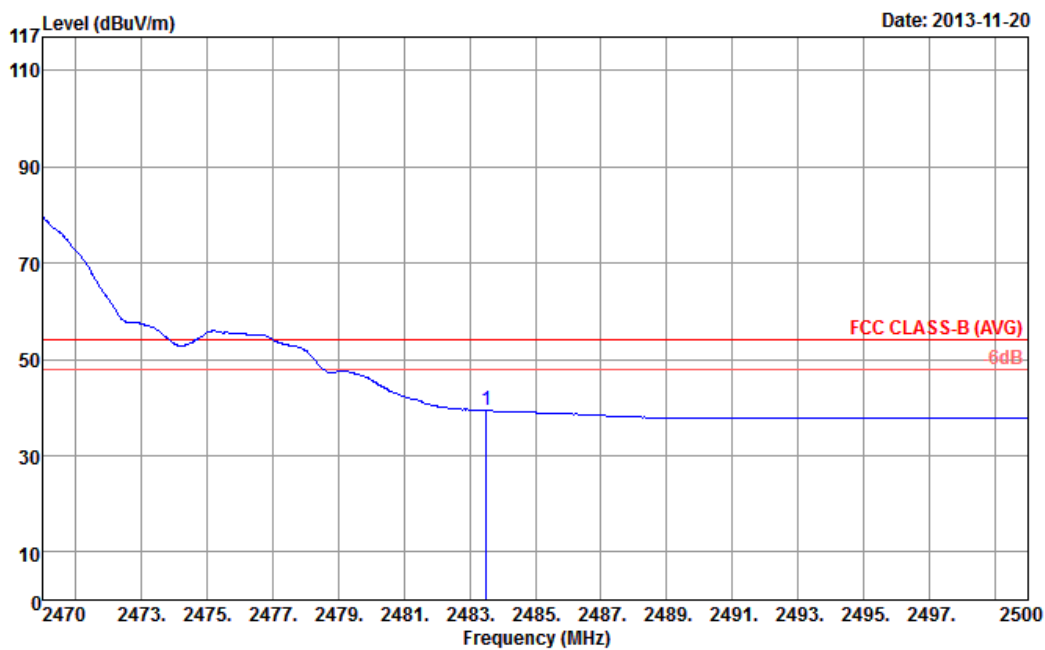
Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.28	51.05	-22.95	74	45.43	32.63	6.45	33.46	100	273	Peak

Note: Worst case measurement on 2484.28 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui

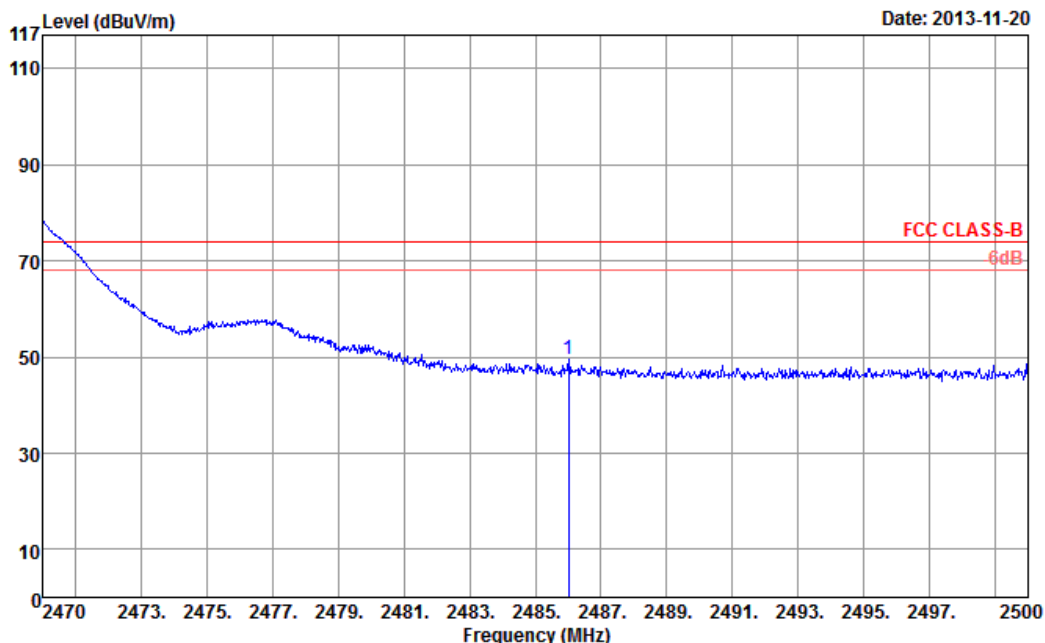

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	39.35	-14.65	54	33.73	32.63	6.45	33.46	100	273	Average

Note: Worst case measurement on 2483.50 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.



Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui

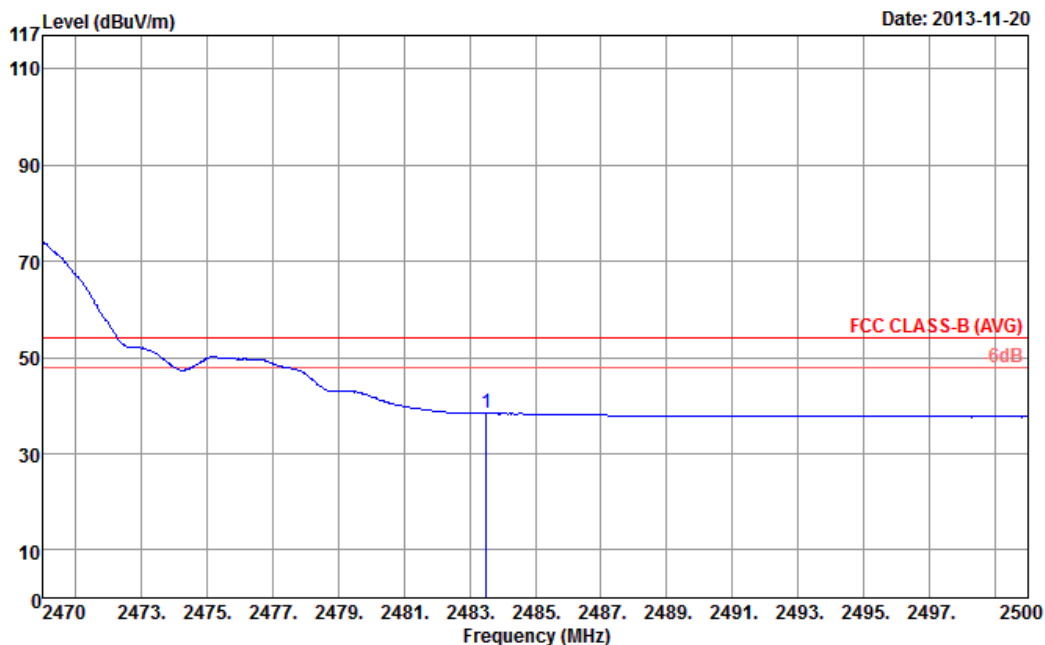


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.02	49.44	-24.56	74	43.86	32.59	6.45	33.46	105	355	Peak

Note: Worst case measurement on 2486.02 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

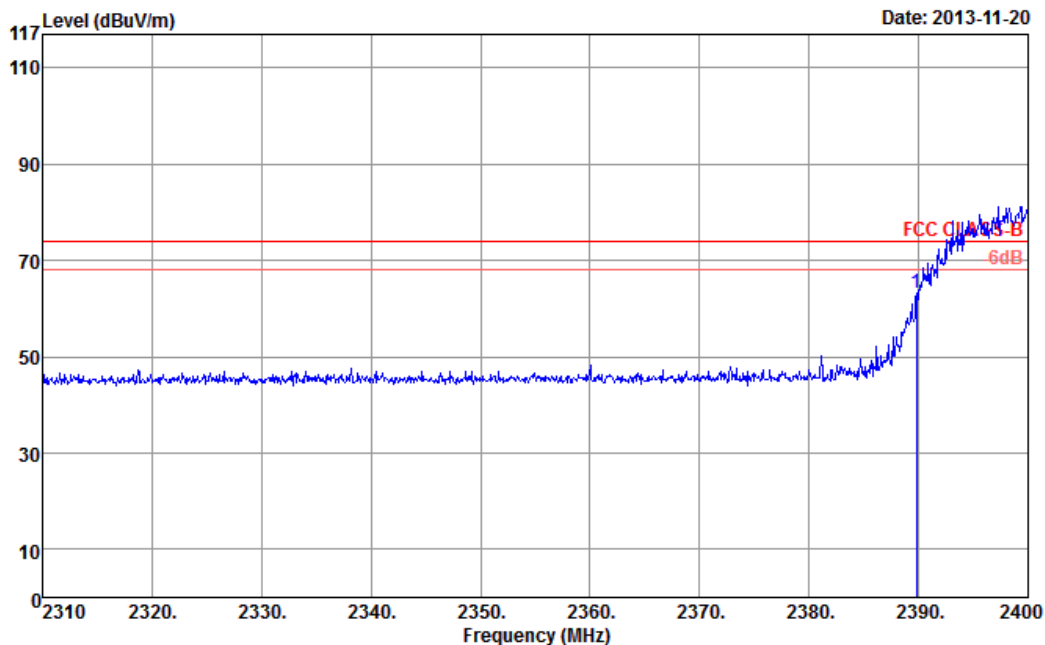
Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	38.38	-15.62	54	32.8	32.59	6.45	33.46	105	355	Average

Note: Worst case measurement on 2483.50 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

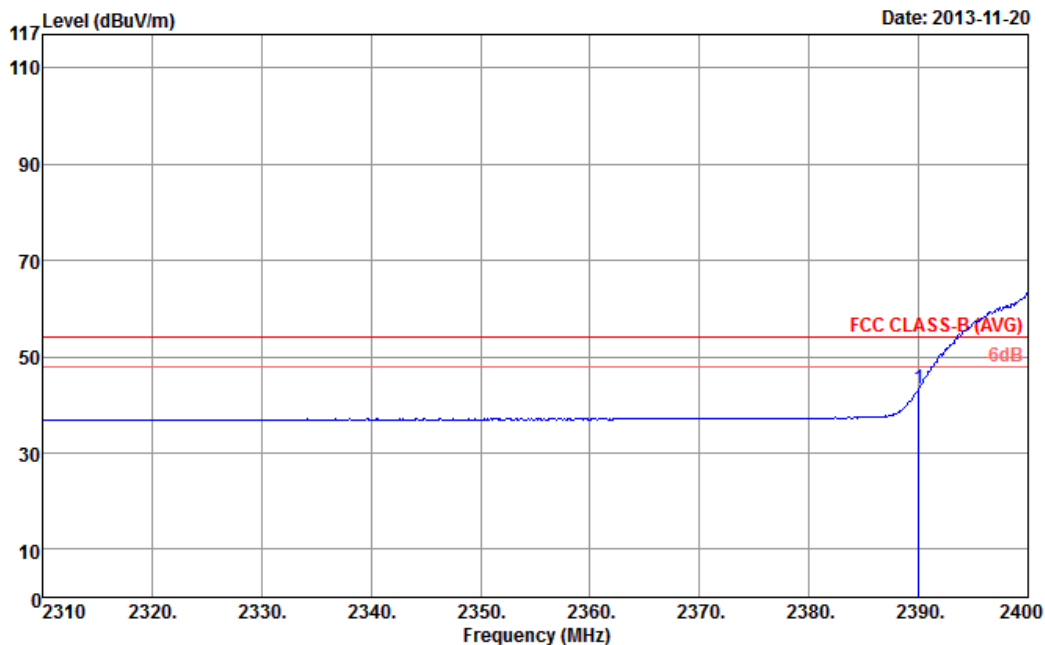
Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	63.26	-10.74	74	58.25	32.27	6.22	33.48	102	270	Peak

Note: Worst case measurement on 2389.83 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

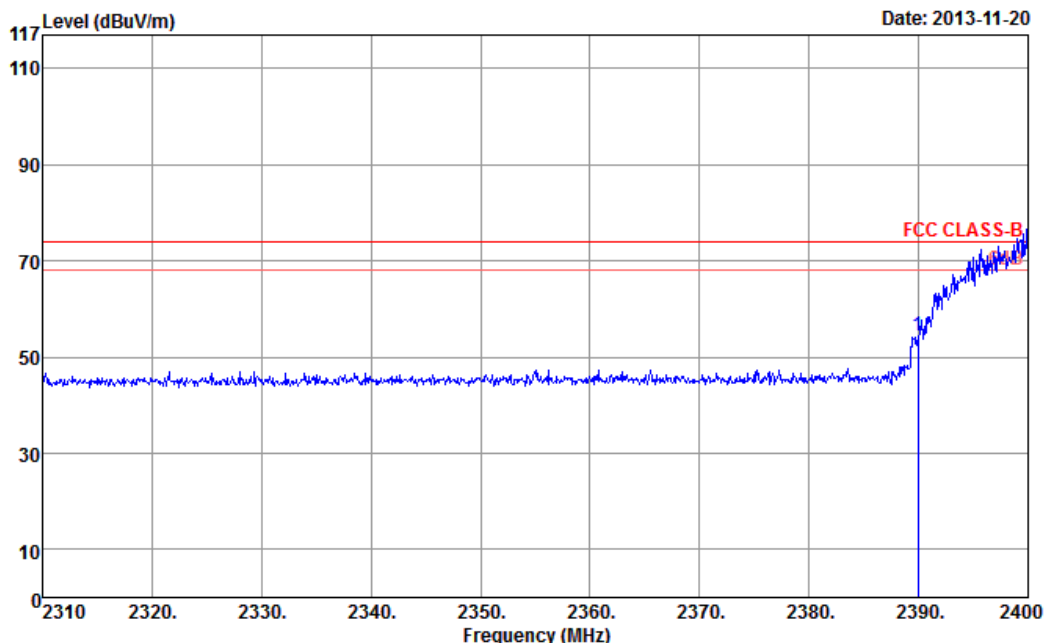
Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	43.44	-10.56	54	38.43	32.27	6.22	33.48	102	270	Average

Note: Worst case measurement on 2390 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

Test Mode :	802.11g	Temperature :	22~24℃
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui

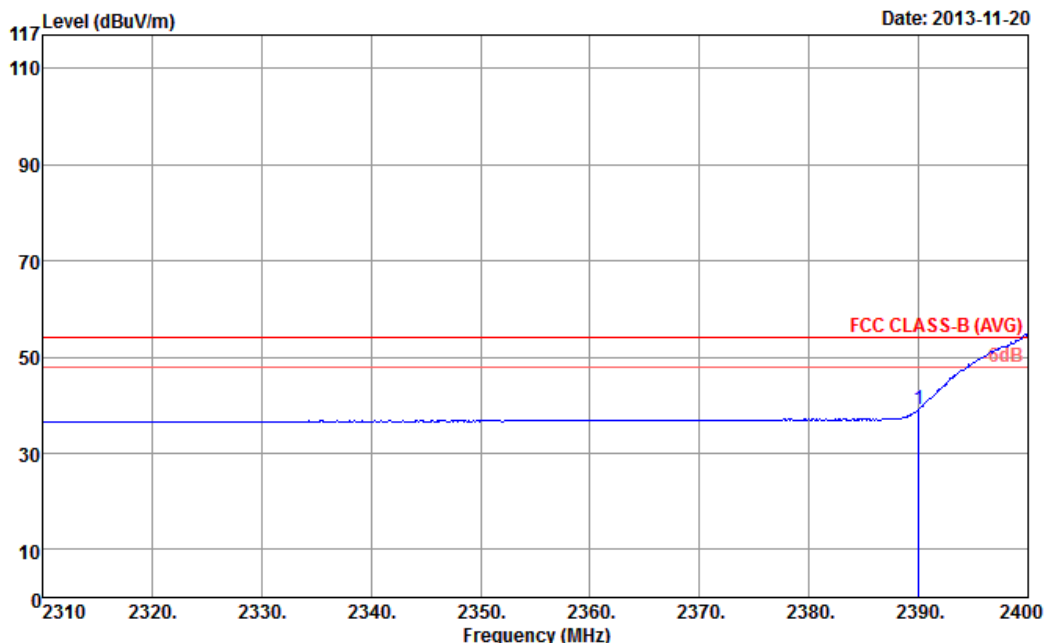

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	54.42	-19.58	74	49.62	32.06	6.22	33.48	116	190	Peak

Note: Worst case measurement on 2389.92 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.



Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui

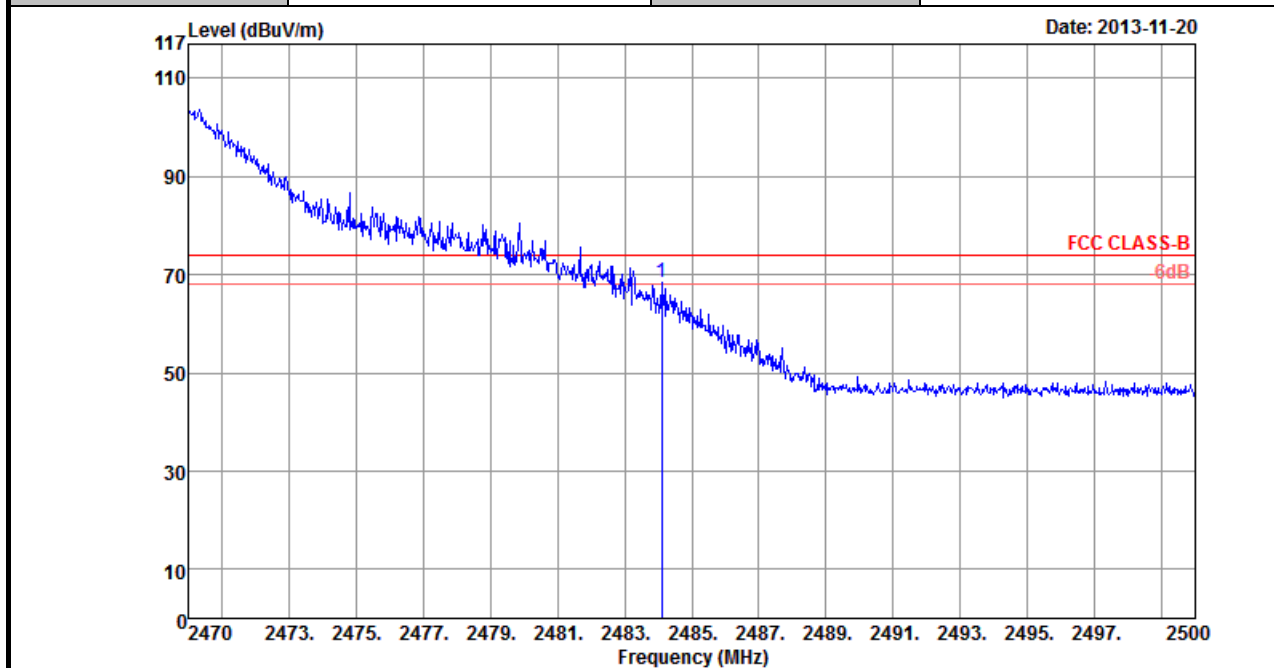


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	39.07	-14.93	54	34.27	32.06	6.22	33.48	116	190	Average

Note: Worst case measurement on 2390.00 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

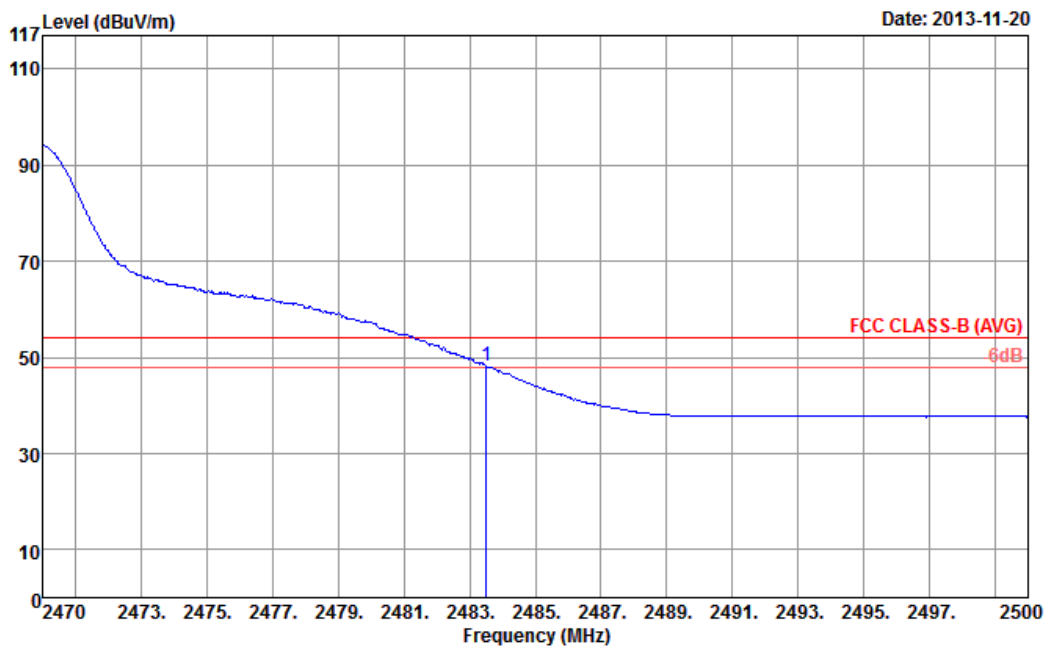
Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui



ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.1	68.3	-5.7	74	62.68	32.63	6.45	33.46	100	275	Peak

Note: Worst case measurement on 2484.10 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

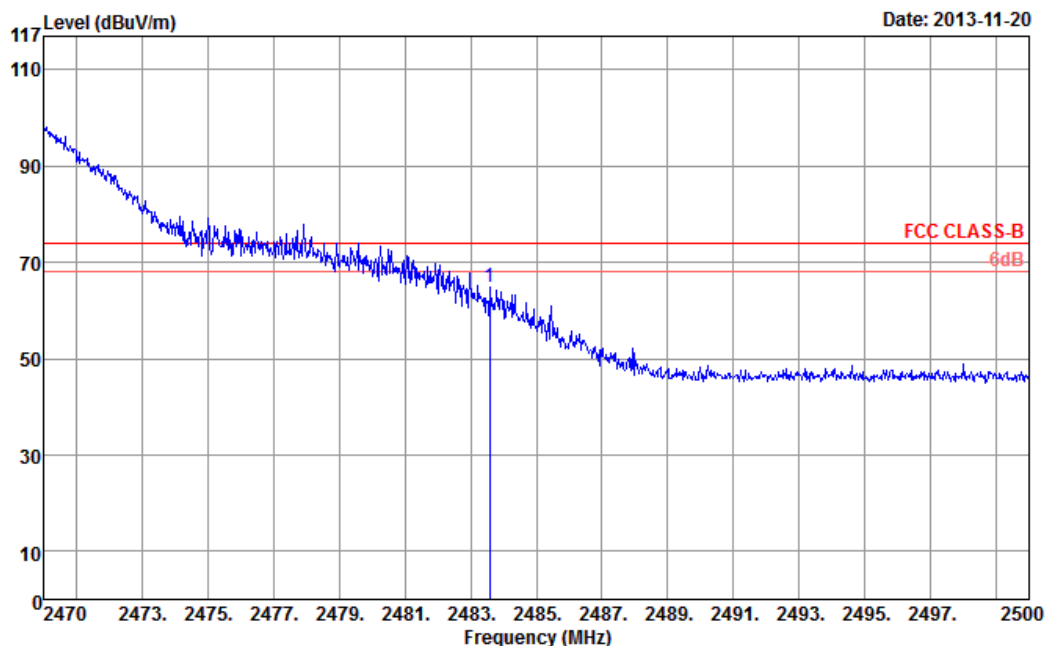
Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	48.27	-5.73	54	42.65	32.63	6.45	33.46	100	275	Average

Note: Worst case measurement on 2483.50 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

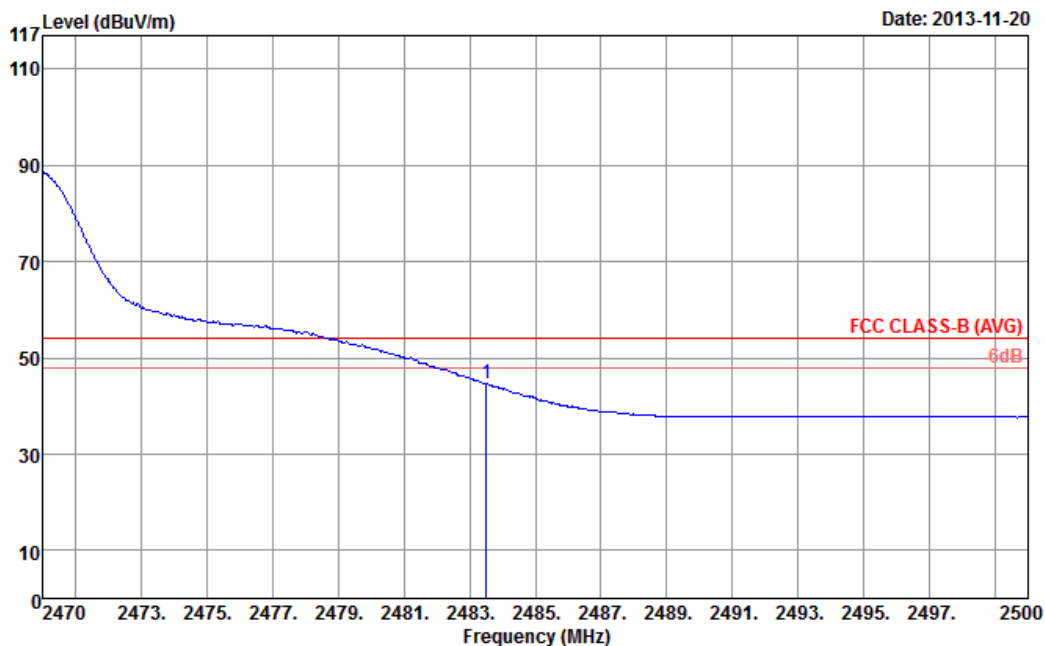
Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.59	64.71	-9.29	74	59.13	32.59	6.45	33.46	137	355	Peak

Note: Worst case measurement on 2483.59 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

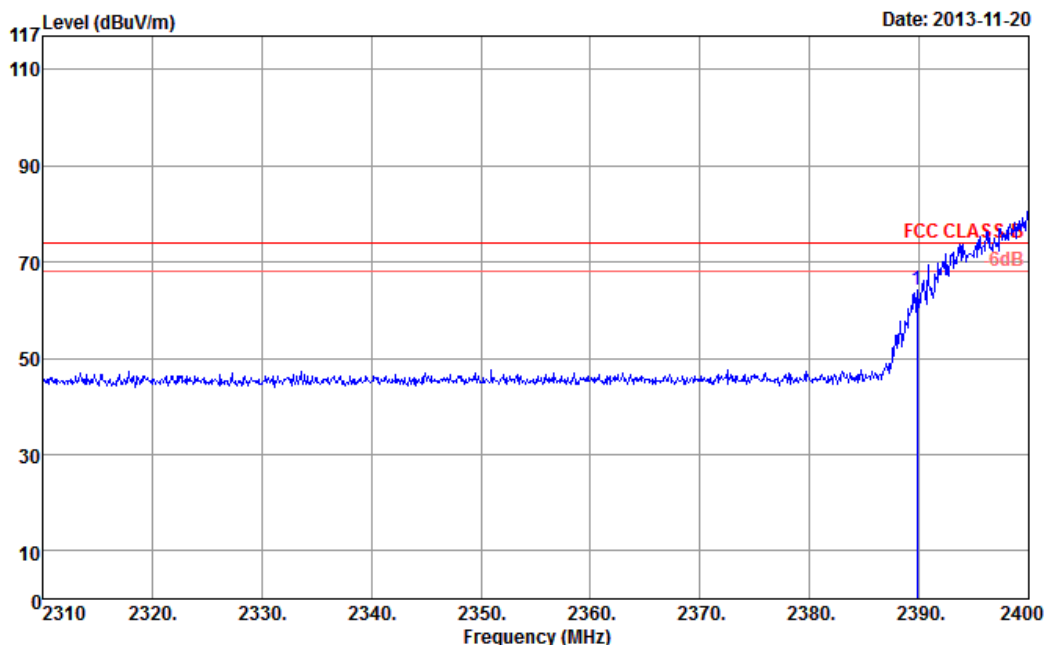
Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	44.64	-9.36	54	39.06	32.59	6.45	33.46	137	355	Average

Note: Worst case measurement on 2483.50 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

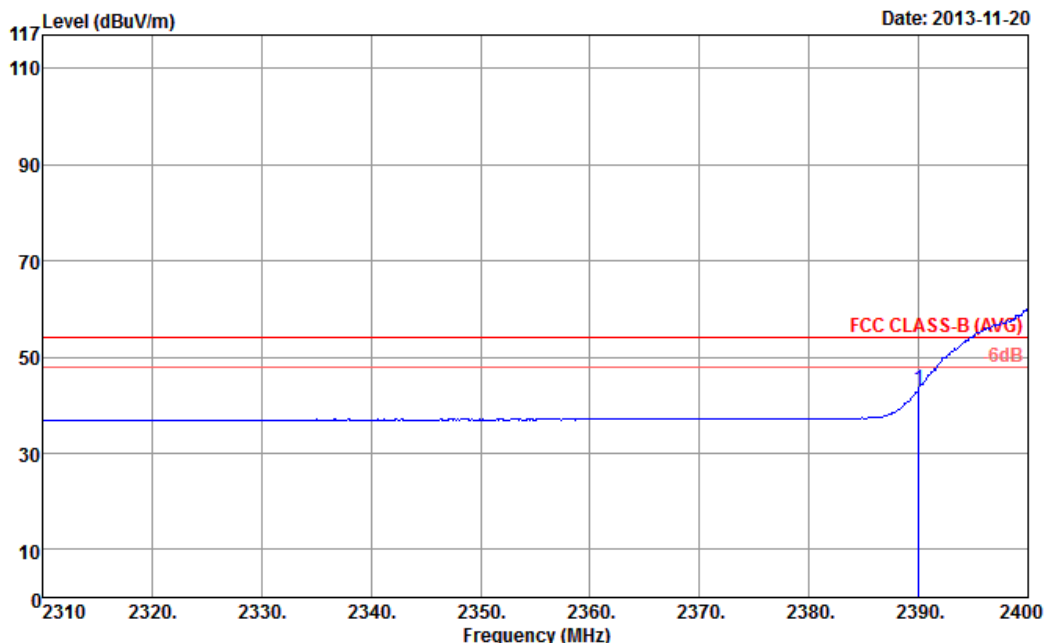
Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	64.08	-9.92	74	59.07	32.27	6.22	33.48	100	270	Peak

Note: Worst case measurement on 2389.83 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

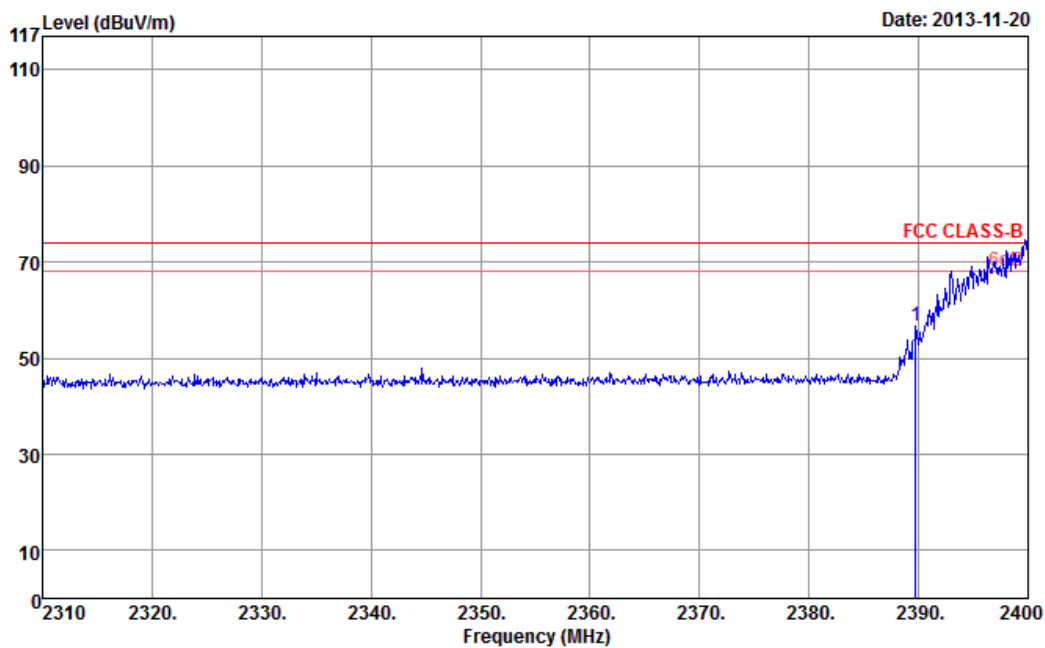
Test Mode :	802.11n HT20	Temperature :	22~24℃
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	43.5	-10.5	54	38.49	32.27	6.22	33.48	100	270	Average

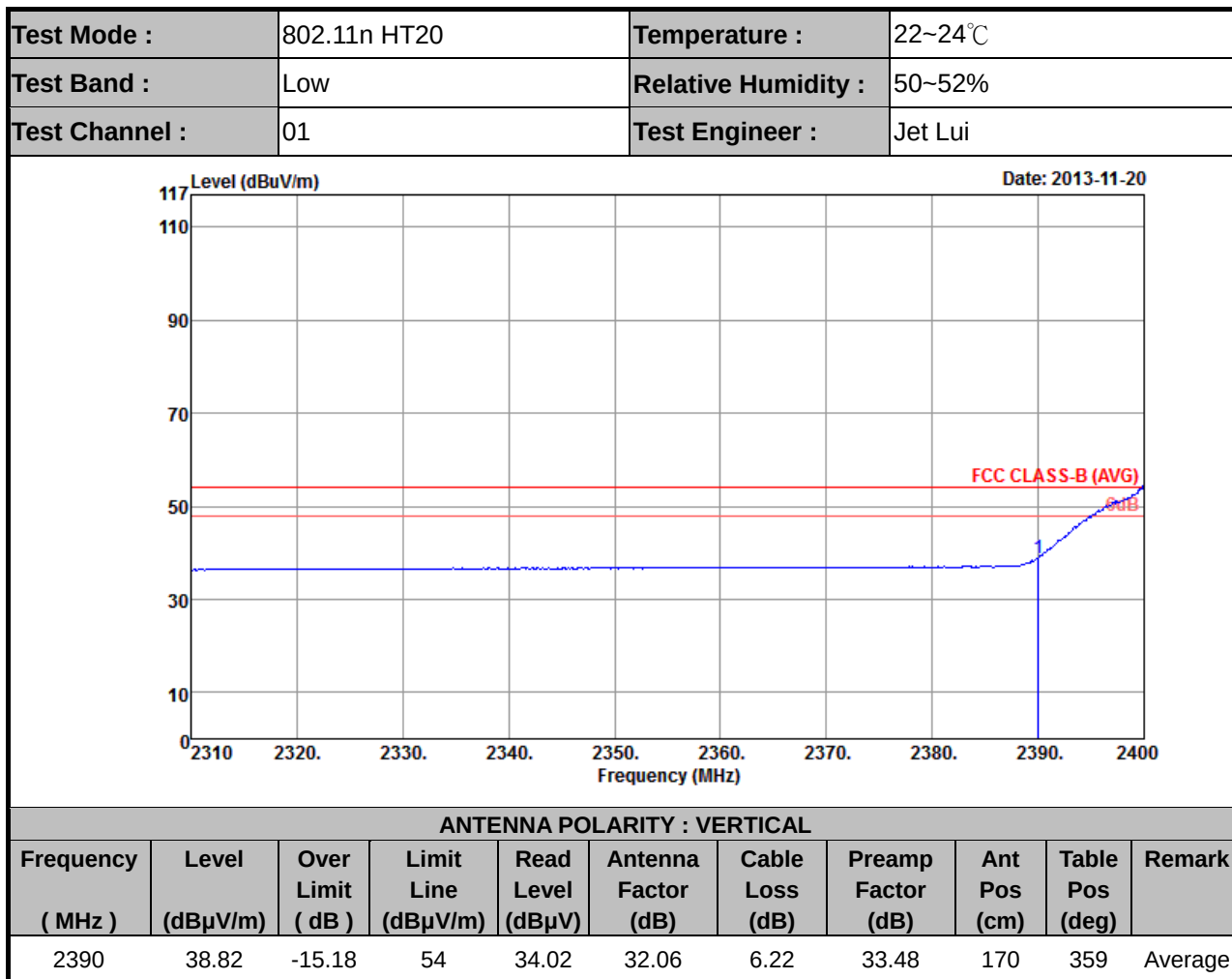
Note: Worst case measurement on 2390.00 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	50~52%
Test Channel :	01	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

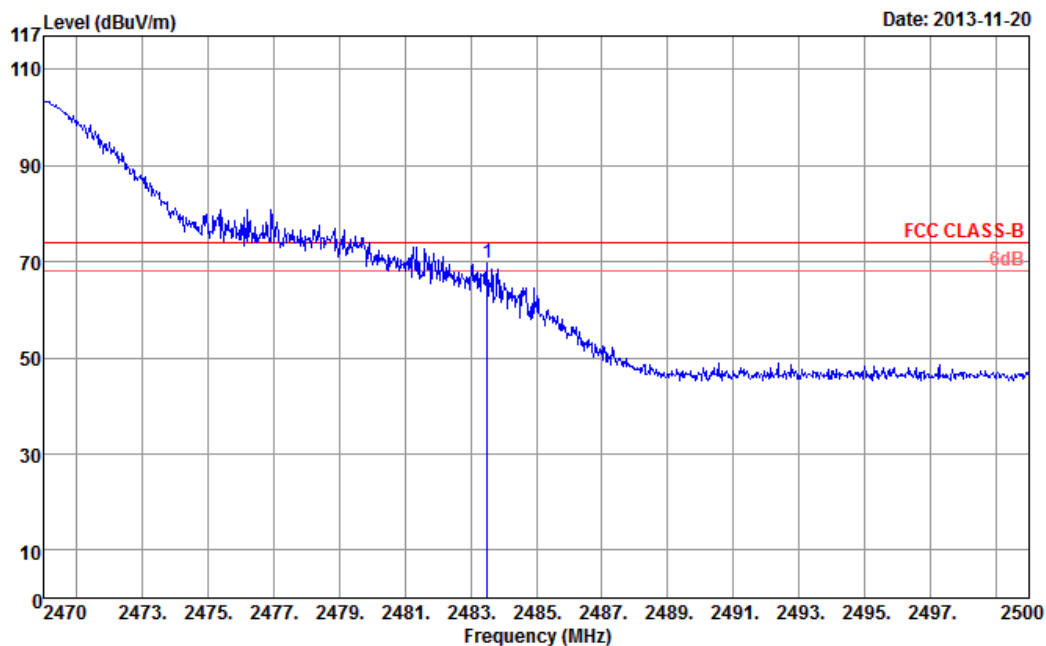
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.74	56.73	-17.27	74	51.93	32.06	6.22	33.48	170	359	Peak

Note: Worst case measurement on 2389.74 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.



Note: Worst case measurement on 2390.00 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2310-2390MHz. And, 2390-2400 MHz is non-restricted band which limit line is 20dB below the fundamental frequency emission level which is tested by conducted spurious emission. Both the test results are compliance with the FCC limit line.

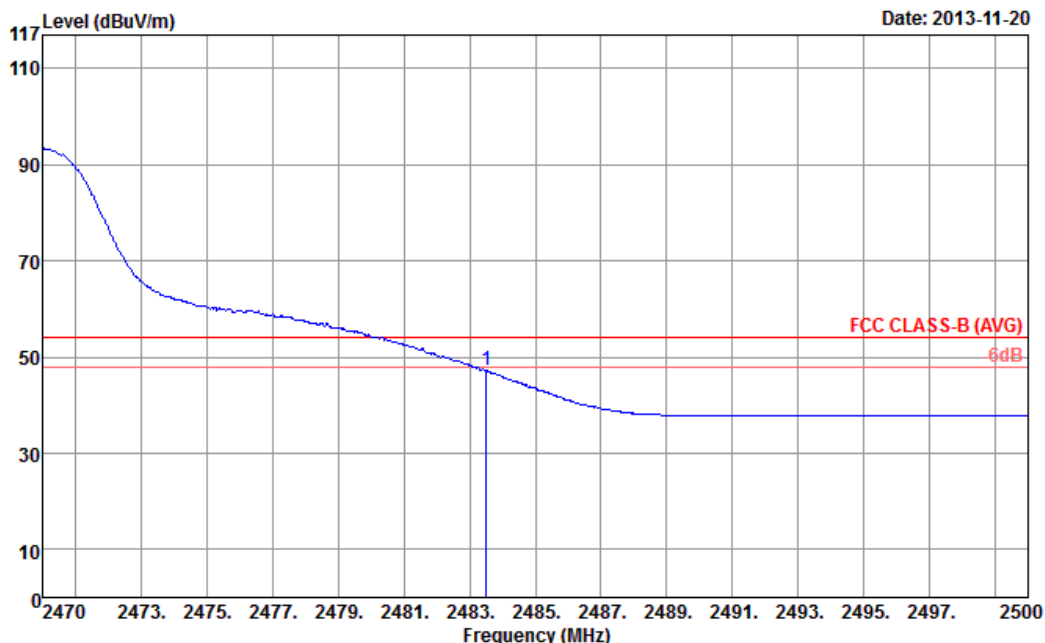
Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	69.61	-4.39	74	63.99	32.63	6.45	33.46	102	270	Peak

Note: Worst case measurement on 2483.50 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

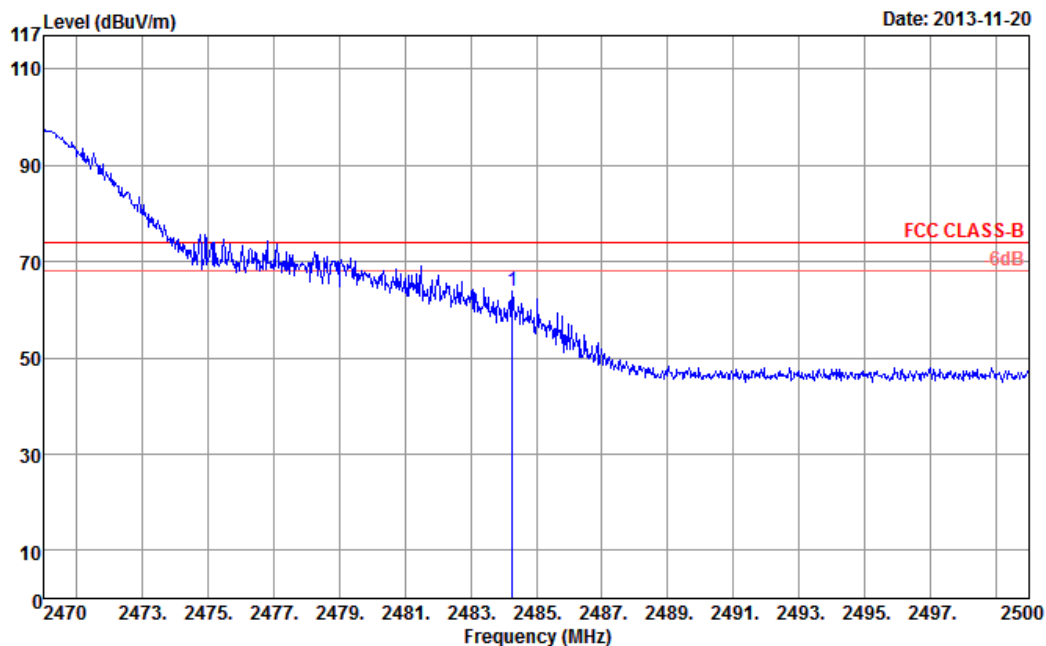
Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	47.16	-6.84	54	41.54	32.63	6.45	33.46	102	270	Average

Note: Worst case measurement on 2483.50 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

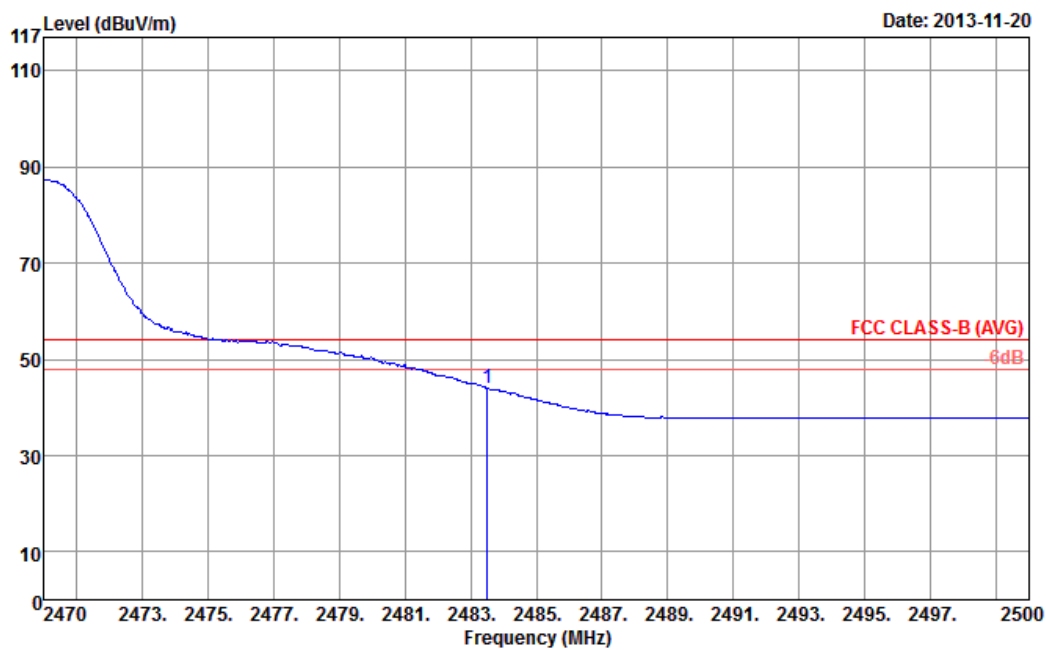
Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.28	63.9	-10.1	74	58.32	32.59	6.45	33.46	110	356	Peak

Note: Worst case measurement on 2484.28 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	50~52%
Test Channel :	11	Test Engineer :	Jet Lui


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	44.14	-9.86	54	38.56	32.59	6.45	33.46	110	356	Average

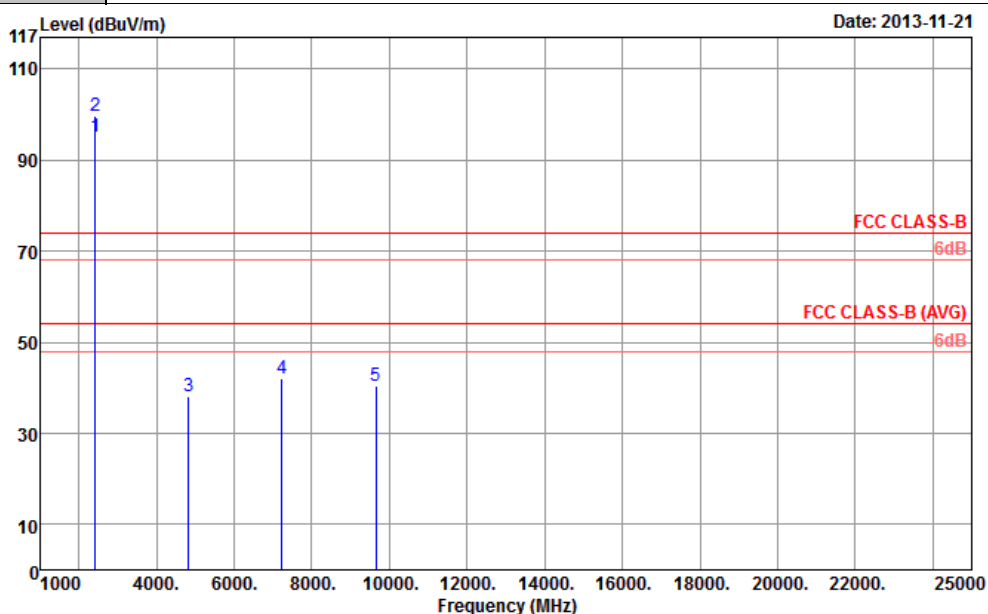
Note: Worst case measurement on 2483.5 MHz is compliance with 74/54 dBuV/m (peak/average) limit and band edge measurement in the restricted band 2483.5-2500MHz. And, 2470-2483.5MHz is within the operating band and not within the restricted band. The test result is compliance with the FCC limit line.

3.5.7 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Test Mode :	802.11b	Temperature :	22~24℃							
Test Channel :	01	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 104.49dBμV/m - 20dB = 84.49 dBμV/m. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise.									
Level (dBUV/m) 117 110 90 70 50 30 10 0 2 3 4 5 1000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000 25000 Frequency (MHz) Date: 2013-11-21 FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB										
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	99.68	-	-	94.54	32.34	6.28	33.48	100	274	Average
2414	104.49	-	-	99.35	32.34	6.28	33.48	100	274	Peak
4824	37.97	-36.03	74	54.43	34.44	8.04	58.94	100	0	Peak
7236	42.41	-42.08	84.49	54.65	35.61	10.48	58.33	100	0	Peak
9648	41.33	-43.16	84.49	50.32	36.92	11.55	57.46	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		

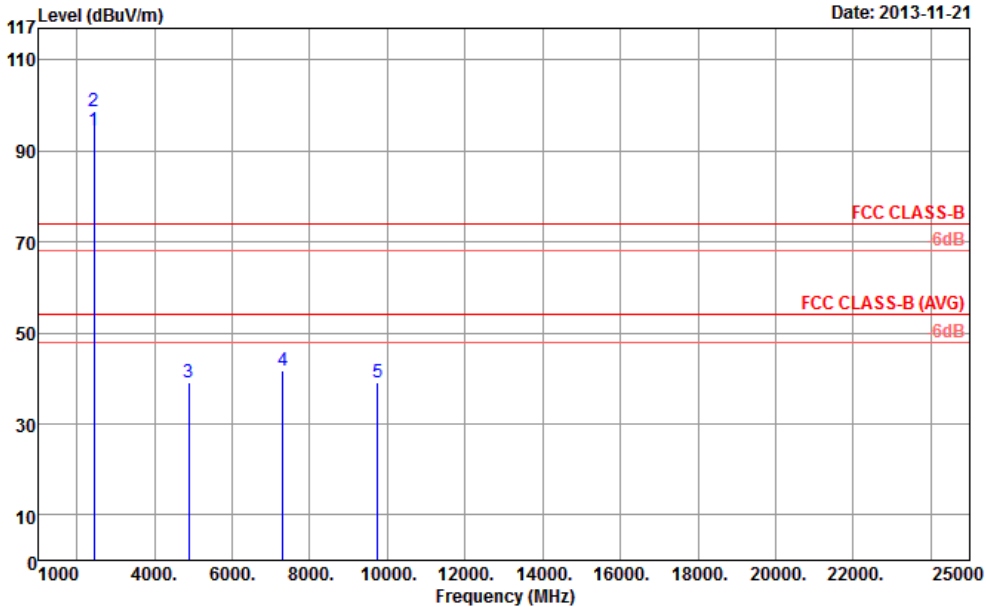
Remark :	2414 MHz is fundamental signal which can be ignored. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. - Average measurement was not performed if peak level went lower than the average limit. - The harmonic (5th, 6th, 7th, ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise
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ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	95.23	-	-	90.27	32.16	6.28	33.48	167	121	Average
2414	99.61	-	-	94.65	32.16	6.28	33.48	167	121	Peak
4824	37.98	-36.02	74	54.44	34.44	8.04	58.94	100	0	Peak
7236	41.92	-37.69	79.61	54.17	35.6	10.48	58.33	100	0	Peak
9648	40.55	-39.06	79.61	49.96	36.5	11.55	57.46	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	802.11b	Temperature :	22~24℃							
Test Channel :	06	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 9747 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) 117 110 90 70 50 30 10 0 1000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000 25000 Frequency (MHz) 2 1 3 4 5 FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB Date: 2013-11-21										
ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2439	101.15	-	-	95.79	32.49	6.34	33.47	100	270	Average
2439	105.8	-	-	100.44	32.49	6.34	33.47	100	270	Peak
4875	39.21	-34.79	74	55.57	34.4	8.11	58.87	100	0	Peak
7311	41.32	-32.68	74	53.69	35.62	10.47	58.46	100	0	Peak
9747	37.2	-48.6	85.8	46.14	37	11.56	57.5	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11b	Temperature :	22~24℃							
Test Channel :	06	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 9747 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) Date: 2013-11-21  Frequency (MHz)										
ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2439	94.61	-	-	89.36	32.38	6.34	33.47	120	64	Average
2439	98.79	-	-	93.54	32.38	6.34	33.47	120	64	Peak
4875	39.08	-34.92	74	55.44	34.4	8.11	58.87	100	0	Peak
7311	41.71	-32.29	74	54.14	35.56	10.47	58.46	100	0	Peak
9747	39.24	-39.55	78.79	48.68	36.5	11.56	57.5	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11b	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. 9849 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

1000

4000

6000

8000

10000

12000

14000

16000

18000

20000

22000

25000

Frequency (MHz)

2

3

4

5

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

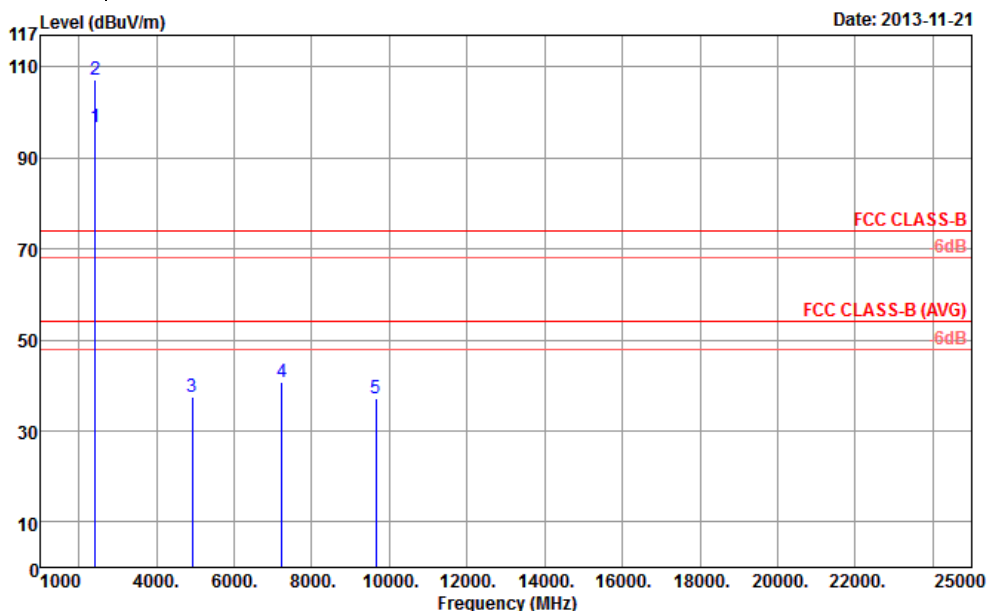
Date: 2013-11-21

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	100.5	-	-	95.02	32.56	6.39	33.47	100	273	Average
2464	105.19	-	-	99.71	32.56	6.39	33.47	100	273	Peak
4923	38.87	-35.13	74	55.13	34.36	8.18	58.8	100	0	Peak
7386	40.25	-33.75	74	52.75	35.66	10.45	58.61	100	0	Peak
9849	38.35	-46.84	85.19	47.14	37.13	11.62	57.54	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11b	Temperature :	22~24℃							
Test Channel :	11	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. 9849 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) Date: 2013-11-21 Frequency (MHz)										
ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2464	95.55	-	-	90.14	32.49	6.39	33.47	105	355	Average
2464	100.35	-	-	94.94	32.49	6.39	33.47	105	355	Peak
4923	38.63	-35.37	74	54.89	34.36	8.18	58.8	100	0	Peak
7386	41.31	-32.69	74	53.98	35.49	10.45	58.61	100	0	Peak
9849	37.09	-43.26	80.35	46.34	36.67	11.62	57.54	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		

Remark :	2414 MHz is fundamental signal which can be ignored. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. - Average measurement was not performed if peak level went lower than the average limit. - The harmonic (5th, 6th, 7th, ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise
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ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	96.76	-	-	91.62	32.34	6.28	33.48	102	270	Average
2414	107.34	-	-	102.2	32.34	6.28	33.48	102	270	Peak
4923	37.51	-36.49	74	53.77	34.36	8.18	58.8	100	0	Peak
7236	40.72	-46.62	87.34	52.96	35.61	10.48	58.33	100	0	Peak
9648	37.31	-50.03	87.34	46.3	36.92	11.55	57.46	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	802.11g	Temperature :	22~24℃
Test Channel :	01	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th , 6 th , 7 th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

1000

4000

6000

8000

10000

12000

14000

16000

18000

20000

22000

25000

2

1

3

4

5

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

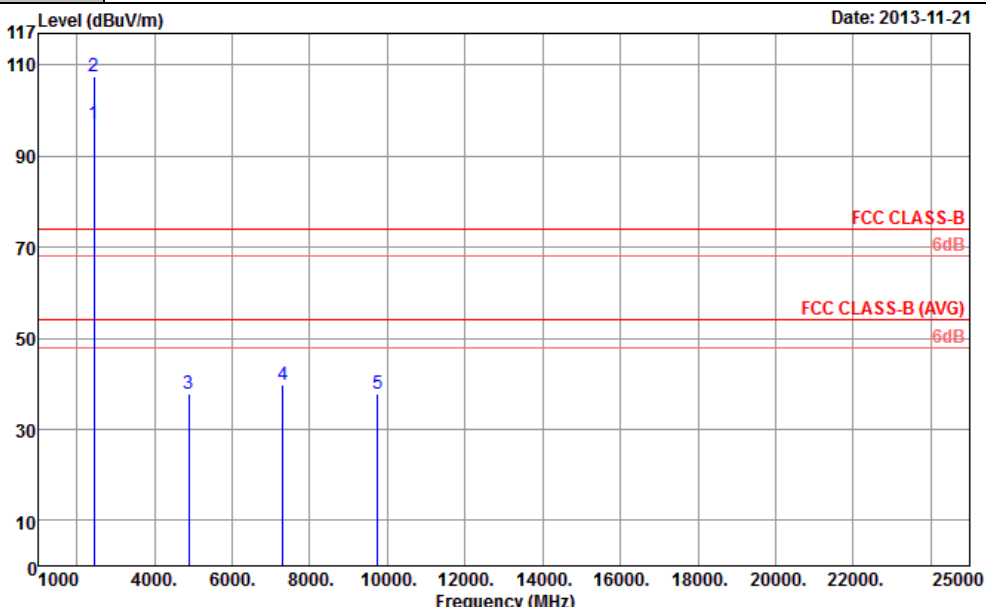
6dB

Date: 2013-11-21

Frequency (MHz)

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	92.43	-	-	87.47	32.16	6.28	33.48	116	190	Average
2414	102.98	-	-	98.02	32.16	6.28	33.48	116	190	Peak
4923	38.03	-35.97	74	54.29	34.36	8.18	58.8	100	0	Peak
7236	41.34	-41.64	82.98	53.59	35.6	10.48	58.33	100	0	Peak
9648	39.25	-43.73	82.98	48.66	36.5	11.55	57.46	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	802.11g	Temperature :	22~24℃							
Test Channel :	06	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 9747 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th, 6th, 7th,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) Date: 2013-11-21  Frequency (MHz)										
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	97.25	-	-	91.89	32.49	6.34	33.47	100	271	Average
2439	107.41	-	-	102.05	32.49	6.34	33.47	100	271	Peak
4875	37.96	-36.04	74	54.32	34.4	8.11	58.87	100	0	Peak
7311	39.87	-34.13	74	52.24	35.62	10.47	58.46	100	0	Peak
9747	37.91	-49.5	87.41	46.85	37	11.56	57.5	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11g	Temperature :	22~24℃							
Test Channel :	06	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 9747 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) 117 110 90 70 50 30 10 0 2 3 4 5 1000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000 25000 Frequency (MHz) FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB Date: 2013-11-21										
ANTENNA POLARITY : VERTICAL										
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2439	92.25	-	-	87	32.38	6.34	33.47	119	172	Average
2439	102.29	-	-	97.04	32.38	6.34	33.47	119	172	Peak
4875	37.91	-36.09	74	54.27	34.4	8.11	58.87	100	0	Peak
7311	40.82	-33.18	74	53.25	35.56	10.47	58.46	100	0	Peak
9747	39.23	-43.06	82.29	48.67	36.5	11.56	57.5	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11g	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. 9849 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th ,6 th , 7 th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

30

3000

5000

7000

9000

11000

13000

15000

17000

19000

21000

23000

25000

8

7

9

10

11

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

Date: 2013-11-21

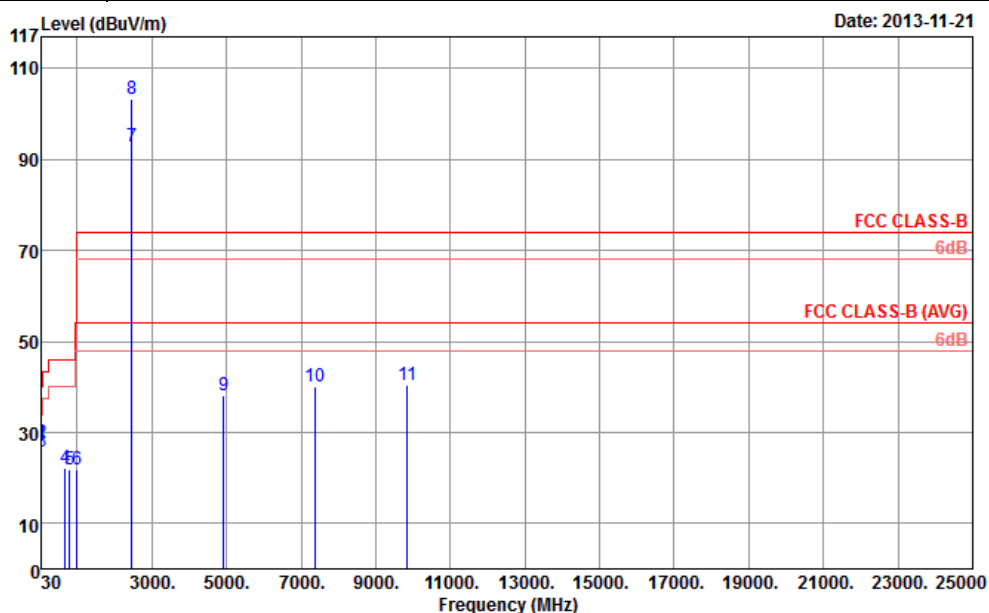
Frequency (MHz)

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
102.09	16.62	-26.88	43.5	36.74	10.61	1.18	31.91	-	-	Peak
112.89	15.78	-27.72	43.5	35.05	11.38	1.25	31.9	-	-	Peak
272.19	14.29	-31.71	46	31.6	12.47	1.92	31.7	-	-	Peak
784.4	22.3	-23.7	46	30.15	19.86	3.23	30.94	119	200	Peak
957.3	21.9	-24.1	46	27.8	21.03	3.59	30.52	-	-	Peak
995.8	22.74	-31.26	54	28.08	21.49	3.67	30.5	-	-	Peak



ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	96.67	-	-	91.19	32.56	6.39	33.47	100	275	Average
2464	107.92	-	-	102.44	32.56	6.39	33.47	100	275	Peak
4923	37.89	-36.11	74	54.15	34.36	8.18	58.8	100	0	Peak
7386	40.4	-33.6	74	52.9	35.66	10.45	58.61	100	0	Peak
9849	38.63	-49.29	87.92	47.42	37.13	11.62	57.54	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. 9849 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th , 6 th , 7 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.43	-12.57	40	37.19	21.66	0.64	32.06	-	-	Peak
35.94	27.69	-12.31	40	44.7	14.24	0.7	31.95	125	221	Peak
42.15	25.85	-14.15	40	45.98	11.1	0.76	31.99	-	-	Peak
673.1	22.15	-23.85	46	31.28	18.87	2.99	30.99	-	-	Peak
801.9	21.99	-24.01	46	29.66	20.02	3.26	30.95	-	-	Peak
986.7	21.91	-32.09	54	27.36	21.41	3.65	30.51	-	-	Peak



ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	92.76	-	-	87.35	32.49	6.39	33.47	137	355	Average
2464	103.2	-	-	97.79	32.49	6.39	33.47	137	355	Peak
4923	38.09	-35.91	74	54.35	34.36	8.18	58.8	100	0	Peak
7386	40.1	-33.9	74	52.77	35.49	10.45	58.61	100	0	Peak
9849	40.4	-42.8	83.2	49.65	36.67	11.62	57.54	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~24℃							
Test Channel :	01	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) 117 110 90 70 50 30 10 0 2 1 3 4 5 1000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000 25000 Frequency (MHz) FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB Date: 2013-11-21										
ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2414	95.41	-	-	90.27	32.34	6.28	33.48	100	270	Average
2414	105.87	-	-	100.73	32.34	6.28	33.48	100	270	Peak
4824	36.94	-37.06	74	53.4	34.44	8.04	58.94	100	0	Peak
7236	40.6	-45.27	85.87	52.84	35.61	10.48	58.33	100	0	Peak
9648	39.12	-46.75	85.87	48.11	36.92	11.55	57.46	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~24℃							
Test Channel :	01	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th ,6 th , 7 th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) 117 110 90 70 50 30 10 0 2 1 3 4 5 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB Date: 2013-11-21										
ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	91.12	-	-	86.16	32.16	6.28	33.48	170	359	Average
2414	101.78	-	-	96.82	32.16	6.28	33.48	170	359	Peak
4824	38.43	-35.57	74	54.89	34.44	8.04	58.94	100	0	Peak
7236	41.76	-40.02	81.78	54.01	35.6	10.48	58.33	100	0	Peak
9648	38.6	-43.18	81.78	48.01	36.5	11.55	57.46	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~24℃							
Test Channel :	06	Relative Humidity :	50~52%							
Test Engineer :	Jet Lui									
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 9747 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5th ,6th , 7th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise									
Level (dBuV/m) 117 110 90 70 50 30 10 0 2 3 4 5 1000 4000. 6000. 8000. 10000. 12000. 14000. 16000. 18000. 20000. 22000. 25000 Frequency (MHz) FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB Date: 2013-11-21										
ANTENNA POLARITY : HORIZONTAL										
Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB)	(dB)	(dB)	(cm)	(deg)	
2439	96.18	-	-	90.82	32.49	6.34	33.47	100	274	Average
2439	106.25	-	-	100.89	32.49	6.34	33.47	100	274	Peak
4875	37.22	-36.78	74	53.58	34.4	8.11	58.87	100	0	Peak
7311	40.33	-33.67	74	52.7	35.62	10.47	58.46	100	0	Peak
9747	38.77	-47.48	86.25	47.71	37	11.56	57.5	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~24℃
Test Channel :	06	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 9747 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th , 6 th , 7 th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

1000

4000

6000

8000

10000

12000

14000

16000

18000

20000

22000

25000

Frequency (MHz)

2

3

4

5

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

Date: 2013-11-21

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	90.42	-	-	85.17	32.38	6.34	33.47	166	359	Average
2439	100.85	-	-	95.6	32.38	6.34	33.47	166	359	Peak
4875	37.7	-36.3	74	54.06	34.4	8.11	58.87	100	0	Peak
7311	40.61	-33.39	74	53.04	35.56	10.47	58.46	100	0	Peak
9747	39.39	-41.46	80.85	48.83	36.5	11.56	57.5	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~24℃
Test Channel :	11	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. 9849 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th ,6 th , 7 th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

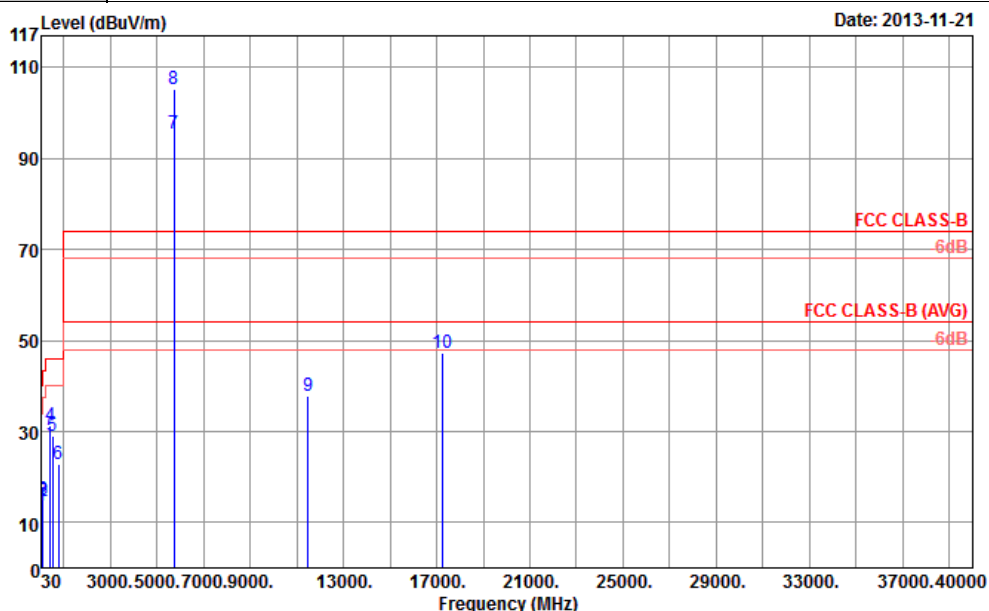
Date: 2013-11-21

Frequency (MHz)

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	96.26	-	-	90.78	32.56	6.39	33.47	102	270	Average
2464	106.31	-	-	100.83	32.56	6.39	33.47	102	270	Peak
4923	37.64	-36.36	74	53.9	34.36	8.18	58.8	100	0	Peak
7386	40.17	-33.83	74	52.67	35.66	10.45	58.61	100	0	Peak
9849	40.17	-46.14	86.31	48.96	37.13	11.62	57.54	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~24℃																																																																																								
Test Channel :	11	Relative Humidity :	50~52%																																																																																								
Test Engineer :	Jet Lui																																																																																										
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. 9849 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (5 th ,6 th , 7 th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise																																																																																										
Level (dBuV/m) 117 110 90 70 50 30 10 0 2 1 3 4 5 1000 4000 6000 8000 10000 12000 14000 16000 18000 20000 22000 25000 Frequency (MHz) FCC CLASS-B 6dB FCC CLASS-B (AVG) 6dB Date: 2013-11-21 <tr><td colspan="11">ANTENNA POLARITY : VERTICAL</td></tr><tr><td>Frequency (MHz)</td><td>Level (dBμV/m)</td><td>Over Limit (dB)</td><td>Limit Line (dBμV/m)</td><td>Read Level (dBμV)</td><td>Antenna Factor (dB)</td><td>Cable Loss (dB)</td><td>Preamp Factor (dB)</td><td>Ant Pos (cm)</td><td>Table Pos (deg)</td><td>Remark</td></tr><tr><td>2464</td><td>90.63</td><td>-</td><td>-</td><td>85.22</td><td>32.49</td><td>6.39</td><td>33.47</td><td>110</td><td>356</td><td>Average</td></tr><tr><td>2464</td><td>100.89</td><td>-</td><td>-</td><td>95.48</td><td>32.49</td><td>6.39</td><td>33.47</td><td>110</td><td>356</td><td>Peak</td></tr><tr><td>4923</td><td>37.22</td><td>-36.78</td><td>74</td><td>53.48</td><td>34.36</td><td>8.18</td><td>58.8</td><td>100</td><td>0</td><td>Peak</td></tr><tr><td>7386</td><td>39.71</td><td>-34.29</td><td>74</td><td>52.38</td><td>35.49</td><td>10.45</td><td>58.61</td><td>100</td><td>0</td><td>Peak</td></tr><tr><td>9849</td><td>40.24</td><td>-40.65</td><td>80.89</td><td>49.49</td><td>36.67</td><td>11.62</td><td>57.54</td><td>100</td><td>0</td><td>Peak</td></tr><tr><td colspan="11">Other harmonics are lower than background noise</td></tr>				ANTENNA POLARITY : VERTICAL											Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark	2464	90.63	-	-	85.22	32.49	6.39	33.47	110	356	Average	2464	100.89	-	-	95.48	32.49	6.39	33.47	110	356	Peak	4923	37.22	-36.78	74	53.48	34.36	8.18	58.8	100	0	Peak	7386	39.71	-34.29	74	52.38	35.49	10.45	58.61	100	0	Peak	9849	40.24	-40.65	80.89	49.49	36.67	11.62	57.54	100	0	Peak	Other harmonics are lower than background noise										
ANTENNA POLARITY : VERTICAL																																																																																											
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark																																																																																	
2464	90.63	-	-	85.22	32.49	6.39	33.47	110	356	Average																																																																																	
2464	100.89	-	-	95.48	32.49	6.39	33.47	110	356	Peak																																																																																	
4923	37.22	-36.78	74	53.48	34.36	8.18	58.8	100	0	Peak																																																																																	
7386	39.71	-34.29	74	52.38	35.49	10.45	58.61	100	0	Peak																																																																																	
9849	40.24	-40.65	80.89	49.49	36.67	11.62	57.54	100	0	Peak																																																																																	
Other harmonics are lower than background noise																																																																																											

Test Mode :	802.11a	Temperature :	22~24℃
Test Channel :	149	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5747 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4 th , 5 th , 6 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

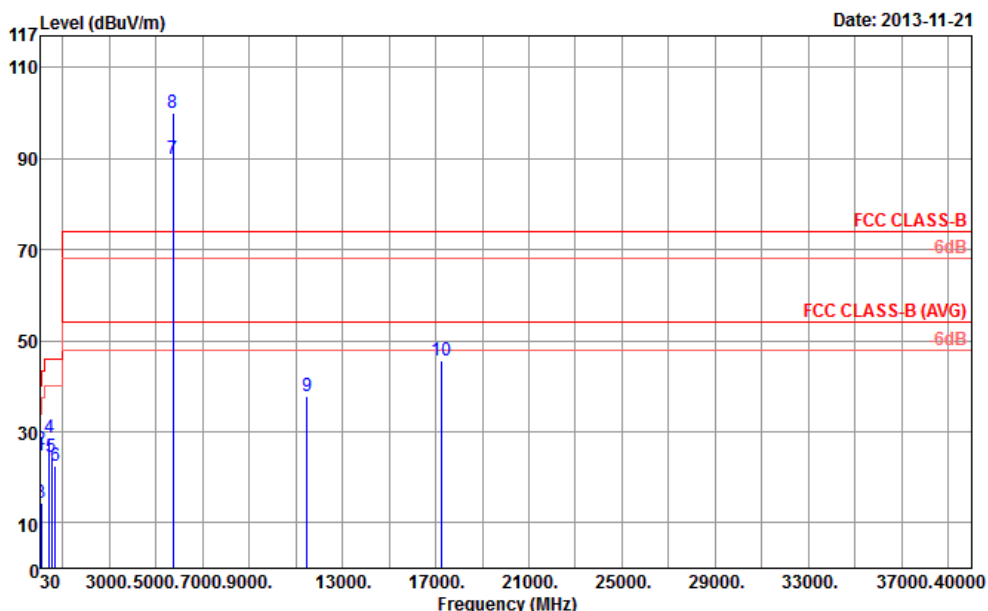

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
34.59	13.53	-26.47	40	28.94	15.84	0.69	31.94	-	-	Peak
97.5	14.68	-28.82	43.5	35.76	9.72	1.15	31.95	-	-	Peak
112.35	15.07	-28.43	43.5	34.34	11.38	1.25	31.9	-	-	Peak
422.5	31.33	-14.67	46	43.87	16.45	2.39	31.38	100	114	Peak
528.2	28.9	-17.1	46	39.99	17.48	2.66	31.23	-	-	Peak



ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
784.4	22.73	-23.27	46	30.58	19.86	3.23	30.94	-	-	Peak
5747	95.53	-	-	84.9	34.7	9.1	33.17	123	335	Average
5747	105.27	-	-	94.64	34.7	9.1	33.17	123	335	Peak
11490	37.74	-36.26	74	43.54	38.59	12.92	57.31	100	0	Peak
17235	47.38	-37.89	85.27	45.92	42.96	16.41	57.91	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4 th , 5 th , 6 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.67	24.93	-15.07	40	41.94	14.24	0.7	31.95	-	-	Peak
42.15	25.96	-14.04	40	46.09	11.1	0.76	31.99	100	119	Peak
84	14.22	-25.78	40	37.22	7.79	1.07	31.86	-	-	Peak
425.3	28.68	-17.32	46	41.28	16.38	2.39	31.37	-	-	Peak
521.9	24.31	-21.69	46	35.42	17.46	2.65	31.22	-	-	Peak

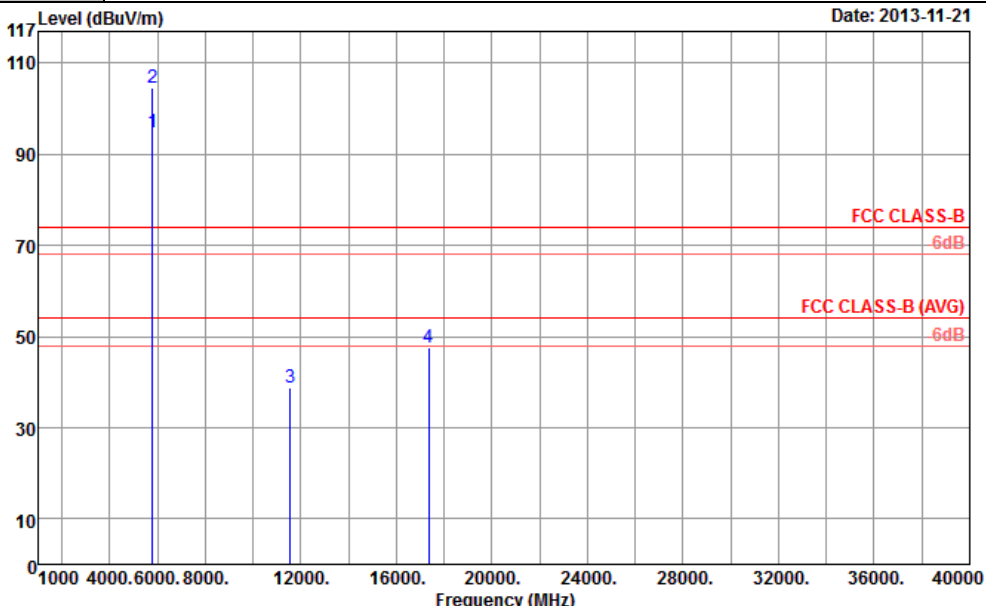


ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
673.1	22.63	-23.37	46	31.76	18.87	2.99	30.99	-	-	Peak
5743	89.91	-	-	79.28	34.7	9.1	33.17	115	256	Average
5743	100.14	-	-	89.51	34.7	9.1	33.17	115	256	Peak
11490	37.84	-36.16	74	44.45	37.78	12.92	57.31	100	0	Peak
17235	45.75	-34.39	80.14	46.42	40.83	16.41	57.91	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11a	Temperature :	22~24℃
Test Channel :	157	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

Date: 2013-11-21



Frequency (MHz)

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	94.9	-	-	84.16	34.77	9.13	33.16	122	334	Average
5783	104.73	-	-	93.99	34.77	9.13	33.16	122	334	Peak
11571	38.9	-35.1	74	44.57	38.63	13	57.3	100	0	Peak
17355	47.49	-37.24	84.73	46.84	42.4	16.46	58.21	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11a	Temperature :	22~24℃
Test Channel :	157	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5784 MHz is fundamental signal which can be ignored. 2. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

2

3

4

1000

4000

6000

8000

12000

16000

20000

24000

28000

32000

36000

40000

Frequency (MHz)

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

Date: 2013-11-21

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5784	88.77	-	-	78.07	34.73	9.13	33.16	137	258	Average
5784	98.77	-	-	88.07	34.73	9.13	33.16	137	258	Peak
11571	38.15	-35.85	74	44.59	37.86	13	57.3	100	0	Peak
17355	45.8	-32.97	78.77	46.63	40.92	16.46	58.21	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	802.11a	Temperature :	22~24℃
Test Channel :	165	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5827 MHz is fundamental signal which can be ignored. 2. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

Date: 2013-11-21

Frequency (MHz)

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	94.38	-	-	83.42	34.87	9.25	33.16	133	334	Average
5827	104.79	-	-	93.83	34.87	9.25	33.16	133	334	Peak
11649	39.28	-34.72	74	44.83	38.66	13.09	57.3	100	0	Peak
17475	46.42	-38.37	84.79	46.72	41.7	16.51	58.51	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	802.11a	Temperature :	22~24℃
Test Channel :	165	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBUV/m)

117

110

90

70

50

30

10

0

2

1

3

4

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

1000

4000

6000

8000

12000

16000

20000

24000

28000

32000

36000

40000

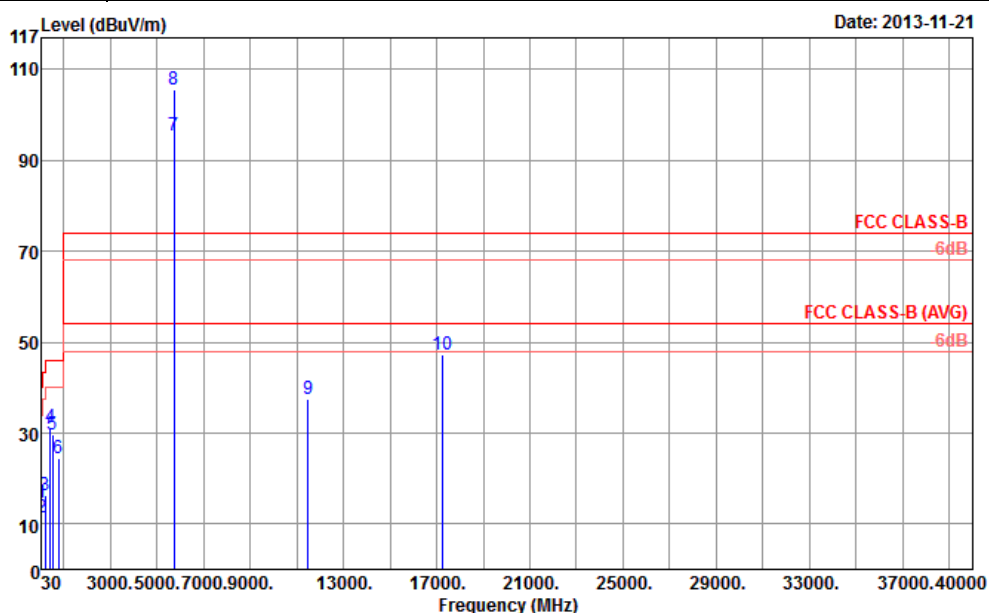
Frequency (MHz)

Date: 2013-11-21

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	88.18	-	-	77.32	34.77	9.25	33.16	101	249	Average
5823	98.37	-	-	87.51	34.77	9.25	33.16	101	249	Peak
11649	38.86	-35.14	74	45.16	37.91	13.09	57.3	100	0	Peak
17475	45.97	-32.4	78.37	46.91	41.06	16.51	58.51	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	5GHz 802.11n HT20	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4 th , 5 th , 6 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
33.51	14.59	-25.41	40	30.03	15.84	0.68	31.96	-	-	Peak
52.68	11.56	-28.44	40	36.31	6.3	0.85	31.9	-	-	Peak
204.96	16.3	-27.2	43.5	37.48	8.86	1.67	31.71	-	-	Peak
425.3	31.24	-14.76	46	43.84	16.38	2.39	31.37	100	52	Peak
531	29.68	-16.32	46	40.75	17.5	2.67	31.24	-	-	Peak



ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
784.4	24.34	-21.66	46	32.19	19.86	3.23	30.94	-	-	Peak
5743	95.51	-	-	84.88	34.7	9.1	33.17	113	336	Average
5743	105.53	-	-	94.9	34.7	9.1	33.17	113	336	Peak
11490	37.42	-36.58	74	43.22	38.59	12.92	57.31	100	0	Peak
17235	47.14	-38.39	85.53	45.68	42.96	16.41	57.91	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	5GHz 802.11n HT20	Temperature :	22~24℃
Test Channel :	149	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

8

7

9

10

30

3000

5000

7000

9000

13000

17000

21000

25000

29000

33000

37000

40000

Frequency (MHz)

FCC CLASS-B

64dB

FCC CLASS-B (AVG)

64dB

Date: 2013-11-21

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
34.32	23.54	-16.46	40	39.59	15.2	0.69	31.94	100	14	Peak
44.04	23.1	-16.9	40	44.27	10.03	0.78	31.98	-	-	Peak
52.68	18.8	-21.2	40	43.8	6.05	0.85	31.9	-	-	Peak
438.6	25.15	-20.85	46	38.09	15.95	2.42	31.31	-	-	Peak
512.1	26.69	-19.31	46	37.9	17.36	2.62	31.19	-	-	Peak



ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
573	23.68	-22.32	46	33.71	18.44	2.77	31.24	-	-	Peak
5743	89.41	-	-	78.78	34.7	9.1	33.17	145	118	Average
5743	99.85	-	-	89.22	34.7	9.1	33.17	145	118	Peak
11490	37.07	-36.93	74	43.68	37.78	12.92	57.31	100	0	Peak
17235	45.91	-33.94	79.85	46.58	40.83	16.41	57.91	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	5GHz 802.11n HT20	Temperature :	22~24℃
Test Channel :	157	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5787 MHz is fundamental signal which can be ignored. 2. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

1

2

3

4

1000

4000

6000

8000

12000

16000

20000

24000

28000

32000

36000

40000

Frequency (MHz)

Date: 2013-11-21

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

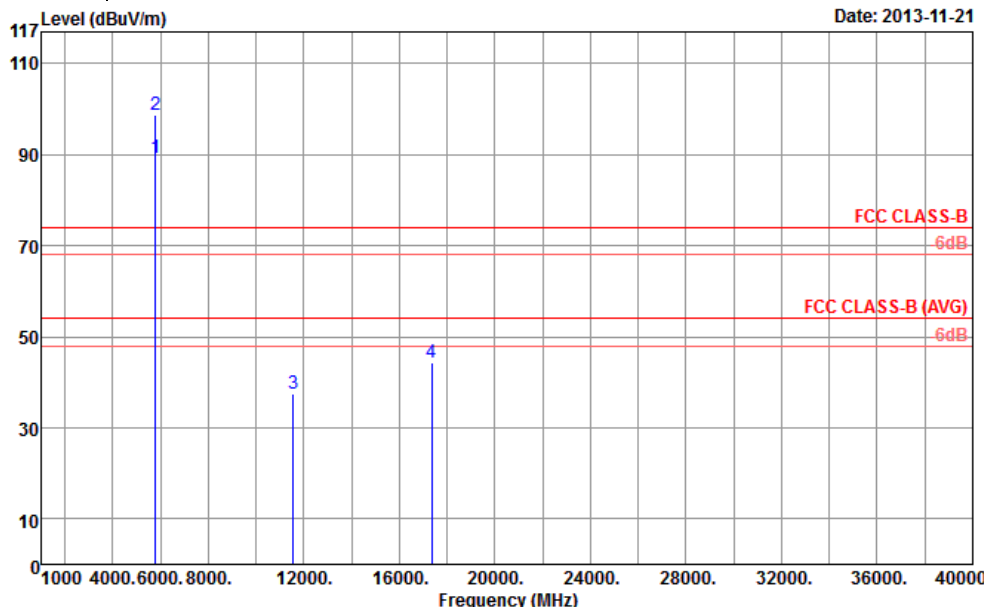
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	94.27	-	-	83.5	34.8	9.13	33.16	135	337	Average
5787	105.37	-	-	94.6	34.8	9.13	33.16	135	337	Peak
11571	37.36	-36.64	74	43.03	38.63	13	57.3	100	0	Peak
17355	46.09	-39.28	85.37	45.44	42.4	16.46	58.21	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	5GHz 802.11n HT20	Temperature :	22~24℃
Test Channel :	157	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

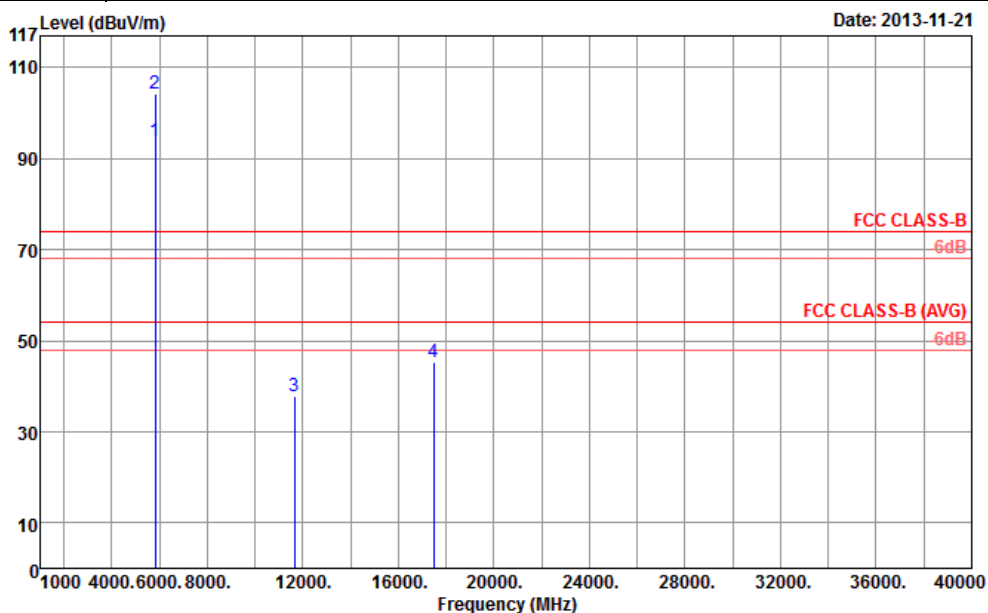
Date: 2013-11-21



Frequency (MHz)

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	89.36	-	-	78.66	34.73	9.13	33.16	102	253	Average
5783	98.9	-	-	88.2	34.73	9.13	33.16	102	253	Peak
11571	37.35	-36.65	74	43.79	37.86	13	57.3	100	0	Peak
17355	44.28	-34.62	78.9	45.11	40.92	16.46	58.21	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	5GHz 802.11n HT20	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4 th , 5 th , 6 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		


ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	93.95	-	-	82.99	34.87	9.25	33.16	146	335	Average
5823	104.25	-	-	93.29	34.87	9.25	33.16	146	335	Peak
11649	37.73	-36.27	74	43.28	38.66	13.09	57.3	100	0	Peak
17475	45.3	-38.95	84.25	45.6	41.7	16.51	58.51	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	5GHz 802.11n HT20	Temperature :	22~24℃
Test Channel :	165	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBUV/m)

117

110

90

70

50

30

10

0

1000

4000

6000

8000

12000

16000

20000

24000

28000

32000

36000

40000

Frequency (MHz)

2

3

4

FCC CLASS-B

6dB

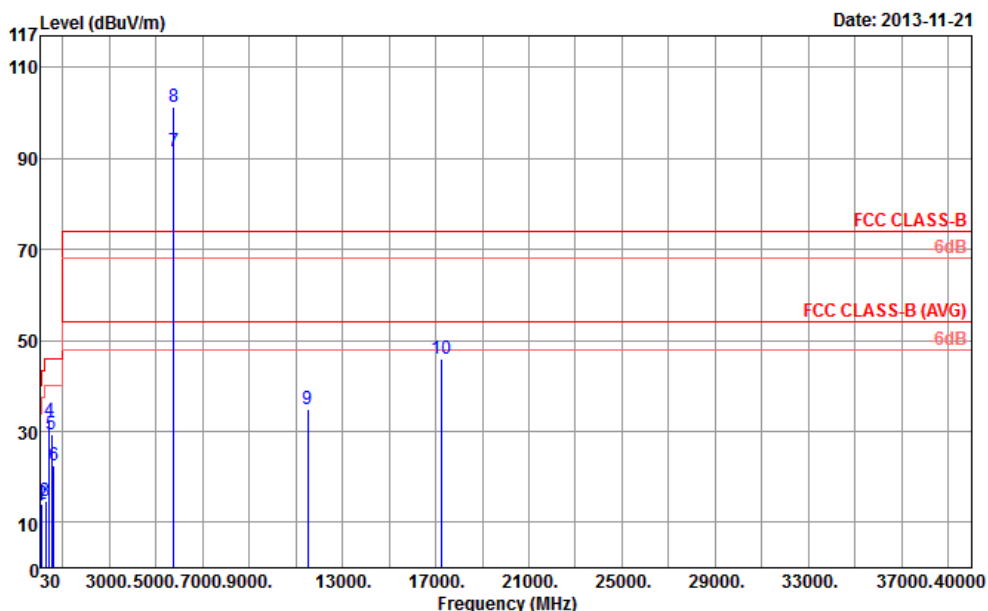
FCC CLASS-B (AVG)

6dB

Date: 2013-11-21

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	88.89	-	-	78.03	34.77	9.25	33.16	102	254	Average
5823	98.83	-	-	87.97	34.77	9.25	33.16	102	254	Peak
11649	37.8	-36.2	74	44.1	37.91	13.09	57.3	100	0	Peak
17475	44.89	-33.94	78.83	45.83	41.06	16.51	58.51	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	5GHz 802.11n HT40	Temperature :	22~24°C
Test Channel :	151	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5757 MHz is fundamental signal which can be ignored. 2. 17265 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4 th , 5 th , 6 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

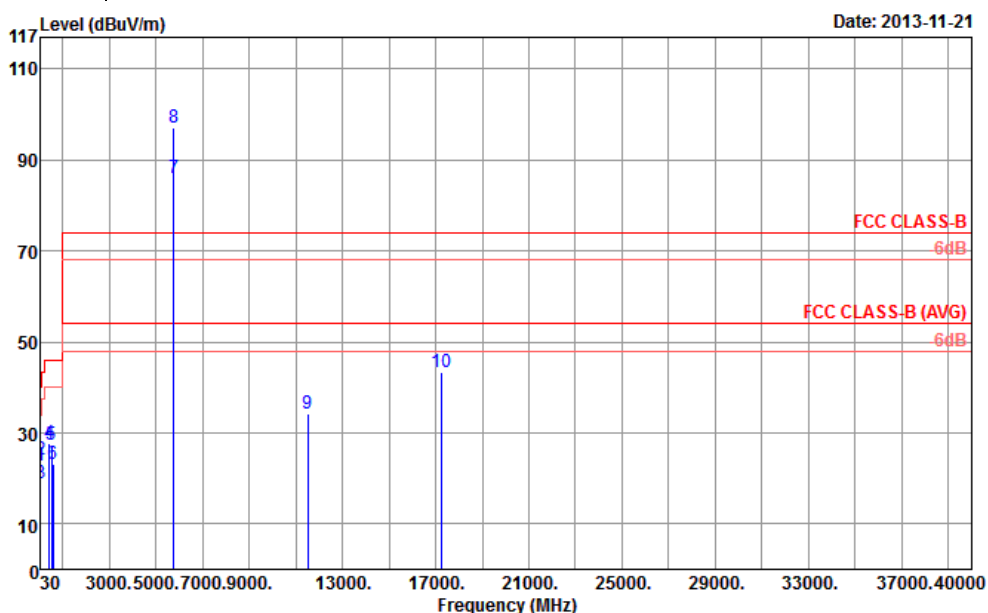

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
34.05	13.64	-26.36	40	29.08	15.84	0.68	31.96	-	-	Peak
103.98	13.95	-29.55	43.5	33.76	10.91	1.19	31.91	-	-	Peak
272.19	14.74	-31.26	46	32.05	12.47	1.92	31.7	-	-	Peak
428.8	32.37	-13.63	46	44.98	16.34	2.4	31.35	100	52	Peak
521.9	29.27	-16.73	46	40.42	17.42	2.65	31.22	-	-	Peak



ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
620.6	22.6	-23.4	46	32.21	18.61	2.88	31.1	-	-	Peak
5757	91.59	-	-	80.92	34.73	9.1	33.16	135	336	Average
5757	101.39	-	-	90.72	34.73	9.1	33.16	135	336	Peak
11511	34.79	-39.21	74	40.54	38.6	12.95	57.3	100	0	Peak
17265	46.1	-35.29	81.39	44.76	42.9	16.43	57.99	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	5GHz 802.11n HT40	Temperature :	22~24°C
Test Channel :	151	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5757 MHz is fundamental signal which can be ignored. 2. 17265 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4 th , 5 th , 6 th , ...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		


ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
33.24	22.96	-17.04	40	39.08	15.2	0.67	31.99	-	-	Peak
41.07	23.98	-16.02	40	44.13	11.1	0.75	32	100	111	Peak
52.95	18.8	-21.2	40	43.8	6.05	0.86	31.91	-	-	Peak
428.8	27.59	-18.41	46	40.21	16.33	2.4	31.35	-	-	Peak
528.2	27.32	-18.68	46	38.27	17.62	2.66	31.23	-	-	Peak



ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
601.7	23.22	-22.78	46	32.72	18.85	2.83	31.18	-	-	Peak
5757	85.93	-	-	75.28	34.71	9.1	33.16	103	313	Average
5757	97.19	-	-	86.54	34.71	9.1	33.16	103	313	Peak
11511	34.3	-39.7	74	40.85	37.8	12.95	57.3	100	0	Peak
17265	43.34	-33.85	77.19	44.08	40.82	16.43	57.99	100	0	Peak
Other harmonics are lower than background noise										

Test Mode :	5GHz 802.11n HT40	Temperature :	22~24℃
Test Channel :	159	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5797 MHz is fundamental signal which can be ignored. 2. 17385 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBuV/m)

117

110

90

70

50

30

10

0

1000

4000

6000

8000

12000

16000

20000

24000

28000

32000

36000

40000

Frequency (MHz)

2

3

4

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

Date: 2013-11-21

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	91.36	-	-	80.56	34.8	9.16	33.16	146	335	Average
5797	101.34	-	-	90.54	34.8	9.16	33.16	146	335	Peak
11589	37.15	-36.85	74	42.79	38.64	13.02	57.3	100	0	Peak
17385	44.95	-36.39	81.34	44.57	42.2	16.48	58.3	100	0	Peak

Other harmonics are lower than background noise

Test Mode :	5GHz 802.11n HT40	Temperature :	22~24℃
Test Channel :	159	Relative Humidity :	50~52%
Test Engineer :	Jet Lui		
Remark :	1. 5797 MHz is fundamental signal which can be ignored. 2. 17385 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit. 4. The harmonic (4th ,5th , 6th ,...etc.) and other spurious are not reported, because those levels are lower than average limit line and background noise		

Level (dBUV/m)

117

110

90

70

50

30

10

0

2

3

4

1000

4000

6000

8000

12000

16000

20000

24000

28000

32000

36000

40000

Frequency (MHz)

Date: 2013-11-21

FCC CLASS-B

6dB

FCC CLASS-B (AVG)

6dB

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	85.11	-	-	74.37	34.74	9.16	33.16	102	255	Average
5797	94.89	-	-	84.15	34.74	9.16	33.16	102	255	Peak
11589	36.56	-37.44	74	42.97	37.87	13.02	57.3	100	0	Peak
17385	44.49	-30.4	74.89	45.35	40.96	16.48	58.3	100	0	Peak

Other harmonics are lower than background noise

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

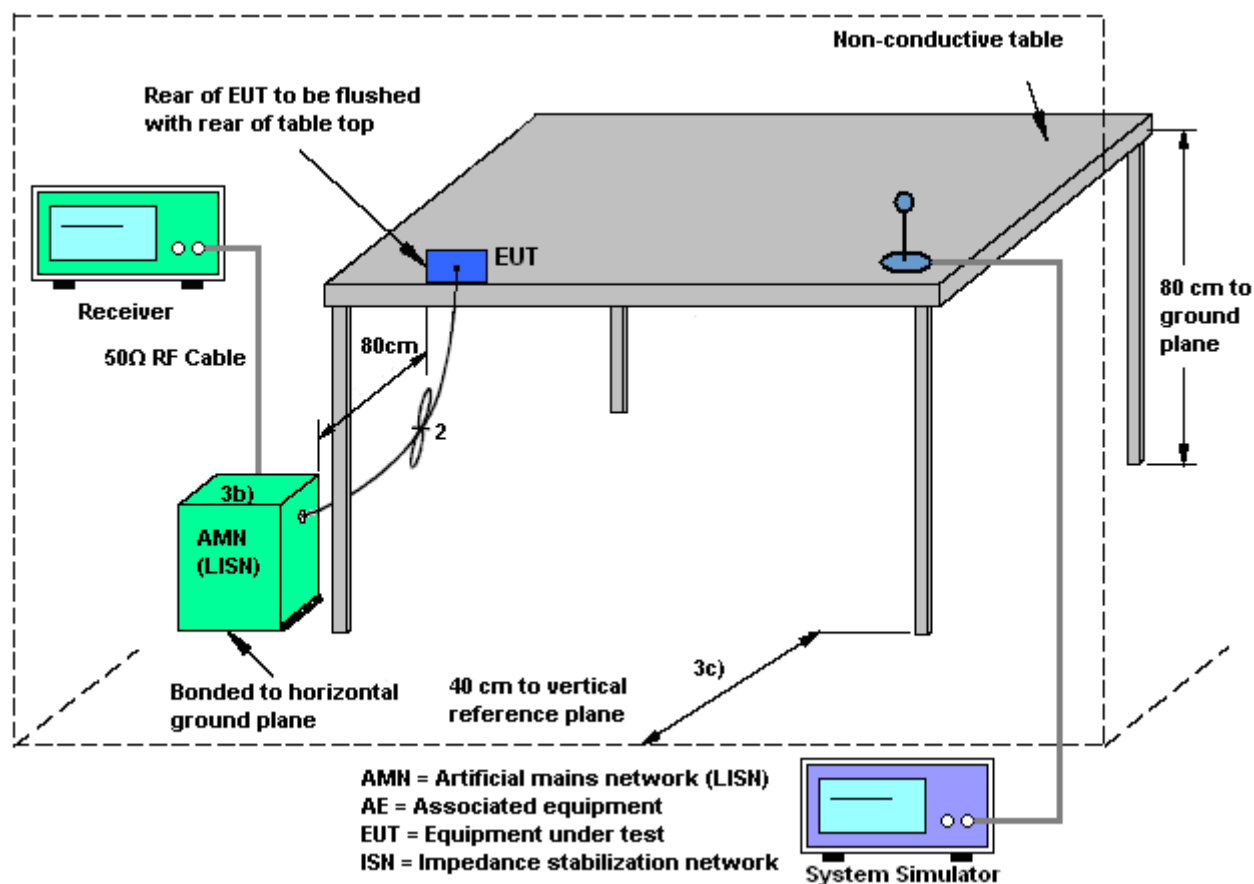
3.6.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.6.3 Test Procedures

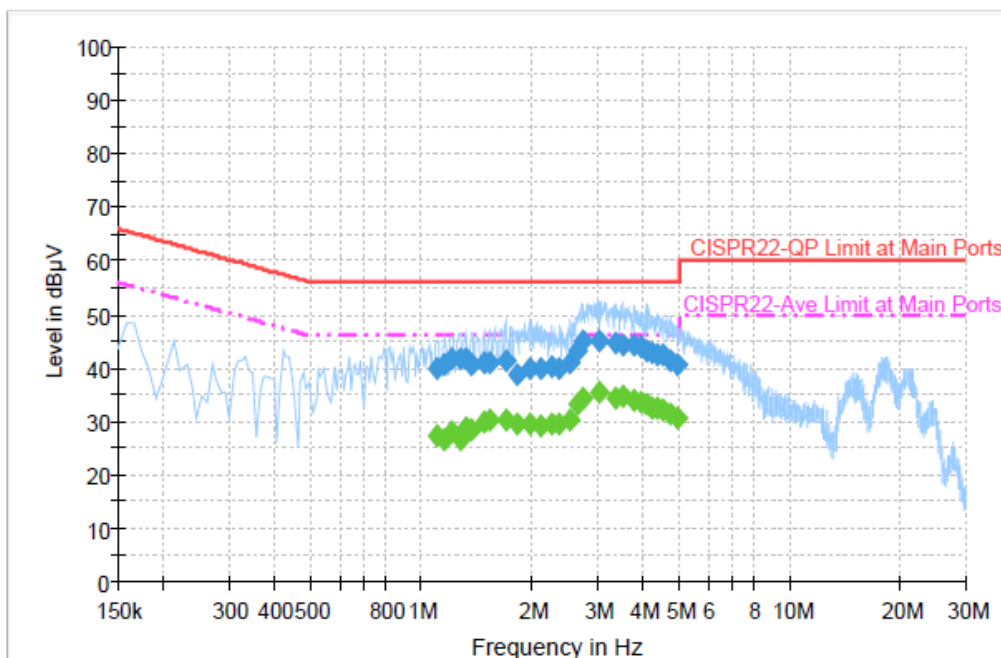
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

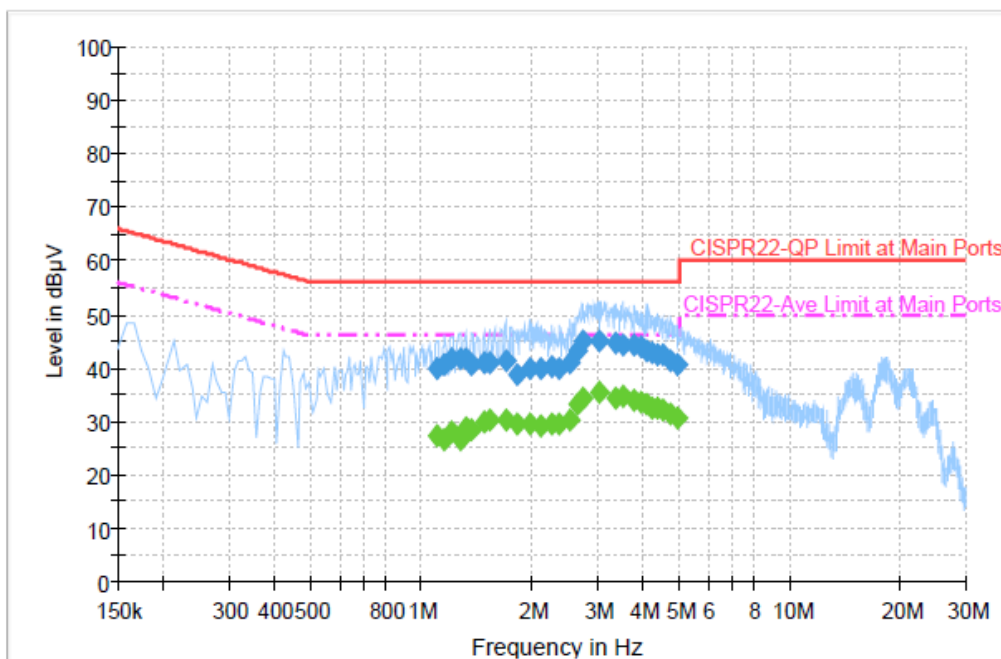
Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		



Final Result : Quasi-Peak

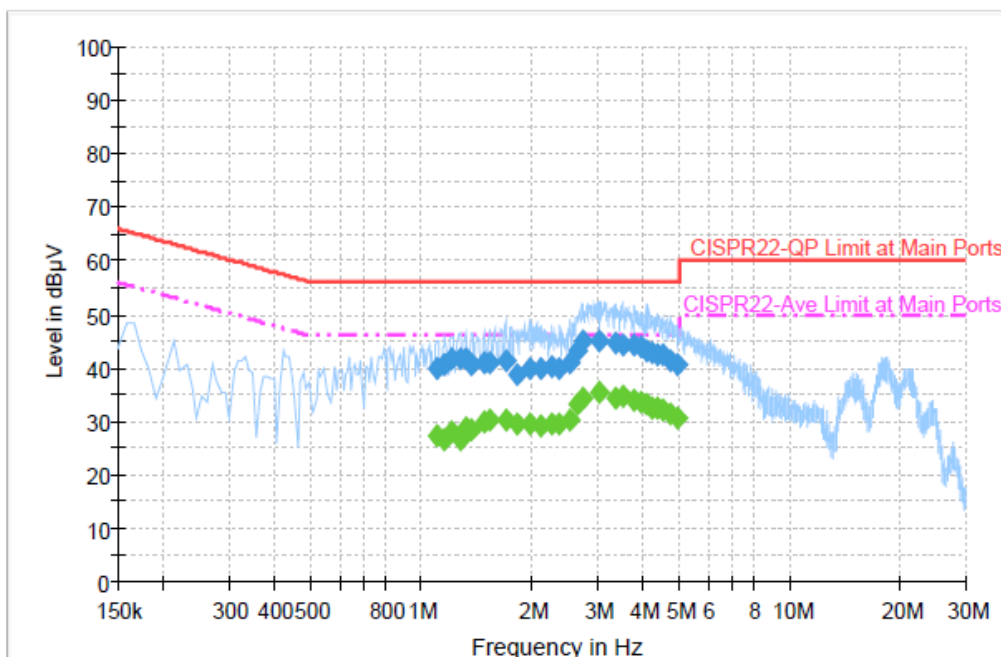
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.102000	39.8	Off	L1	19.4	16.2	56.0
1.158000	40.8	Off	L1	19.4	15.2	56.0
1.206000	41.6	Off	L1	19.4	14.4	56.0
1.278000	41.8	Off	L1	19.4	14.2	56.0
1.318000	41.7	Off	L1	19.4	14.3	56.0
1.374000	40.4	Off	L1	19.4	15.6	56.0
1.478000	40.9	Off	L1	19.4	15.1	56.0
1.534000	40.8	Off	L1	19.4	15.2	56.0
1.694000	41.4	Off	L1	19.4	14.6	56.0
1.822000	38.7	Off	L1	19.4	17.3	56.0
1.966000	40.0	Off	L1	19.4	16.0	56.0
2.118000	39.9	Off	L1	19.4	16.1	56.0
2.262000	40.1	Off	L1	19.5	15.9	56.0
2.366000	39.8	Off	L1	19.5	16.2	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Quasi-Peak

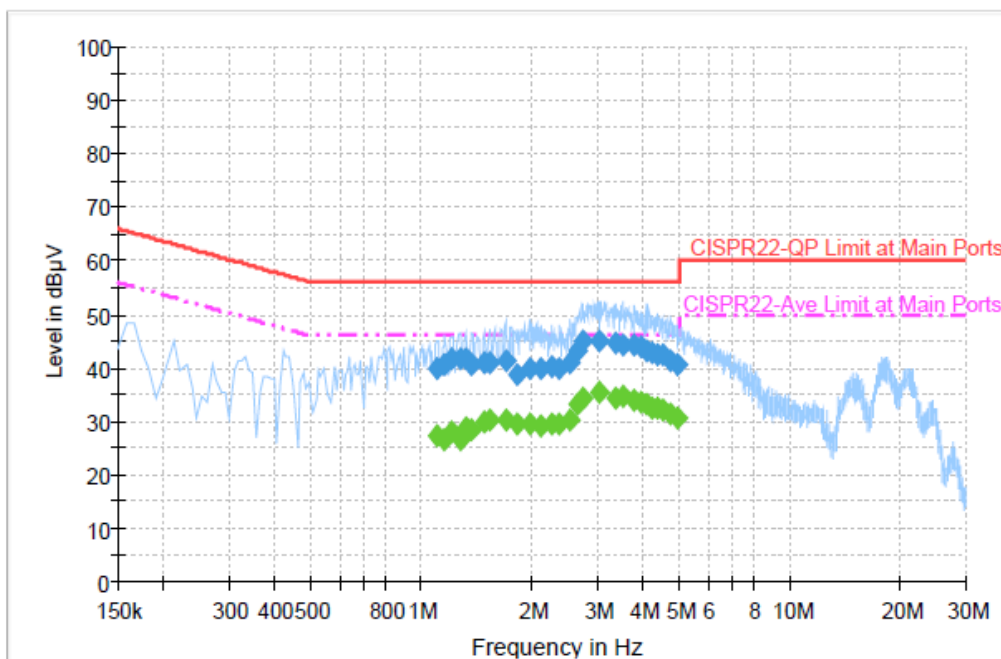
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.526000	41.1	Off	L1	19.4	14.9	56.0
2.638000	43.2	Off	L1	19.4	12.8	56.0
2.742000	45.1	Off	L1	19.4	10.9	56.0
3.054000	45.0	Off	L1	19.5	11.0	56.0
3.382000	44.6	Off	L1	19.5	11.4	56.0
3.526000	44.4	Off	L1	19.5	11.6	56.0
3.790000	44.1	Off	L1	19.5	11.9	56.0
3.942000	43.7	Off	L1	19.5	12.3	56.0
4.102000	43.2	Off	L1	19.5	12.8	56.0
4.214000	42.6	Off	L1	19.5	13.4	56.0
4.382000	42.5	Off	L1	19.5	13.5	56.0
4.510000	42.3	Off	L1	19.5	13.7	56.0
4.758000	41.3	Off	L1	19.5	14.7	56.0
4.974000	40.7	Off	L1	19.5	15.3	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Average

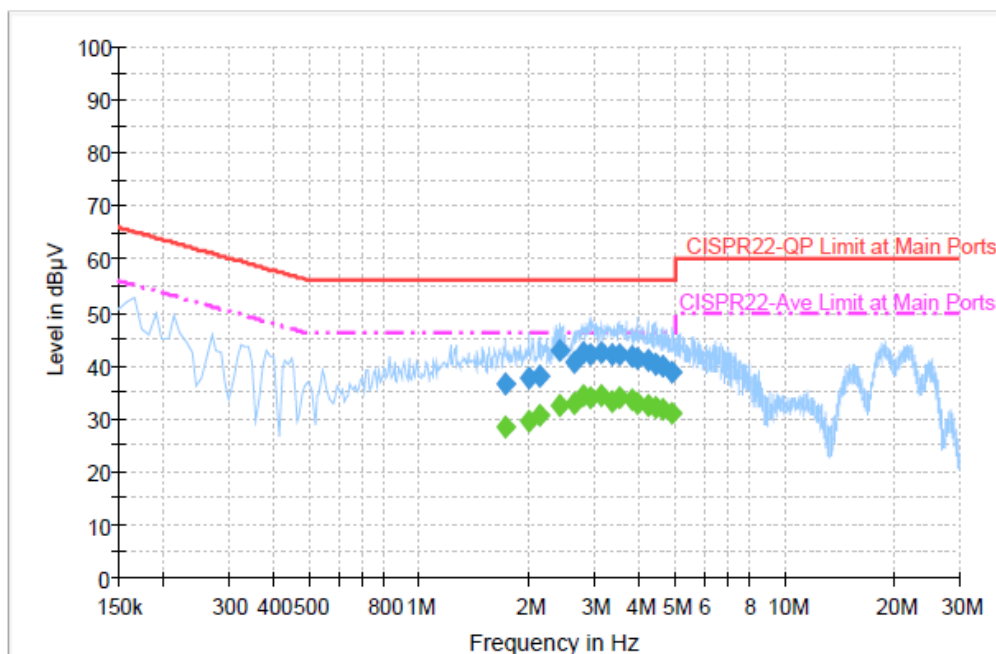
Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.102000	27.3	Off	L1	19.4	18.7	46.0
1.158000	26.5	Off	L1	19.4	19.5	46.0
1.206000	28.1	Off	L1	19.4	17.9	46.0
1.278000	26.7	Off	L1	19.4	19.3	46.0
1.318000	28.6	Off	L1	19.4	17.4	46.0
1.374000	28.5	Off	L1	19.4	17.5	46.0
1.478000	29.8	Off	L1	19.4	16.2	46.0
1.534000	30.2	Off	L1	19.4	15.8	46.0
1.694000	30.4	Off	L1	19.4	15.6	46.0
1.822000	29.6	Off	L1	19.4	16.4	46.0
1.966000	29.5	Off	L1	19.4	16.5	46.0
2.118000	29.2	Off	L1	19.4	16.8	46.0
2.262000	29.4	Off	L1	19.5	16.6	46.0
2.366000	29.5	Off	L1	19.5	16.5	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Average

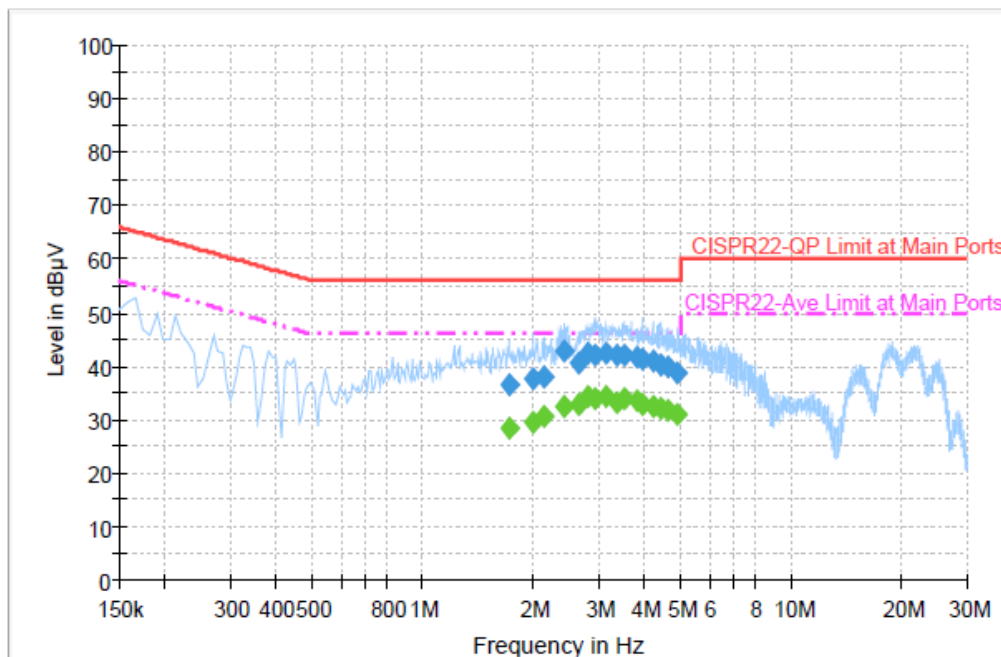
Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.526000	30.3	Off	L1	19.4	15.7	46.0
2.638000	33.1	Off	L1	19.4	12.9	46.0
2.742000	34.3	Off	L1	19.4	11.7	46.0
3.054000	35.3	Off	L1	19.5	10.7	46.0
3.382000	34.4	Off	L1	19.5	11.6	46.0
3.526000	34.7	Off	L1	19.5	11.3	46.0
3.790000	33.9	Off	L1	19.5	12.1	46.0
3.942000	33.8	Off	L1	19.5	12.2	46.0
4.102000	33.2	Off	L1	19.5	12.8	46.0
4.214000	32.5	Off	L1	19.5	13.5	46.0
4.382000	32.3	Off	L1	19.5	13.7	46.0
4.510000	32.1	Off	L1	19.5	13.9	46.0
4.758000	31.2	Off	L1	19.5	14.8	46.0
4.974000	30.6	Off	L1	19.5	15.4	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Quasi-Peak

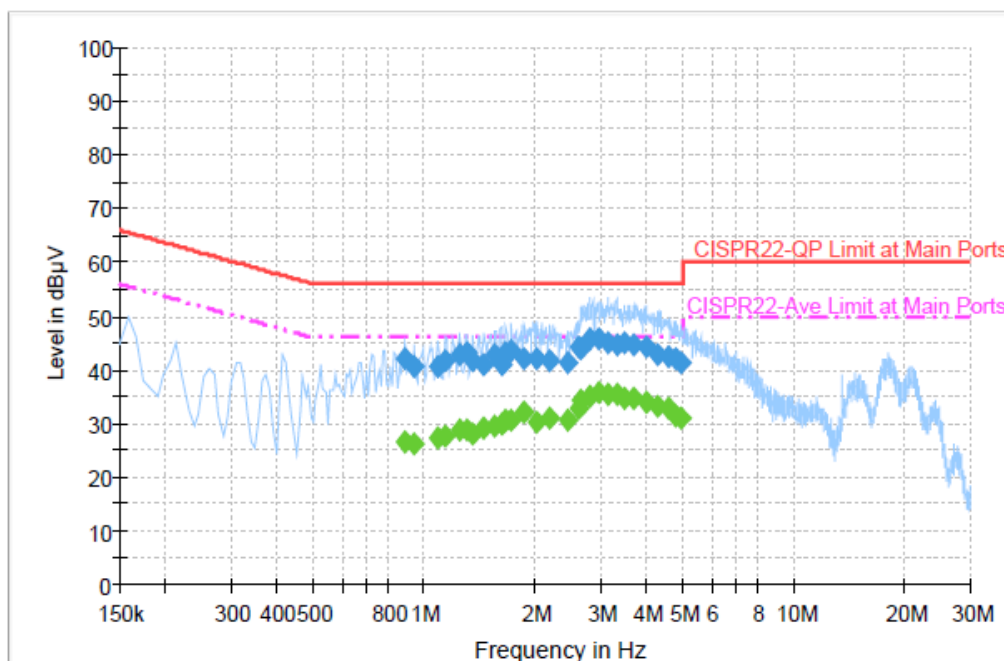
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.718000	36.5	Off	N	19.5	19.5	56.0
1.990000	37.5	Off	N	19.5	18.5	56.0
2.142000	38.0	Off	N	19.5	18.0	56.0
2.414000	42.8	Off	N	19.5	13.2	56.0
2.638000	40.4	Off	N	19.5	15.6	56.0
2.790000	42.4	Off	N	19.5	13.6	56.0
2.926000	41.9	Off	N	19.5	14.1	56.0
3.134000	42.3	Off	N	19.5	13.7	56.0
3.366000	42.0	Off	N	19.5	14.0	56.0
3.534000	42.0	Off	N	19.5	14.0	56.0
3.798000	41.6	Off	N	19.5	14.4	56.0
3.934000	41.2	Off	N	19.5	14.8	56.0
4.222000	40.9	Off	N	19.5	15.1	56.0
4.406000	40.1	Off	N	19.5	15.9	56.0
4.614000	39.8	Off	N	19.5	16.2	56.0
4.886000	38.9	Off	N	19.6	17.1	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN Idle + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Average

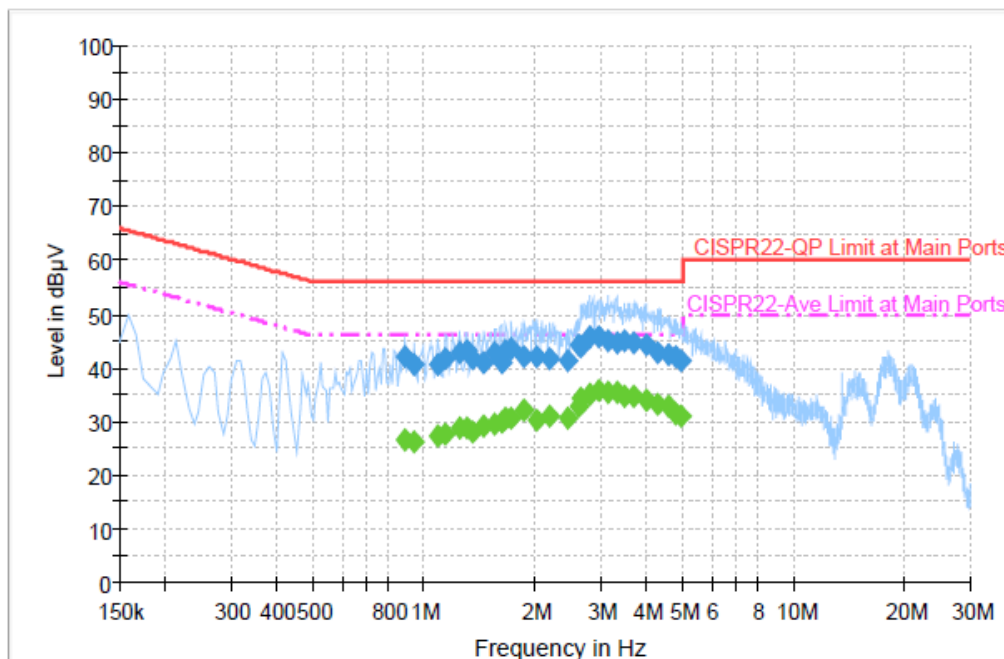
Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.718000	28.5	Off	N	19.5	17.5	46.0
1.990000	29.4	Off	N	19.5	16.6	46.0
2.142000	30.7	Off	N	19.5	15.3	46.0
2.414000	32.5	Off	N	19.5	13.5	46.0
2.638000	32.9	Off	N	19.5	13.1	46.0
2.790000	34.5	Off	N	19.5	11.5	46.0
2.926000	34.1	Off	N	19.5	11.9	46.0
3.134000	34.2	Off	N	19.5	11.8	46.0
3.366000	33.4	Off	N	19.5	12.6	46.0
3.534000	33.8	Off	N	19.5	12.2	46.0
3.798000	33.4	Off	N	19.5	12.6	46.0
3.934000	32.9	Off	N	19.5	13.1	46.0
4.222000	32.6	Off	N	19.5	13.4	46.0
4.406000	32.1	Off	N	19.5	13.9	46.0
4.614000	31.6	Off	N	19.5	14.4	46.0
4.886000	30.8	Off	N	19.6	15.2	46.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Quasi-Peak

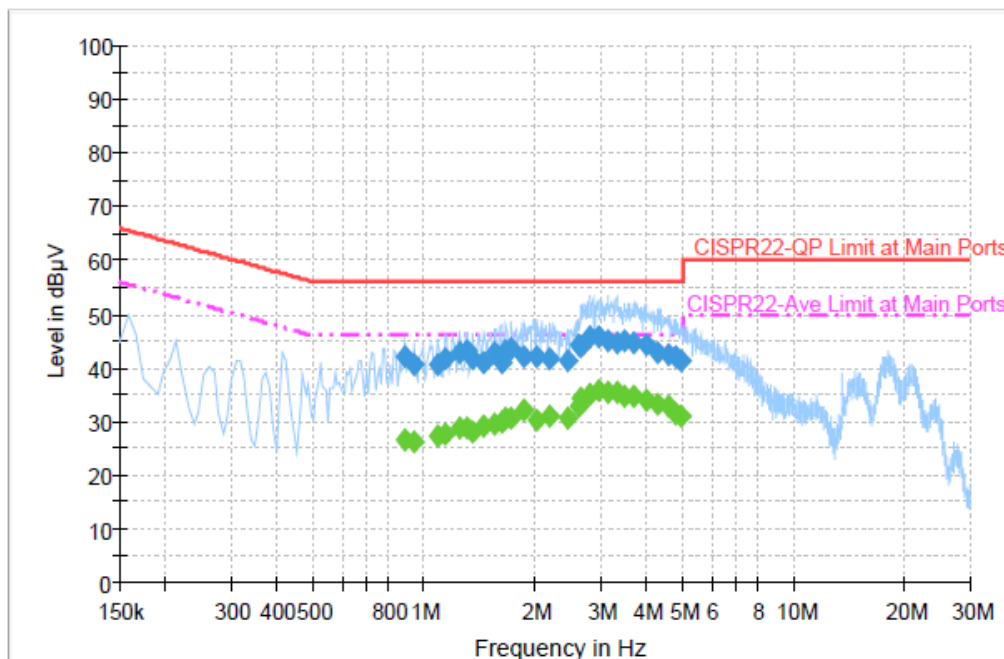
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.886000	41.9	Off	L1	19.4	14.1	56.0
0.942000	40.6	Off	L1	19.4	15.4	56.0
1.086000	40.6	Off	L1	19.4	15.4	56.0
1.142000	41.8	Off	L1	19.4	14.2	56.0
1.246000	42.9	Off	L1	19.4	13.1	56.0
1.302000	43.2	Off	L1	19.4	12.8	56.0
1.358000	41.6	Off	L1	19.4	14.4	56.0
1.454000	41.1	Off	L1	19.4	14.9	56.0
1.558000	42.9	Off	L1	19.4	13.1	56.0
1.622000	41.0	Off	L1	19.4	15.0	56.0
1.662000	43.1	Off	L1	19.4	12.9	56.0
1.718000	43.5	Off	L1	19.4	12.5	56.0
1.870000	41.9	Off	L1	19.4	14.1	56.0
2.022000	41.9	Off	L1	19.4	14.1	56.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Quasi-Peak

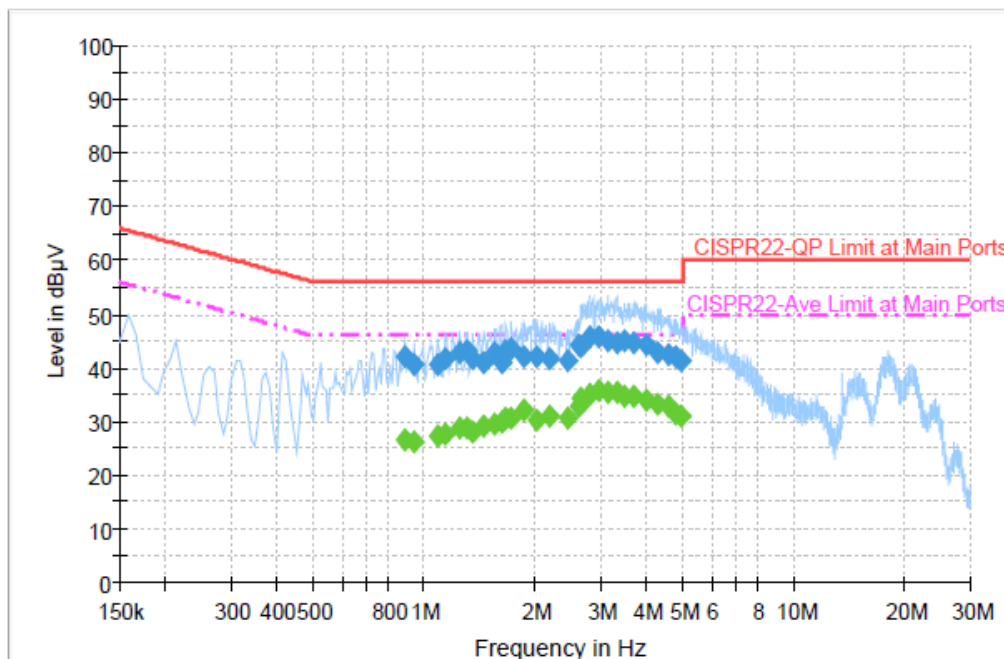
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.190000	41.5	Off	L1	19.5	14.5	56.0
2.446000	41.2	Off	L1	19.5	14.8	56.0
2.606000	44.2	Off	L1	19.4	11.8	56.0
2.662000	44.1	Off	L1	19.4	11.9	56.0
2.806000	45.7	Off	L1	19.4	10.3	56.0
2.974000	45.8	Off	L1	19.4	10.2	56.0
3.150000	44.8	Off	L1	19.5	11.2	56.0
3.310000	44.6	Off	L1	19.5	11.4	56.0
3.486000	45.1	Off	L1	19.5	10.9	56.0
3.678000	44.6	Off	L1	19.5	11.4	56.0
3.998000	44.2	Off	L1	19.5	11.8	56.0
4.286000	42.7	Off	L1	19.5	13.3	56.0
4.598000	42.4	Off	L1	19.5	13.6	56.0
4.790000	41.9	Off	L1	19.5	14.1	56.0
4.950000	41.3	Off	L1	19.5	14.7	56.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Average

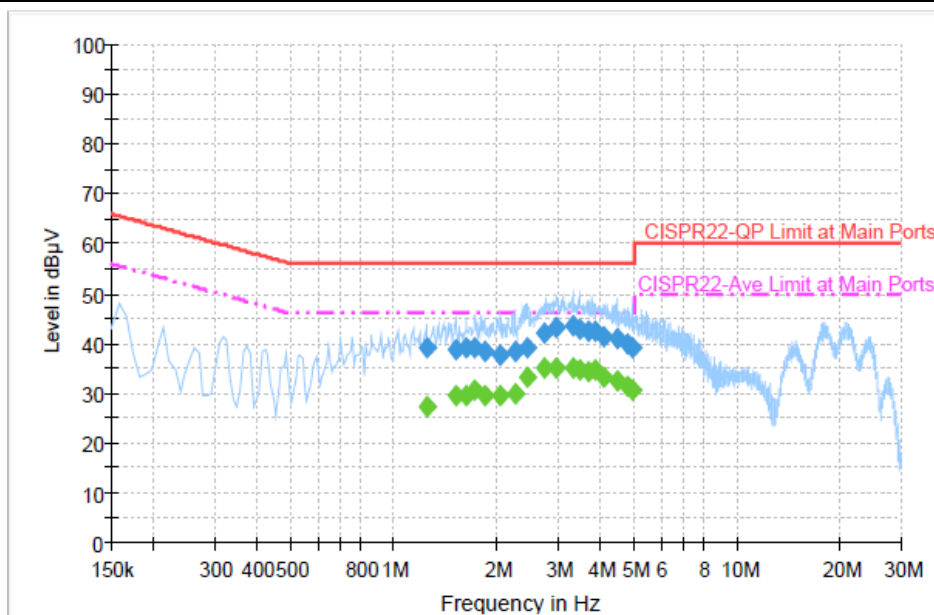
Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.886000	26.5	Off	L1	19.4	19.5	46.0
0.942000	26.2	Off	L1	19.4	19.8	46.0
1.086000	27.3	Off	L1	19.4	18.7	46.0
1.142000	27.7	Off	L1	19.4	18.3	46.0
1.246000	28.9	Off	L1	19.4	17.1	46.0
1.302000	29.0	Off	L1	19.4	17.0	46.0
1.358000	28.2	Off	L1	19.4	17.8	46.0
1.454000	29.1	Off	L1	19.4	16.9	46.0
1.558000	29.6	Off	L1	19.4	16.4	46.0
1.622000	29.8	Off	L1	19.4	16.2	46.0
1.662000	30.7	Off	L1	19.4	15.3	46.0
1.718000	30.5	Off	L1	19.4	15.5	46.0
1.870000	32.1	Off	L1	19.4	13.9	46.0
2.022000	30.3	Off	L1	19.4	15.7	46.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Average

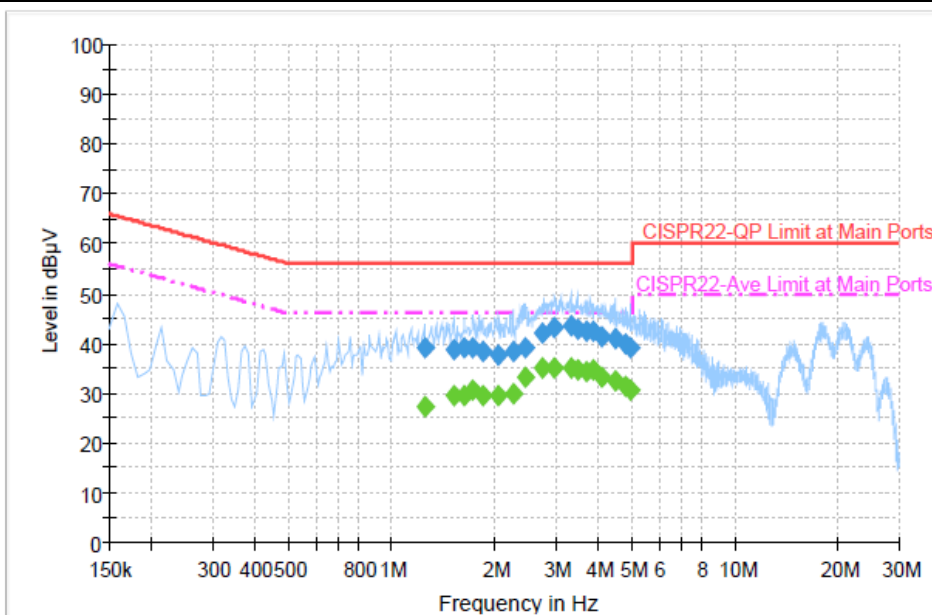
Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.190000	30.9	Off	L1	19.5	15.1	46.0
2.446000	30.7	Off	L1	19.5	15.3	46.0
2.606000	32.9	Off	L1	19.4	13.1	46.0
2.662000	34.2	Off	L1	19.4	11.8	46.0
2.806000	35.2	Off	L1	19.4	10.8	46.0
2.974000	35.8	Off	L1	19.4	10.2	46.0
3.150000	35.5	Off	L1	19.5	10.5	46.0
3.310000	35.4	Off	L1	19.5	10.6	46.0
3.486000	34.7	Off	L1	19.5	11.3	46.0
3.678000	34.6	Off	L1	19.5	11.4	46.0
3.998000	34.1	Off	L1	19.5	11.9	46.0
4.286000	33.3	Off	L1	19.5	12.7	46.0
4.598000	32.7	Off	L1	19.5	13.3	46.0
4.790000	31.3	Off	L1	19.5	14.7	46.0
4.950000	31.1	Off	L1	19.5	14.9	46.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.246000	39.2	Off	N	19.5	16.8	56.0
1.510000	38.6	Off	N	19.5	17.4	56.0
1.622000	39.0	Off	N	19.5	17.0	56.0
1.726000	39.1	Off	N	19.5	16.9	56.0
1.838000	38.5	Off	N	19.5	17.5	56.0
2.046000	37.7	Off	N	19.5	18.3	56.0
2.246000	38.4	Off	N	19.5	17.6	56.0
2.438000	39.1	Off	N	19.5	16.9	56.0
2.734000	42.0	Off	N	19.5	14.0	56.0
2.982000	43.1	Off	N	19.5	12.9	56.0
3.310000	43.5	Off	N	19.5	12.5	56.0
3.470000	43.0	Off	N	19.5	13.0	56.0
3.670000	42.5	Off	N	19.5	13.5	56.0
3.846000	42.3	Off	N	19.5	13.7	56.0
4.078000	41.5	Off	N	19.5	14.5	56.0
4.486000	40.9	Off	N	19.5	15.1	56.0
4.774000	39.8	Off	N	19.5	16.2	56.0
4.966000	39.2	Off	N	19.6	16.8	56.0

Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM1900 Idle + Bluetooth Idle + WLAN Link + MP3 + Earphone + Battery + USB Cable (Charging from Adapter) + SIM 1		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
1.246000	27.3	Off	N	19.5	18.7	46.0
1.510000	29.6	Off	N	19.5	16.4	46.0
1.622000	29.5	Off	N	19.5	16.5	46.0
1.726000	30.6	Off	N	19.5	15.4	46.0
1.838000	29.6	Off	N	19.5	16.4	46.0
2.046000	29.7	Off	N	19.5	16.3	46.0
2.246000	30.0	Off	N	19.5	16.0	46.0
2.438000	33.2	Off	N	19.5	12.8	46.0
2.734000	34.9	Off	N	19.5	11.1	46.0
2.982000	34.9	Off	N	19.5	11.1	46.0
3.310000	35.0	Off	N	19.5	11.0	46.0
3.470000	34.8	Off	N	19.5	11.2	46.0
3.670000	34.2	Off	N	19.5	11.8	46.0
3.846000	34.6	Off	N	19.5	11.4	46.0
4.078000	33.1	Off	N	19.5	12.9	46.0
4.486000	32.5	Off	N	19.5	13.5	46.0
4.774000	31.4	Off	N	19.5	14.6	46.0
4.966000	30.7	Off	N	19.6	15.3	46.0



3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. For the fixed point-to-point operation, the power shall be reduced by one dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the FCC rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Nov. 17, 2013~ Jan. 16, 2014	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Nov. 17, 2013~ Jan. 16, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Nov. 17, 2013~ Jan. 16, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Hygrometer	Testo	608-H1	34897199	N/A	May 07, 2013	Nov. 17, 2013~ Jan. 16, 2014	May 06, 2014	Conducted (TH02-HY)
RF cable	WOKEN	SMA(M)-SMA(M) for SS405 Cable Assembly	S05-130703-32	N/A	Jul. 09, 2013	Nov. 17, 2013~ Jan. 16, 2014	Jul. 08, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz – 26.5GHz	Jan. 23, 2013	Nov. 20, 2013~ Nov. 21, 2013	Jan. 22, 2014	Radiation (03CH08-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Oct. 10, 2013	Nov. 20, 2013~ Nov. 21, 2013	Oct. 09, 2014	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	000143261	1GHz~18GHz	Jan. 08, 2013	Nov. 20, 2013~ Nov. 21, 2013	Jan. 07, 2014	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz~40GHz	Oct. 03, 2013	Nov. 20, 2013~ Nov. 21, 2013	Oct. 02, 2014	Radiation (03CH08-HY)
Amplifier	SONOMA	310N	187231	9kHz~1GHz	May 15, 2013	Nov. 20, 2013~ Nov. 21, 2013	May 14, 2014	Radiation (03CH08-HY)
Preamplifier	MITEQ	AMF-7D-001018 00-30-10P	1590074	1GHz~18GHz	Jul. 09, 2013	Nov. 20, 2013~ Nov. 21, 2013	Jul. 08, 2014	Radiation (03CH08-HY)
Pre Amplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Sep. 04, 2013	Nov. 20, 2013~ Nov. 21, 2013	Sep. 03, 2014	Radiation (03CH08-HY)
Turn Table	Chaintek	Chaintek 3000	N/A	0~360 Degree	N/A	Nov. 20, 2013~ Nov. 21, 2013	N/A	Radiation (03CH08-HY)
Antenna Mast	MF	MFA520BS	N/A	1m~4m	N/A	Nov. 20, 2013~ Nov. 21, 2013	N/A	Radiation (03CH08-HY)
Low Pass Filter	Wainwright	WLKS1200-8SS	SN2	1.2G LPF	Dec. 27, 2012	Nov. 20, 2013~ Nov. 21, 2013	Dec. 26, 2013	Radiation (03CH08-HY)
Low Pass Filter	Wainwright	WLKS4500-8SS	SN19	4.5G LPF	Dec. 27, 2012	Nov. 20, 2013~ Nov. 21, 2013	Dec. 26, 2013	Radiation (03CH08-HY)
High Pass Filter	Microwave	H07G18G3	SN282388	7G HPF	Dec. 27, 2012	Nov. 20, 2013~ Nov. 21, 2013	Dec. 26, 2013	Radiation (03CH08-HY)
High Pass Filter	Microwave	H3G018G3	SN279268	3G HPF	Dec. 27, 2012	Nov. 20, 2013~ Nov. 21, 2013	Dec. 26, 2013	Radiation (03CH08-HY)
Turn Table	Chaintek	Chaintek 3000	N/A	0~360 Degree	N/A	Nov. 20, 2013~ Nov. 21, 2013	N/A	Radiation (03CH08-HY)
Antenna Mast	MF	MFA520BS	NA	1m~4m	N/A	Nov. 20, 2013~ Nov. 21, 2013	N/A	Radiation (03CH08-HY)
Hygrometer	Testo	608-H1	41410070	N/A	Jul. 18, 2013	Nov. 20, 2013~ Nov. 21, 2013	Jul. 17, 2014	Radiation (03CH08-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 MHz	Jul. 03, 2012	Nov. 20, 2013~ Nov. 21, 2013	Jul. 02, 2014	Radiation (03CH08-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9 kHz~7 GHz	Sep. 06, 2013	Nov. 13, 2013	Sep. 05, 2014	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2012	Nov. 13, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 06, 2012	Nov. 13, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000 W	N/A	N/A	N/A	Nov. 13, 2013	N/A	Conduction (CO05-HY)
Test Software	N/A	EMC32	8.40.0	N/A	N/A	Nov. 13, 2013	N/A	Conduction (CO05-HY)
Hygrometer	Testo	608-H1	34913912	N/A	Apr. 25, 2013,	Nov. 13, 2013	Apr. 24, 2014	Conduction (CO05-HY)
LF Cable	Shuner	RG-402	N/A	N/A	Oct. 17, 2013	Nov. 13, 2013	Oct. 16, 2014	Conduction (CO05-HY)

Note: Test equipment calibration is traceable to the procedure of ISO17025.

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150kHz ~ 30MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.26
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.30
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