



FCC RF Test Report

APPLICANT : MeeBoss Inc.
EQUIPMENT : MULTIMEDIA PLAYER
BRAND NAME : MeeBoss
MODEL NAME : Mee-M200
Mee-M200 Series
Mee-M200X
M200
M200 Series
M200X
Mee-M200A
Mee-M200B
Mee-M200C
Mee-M200D
FCC ID : SB5-13200R1
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Mar. 13, 2013 and completely tested on Apr. 25, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance 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
FR331332	Rev. 01	Initial issue of report	May 13, 2013

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	-
3.2	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 0.27 dB at 4821.000 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 6.60 dB at 0.478 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

MeeBoss Inc.

7F., No. 189, Gangqian Rd., Neihu Dist., Taipei City 11494, Taiwan, R.O.C

1.2 Manufacturer

MeeBoss Inc.

7F., No. 189, Gangqian Rd., Neihu Dist., Taipei City 11494, Taiwan, R.O.C

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	MULTIMEDIA PLAYER
Brand Name	MeeBoss
Model Name	Mee-M200 Mee-M200 Series Mee-M200X M200 M200 Series M200X Mee-M200A Mee-M200B Mee-M200C Mee-M200D
FCC ID	SB5-13200R1
EUT supports Radios application	WLAN 11bgn
EUT Stage	Production Unit

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	2412 MHz ~ 2462 MHz
Maximum Output Power to Antenna	802.11b : 5.50 dBm (0.0035 W) 802.11g : 9.45 dBm (0.0088 W) 802.11n HT20 : 9.77 dBm (0.0095 W) 802.11n HT40 : 9.36 dBm (0.0086 W)
Antenna Type	PCB Antenna type with gain 1.00 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 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	03CH06-HY	722060/4086B-1

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

1.6 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 v02
- ♦ ANSI C63.10-2009

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.

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		

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and antenna configurations as following table and the highest power data rates were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	5.50	5.38	5.30	5.34

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)	9.45	8.87	8.60	8.43	9.36	9.00	9.33	9.37

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	9.77	9.44	9.39	8.73	8.71	9.37	9.46	9.75

2.4GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	9.36	9.25	9.01	9.17	9.33	9.35	9.31	9.34

2.3 Test Mode

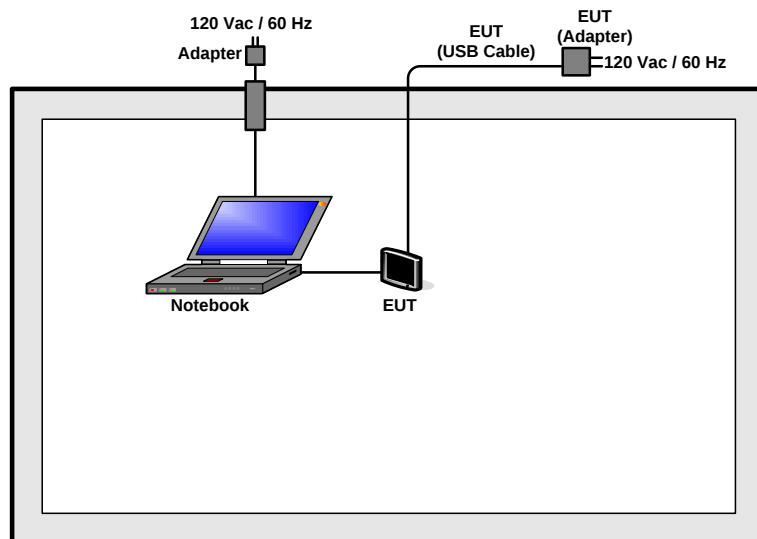
Final results of test modes, data rates and test channels are shown as following table.

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	6.5 Mbps	1/11
		802.11n HT40	13.5 Mbps	3/9
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	6.5 Mbps	1/11
		802.11n HT40	13.5 Mbps	3/9
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
		802.11n HT40	13.5 Mbps	3/6/9

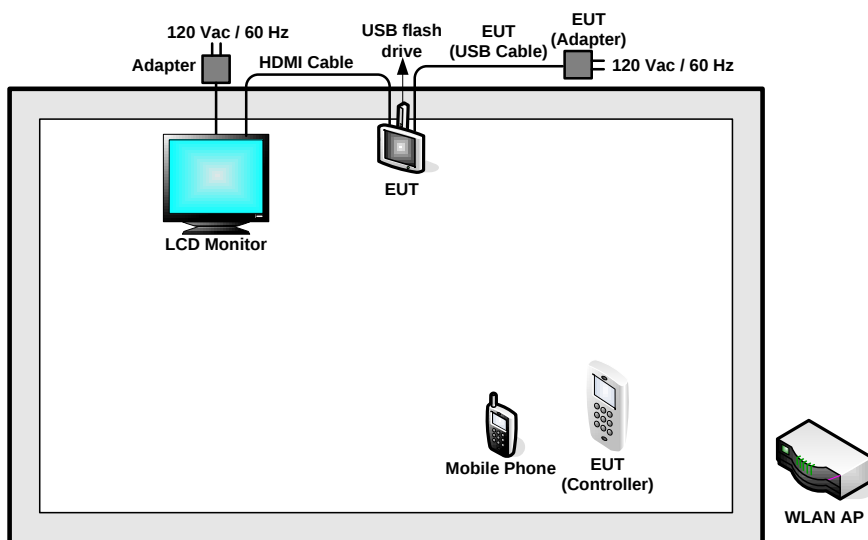
Test Cases	
AC Conducted Emission	Mode 1 : WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
4.	USB flash drive	Transcend	TS8GGJF300	FCC DoC	N/A	N/A
5.	Mobile Phone	HTC	Incredible	NM8PB31200	N/A	N/A

2.6 Description of RF Function Operation Test Setup

For WLAN function, programmed RF utility, "RT5x7xQA.exe" installed in the notebook make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.

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.

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.

Example :

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

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

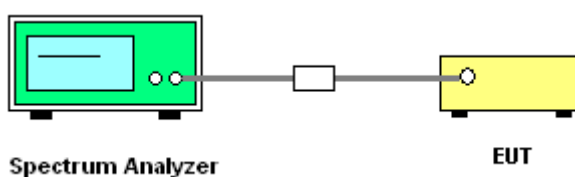
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v02.
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. 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.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	12.12	0.5	Pass
06	2437	12.08	0.5	Pass
11	2462	12.08	0.5	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.40	0.5	Pass
06	2437	16.28	0.5	Pass
11	2462	16.16	0.5	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

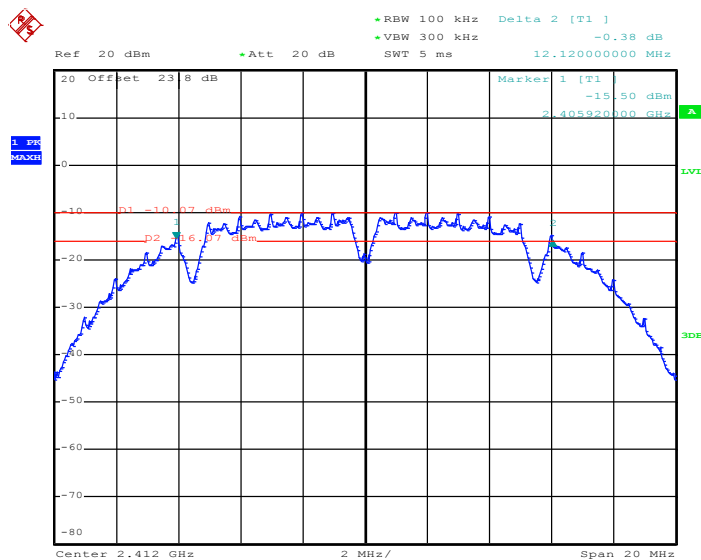
Channel	Frequency (MHz)	2.4GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.88	0.5	Pass
06	2437	16.92	0.5	Pass
11	2462	16.92	0.5	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
03	2422	35.16	0.5	Pass
06	2437	35.16	0.5	Pass
09	2452	35.12	0.5	Pass

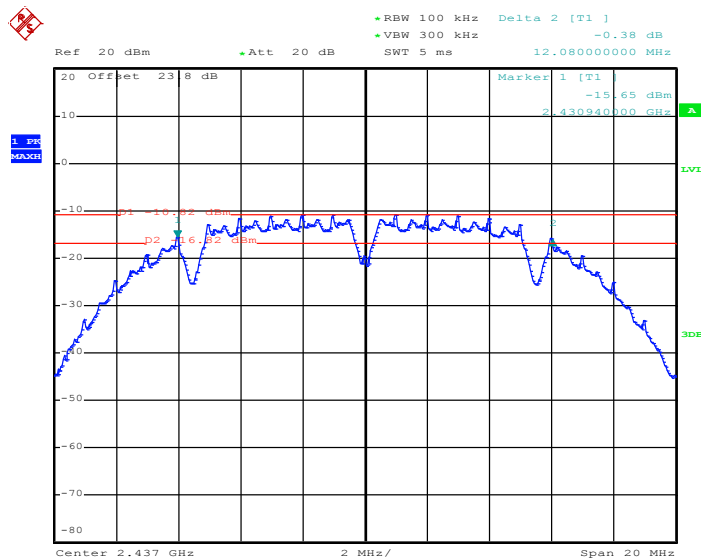
3.1.6 Test Result of 6dB Bandwidth Plots

6 dB Bandwidth Plot on 802.11b Channel 01



Date: 9.APR.2013 23:56:09

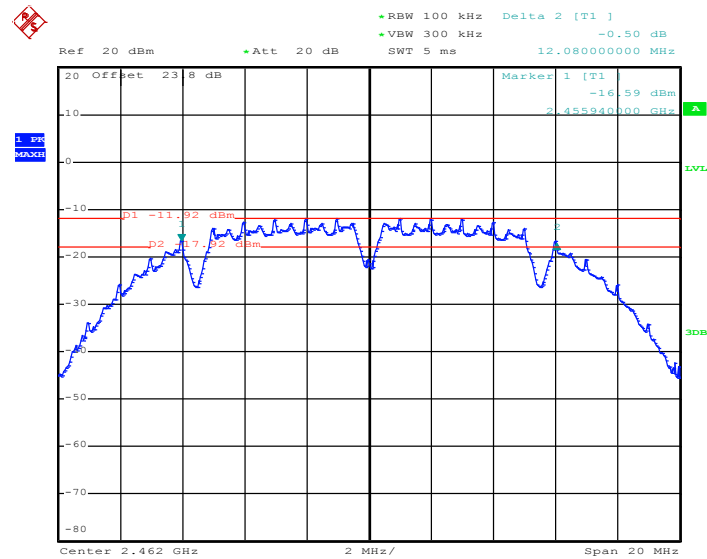
6 dB Bandwidth Plot on 802.11b Channel 06



Date: 10.APR.2013 00:01:47

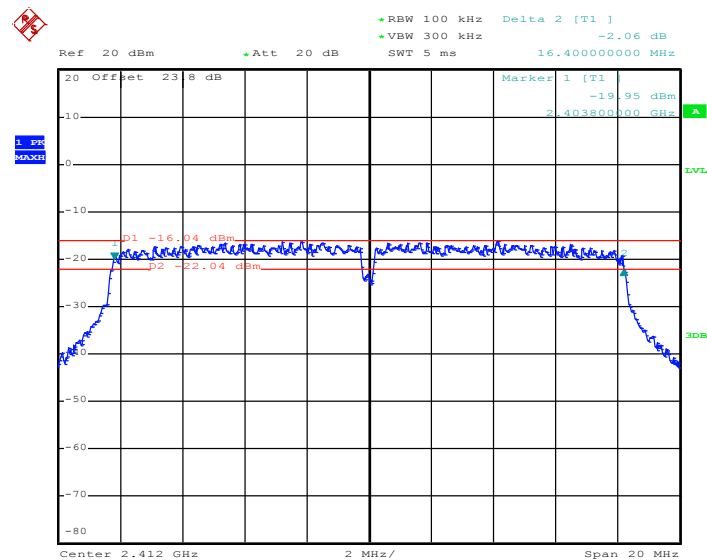


6 dB Bandwidth Plot on 802.11b Channel 11



Date: 10.APR.2013 00:05:54

6 dB Bandwidth Plot on 802.11g Channel 01



Date: 10.APR.2013 00:09:58



• RBW 100 kHz Delta 2 [T1]
 • VBW 300 kHz -0.06 dB
 • Att 20 dB
 • SWT 5 ms 16.28000000 MHz

20 Offset 23 8 dB
 10
 -10
 0
 -10
 -20
 -30
 -40
 -50
 -60
 -70
 -80

Marker 1 [T1]
 -19.29 dBm
 2.428840000 GHz

1 Pk
 0.000000000

D1 -14 dBm

1 2

3dB

Center 2.437 GHz 2 MHz/ Span 20 MHz

Date: 10.APR.2013 00:13:20

• RBW 100 kHz Delta 2 [T1]
 • VBW 300 kHz 0.66 dB
 • Att 20 dB 16.16000000 MHz
 • SWT 5 ms

Ref 20 dBm 23 dB

Marker 1 [T1]
 -20.71 dBm
 2.453960000 GHz

1. Power
 0.000000000

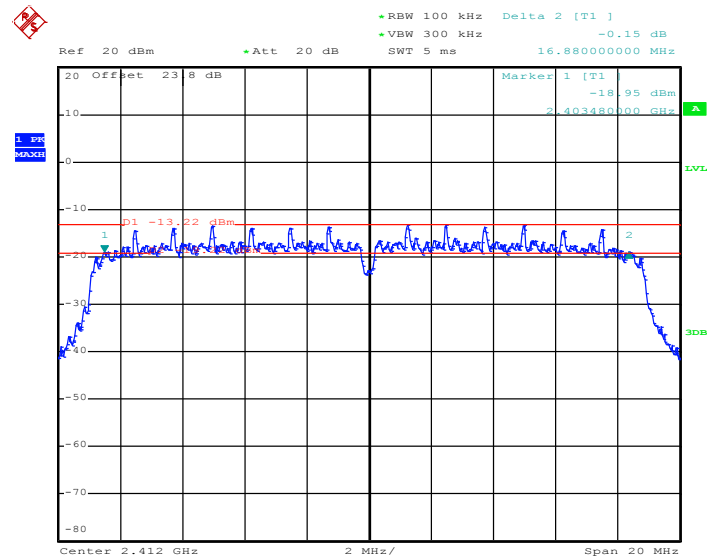
01 -14.73 dBm

Center 2.462 GHz 2 MHz/ Span 20 MHz

Date: 10.APR.2013 00:17:59

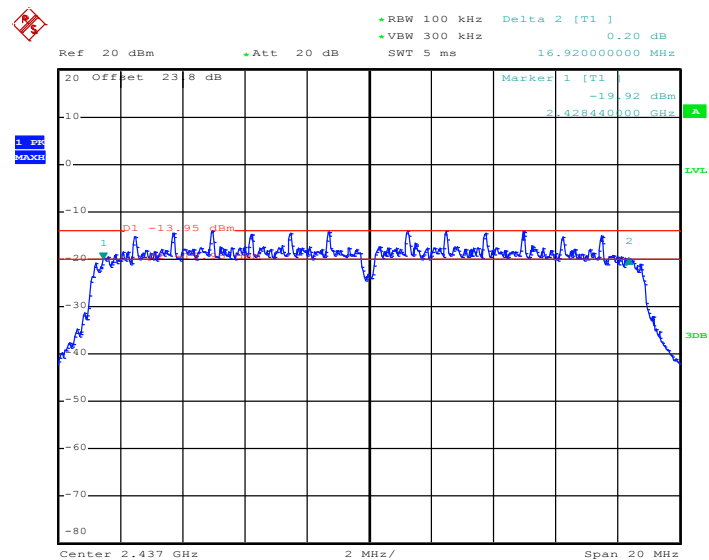


6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 10.APR.2013 00:23:04

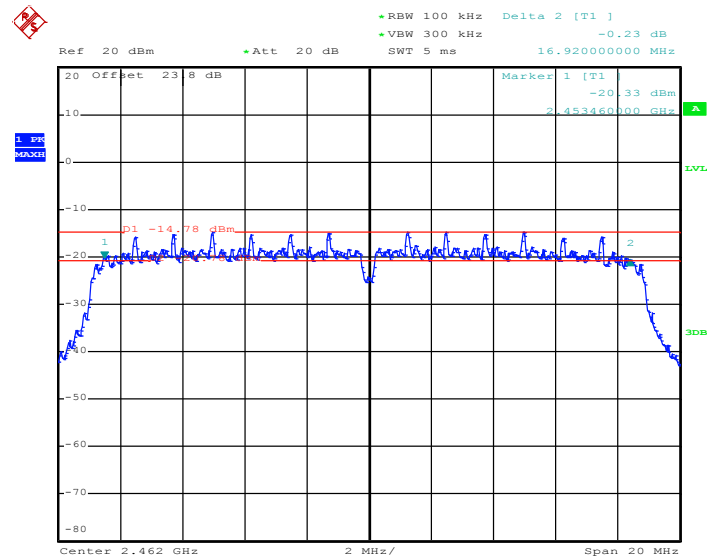
6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06



Date: 10.APR.2013 00:29:34

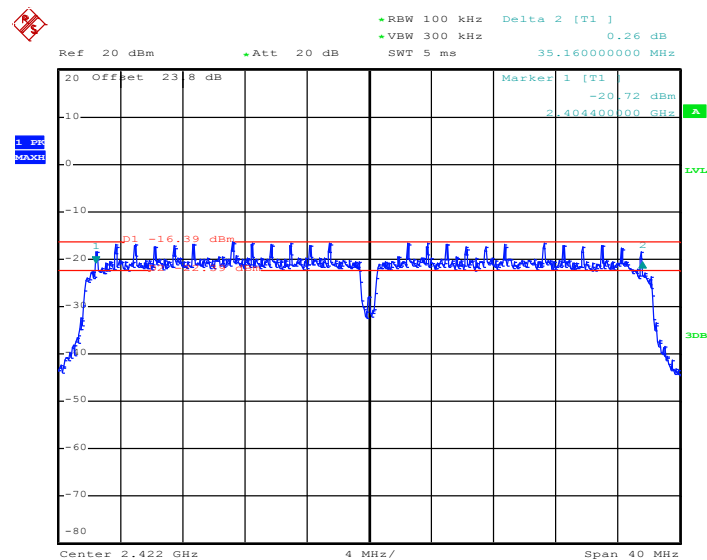


6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 10.APR.2013 00:34:00

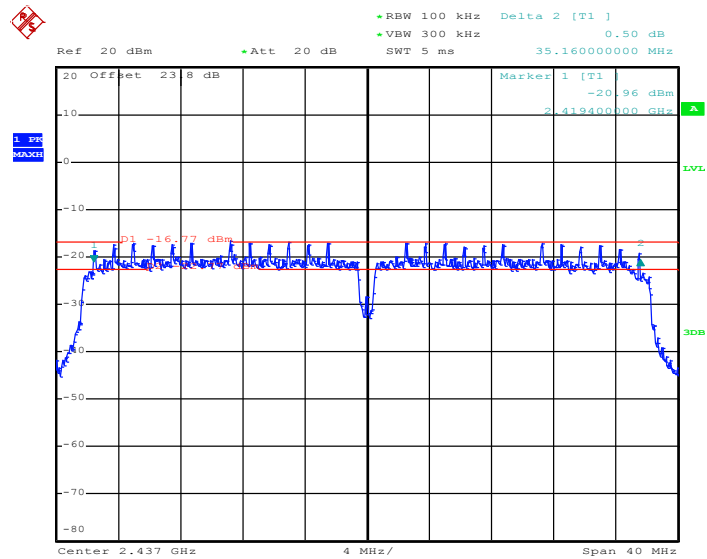
6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 03



Date: 10.APR.2013 00:39:14

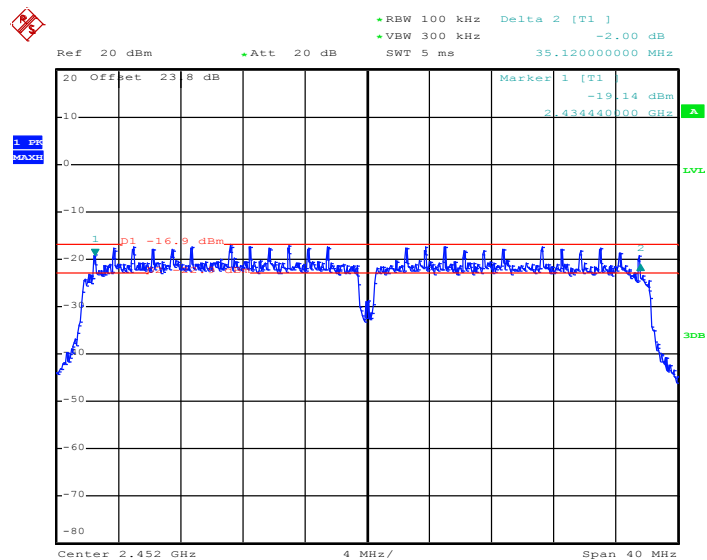


6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 06



Date: 10.APR.2013 00:44:46

6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 09



Date: 10.APR.2013 00:48:10

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, 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.

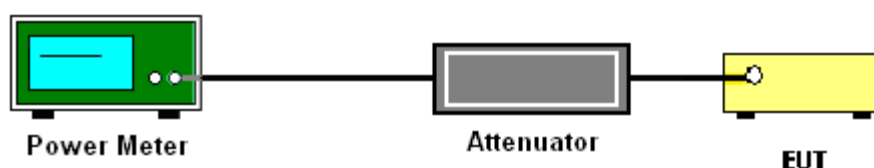
3.2.2 Measuring Instruments

See list of measuring instruments 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 v02.
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 :	802.11b	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	5.50	30	Pass
06	2437	4.85	30	Pass
11	2462	4.36	30	Pass

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	9.45	30	Pass
06	2437	8.97	30	Pass
11	2462	8.75	30	Pass

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	9.77	30	Pass
06	2437	9.00	30	Pass
11	2462	8.75	30	Pass

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
03	2422	9.36	30	Pass
06	2437	8.78	30	Pass
09	2452	8.25	30	Pass

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%
Duty Cycle:	100.00%	Duty Factor:	0.00dB

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
01	2412	2.83
06	2437	1.70
11	2462	1.15

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%
Duty Cycle:	100.00%	Duty Factor:	0.00dB

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
01	2412	-0.67
06	2437	-0.90
11	2462	-1.33

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%
Duty Cycle:	100.00%	Duty Factor:	0.00dB

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Average Output Power (dBm)
01	2412	-0.36
06	2437	-0.58
11	2462	-0.73

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%
Duty Cycle:	100.00%	Duty Factor:	0.00dB

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Average Output Power (dBm)
03	2422	0.36
06	2437	-0.43
09	2452	-0.48

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.

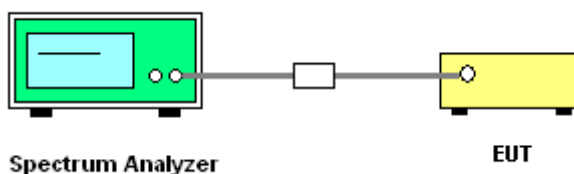
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 9.1 Option 1 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v02
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.
7. The Measured power density (dBm)/ 100KHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11b	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm/3kHz)	Pass/Fail
		PSD/100kHz (dBm)	PSD/3kHz (dBm)		
01	2412	-10.31	-28.30	8	Pass
06	2437	-11.14	-29.24	8	Pass
11	2462	-12.14	-30.19	8	Pass

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm/3kHz)	Pass/Fail
		PSD/100kHz (dBm)	PSD/3kHz (dBm)		
01	2412	-16.37	-30.81	8	Pass
06	2437	-14.14	-29.62	8	Pass
11	2462	-14.90	-30.69	8	Pass

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Power Density		Max. Limits (dBm/3kHz)	Pass/Fail
		PSD/100kHz (dBm)	PSD/3kHz (dBm)		
01	2412	-13.60	-29.01	8	Pass
06	2437	-14.26	-29.29	8	Pass
11	2462	-15.26	-29.57	8	Pass



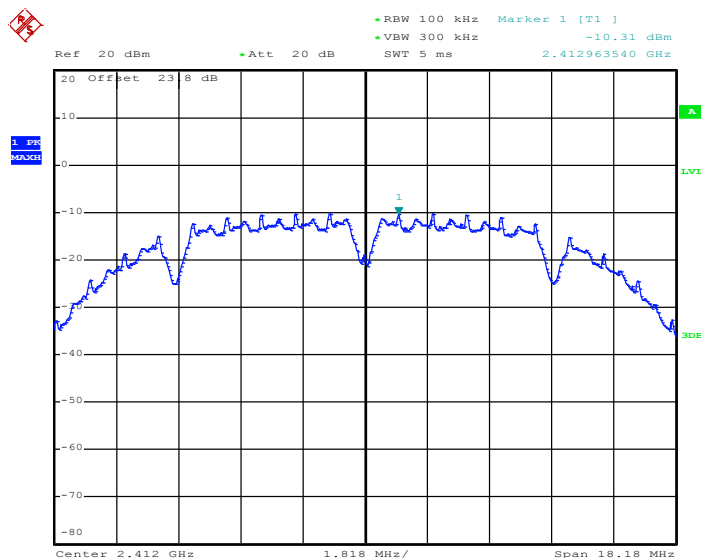
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Ken Wu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Power Density		Max. Limits (dBm/3kHz)	Pass/Fail
		PSD/100kHz (dBm)	PSD/3kHz (dBm)		
03	2422	-16.58	-32.48	8	Pass
06	2437	-16.96	-31.65	8	Pass
09	2452	-17.38	-32.04	8	Pass

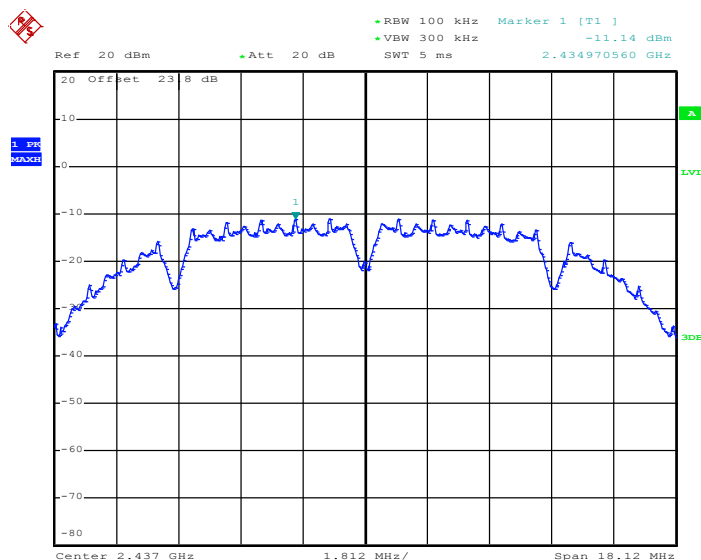
Note:

1. Measured power density (dBm) has offset with cable loss.
2. The Measured power density (dBm)/ 100kHz is reference level and used as 20dBc down for Conducted Band Edges and Conducted Spurious Emission limit line.

3.3.6 Test Result of Power Spectral Density Plots (100kHz)

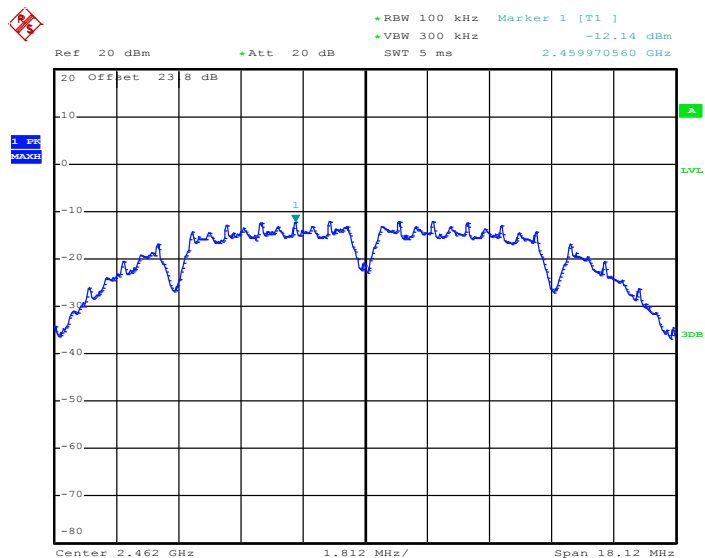
PSD 100kHz Plot on 802.11b Channel 01


Date: 9.APR.2013 23:58:11

PSD 100kHz Plot on 802.11b Channel 06


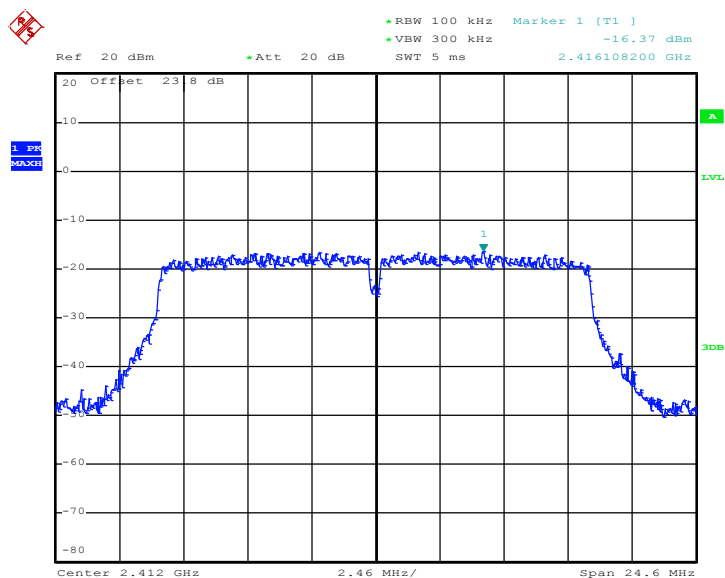
Date: 10.APR.2013 00:02:41

PSD 100kHz Plot on 802.11b Channel 11



Date: 10.APR.2013 00:06:35

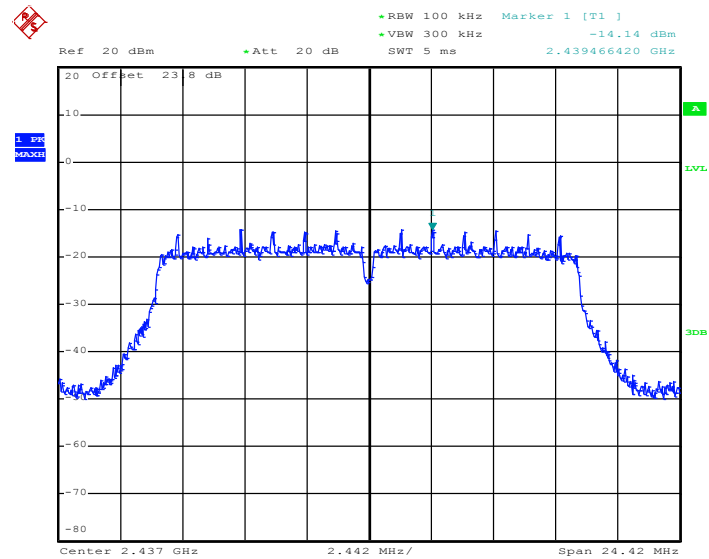
PSD 100kHz Plot on 802.11g Channel 01



Date: 10.APR.2013 00:10:29

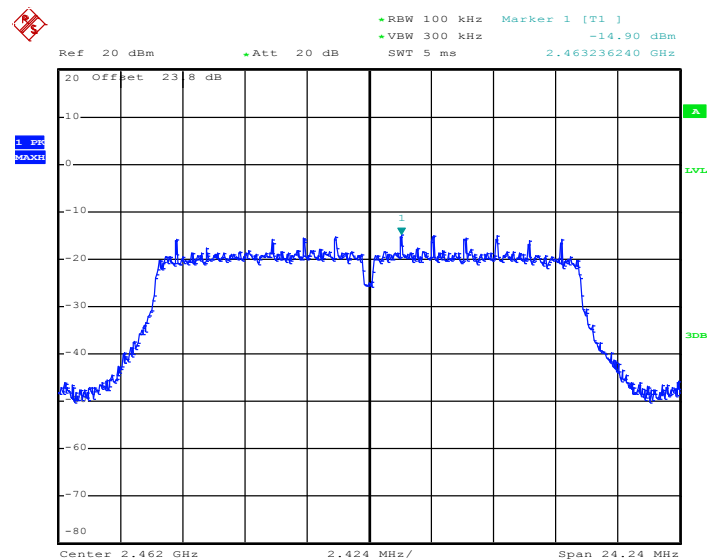


PSD 100kHz Plot 802.11g Channel 06



Date: 10.APR.2013 00:13:51

PSD 100kHz Plot 802.11g Channel 11



Date: 10.APR.2013 00:18:29



Ref 20 dBm Att 20 dB RBW 100 kHz VBW 300 kHz SWT 5 ms Marker 1 [T1] -13.60 dBm 2.41456040 GHz

20 Offset 238 dB

1. Freq 20.000

Center 2.412 GHz 2.532 MHz/ Span 25.32 MHz

Date: 10.APR.2013 00:23:35

Ref 20 dBm Att 20 dB RBW 100 kHz VBW 300 kHz Marker 1 [T1] -14.26 dBm
 SWT 5 ms 2.439461860 GHz

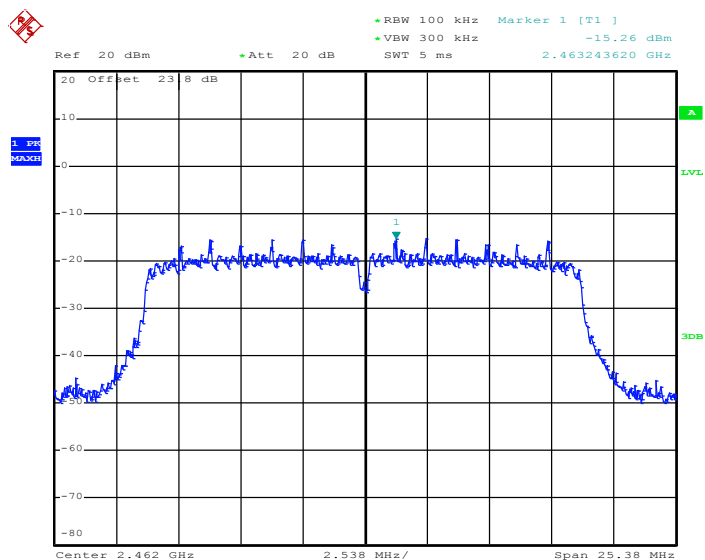
20 Offset 23 8 dB

1. P3
 MAX301

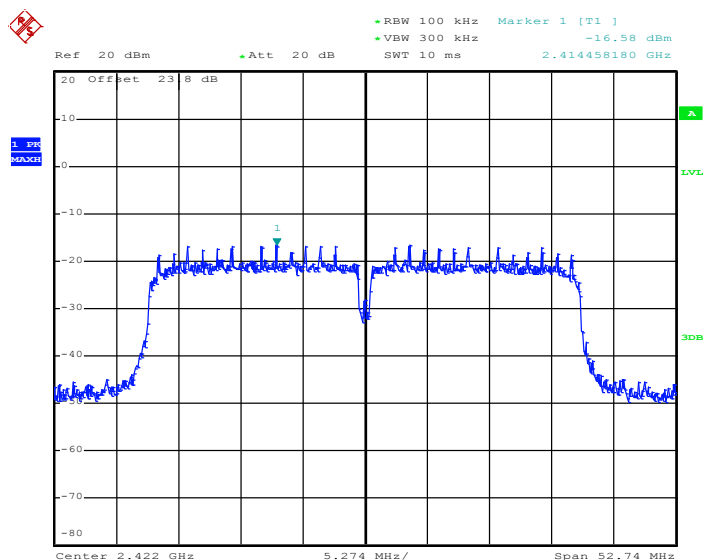
10
 -10
 -20
 -30
 -40
 -50
 -60
 -70
 -80

Center 2.437 GHz 2.538 MHz/ Span 25.38 MHz

Date: 10.APR.2013 00:30:05

PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 11


Date: 10.APR.2013 00:34:31

PSD 100kHz Plot on 2.4GHz 802.11n HT40 Channel 03


Date: 10.APR.2013 00:39:49



The screenshot displays a spectrum analyzer interface. At the top, a red and white logo is visible. The main display area shows a blue trace of a signal with a prominent notch at 5.274 MHz. The y-axis represents power in dBm, ranging from -80 to 20. The x-axis represents frequency in GHz, ranging from 2.437 to 2.452. A green cursor is positioned at the notch, labeled '1'. The signal level is approximately -16.96 dBm. The bandwidth (VBW) is set to 300 kHz, and the resolution bandwidth (RBW) is 100 kHz. The span is 52.74 MHz, and the center frequency is 2.437 GHz. The marker is labeled 'Marker 1 [T1]'.

Ref 20 dBm Att 20 dB RBW 100 kHz VBW 300 kHz Marker 1 [T1] -16.96 dBm
 2.434468480 GHz

20 Offset 23.8 dB

1. Peak
 5.274 MHz

Center 2.437 GHz 5.274 MHz/ Span 52.74 MHz

Date: 10.APR.2013 00:45:21

Ref 20 dBm Att 20 dB RBW 100 kHz VBW 300 kHz SWT 10 ms

Marker 1 [T1] -17.38 dBm 2.443255120 GHz

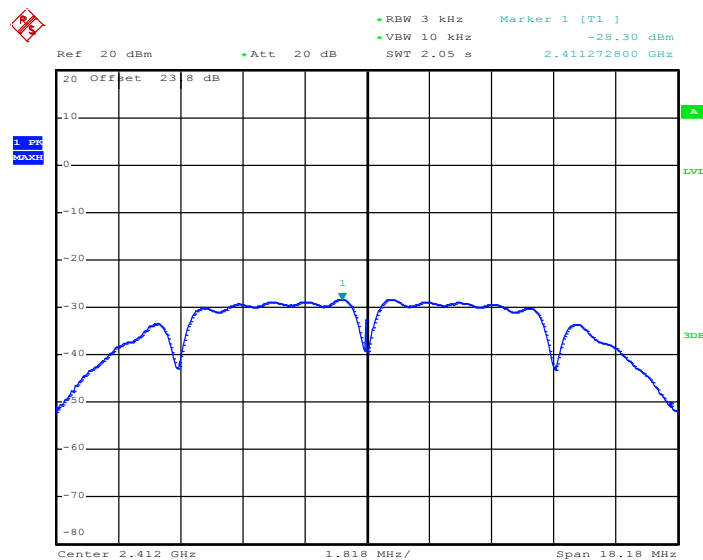
1. Power Spectral Density

Center 2.452 GHz Span 52.68 MHz

Date: 10.APR.2013 00:48:44

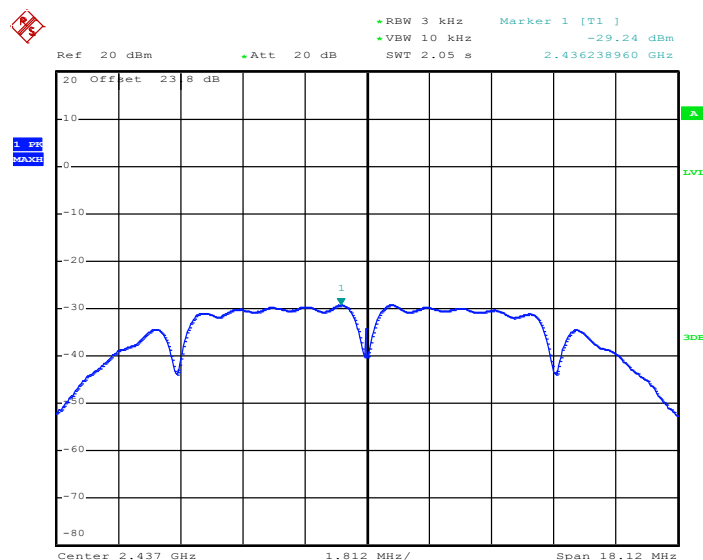
3.3.7 Test Result of Power Spectral Density Plots (3kHz)

PSD 3kHz Plot on 802.11b Channel 01

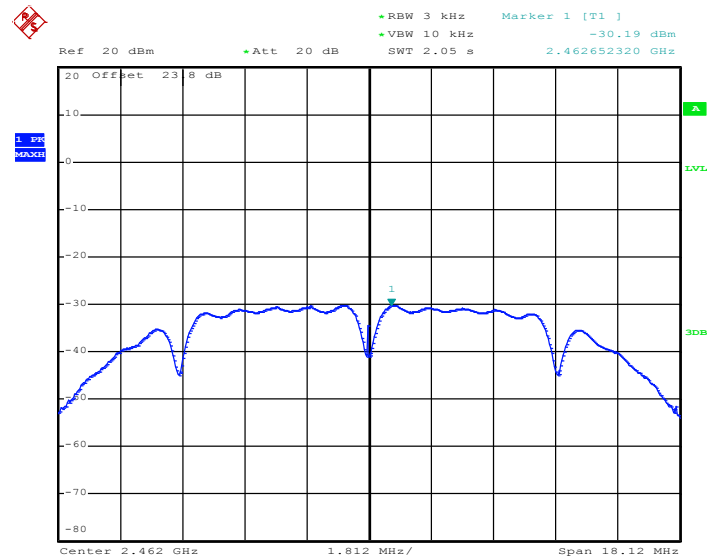


Date: 9.APR.2013 23:57:45

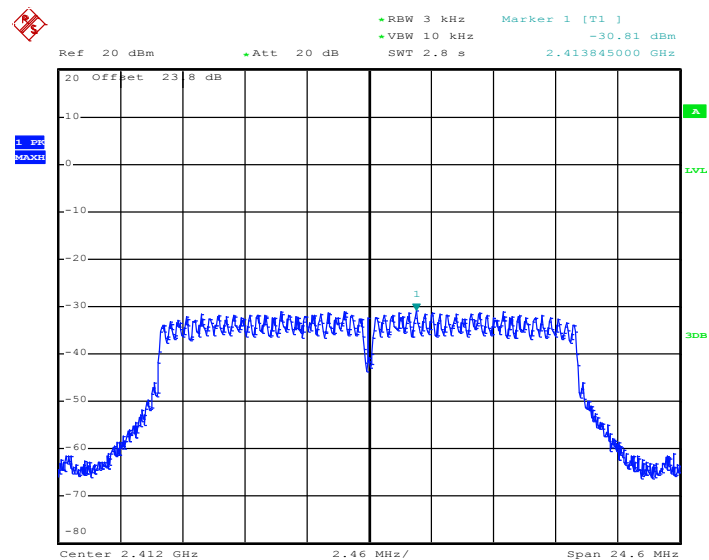
PSD 3kHz Plot on 802.11b Channel 06



Date: 10.APR.2013 00:02:27

PSD 3kHz Plot on 802.11b Channel 11


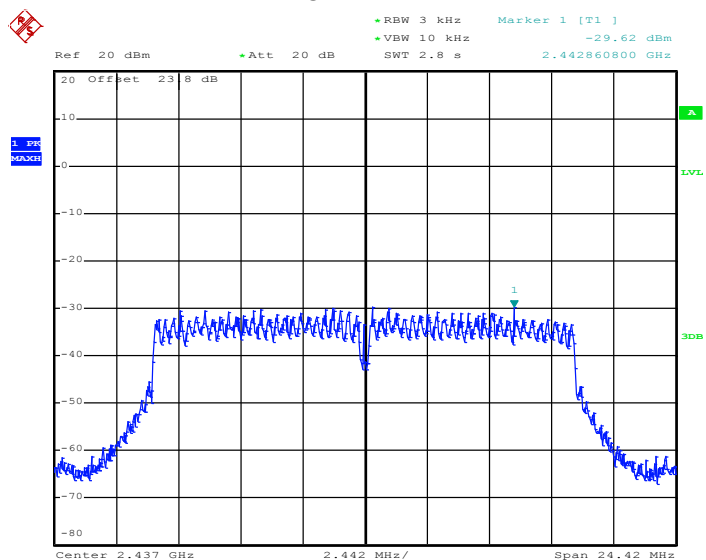
Date: 10.APR.2013 00:06:26

PSD 3kHz Plot on 802.11g Channel 01


Date: 10.APR.2013 00:10:21

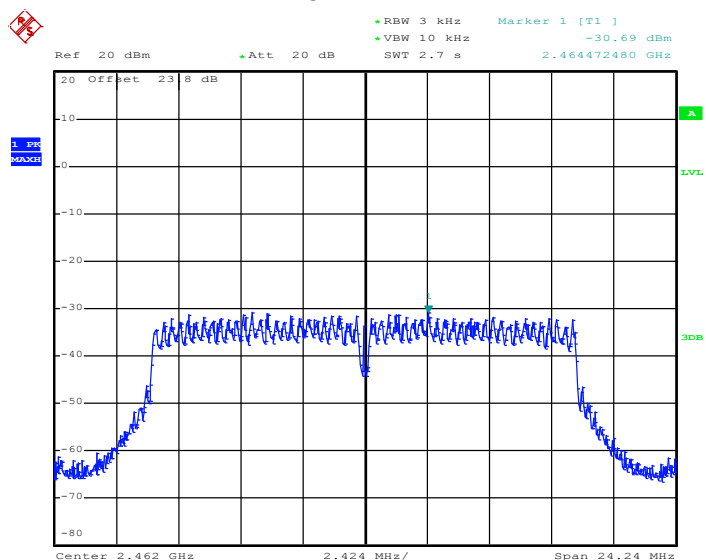


PSD 3kHz Plot on 802.11g Channel 06

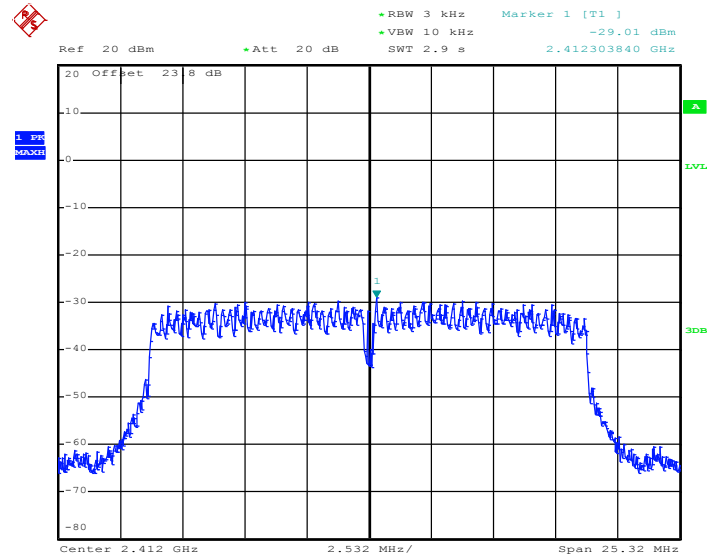


Date: 10.APR.2013 00:13:42

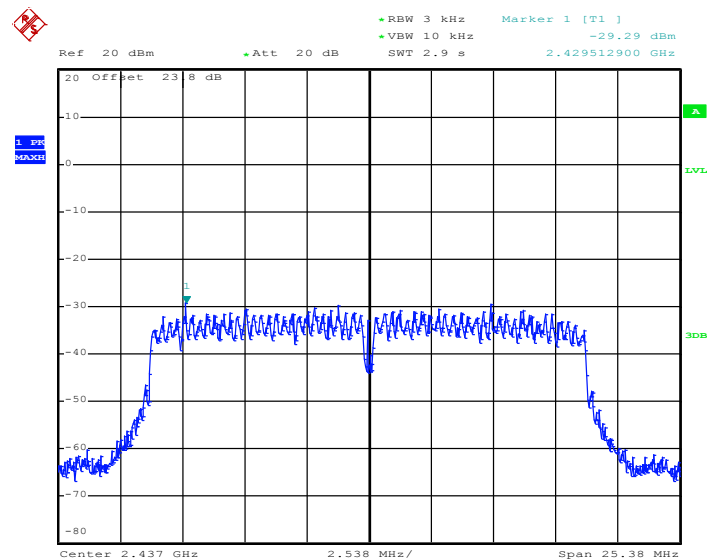
PSD 3kHz Plot on 802.11g Channel 11



Date: 10.APR.2013 00:18:21

PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 01


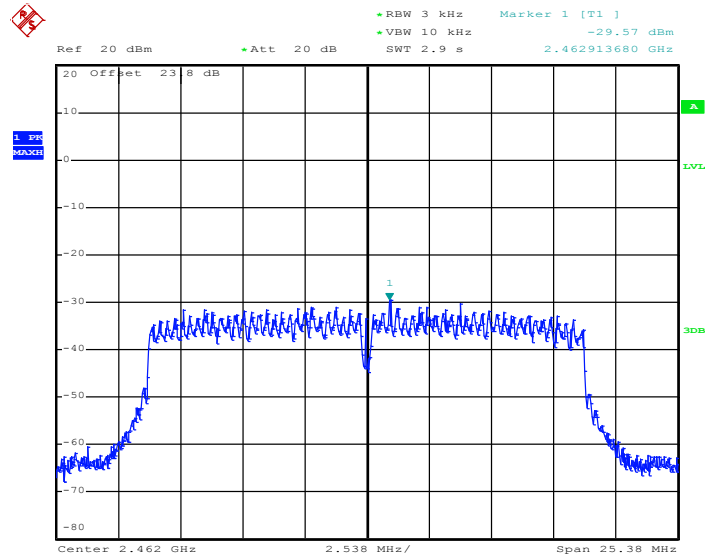
Date: 10.APR.2013 00:23:26

PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 06


Date: 10.APR.2013 00:29:56

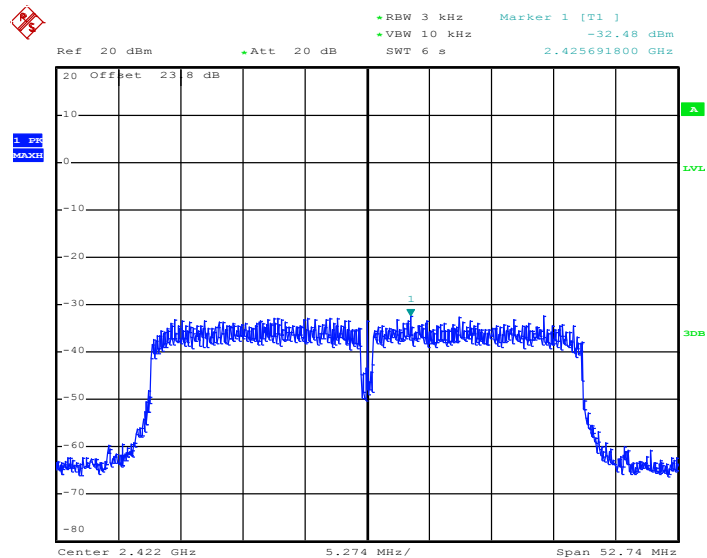


PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 10.APR.2013 00:34:22

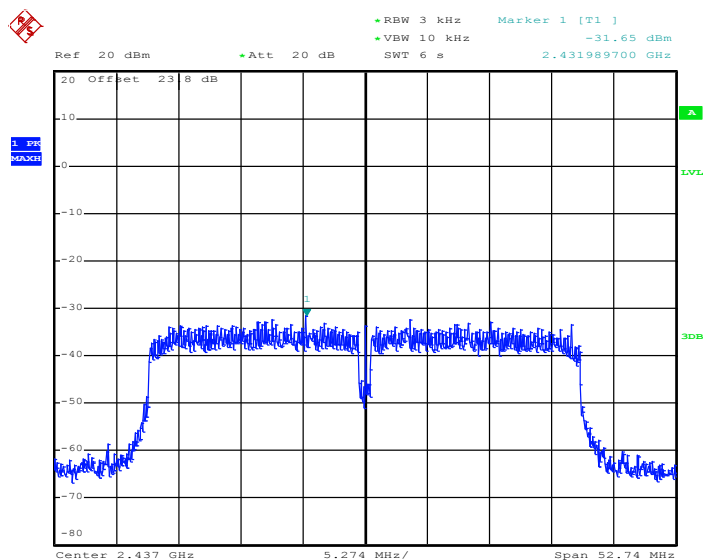
PSD 3kHz Plot on 2.4GHz 802.11n HT40 Channel 03



Date: 10.APR.2013 00:39:40

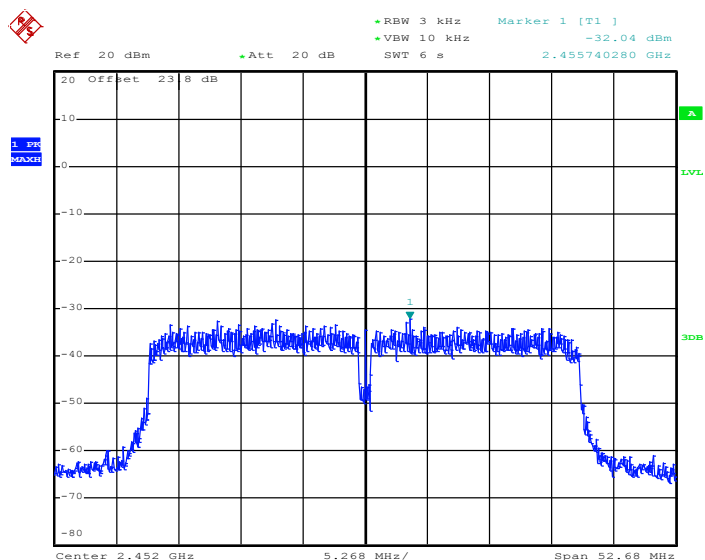


PSD 3kHz Plot on 2.4GHz 802.11n HT40 Channel 06



Date: 10.APR.2013 00:45:12

PSD 3kHz Plot on 2.4GHz 802.11n HT40 Channel 09



Date: 10.APR.2013 00:48:35

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).

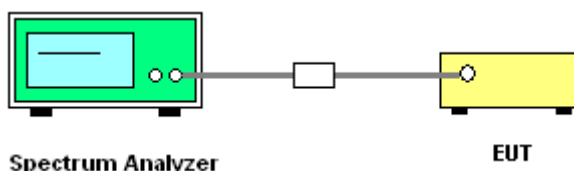
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v02.
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.

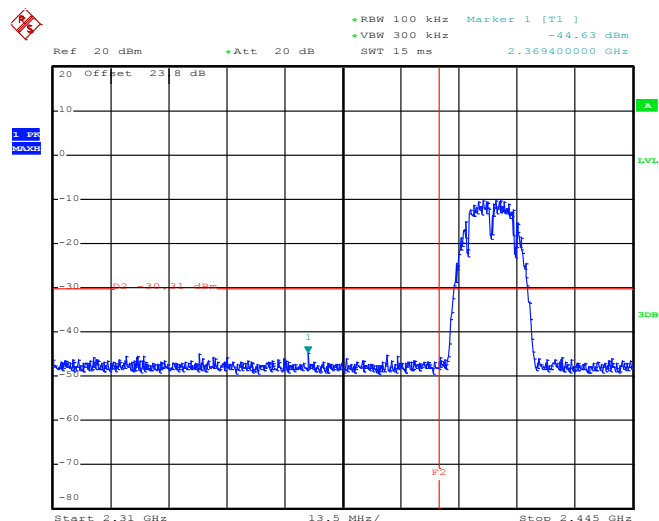
3.4.4 Test Setup



3.4.5 Test Result of Conducted Spurious at Band Edges

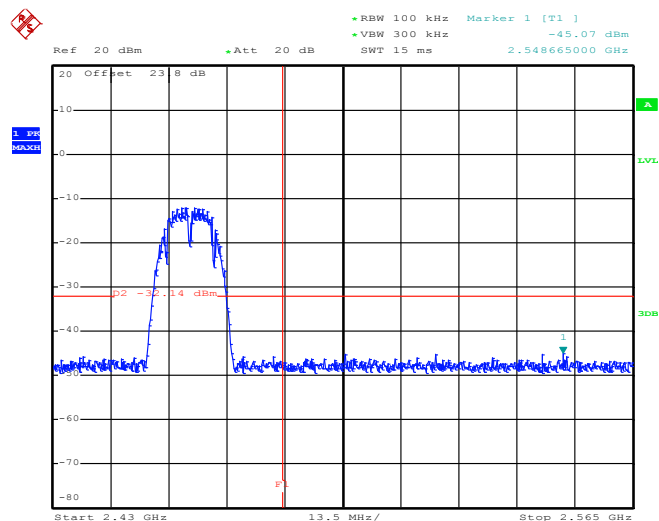
Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Ken Wu

Low Band Edge Plot on 802.11b Channel 01



Date: 9.APR.2013 23:58:40

High Band Edge Plot on 802.11b Channel 11

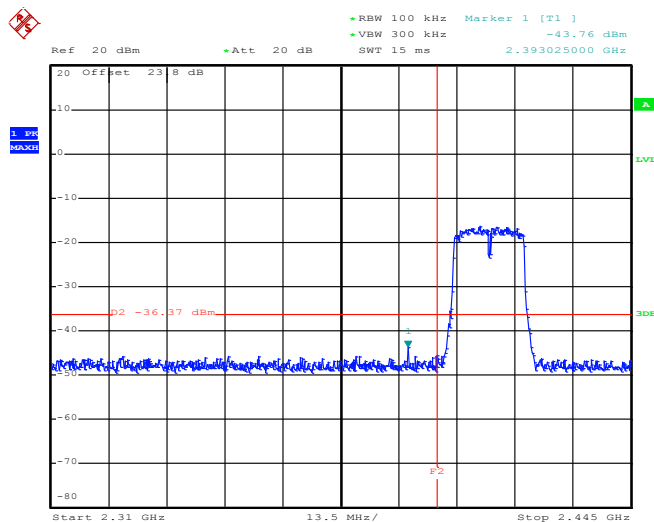


Date: 10.APR.2013 00:06:49



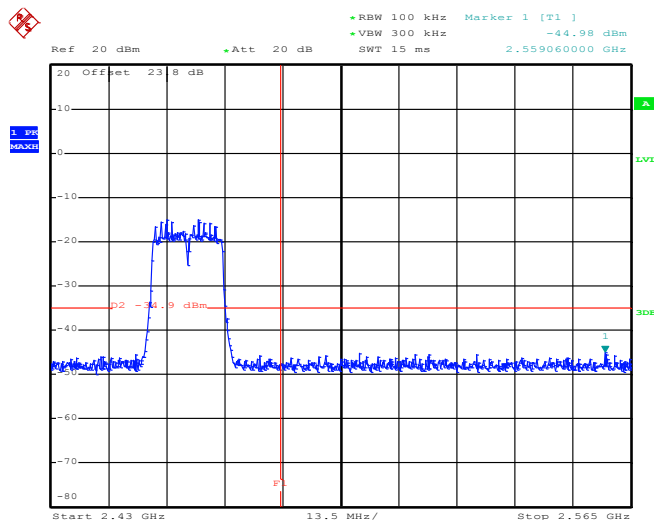
Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Ken Wu

Low Band Edge Plot on 802.11g Channel 01



Date: 10.APR.2013 00:10:43

High Band Edge Plot on 802.11g Channel 11

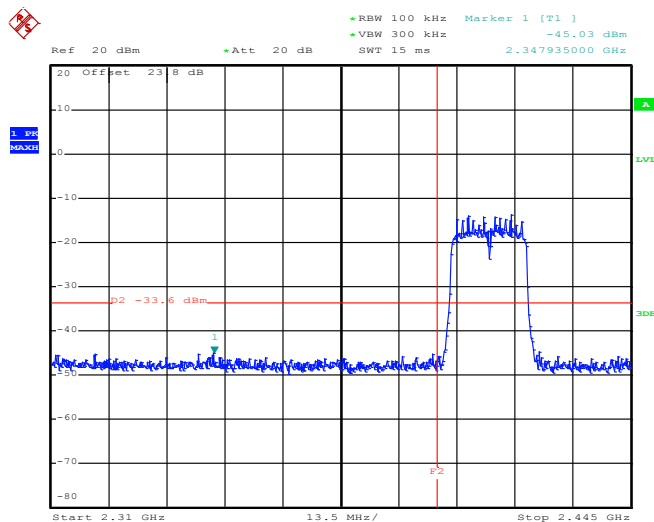


Date: 10.APR.2013 00:18:43



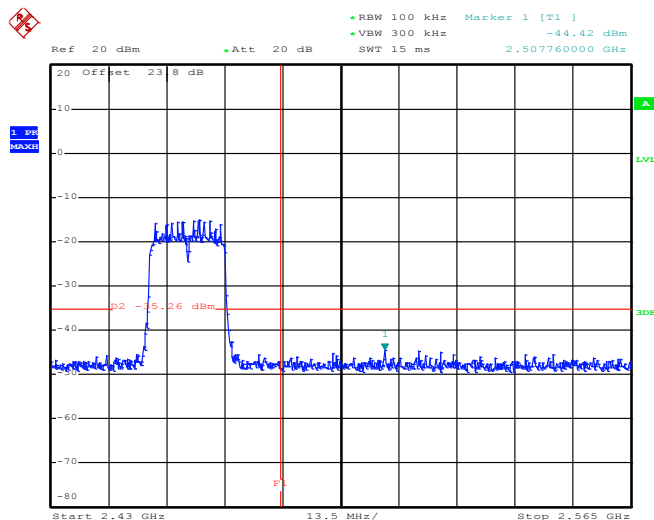
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Ken Wu

Low Band Edge Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 10.APR.2013 00:26:18

High Band Edge Plot on 2.4GHz 802.11n HT20 Channel 11

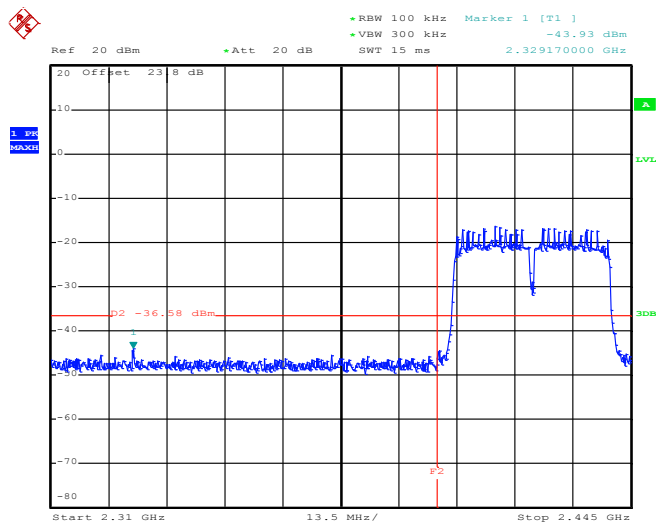


Date: 10.APR.2013 00:34:44



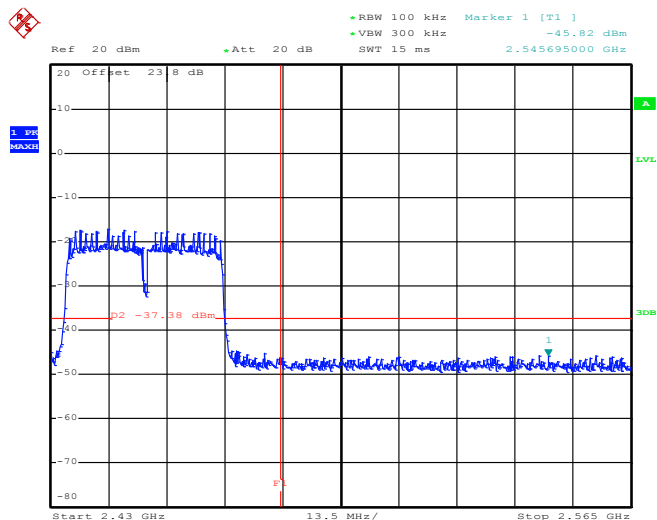
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	03 and 09	Test Engineer :	Ken Wu

Low Band Edge Plot on 2.4GHz 802.11n HT40 Channel 03



Date: 10.APR.2013 00:41:52

High Band Edge Plot on 2.4GHz 802.11n HT40 Channel 09



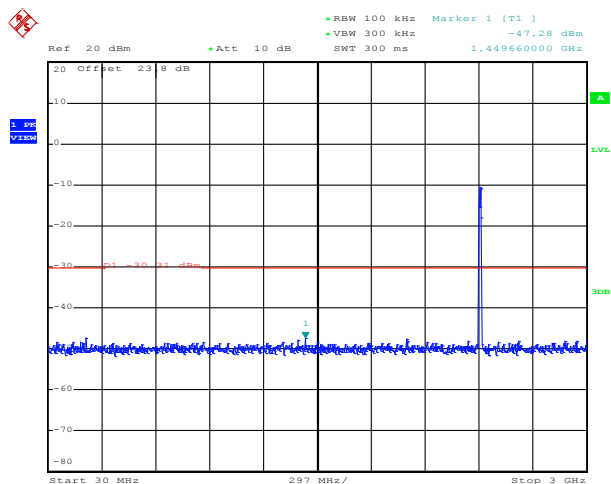
Date: 10.APR.2013 00:48:58

3.4.6 Test Result of Conducted Spurious Emission

Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Ken Wu

802.11b 30 MHz~3 GHz

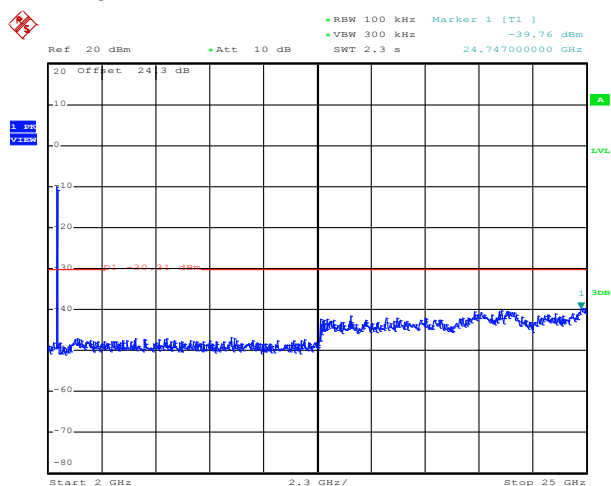
Conducted Spurious Emission Plot on Channel 01



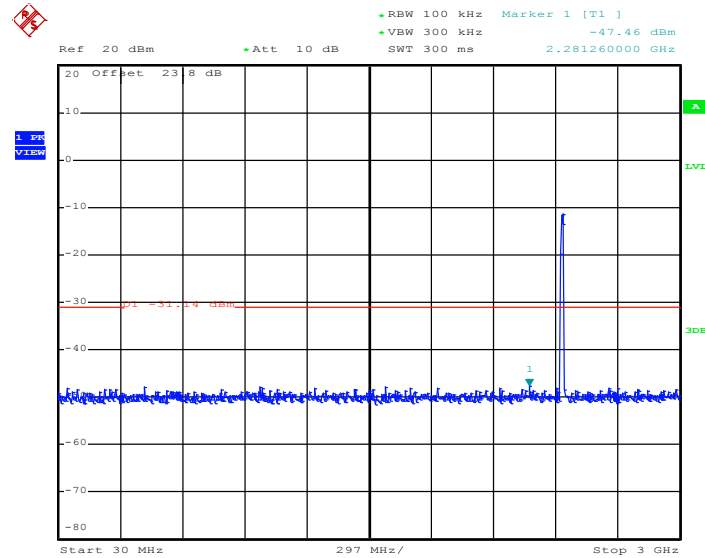
Date: 9.APR.2013 23:59:13

802.11b 2 GHz~25 GHz

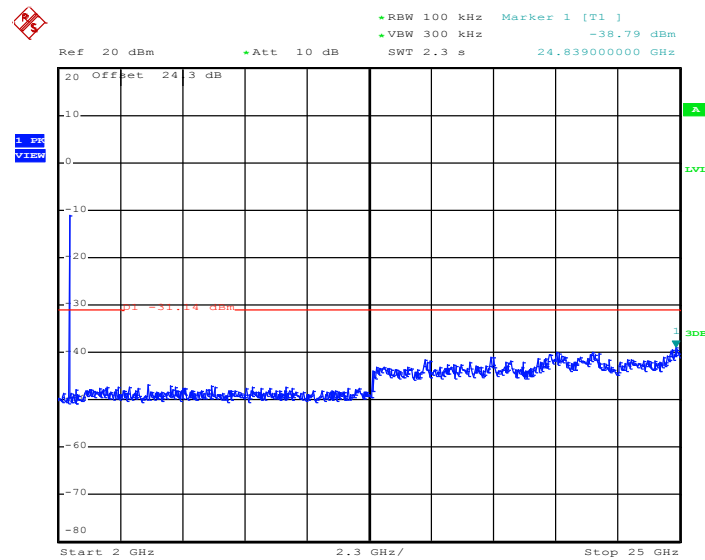
Conducted Spurious Emission Plot on Channel 01



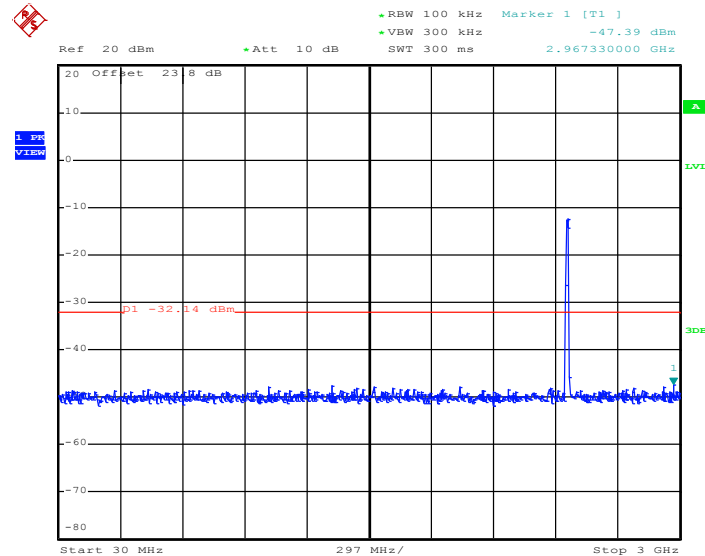
Date: 9.APR.2013 23:59:32

802.11b 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


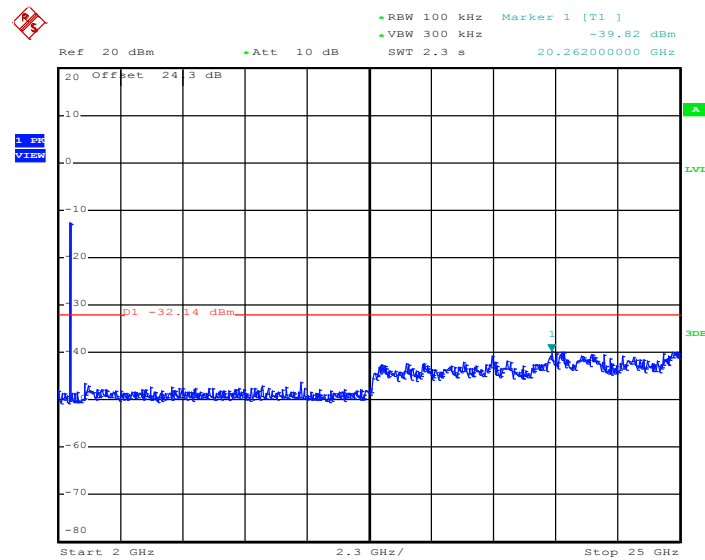
Date: 10.APR.2013 00:03:21

802.11b 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


Date: 10.APR.2013 00:03:39

802.11b 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 11


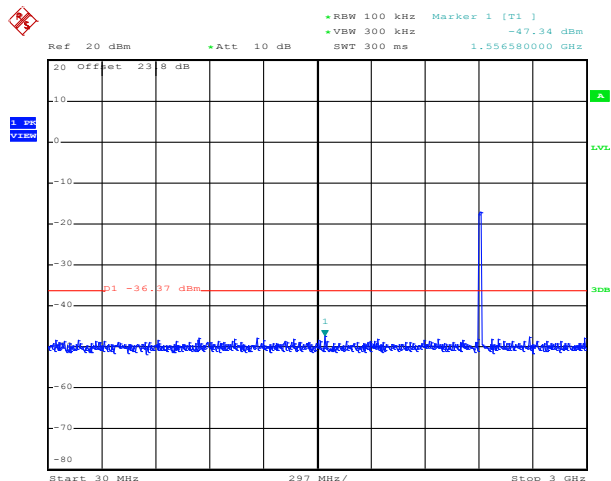
Date: 10.APR.2013 00:07:08

802.11b 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 11


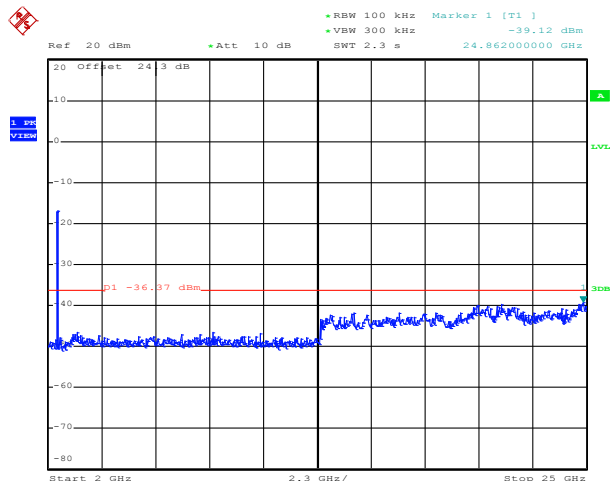
Date: 10.APR.2013 00:07:27



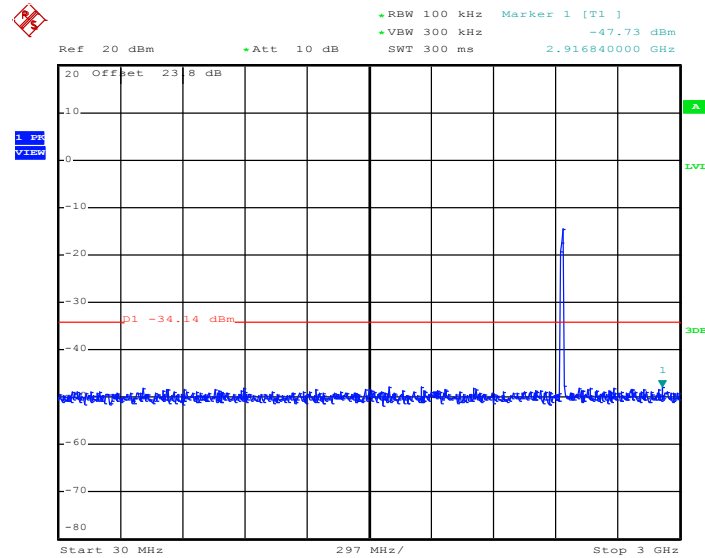
Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Ken Wu

802.11g 30 MHz~3 GHz**Conducted Spurious Emission Plot on Channel 01**

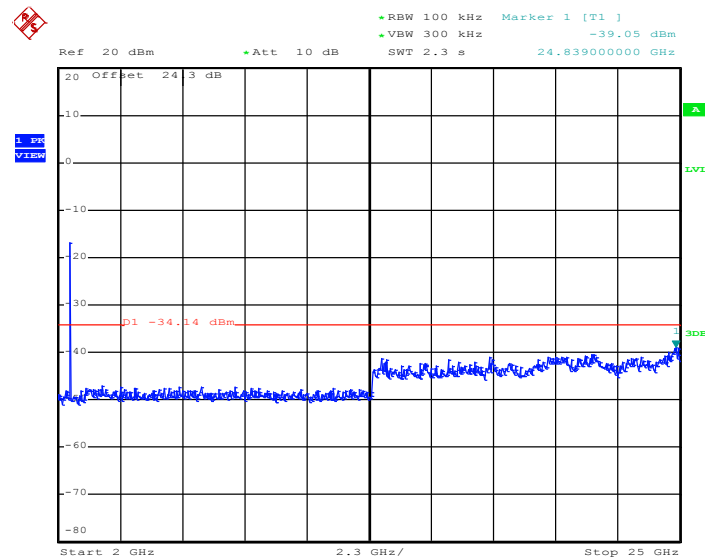
Date: 10.APR.2013 00:11:03

802.11g 2 GHz~25 GHz**Conducted Spurious Emission Plot on Channel 01**

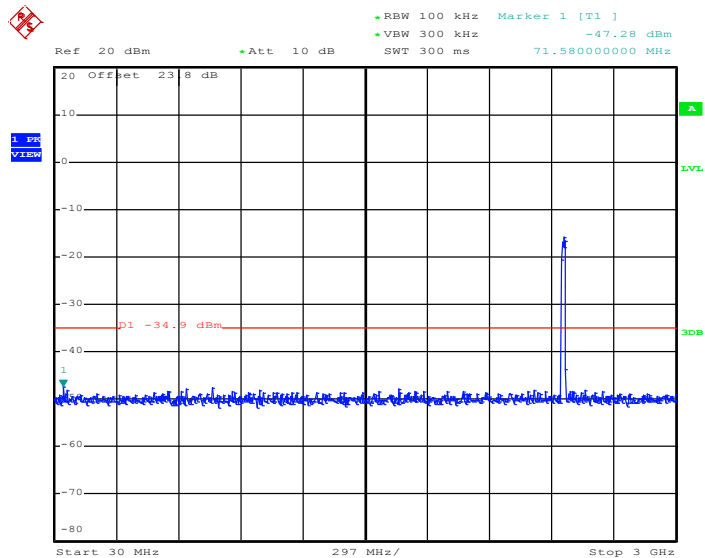
Date: 10.APR.2013 00:11:21

802.11g 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


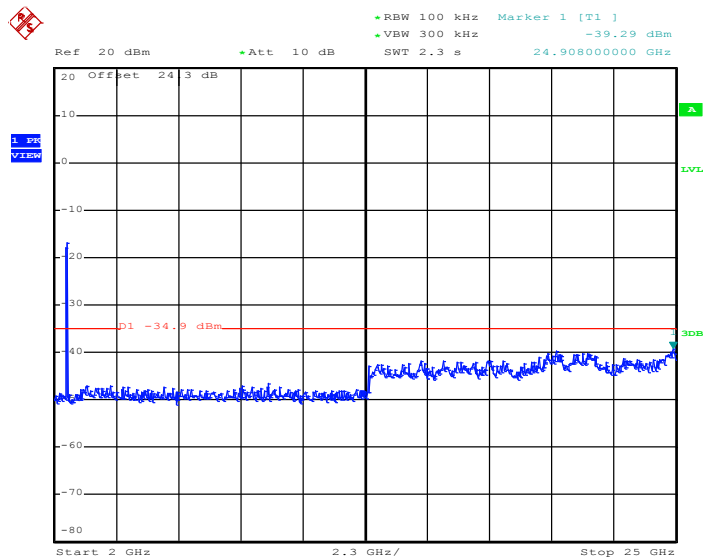
Date: 10.APR.2013 00:15:42

802.11g 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


Date: 10.APR.2013 00:16:01

802.11g 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 11


Date: 10.APR.2013 00:19:03

802.11g 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 11


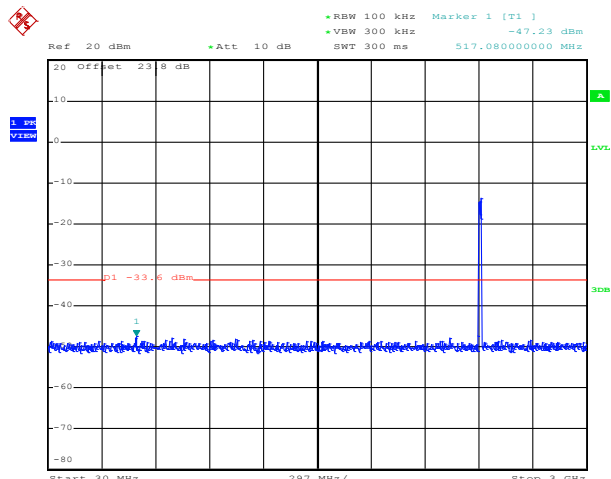
Date: 10.APR.2013 00:19:21



Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Ken Wu

2.4GHz 802.11n HT20 30 MHz~3 GHz

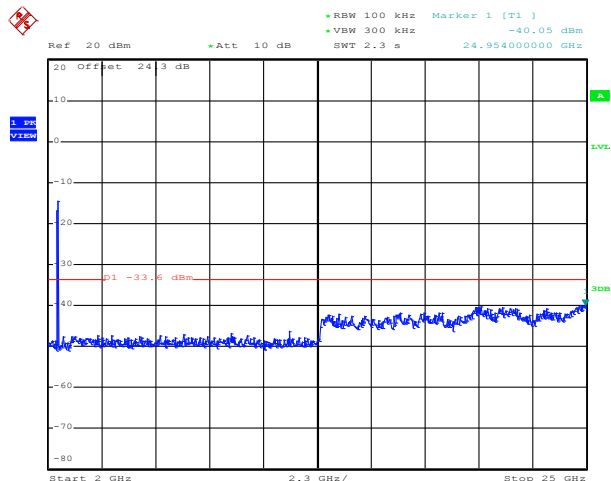
Conducted Spurious Emission Plot on Channel 01



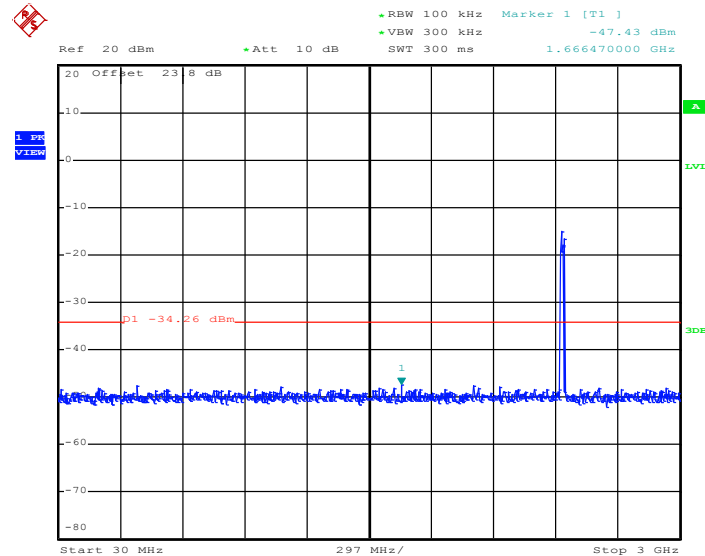
Date: 10.APR.2013 00:24:08

2.4GHz 802.11n HT20 2 GHz~25 GHz

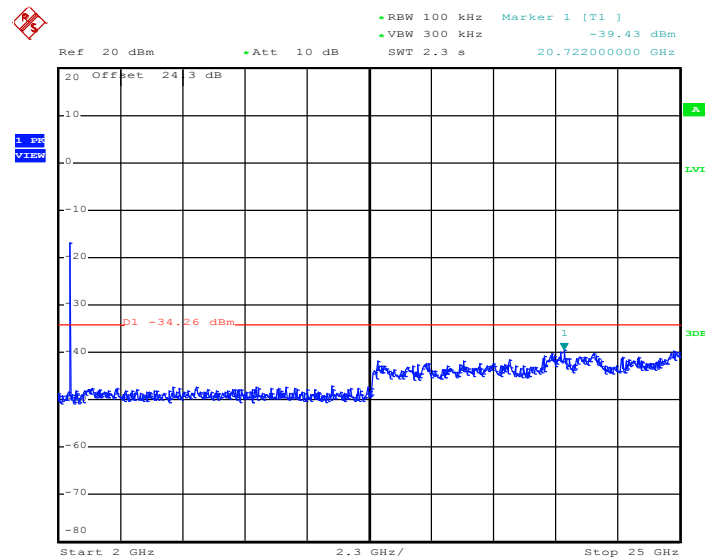
Conducted Spurious Emission Plot on Channel 01



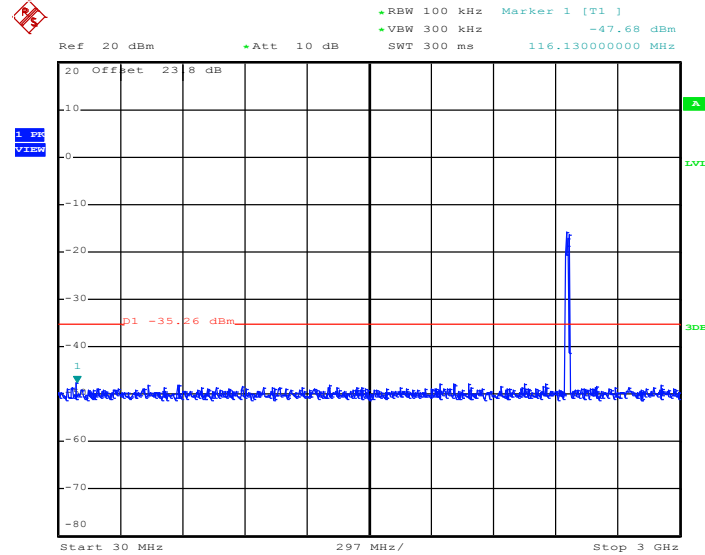
Date: 10.APR.2013 00:24:27

2.4GHz 802.11n HT20 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


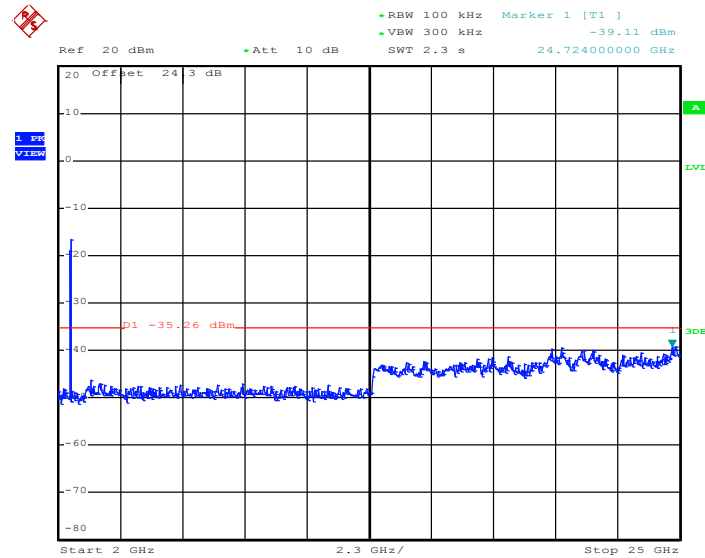
Date: 10.APR.2013 00:30:25

2.4GHz 802.11n HT20 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


Date: 10.APR.2013 00:30:43

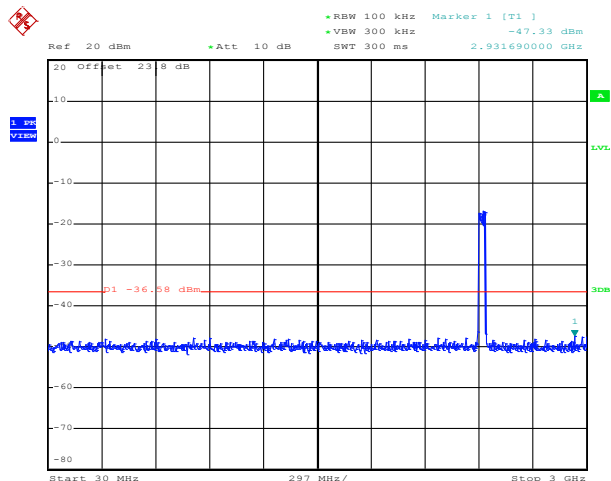
2.4GHz 802.11n HT20 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 11


Date: 10.APR.2013 00:35:04

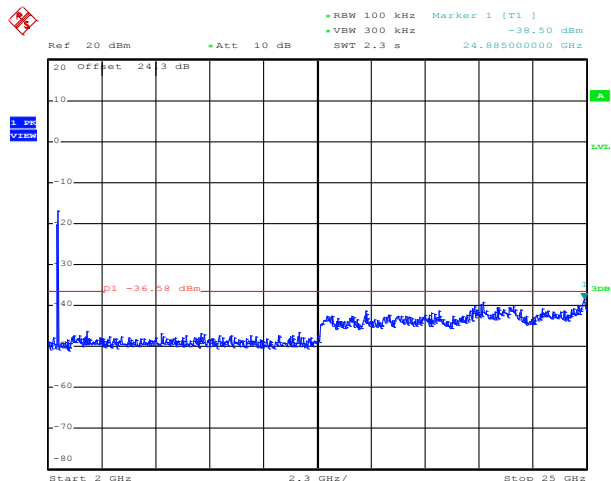
2.4GHz 802.11n HT20 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 11


Date: 10.APR.2013 00:35:22

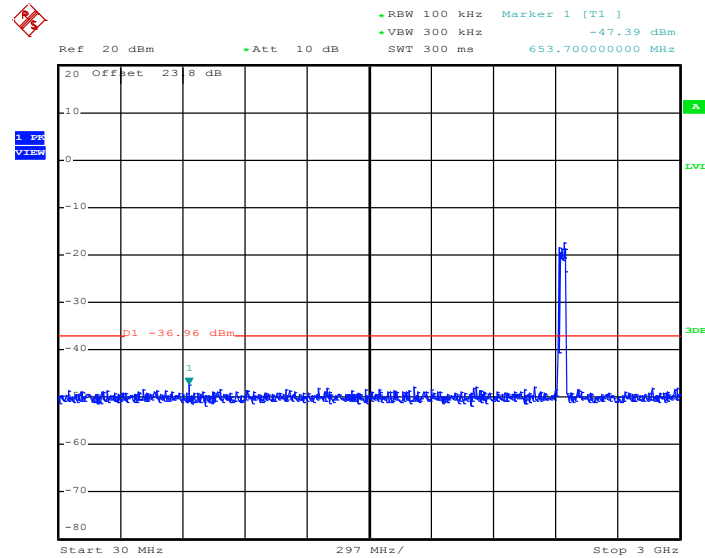
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	03, 06, 09	Test Engineer :	Ken Wu

2.4GHz 802.11n HT40 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 03


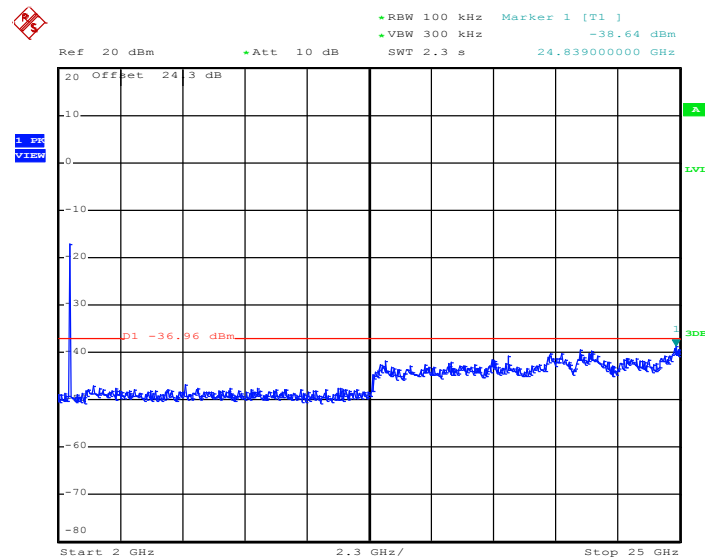
Date: 10.APR.2013 00:40:22

2.4GHz 802.11n HT40 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 03


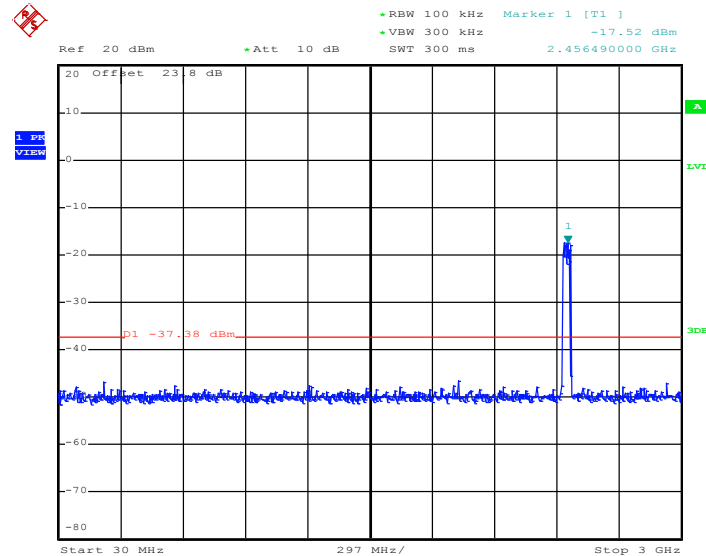
Date: 10.APR.2013 00:40:40

2.4GHz 802.11n HT40 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


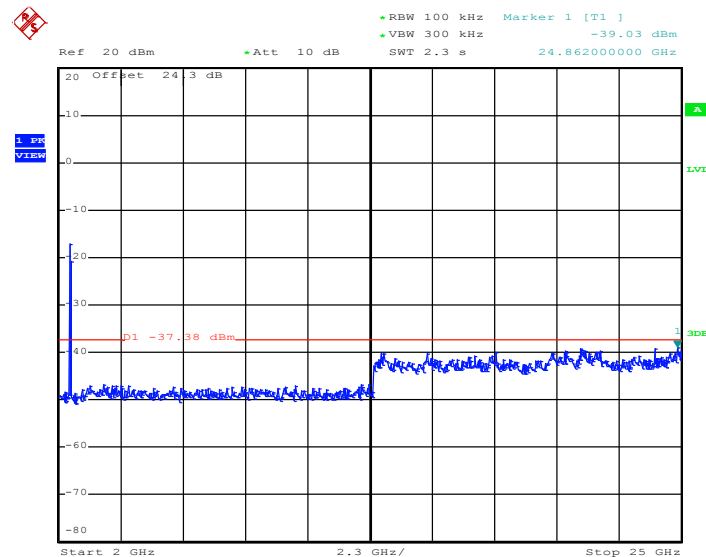
Date: 10.APR.2013 00:45:40

2.4GHz 802.11n HT40 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


Date: 10.APR.2013 00:45:59

2.4GHz 802.11n HT40 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 09


Date: 25.APR.2013 19:34:31

2.4GHz 802.11n HT40 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 09


Date: 25.APR.2013 19:34:50

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

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009.
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:

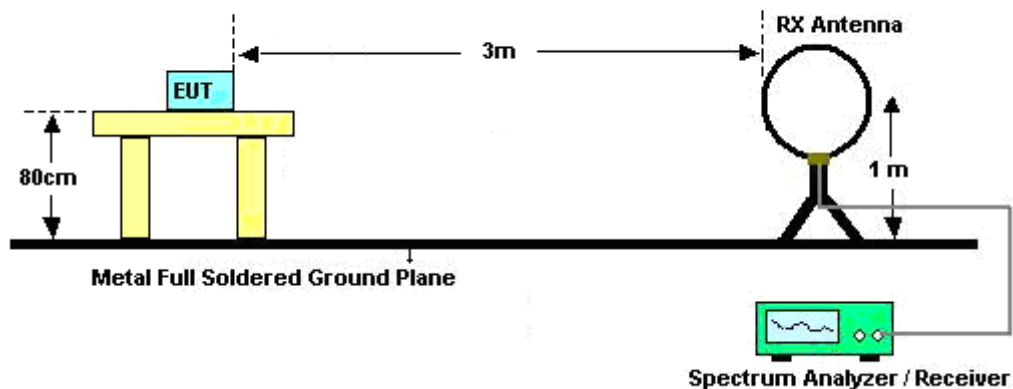
 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	100.00	-	-	10Hz
802.11g	100.00	-	-	10Hz
2.4GHz 802.11n HT20	100.00	-	-	10Hz
2.4GHz 802.11n HT40	100.00	-	-	10Hz

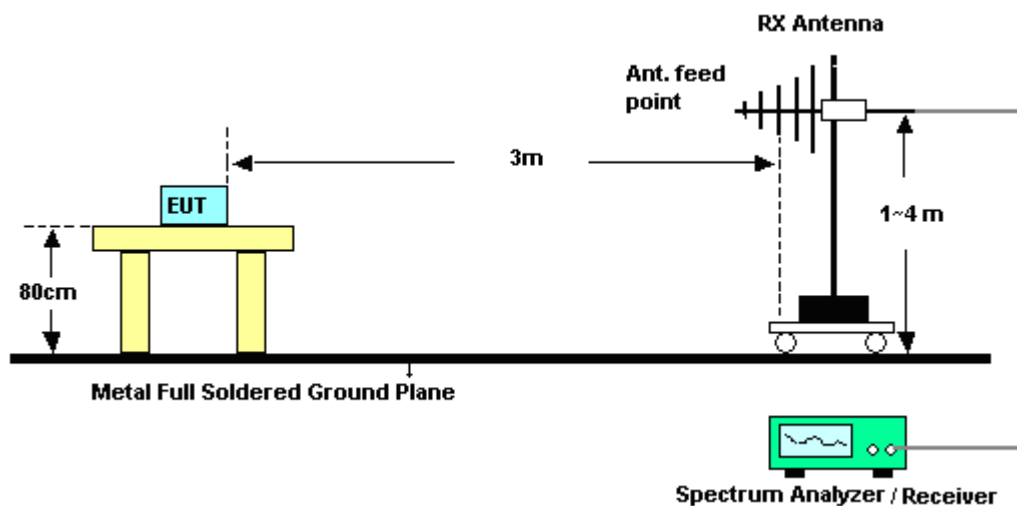
Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

3.5.4 Test Setup

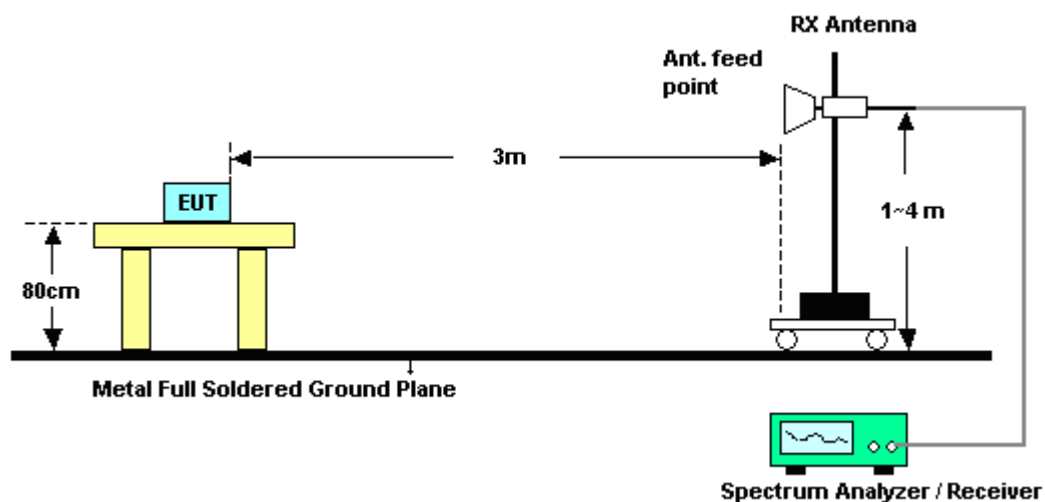
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated 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 Band Edges

Test Mode :	802.11b	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	01	Test Engineer :	Kai Wang and Marlboro Hsu

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
2378.85	50.02	-23.98	74	45.83	32.33	6.42	34.56	160	354	Peak
2384.70	37.44	-16.56	54	33.22	32.33	6.45	34.56	160	354	Average

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
2333.76	52.79	-21.21	74	48.72	32.26	6.38	34.57	100	303	Peak
2358.42	37.49	-16.51	54	33.32	32.31	6.42	34.56	100	303	Average

Test Mode :	802.11b	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	11	Test Engineer :	Kai Wang and Marlboro Hsu

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
2492.14	60.03	-13.97	74	55.49	32.5	6.59	34.55	104	240	Peak
2483.68	39.58	-14.42	54	35.06	32.48	6.59	34.55	104	240	Average

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
2495.83	59.27	-14.73	74	54.73	32.5	6.59	34.55	100	300	Peak
2483.5	38.82	-15.18	54	34.3	32.48	6.59	34.55	100	300	Average



Test Mode :	802.11g	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	01	Test Engineer :	Kai Wang and Marlboro Hsu

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
2384.79	59.16	-14.84	74	54.94	32.33	6.45	34.56	168	360	Peak
2359.5	40.43	-13.57	54	36.26	32.31	6.42	34.56	168	360	Average

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
2388.84	57.79	-16.21	74	53.54	32.36	6.45	34.56	100	309	Peak
2359.68	38.7	-15.3	54	34.53	32.31	6.42	34.56	100	309	Average

Test Mode :	802.11g	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	11	Test Engineer :	Kai Wang and Marlboro Hsu

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
2484.76	66.49	-7.51	74	61.97	32.48	6.59	34.55	105	240	Peak
2483.5	41.88	-12.12	54	37.36	32.48	6.59	34.55	105	240	Average

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
2483.65	61.4	-12.6	74	56.88	32.48	6.59	34.55	100	299	Peak
2483.5	39.48	-14.52	54	34.96	32.48	6.59	34.55	100	299	Average



Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	01	Test Engineer :	Kai Wang and Marlboro Hsu

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	54.31	-19.69	74	50.06	32.36	6.45	34.56	198	55	Peak
2390	39.52	-14.48	54	35.27	32.36	6.45	34.56	198	55	Average

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	52.02	-21.98	74	47.77	32.36	6.45	34.56	100	310	Peak
2360.04	39.25	-14.75	54	35.08	32.31	6.42	34.56	100	310	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	11	Test Engineer :	Kai Wang and Marlboro Hsu

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
2483.59	61.61	-12.39	74	57.09	32.48	6.59	34.55	105	240	Peak
2483.5	41.94	-12.06	54	37.42	32.48	6.59	34.55	105	240	Average

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	57.49	-16.51	74	52.97	32.48	6.59	34.55	100	299	Peak
2483.5	39.65	-14.35	54	35.13	32.48	6.59	34.55	100	299	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Band :	Low	Relative Humidity :	45~46%
Test Channel :	03	Test Engineer :	Kai Wang and Marlboro Hsu

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
2388.12	71.5	-2.5	74	67.25	32.36	6.45	34.56	105	286	Peak
2390	52.82	-1.18	54	48.57	32.36	6.45	34.56	105	286	Average
2490.13	59.7	-14.3	74	55.16	32.5	6.59	34.55	105	286	Peak
2488.03	43.12	-10.88	54	38.58	32.5	6.59	34.55	105	286	Average

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
2388.84	66.4	-7.6	74	62.15	32.36	6.45	34.56	168	293	Peak
2390	48.46	-5.54	54	44.21	32.36	6.45	34.56	168	293	Average
2484.55	56.26	-17.74	74	51.74	32.48	6.59	34.55	168	293	Peak
2487.25	40.02	-13.98	54	35.5	32.48	6.59	34.55	168	293	Average



Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Band :	High	Relative Humidity :	45~46%
Test Channel :	09	Test Engineer :	Kai Wang and Marlboro Hsu

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
2348.25	55.84	-18.16	74	51.74	32.28	6.38	34.56	111	301	Peak
2348.97	43.63	-10.37	54	39.53	32.28	6.38	34.56	111	301	Average
2483.65	72.89	-1.11	74	68.37	32.48	6.59	34.55	111	301	Peak
2483.62	51.88	-2.12	54	47.36	32.48	6.59	34.55	111	301	Average

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
2357.61	50.82	-23.18	74	46.65	32.31	6.42	34.56	161	59	Peak
2386.23	38.55	-15.45	54	34.3	32.36	6.45	34.56	161	59	Average
2485.57	67.97	-6.03	74	63.45	32.48	6.59	34.55	161	59	Peak
2483.71	48.64	-5.36	54	44.12	32.48	6.59	34.55	161	59	Average

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

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2413 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 95.19 dBμV/m - 20dB = 75.19 dBμV/m.		

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
2413	89.8	-	-	85.49	32.38	6.49	34.56	160	354	Average
2413	95.19	-	-	90.88	32.38	6.49	34.56	160	354	Peak
2496	39.51	-14.49	54	34.97	32.5	6.59	34.55	194	255	Average
2496	58.81	-15.19	74	54.27	32.5	6.59	34.55	194	255	Peak
4824	53.04	-0.96	54	63.59	34.87	10.17	55.59	102	33	Average
4824	55.13	-18.87	74	65.68	34.87	10.17	55.59	102	33	Peak
7236	49.31	-25.88	75.19	58.62	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2411 MHz is fundamental signal which can be ignored. 2. 7236 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.		

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
2411	85.19	-	-	80.88	32.38	6.49	34.56	100	303	Average
2411	89.42	-	-	85.11	32.38	6.49	34.56	100	303	Peak
2480	38.89	-15.11	54	34.37	32.48	6.59	34.55	100	55	Average
2480	56.5	-17.5	74	51.98	32.48	6.59	34.55	100	55	Peak
4824	50.77	-23.23	74	61.32	34.87	10.17	55.59	100	0	Peak
7236	50.28	-19.14	69.42	59.59	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2436	93.64	-	-	89.28	32.4	6.52	34.56	200	52	Average
2436	98.07	-	-	93.71	32.4	6.52	34.56	200	52	Peak
2482	38.86	-15.14	54	34.34	32.48	6.59	34.55	184	267	Average
2482	55.18	-18.82	74	50.66	32.48	6.59	34.55	184	267	Peak
4875	53.37	-0.63	54	64.02	34.85	10.18	55.68	157	56	Average
4875	56.33	-17.67	74	66.98	34.85	10.18	55.68	157	56	Peak
7311	49.51	-24.49	74	58.71	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2436	88.8	-	-	84.44	32.4	6.52	34.56	100	298	Average
2436	93.6	-	-	89.24	32.4	6.52	34.56	100	298	Peak
4875	49.65	-4.35	54	60.3	34.85	10.18	55.68	100	317	Average
4875	52.84	-21.16	74	63.49	34.85	10.18	55.68	100	317	Peak
7311	48.77	-25.23	74	57.97	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2463 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
154.74	25.69	-17.81	43.5	45.84	10.2	1.4	31.75	-	-	Peak
247.35	40.85	-5.15	46	58.77	12.1	1.72	31.74	102	36	Peak
259.5	39.61	-6.39	46	55.85	13.7	1.79	31.73	-	-	Peak
312.6	25.24	-20.76	46	41.61	13.42	1.94	31.73	-	-	Peak
777.4	26.26	-19.74	46	35.37	19.8	3.06	31.97	-	-	Peak
959.4	39.3	-6.7	46	45.94	20.99	3.35	30.98	-	-	Peak
2463	92.19	-	-	87.74	32.45	6.56	34.56	104	240	Average
2463	97.03	-	-	92.58	32.45	6.56	34.56	104	240	Peak
2486	39.12	-14.88	54	34.6	32.48	6.59	34.55	178	293	Average
2486	58.35	-15.65	74	53.83	32.48	6.59	34.55	178	293	Peak
4926	53.4	-0.6	54	64.14	34.83	10.21	55.78	100	20	Average
4926	55.91	-18.09	74	66.65	34.83	10.21	55.78	100	20	Peak
7386	49.69	-24.31	74	58.76	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11b	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
36.75	27.39	-12.61	40	43.89	14.58	0.71	31.79	-	-	Peak
60.24	23.34	-16.66	40	48.34	5.9	0.87	31.77	-	-	Peak
241.95	27.23	-18.77	46	45.67	11.6	1.7	31.74	-	-	Peak
622	31.4	-14.6	46	41.55	19.12	2.78	32.05	-	-	Peak
777.4	25.74	-20.26	46	34.85	19.8	3.06	31.97	-	-	Peak
959.4	35.67	-10.33	46	42.31	20.99	3.35	30.98	100	139	Peak
2462	87.55	-	-	83.1	32.45	6.56	34.56	100	300	Average
2462	91.95	-	-	87.5	32.45	6.56	34.56	100	300	Peak
2494	38.66	-15.34	54	34.12	32.5	6.59	34.55	100	49	Average
2494	58.19	-15.81	74	53.65	32.5	6.59	34.55	100	49	Peak
4926	50.85	-23.15	74	61.59	34.83	10.21	55.78	100	0	Peak
7386	49.76	-24.24	74	58.83	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2411 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

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
2411	89.29	-	-	84.98	32.38	6.49	34.56	168	360	Average
2411	100.04	-	-	95.73	32.38	6.49	34.56	168	360	Peak
2480	41.2	-12.8	54	36.68	32.48	6.59	34.55	196	257	Average
2480	60.4	-13.6	74	55.88	32.48	6.59	34.55	196	257	Peak
4824	53.14	-0.86	54	63.69	34.87	10.17	55.59	102	283	Average
4824	65.94	-8.06	74	76.49	34.87	10.17	55.59	102	283	Peak
7236	50.02	-30.02	80.04	59.33	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

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
2410	84.76	-	-	80.45	32.38	6.49	34.56	100	309	Average
2410	95.52	-	-	91.21	32.38	6.49	34.56	100	309	Peak
2478	39.92	-14.08	54	35.4	32.48	6.59	34.55	100	57	Average
2478	57.69	-16.31	74	53.17	32.48	6.59	34.55	100	57	Peak
4827	45.83	-8.17	54	56.38	34.87	10.17	55.59	100	301	Average
4827	58.22	-15.78	74	68.77	34.87	10.17	55.59	100	301	Peak
7236	49.17	-26.35	75.52	58.48	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
30	18.8	-21.2	40	31.32	18.8	0.4	31.72	-	-	Peak
154.74	26.5	-17	43.5	46.65	10	1.52	31.67	-	-	Peak
240.06	40.64	-5.36	46	58.66	11.4	2.24	31.66	100	245	Peak
356	23.44	-22.56	46	38.13	14.48	2.39	31.56	-	-	Peak
618.5	24.96	-21.04	46	34.78	19.08	3.17	32.07	-	-	Peak
959.4	40.26	-5.74	46	46.48	20.99	3.86	31.07	-	-	Peak
2436	93.52	-	-	89.16	32.4	6.52	34.56	200	53	Average
2436	104.32	-	-	99.96	32.4	6.52	34.56	200	53	Peak
2480	41.5	-12.5	54	36.98	32.48	6.59	34.55	192	261	Average
2480	60.78	-13.22	74	56.26	32.48	6.59	34.55	192	261	Peak
4869	53.53	-0.47	54	64.18	34.85	10.18	55.68	100	287	Average
4869	64.64	-9.36	74	75.29	34.85	10.18	55.68	100	287	Peak
7311	48.79	-25.21	74	57.99	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2440 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
36.75	27.54	-12.46	40	44.76	14.02	0.46	31.7	-	-	Peak
60.24	20.39	-19.61	40	45.13	6.3	0.65	31.69	-	-	Peak
243.84	27.89	-18.11	46	45.6	11.7	2.25	31.66	-	-	Peak
620.6	32.16	-13.84	46	41.92	19.11	3.19	32.06	-	-	Peak
772.5	25.3	-20.7	46	33.94	19.9	3.51	32.05	-	-	Peak
959.4	36.03	-9.97	46	42.25	20.99	3.86	31.07	100	269	Peak
2440	89.08	-	-	84.69	32.43	6.52	34.56	100	297	Average
2440	100.04	-	-	95.65	32.43	6.52	34.56	100	297	Peak
2480	40.75	-13.25	54	36.23	32.48	6.59	34.55	100	56	Average
2480	58.4	-15.6	74	53.88	32.48	6.59	34.55	100	56	Peak
4875	48.62	-5.38	54	59.27	34.85	10.18	55.68	100	307	Average
4875	62.67	-11.33	74	73.32	34.85	10.18	55.68	100	307	Peak
7311	48.47	-25.53	74	57.67	36.14	10.94	56.28	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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	94.51	-	-	90.06	32.45	6.56	34.56	105	240	Average
2464	105.37	-	-	100.92	32.45	6.56	34.56	105	240	Peak
4926	53.43	-0.57	54	64.17	34.83	10.21	55.78	100	287	Average
4926	67.19	-6.81	74	77.93	34.83	10.21	55.78	100	287	Peak
7386	50.68	-23.32	74	59.75	36.12	10.92	56.11	100	0	Peak

Test Mode :	802.11g	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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	88.6	-	-	84.15	32.45	6.56	34.56	100	299	Average
2464	99.31	-	-	94.86	32.45	6.56	34.56	100	299	Peak
4926	46.92	-7.08	54	57.66	34.83	10.21	55.78	100	349	Average
4926	62.59	-11.41	74	73.33	34.83	10.21	55.78	100	349	Peak
7386	50.18	-23.82	74	59.25	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

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
30	17.43	-22.57	40	29.69	18.9	0.64	31.8	-	-	Peak
155.55	26.55	-16.95	43.5	46.7	10.2	1.4	31.75	-	-	Peak
247.35	40.85	-5.15	46	58.77	12.1	1.72	31.74	104	256	Peak
370	24.67	-21.33	46	39.64	14.7	2.12	31.79	-	-	Peak
777.4	27.06	-18.94	46	36.17	19.8	3.06	31.97	-	-	Peak
959.4	40.72	-5.28	46	47.36	20.99	3.35	30.98	-	-	Peak
2410	91.11	-	-	86.8	32.38	6.49	34.56	198	55	Average
2410	102.11	-	-	97.8	32.38	6.49	34.56	198	55	Peak
2480	38.21	-15.79	54	33.69	32.48	6.59	34.55	192	275	Average
2480	57.6	-16.4	74	53.08	32.48	6.59	34.55	192	275	Peak
4821	53.73	-0.27	54	64.28	34.87	10.17	55.59	161	284	Average
4821	66.41	-7.59	74	76.96	34.87	10.17	55.59	161	284	Peak
7236	49.5	-32.61	82.11	58.81	36.15	10.96	56.42	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	01	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2411 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

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
36.75	28.31	-11.69	40	44.81	14.58	0.71	31.79	-	-	Peak
248.7	27.19	-18.81	46	45.01	12.2	1.72	31.74	-	-	Peak
260.85	26.93	-19.07	46	43.25	13.62	1.79	31.73	-	-	Peak
620.6	29.29	-16.71	46	39.45	19.11	2.78	32.05	-	-	Peak
826.4	29.78	-16.22	46	38.41	20.06	3.15	31.84	-	-	Peak
959.4	34.69	-11.31	46	41.33	20.99	3.35	30.98	100	59	Peak
2411	86.12	-	-	81.81	32.38	6.49	34.56	100	310	Average
2411	96.81	-	-	92.5	32.38	6.49	34.56	100	310	Peak
2482	36.22	-17.78	54	31.7	32.48	6.59	34.55	100	51	Average
2482	53.82	-20.18	74	49.3	32.48	6.59	34.55	100	51	Peak
4818	47.13	-6.87	54	57.68	34.87	10.17	55.59	100	306	Average
4818	59.74	-14.26	74	70.29	34.87	10.17	55.59	100	306	Peak
7236	49.67	-27.14	76.81	58.98	36.15	10.96	56.42	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2440 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2440	94.04	-	-	89.65	32.43	6.52	34.56	198	65	Average
2440	105.06	-	-	100.67	32.43	6.52	34.56	198	65	Peak
2480	39.25	-14.75	54	34.73	32.48	6.59	34.55	196	236	Average
2480	58.23	-15.77	74	53.71	32.48	6.59	34.55	196	236	Peak
4881	53.13	-0.87	54	63.77	34.85	10.19	55.68	100	286	Average
4881	65.9	-8.1	74	76.54	34.85	10.19	55.68	100	286	Peak
7311	49.55	-24.45	74	58.75	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2438	87.03	-	-	82.64	32.43	6.52	34.56	100	297	Average
2438	99.81	-	-	95.42	32.43	6.52	34.56	100	297	Peak
2480	35.68	-18.32	54	31.16	32.48	6.59	34.55	100	63	Average
2480	53.29	-20.71	74	48.77	32.48	6.59	34.55	100	63	Peak
4872	48.26	-5.74	54	58.91	34.85	10.18	55.68	100	307	Average
4872	61.35	-12.65	74	72	34.85	10.18	55.68	100	307	Peak
7311	48.73	-25.27	74	57.93	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2463 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2463	94.26	-	-	89.81	32.45	6.56	34.56	105	240	Average
2463	105.1	-	-	100.65	32.45	6.56	34.56	105	240	Peak
4923	53.53	-0.47	54	64.28	34.83	10.2	55.78	100	288	Average
4923	68.37	-5.63	74	79.12	34.83	10.2	55.78	100	288	Peak
7386	50.01	-23.99	74	59.08	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	27~28°C
Test Channel :	11	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2460	89.04	-	-	84.59	32.45	6.56	34.56	100	299	Average
2460	99.76	-	-	95.31	32.45	6.56	34.56	100	299	Peak
4926	47.16	-6.84	54	57.9	34.83	10.21	55.78	102	323	Average
4926	60.74	-13.26	74	71.48	34.83	10.21	55.78	102	323	Peak
7386	49.05	-24.95	74	58.12	36.12	10.92	56.11	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	03	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2420 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2420	95.49	-	-	91.16	32.4	6.49	34.56	105	286	Average
2420	106.2	-	-	101.87	32.4	6.49	34.56	105	286	Peak
4842	52.93	-1.07	54	63.52	34.86	10.17	55.62	100	284	Average
4842	63.7	-10.3	74	74.29	34.86	10.17	55.62	100	284	Peak
7266	48.29	-25.71	74	57.55	36.14	10.95	56.35	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	03	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2426 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2426	90.29	-	-	85.96	32.4	6.49	34.56	168	293	Average
2426	101.03	-	-	96.67	32.4	6.52	34.56	168	293	Peak
4842	50.06	-3.94	54	60.65	34.86	10.17	55.62	100	306	Average
4842	61.07	-12.93	74	71.66	34.86	10.17	55.62	100	306	Peak
7266	48.64	-25.36	74	57.9	36.14	10.95	56.35	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2440 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
30.54	20.01	-19.99	40	32.94	18.22	0.65	31.8	-	-	Peak
155.55	26.06	-17.44	43.5	46.21	10.2	1.4	31.75	-	-	Peak
241.95	42.21	-3.79	46	60.65	11.6	1.7	31.74	100	239	Peak
370	25.92	-20.08	46	40.89	14.7	2.12	31.79	-	-	Peak
772.5	27.2	-18.8	46	36.32	19.8	3.05	31.97	-	-	Peak
959.4	40.32	-5.68	46	46.96	20.99	3.35	30.98	-	-	Peak
2440	90.64	-	-	86.25	32.43	6.52	34.56	200	66	Average
2440	101.38	-	-	96.99	32.43	6.52	34.56	200	66	Peak
4875	53.21	-0.79	54	63.86	34.85	10.18	55.68	100	286	Average
4875	64.65	-9.35	74	75.3	34.85	10.18	55.68	100	286	Peak
7311	48.91	-25.09	74	58.11	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	27~28°C
Test Channel :	06	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2440 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
36.75	27.91	-12.09	40	44.41	14.58	0.71	31.79	-	-	Peak
76.44	20.34	-19.66	40	44.43	6.7	0.97	31.76	-	-	Peak
241.95	26.22	-19.78	46	44.66	11.6	1.7	31.74	-	-	Peak
620.6	29.23	-16.77	46	39.39	19.11	2.78	32.05	-	-	Peak
828.5	32.44	-13.56	46	41.03	20.08	3.16	31.83	-	-	Peak
959.4	36.02	-9.98	46	42.66	20.99	3.35	30.98	100	59	Peak
2440	86.35	-	-	81.96	32.43	6.52	34.56	100	296	Average
2440	96.9	-	-	92.51	32.43	6.52	34.56	100	296	Peak
4878	48.15	-5.85	54	58.79	34.85	10.19	55.68	100	308	Average
4878	59.78	-14.22	74	70.42	34.85	10.19	55.68	100	308	Peak
7311	48.5	-25.5	74	57.7	36.14	10.94	56.28	100	0	Peak

Test Mode :	2.4GHz 802.11n-HT40	Temperature :	27~28°C
Test Channel :	09	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 2453 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2453	94.45	-	-	90.02	32.43	6.56	34.56	111	301	Average
2453	105.07	-	-	100.68	32.43	6.52	34.56	111	301	Peak
4929	53.01	-0.99	54	63.75	34.83	10.21	55.78	100	286	Average
4929	65.11	-8.89	74	75.85	34.83	10.21	55.78	100	286	Peak
7356	48.79	-25.21	74	57.92	36.13	10.92	56.18	100	0	Peak

Test Mode :	2.4GHz 802.11n-HT40	Temperature :	27~28°C
Test Channel :	09	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 2455 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

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
2455	91.04	-	-	86.59	32.45	6.56	34.56	161	59	Average
2455	101.68	-	-	97.23	32.45	6.56	34.56	161	59	Peak
4926	48.08	-5.92	54	58.82	34.83	10.21	55.78	100	350	Average
4926	60.14	-13.86	74	70.88	34.83	10.21	55.78	100	350	Peak
7356	49.41	-24.59	74	58.54	36.13	10.92	56.18	100	0	Peak

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 (dBμV)	
	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.

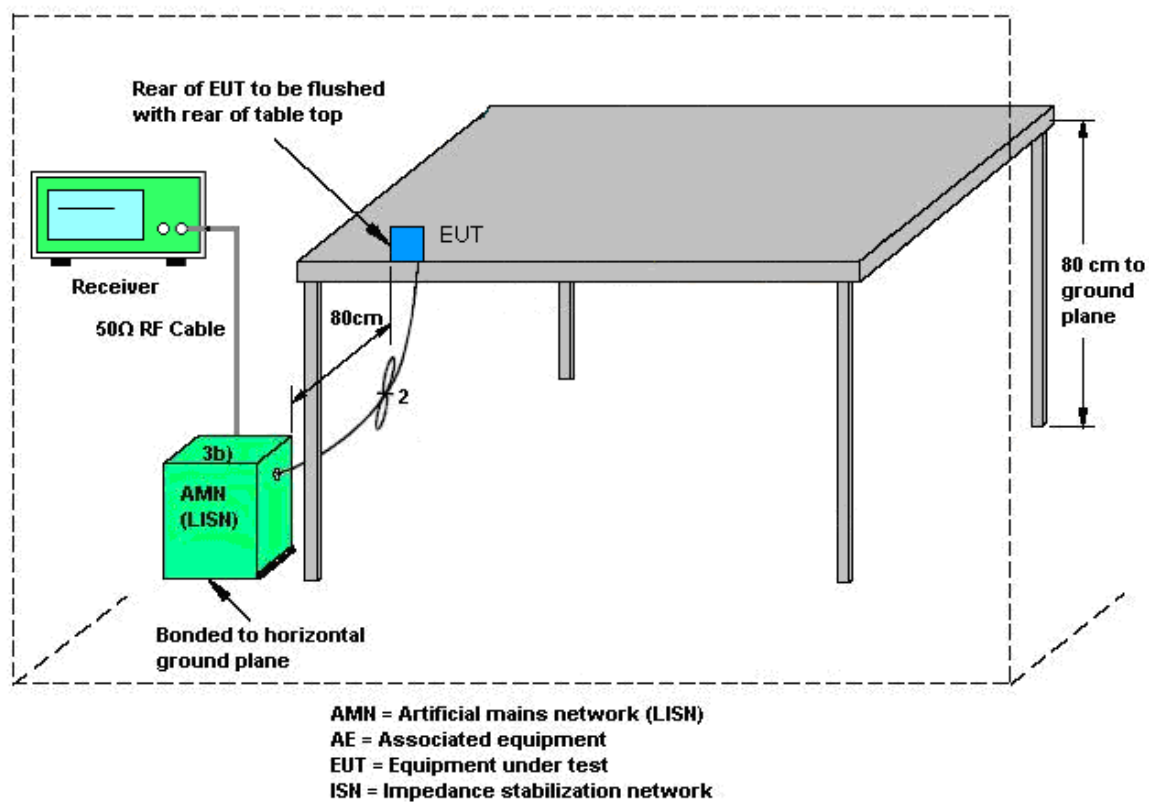
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

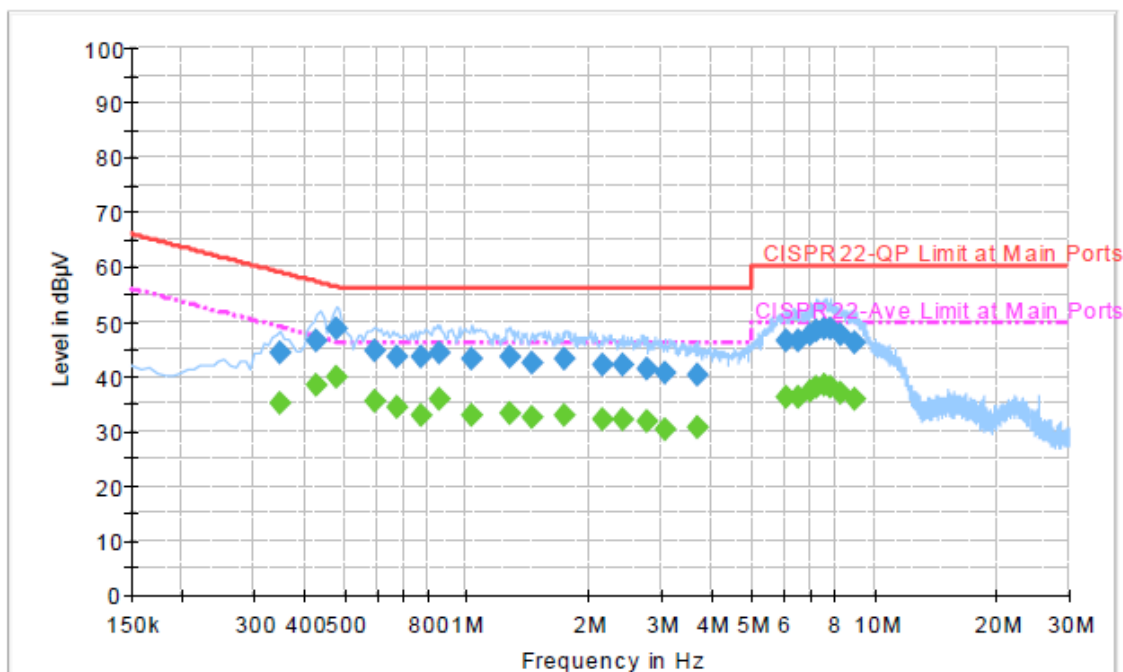
1. The testing follows the guidelines in ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 KHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

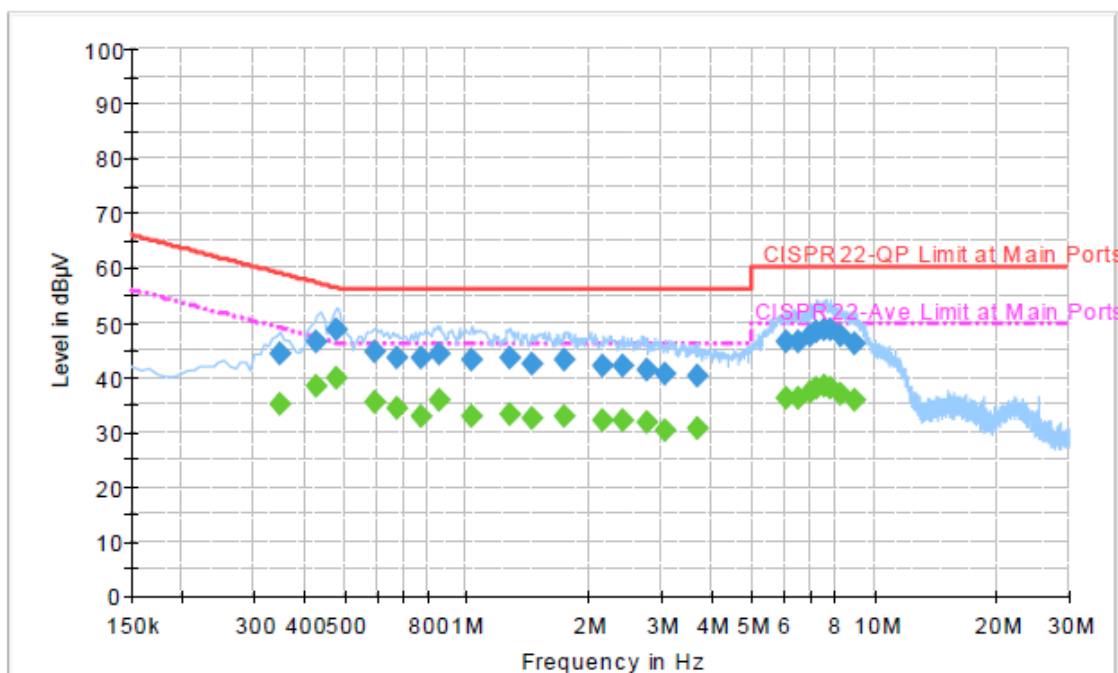
Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : Quasi-Peak

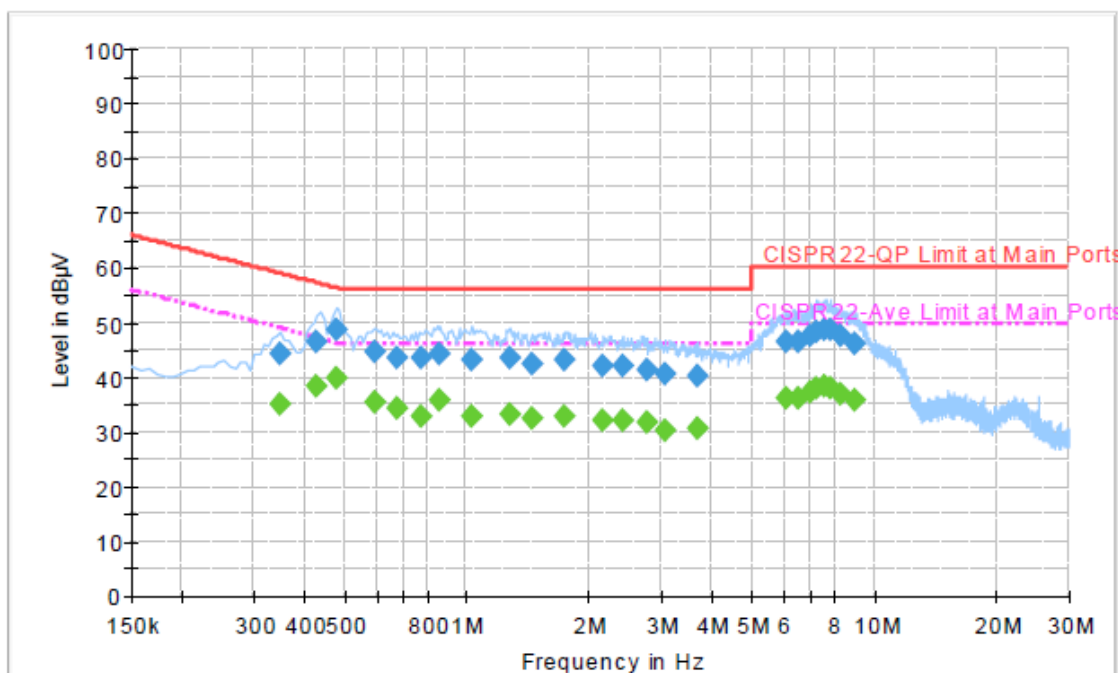
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.350000	44.2	Off	L1	19.4	14.8	59.0
0.430000	46.7	Off	L1	19.3	10.6	57.3
0.478000	48.6	Off	L1	19.4	7.8	56.4
0.598000	44.5	Off	L1	19.4	11.5	56.0
0.678000	43.4	Off	L1	19.5	12.6	56.0
0.774000	43.4	Off	L1	19.4	12.6	56.0
0.862000	44.4	Off	L1	19.6	11.6	56.0
1.030000	43.3	Off	L1	19.4	12.7	56.0
1.278000	43.4	Off	L1	19.5	12.6	56.0
1.446000	42.4	Off	L1	19.5	13.6	56.0
1.742000	43.1	Off	L1	19.5	12.9	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Quasi-Peak

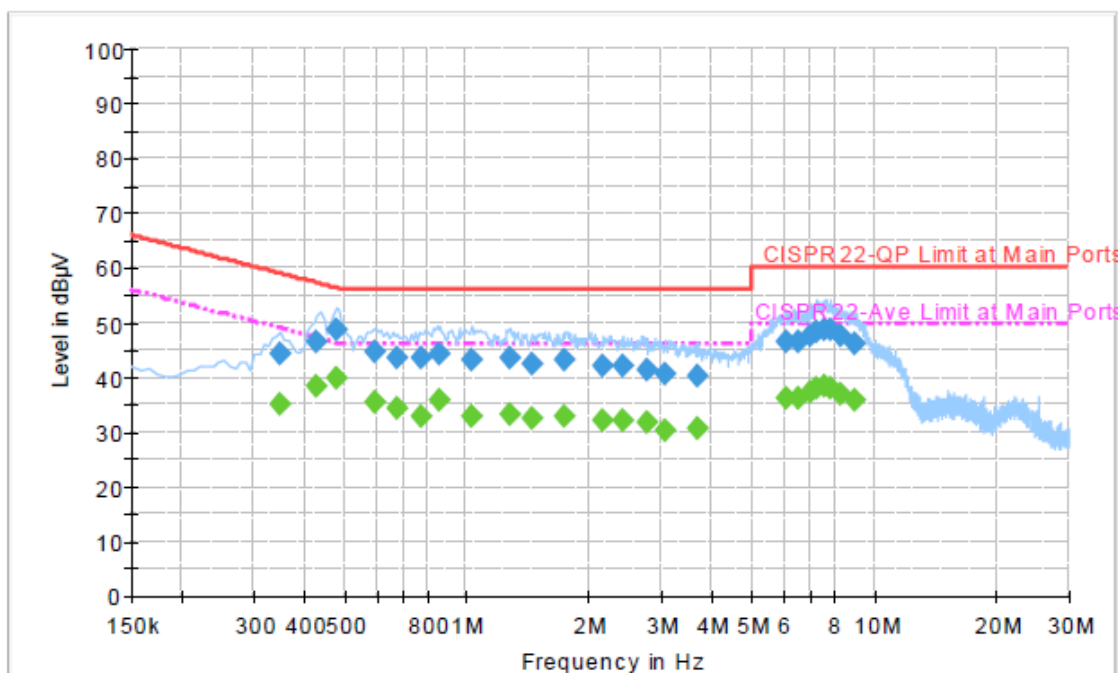
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.158000	42.2	Off	L1	19.6	13.8	56.0
2.406000	42.0	Off	L1	19.6	14.0	56.0
2.766000	41.2	Off	L1	19.6	14.8	56.0
3.070000	40.7	Off	L1	19.6	15.3	56.0
3.670000	40.3	Off	L1	19.6	15.7	56.0
6.086000	46.6	Off	L1	19.7	13.4	60.0
6.518000	46.6	Off	L1	19.6	13.4	60.0
7.006000	47.5	Off	L1	19.7	12.5	60.0
7.182000	48.3	Off	L1	19.7	11.7	60.0
7.542000	48.8	Off	L1	19.7	11.2	60.0
7.798000	48.5	Off	L1	19.6	11.5	60.0
8.318000	47.6	Off	L1	19.7	12.4	60.0
8.982000	46.2	Off	L1	19.8	13.8	60.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

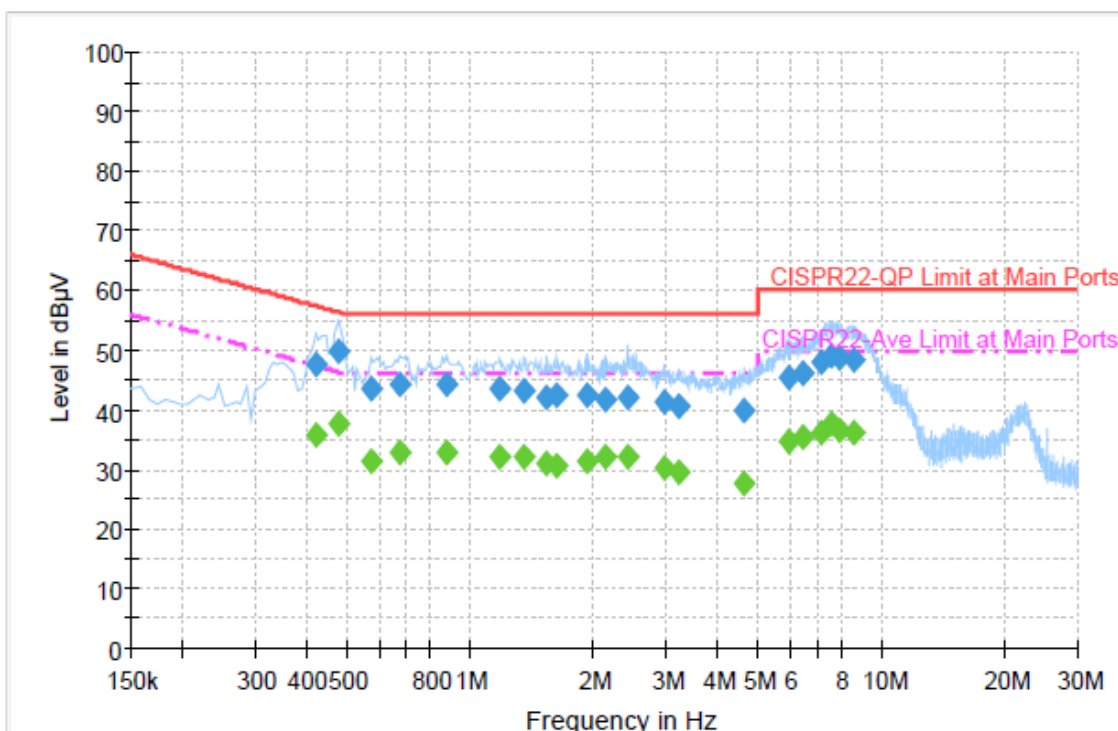
Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.350000	35.0	Off	L1	19.4	14.0	49.0
0.430000	38.2	Off	L1	19.3	9.1	47.3
0.478000	39.8	Off	L1	19.4	6.6	46.4
0.598000	35.6	Off	L1	19.4	10.4	46.0
0.678000	34.2	Off	L1	19.5	11.8	46.0
0.774000	32.8	Off	L1	19.4	13.2	46.0
0.862000	35.6	Off	L1	19.6	10.4	46.0
1.030000	32.8	Off	L1	19.4	13.2	46.0
1.278000	33.2	Off	L1	19.5	12.8	46.0
1.446000	32.3	Off	L1	19.5	13.7	46.0
1.742000	32.9	Off	L1	19.5	13.1	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

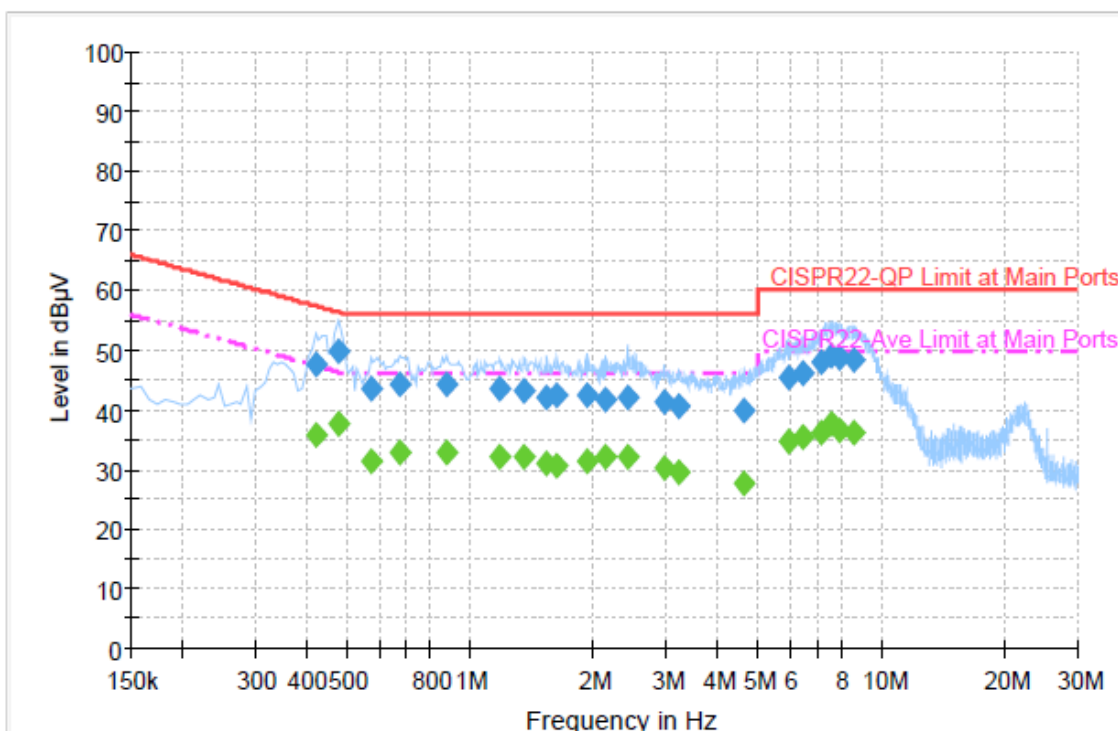
Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.158000	32.2	Off	L1	19.6	13.8	46.0
2.406000	32.0	Off	L1	19.6	14.0	46.0
2.766000	31.8	Off	L1	19.6	14.2	46.0
3.070000	30.3	Off	L1	19.6	15.7	46.0
3.670000	30.6	Off	L1	19.6	15.4	46.0
6.086000	36.2	Off	L1	19.7	13.8	50.0
6.518000	36.2	Off	L1	19.6	13.8	50.0
7.006000	37.4	Off	L1	19.7	12.6	50.0
7.182000	38.0	Off	L1	19.7	12.0	50.0
7.542000	38.4	Off	L1	19.7	11.6	50.0
7.798000	38.0	Off	L1	19.6	12.0	50.0
8.318000	37.1	Off	L1	19.7	12.9	50.0
8.982000	35.7	Off	L1	19.8	14.3	50.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Quasi-Peak

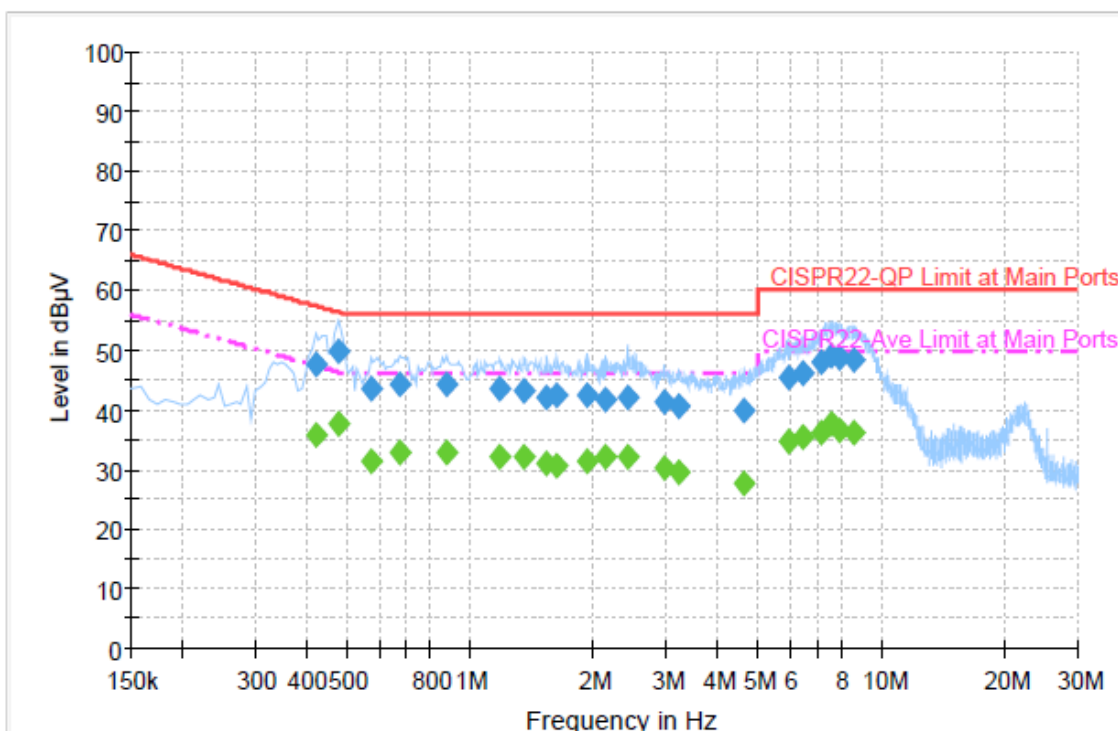
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.422000	47.6	Off	N	19.4	9.8	57.4
0.478000	49.7	Off	N	19.4	6.7	56.4
0.574000	43.4	Off	N	19.4	12.6	56.0
0.678000	44.2	Off	N	19.5	11.8	56.0
0.878000	44.3	Off	N	19.5	11.7	56.0
1.182000	43.5	Off	N	19.5	12.5	56.0
1.358000	43.3	Off	N	19.5	12.7	56.0
1.534000	42.0	Off	N	19.5	14.0	56.0
1.630000	42.3	Off	N	19.4	13.7	56.0
1.918000	42.5	Off	N	19.5	13.5	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Quasi-Peak

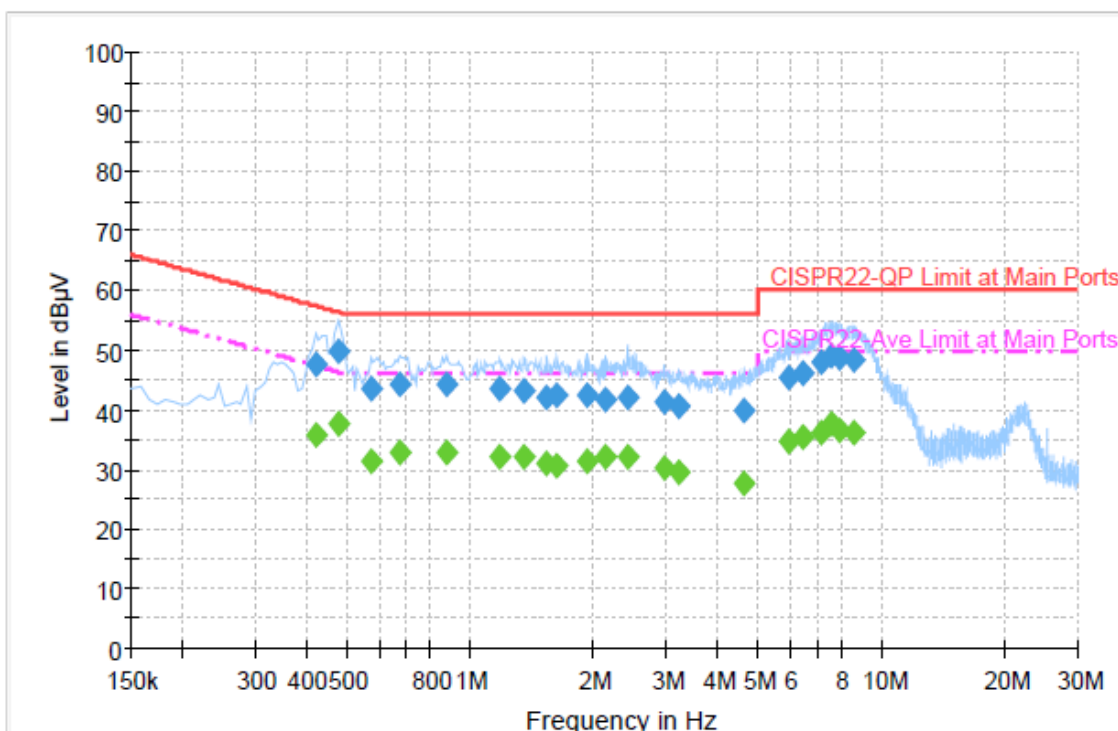
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.126000	41.6	Off	N	19.6	14.4	56.0
2.406000	42.2	Off	N	19.7	13.8	56.0
2.958000	41.3	Off	N	19.6	14.7	56.0
3.222000	40.8	Off	N	19.6	15.2	56.0
4.630000	39.7	Off	N	19.7	16.3	56.0
5.950000	45.4	Off	N	19.7	14.6	60.0
6.446000	46.0	Off	N	19.6	14.0	60.0
7.126000	47.9	Off	N	19.7	12.1	60.0
7.542000	49.2	Off	N	19.7	10.8	60.0
7.886000	48.7	Off	N	19.7	11.3	60.0
8.574000	48.3	Off	N	19.8	11.7	60.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.422000	35.9	Off	N	19.4	11.5	47.4
0.478000	37.6	Off	N	19.4	8.8	46.4
0.574000	31.5	Off	N	19.4	14.5	46.0
0.678000	32.8	Off	N	19.5	13.2	46.0
0.878000	32.8	Off	N	19.5	13.2	46.0
1.182000	32.1	Off	N	19.5	13.9	46.0
1.358000	32.2	Off	N	19.5	13.8	46.0
1.534000	31.1	Off	N	19.5	14.9	46.0
1.630000	30.7	Off	N	19.4	15.3	46.0
1.918000	31.5	Off	N	19.5	14.5	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + MPEG4 + USB Cable (Charging from Adapter) + USB flash drive + HDMI Cable		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
2.126000	32.0	Off	N	19.6	14.0	46.0
2.406000	32.2	Off	N	19.7	13.8	46.0
2.958000	30.3	Off	N	19.6	15.7	46.0
3.222000	29.6	Off	N	19.6	16.4	46.0
4.630000	27.7	Off	N	19.7	18.3	46.0
5.950000	34.7	Off	N	19.7	15.3	50.0
6.446000	35.4	Off	N	19.6	14.6	50.0
7.126000	36.2	Off	N	19.7	13.8	50.0
7.542000	37.7	Off	N	19.7	12.3	50.0
7.886000	36.5	Off	N	19.7	13.5	50.0
8.574000	36.0	Off	N	19.8	14.0	50.0



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 Connected Construction

Non-standard connector 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	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Mar. 18, 2013 ~ Apr. 25, 2013	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Mar. 18, 2013 ~ Apr. 25, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Mar. 18, 2013 ~ Apr. 25, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9KHz ~ 2.75GHz	Nov. 13, 2012	Mar. 22, 2013	Nov. 12, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100081	9KHz ~ 30MHz	Dec. 12, 2012	Mar. 22, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9KHz ~ 30MHz	Dec. 06, 2012	Mar. 22, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Mar. 22, 2013	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz~30GHz	Nov. 07, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Nov. 06, 2013	Radiation (03CH06-HY)
Spectrum Analyzer	Agilent	E4408B	MY442110 30	9KHz ~ 26.5GHz	Nov. 26, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Nov. 25, 2013	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/00 03	20MHz ~ 1000MHz	May 04, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	May 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 06, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Oct. 05, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Jul. 31, 2013	Radiation (03CH06-HY)
Double Ridge Horn Antenna	COM-POWER	AH-118	071025	1GHz~18GHz	Aug. 09, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Aug. 08, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 251	15GHz ~ 40GHz	Sep. 28, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Sep. 27, 2013	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A019 17	1GHz ~ 26.5GHz	Apr. 13, 2012	Mar. 30, 2013 ~ Apr. 11, 2013	Apr. 12, 2013	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A019 17	1GHz ~ 26.5GHz	Apr. 12, 2013	Apr. 12, 2013 ~ Apr. 20, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 13, 2012	Mar. 30, 2013 ~ Apr. 11, 2013	Apr. 12, 2013	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 12, 2013	Apr. 12, 2013 ~ Apr. 20, 2013	Apr. 11, 2014	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Jul. 20, 2013	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/00 1	9KHz ~ 30MHz	Jul. 03, 2012	Mar. 30, 2013 ~ Apr. 20, 2013	Jul. 02, 2013	Radiation (03CH06-HY)

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 (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
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Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.72
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Appendix A. Photographs of EUT

Please refer to Sporton report number EP331332 as below.