FCC RF Test Report

APPLICANT	**:**	**Elk LLC**
EQUIPMENT	**:**	**Tablet PC**
MODEL NAME	**:**	**3HT7G**
FCC ID	**:**	**ZHT-1013**
STANDARD	**:**	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	**:**	**(DTS) Digital Transmission System**

The product was completely tested on Aug. 29, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 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:

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
FR240709B	Rev. 01	Initial issue of report	Aug. 31, 2012
FR240709B	Rev. 02	Updated the antenna type description	Sep. 12, 2012

SUMMARY OF WLAN TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.2	15.247(b)	A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(e)	A8.2(b)	Power Spectral Density	≤ 8dBm/3kHz	Pass	-
3.4	15.247(d)	A8.5	Conducted Band Edges	≤ 20dBc	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	A8.5	Radiated Band Edges	15.209(a) & 15.247(d)	Pass	-
			Radiated Spurious Emission		Pass	Under limit 0.59 dB at 2483.500 MHz
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 7.00 dB at 1.486 MHz
3.7	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Elk LLC
Suite 100, 2730 Gateway Oaks Drive, Sacramento, CA 95833

1.2 Feature of Equipment Under Test

Product Specification	
Equipment	Tablet PC
Model Name	3HT7G
FCC ID	ZHT-1013
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA/LTE WLAN 11abgn / Bluetooth 3.0
Antenna Type	<2.4GHz> Ant 1 : PIFA Antenna Type with gain 2.50 dBi Ant 2 : PIFA Antenna Type with gain 2.00 dBi <5GHz> Ant 1 : PIFA Antenna Type with gain 2.50 dBi Ant 2 : PIFA Antenna Type with gain 2.00 dBi

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

Product Specification subjective to this standard	
Tx/Rx Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz
Maximum Peak Output Power to Antenna	**<2.4GHz>** **<Legacy Ant 1>** 802.11b : 20.23 dBm (0.1054 W) 802.11g : 24.95 dBm (0.3126 W) **<SISO Ant 1>** 802.11n HT20 : 24.60 dBm (0.2884 W) **<MIMO Ant 1+2>** 802.11n HT20 : 26.73 dBm (0.4710 W)
	<5GHz> **<Legacy Ant 1>** 802.11a : 21.33 dBm (0.1358 W) **<SISO Ant 1>** 802.11n HT20 : 20.43 dBm (0.1104 W) 802.11n HT40 : 20.81 dBm (0.1205 W) **<MIMO Ant 1+2>** 802.11n HT20 : 24.17 dBm (0.2610 W) 802.11n HT40 : 23.24 dBm (0.2110 W)

<table>
<tr><td rowspan="2">Duty Cycle</td><td><2.4GHz>
<Legacy Ant 1>
802.11b : 100.00%
802.11g : 99.15%
<SISO Ant 1>
802.11n HT20 : 99.01%
<MIMO Ant 1+2>
802.11n HT20 : 98.20% for Ant 1
802.11n HT20 : 98.20% for Ant 2</td></tr>
<tr><td><5GHz>
<Legacy Ant 1>
802.11a : 99.36%
<SISO Ant 1>
802.11n HT20 : 99.08%
802.11n HT40 : 98.60%
<MIMO Ant 1+2>
802.11n HT20 : 98.21% for Ant 1
802.11n HT20 : 98.66% for Ant 2
802.11n HT40 : 97.01% for Ant 1
802.11n HT40 : 97.00% for Ant 2</td></tr>
<tr><td>Type of Modulation</td><td>802.11b : DSSS (BPSK / QPSK / CCK)
802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)</td></tr>
<tr><td>Antenna Function Description</td><td>
<table>
<tr><td></td><td>Ant 1.</td><td>Ant 2.</td></tr>
<tr><td>802.11 b</td><td>V</td><td>-</td></tr>
<tr><td>802.11 g</td><td>V</td><td>-</td></tr>
<tr><td>802.11 a</td><td>V</td><td>-</td></tr>
<tr><td>802.11 n SISO</td><td>V</td><td>-</td></tr>
<tr><td>802.11 n MIMO</td><td>V</td><td>V</td></tr>
</table>
</td></tr>
</table>

Note: WLAN and BT can’t transmit simultaneously.

1.3 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1st 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	03CH07-HY	722060/4086B-1

1.4 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 v01
- ANSI C63.4-2003 and ANSI C63.10-2009
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3

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, and FCC Part 15E recorded in separated test reports.

1.5 Ancillary Equipment List

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.	LCD Monitor	Dell	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
5.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
6.	iPod Earphone	Apple	N/A	FCC DoC	Unshielded, 1.0 m	N/A
7.	Adapter	N/A	N/A	N/A	N/A	N/A

2 Test Configuration of Equipment Under Test

2.1 Test Mode

The EUT supports 802.11a/b/g/n with two diversity antennas, antenna 1 and 2, and completely uncorrelated MIMO modes. The Antenna 2 is receiver only for WLAN legacy/SISO mode, and dedicates for Bluetooth. The test configurations are reported in following sections.

For conducted test cases, the high, middle, low channels of legacy modes (802.11b,g,a) and 802.11n mode (SISO, MIMO) were tested respectively by choosing the highest RF output power chain, and data rate from preliminary conducted power testing as shown in section 2.3.

The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and ANSI C63.10-2009 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), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

For radiated measurements, pre-scanned tests were conducted to determine the final configuration from all possible combinations. Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations modes, and the worst mode (Z plane) is recorded in this report only, and the worst modes from the legacy modes and n modes were used for the full radiated test measurement.

<2.4GHz>

Test Cases				
	Test Items	**Mode**	**Data Rate**	**Test Channel**
Conducted TCs	**6dB and 99% BW 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**
	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**
	Conducted Band Edge	**802.11b**	**1 Mbps**	**1/11**
		802.11g	**6 Mbps**	**1/11**
		802.11n HT20	**6.5 Mbps**	**1/11**
	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**
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**
	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**

<5GHz>

Test Cases				
	Test Items	**Mode**	**Data Rate**	**Test Channel**
Conducted TCs	**6dB and 99% BW Power Spectral Density**	**802.11a**	**6 Mbps**	**149/157/165**
		802.11n HT20	**6.5 Mbps**	**149/157/165**
		802.11n HT40	**13.5 Mbps**	**151/159**
	Output Power	**802.11a**	**6 Mbps**	**149/157/165**
		802.11n HT20	**6.5 Mbps**	**149/157/165**
		802.11n HT40	**13.5 Mbps**	**151/159**
	Conducted Band Edge	**802.11a**	**6 Mbps**	**149/165**
		802.11n HT20	**6.5 Mbps**	**149/165**
		802.11n HT40	**13.5 Mbps**	**151/159**
	Conducted Spurious Emission	**802.11a**	**6 Mbps**	**149/157/165**
		802.11n HT20	**6.5 Mbps**	**149/157/165**
		802.11n HT40	**13.5 Mbps**	**151/159**
Radiated TCs	**Radiated Band Edge**	**802.11a**	**6 Mbps**	**149/165**
		802.11n HT20	**6.5 Mbps**	**149/165**
		802.11n HT40	**13.5 Mbps**	**151/159**
	Radiated Spurious Emission	**802.11a**	**6 Mbps**	**149/157/165**
		802.11n HT20	**6.5 Mbps**	**149/157/165**
		802.11n HT40	**13.5 Mbps**	**151/159**

Test Cases	
AC Conducted Emission	Mode 1 :GSM850 Idle + WLAN Link + Bluetooth Link + HDMI Cable + Earphone + MPEG4 + USB Cable (Charging from Adapter)

2.2 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
	157	5785	165	5825

2.3 Pre-Scanned RF Power

Preliminary tests were performed in different data rate as below table and the highest power data rates (11b, 11g, 11n HT20, 11a, 11n HT20, 11n HT40 modes) were chosen for full test in the following sections to demonstrate compliance to the FCC limit line.

<Legacy Ant 1>

2.4GHz 802.11b mode				
Data Rate (MHz)	**1M bps**	**2M bps**	**5.5M bps**	**11M bps**
Peak Power (dBm)	**20.23**	20.15	20.1	20.05

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)	**24.95**	24.91	24.88	24.79	24.87	24.85	24.82	24.92

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)	**21.33**	21.3	21.16	21.17	21.1	21.27	21.11	21.28

<SISO Ant 1>

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS0**	**MCS1**	**MCS2**	**MCS3**	**MCS4**	**MCS5**	**MCS6**	**MCS7**
Peak Power (dBm)	**24.60**	24.45	24.51	24.48	24.46	24.53	24.54	24.54

5GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS0**	**MCS1**	**MCS2**	**MCS3**	**MCS4**	**MCS5**	**MCS6**	**MCS7**
Peak Power (dBm)	**20.43**	20.40	20.38	20.41	20.37	20.4	20.32	20.41

5GHz 802.11n HT40 mode								
Data Rate (MHz)	**MCS0**	**MCS1**	**MCS2**	**MCS3**	**MCS4**	**MCS5**	**MCS6**	**MCS7**
Peak Power (dBm)	**20.81**	20.78	20.72	20.79	20.74	20.76	20.8	20.79

<MIMO Ant 1 + 2>

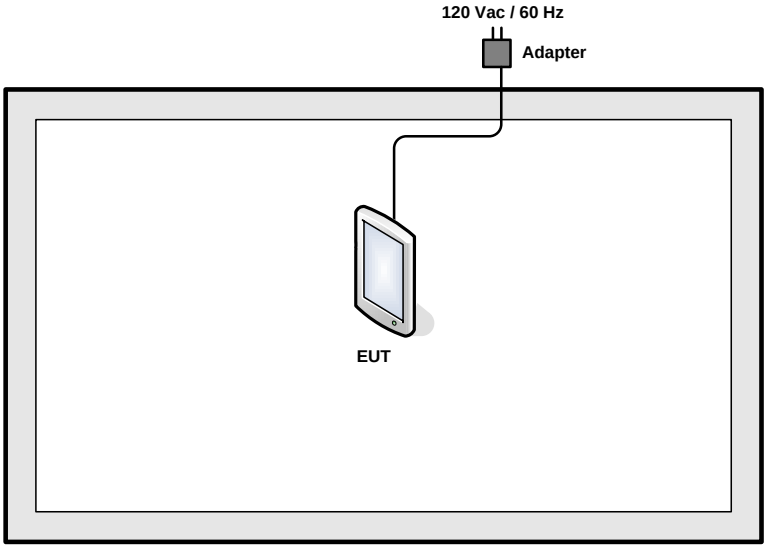
2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS8**	**MCS9**	**MCS10**	**MCS11**	**MCS12**	**MCS13**	**MCS14**	**MCS15**
Peak Power (dBm) MIMO – Ant 1	**24.12**	24.02	23.97	23.94	24.11	24.11	23.97	23.98
Peak Power (dBm) MIMO – Ant 2	**23.28**	23.27	23.24	23.26	23.30	23.23	23.31	23.34
MIMO Ant 1 + 2 (Measure and Sum)	**26.73**	26.67	26.63	26.62	26.73	26.70	26.66	26.68

5GHz 802.11n HT20 mode								
Data Rate (MHz)	**MCS8**	**MCS9**	**MCS10**	**MCS11**	**MCS12**	**MCS13**	**MCS14**	**MCS15**
Power (dBm) MIMO – Ant 1	**21.08**	21.04	21.08	21.03	21.06	20.98	21.01	21.06
Power (dBm) MIMO – Ant 2	**21.23**	21.20	21.22	21.15	21.15	21.18	21.16	21.21
MIMO Ant 1 + 2 (Measure and Sum)	**24.17**	24.13	24.16	24.10	24.12	24.09	24.10	24.15

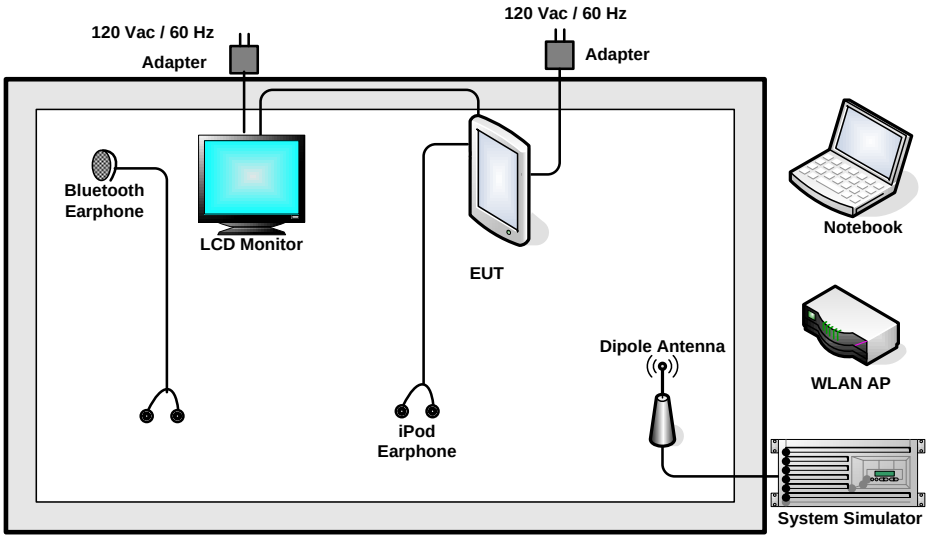
5GHz 802.11n HT40 mode								
Data Rate (MHz)	**MCS8**	**MCS9**	**MCS10**	**MCS11**	**MCS12**	**MCS13**	**MCS14**	**MCS15**
Power (dBm) MIMO – Ant 1	**19.88**	19.84	19.86	19.81	19.75	19.79	19.82	19.86
Power (dBm) MIMO – Ant 2	**20.56**	20.46	20.47	20.50	20.48	20.53	20.51	20.54
MIMO Ant 1 + 2 (Measure and Sum)	**23.24**	23.17	23.19	23.18	23.14	23.19	23.19	23.22

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 RF Utility

For WLAN function, “Compliance Tool” was installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing.

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.

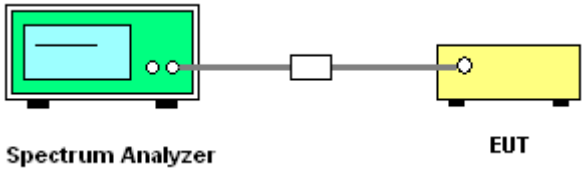
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. 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) = 1-5% of the emission bandwidth (EBW).Set the Video bandwidth (VBW) ≥ 3 * RBW. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		Legacy Ant 1		
01	2412	8.16	0.5	Pass
06	2437	8.16	0.5	Pass
11	2462	8.16	0.5	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		Legacy Ant 1		
01	2412	16.04	0.5	Pass
06	2437	16.08	0.5	Pass
11	2462	16.00	0.5	Pass

Test Mode :	2.4GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 (SISO, MIMO) 6dB Bandwidth (MHz)			6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		SISO Ant 1	MIMO Ant 1	MIMO Ant 2		
01	2412	17.50	17.48	17.36	0.5	Pass
06	2437	17.54	17.48	17.36	0.5	Pass
11	2462	17.48	17.48	17.40	0.5	Pass

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Kenny Chen	Relative Humidity :	45~49%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		Legacy Ant 1		
149	5745	15.96	0.5	Pass
157	5785	15.92	0.5	Pass
165	5825	16.00	0.5	Pass

Test Mode :	5GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

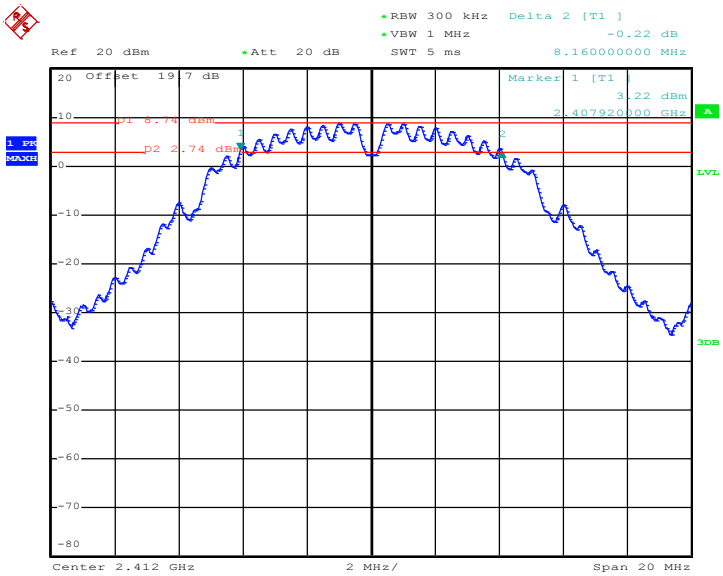
Channel	Frequency (MHz)	5GHz 802.11n HT20 (SISO, MIMO) 6dB Bandwidth (MHz)			6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		SISO Ant 1	MIMO Ant 1	MIMO Ant 2		
149	5745	17.12	16.60	17.08	0.5	Pass
157	5785	17.16	17.00	16.88	0.5	Pass
165	5825	17.12	17.00	16.84	0.5	Pass

Test Mode :	5GHz 802.11n HT40	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	5GHz 802.11n HT40 (SISO, MIMO) 6dB Bandwidth (MHz)			6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		SISO Ant 1	MIMO Ant 1	MIMO Ant 2		
151	5755	35.24	35.68	36.32	0.5	Pass
159	5795	36.28	36.24	36.40	0.5	Pass

3.1.6 Test Result of 6dB Bandwidth Plots

6 dB Bandwidth Plot on 802.11b Channel 01 – Legacy Ant 1



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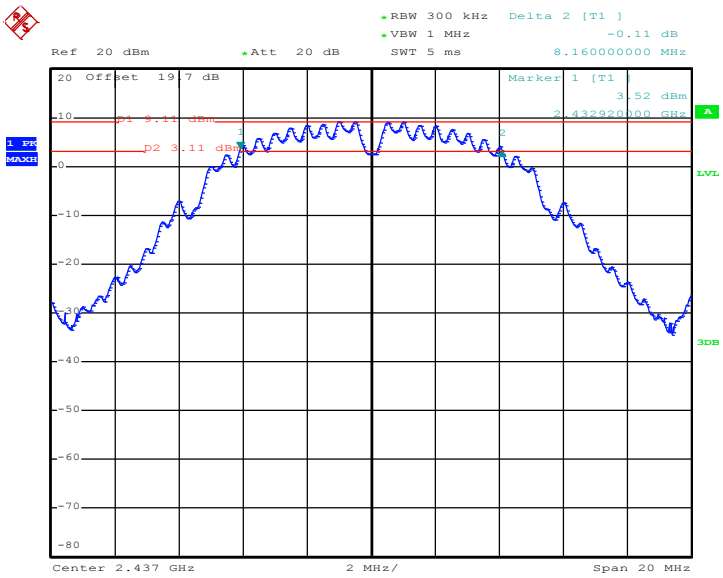
6 dB Bandwidth Plot on 802.11b Channel 06 – Legacy Ant 1



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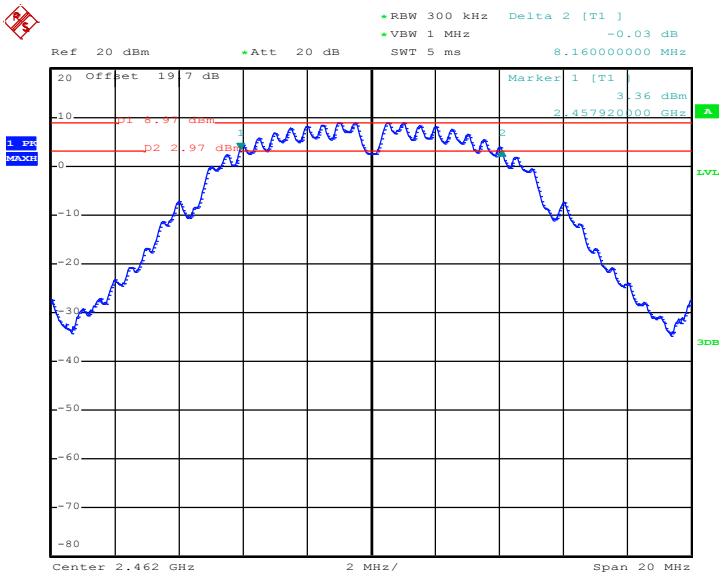
6 dB Bandwidth Plot on 802.11b Channel 11 – Legacy Ant 1



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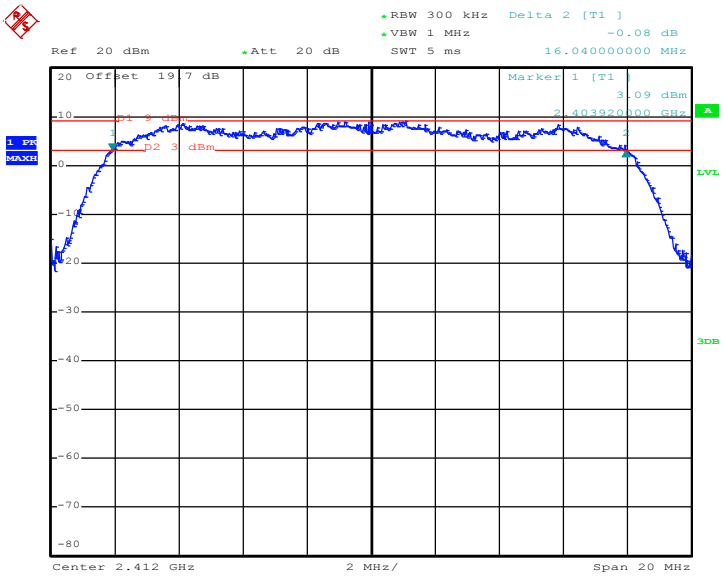
6 dB Bandwidth Plot on 802.11g Channel 01 – Legacy Ant 1



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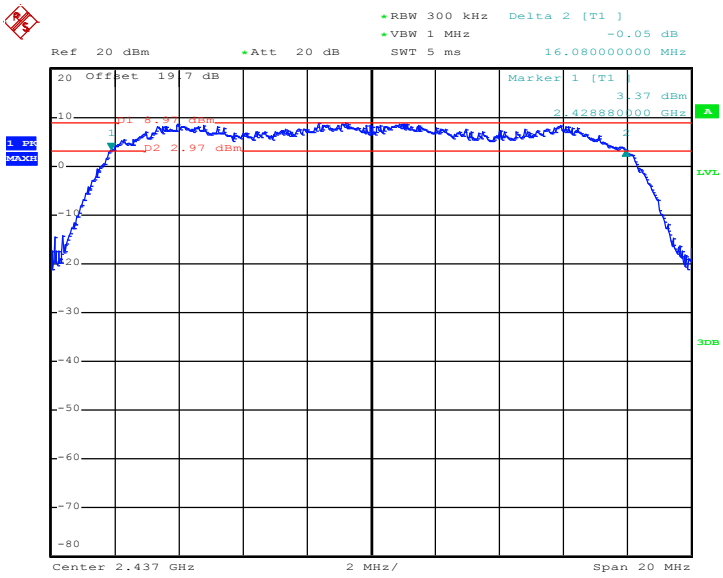
6 dB Bandwidth Plot on 802.11g Channel 06 – Legacy Ant 1



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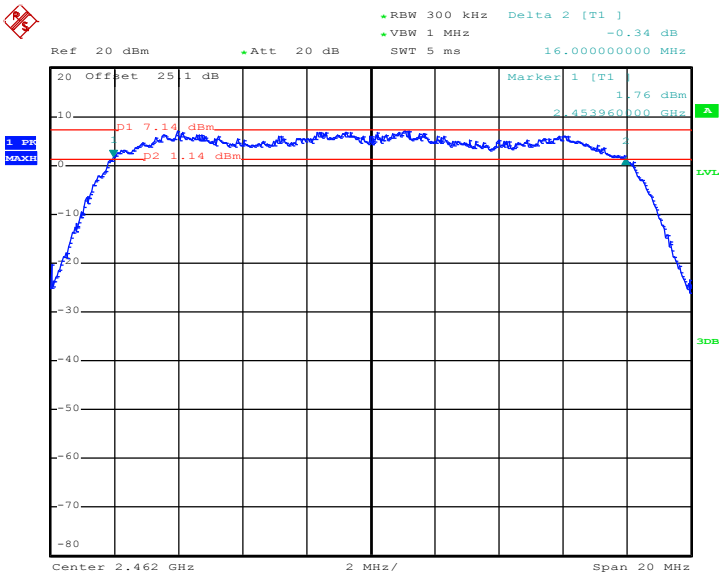
6 dB Bandwidth Plot on 802.11g Channel 11 – Legacy Ant 1



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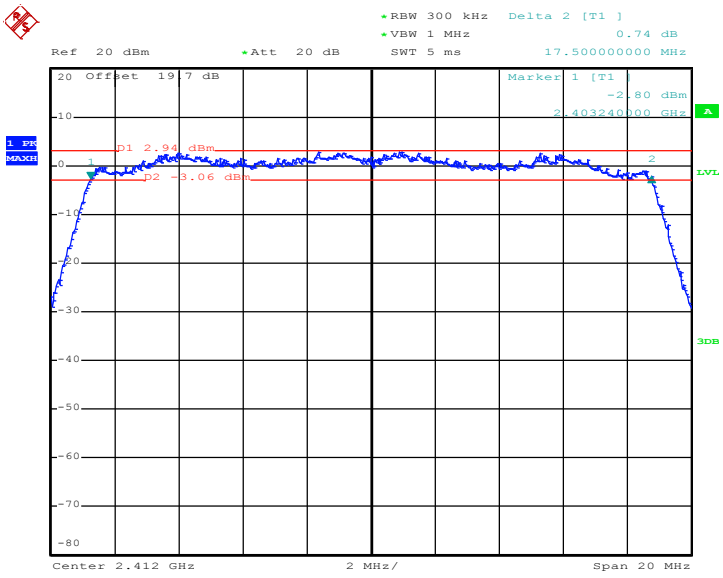
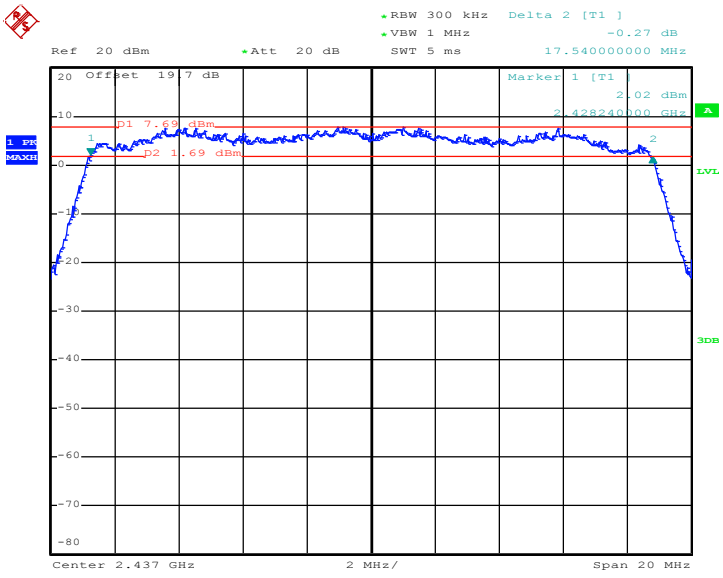
6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01 – SISO ANT 1



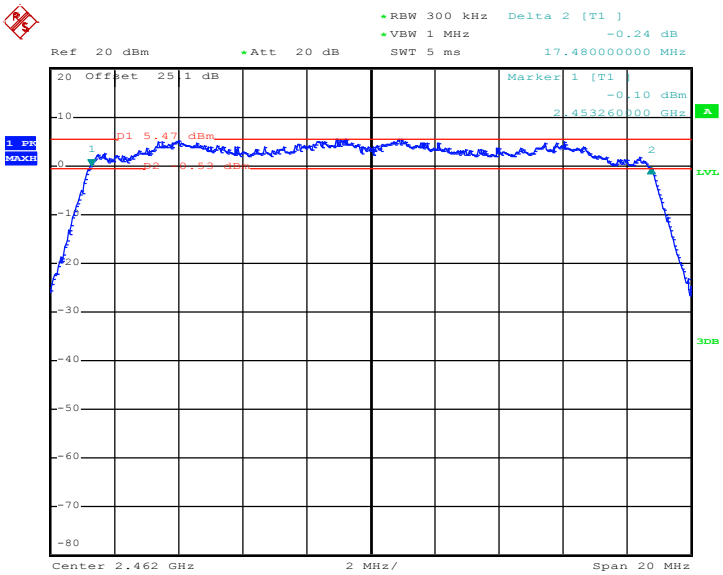
Date: 27.JUL.2012 11:23:36

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06 – SISO ANT 1



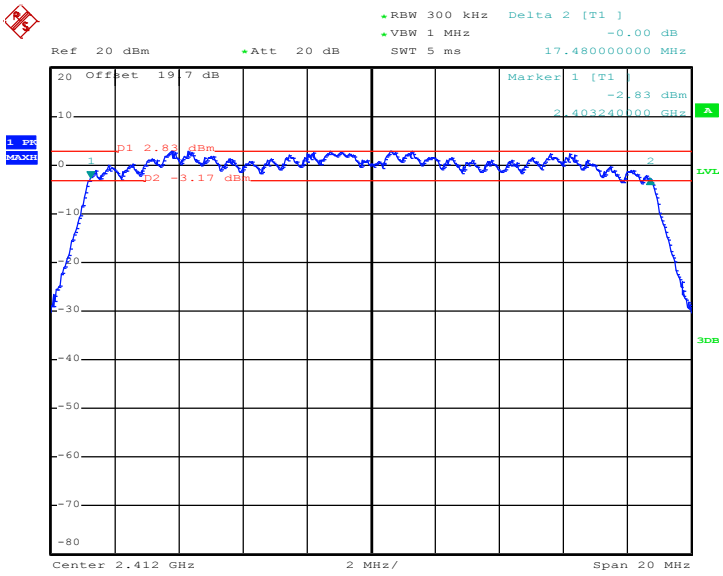
Date: 27.JUL.2012 11:29:00

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11 – SISO ANT 1



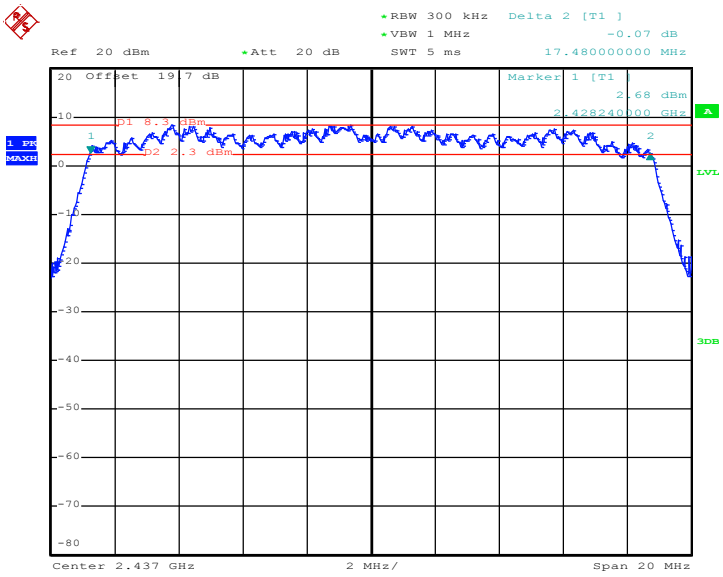
Date: 29.AUG.2012 18:09:57

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01 – MIMO ANT 1



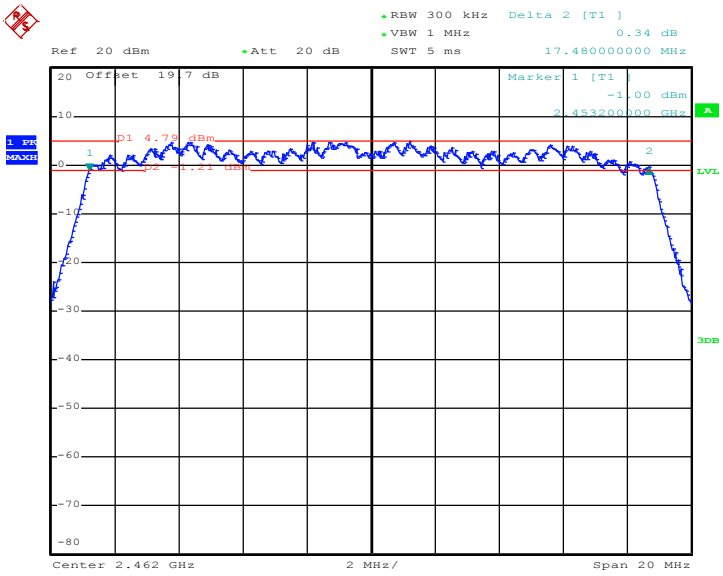
Date: 28.JUL.2012 02:37:25

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06 – MIMO ANT 1



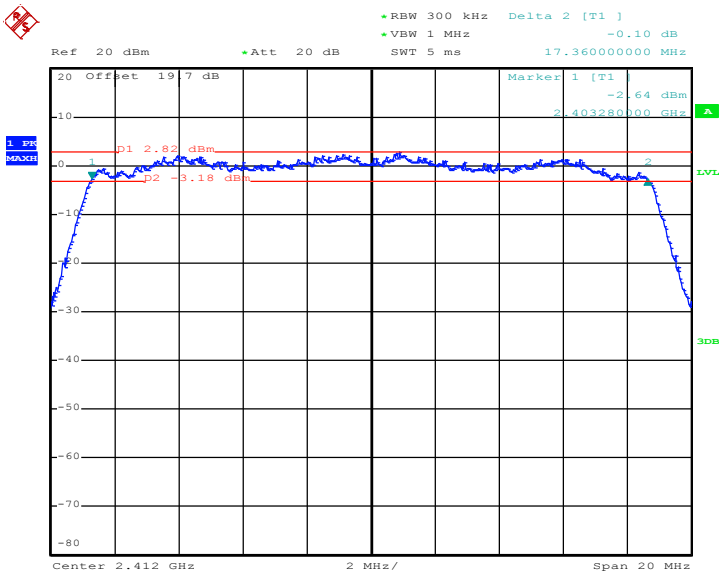
Date: 28.JUL.2012 02:42:46

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11 – MIMO ANT 1



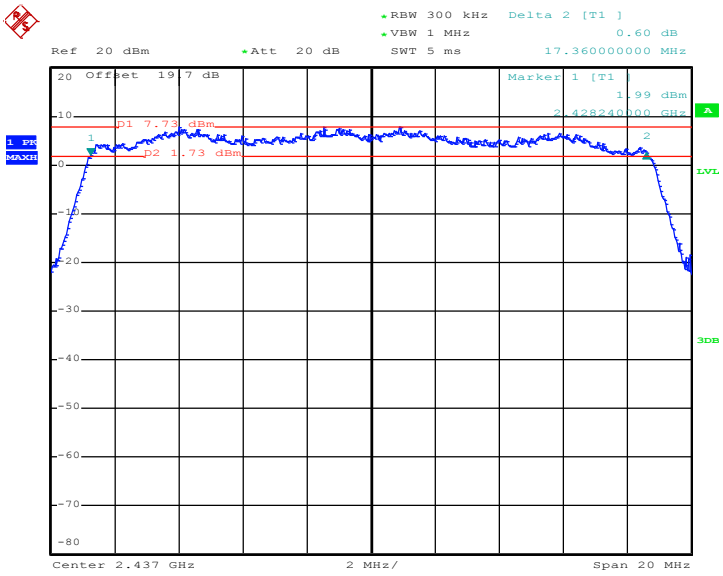
Date: 28.JUL.2012 02:47:54

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01 – MIMO ANT 2



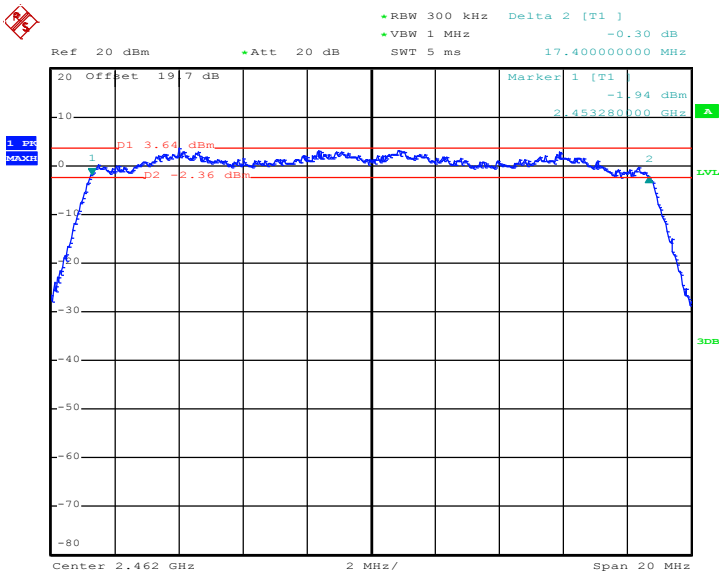
Date: 28.JUL.2012 03:00:28

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06 – MIMO ANT 2



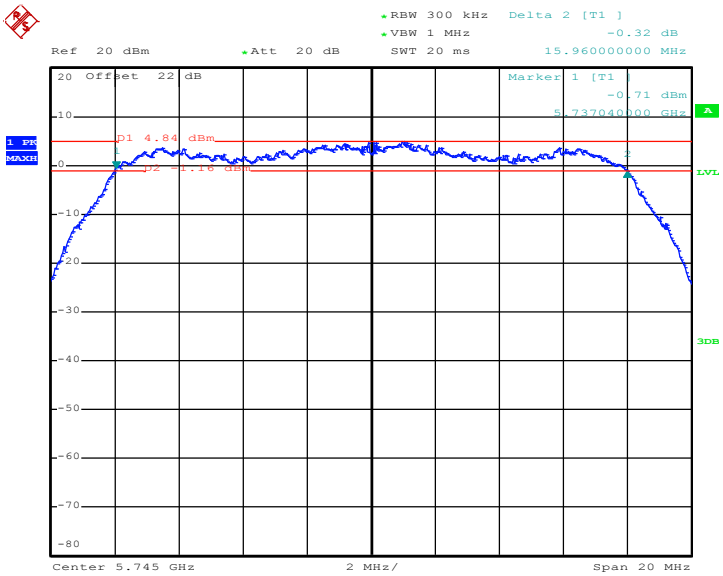
Date: 28.JUL.2012 02:56:45

6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11 – MIMO ANT 2



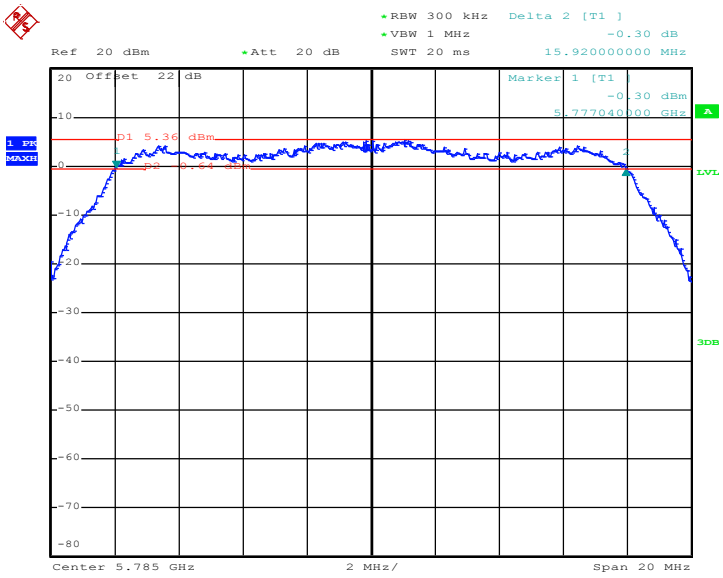
Date: 28.JUL.2012 02:52:49

6 dB Bandwidth Plot on 802.11a Channel 149 - Legacy Ant 1



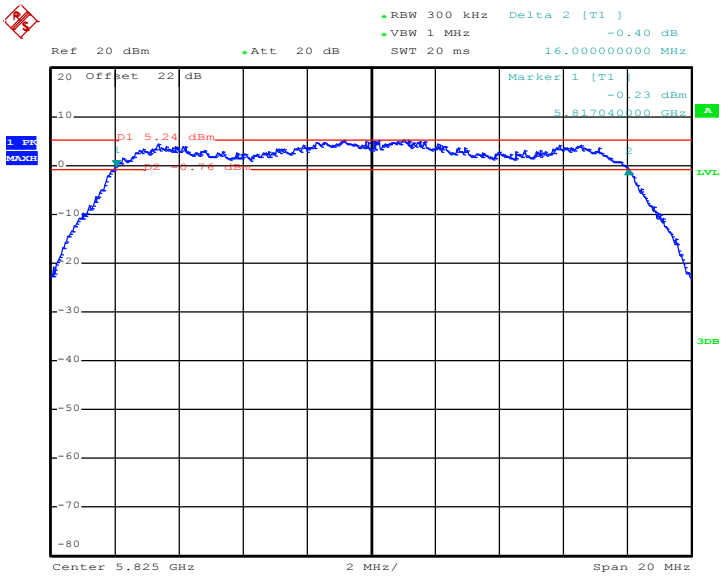
Date: 27.JUL.2012 11:38:22

6 dB Bandwidth Plot on 802.11a Channel 157 - Legacy Ant 1



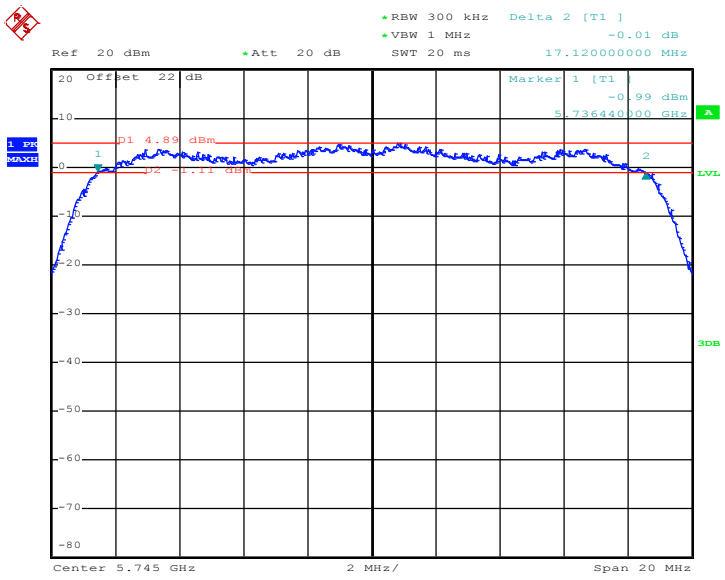
Date: 27.JUL.2012 11:44:17

6 dB Bandwidth Plot on 802.11a Channel 165 - Legacy Ant 1



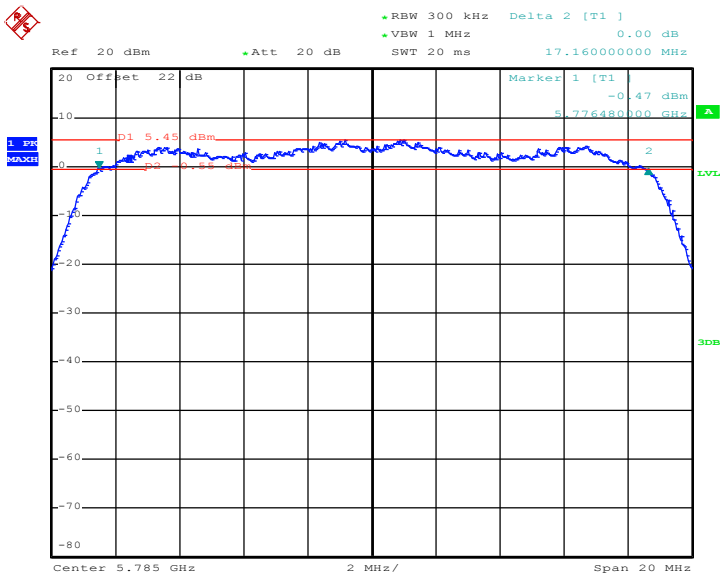
Date: 27.JUL.2012 11:52:11

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 149 - SISO Ant 1



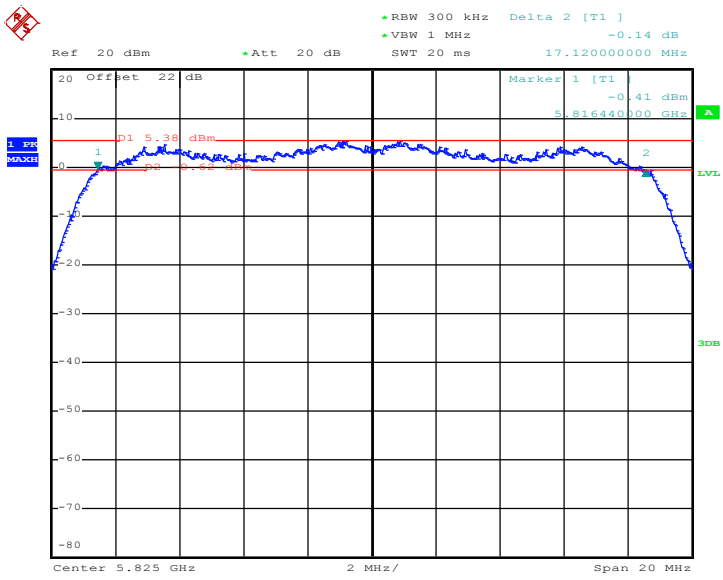
Date: 27.JUL.2012 12:39:05

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 157 - SISO Ant 1



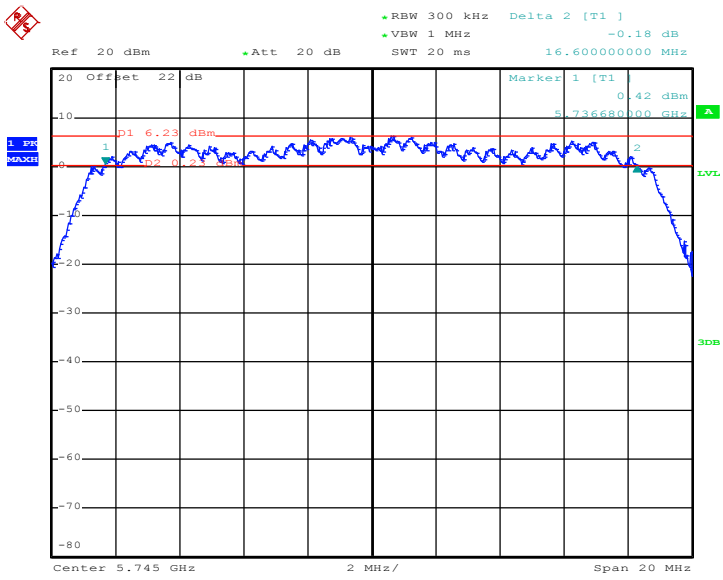
Date: 27.JUL.2012 12:35:12

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 165 - SISO Ant 1



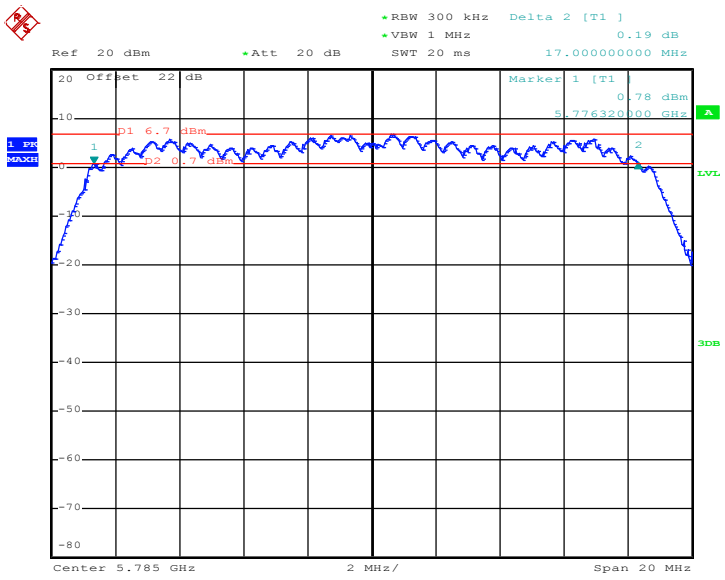
Date: 27.JUL.2012 12:29:45

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 149 - MIMO Ant 1



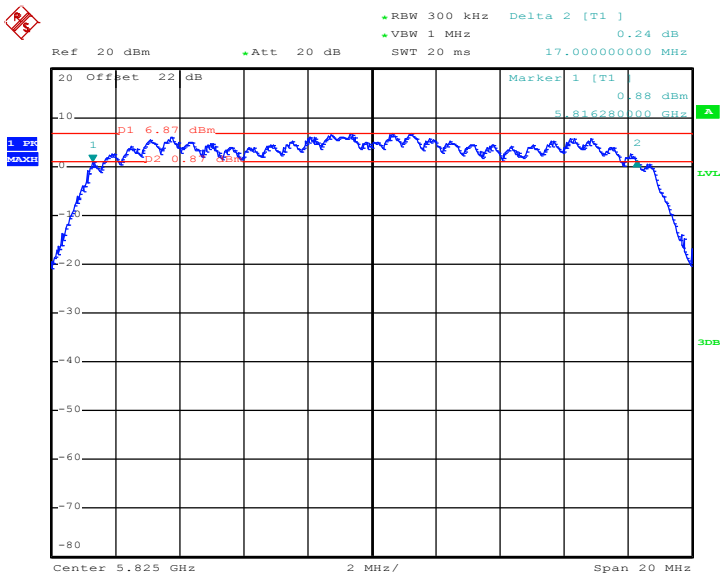
Date: 28.JUL.2012 03:30:01

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 157 - MIMO Ant 1



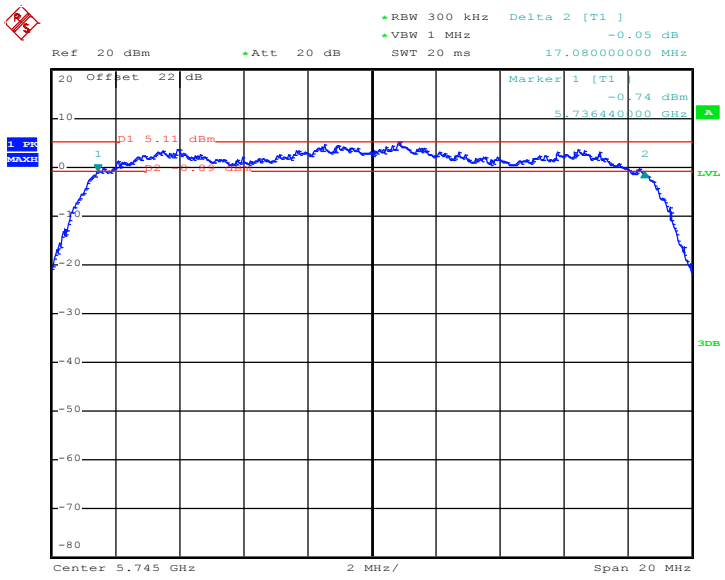
Date: 28.JUL.2012 03:25:50

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 165 - MIMO Ant 1



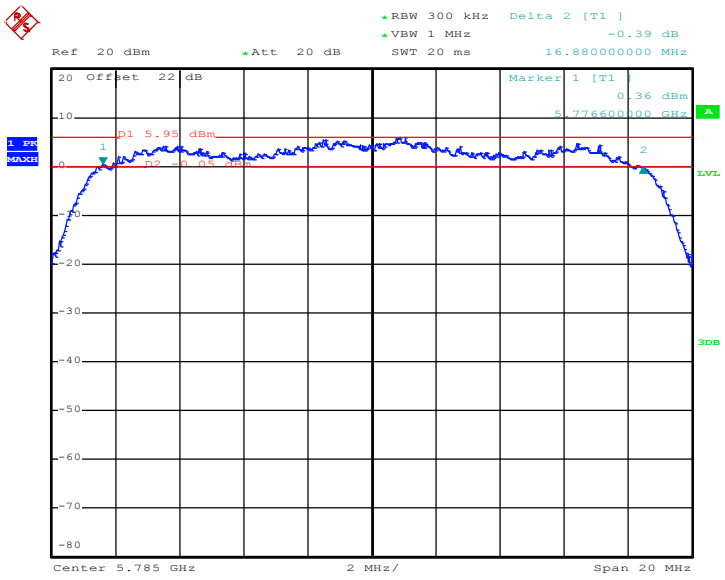
Date: 28.JUL.2012 03:21:00

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 149 - MIMO Ant 2



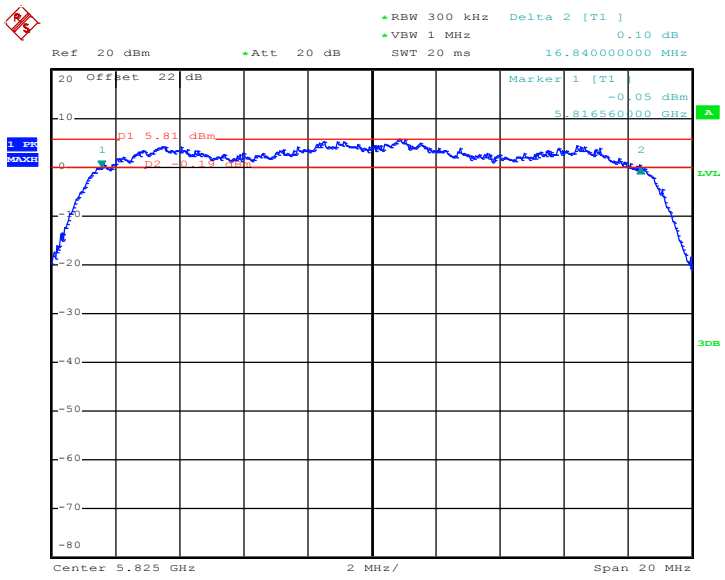
Date: 28.JUL.2012 03:07:12

6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 157 - MIMO Ant 2

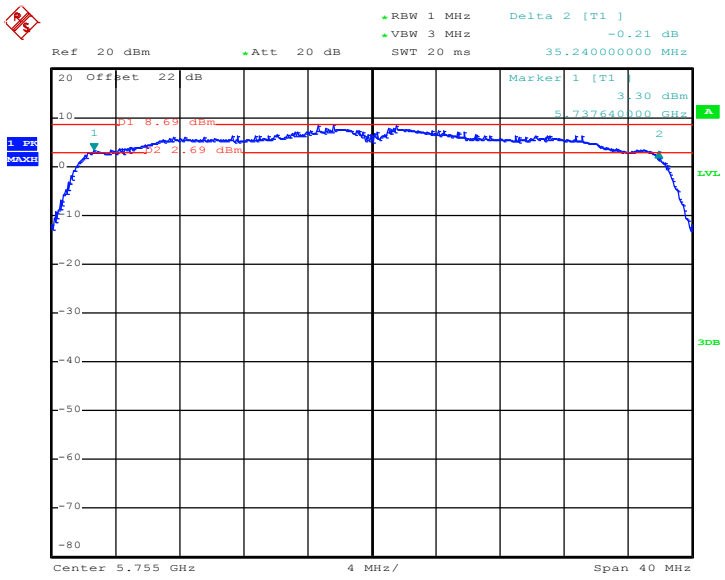


Date: 28.JUL.2012 03:11:16

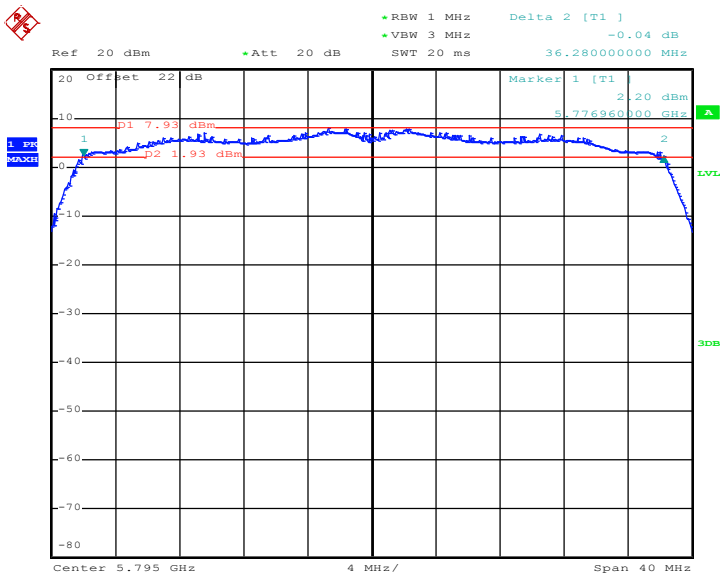
6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 165 - MIMO Ant 2



6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 151 - SISO Ant 1

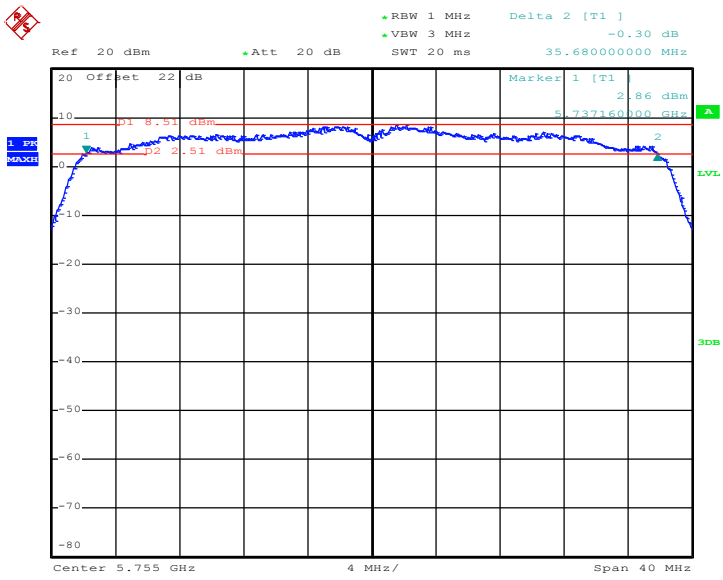


6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 159 - SISO Ant 1



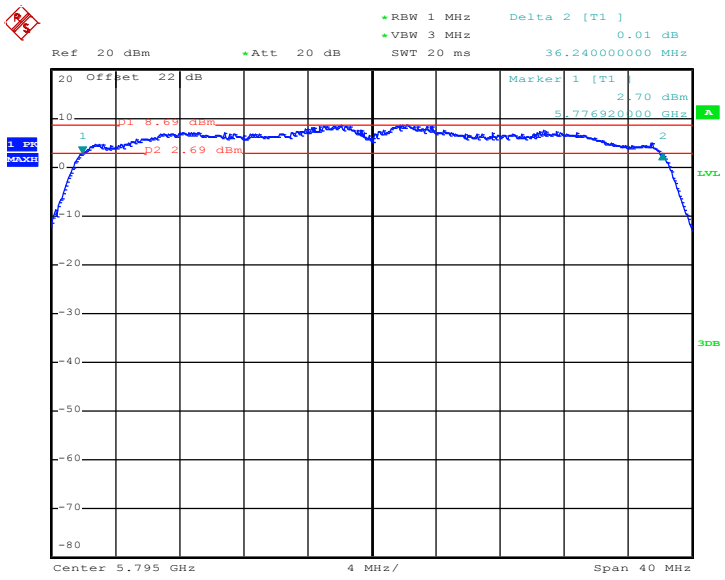
Date: 27.JUL.2012 14:20:50

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 151 - MIMO Ant 1



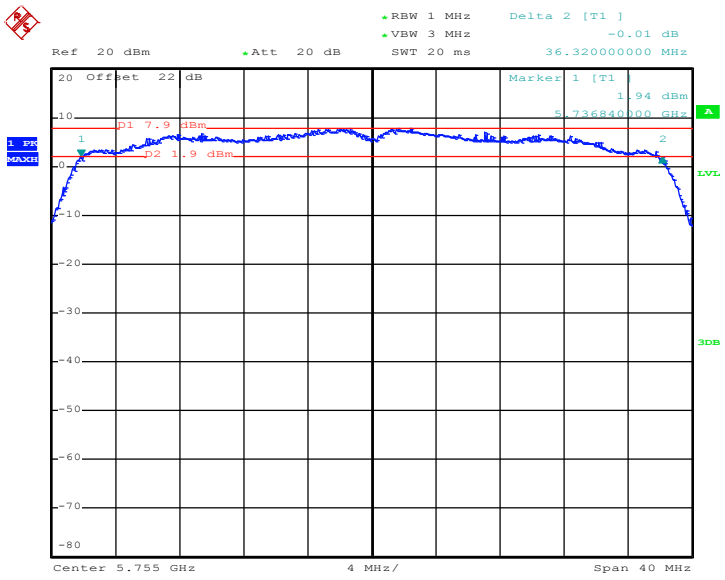
Date: 28.JUL.2012 03:36:40

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 159 - MIMO Ant 1



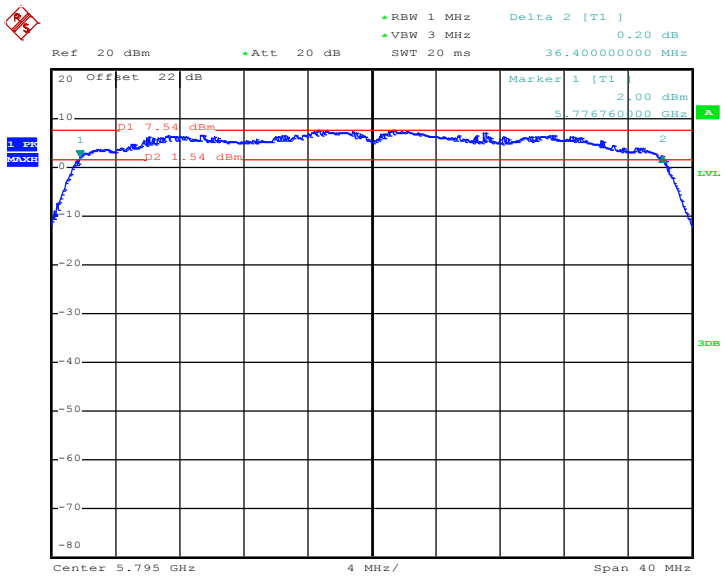
Date: 28.JUL.2012 03:41:12

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 151 - MIMO Ant 2



Date: 28.JUL.2012 03:55:07

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 159 - MIMO Ant 2



Date: 28.JUL.2012 03:51:12

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.

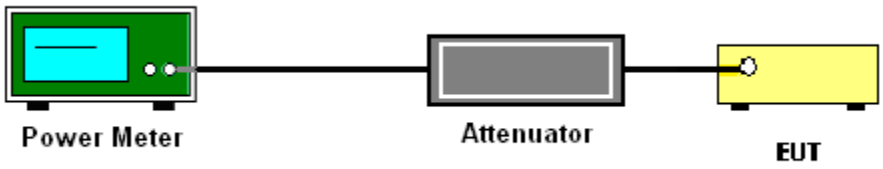
3.2.2 Measuring Instruments

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 and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the power meter by a low loss cable
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.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v01r01.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
		Legacy Ant 1		
01	2412	19.79	30	Pass
06	2437	20.23	30	Pass
11	2462	20.21	30	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
		Legacy Ant 1		
01	2412	22.58	30	Pass
06	2437	24.95	30	Pass
11	2462	22.83	30	Pass

Test Mode :	2.4GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Peak Output Power (dBm)				Max. Limits (dBm)	Pass/Fail
		SISO ANT 1	MIMO ANT 1	MIMO ANT 2	MIMO ANT 1+2		
01	2412	21.40	20.93	20.96	23.96	30	Pass
06	2437	24.60	24.12	23.28	26.73	30	Pass
11	2462	23.04	21.47	21.86	24.68	30	Pass

Note : MIMO ANT 1+2 is a calculated result from sum of the power MIMO 1 and MIMO 2.

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
		Legacy Ant 1		
149	5745	21.05	30	Pass
157	5785	21.33	30	Pass
165	5825	21.02	30	Pass

Test Mode :	5GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	5GHz 802.11n HT20 Peak Output Power (dBm)				Max. Limits (dBm)	Pass/Fail
		SISO ANT 1	MIMO ANT 1	MIMO ANT 2	MIMO ANT 1+2		
149	5745	20.11	20.54	21.15	23.87	30	Pass
157	5785	20.43	21.08	21.23	24.17	30	Pass
165	5825	20.12	20.80	20.89	23.86	30	Pass

Test Mode :	5GHz 802.11n HT40	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	5GHz 802.11n HT40 Peak Output Power (dBm)				Max. Limits (dBm)	Pass/Fail
		SISO ANT 1	MIMO ANT 1	MIMO ANT 2	MIMO ANT 1+2		
151	5755	20.69	19.24	20.89	23.15	30	Pass
159	5795	20.81	19.88	20.56	23.24	30	Pass

Note : MIMO ANT 1+2 is a calculated result from sum of the power MIMO 1 and MIMO 2.

3.2.6 Test Result of Average output Power

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
		Legacy Ant 1
01	2412	16.35
06	2437	16.88
11	2462	16.86

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
		Legacy Ant 1
01	2412	11.72
06	2437	16.00
11	2462	13.37

Test Mode :	2.4GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Average Output Power (dBm)			
		SISO ANT 1	MIMO ANT 1	MIMO ANT 2	MIMO ANT 1+2
01	2412	10.48	10.65	10.50	13.58
06	2437	14.88	14.80	15.00	17.91
11	2462	12.82	11.43	11.25	14.35

Note :

1. MIMO ANT 1+2 is a calculated result from sum of the power MIMO ANT 1 and MIMO ANT 2.
2. The average power is measured by power meter with average power sensor and is reporting only.

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11a Average Output Power (dBm)
		Legacy Ant 1
149	5745	11.74
157	5785	11.97
165	5825	11.78

Test Mode :	5GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	5GHz 802.11n HT20 Average Output Power (dBm)			
		SISO ANT 1	MIMO ANT 1	MIMO ANT 2	MIMO ANT 1+2
149	5745	11.32	11.89	12.33	15.12
157	5785	11.48	12.79	12.55	15.68
165	5825	11.19	12.21	12.31	15.27

Test Mode :	5GHz 802.11n HT40	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	5GHz 802.11n HT40 Average Output Power (dBm)			
		SISO ANT 1	MIMO ANT 1	MIMO ANT 2	MIMO ANT 1+2
151	5755	11.83	11.31	12.35	14.87
159	5795	11.87	11.78	12.09	14.95

Note :

1. MIMO ANT 1+2 is a calculated result from sum of the power MIMO ANT 1 and MIMO ANT 2.
2. The average power is measured by power meter with average power sensor and is reporting only.

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 5.3.1 (Peak PSD) of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. 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. Video bandwidth (VBW) >= 300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
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 in any 100 kHz band segment within the fundamental EBW.
6. Record the measurement data derived from spectrum analyzer.
7. Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (3 kHz/100 kHz = -15.2 dB).
8. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v01r01.

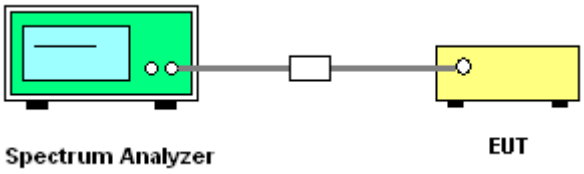
   If measurements performed using method (2) plus 10 log (N) exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

   Method (1): Measure and sum the spectra across the outputs.

   The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

   Method (2): Measure and add 10 log (N) dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm)	Pass /Fail
		Legacy Ant 1			
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	8.26	-6.94	8	Pass
06	2437	8.58	-6.62	8	Pass
11	2462	8.50	-6.70	8	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm)	Pass /Fail
		Legacy Ant 1			
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	5.04	-10.16	8	Pass
06	2437	5.29	-9.91	8	Pass
11	2462	3.24	-11.96	8	Pass

Test Mode :	2.4GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Ch.	Freq. (MHz)	2.4GHz 802.11n HT20 Power Density						Max. Limits (dBm)	Pass /Fail
		SISO ANT 1		MIMO ANT 1		MIMO ANT 2			
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)	Measured PSD/100KHz (dBm)	PSD/3KHz (dBm) +10LOG2	Measured PSD/100KHz (dBm)	PSD/3KHz (dBm) +10LOG2		
01	2412	-0.54	-15.74	-1.68	-13.87	-1.14	-13.33	8	Pass
06	2437	4.21	-10.99	3.73	-8.46	4.22	-7.97	8	Pass
11	2462	2.33	-12.87	0.24	-11.95	-0.33	-12.52	8	Pass

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Channel	Frequency (MHz)	802.11a Power Density		Max. Limits (dBm)	Pass /Fail
		Legacy Ant 1			
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	0.49	-14.71	8	Pass
157	5785	1.24	-13.96	8	Pass
165	5825	1.31	-13.89	8	Pass

Test Mode :	5GHz 802.11n HT20	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

Ch.	Freq. (MHz)	5GHz 802.11n HT20 Power Density						Max. Limits (dBm)	Pass /Fail
		SISO ANT 1		MIMO ANT 1		MIMO ANT 2			
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)	Measured PSD/100KHz (dBm)	PSD/3KHz (dBm) +10LOG2	Measured PSD/100KHz (dBm)	PSD/3KHz (dBm) +10LOG2		
149	5745	0.92	-14.28	0.81	-11.38	0.87	-11.32	8	Pass
157	5785	1.23	-13.97	1.38	-10.81	1.92	-10.27	8	Pass
165	5825	1.36	-13.84	1.60	-10.59	1.60	-10.59	8	Pass

Test Mode :	5GHz 802.11n HT40	Temperature :	24~26℃
Test Engineer :	Pinkston Tu and Book Lin	Relative Humidity :	55~58%

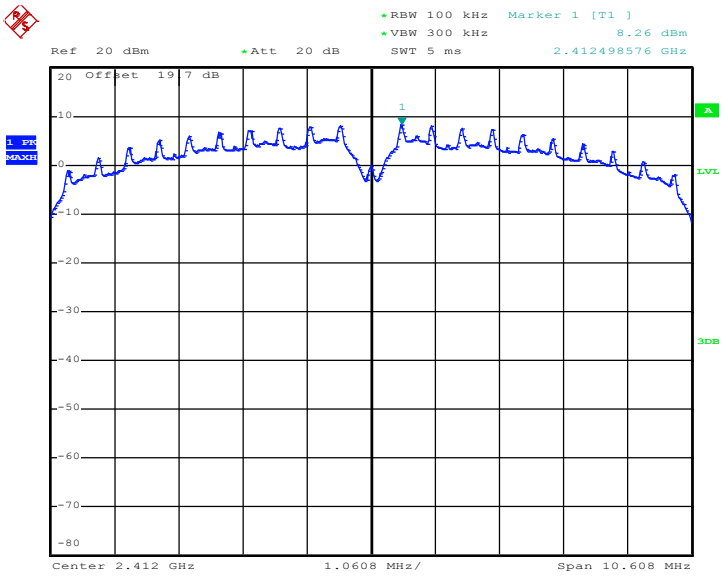
Ch.	Freq. (MHz)	5GHz 802.11n HT40 Power Density						Max. Limits (dBm)	Pass /Fail
		SISO ANT 1		MIMO ANT 1		MIMO ANT 2			
		Measured PSD/100KHz (dBm)	PSD/3KHz (dBm)	Measured PSD/100KHz (dBm)	PSD/3KHz (dBm) +10LOG2	Measured PSD/100KHz (dBm)	PSD/3KHz (dBm) +10LOG2		
151	5755	-1.07	-16.27	-1.53	-13.72	-1.55	-13.74	8	Pass
159	5795	-1.32	-16.52	-1.09	-13.28	-1.91	-14.10	8	Pass

Note:

1. *Measured power density (dBm) has offset with cable loss.*
2. *BWCF (dB) = 10 log (3k/100k) = -15.2 dB*
3. *Power Density/ 3KHz (dBm)= Measured power density/ 100KHz (dBm) + BWCF (dB)*
4. *MIMO Power Density/ 3KHz (dBm)= Measured power density/ 100KHz (dBm) + BWCF (dB) + 10LOG(N=2),where N=2 transmitters.*

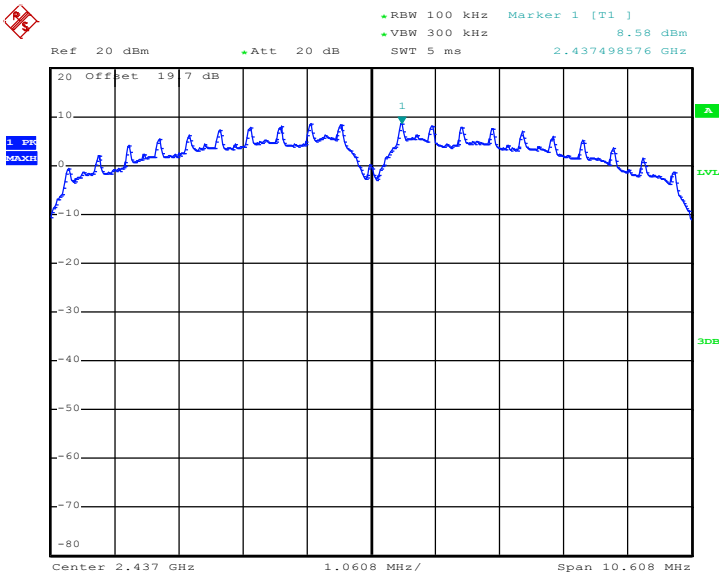
3.3.6 Test Result of Power Spectral Density Plots

PSD Plot on 802.11b Channel 01 – Legacy Ant 1



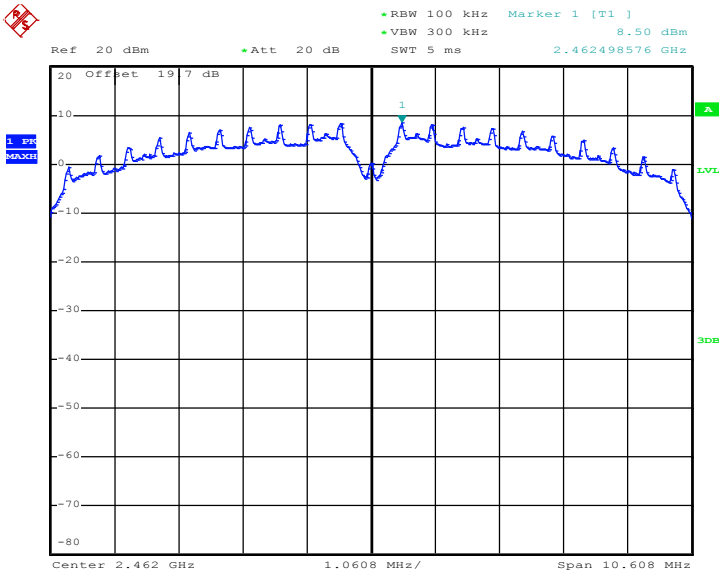
Date: 27.JUL.2012 10:48:08

PSD Plot on 802.11b Channel 06 – Legacy Ant 1



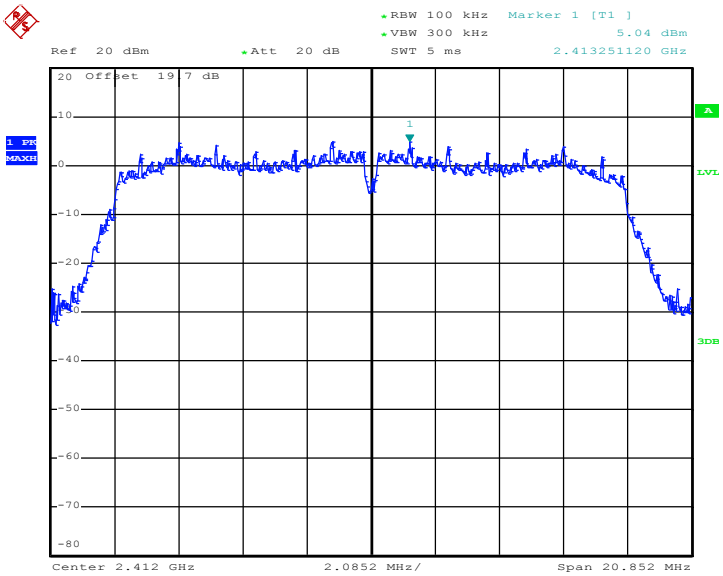
Date: 27.JUL.2012 10:53:45

PSD Plot on 802.11b Channel 11 – Legacy Ant 1



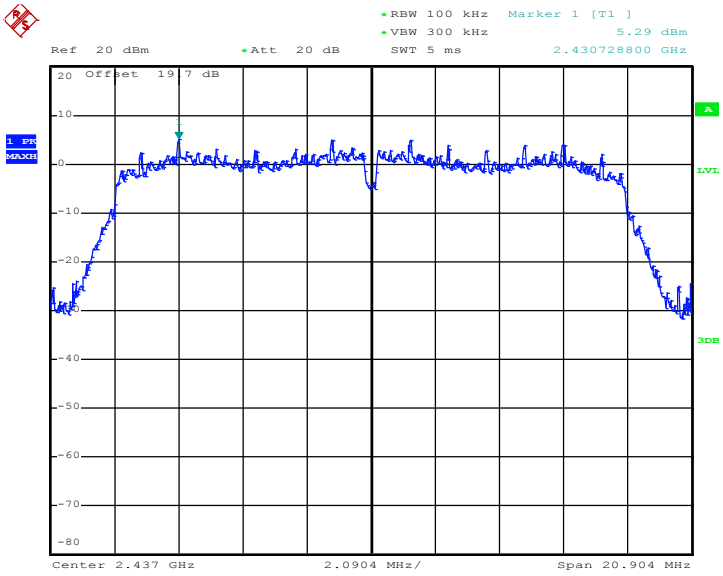
Date: 27.JUL.2012 10:56:18

PSD Plot on 802.11g Channel 01 – Legacy Ant 1



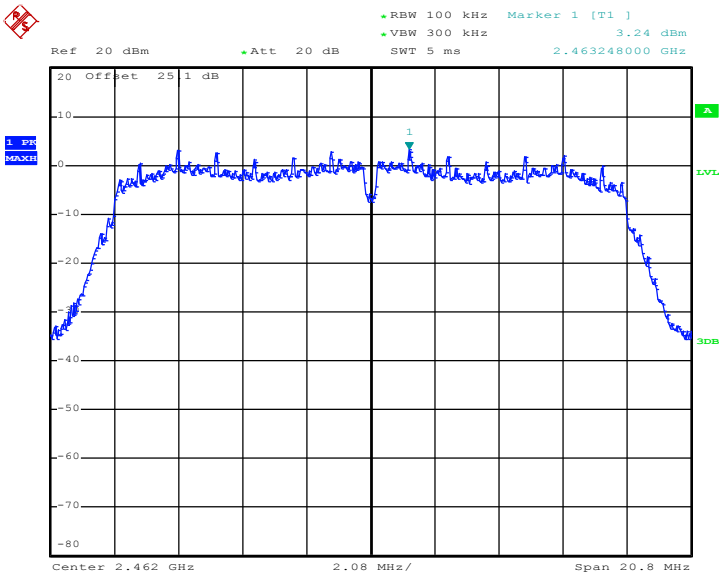
Date: 27.JUL.2012 11:17:58

PSD Plot on 802.11g Channel 06 – Legacy Ant 1



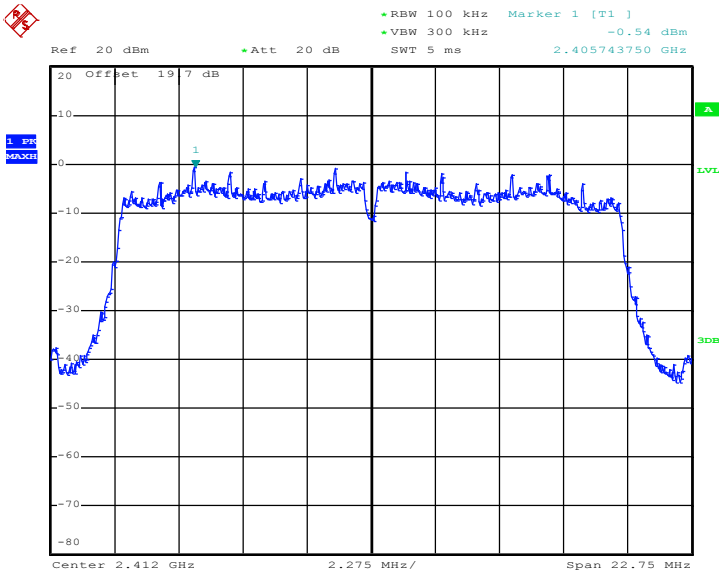
Date: 27.JUL.2012 11:14:21

PSD Plot on 802.11g Channel 11 – Legacy Ant 1



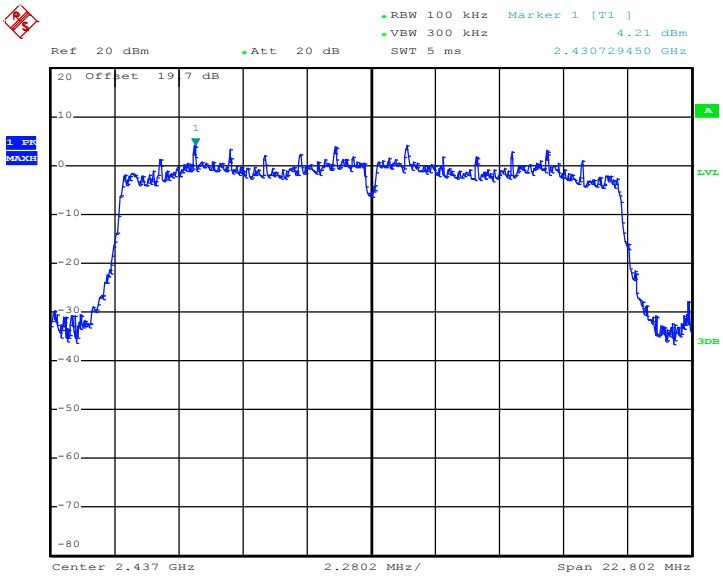
Date: 29.AUG.2012 18:06:32

PSD Plot on 2.4GHz 802.11n HT20 Channel 01 – SISO ANT 1



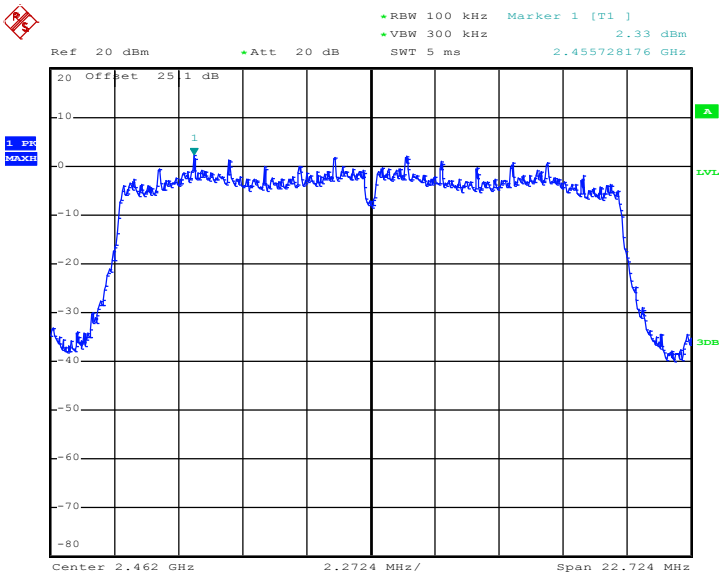
Date: 27.JUL.2012 11:23:59

PSD Plot on 2.4GHz 802.11n HT20 Channel 06 – SISO ANT 1



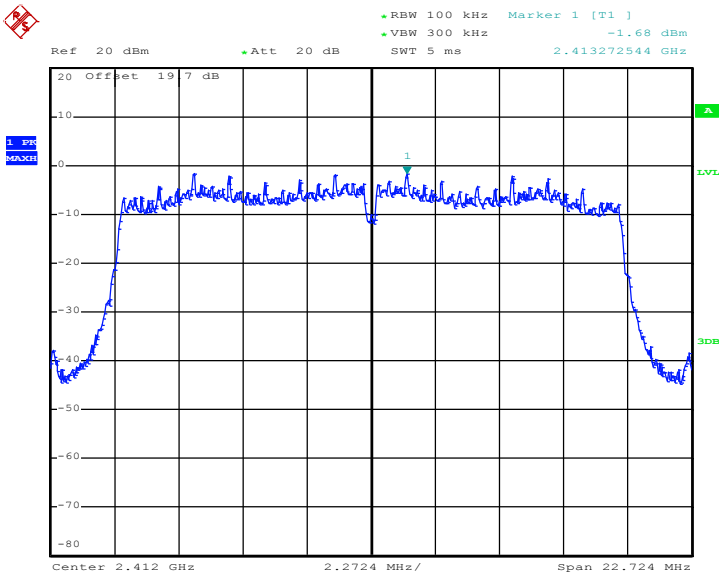
Date: 27.JUL.2012 11:29:21

PSD Plot on 2.4GHz 802.11n HT20 Channel 11 – SISO ANT 1



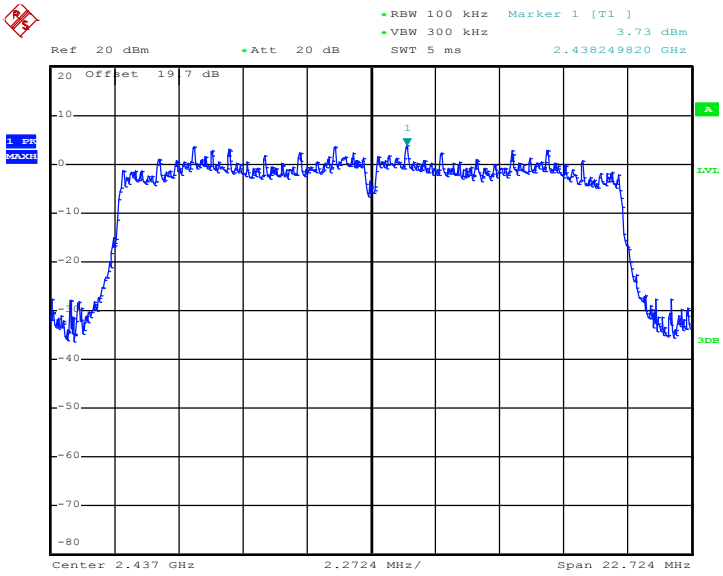
Date: 29.AUG.2012 18:10:31

PSD Plot on 2.4GHz 802.11n HT20 Channel 01 – MIMO ANT 1



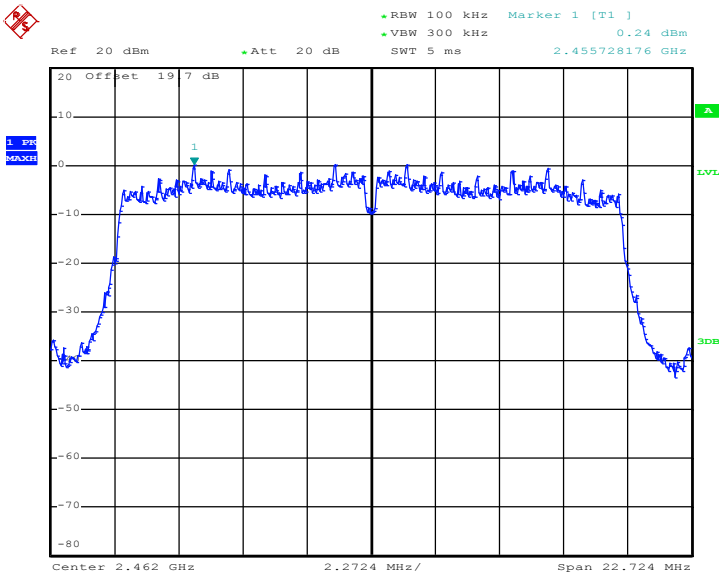
Date: 28.JUL.2012 02:39:29

PSD Plot on 2.4GHz 802.11n HT20 Channel 06 – MIMO ANT 1



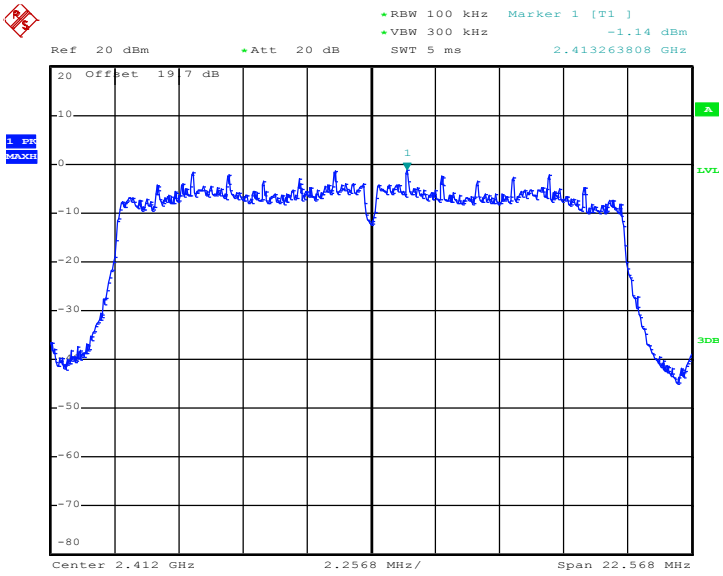
Date: 28.JUL.2012 02:43:18

PSD Plot on 2.4GHz 802.11n HT20 Channel 11 – MIMO ANT 1



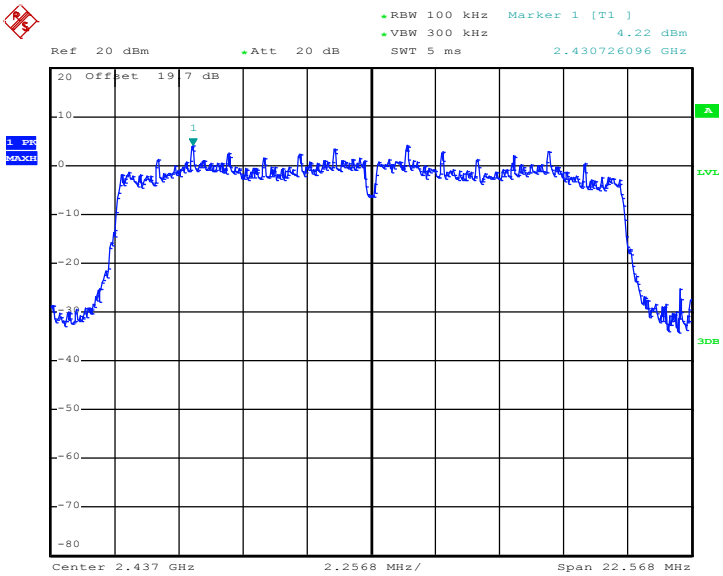
Date: 28.JUL.2012 02:48:37

PSD Plot on 2.4GHz 802.11n HT20 Channel 01 – MIMO ANT 2



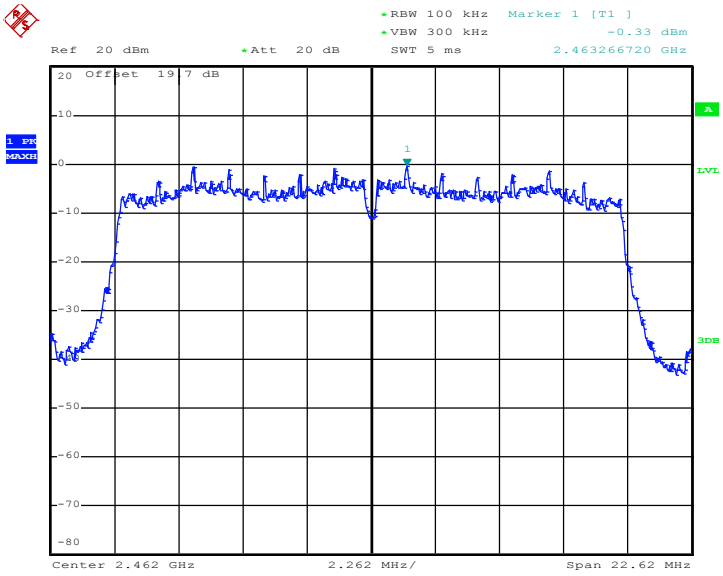
Date: 28.JUL.2012 03:00:57

PSD Plot on 2.4GHz 802.11n HT20 Channel 06 – MIMO ANT 2



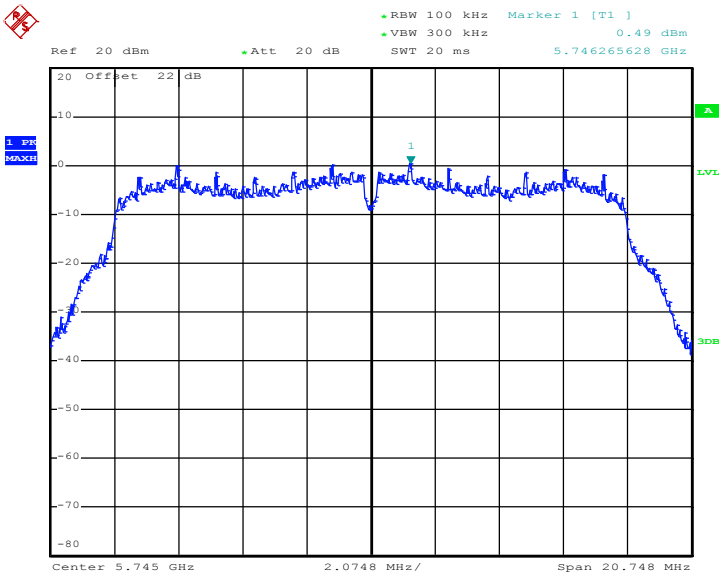
Date: 28.JUL.2012 02:57:19

PSD Plot on 2.4GHz 802.11n HT20 Channel 11 – MIMO ANT 2



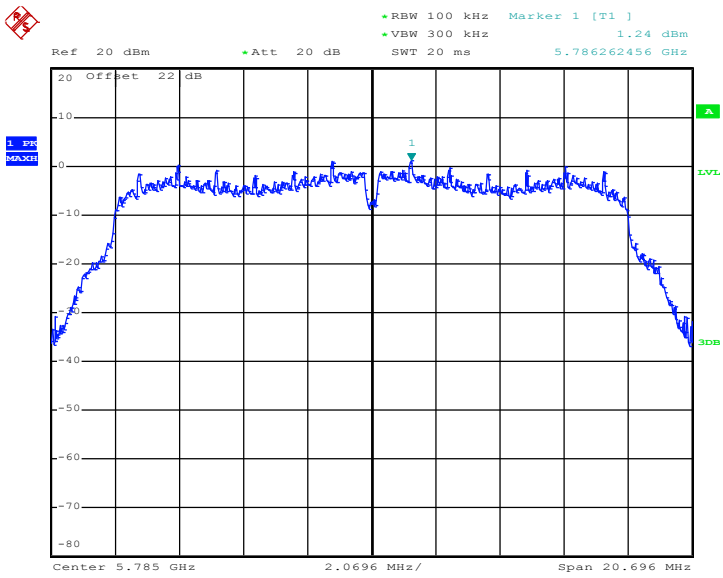
Date: 28.JUL.2012 02:53:17

PSD Plot on 802.11a Channel 149 - Legacy Ant 1



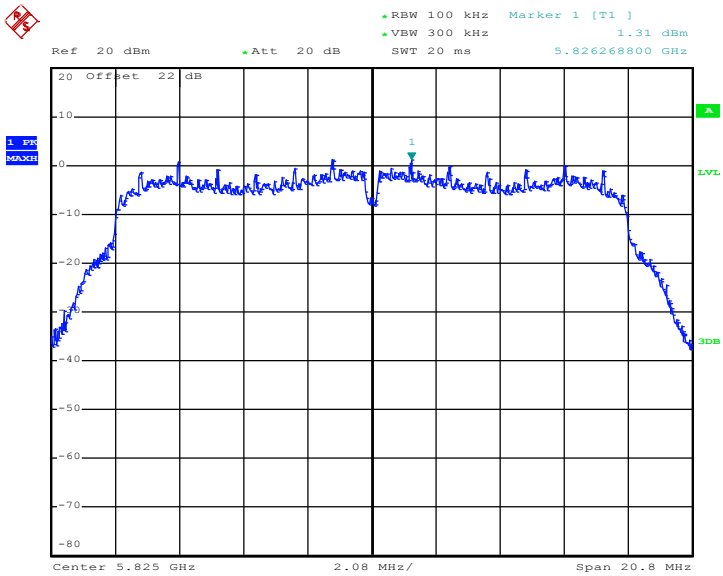
Date: 27.JUL.2012 11:38:47

PSD Plot on 802.11a Channel 157 - Legacy Ant 1



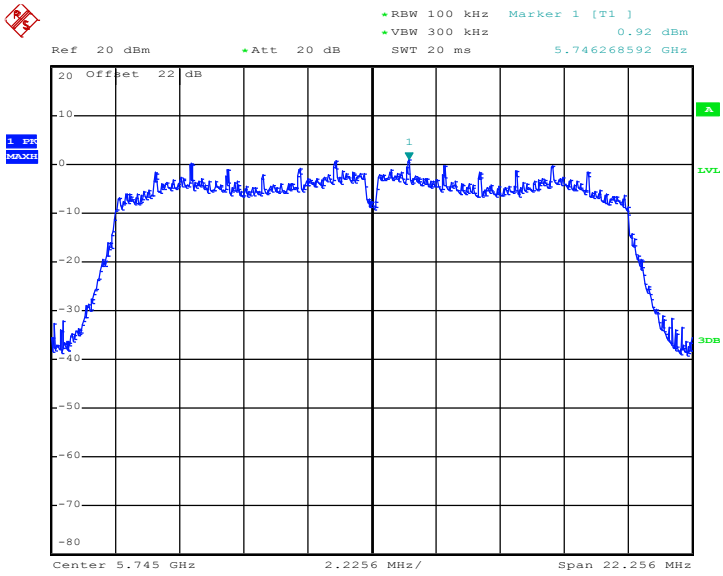
Date: 27.JUL.2012 11:45:10

PSD Plot on 802.11a Channel 165 - Legacy Ant 1



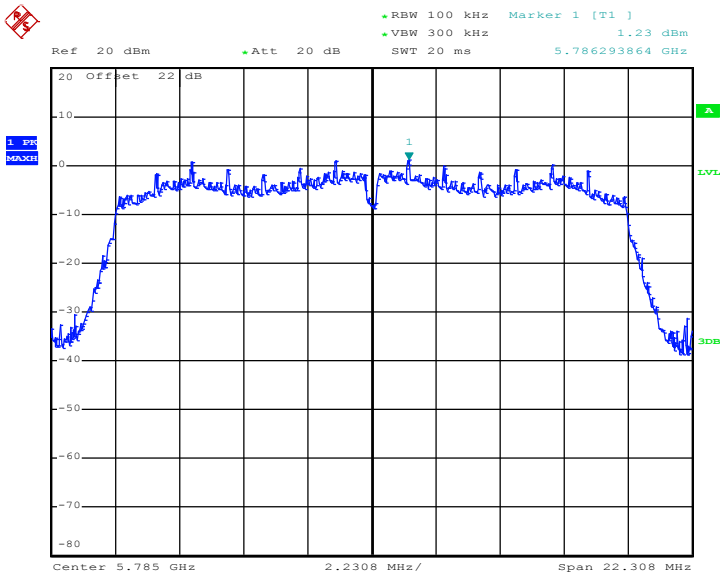
Date: 27.JUL.2012 11:52:44

PSD Plot on 5GHz 802.11n HT20 Channel 149 - SISO Ant 1



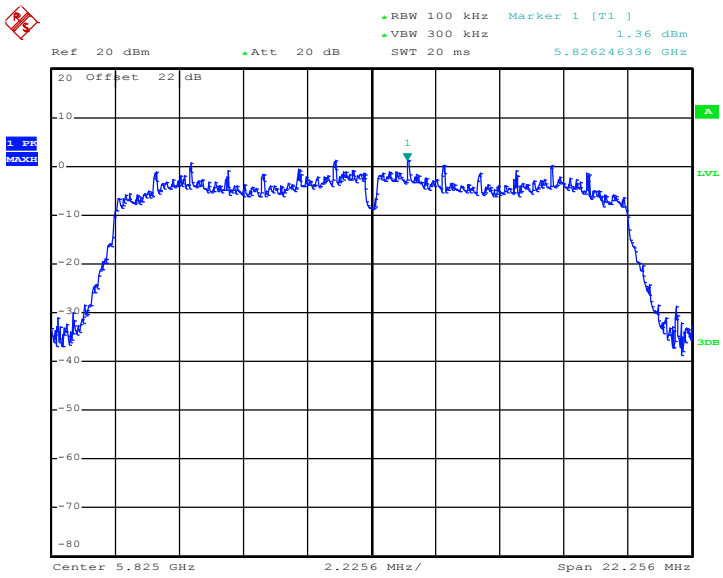
Date: 27.JUL.2012 12:39:26

PSD Plot on 5GHz 802.11n HT20 Channel 157 - SISO Ant 1



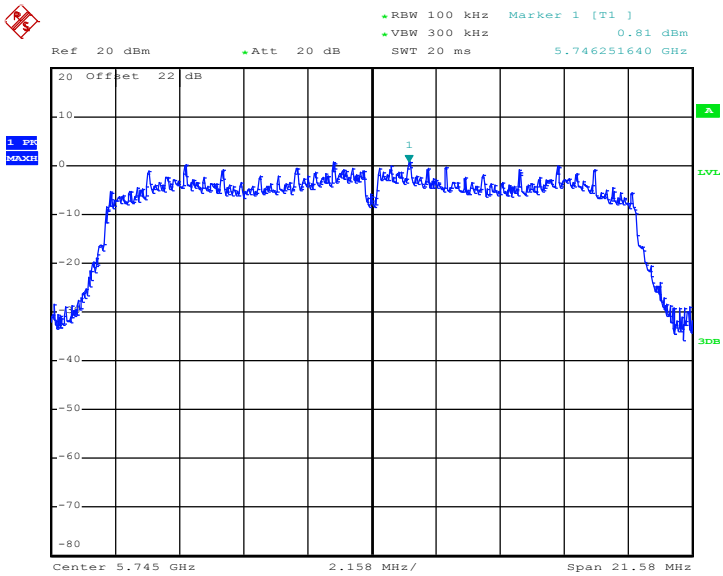
Date: 27.JUL.2012 12:35:40

PSD Plot on 5GHz 802.11n HT20 Channel 165 - SISO Ant 1



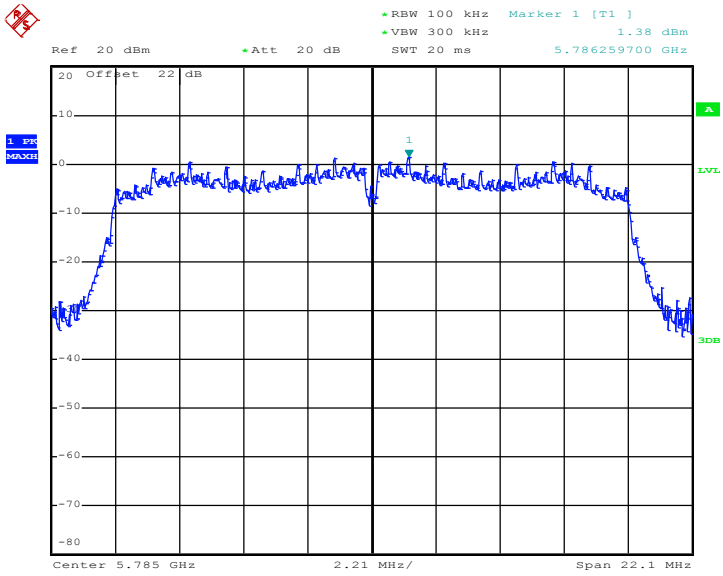
Date: 27.JUL.2012 12:30:09

PSD Plot on 5GHz 802.11n HT20 Channel 149 - MIMO Ant 1



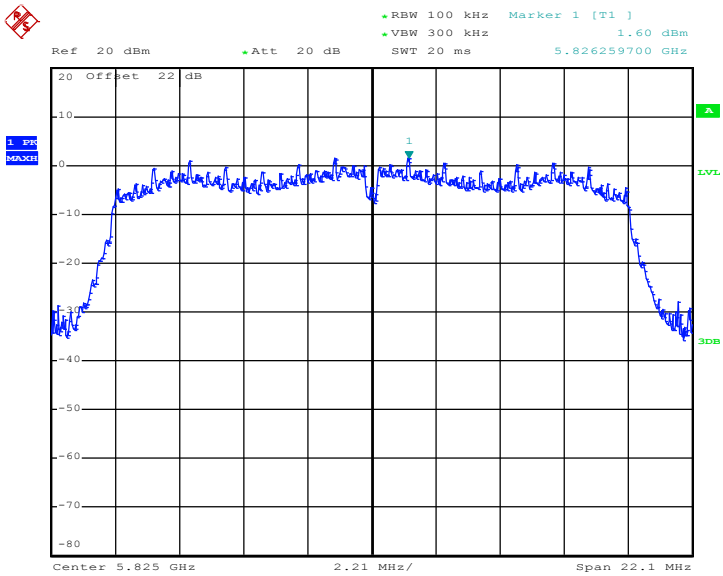
Date: 28.JUL.2012 03:30:33

PSD Plot on 5GHz 802.11n HT20 Channel 157 - MIMO Ant 1



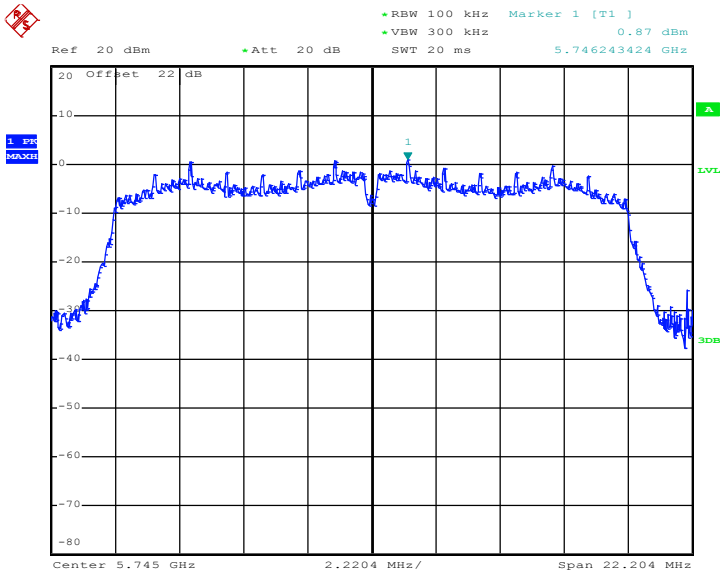
Date: 28.JUL.2012 03:26:24

PSD Plot on 5GHz 802.11n HT20 Channel 165 - MIMO Ant 1



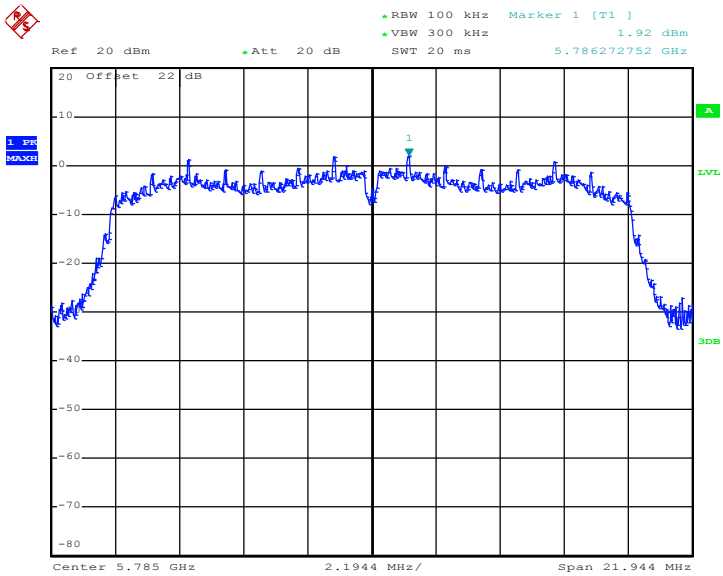
Date: 28.JUL.2012 03:21:27

PSD Plot on 5GHz 802.11n HT20 Channel 149 - MIMO Ant 2



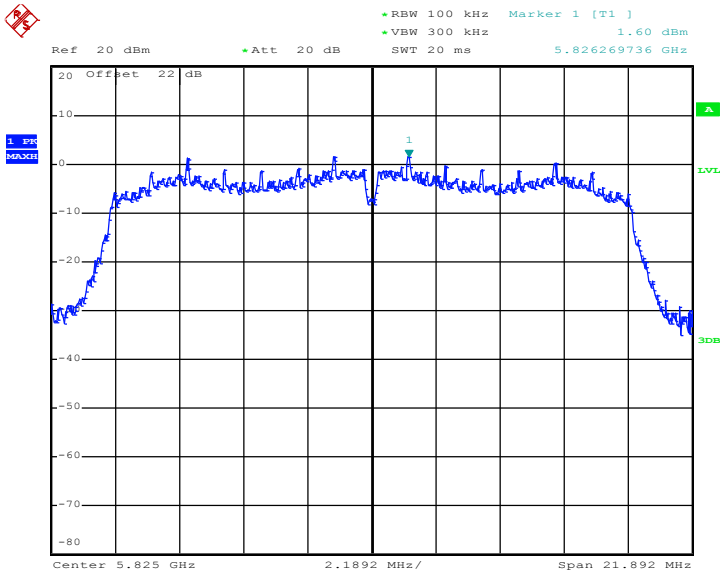
Date: 28.JUL.2012 03:07:48

PSD Plot on 5GHz 802.11n HT20 Channel 157 - MIMO Ant 2



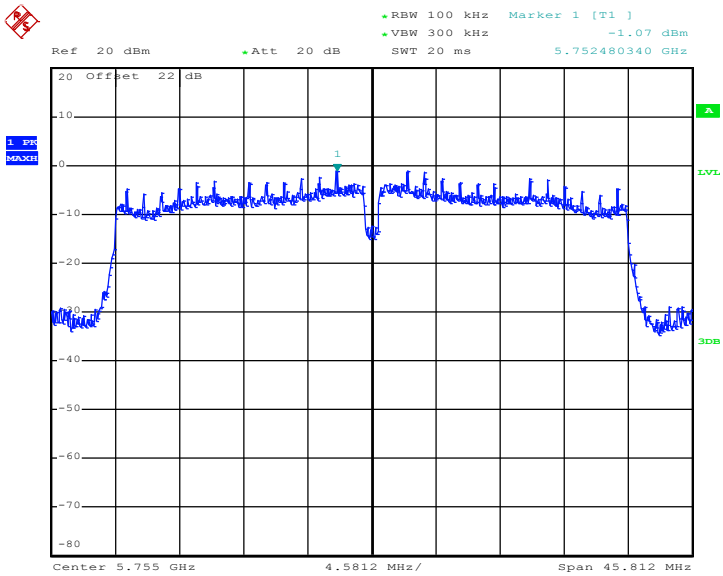
Date: 28.JUL.2012 03:11:46

PSD Plot on 5GHz 802.11n HT20 Channel 165 - MIMO Ant 2



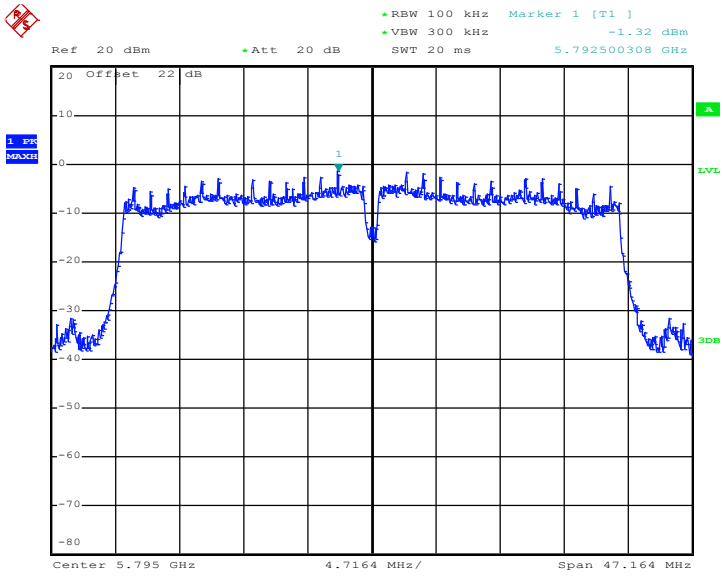
Date: 28.JUL.2012 03:15:58

PSD Plot on 5GHz 802.11n HT40 Channel 151 - SISO Ant 1



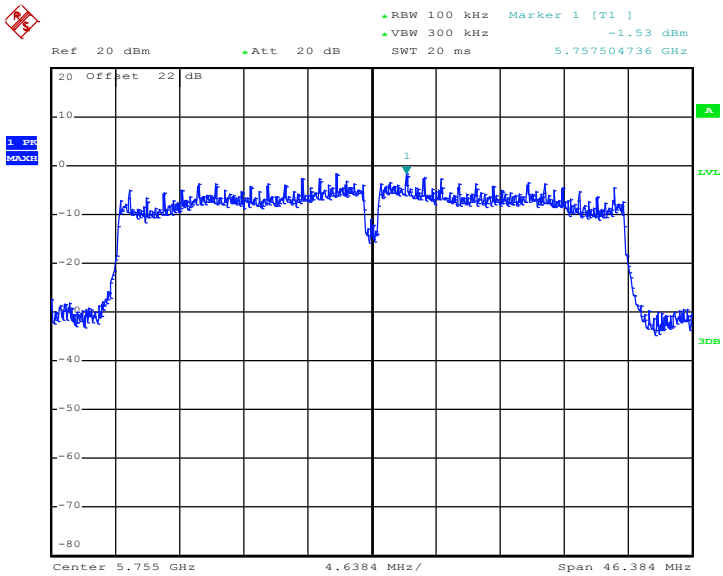
Date: 27.JUL.2012 14:18:11

PSD Plot on 5GHz 802.11n HT40 Channel 159 - SISO Ant 1



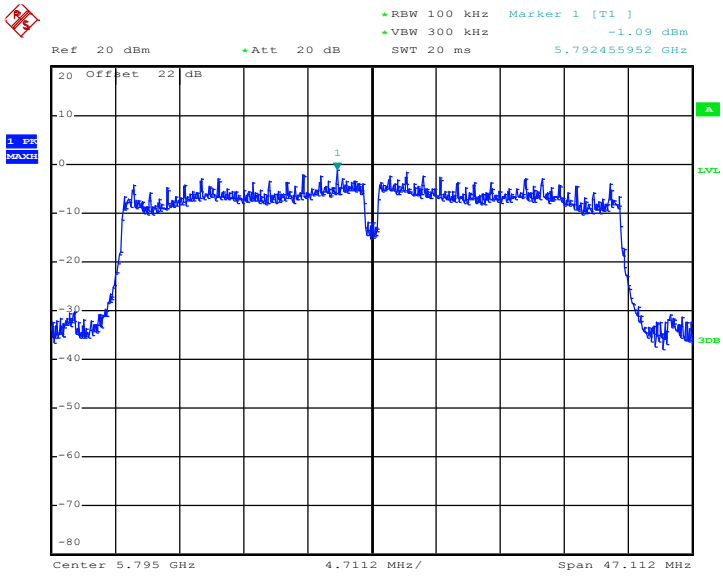
Date: 27.JUL.2012 14:21:12

PSD Plot on 5GHz 802.11n HT40 Channel 151 - MIMO Ant 1



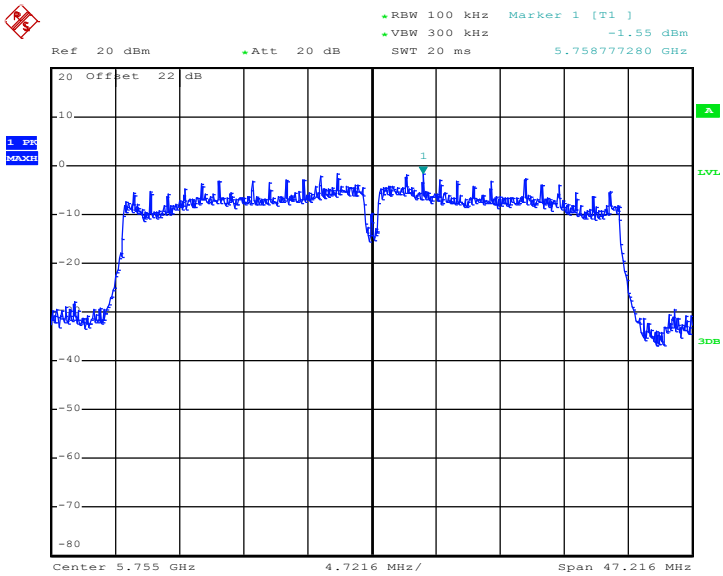
Date: 28.JUL.2012 03:37:10

PSD Plot on 5GHz 802.11n HT40 Channel 159 - MIMO Ant 1



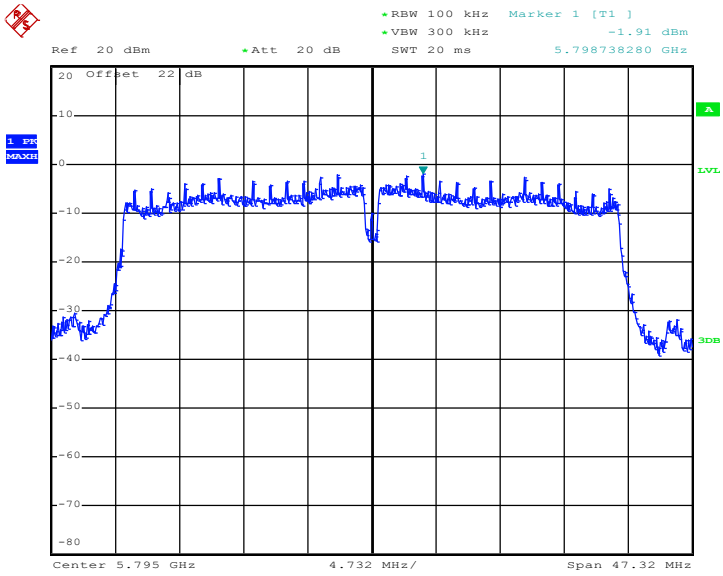
Date: 28.JUL.2012 03:41:48

PSD Plot on 5GHz 802.11n HT40 Channel 151 - MIMO Ant 2



Date: 28.JUL.2012 03:55:42

PSD Plot on 5GHz 802.11n HT40 Channel 159 - MIMO Ant 2



Date: 28.JUL.2012 03:51:45

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Spurious Emission Measurement

All harmonics/spurious must be at least 20 dB down from the highest emission level within the authorized band.

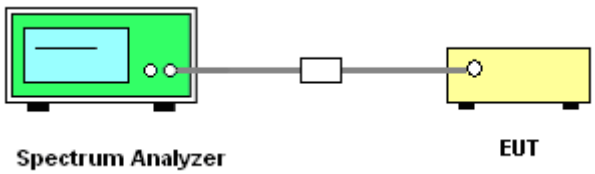
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The testing follows the guidelines in the Measurement Procedure of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
1. Set to the maximum power setting and enable the EUT transmit continuously.
2. 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. The attenuation is set to 30dB, when maximum conducted output power procedure is used.
3. Measure and record the results in the test report.

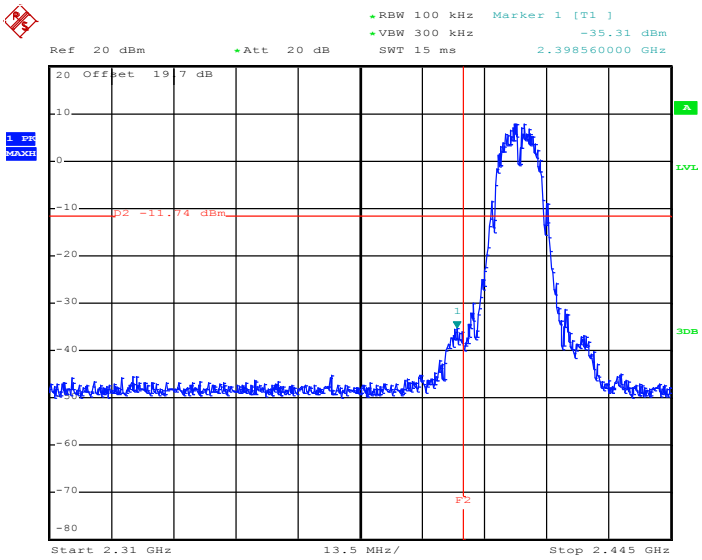
3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges

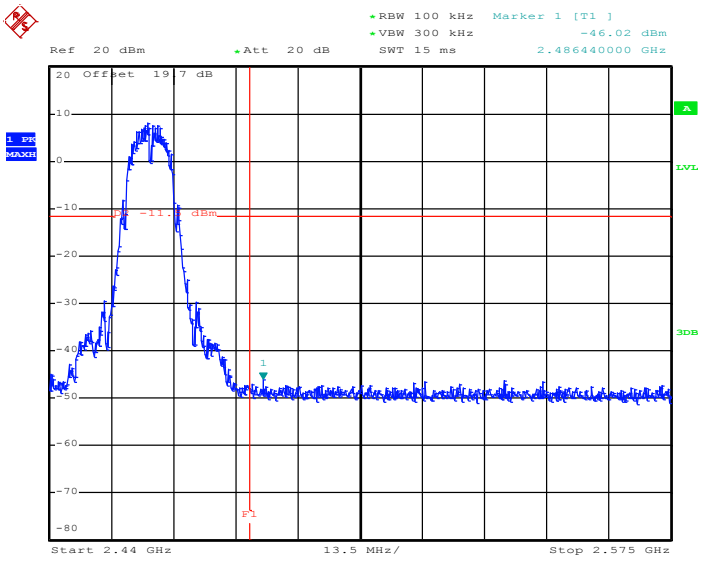
Test Mode :	<Legacy Ant 1>	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	55~58%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu and Book Lin

Low Band Edge Plot on 802.11b Channel 01



Date: 27.JUL.2012 10:48:25

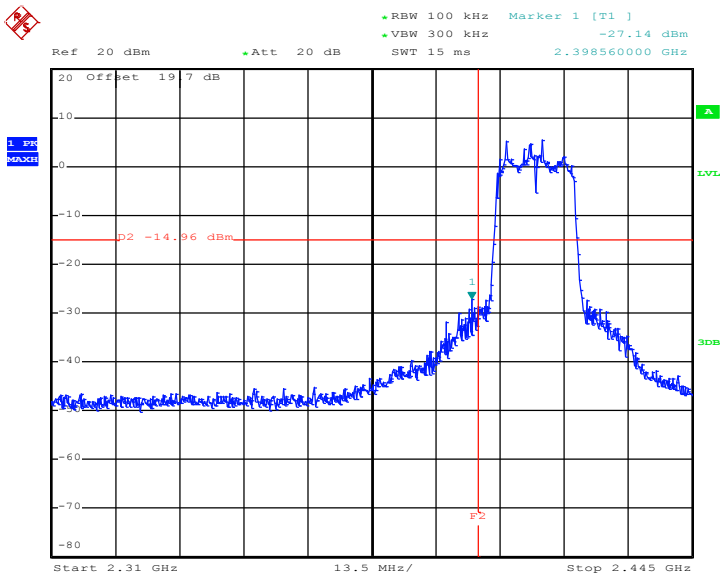
High Band Edge Plot on 802.11b Channel 11



Date: 27.JUL.2012 10:56:36

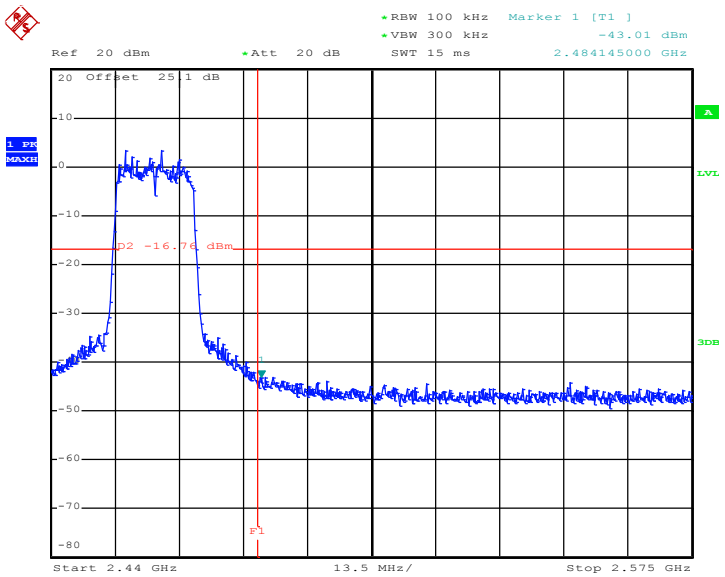
Test Mode :	<Legacy Ant 1>	**Temperature :**	24~26℃
Test Band :	802.11g	**Relative Humidity :**	55~58%
Test Channel :	01 and 11	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 802.11g Channel 01



Date: 27.JUL.2012 11:18:30

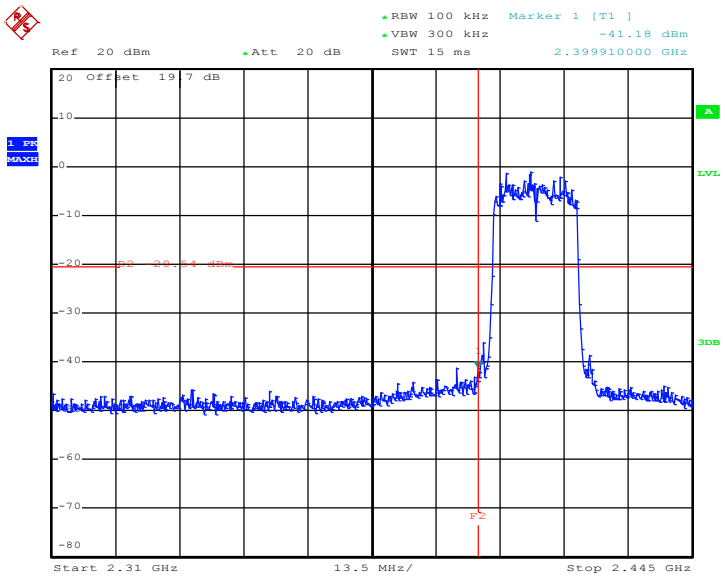
High Band Edge Plot on 802.11g Channel 11



Date: 29.AUG.2012 18:06:49

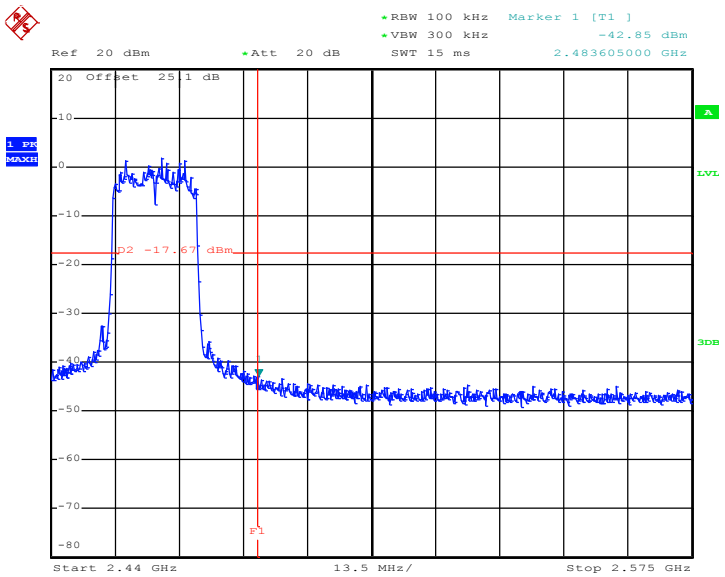
Test Mode :	<SISO Ant 1>	**Temperature :**	24~26℃
Test Band :	2.4GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	01 and 11	**Test Engineer :**	Pinkston Tu and Book Lin

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



Date: 27.JUL.2012 11:24:17

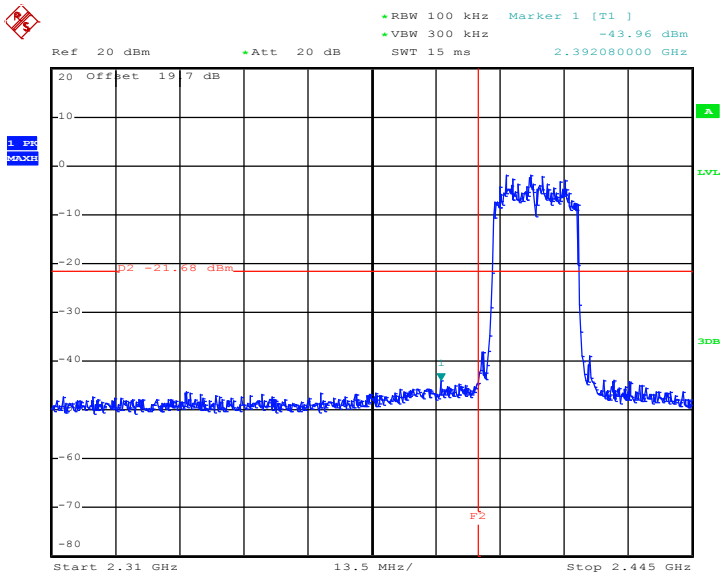
High Band Edge Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 29.AUG.2012 18:10:47

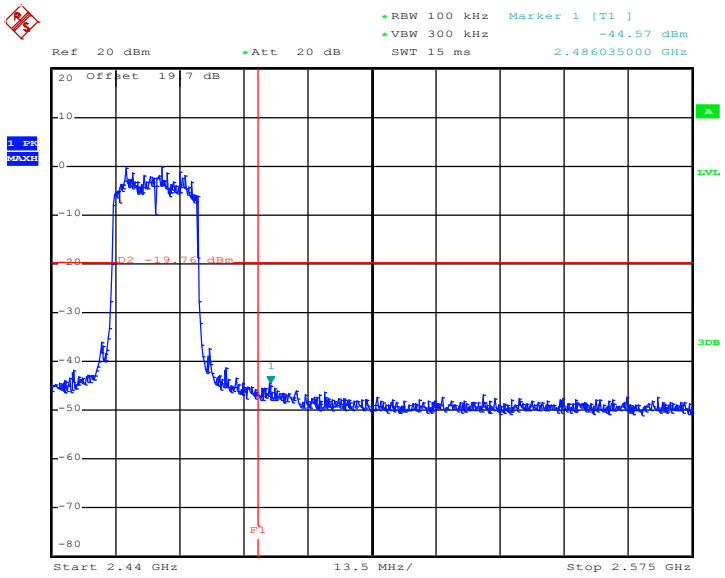
Test Mode :	<MIMO Ant 1>	**Temperature :**	24~26℃
Test Band :	2.4GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	01 and 11	**Test Engineer :**	Pinkston Tu and Book Lin

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



Date: 28.JUL.2012 02:39:58

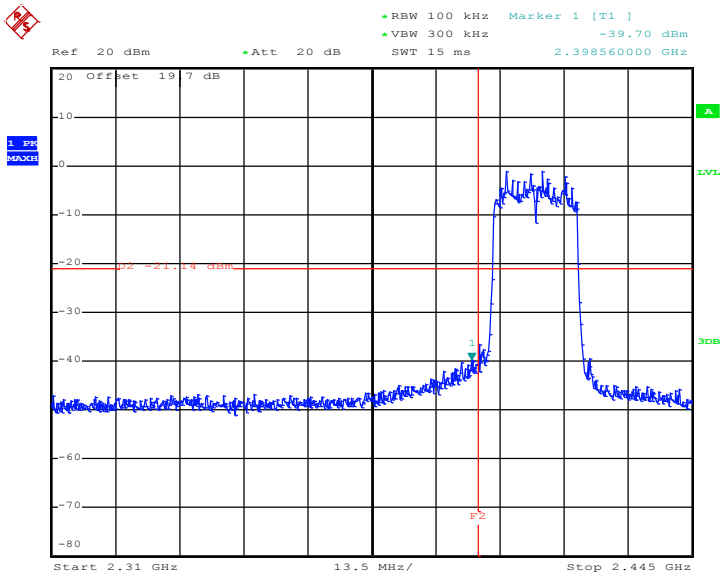
High Band Edge Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 28.JUL.2012 02:49:00

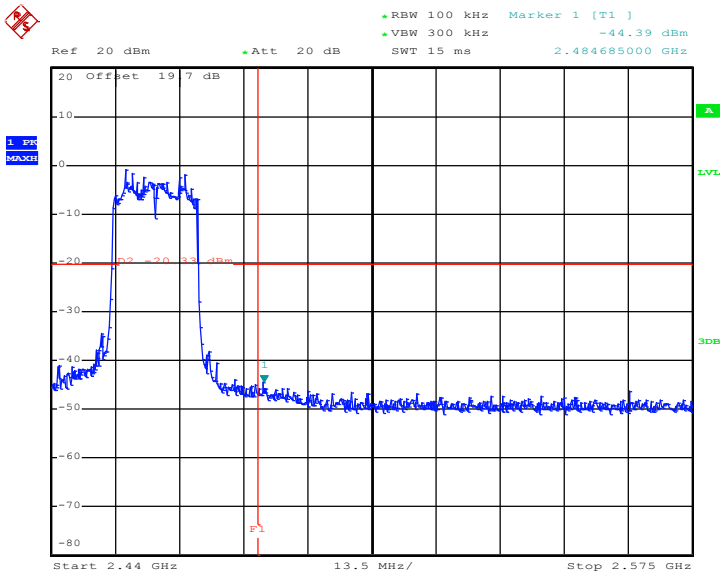
Test Mode :	<MIMO Ant 2>	**Temperature :**	24~26℃
Test Band :	2.4GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	01 and 11	**Test Engineer :**	Pinkston Tu and Book Lin

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



Date: 28.JUL.2012 03:01:14

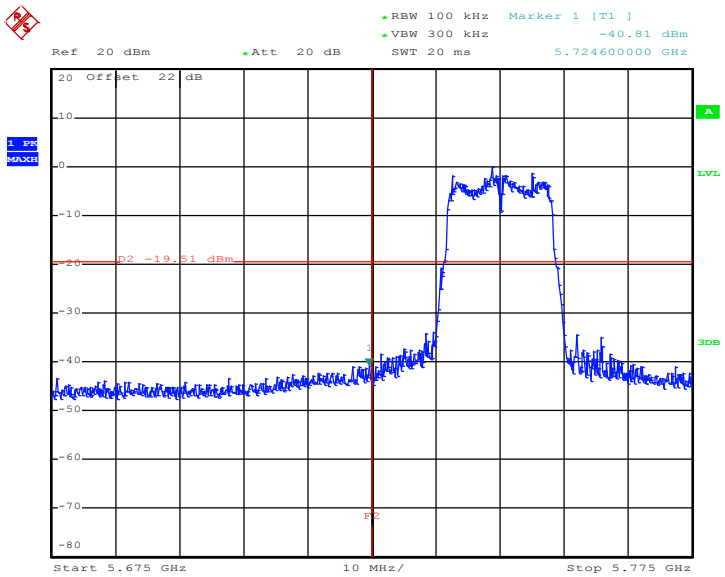
High Band Edge Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 28.JUL.2012 02:53:38

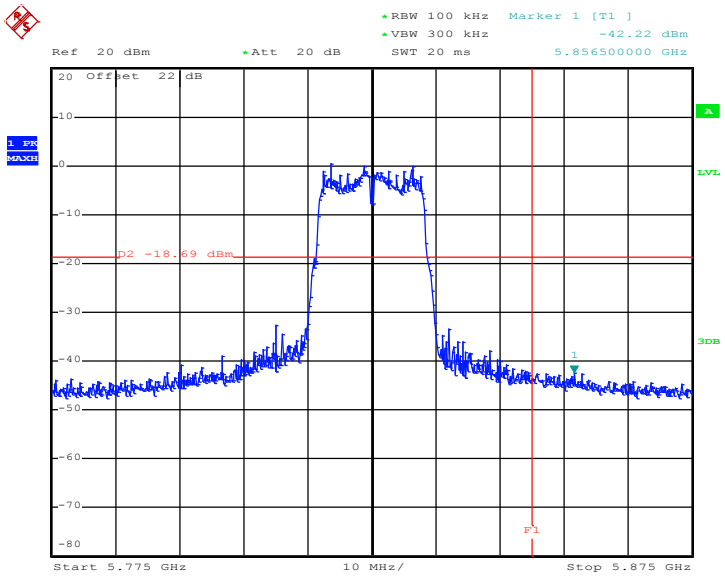
Test Mode :	<Legacy Ant 1>	**Temperature :**	24~26℃
Test Band :	802.11a	**Relative Humidity :**	55~58%
Test Channel :	149 and 165	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 802.11a Channel 149



Date: 27.JUL.2012 11:39:16

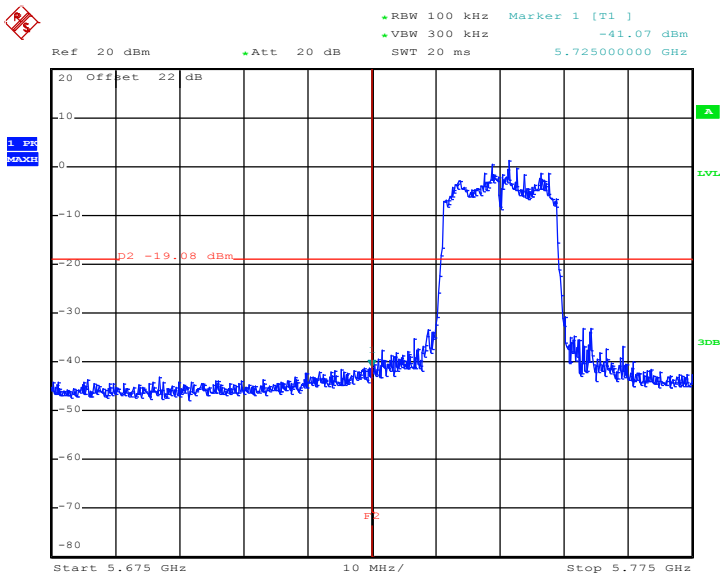
High Band Edge Plot on 802.11a Channel 165



Date: 27.JUL.2012 11:53:00

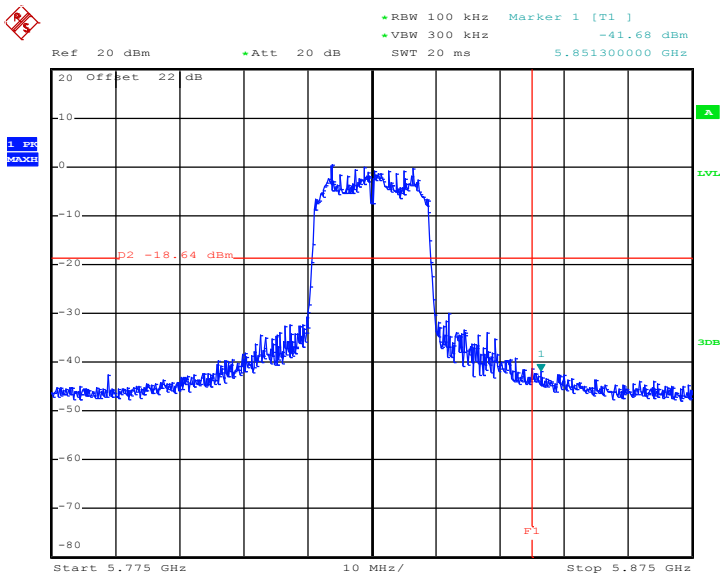
Test Mode :	<SISO Ant 1>	Temperature :	24~26℃
Test Band :	5GHz 802.11n HT20	Relative Humidity :	55~58%
Test Channel :	149 and 165	Test Engineer :	Pinkston Tu and Book Lin

Low Band Edge Plot on 5GHz 802.11n HT20 Channel 149



Date: 27.JUL.2012 12:39:42

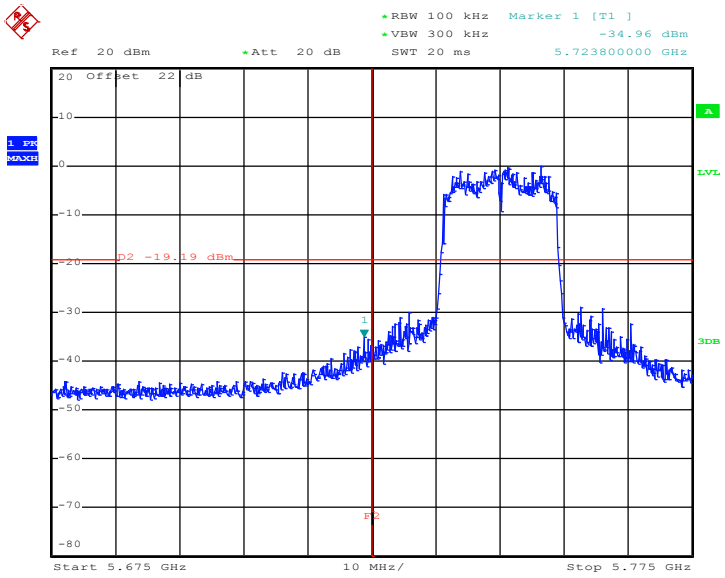
High Band Edge Plot on 5GHz 802.11n HT20 Channel 165



Date: 27.JUL.2012 12:30:25

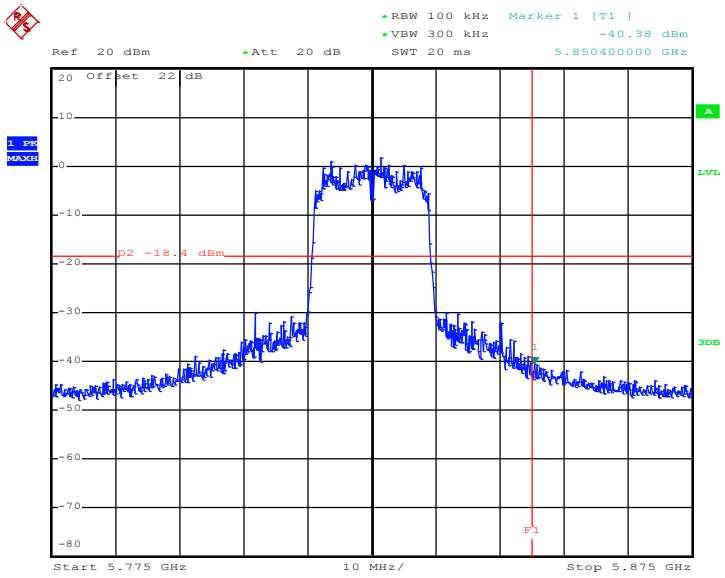
Test Mode :	<MIMO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	149 and 165	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 5GHz 802.11n HT20 Channel 149



Date: 28.JUL.2012 03:31:39

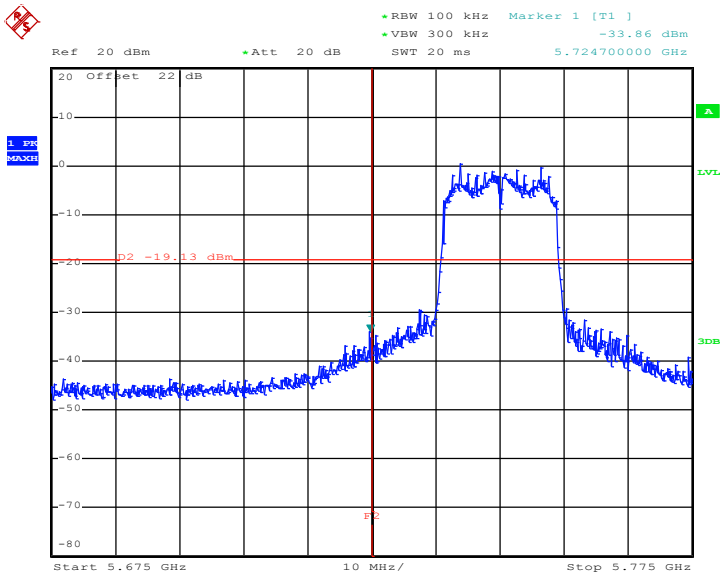
High Band Edge Plot on 5GHz 802.11n HT20 Channel 165



Date: 28.JUL.2012 03:22:13

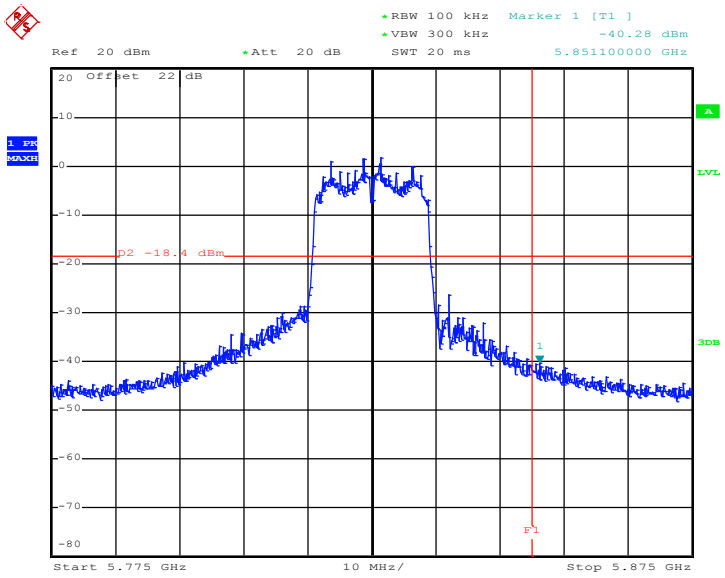
Test Mode :	<MIMO Ant 2>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	149 and 165	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 5GHz 802.11n HT20 Channel 149



Date: 28.JUL.2012 03:08:09

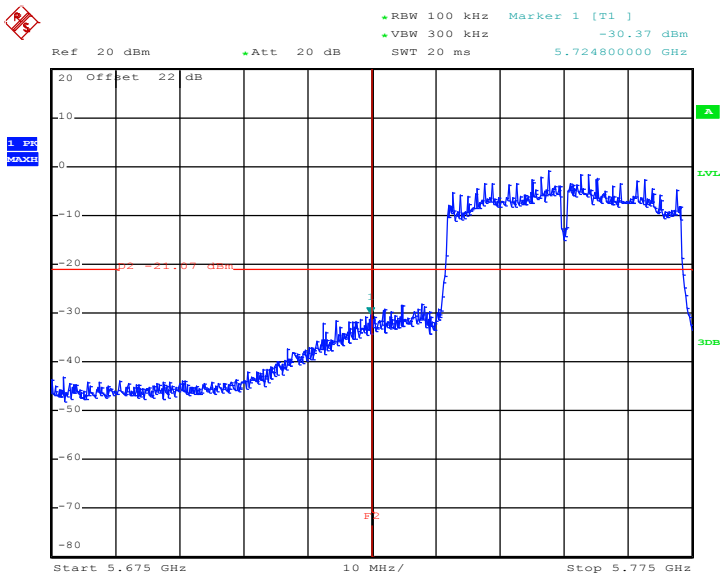
High Band Edge Plot on 5GHz 802.11n HT20 Channel 165



Date: 28.JUL.2012 03:17:10

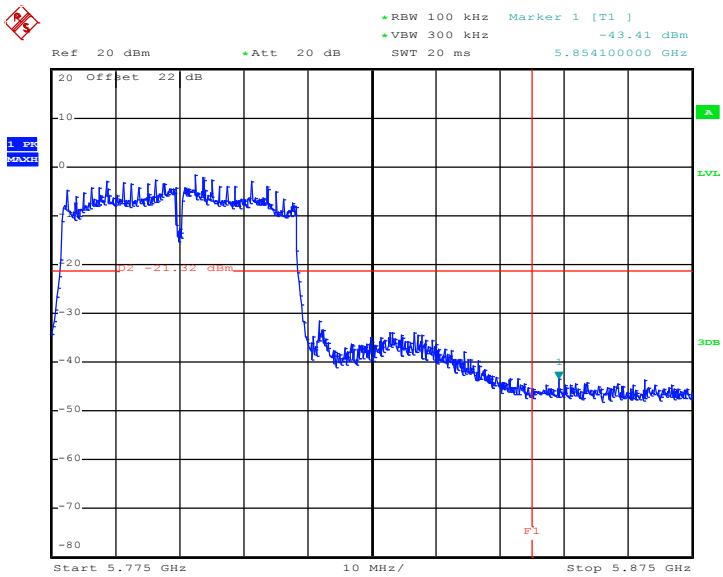
Test Mode :	<SISO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT40	**Relative Humidity :**	55~58%
Test Channel :	151 and 159	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 5GHz 802.11n HT40 Channel 151



Date: 27.JUL.2012 14:18:28

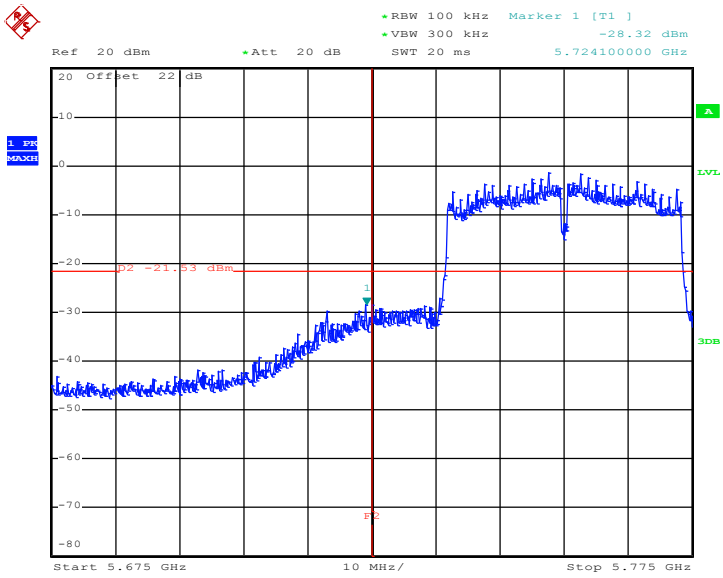
High Band Edge Plot on 5GHz 802.11n HT40 Channel 159



Date: 27.JUL.2012 14:21:45

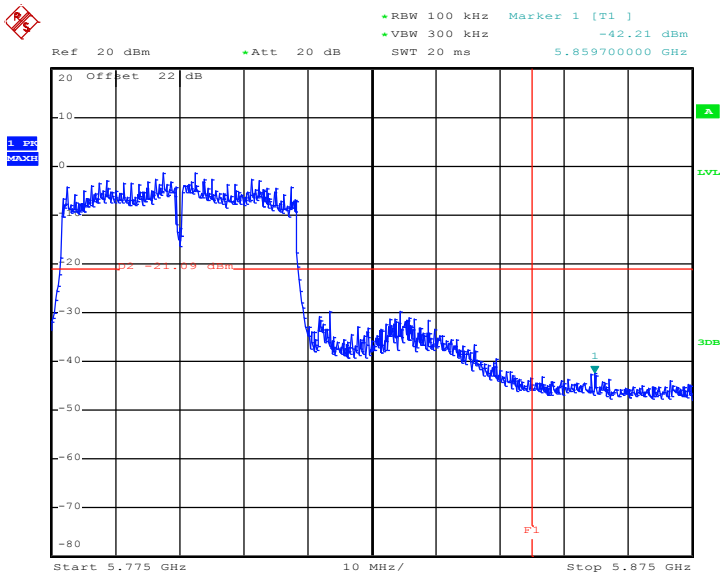
Test Mode :	<MIMO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT40	**Relative Humidity :**	55~58%
Test Channel :	151 and 159	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 5GHz 802.11n HT40 Channel 151



Date: 28.JUL.2012 03:37:28

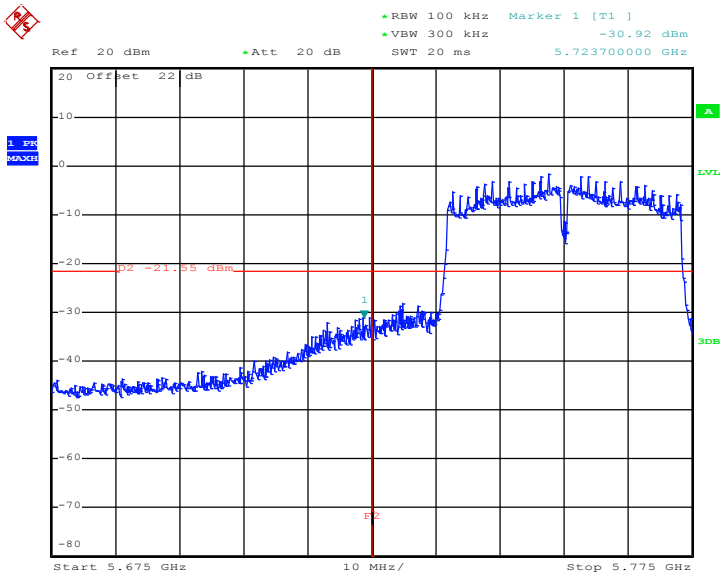
High Band Edge Plot on 5GHz 802.11n HT40 Channel 159



Date: 28.JUL.2012 03:42:04

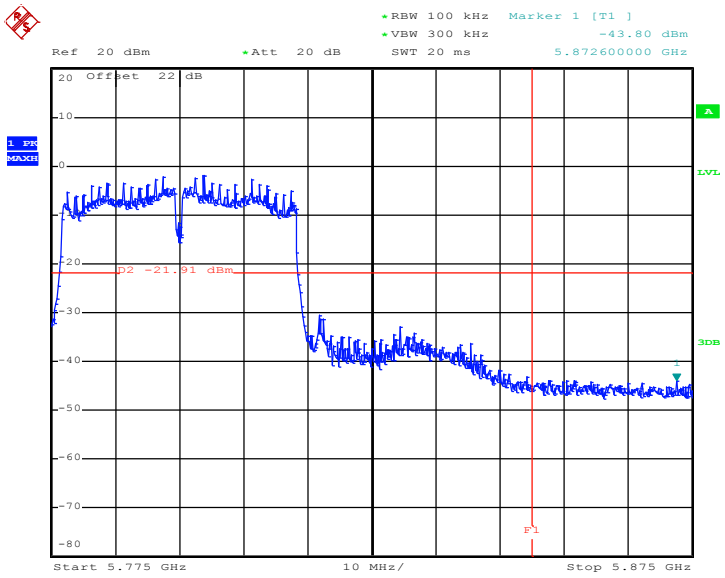
Test Mode :	<MIMO Ant 2>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT40	**Relative Humidity :**	55~58%
Test Channel :	151 and 159	**Test Engineer :**	Pinkston Tu and Book Lin

Low Band Edge Plot on 5GHz 802.11n HT40 Channel 151



Date: 28.JUL.2012 03:56:07

High Band Edge Plot on 5GHz 802.11n HT40 Channel 159

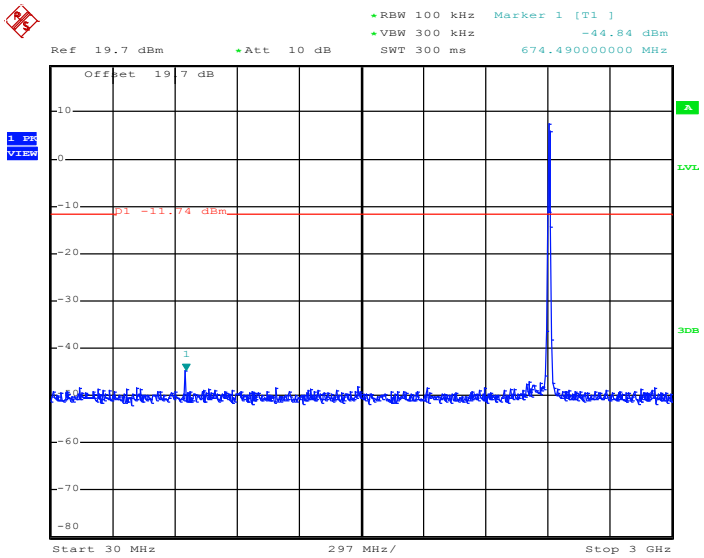


Date: 28.JUL.2012 03:52:02

3.4.6 Test Result of Conducted Spurious Emission

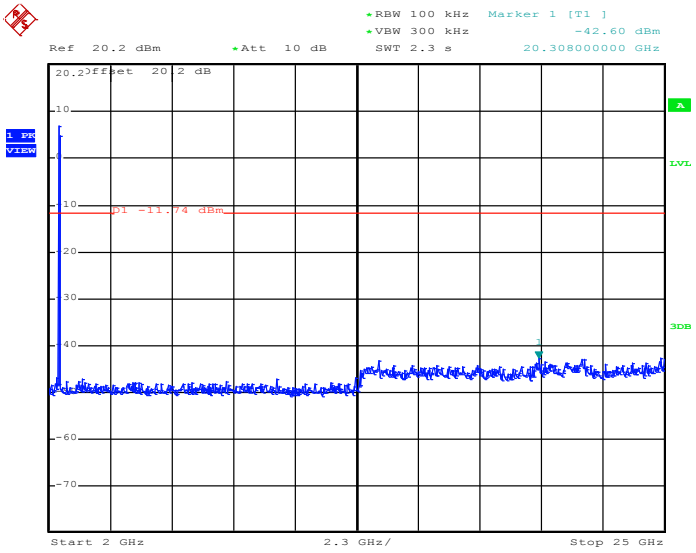
Test Mode :	<Legacy Ant 1>	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	55~58%
Test Channel :	01, 06, 11	Test Engineer :	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 802.11b CH01 between 30 MHz~3 GHz



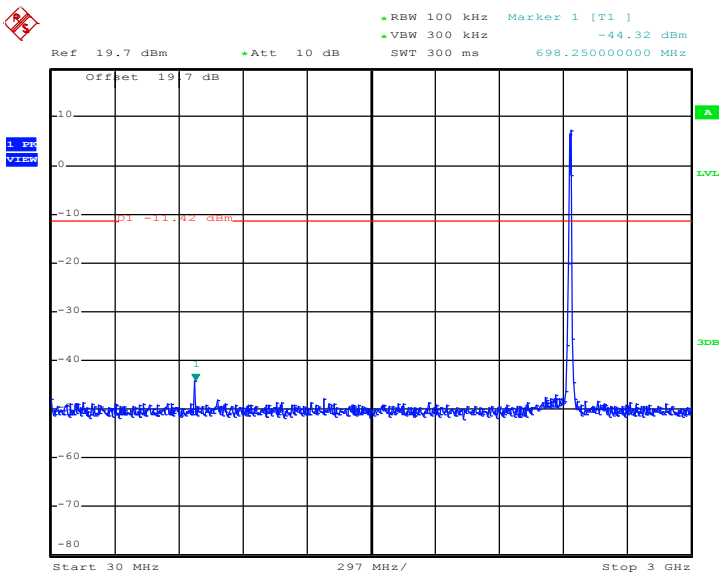
Date: 27.JUL.2012 10:49:18

Conducted Spurious Emission Plot on 802.11b CH01 between 2 GHz~25 GHz



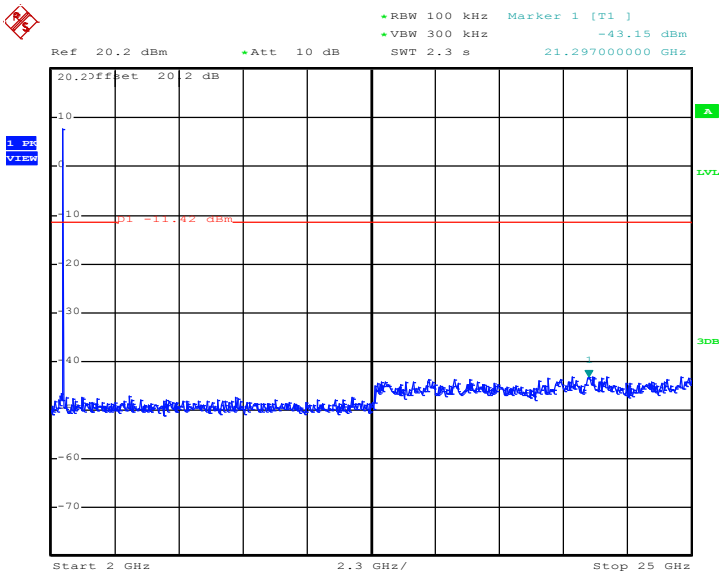
Date: 27.JUL.2012 10:49:35

Conducted Spurious Emission Plot on 802.11b CH06 between 30 MHz~3 GHz



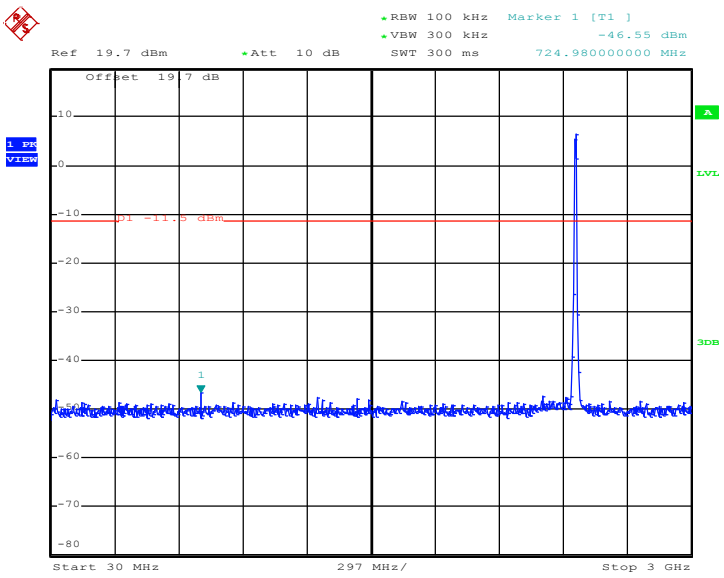
Date: 27.JUL.2012 10:54:13

Conducted Spurious Emission Plot on 802.11b CH06 between 2 GHz~25 GHz



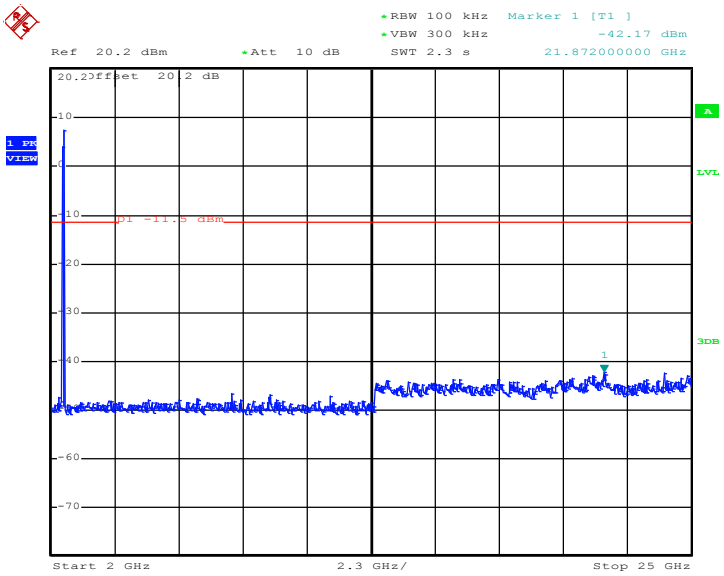
Date: 27.JUL.2012 10:54:31

Conducted Spurious Emission Plot on 802.11b CH11 between 30 MHz~3 GHz



Date: 27.JUL.2012 10:56:57

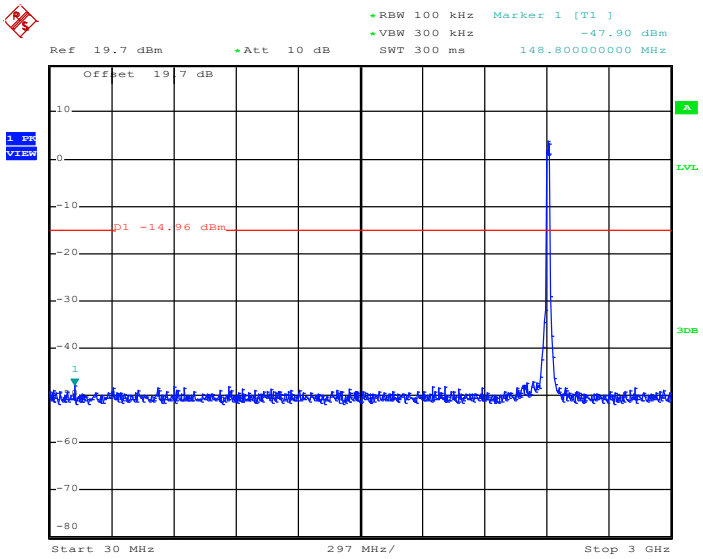
Conducted Spurious Emission Plot on 802.11b CH11 between 2 GHz~25 GHz



Date: 27.JUL.2012 10:57:15

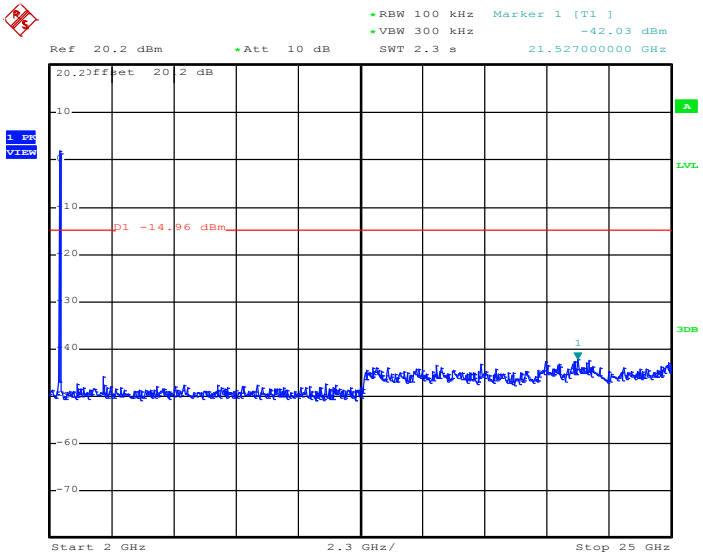
Test Mode :	<Legacy Ant 1>	**Temperature :**	24~26℃
Test Band :	802.11g	**Relative Humidity :**	55~58%
Test Channel :	01, 06, 11	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 802.11g CH01 between 30 MHz~3 GHz



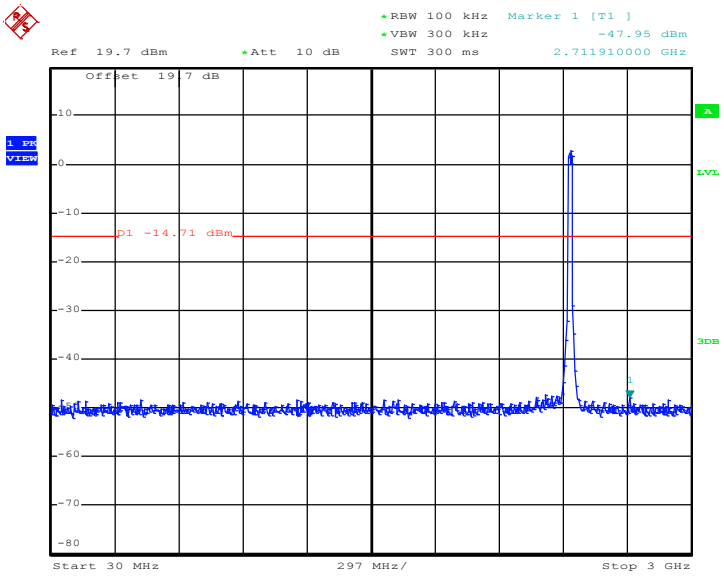
Date: 27.JUL.2012 11:18:51

Conducted Spurious Emission Plot on 802.11g CH01 between 2 GHz~25 GHz



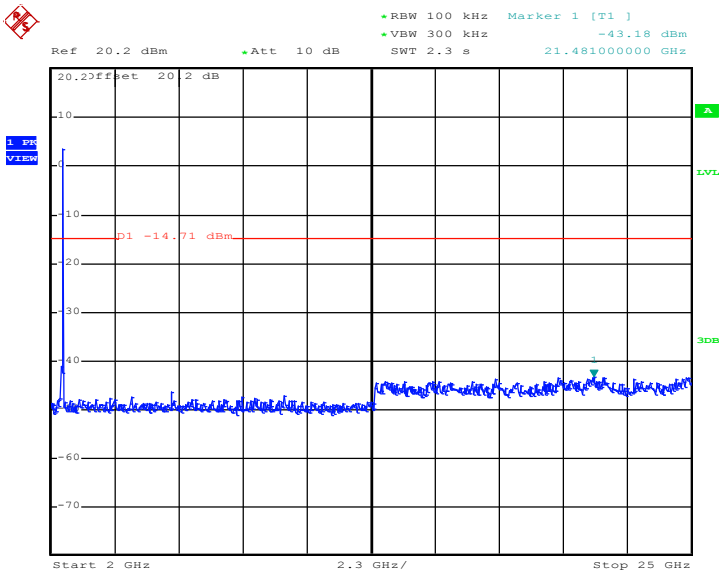
Date: 27.JUL.2012 11:19:09

Conducted Spurious Emission Plot on 802.11g CH06 between 30 MHz~3 GHz



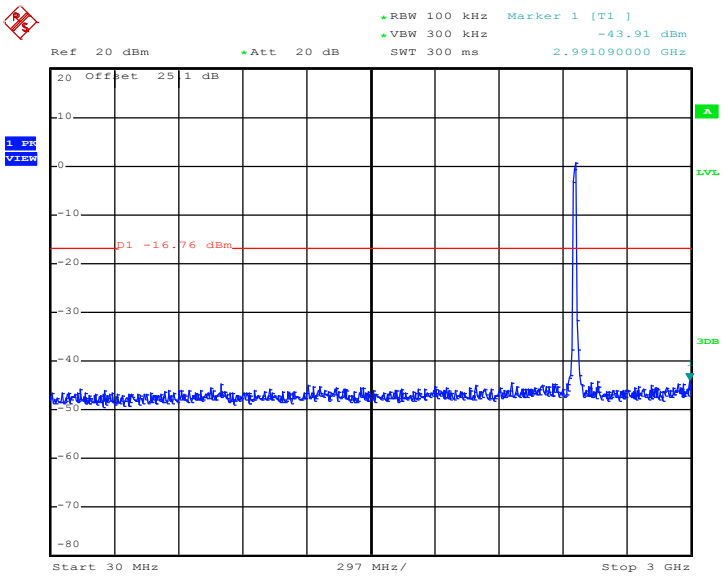
Date: 27.JUL.2012 11:14:56

Conducted Spurious Emission Plot on 802.11g CH06 between 2 GHz~25 GHz



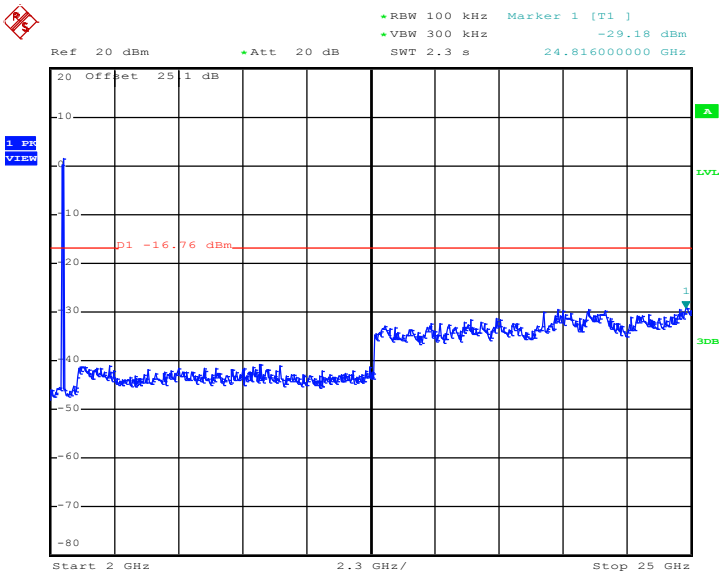
Date: 27.JUL.2012 11:15:14

Conducted Spurious Emission Plot on 802.11g CH11 between 30 MHz~3 GHz



Date: 29.AUG.2012 18:07:10

Conducted Spurious Emission Plot on 802.11g CH11 between 2 GHz~25 GHz

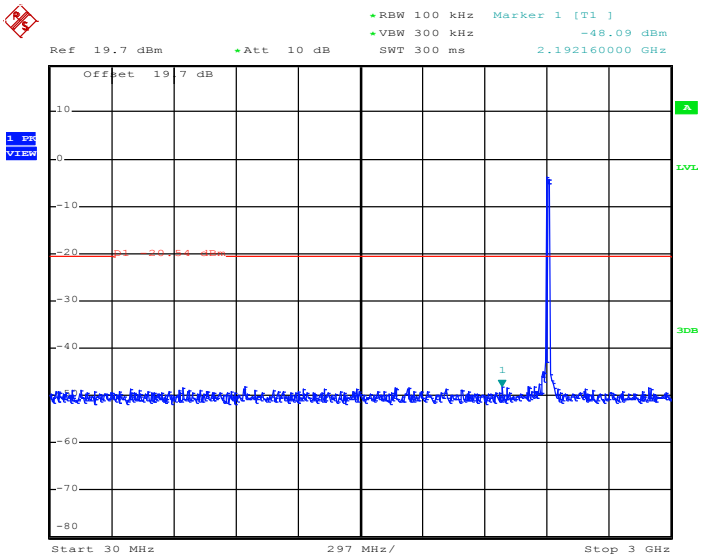


Date: 29.AUG.2012 18:07:28

Test Mode :	<SISO Ant 1>	Temperature :	24~26℃
Test Band :	2.4GHz 802.11n HT20	Relative Humidity :	55~58%
Test Channel :	01, 06, 11	Test Engineer :	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

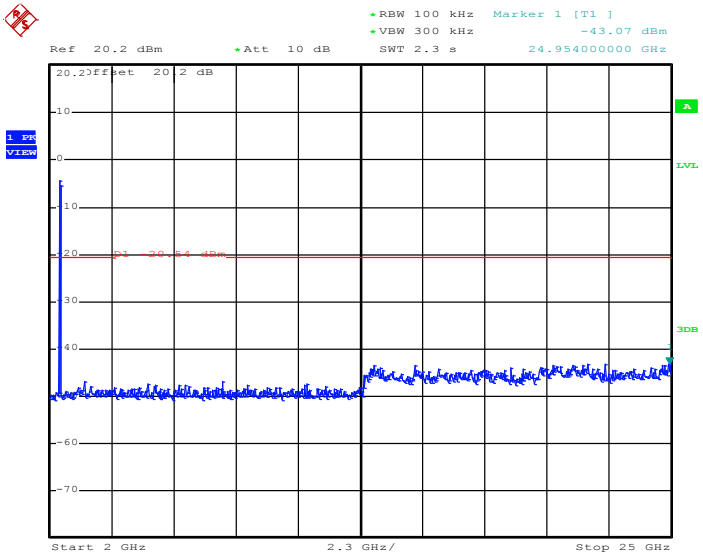
CH01 between 30 MHz~3 GHz



Date: 27.JUL.2012 11:24:45

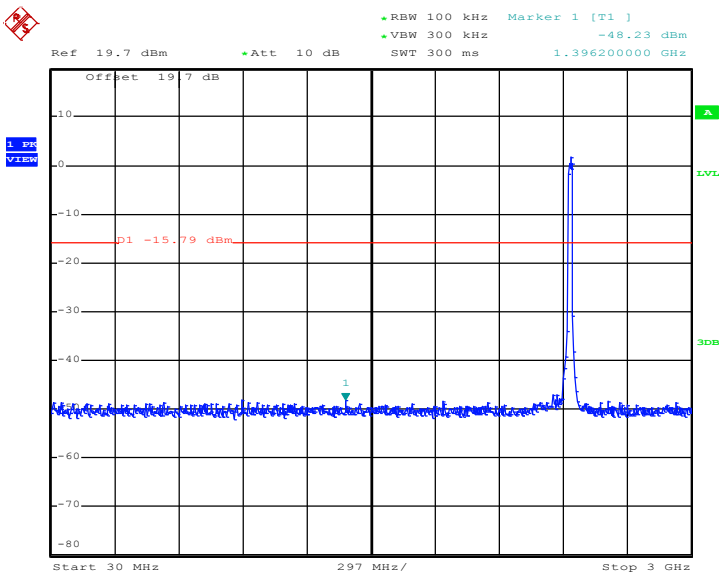
Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

CH01 between 2 GHz~25 GHz



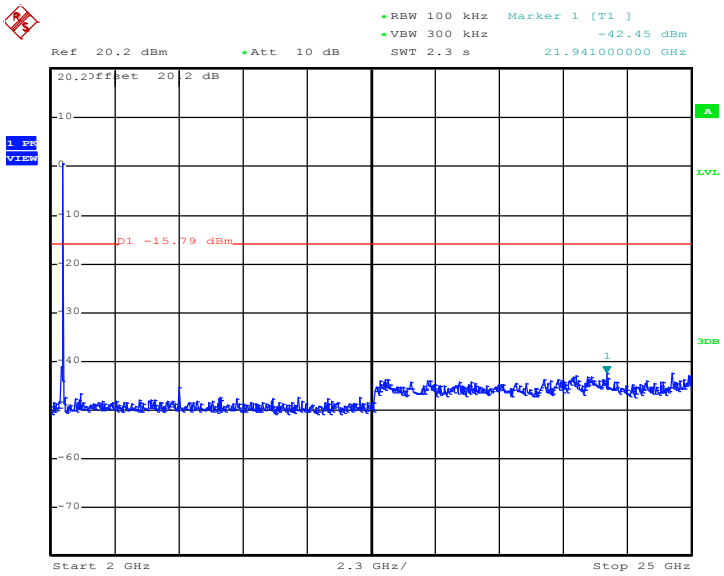
Date: 27.JUL.2012 11:25:03

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH06 between 30 MHz~3 GHz



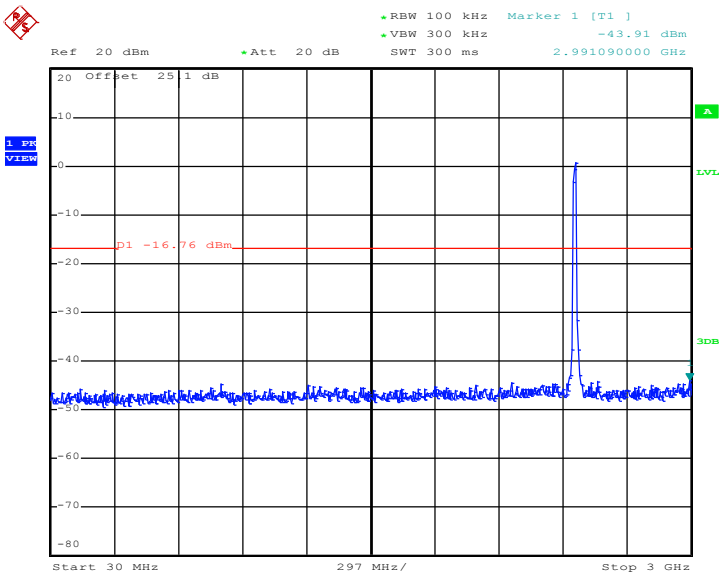
Date: 27.JUL.2012 11:29:50

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH06 between 2 GHz~25 GHz



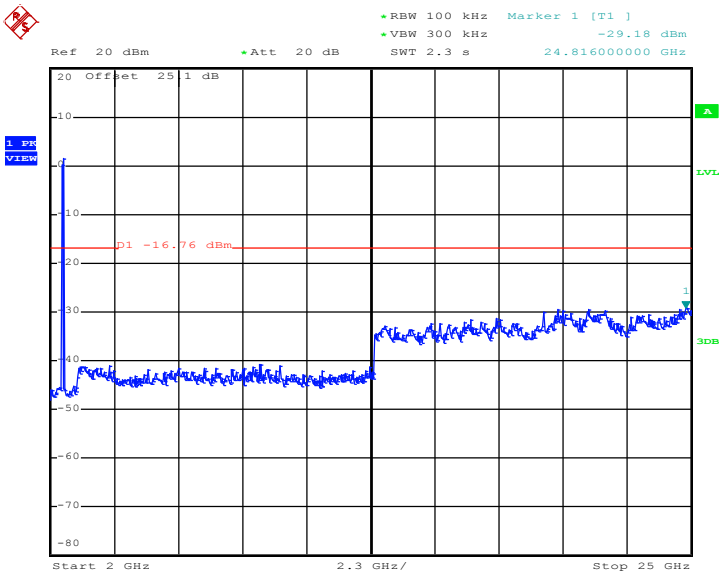
Date: 27.JUL.2012 11:30:08

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH11 between 30 MHz~3 GHz



Date: 29.AUG.2012 18:07:10

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH11 between 2 GHz~25 GHz

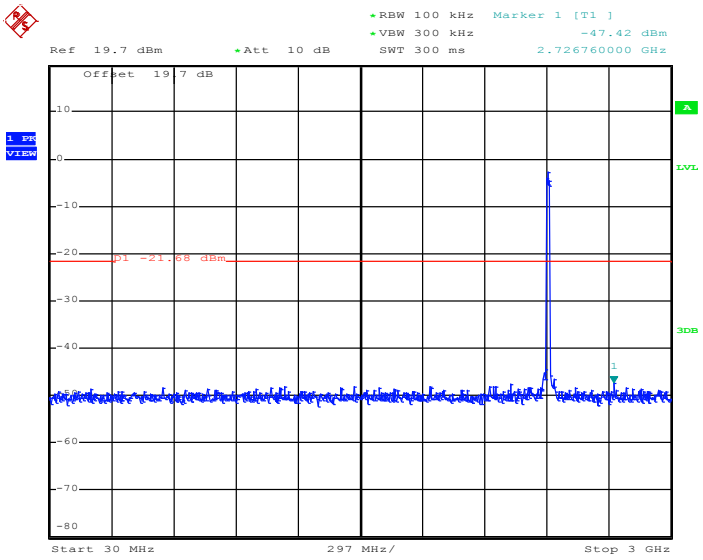


Date: 29.AUG.2012 18:07:28

Test Mode :	<MIMO Ant 1>	**Temperature :**	24~26℃
Test Band :	2.4GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	01, 06, 11	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

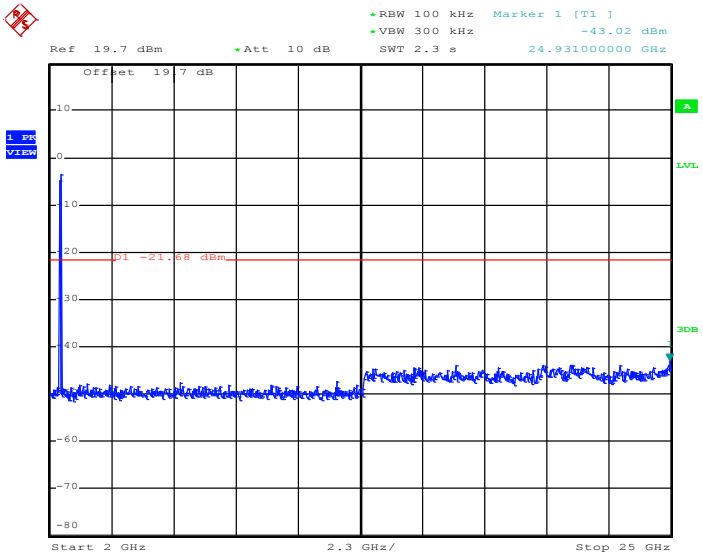
CH01 between 30 MHz~3 GHz



Date: 28.JUL.2012 02:45:50

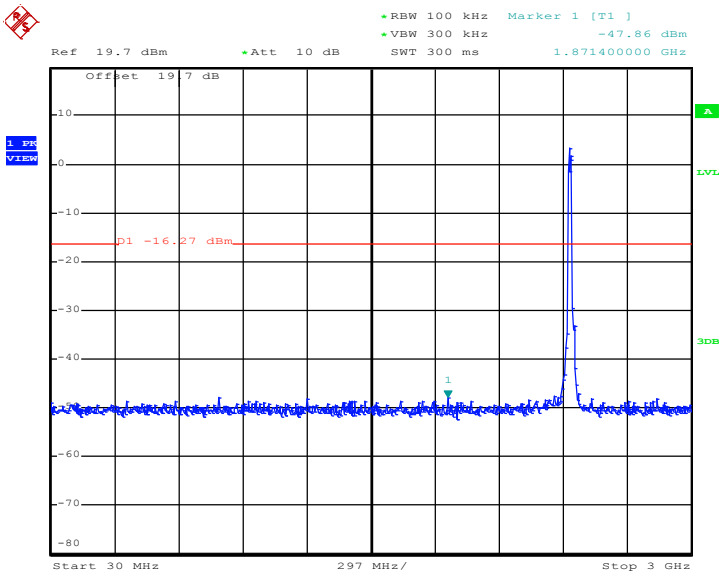
Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

CH01 between 2 GHz~25 GHz



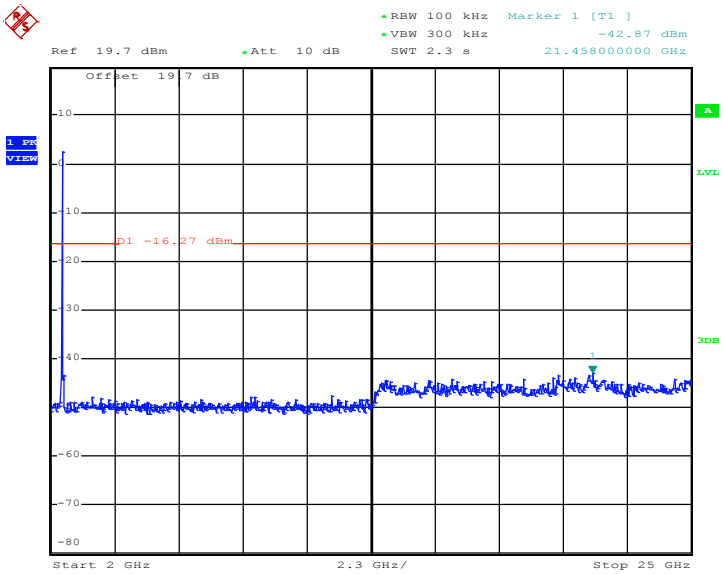
Date: 28.JUL.2012 02:46:08

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH06 between 30 MHz~3 GHz



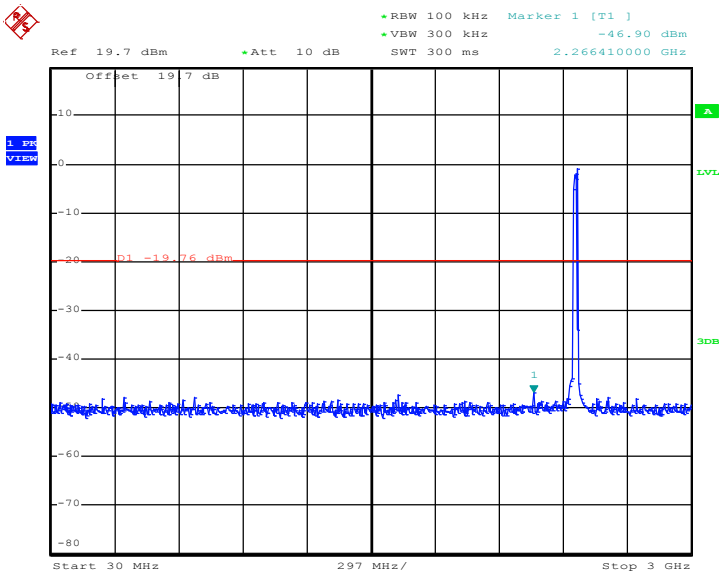
Date: 28.JUL.2012 02:43:40

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH06 between 2 GHz~25 GHz



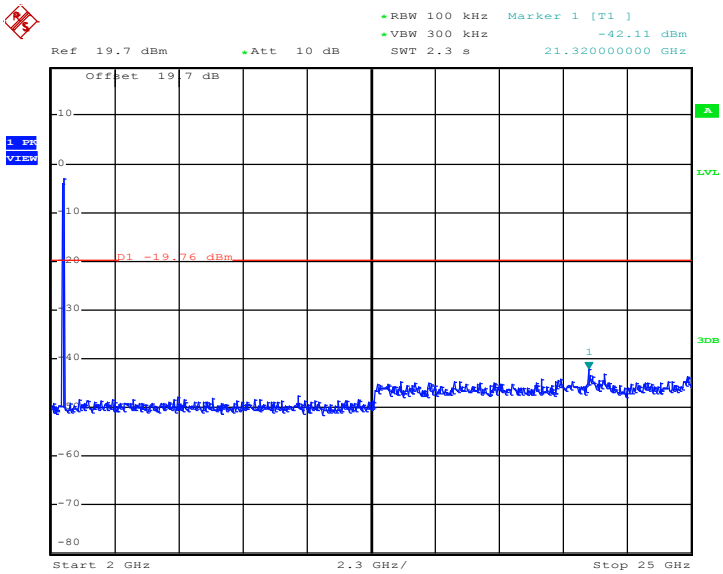
Date: 28.JUL.2012 02:43:58

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH11 between 30 MHz~3 GHz



Date: 28.JUL.2012 02:49:22

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH11 between 2 GHz~25 GHz

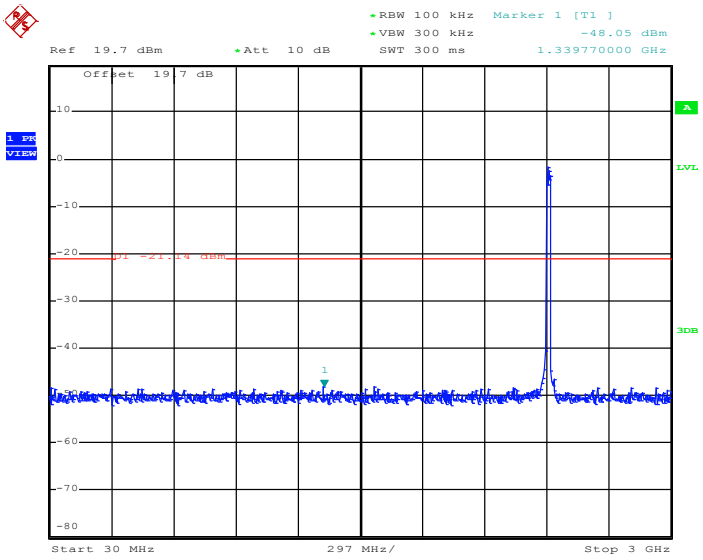


Date: 28.JUL.2012 02:49:40

Test Mode :	<MIMO Ant 2>	**Temperature :**	24~26℃
Test Band :	2.4GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	01, 06, 11	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

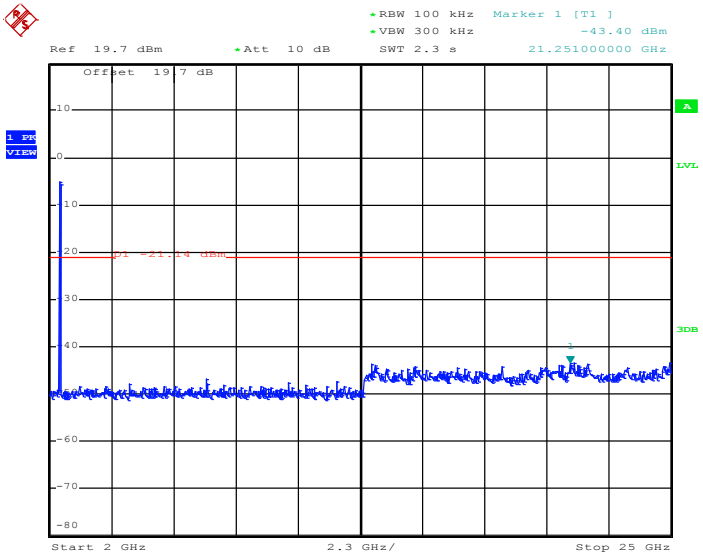
CH01 between 30 MHz~3 GHz



Date: 28.JUL.2012 03:01:35

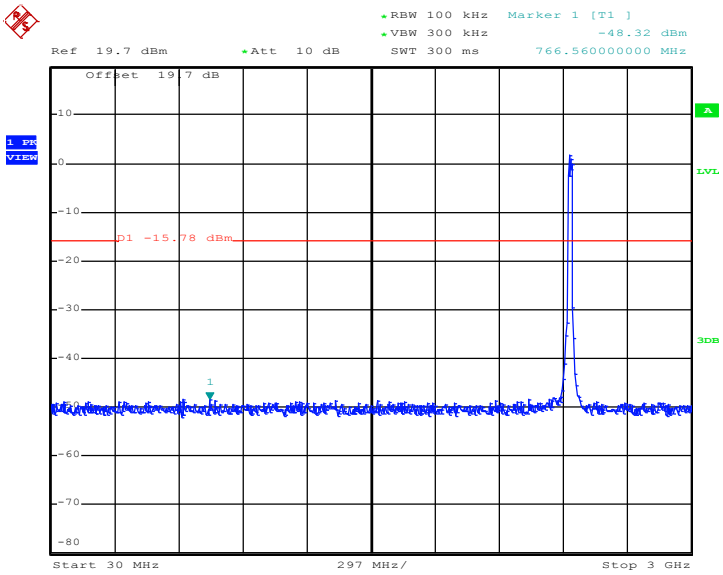
Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

CH01 between 2 GHz~25 GHz



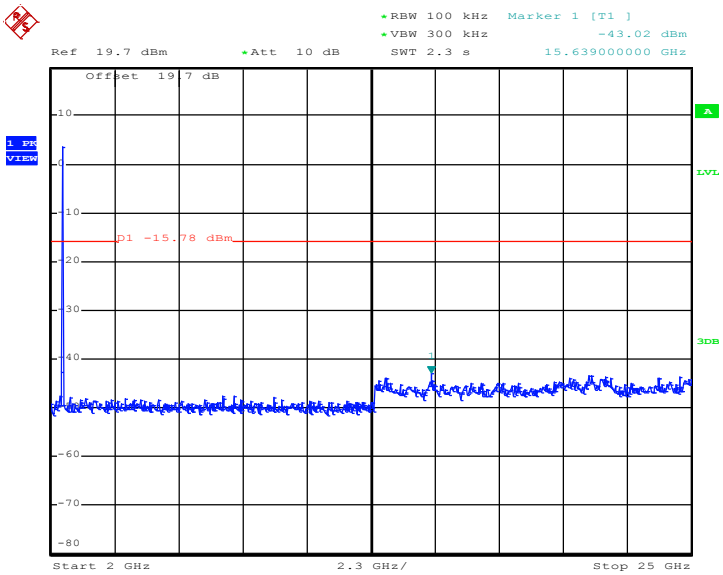
Date: 28.JUL.2012 03:01:52

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH06 between 30 MHz~3 GHz



Date: 28.JUL.2012 02:58:06

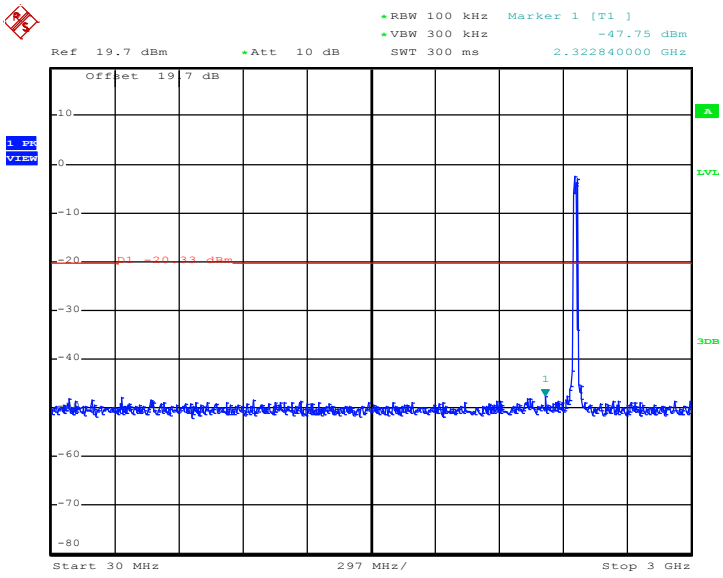
Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20 CH06 between 2 GHz~25 GHz



Date: 28.JUL.2012 02:58:24

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

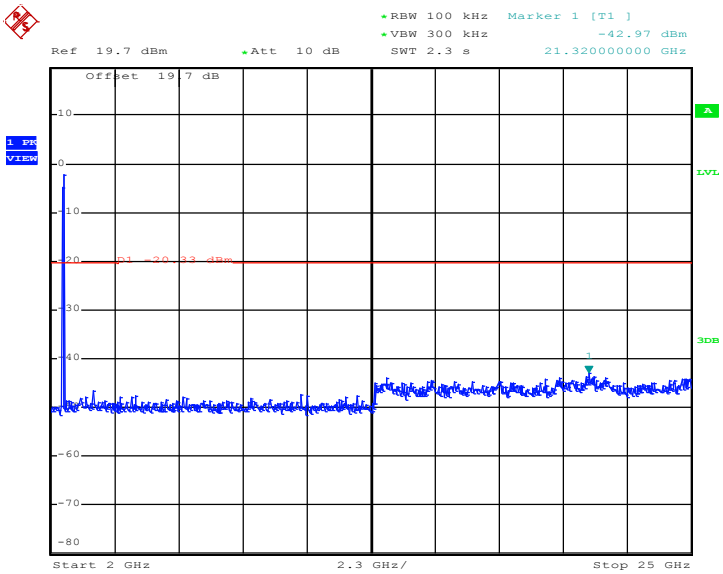
CH11 between 30 MHz~3 GHz



Date: 28.JUL.2012 02:53:59

Conducted Spurious Emission Plot on 2.4GHz 802.11 n HT20

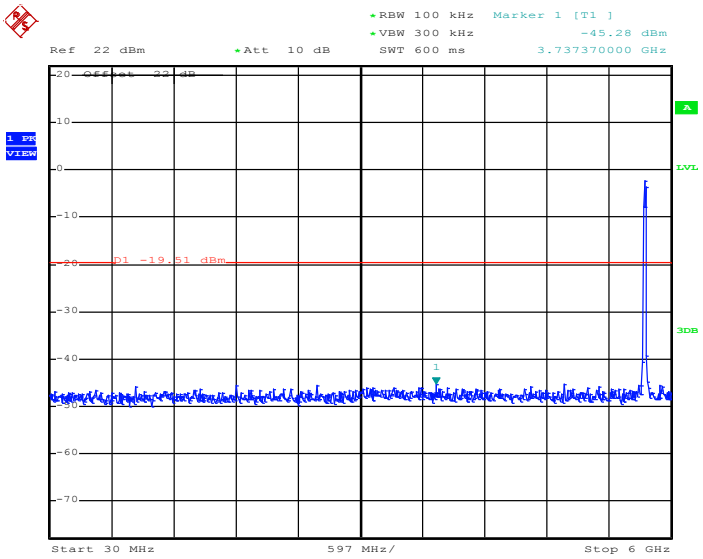
CH11 between 2 GHz~25 GHz



Date: 28.JUL.2012 02:54:17

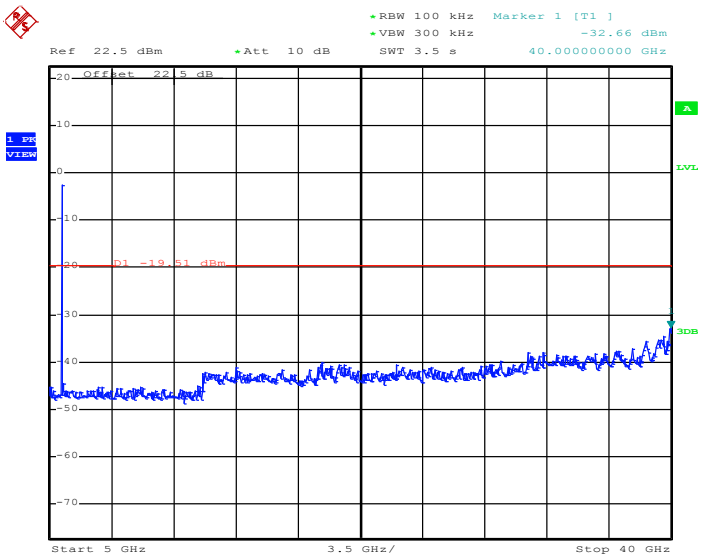
Test Mode :	<Legacy Ant 1>	Temperature :	24~26℃
Test Band :	802.11a	Relative Humidity :	55~58%
Test Channel :	149, 157, 165	Test Engineer :	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 802.11a CH149 between 30 MHz~6 GHz



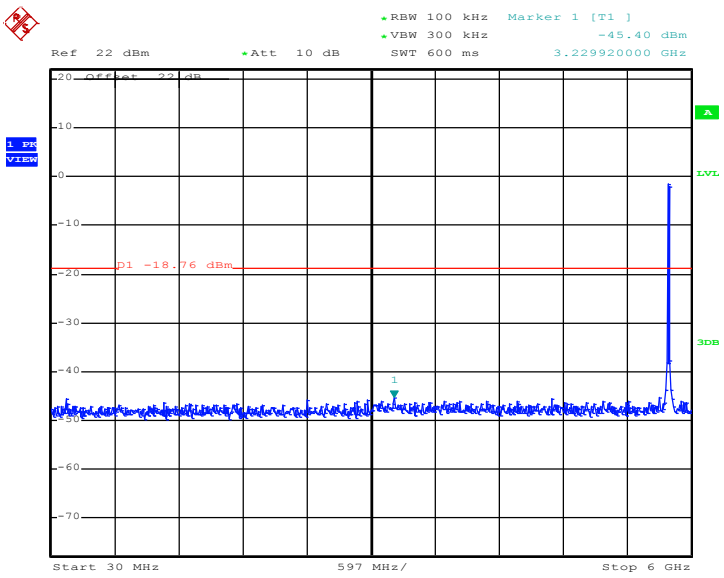
Date: 27.JUL.2012 11:50:00

Conducted Spurious Emission Plot on 802.11a CH149 between 5 GHz~40 GHz



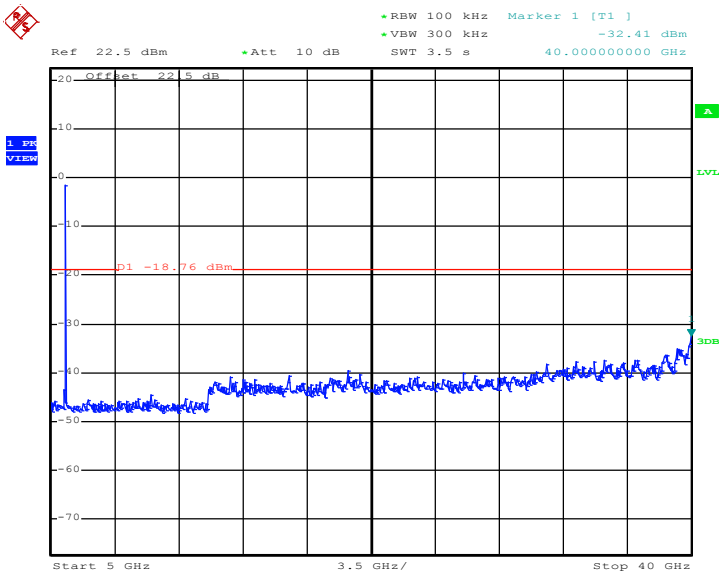
Date: 27.JUL.2012 11:50:17

Conducted Spurious Emission Plot on 802.11a CH157 between 30 MHz~6 GHz



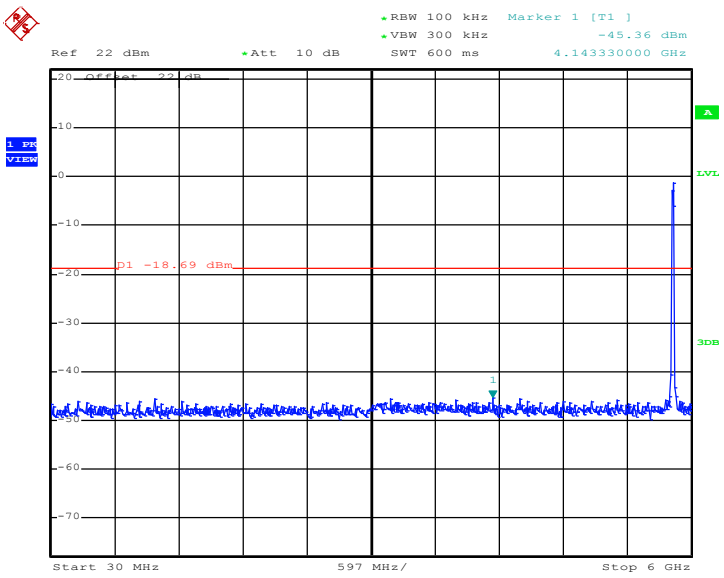
Date: 27.JUL.2012 11:47:28

Conducted Spurious Emission Plot on 802.11a CH157 between 5 GHz~40 GHz



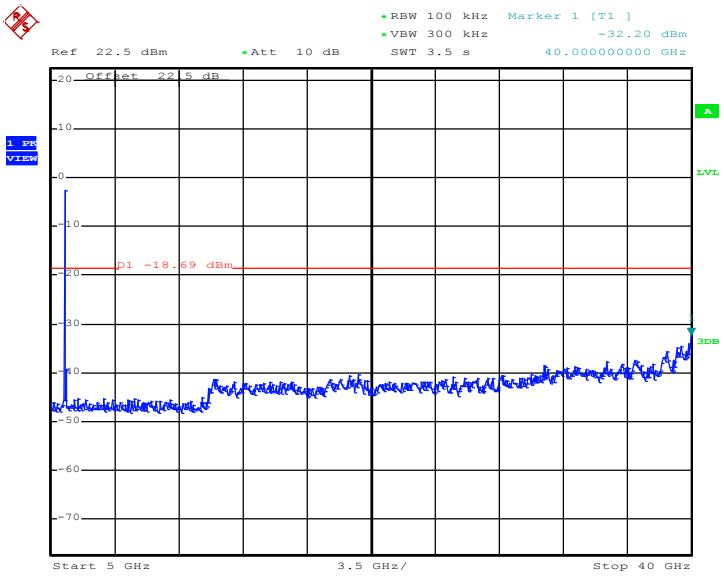
Date: 27.JUL.2012 11:47:46

Conducted Spurious Emission Plot on 802.11a CH165 between 30 MHz~6 GHz



Date: 27.JUL.2012 11:54:08

Conducted Spurious Emission Plot on 802.11a CH165 between 5 GHz~40 GHz

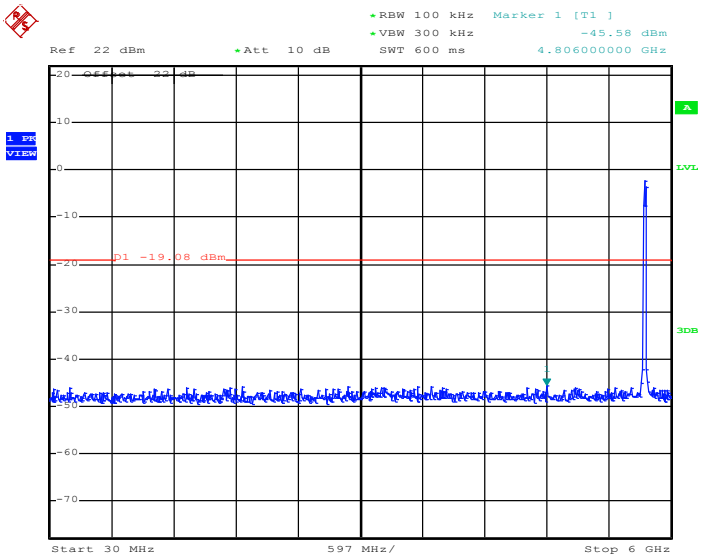


Date: 27.JUL.2012 11:54:25

Test Mode :	<SISO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	149, 157, 165	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

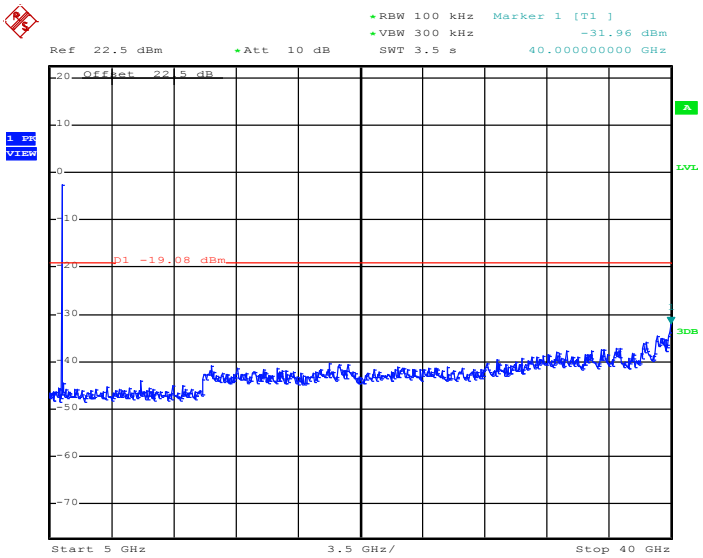
CH149 between 30 MHz~6 GHz



Date: 27.JUL.2012 12:40:22

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

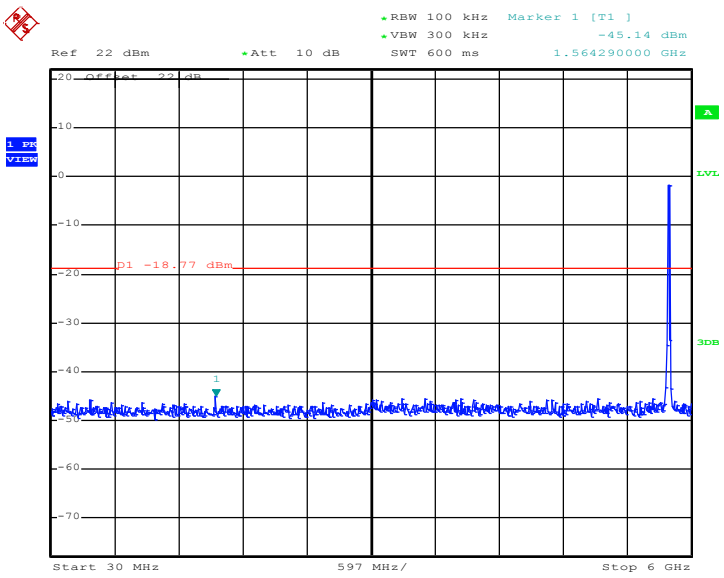
CH149 between 5 GHz~40 GHz



Date: 27.JUL.2012 12:40:39

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

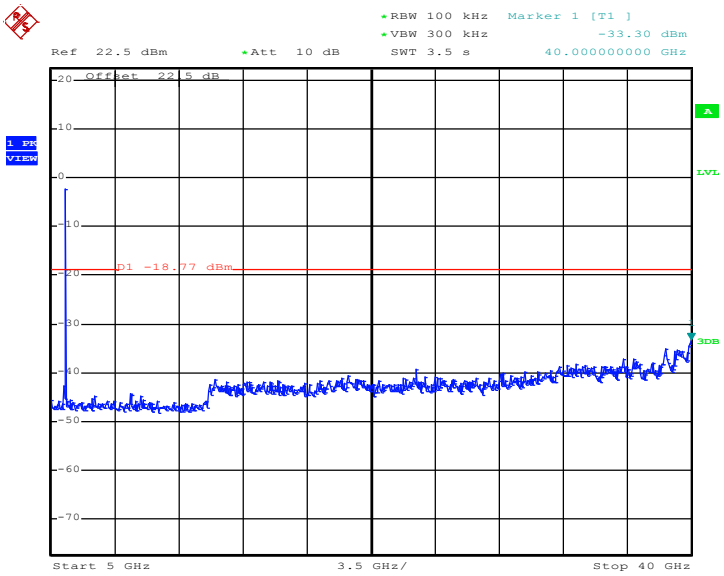
CH157 between 30 MHz~6 GHz



Date: 27.JUL.2012 12:36:16

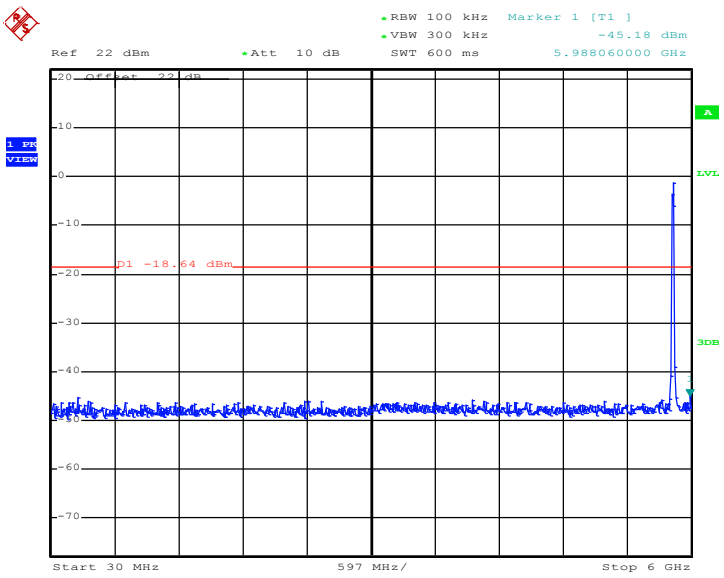
Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

CH157 between 5 GHz~40 GHz



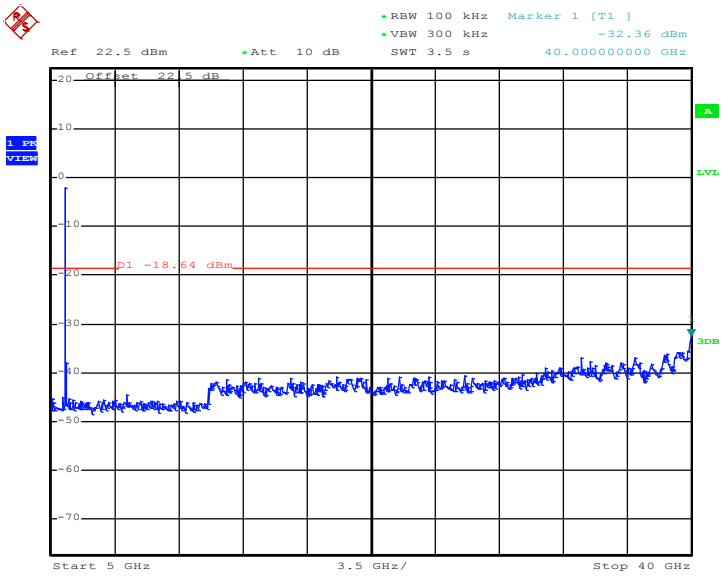
Date: 27.JUL.2012 12:36:34

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH165 between 30 MHz~6 GHz



Date: 27.JUL.2012 12:31:02

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH165 between 5 GHz~40 GHz

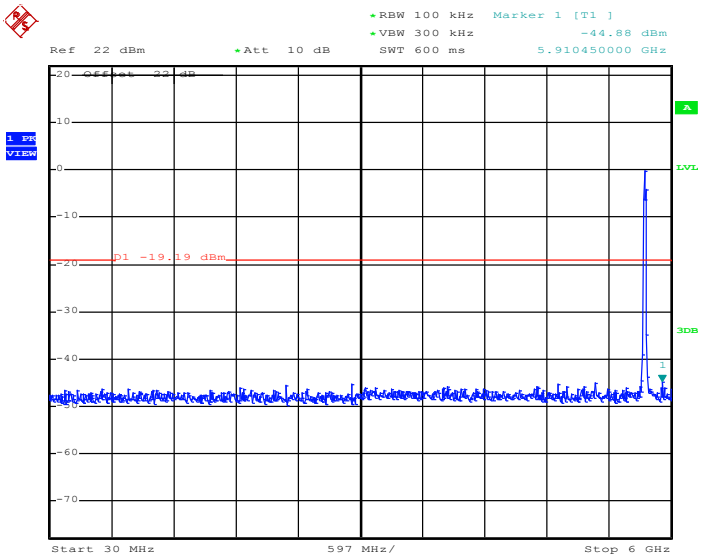


Date: 27.JUL.2012 12:31:19

Test Mode :	<MIMO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	149, 157, 165	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

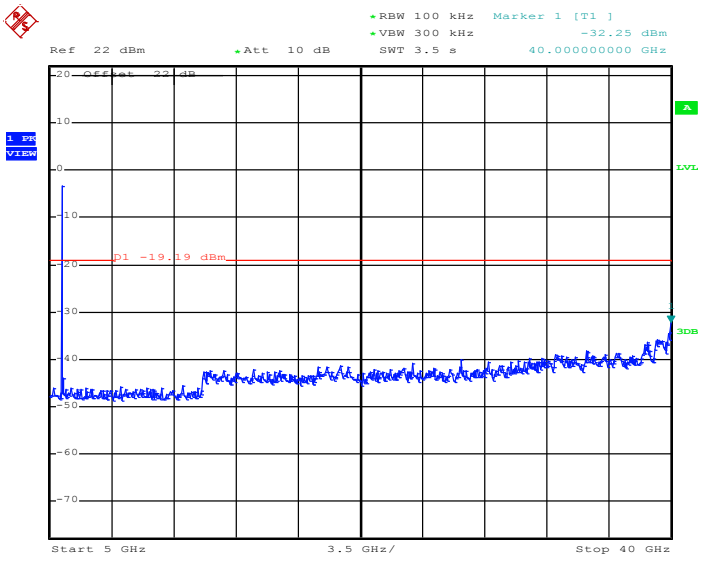
CH149 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:32:04

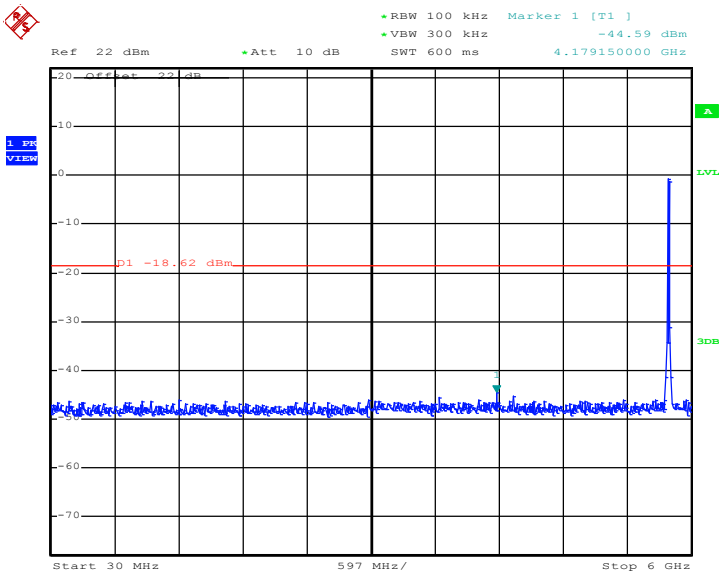
Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

CH149 between 5 GHz~40 GHz



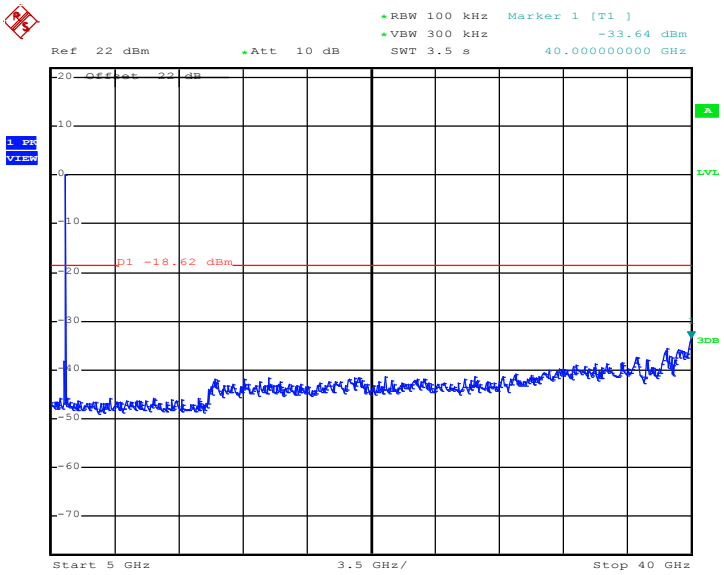
Date: 28.JUL.2012 03:32:22

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH157 between 30 MHz~6 GHz



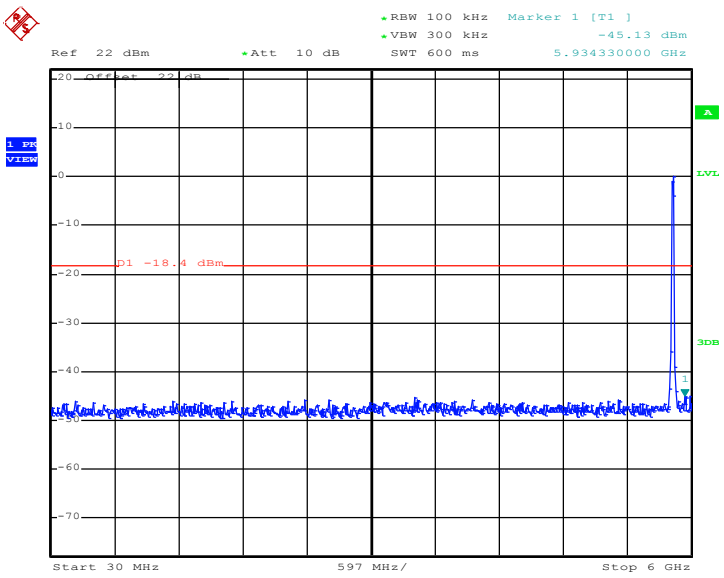
Date: 28.JUL.2012 03:26:51

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH157 between 5 GHz~40 GHz



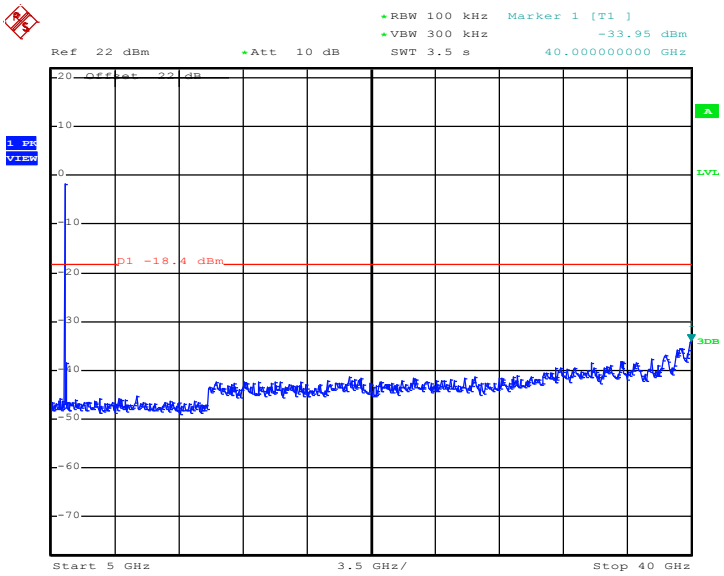
Date: 28.JUL.2012 03:27:09

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH165 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:22:36

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH165 between 5 GHz~40 GHz

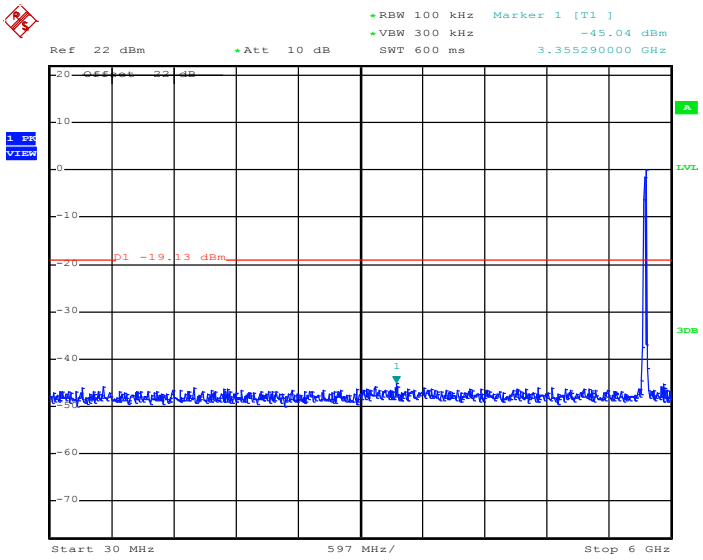


Date: 28.JUL.2012 03:22:54

Test Mode :	<MIMO Ant 2>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT20	**Relative Humidity :**	55~58%
Test Channel :	149, 157, 165	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

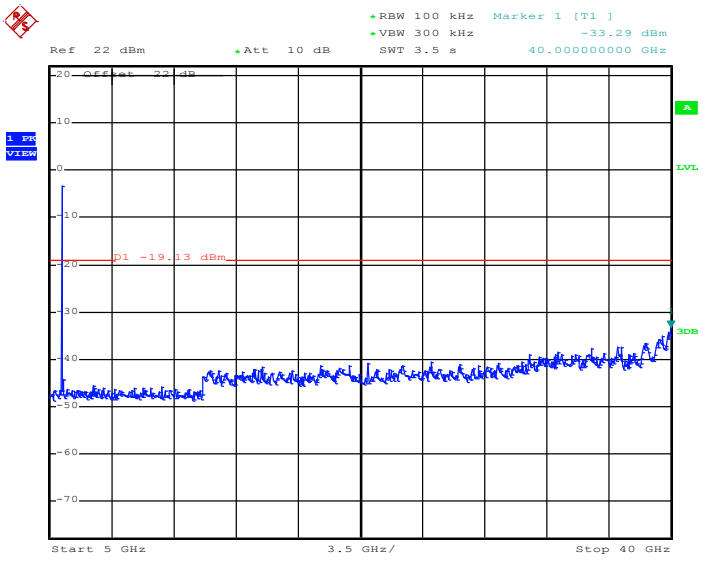
CH149 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:08:37

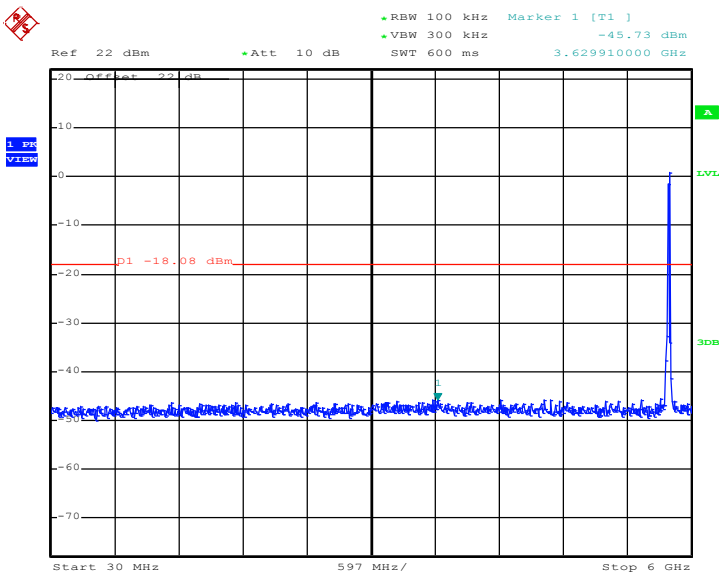
Conducted Spurious Emission Plot on 5GHz 802.11 n HT20

CH149 between 5 GHz~40 GHz



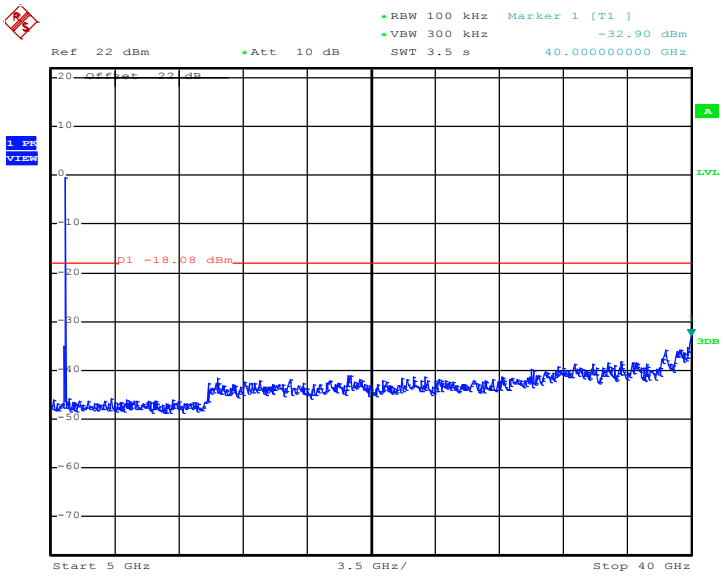
Date: 28.JUL.2012 03:08:55

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH157 between 30 MHz~6 GHz



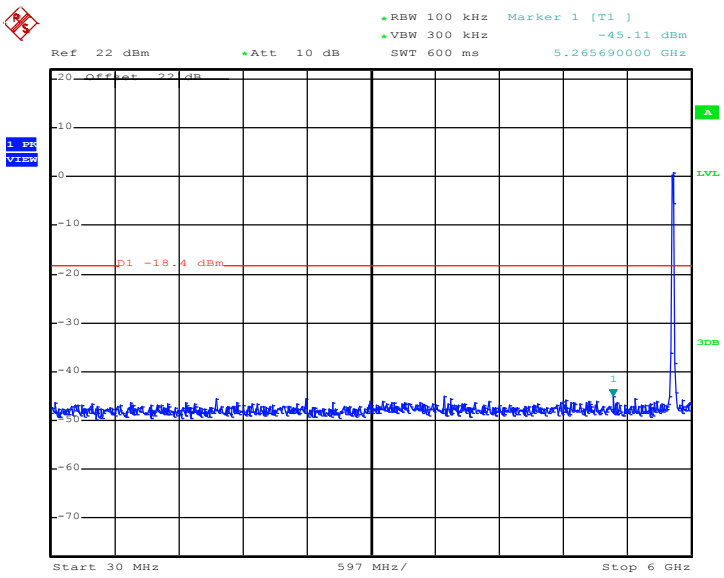
Date: 28.JUL.2012 03:12:10

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH157 between 5 GHz~40 GHz



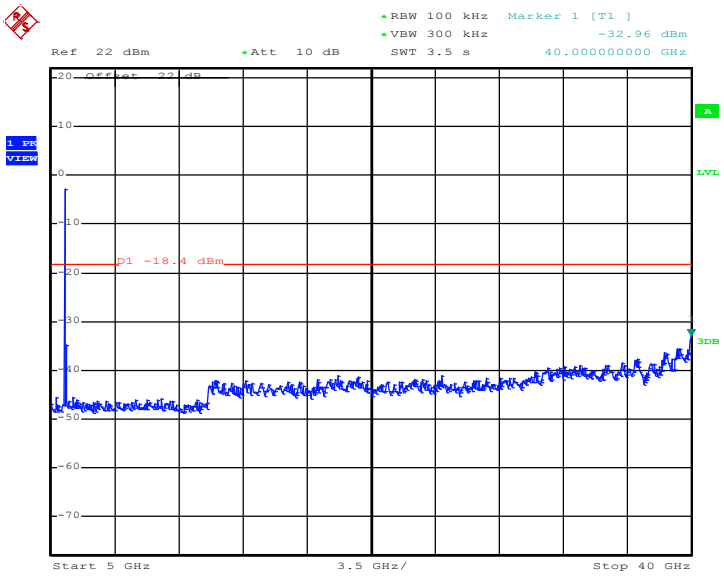
Date: 28.JUL.2012 03:12:28

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH165 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:17:38

Conducted Spurious Emission Plot on 5GHz 802.11 n HT20 CH165 between 5 GHz~40 GHz

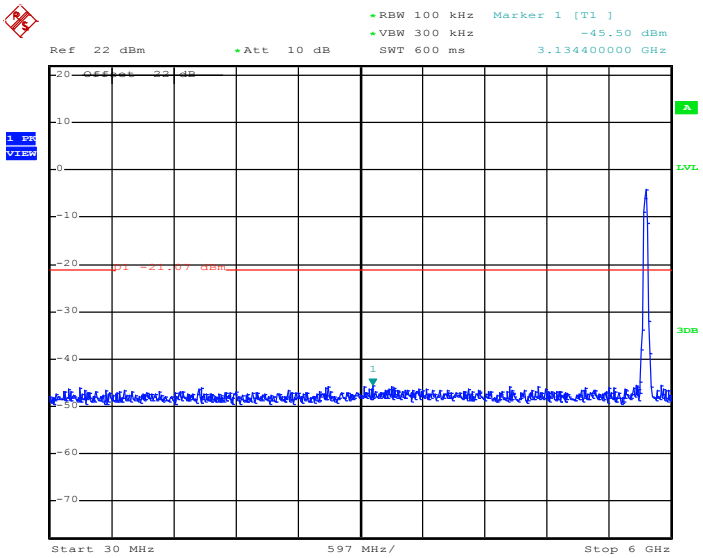


Date: 28.JUL.2012 03:17:55

Test Mode :	<SISO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT40	**Relative Humidity :**	55~58%
Test Channel :	151, 159	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

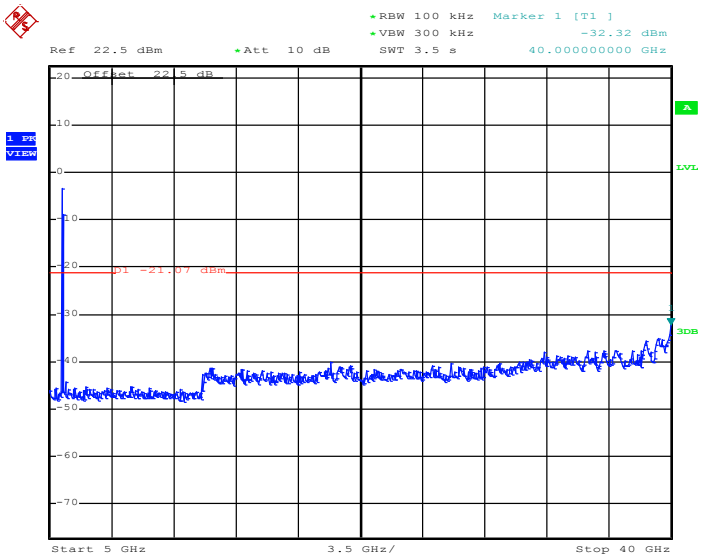
CH151 between 30 MHz~6 GHz



Date: 27.JUL.2012 14:18:52

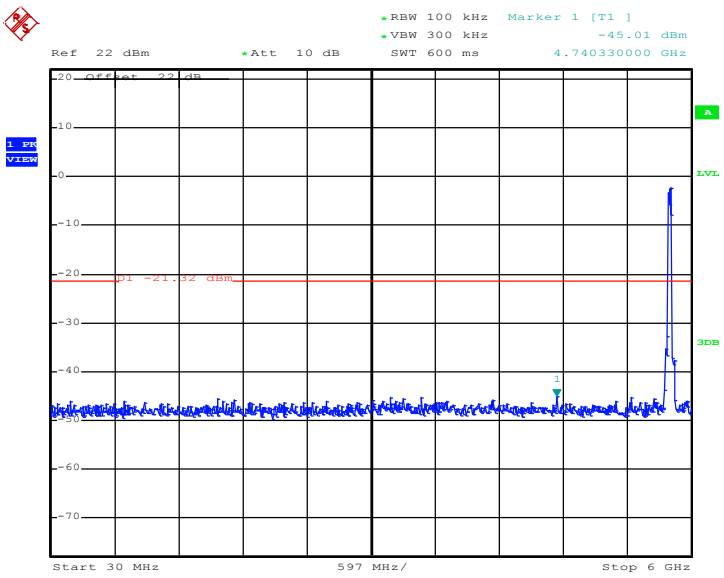
Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

CH151 between 5 GHz~40 GHz



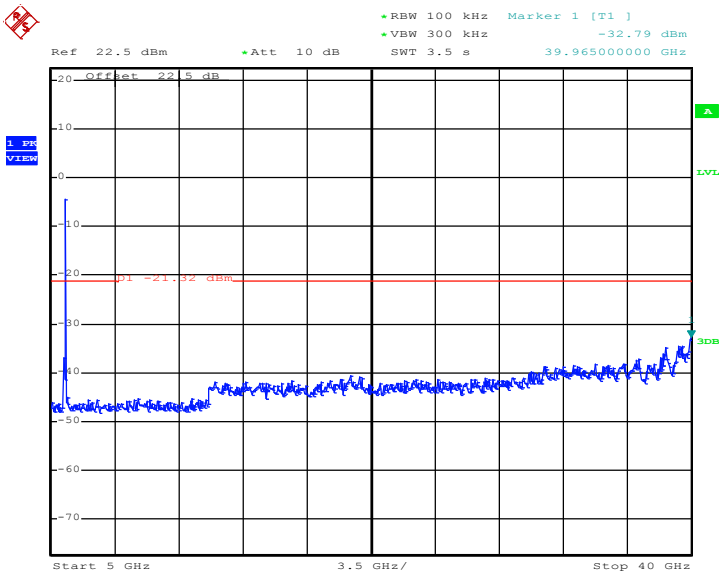
Date: 27.JUL.2012 14:19:10

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40 CH159 between 30 MHz~6 GHz



Date: 27.JUL.2012 14:22:11

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40 CH159 between 5 GHz~40 GHz

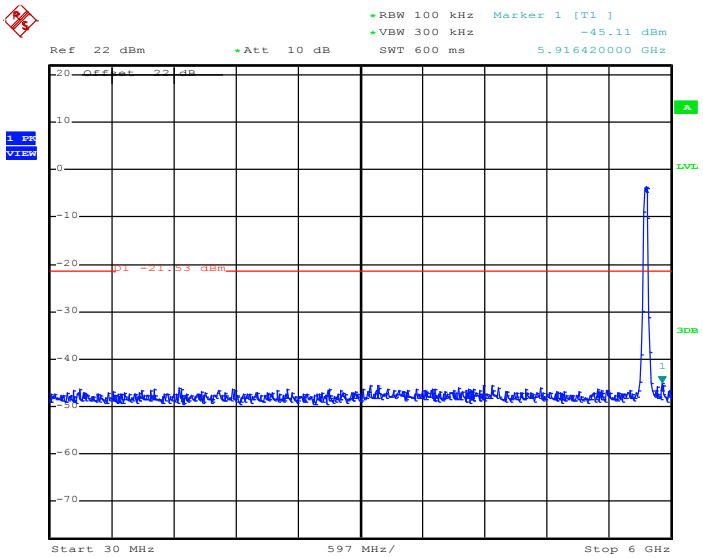


Date: 27.JUL.2012 14:22:29

Test Mode :	<MIMO Ant 1>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT40	**Relative Humidity :**	55~58%
Test Channel :	151, 159	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

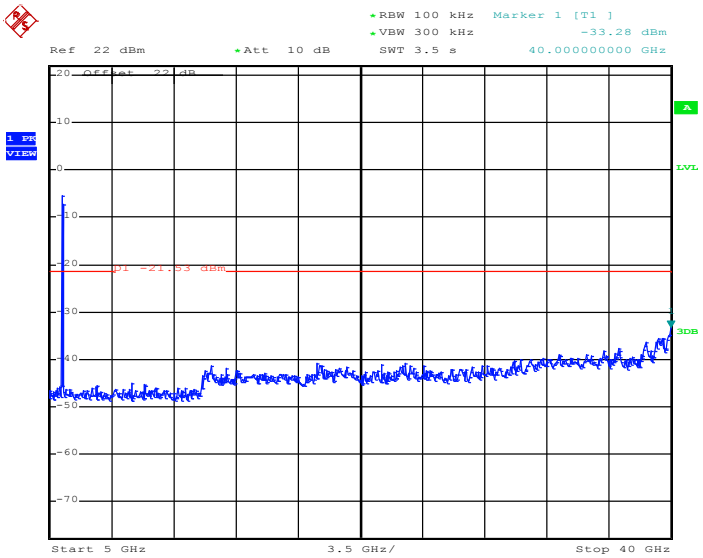
CH151 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:37:52

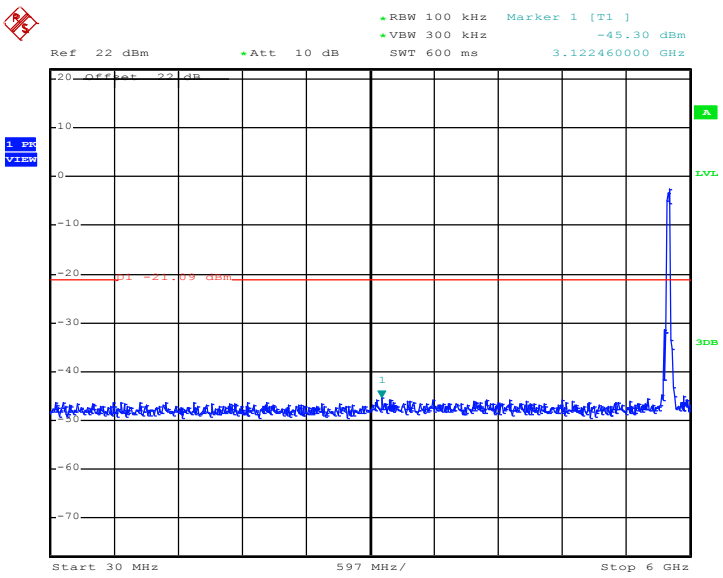
Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

CH151 between 5 GHz~40 GHz



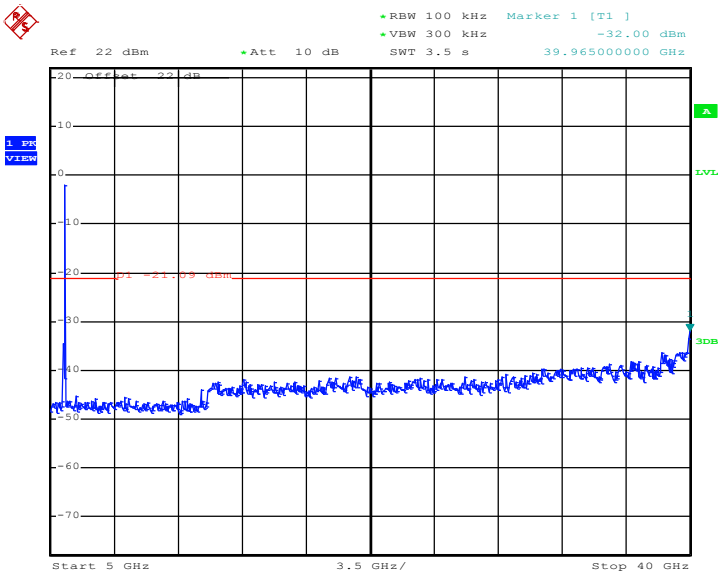
Date: 28.JUL.2012 03:38:09

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40 CH159 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:45:13

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40 CH159 between 5 GHz~40 GHz

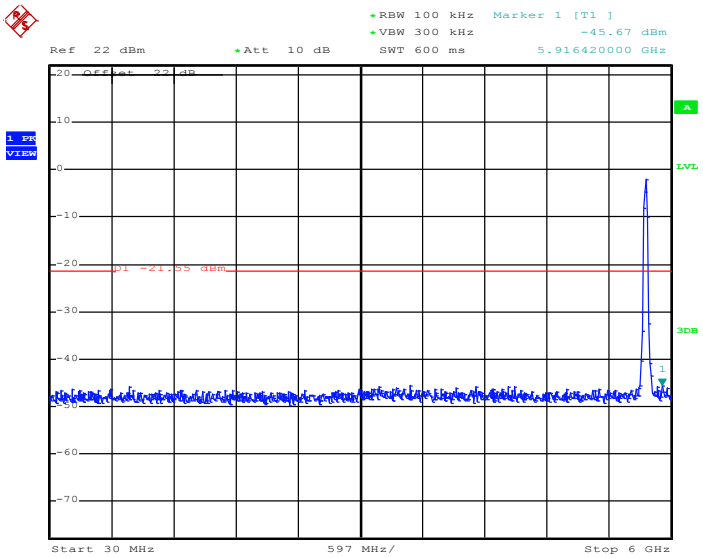


Date: 28.JUL.2012 03:43:28

Test Mode :	<MIMO Ant 2>	**Temperature :**	24~26℃
Test Band :	5GHz 802.11n HT40	**Relative Humidity :**	55~58%
Test Channel :	151, 159	**Test Engineer :**	Pinkston Tu and Book Lin

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

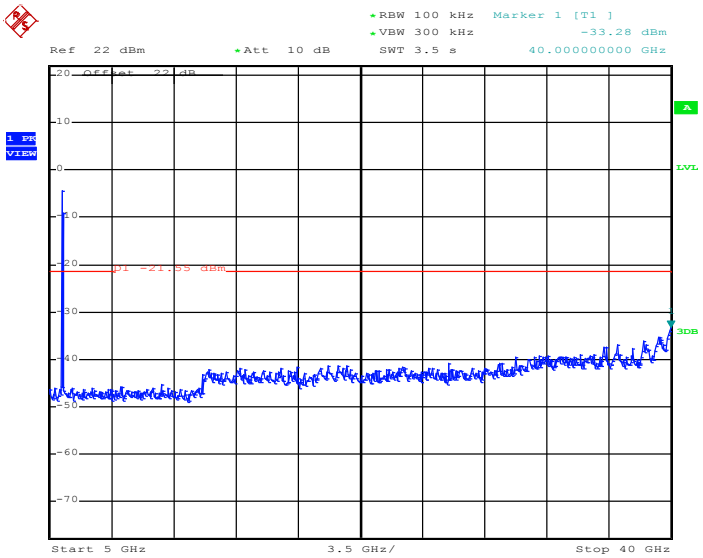
CH151 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:56:28

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

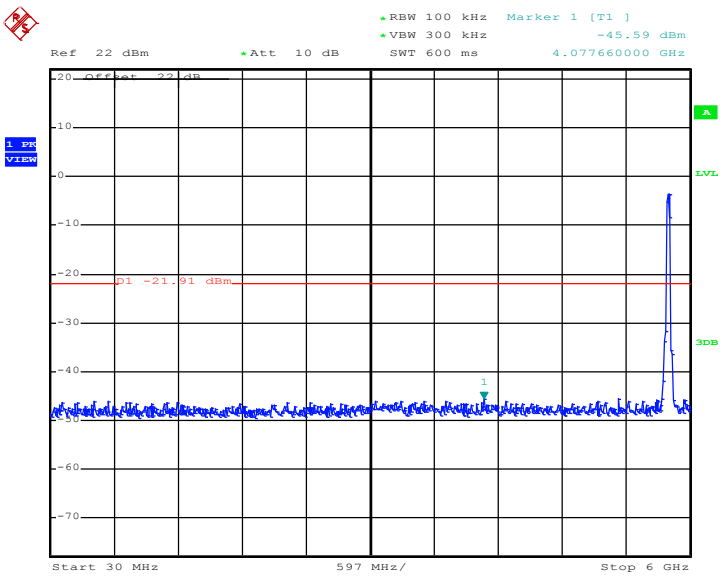
CH151 between 5 GHz~40 GHz



Date: 28.JUL.2012 03:56:46

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

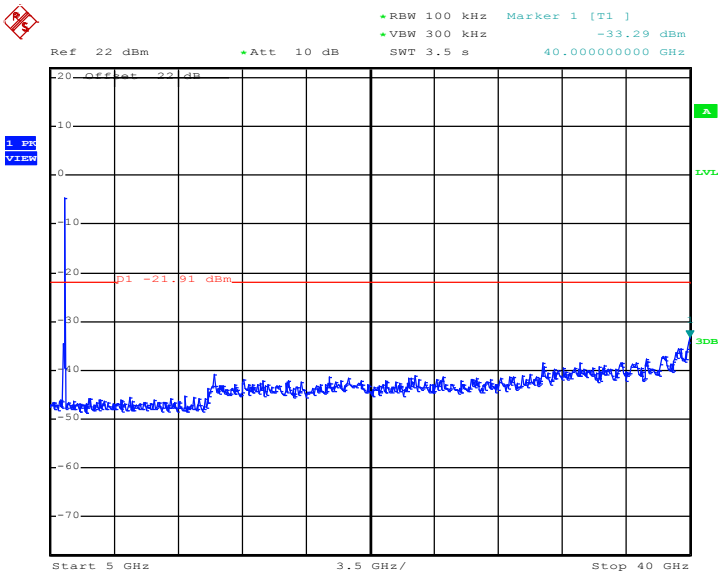
CH159 between 30 MHz~6 GHz



Date: 28.JUL.2012 03:52:23

Conducted Spurious Emission Plot on 5GHz 802.11 n HT40

CH159 between 5 GHz~40 GHz



Date: 28.JUL.2012 03:52:40

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

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

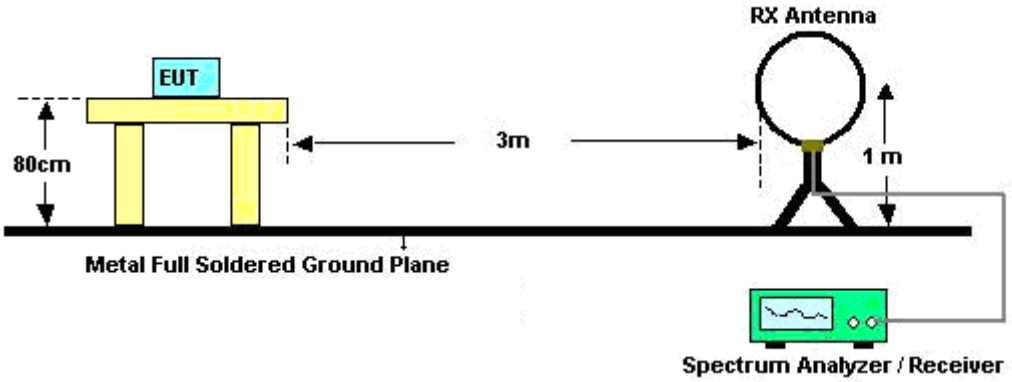
1. The testing follows the guidelines in ANSI C63.4-2003
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 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.

Antenna	Band	Duty Cycle(%)	T(us)	1/T(KHz)	VBW Setting
1	802.11b	100.00	-	-	10Hz
1	802.11g	99.15	-	-	
1	2.4G 802.11n (BW 20MHz)	99.01	-	-	
1+2	2.4G 802.11n (BW 20MHz) for Ant1	98.20	-	-	
1+2	2.4G 802.11n (BW 20MHz) for Ant2	98.20	-	-	
1	802.11a	99.36	-	-	10Hz
1	5G 802.11n (BW 20MHz)	99.08	-	-	
1	5G 802.11n (BW 40MHz)	98.60	-	-	
1+2	5G 802.11n (BW 20MHz) for Ant1	98.21	-	-	
1+2	5G 802.11n (BW 20MHz) for Ant2	98.66	-	-	
1+2	5G 802.11n (BW 40MHz) for Ant1	97.01	648.00	1.543	3KHz
1+2	5G 802.11n (BW 40MHz) for Ant2	97.00	646.00	1.548	

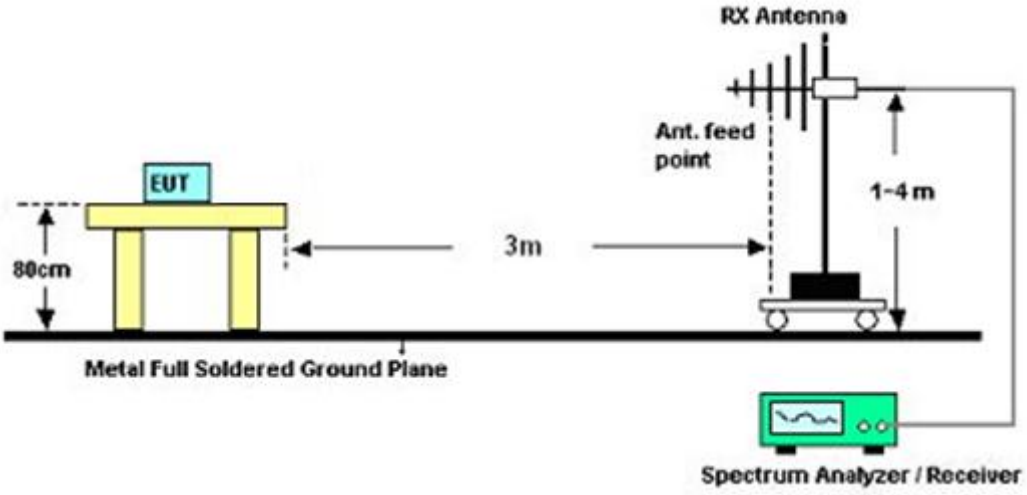
Note : For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

3.5.4 Test Setup

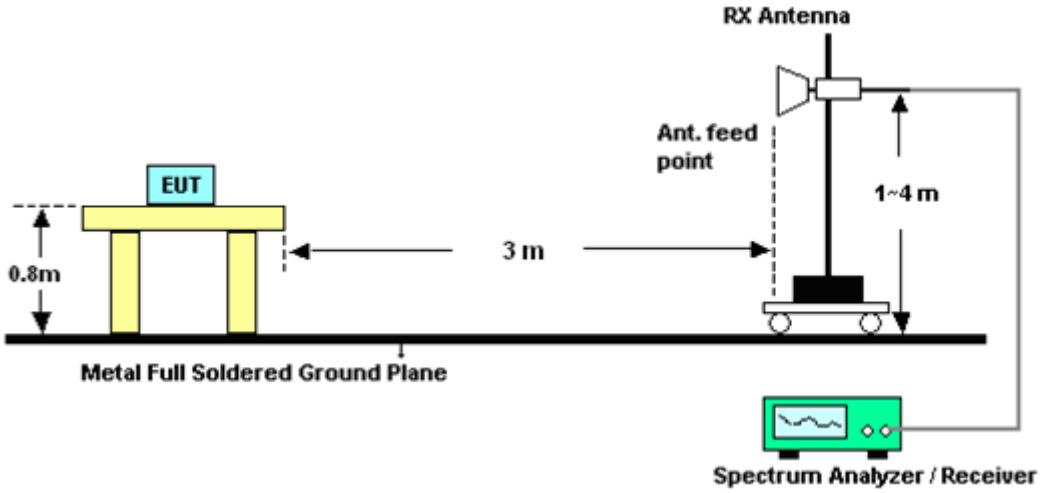
For radiated emissions below 30MHz



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 <Ant 1>	Temperature :	24~26°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2412	107.6	-	-	103.42	32.08	6.07	33.97	165	287	Average
2412	111.63	-	-	107.45	32.08	6.07	33.97	165	287	Peak
2389.56	61.88	-12.12	74	57.75	32.06	6.03	33.96	165	287	Peak
2390.00	50.93	-3.07	54	46.8	32.06	6.03	33.96	165	287	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
2412	107.6	-	-	103.42	32.08	6.07	33.97	165	87	Average
2412	108.81	-	-	104.63	32.08	6.07	33.97	165	87	Peak
2386.41	55.9	-18.1	74	51.77	32.06	6.03	33.96	165	87	Peak
2390.00	45.42	-8.58	54	41.29	32.06	6.03	33.96	165	87	Peak

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2462	110.83	-	-	106.53	32.15	6.14	33.99	102	210	Average
2462	115.92	-	-	111.62	32.15	6.14	33.99	102	210	Peak
2483.58	62.02	-11.98	74	57.66	32.18	6.18	34	102	210	Peak
2483.5	51.18	-2.82	54	46.82	32.18	6.18	34	102	210	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
2462	103.73	-	-	99.43	32.15	6.14	33.99	197	320	Average
2462	108.59	-	-	104.29	32.15	6.14	33.99	197	320	Peak
2483.58	54.15	-19.85	74	49.79	32.18	6.18	34	197	320	Peak
2483.5	43.05	-10.95	54	38.69	32.18	6.18	34	197	320	Average

Test Mode :	802.11g <Ant 1>	Temperature :	24~26°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2412	99.05	-	-	94.87	32.08	6.07	33.97	133	219	Average
2412	110.19	-	-	106.01	32.08	6.07	33.97	133	219	Peak
2389.74	69.15	-4.85	74	65.02	32.06	6.03	33.96	133	219	Peak
2389.92	52.61	-1.39	54	48.48	32.06	6.03	33.96	133	219	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
2412	95.2	-	-	91.02	32.08	6.07	33.97	169	63	Average
2412	104.84	-	-	100.66	32.08	6.07	33.97	169	63	Peak
2390	65.79	-8.21	74	61.66	32.06	6.03	33.96	169	63	Peak
2389.92	49.58	-4.42	54	45.45	32.06	6.03	33.96	169	63	Average

Test Mode :	802.11g <Ant 1>	Temperature :	24~26°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2462	100.48	-	-	96.06	32.27	6.14	33.99	144	157	Average
2462	111.58	-	-	107.16	32.27	6.14	33.99	144	157	Peak
2484.22	73.11	-0.89	74	68.64	32.29	6.18	34	144	157	Peak
2483.52	53.16	-0.84	54	48.69	32.29	6.18	34	144	157	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
2462	98.43	-	-	94.01	32.27	6.14	33.99	102	96	Average
2462	108.76	-	-	104.34	32.27	6.14	33.99	102	96	Peak
2483.68	71.35	-2.65	74	66.88	32.29	6.18	34	102	96	Peak
2483.5	51.23	-2.77	54	46.76	32.29	6.18	34	102	96	Average

Test Mode :	2.4GHz 802.11n HT20 <SISO Ant 1>	Temperature :	24~26°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2412	98.58	-	-	94.4	32.08	6.07	33.97	131	214	Average
2412	110.57	-	-	106.39	32.08	6.07	33.97	131	214	Peak
2389.83	69.19	-4.81	74	65.06	32.06	6.03	33.96	131	214	Peak
2389.56	52.59	-1.41	54	48.46	32.06	6.03	33.96	131	214	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
2412	94.04	-	-	89.86	32.08	6.07	33.97	136	323	Average
2412	105.29	-	-	101.11	32.08	6.07	33.97	136	323	Peak
2389.74	63.4	-10.6	74	59.27	32.06	6.03	33.96	136	323	Peak
2385.06	47.45	-6.55	54	43.35	32.03	6.03	33.96	136	323	Average

Test Mode :	2.4GHz 802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih		

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**
2462	97.56	-	-	93.14	32.27	6.14	33.99	100	310	Average
2462	108.5	-	-	104.08	32.27	6.14	33.99	100	310	Peak
2484.9	72.76	-1.24	74	68.29	32.29	6.18	34	100	310	Peak
2483.52	50.51	-3.49	54	46.04	32.29	6.18	34	100	310	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**
2462	96.18	-	-	91.76	32.27	6.14	33.99	101	94	Average
2462	108.27	-	-	103.85	32.27	6.14	33.99	101	94	Peak
2484.18	70.55	-3.45	74	66.08	32.29	6.18	34	101	94	Peak
2483.62	51.84	-2.16	54	47.37	32.29	6.18	34	101	94	Average

Test Mode :	2.4GHz 802.11n HT20 <MIMO>	Temperature :	24~26°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2412	97.95	-	-	93.77	32.08	6.07	33.97	131	218	Average
2412	109.79	-	-	105.61	32.08	6.07	33.97	131	218	Peak
2390	67.18	-6.82	74	63.05	32.06	6.03	33.96	131	218	Peak
2390	52.61	-1.39	54	48.48	32.06	6.03	33.96	131	218	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
2412	95.88	-	-	91.7	32.08	6.07	33.97	169	54	Average
2412	108.17	-	-	103.99	32.08	6.07	33.97	169	54	Peak
2389.74	64.8	-9.2	74	60.67	32.06	6.03	33.96	169	54	Peak
2390	51.32	-2.68	54	47.19	32.06	6.03	33.96	169	54	Average

Test Mode :	2.4GHz 802.11n HT20 <MIMO>	Temperature :	24~26°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
2462	100.87	-	-	96.57	32.15	6.14	33.99	104	207	Average
2462	113.7	-	-	109.4	32.15	6.14	33.99	104	207	Peak
2483.58	72.51	-1.49	74	68.15	32.18	6.18	34	104	207	Peak
2483.5	53.41	-0.59	54	49.05	32.18	6.18	34	104	207	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
2462	94.57	-	-	90.27	32.15	6.14	33.99	200	54	Average
2462	106.78	-	-	102.48	32.15	6.14	33.99	200	54	Peak
2484.64	62.52	-11.48	74	58.16	32.18	6.18	34	200	54	Peak
2483.58	46.8	-7.2	54	42.44	32.18	6.18	34	200	54	Average

Test Mode :	802.11a <Ant 1>	Temperature :	24~26°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5745	95.4	-	-	83.95	34.84	9.91	33.3	149	39	Average
5745	106.04	-	-	94.59	34.84	9.91	33.3	149	39	Peak
5725	69	-17.04	86.04	57.53	34.81	9.92	33.26	149	39	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
5745	96.54	-	-	85.09	34.84	9.91	33.3	159	272	Average
5745	106.93	-	-	95.48	34.84	9.91	33.3	159	272	Peak
5725	74.84	-12.09	86.93	63.37	34.81	9.92	33.26	159	272	Peak

Test Mode :	802.11a <Ant 1>	Temperature :	24~26°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5825	96.99	-	-	85.57	34.96	9.88	33.42	134	241	Average
5825	107.81	-	-	96.39	34.96	9.88	33.42	134	241	Peak
5850	68.38	-19.43	87.81	56.99	34.98	9.87	33.46	134	241	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
5825	89.34	-	-	77.92	34.96	9.88	33.42	100	352	Average
5825	100.39	-	-	88.97	34.96	9.88	33.42	100	352	Peak
5850	57.41	-22.98	80.39	46.02	34.98	9.87	33.46	100	352	Peak

Test Mode :	5GHz 802.11n HT20 <SISO Ant 1>	Temperature :	24~26°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5745	94.82	-	-	83.37	34.84	9.91	33.3	148	39	Average
5745	105.11	-	-	93.66	34.84	9.91	33.3	148	39	Peak
5725	72.64	-12.47	85.11	61.17	34.81	9.92	33.26	148	39	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
5745	95.9	-	-	84.45	34.84	9.91	33.3	116	273	Average
5745	107.55	-	-	96.1	34.84	9.91	33.3	116	273	Peak
5725	74.26	-13.29	87.55	62.79	34.81	9.92	33.26	116	273	Peak

Test Mode :	5GHz 802.11n HT20 <SISO Ant 1>	Temperature :	24~26°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5825	96.33	-	-	84.91	34.96	9.88	33.42	135	185	Average
5825	107.5	-	-	96.08	34.96	9.88	33.42	135	185	Peak
5850	69.11	-18.39	87.5	57.72	34.98	9.87	33.46	135	185	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
5825	91.04	-	-	79.62	34.96	9.88	33.42	199	359	Average
5825	102.67	-	-	91.25	34.96	9.88	33.42	199	359	Peak
5850	59.43	-23.24	82.67	48.04	34.98	9.87	33.46	199	359	Peak

Test Mode :	5GHz 802.11n HT20 <MIMO>	Temperature :	24~26°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5745	96.69	-	-	85.24	34.84	9.91	33.3	140	45	Average
5745	109.07	-	-	97.62	34.84	9.91	33.3	140	45	Peak
5725	75.9	-13.17	89.07	64.43	34.81	9.92	33.26	140	45	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
5745	99.38	-	-	87.93	34.84	9.91	33.3	119	276	Average
5745	111.93	-	-	100.48	34.84	9.91	33.3	119	276	Peak
5725	81.13	-10.8	91.93	69.66	34.81	9.92	33.26	119	276	Peak

Test Mode :	5GHz 802.11n HT20 <MIMO>	Temperature :	24~26°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5825	99.71	-	-	88.29	34.96	9.88	33.42	123	239	Average
5825	112.66	-	-	101.24	34.96	9.88	33.42	123	239	Peak
5850	73.23	-19.43	92.66	61.84	34.98	9.87	33.46	123	239	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
5825	62.05	-	-	50.63	34.96	9.88	33.42	199	357	Average
5825	104.57	-	-	93.15	34.96	9.88	33.42	199	357	Peak
5850	69.46	-15.11	84.57	58.07	34.98	9.87	33.46	199	357	Peak

Test Mode :	5GHz 802.11n HT40 <SISO Ant 1>	Temperature :	24~26°C
Test Channel :	151	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5755	93.52	-	-	82.05	34.86	9.91	33.3	147	40	Average
5755	103.71	-	-	92.24	34.86	9.91	33.3	147	40	Peak
5725	75.82	-7.89	83.71	64.35	34.81	9.92	33.26	147	40	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
5755	93.77	-	-	82.3	34.86	9.91	33.3	178	268	Average
5755	105.9	-	-	94.43	34.86	9.91	33.3	178	268	Peak
5725	75.21	-10.69	85.9	63.74	34.81	9.92	33.26	178	268	Peak

Test Mode :	5GHz 802.11n HT40 <SISO Ant 1>	Temperature :	24~26°C
Test Channel :	159	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5795	91.4	-	-	79.98	34.91	9.89	33.38	129	40	Average
5795	103.49	-	-	92.07	34.91	9.89	33.38	129	40	Peak
5850	60.28	-23.21	83.49	48.89	34.98	9.87	33.46	129	40	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
5795	91.97	-	-	80.55	34.91	9.89	33.38	180	272	Average
5795	104.21	-	-	92.79	34.91	9.89	33.38	180	272	Peak
5850	61.61	-22.6	84.21	50.22	34.98	9.87	33.46	180	272	Peak

Test Mode :	5GHz 802.11n HT40 <MIMO>	Temperature :	24~26°C
Test Channel :	151	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5755	93.48	-	-	82.01	34.86	9.91	33.3	110	67	Average
5755	106.91	-	-	95.44	34.86	9.91	33.3	110	67	Peak
5725	79.24	-7.67	86.91	67.77	34.81	9.92	33.26	110	67	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
5755	95.6	-	-	84.13	34.86	9.91	33.3	118	274	Average
5755	108.28	-	-	96.81	34.86	9.91	33.3	118	274	Peak
5725	81.82	-6.46	88.28	70.35	34.81	9.92	33.26	118	274	Peak

Test Mode :	5GHz 802.11n HT40 <MIMO>	Temperature :	24~26°C
Test Channel :	159	Relative Humidity :	49~51%
Test Engineer :	Eric Shih		

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
5795	93.5	-	-	82.08	34.91	9.89	33.38	100	66	Average
5795	106.78	-	-	95.36	34.91	9.89	33.38	100	66	Peak
5850	67.69	-19.09	86.78	56.3	34.98	9.87	33.46	100	66	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
5795	95.1	-	-	83.68	34.91	9.89	33.38	129	275	Average
5795	108.99	-	-	97.57	34.91	9.89	33.38	129	275	Peak
5850	66.84	-22.15	88.99	55.45	34.98	9.87	33.46	129	275	Peak

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

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	2412 MHz is fundamental signal which can be ignored.		

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
2412	107.6	-	-	103.42	32.08	6.07	33.97	165	287	Average
2412	111.63	-	-	107.45	32.08	6.07	33.97	165	287	Peak
3216	47.41	-26.59	74	64.29	32.74	7.19	56.81	100	0	Peak
4824	52.54	-1.46	54	66.79	34.1	9.12	57.47	100	331	Average
4824	55.6	-18.4	74	69.85	34.1	9.12	57.47	100	331	Peak

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	2412 MHz is fundamental signal which can be ignored.		

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
2412	107.6	-	-	103.42	32.08	6.07	33.97	165	87	Average
2412	108.81	-	-	104.63	32.08	6.07	33.97	165	87	Peak
4824	49.31	-4.69	54	63.56	34.1	9.12	57.47	130	5	Average
4824	52.73	-21.27	74	66.98	34.1	9.12	57.47	130	5	Peak

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
94.26	24.03	-19.47	43.5	45.65	9.08	0.97	31.67	-	-	Peak
140.97	25.99	-17.51	43.5	44.86	11.38	1.2	31.45	102	7	Peak
232.77	22.43	-23.57	46	40.75	11.39	1.5	31.21	-	-	Peak
324.5	23.29	-22.71	46	38.66	13.98	1.83	31.18	-	-	Peak
568.1	25.41	-20.59	46	34.55	19.26	2.6	31	-	-	Peak
913.9	26.02	-19.98	46	30.18	23.3	3.37	30.83	-	-	Peak
2437	109.43	-	-	105.17	32.13	6.11	33.98	130	210	Average
2437	114.37	-	-	110.11	32.13	6.11	33.98	130	210	Peak
4874	51.67	-2.33	54	65.92	34.1	9.13	57.48	100	333	Average
4874	55.37	-18.63	74	69.62	34.1	9.13	57.48	100	333	Peak

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
39.72	24.05	-15.95	40	41.72	13.5	0.62	31.79	100	9	Peak
94.53	20.88	-22.62	43.5	42.37	9.2	0.98	31.67	-	-	Peak
141.78	21.23	-22.27	43.5	40.12	11.36	1.2	31.45	-	-	Peak
328.7	24.26	-21.74	46	39.58	14.09	1.84	31.25	-	-	Peak
590.5	24.77	-21.23	46	33.16	19.63	2.66	30.68	-	-	Peak
615.7	24.44	-21.56	46	32.26	19.92	2.74	30.48	-	-	Peak
2437	103.97	-	-	99.71	32.13	6.11	33.98	134	54	Average
2437	108.77	-	-	104.51	32.13	6.11	33.98	134	54	Peak
4874	50.79	-23.21	74	65.04	34.1	9.13	57.48	100	0	Peak

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

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
2462	110.83	-	-	106.53	32.15	6.14	33.99	102	210	Average
2462	115.92	-	-	111.62	32.15	6.14	33.99	102	210	Peak
4924	50.72	-3.28	54	64.95	34.1	9.15	57.48	100	334	Average
4924	52.88	-21.12	74	67.11	34.1	9.15	57.48	100	334	Peak

Test Mode :	802.11b <Ant 1>	Temperature :	24~26°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

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
2462	103.73	-	-	99.43	32.15	6.14	33.99	197	320	Average
2462	108.59	-	-	104.29	32.15	6.14	33.99	197	320	Peak
4924	48.24	-25.76	74	62.48	34.1	9.14	57.48	100	0	Peak

Test Mode :	802.11g <Ant 1>	**Temperature :**	24~26°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2412	99.05	-	-	94.87	32.08	6.07	33.97	133	219	Average
2412	110.19	-	-	106.01	32.08	6.07	33.97	133	219	Peak

Test Mode :	802.11g <Ant 1>	**Temperature :**	24~26°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2412	95.2	-	-	91.02	32.08	6.07	33.97	169	63	Average
2412	104.84	-	-	100.66	32.08	6.07	33.97	169	63	Peak

Test Mode :	802.11g <Ant 1>	Temperature :	24~26°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
94.53	20.05	-23.45	43.5	41.54	9.2	0.98	31.67	-	-	Peak
141.51	25.61	-17.89	43.5	44.5	11.36	1.2	31.45	108	41	Peak
265.98	22.81	-23.19	46	39.65	12.82	1.62	31.28	-	-	Peak
324.5	22.53	-23.47	46	37.9	13.98	1.83	31.18	-	-	Peak
482	21.8	-24.2	46	32.63	17.72	2.39	30.94	-	-	Peak
802.6	25.2	-20.8	46	30.11	22.12	3.15	30.18	-	-	Peak
2437	103.74	-	-	99.48	32.13	6.11	33.98	130	217	Average
2437	115.36	-	-	111.1	32.13	6.11	33.98	130	217	Peak
4874	40.39	-13.61	54	54.64	34.1	9.13	57.48	100	337	Average
4874	53.44	-20.56	74	67.69	34.1	9.13	57.48	100	337	Peak

Test Mode :	802.11g <Ant 1>	Temperature :	24~26°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

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	20.96	-19.04	40	33.01	19.28	0.54	31.87	-	-	Peak
139.08	28.74	-14.76	43.5	47.59	11.42	1.2	31.47	113	12	Peak
233.04	20.13	-25.87	46	38.45	11.39	1.5	31.21	-	-	Peak
327.3	23.9	-22.1	46	39.25	14.03	1.84	31.22	-	-	Peak
612.9	24.44	-21.56	46	32.3	19.9	2.73	30.49	-	-	Peak
829.9	25.18	-20.82	46	29.95	22.4	3.22	30.39	-	-	Peak
2437	98.87	-	-	94.61	32.13	6.11	33.98	200	52	Average
2437	109.55	-	-	105.29	32.13	6.11	33.98	200	52	Peak
4874	49.18	-24.82	74	63.43	34.1	9.13	57.48	100	0	Peak

Test Mode :	802.11g <Ant 1>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2462	100.48	-	-	96.06	32.27	6.14	33.99	144	157	Average
2462	111.58	-	-	107.16	32.27	6.14	33.99	144	157	Peak

Test Mode :	802.11g <Ant 1>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2462	98.43	-	-	94.01	32.27	6.14	33.99	102	96	Average
2462	108.76	-	-	104.34	32.27	6.14	33.99	102	96	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2412	98.58	-	-	94.4	32.08	6.07	33.97	131	214	Average
2412	110.57	-	-	106.39	32.08	6.07	33.97	131	214	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2412	94.04	-	-	89.86	32.08	6.07	33.97	136	323	Average
2412	105.29	-	-	101.11	32.08	6.07	33.97	136	323	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	06	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
43.23	20.59	-19.41	40	40.6	11.1	0.64	31.75	-	-	Peak
142.59	23.29	-20.21	43.5	42.18	11.35	1.2	31.44	-	-	Peak
263.82	31.23	-14.77	46	48.11	12.79	1.61	31.28	100	0	Peak
324.5	22.82	-23.18	46	38.19	13.98	1.83	31.18	-	-	Peak
604.5	22.42	-23.58	46	30.41	19.83	2.7	30.52	-	-	Peak
770.4	23.59	-22.41	46	29.23	21.65	3.09	30.38	-	-	Peak
2437	102.93	-	-	98.67	32.13	6.11	33.98	130	213	Average
2437	114.45	-	-	110.19	32.13	6.11	33.98	130	213	Peak
4874	48.54	-25.46	74	62.79	34.1	9.13	57.48	100	0	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	06	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
68.61	23.95	-16.05	40	48.63	6.28	0.83	31.79	103	73	Peak
141.78	19.67	-23.83	43.5	38.56	11.36	1.2	31.45	-	-	Peak
232.23	23.88	-22.12	46	42.28	11.32	1.49	31.21	-	-	Peak
325.9	24.16	-21.84	46	39.53	14.01	1.83	31.21	-	-	Peak
609.4	23.89	-22.11	46	31.81	19.87	2.72	30.51	-	-	Peak
824.3	25.22	-20.78	46	30.02	22.34	3.2	30.34	-	-	Peak
2437	97.55	-	-	93.29	32.13	6.11	33.98	200	51	Average
2437	108.43	-	-	104.17	32.13	6.11	33.98	200	51	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2462	97.56	-	-	93.14	32.27	6.14	33.99	100	310	Average
2462	108.5	-	-	104.08	32.27	6.14	33.99	100	310	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2462	96.18	-	-	91.76	32.27	6.14	33.99	101	94	Average
2462	108.27	-	-	103.85	32.27	6.14	33.99	101	94	Peak

Test Mode :	802.11a <Ant 1>	**Temperature :**	24~26°C
Test Channel :	149	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5745	95.4	-	-	83.95	34.84	9.91	33.3	149	39	Average
5745	106.04	-	-	94.59	34.84	9.91	33.3	149	39	Peak

Test Mode :	802.11a <Ant 1>	**Temperature :**	24~26°C
Test Channel :	149	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5745	96.54	-	-	85.09	34.84	9.91	33.3	159	272	Average
5745	106.93	-	-	95.48	34.84	9.91	33.3	159	272	Peak

Test Mode :	802.11a <Ant 1>	Temperature :	24~26°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5785 MHz is fundamental signal which can be ignored.		

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
61.05	17.53	-22.47	40	42.42	6.12	0.77	31.78	-	-	Peak
141.24	23.54	-19.96	43.5	42.43	11.36	1.2	31.45	102	5	Peak
234.12	22.65	-23.35	46	40.9	11.46	1.5	31.21	-	-	Peak
323.8	22.97	-23.03	46	38.36	13.96	1.83	31.18	-	-	Peak
623.4	22.7	-23.3	46	30.4	19.99	2.76	30.45	-	-	Peak
797.7	24.24	-21.76	46	29.21	22.06	3.14	30.17	-	-	Peak
5785	97.91	-	-	86.46	34.89	9.9	33.34	100	67	Average
5785	109.02	-	-	97.57	34.89	9.9	33.34	100	67	Peak
11570	45.05	-28.95	74	52.18	38.27	13.17	58.57	100	0	Peak

Test Mode :	802.11a <Ant 1>	Temperature :	24~26°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
67.8	27.49	-12.51	40	52.19	6.26	0.82	31.78	110	10	Peak
141.78	19.92	-23.58	43.5	38.81	11.36	1.2	31.45	-	-	Peak
228.45	20.94	-25.06	46	39.56	11.12	1.47	31.21	-	-	Peak
328.7	24.31	-21.69	46	39.63	14.09	1.84	31.25	-	-	Peak
587	21.64	-24.36	46	30.15	19.57	2.65	30.73	-	-	Peak
771.8	23.33	-22.67	46	28.92	21.68	3.1	30.37	-	-	Peak
5785	98.96	-	-	87.51	34.89	9.9	33.34	129	288	Average
5785	110.21	-	-	98.76	34.89	9.9	33.34	129	288	Peak

Test Mode :	802.11a <Ant 1>	**Temperature :**	24~26°C
Test Channel :	165	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5825	96.99	-	-	85.57	34.96	9.88	33.42	134	241	Average
5825	107.81	-	-	96.39	34.96	9.88	33.42	134	241	Peak

Test Mode :	802.11a <Ant 1>	**Temperature :**	24~26°C
Test Channel :	165	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5825	89.34	-	-	77.92	34.96	9.88	33.42	100	352	Average
5825	100.39	-	-	88.97	34.96	9.88	33.42	100	352	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	149	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5745	94.82	-	-	83.37	34.84	9.91	33.3	148	39	Average
5745	105.11	-	-	93.66	34.84	9.91	33.3	148	39	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	149	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5745	95.9	-	-	84.45	34.84	9.91	33.3	116	273	Average
5745	107.55	-	-	96.1	34.84	9.91	33.3	116	273	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	157	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	5785 MHz is fundamental signal which can be ignored.		

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	20.42	-19.58	40	32.47	19.28	0.54	31.87	106	98	Peak
141.24	23.02	-20.48	43.5	41.91	11.36	1.2	31.45	-	-	Peak
236.01	22.73	-23.27	46	40.83	11.59	1.51	31.2	-	-	Peak
322.4	22.3	-23.7	46	37.73	13.9	1.82	31.15	-	-	Peak
701.1	22.78	-23.22	46	29.72	20.61	2.94	30.49	-	-	Peak
801.9	24.47	-21.53	46	29.38	22.12	3.15	30.18	-	-	Peak
5785	96.12	-	-	84.67	34.89	9.9	33.34	100	69	Average
5785	107.38	-	-	95.93	34.89	9.9	33.34	100	69	Peak
11570	46.84	-27.16	74	53.95	38.3	13.17	58.58	100	0	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	157	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
44.04	20.97	-19.03	40	40.96	11.1	0.64	31.73	114	20	Peak
141.24	19.45	-24.05	43.5	38.34	11.36	1.2	31.45	-	-	Peak
233.31	20.34	-25.66	46	38.59	11.46	1.5	31.21	-	-	Peak
328	24.2	-21.8	46	39.54	14.06	1.84	31.24	-	-	Peak
505.8	20.15	-25.85	46	30.42	18.2	2.46	30.93	-	-	Peak
807.5	24.04	-21.96	46	28.91	22.18	3.16	30.21	-	-	Peak
5785	97.04	-	-	85.59	34.89	9.9	33.34	118	303	Average
5785	108.18	-	-	96.73	34.89	9.9	33.34	118	303	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	165	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5825	96.33	-	-	84.91	34.96	9.88	33.42	135	185	Average
5825	107.5	-	-	96.08	34.96	9.88	33.42	135	185	Peak

Test Mode :	802.11n HT20 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	165	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5825	91.04	-	-	79.62	34.96	9.88	33.42	199	359	Average
5825	102.67	-	-	91.25	34.96	9.88	33.42	199	359	Peak

Test Mode :	802.11n HT40 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	151	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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	19.84	-20.16	40	31.18	20	0.53	31.87	-	-	Peak
141.78	23.59	-19.91	43.5	42.48	11.36	1.2	31.45	102	32	Peak
272.19	22.86	-23.14	46	39.62	12.92	1.64	31.32	-	-	Peak
324.5	22.55	-23.45	46	37.92	13.98	1.83	31.18	-	-	Peak
433.7	20.48	-25.52	46	32.68	16.71	2.26	31.17	-	-	Peak
591.9	20.91	-25.09	46	29.25	19.65	2.67	30.66	-	-	Peak
5755	93.52	-	-	82.05	34.86	9.91	33.3	147	40	Average
5755	103.71	-	-	92.24	34.86	9.91	33.3	147	40	Peak

Test Mode :	802.11n HT40 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	151	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
68.61	30.1	-9.9	40	54.78	6.28	0.83	31.79	104	13	Peak
140.97	20.16	-23.34	43.5	39.03	11.38	1.2	31.45	-	-	Peak
268.41	28.52	-17.48	46	45.32	12.86	1.63	31.29	-	-	Peak
323.8	23.81	-22.19	46	39.2	13.96	1.83	31.18	-	-	Peak
456.8	23.38	-22.62	46	35.04	17.19	2.31	31.16	-	-	Peak
923.7	25.22	-20.78	46	29.2	23.45	3.4	30.83	-	-	Peak
5755	93.77	-	-	82.3	34.86	9.91	33.3	178	268	Average
5755	105.9	-	-	94.43	34.86	9.91	33.3	178	268	Peak

Test Mode :	802.11n HT40 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	159	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5795	91.4	-	-	79.98	34.91	9.89	33.38	129	40	Average
5795	103.49	-	-	92.07	34.91	9.89	33.38	129	40	Peak

Test Mode :	802.11n HT40 <SISO Ant 1>	**Temperature :**	24~26°C
Test Channel :	159	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
5795	91.97	-	-	80.55	34.91	9.89	33.38	180	272	Average
5795	104.21	-	-	92.79	34.91	9.89	33.38	180	272	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2412	97.95	-	-	93.77	32.08	6.07	33.97	131	218	Average
2412	109.79	-	-	105.61	32.08	6.07	33.97	131	218	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2412	95.88	-	-	91.7	32.08	6.07	33.97	169	54	Average
2412	108.17	-	-	103.99	32.08	6.07	33.97	169	54	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	06	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. 3216 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 111.81 dBuV/m - 20dB = 91.81 dBuV/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
30	18.89	-21.11	40	30.23	20	0.53	31.87	100	5	Peak
140.16	18.91	-24.59	43.5	37.79	11.38	1.2	31.46	-	-	Peak
266.79	22.63	-23.37	46	39.47	12.83	1.62	31.29	-	-	Peak
324.5	22.46	-23.54	46	37.83	13.98	1.83	31.18	-	-	Peak
447.7	19.73	-26.27	46	31.57	17.01	2.3	31.15	-	-	Peak
757.1	23.01	-22.99	46	28.96	21.46	3.07	30.48	-	-	Peak
2437	100.82	-	-	96.56	32.13	6.11	33.98	130	284	Average
2437	111.81	-	-	107.55	32.13	6.11	33.98	130	284	Peak
3216	45.99	-45.82	91.81	62.87	32.74	7.19	56.81	100	0	Peak
4824	40.95	-13.05	54	55.2	34.1	9.12	57.47	100	208	Average
4824	54.69	-19.31	74	68.94	34.1	9.12	57.47	100	208	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	06	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

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
44.31	17.22	-22.78	40	37.8	10.5	0.65	31.73	-	-	Peak
141.51	19.11	-24.39	43.5	38	11.36	1.2	31.45	-	-	Peak
232.77	20.14	-25.86	46	38.46	11.39	1.5	31.21	-	-	Peak
324.5	24.02	-21.98	46	39.39	13.98	1.83	31.18	105	31	Peak
587	23.97	-22.03	46	32.48	19.57	2.65	30.73	-	-	Peak
776	23.67	-22.33	46	29.17	21.74	3.1	30.34	-	-	Peak
2437	97.59	-	-	93.33	32.13	6.11	33.98	168	126	Average
2437	108.5	-	-	104.24	32.13	6.11	33.98	168	126	Peak
4824	49.42	-24.58	74	63.67	34.1	9.12	57.47	100	0	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2462	100.87	-	-	96.57	32.15	6.14	33.99	104	207	Average
2462	113.7	-	-	109.4	32.15	6.14	33.99	104	207	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	11	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
2462	94.57	-	-	90.27	32.15	6.14	33.99	200	54	Average
2462	106.78	-	-	102.48	32.15	6.14	33.99	200	54	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	149	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	5745 MHz is fundamental signal which can be ignored.		

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
5745	96.69	-	-	85.24	34.84	9.91	33.3	140	45	Average
5745	109.07	-	-	97.62	34.84	9.91	33.3	140	45	Peak
11490	45.41	-28.59	74	52.62	38.19	13.14	58.54	100	0	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	149	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	5745 MHz is fundamental signal which can be ignored.		

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
5745	99.38	-	-	87.93	34.84	9.91	33.3	119	276	Average
5745	111.93	-	-	100.48	34.84	9.91	33.3	119	276	Peak
11490	44.87	-29.13	74	51.58	38.19	13.14	58.04	100	0	Peak

Test Mode :	802.11n HT20 <MIMO>	Temperature :	24~26°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5785 MHz is fundamental signal which can be ignored.		

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
31.35	19.38	-20.62	40	31.43	19.28	0.54	31.87	-	-	Peak
140.97	25.4	-18.1	43.5	44.27	11.38	1.2	31.45	121	53	Peak
268.95	22.73	-23.27	46	39.54	12.86	1.63	31.3	-	-	Peak
323.8	22.79	-23.21	46	38.18	13.96	1.83	31.18	-	-	Peak
517	20.75	-25.25	46	30.91	18.38	2.48	31.02	-	-	Peak
684.3	24.41	-21.59	46	31.47	20.48	2.91	30.45	-	-	Peak
5785	96.42	-	-	84.97	34.89	9.9	33.34	100	70	Average
5785	108.8	-	-	97.35	34.89	9.9	33.34	100	70	Peak
11570	46.35	-27.65	74	53.46	38.3	13.17	58.58	100	0	Peak

Test Mode :	802.11n HT20 <MIMO>	Temperature :	24~26°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	5785 MHz is fundamental signal which can be ignored.		

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
31.35	20.15	-19.85	40	32.2	19.28	0.54	31.87	100	0	Peak
141.24	20.16	-23.34	43.5	39.05	11.36	1.2	31.45	-	-	Peak
233.58	20.76	-25.24	46	39.01	11.46	1.5	31.21	-	-	Peak
326.6	24	-22	46	39.35	14.03	1.84	31.22	-	-	Peak
478.5	19.9	-26.1	46	30.86	17.64	2.37	30.97	-	-	Peak
643	22.68	-23.32	46	30.1	20.14	2.82	30.38	-	-	Peak
5785	98.43	-	-	86.98	34.89	9.9	33.34	128	266	Average
5785	111.25	-	-	99.8	34.89	9.9	33.34	128	266	Peak
11570	43.56	-30.44	74	50.03	38.3	13.17	57.94	100	0	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	165	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	5825 MHz is fundamental signal which can be ignored.		

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
5825	99.71	-	-	88.29	34.96	9.88	33.42	123	239	Average
5825	112.66	-	-	101.24	34.96	9.88	33.42	123	239	Peak
11650	46.58	-27.42	74	53.56	38.42	13.22	58.62	100	0	Peak

Test Mode :	802.11n HT20 <MIMO>	**Temperature :**	24~26°C
Test Channel :	165	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	5825 MHz is fundamental signal which can be ignored.		

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
5825	62.05	-	-	50.63	34.96	9.88	33.42	199	357	Average
5825	104.57	-	-	93.15	34.96	9.88	33.42	199	357	Peak
11650	43.83	-30.17	74	50.11	38.39	13.22	57.89	100	0	Peak

Test Mode :	802.11n HT40 <MIMO>	**Temperature :**	24~26°C
Test Channel :	151	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Horizontal
Remark :	5755 MHz is fundamental signal which can be ignored.		

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
93.99	22.63	-20.87	43.5	44.25	9.08	0.97	31.67	-	-	Peak
141.24	25.17	-18.33	43.5	44.06	11.36	1.2	31.45	125	44	Peak
233.85	22.52	-23.48	46	40.77	11.46	1.5	31.21	-	-	Peak
323.8	22.63	-23.37	46	38.02	13.96	1.83	31.18	-	-	Peak
486.2	20.62	-25.38	46	31.35	17.8	2.4	30.93	-	-	Peak
772.5	23.89	-22.11	46	29.48	21.68	3.1	30.37	-	-	Peak
5755	93.48	-	-	82.01	34.86	9.91	33.3	110	67	Average
5755	106.91	-	-	95.44	34.86	9.91	33.3	110	67	Peak
11510	44.56	-29.44	74	51.76	38.2	13.14	58.54	100	0	Peak

Test Mode :	802.11n HT40 <MIMO>	**Temperature :**	24~26°C
Test Channel :	151	**Relative Humidity :**	49~51%
Test Engineer :	Eric Shih	**Polarization :**	Vertical
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

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
141.51	19.8	-23.7	43.5	38.69	11.36	1.2	31.45	-	-	Peak
171.75	17.08	-26.42	43.5	37.73	9.38	1.23	31.26	-	-	Peak
222.51	18.18	-27.82	46	37.32	10.65	1.43	31.22	-	-	Peak
324.5	25.92	-20.08	46	41.29	13.98	1.83	31.18	100	4	Peak
511.4	20.7	-25.3	46	30.92	18.28	2.47	30.97	-	-	Peak
646.5	23.9	-22.1	46	31.27	20.17	2.83	30.37	-	-	Peak
5755	95.6	-	-	84.13	34.86	9.91	33.3	118	274	Average
5755	108.28	-	-	96.81	34.86	9.91	33.3	118	274	Peak

Test Mode :	802.11n HT40 <MIMO>	Temperature :	24~26°C
Test Channel :	159	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5795 MHz is fundamental signal which can be ignored.		

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
5795	93.5	-	-	82.08	34.91	9.89	33.38	100	66	Average
5795	106.78	-	-	95.36	34.91	9.89	33.38	100	66	Peak
11590	43.62	-30.38	74	50.7	38.32	13.18	58.58	100	0	Peak

Test Mode :	802.11n HT40 <MIMO>	Temperature :	24~26°C
Test Channel :	159	Relative Humidity :	49~51%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	5795 MHz is fundamental signal which can be ignored.		

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
5795	95.1	-	-	83.68	34.91	9.89	33.38	129	275	Average
5795	108.99	-	-	97.57	34.91	9.89	33.38	129	275	Peak
11590	44.99	-29.01	74	51.42	38.32	13.18	57.93	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 (dBuV)	
	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.

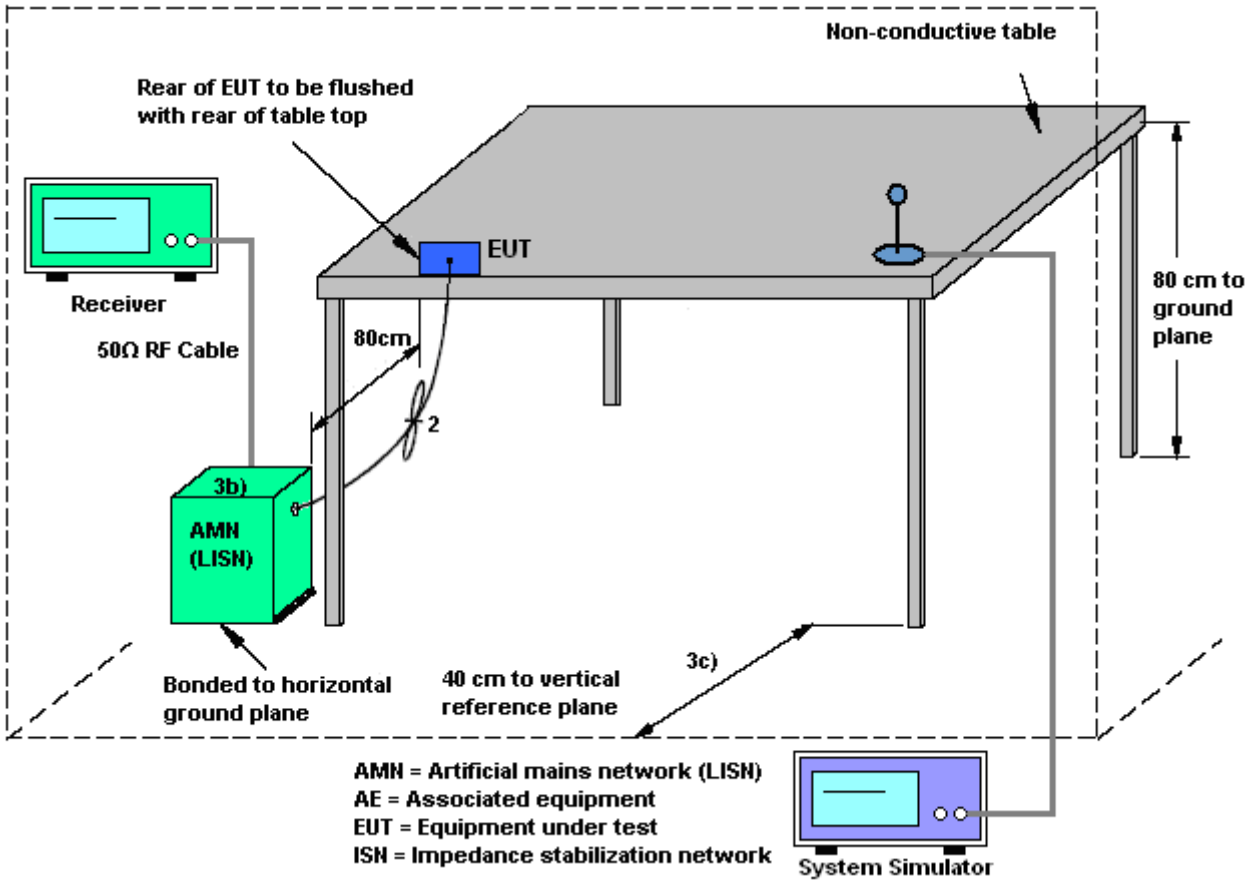
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

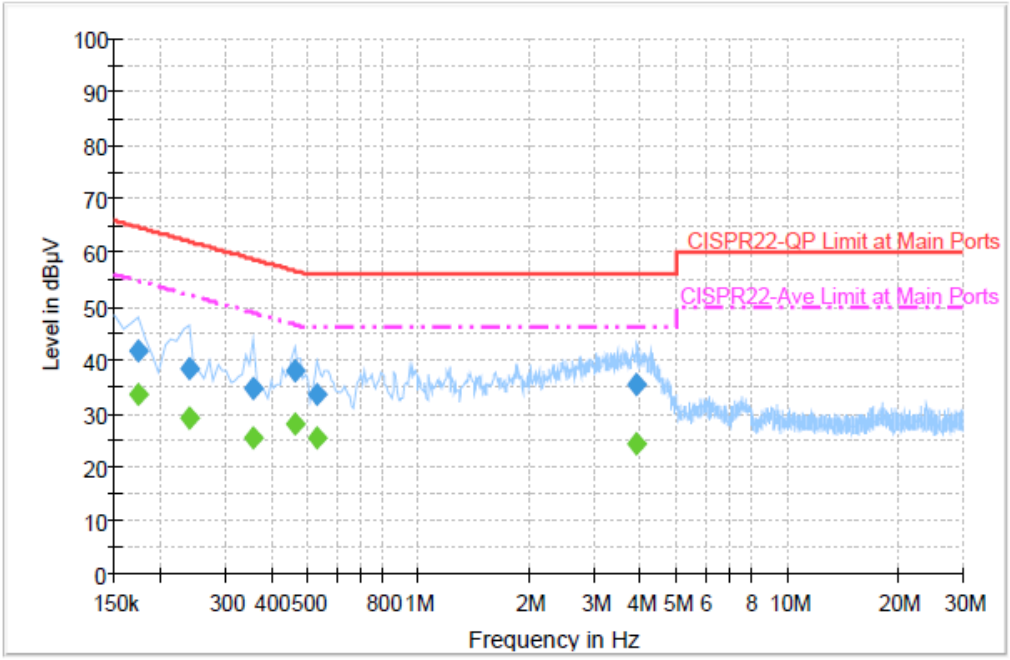
1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.4-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance 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 :	21~22℃
Test Engineer :	Kai-Chun Chu	Relative Humidity :	52~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + WLAN Link + Bluetooth Link + HDMI Cable + Earphone + MPEG4 + USB Cable (Charging from Adapter)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



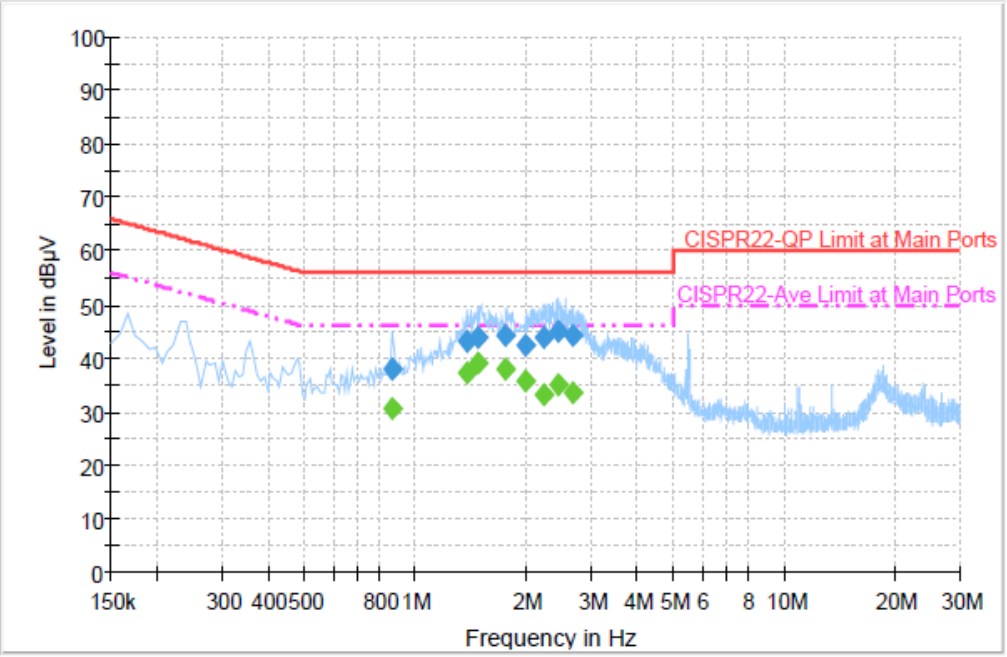
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	41.6	Off	L1	19.4	23.2	64.8
0.238000	38.5	Off	L1	19.5	23.7	62.2
0.358000	34.8	Off	L1	19.4	24.0	58.8
0.462000	38.0	Off	L1	19.3	18.7	56.7
0.534000	33.7	Off	L1	19.4	22.3	56.0
3.918000	35.4	Off	L1	19.6	20.6	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	33.6	Off	L1	19.4	21.2	54.8
0.238000	29.3	Off	L1	19.5	22.9	52.2
0.358000	25.4	Off	L1	19.4	23.4	48.8
0.462000	28.1	Off	L1	19.3	18.6	46.7
0.534000	25.6	Off	L1	19.4	20.4	46.0
3.918000	24.3	Off	L1	19.6	21.7	46.0

Test Mode :	Mode 1	**Temperature :**	21~22℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	52~53%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	GSM850 Idle + WLAN Link + Bluetooth Link + HDMI Cable + Earphone + MPEG4 + USB Cable (Charging from Adapter)		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.870000	37.9	Off	N	19.5	18.1	56.0
1.382000	43.3	Off	N	19.5	12.7	56.0
1.486000	44.1	Off	N	19.5	11.9	56.0
1.758000	44.4	Off	N	19.5	11.6	56.0
1.990000	42.5	Off	N	19.5	13.5	56.0
2.222000	44.0	Off	N	19.6	12.0	56.0
2.438000	45.2	Off	N	19.7	10.8	56.0
2.670000	44.2	Off	N	19.6	11.8	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.870000	30.8	Off	N	19.5	15.2	46.0
1.382000	37.1	Off	N	19.5	8.9	46.0
1.486000	39.0	Off	N	19.5	7.0	46.0
1.758000	38.1	Off	N	19.5	7.9	46.0
1.990000	35.9	Off	N	19.5	10.1	46.0
2.222000	33.2	Off	N	19.6	12.8	46.0
2.438000	34.9	Off	N	19.7	11.1	46.0
2.670000	33.6	Off	N	19.6	12.4	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 Connected Construction

The antennas type used in this product is with non-standard connector and it is considered to meet antenna requirement.

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. The EUT supports completely uncorrelated MIMO mode. The composite antenna gain for 2.4GHz is 2.25 dBi. The composite antenna gain for 5GHz is 2.25 dBi as following table.

	2.4GHz	5GHz
ANT 1 GAIN (dBi)	2.50	2.50
ANT 2 GAIN (dBi)	2.00	2.00
COMPOSITE GAIN(dBi)	2.25	2.25

FCC KDB 662911 D01 Multiple Transmitter Output v01r01

Unequal antenna gains, with equal transmit powers.

For antenna gains given by G_1, G_2, …, G_N dBi.

If all transmit signals are *completely uncorrelated*, then

Directional gain = $10 \log[(10^{G1/10} + 10^{G2/10} + \ldots + 10^{GN/10})/N]$ dBi

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	Jul. 27, 2012 ~ Aug. 29, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 18, 2011	Jul. 27, 2012 ~ Aug. 29, 2012	Sep. 17, 2012	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 18, 2011	Jul. 27, 2012 ~ Aug. 29, 2012	Sep. 17, 2012	Conducted (TH02-HY)
EMI Test Receiver	R&S	ESCS 30	100356	9KHz ~ 2.75GHz	Oct. 27, 2011	Jul. 25, 2012	Oct. 26, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Jul. 25, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Jul. 25, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Jul. 25, 2012	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	117995	N/A	Jul. 28, 2011	Jul. 25, 2012	Jul. 27, 2013	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 22, 2011	Jul. 23, 2012 ~ Aug. 23, 2012	Oct. 21, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	101067	9KHz ~ 30GHz	Dec. 06, 2011	Jul. 23, 2012 ~ Aug. 23, 2012	Dec. 05, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 10, 2011	Jul. 23, 2012 ~ Aug. 01, 2012	Aug. 09, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Aug. 01, 2012 ~ Aug. 23, 2012	Jul. 31, 2013	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz ~ 26.5GHz	Dec. 05, 2011	Jul. 23, 2012 ~ Aug. 23, 2012	Dec. 04, 2012	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Feb. 27, 2012	Jul. 23, 2012 ~ Aug. 23, 2012	Feb. 26, 2013	Radiation (03CH07-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20MHz ~ 1000MHz	May 04, 2012	Jul. 23, 2012 ~ Aug. 23, 2012	May. 03, 2013	Radiation (03CH07-HY)
Pre Amplifier	MITEQ	AMF-7D-00101800-30-10P	159088	1GHz ~ 18GHz	Mar. 10, 2012	Jul. 23, 2012 ~ Aug. 23, 2012	Mar. 09, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Oct. 21, 2011	Jul. 23, 2012 ~ Aug. 23, 2012	Oct. 20, 2012	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	100315	9 kHz~30 MHz	May 14, 2012	Jul. 23, 2012 ~ Aug. 23, 2012	May 13, 2013	Radiation (03CH07-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**

Uncertainty of Radiated Emission Measurement (30MHz ~ 1000MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.54**

Uncertainty of Radiated Emission Measurement (1GHz ~ 40GHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**