

# FCC RF Test Report

APPLICANT : HTC Corporation  
EQUIPMENT : Smartphone  
MODEL NAME : PL80110  
FCC ID : NM8PL80110  
STANDARD : FCC Part 15 Subpart C §15.247  
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Oct. 26, 2012 and completely tested on Dec. 13, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by:



Jones Tsai / Manager



**SPORTON INTERNATIONAL INC.**

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

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FCC ID : NM8PL80110

Page Number : 1 of 141

Report Issued Date : Dec. 21, 2012

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**APPENDIX A. SETUP PHOTOGRAPHS**





### SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-210 A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	RSS-210 A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	RSS-210 A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	RSS-210 A8.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-210 A8.5	Radiated Band Edges	15.209(a) & 15.247(d)	Pass	Under limit 1.82 dB at 2483.840 MHz
			Radiated Spurious Emission		Pass	
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 4.70 dB at 13.558 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

# 1 General Description

## 1.1 Applicant

HTC Corporation

No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan

## 1.2 Manufacturer

HTC Corporation

No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan

## 1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Smartphone
Model Name	PL80110
FCC ID	NM8PL80110
Sample 1	EUT with LCD Panel 1, Camera Front 1, and 2nd Camera 1
Sample 2	EUT with LCD Panel 2, Camera Front 2, and 2nd Camera 2
EUT supports Radios application	CDMA/EV-DO / LTE WLAN 11abgn / Bluetooth 3.0 /4.0 / NFC
EUT Stage	Identical Prototype

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

## 1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.
Maximum Output Power to Antenna	<b>&lt;2412 MHz ~ 2462 MHz&gt;</b> 802.11b : 20.83 dBm (0.1211 W) 802.11g : 23.13 dBm (0.2056 W) 802.11n HT20 : 22.20 dBm (0.1660 W) 802.11n HT40 : 22.24 dBm (0.1675 W) <b>&lt;5745 MHz ~ 5825 MHz&gt;</b> 802.11a : 24.07 dBm (0.2553 W) 802.11n HT20 : 23.64 dBm (0.2312 W) 802.11n HT40 : 22.87 dBm (0.1936 W)
Antenna Type	802.11b/g/n : PIFA Antenna type with gain -0.20 dBi 802.11a/n : PIFA Antenna type with gain -0.40 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

## 1.5 Testing Site

<b>Test Site</b>	SPORTON INTERNATIONAL INC.			
<b>Test Site Location</b>	No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
<b>Test Site No.</b>	<b>Sporton Site No.</b>			<b>FCC/IC Registration No.</b>
	TH02-HY	CO05-HY	03CH05-HY	722060/4086B-1

## 1.6 Applied Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v02
- ♦ ANSI C63.4-2003 and ANSI C63.10-2009
- ♦ IC RSS-210 Issue 8
- ♦ IC RSS-Gen Issue 3
- ♦ NOTICE 2012-DRS0126

**Remark:**

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

## 2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 KHz to 30 MHz) and radiated emission (9 KHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane for Sample 1 in 2.4GHz / Z plane for Sample 1 in 5GHz / X plane for Sample 2 in 2.4GHz and 5GHz) were recorded in this report.

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

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

### 2.1 Carrier Frequency Channel

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

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



## 2.2 Pre-Scanned RF Power

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

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	20.83	20.73	20.76	20.73

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)	23.13	22.81	22.38	22.40	22.57	22.43	22.37	22.44

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.20	21.98	21.83	21.78	21.80	22.04	21.83	21.72

2.4GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.24	22.16	21.92	21.86	21.83	21.78	21.67	21.50

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)	24.07	23.86	22.89	22.90	22.91	22.85	22.81	22.96

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	23.64	23.21	22.91	23.16	22.84	23.18	22.97	23.01

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.87	22.72	22.63	22.60	22.51	22.59	22.23	22.05



### 2.3 Test Mode

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

<2.4GHz>

Test Cases					
	Test Items	Mode	Data Rate	Test Channel	Remark
Conducted TCs	6dB 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	-
		802.11n HT40	13.5 Mbps	3/6/9	-
	Output Power	802.11b	1 Mbps	1/6/11	-
		802.11g	6 Mbps	1/6/11	-
		802.11n HT20	6.5 Mbps	1/6/11	-
		802.11n HT40	13.5 Mbps	3/6/9	-
	Conducted Band Edge	802.11b	1 Mbps	1/11	-
		802.11g	6 Mbps	1/11	-
		802.11n HT20	6.5 Mbps	1/11	-
		802.11n HT40	13.5 Mbps	3/9	-
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11	-
		802.11g	6 Mbps	1/6/11	-
		802.11n HT20	6.5 Mbps	1/6/11	-
		802.11n HT40	13.5 Mbps	3/6/9	-
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11	Sample 1
		802.11g	6 Mbps	1/11	Sample 1
		802.11n HT20	6.5 Mbps	1/11	Sample 1
		802.11n HT40	13.5 Mbps	3/9	Sample 1 and Sample 2
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11	Sample 1
		802.11g	6 Mbps	1/6/11	Sample 1
		802.11n HT20	6.5 Mbps	1/6/11	Sample 1
		802.11n HT40	13.5 Mbps	3/6/9	Sample 1 and Sample 2
<b>Remark:</b> For Radiated TCs, The tests were performance with Adapter 1, Earphone, Battery 2, and USB Cable 2.					



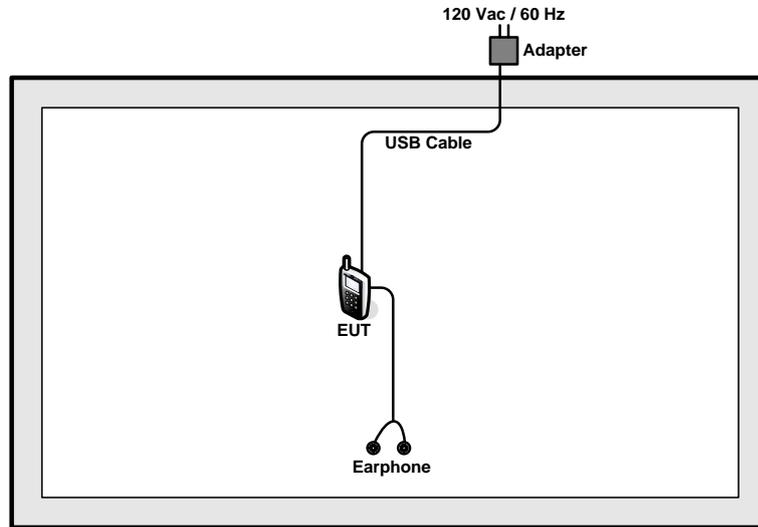
<5GHz>

Test Cases					
	Test Items	Mode	Data Rate	Test Channel	Remark
Conducted TCs	6dB 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	Sample 1
		802.11n HT20	6.5 Mbps	149/165	Sample 1
		802.11n HT40	13.5 Mbps	151/159	Sample 1 and Sample 2
	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165	Sample 1
		802.11n HT20	6.5 Mbps	149/157/165	Sample 1
		802.11n HT40	13.5 Mbps	151/159	Sample 1 and Sample 2
<b>Remark:</b> For Radiated TCs, The tests were performance with Adapter 1, Earphone, Battery 2, and USB Cable 2.					

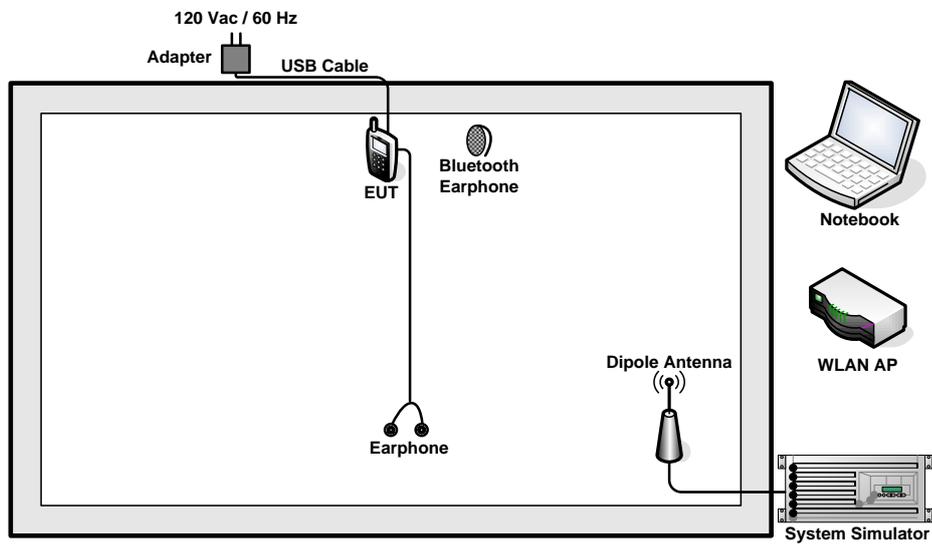
Test Cases	
AC Conducted Emission	Mode 1 CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 2 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 3 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 2
<b>Remark:</b> The worst case of conducted emission is mode 1; only the test data of it was reported.	

## 2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



## 2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
5.	SD Card	SanDisk	N/A	N/A	N/A	N/A

## 2.6 Description of RF Function Operation Test Setup

For WLAN function, programmed RF utility, "Remote 433x controller(P2.01)" installed in the notebook make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.

## 2.7 Measurement Results Explanation Example

For all conducted test items:

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

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

*Offset = RF cable loss + attenuator factor.*

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

Example:

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

### 3 Test Result

#### 3.1 6dB Bandwidth Measurement

##### 3.1.1 Limit of 6dB Bandwidth

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

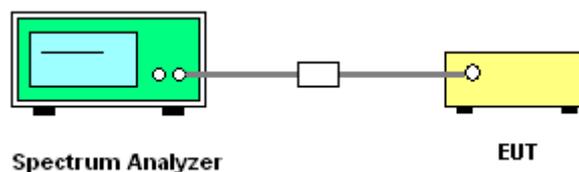
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v02.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.
5. Measure and record the results in the test report.

##### 3.1.4 Test Setup





3.1.5 Test Result of 6dB Bandwidth

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

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	8.08	0.5	Pass
06	2437	8.08	0.5	Pass
11	2462	8.08	0.5	Pass

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

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.40	0.5	Pass
06	2437	16.40	0.5	Pass
11	2462	16.36	0.5	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.64	0.5	Pass
06	2437	17.60	0.5	Pass
11	2462	17.60	0.5	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
03	2422	36.32	0.5	Pass
06	2437	36.32	0.5	Pass
09	2452	36.32	0.5	Pass



Test Mode :	802.11a	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.32	0.5	Pass
157	5785	16.32	0.5	Pass
165	5825	16.36	0.5	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.60	0.5	Pass
157	5785	17.60	0.5	Pass
165	5825	17.60	0.5	Pass

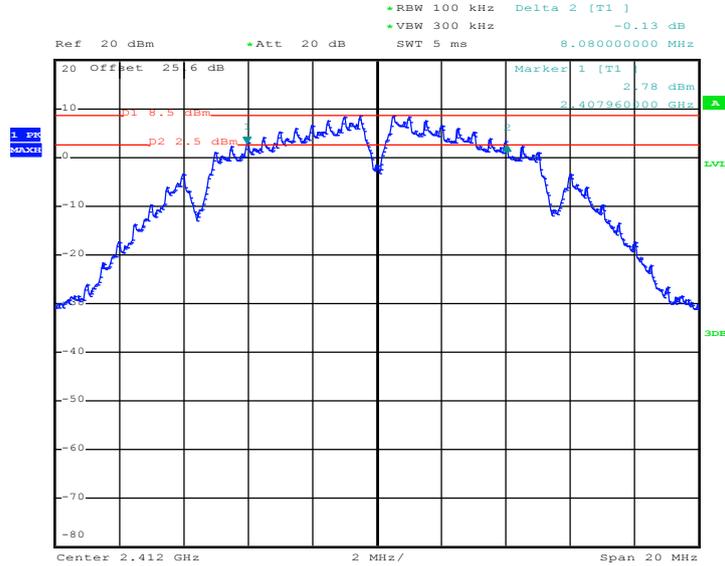
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	36.32	0.5	Pass
159	5795	36.32	0.5	Pass



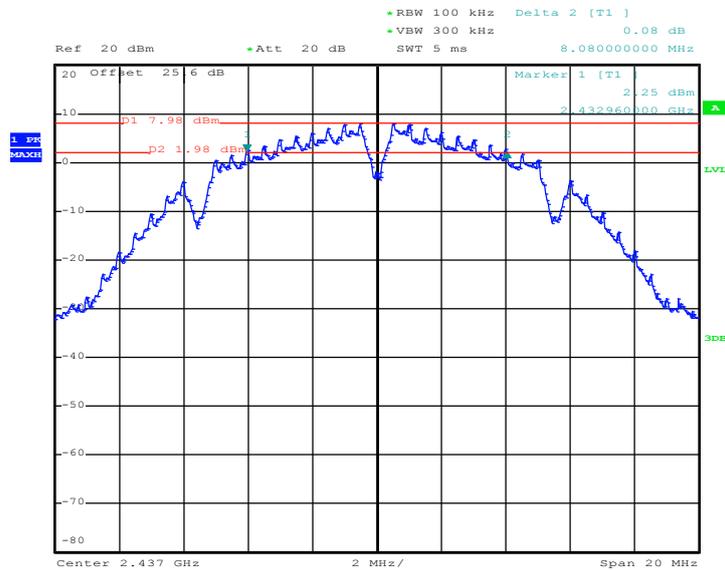
### 3.1.6 Test Result of 6dB Bandwidth Plots

#### 6 dB Bandwidth Plot on 802.11b Channel 01



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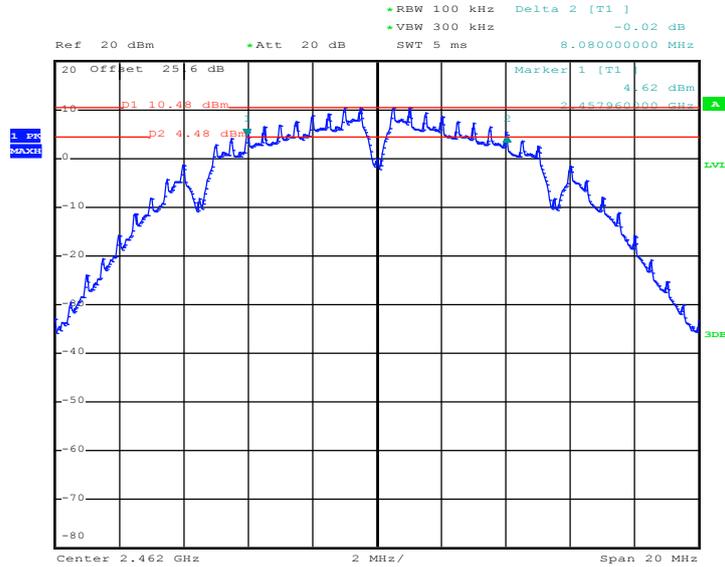
#### 6 dB Bandwidth Plot on 802.11b Channel 06



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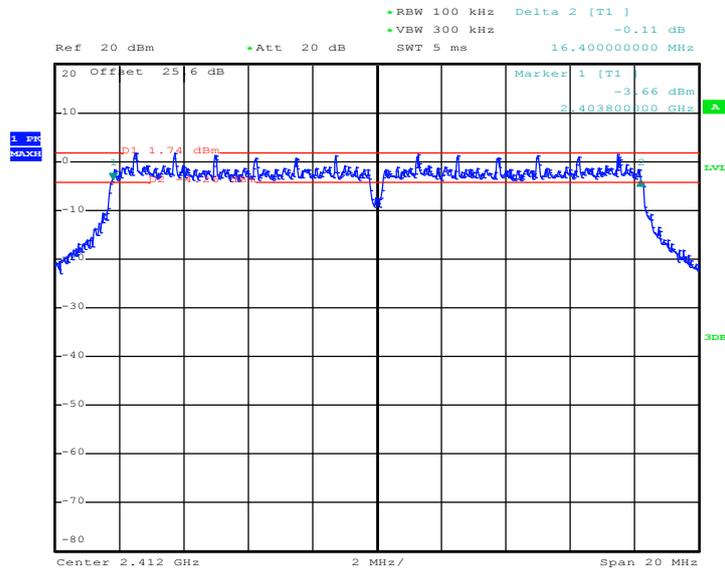


6 dB Bandwidth Plot on 802.11b Channel 11



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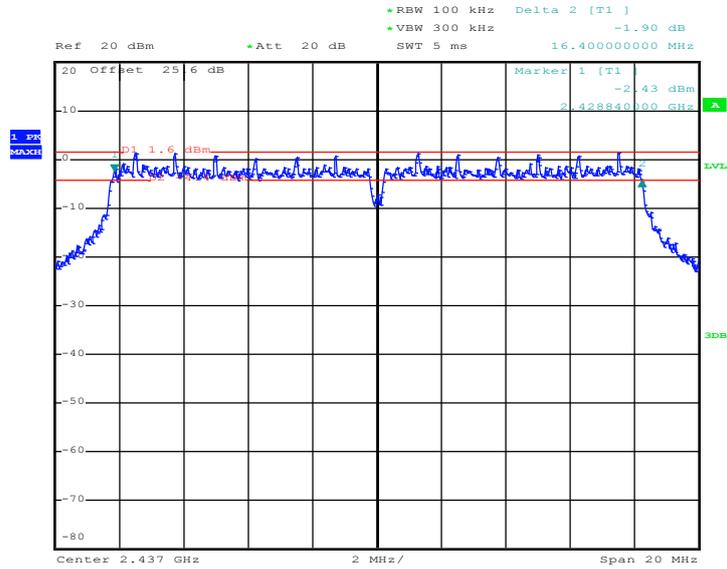
6 dB Bandwidth Plot on 802.11g Channel 01



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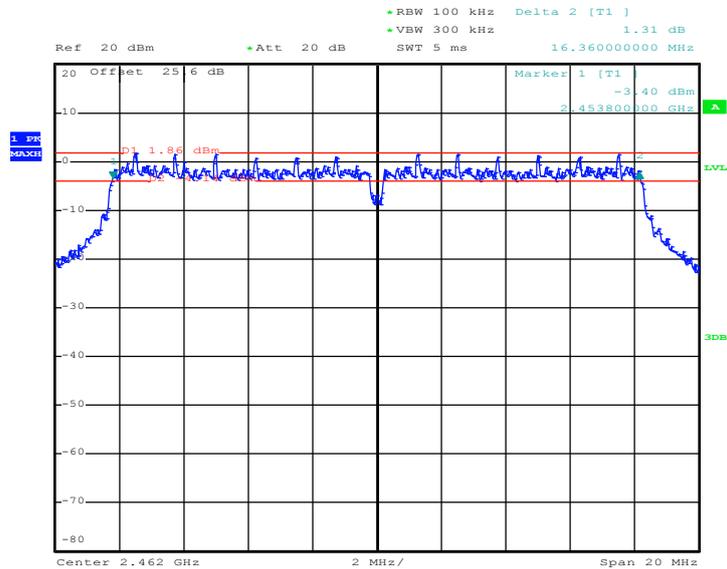


6 dB Bandwidth Plot on 802.11g Channel 06



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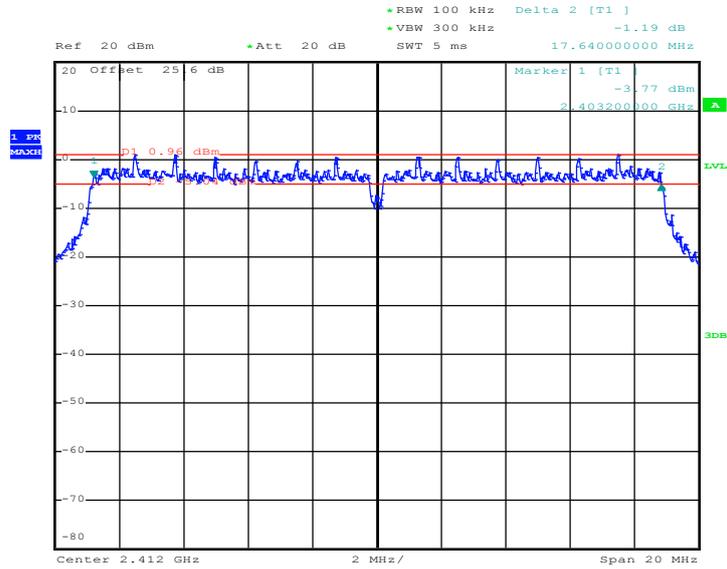
6 dB Bandwidth Plot on 802.11g Channel 11



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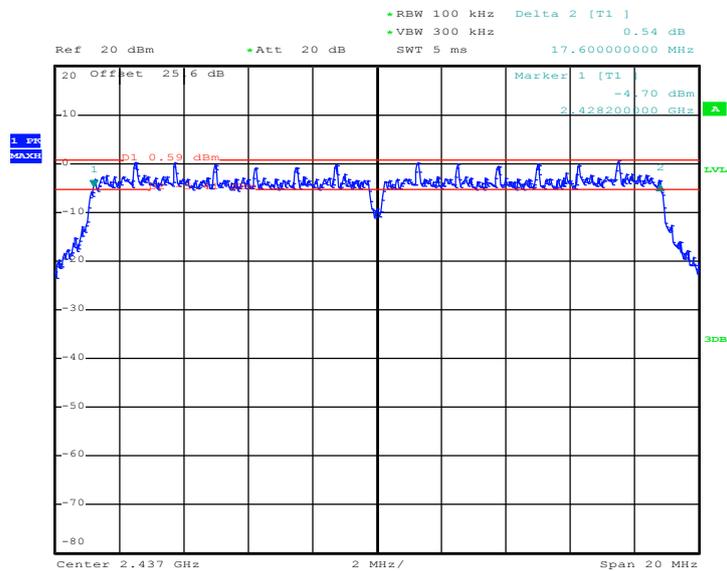


6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 01



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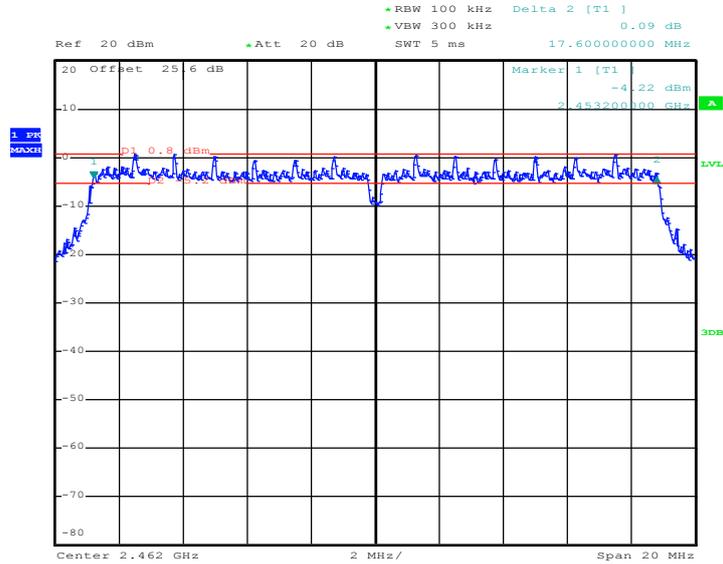
6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 06



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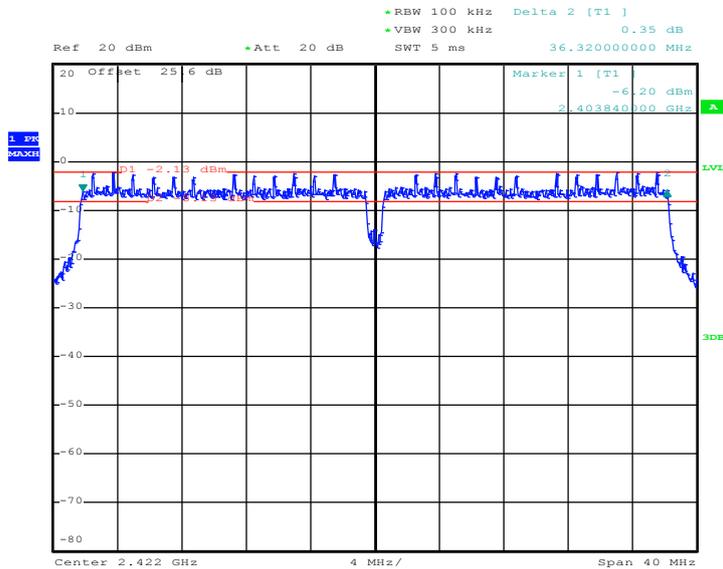


6 dB Bandwidth Plot on 2.4GHz 802.11n HT20 Channel 11



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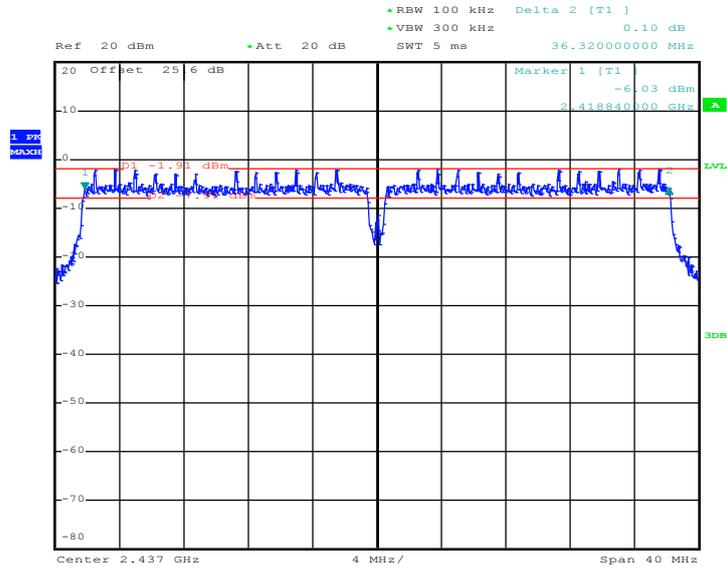
6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 03



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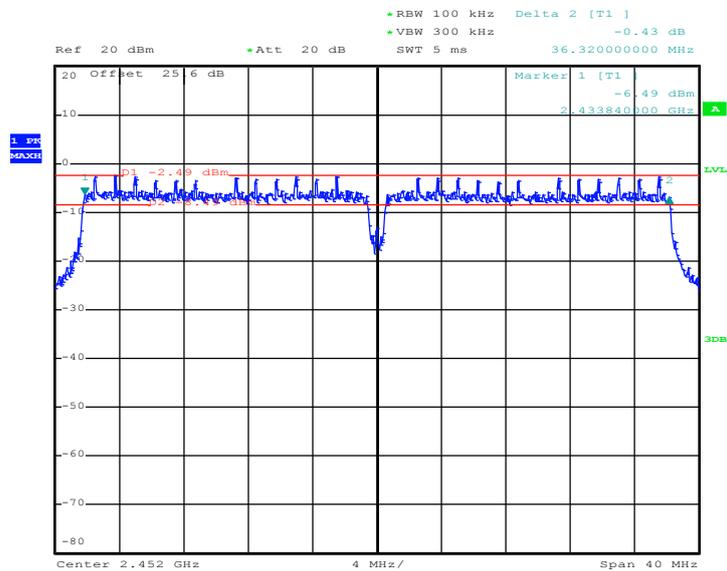


6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 06



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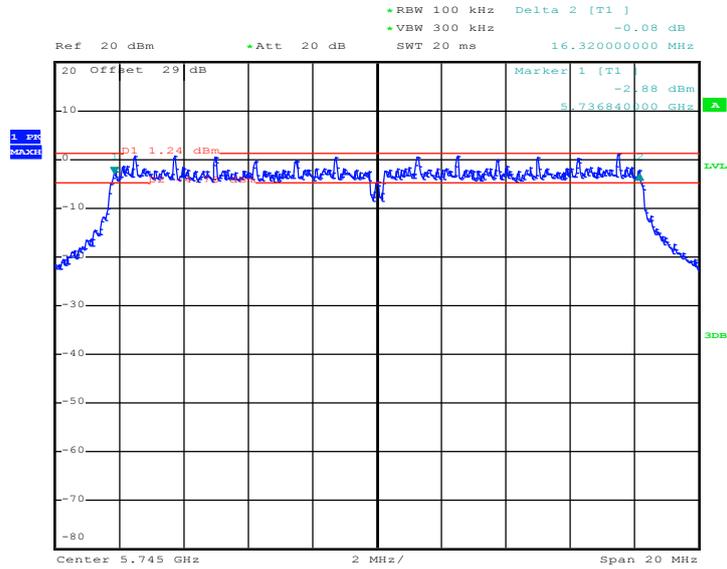
6 dB Bandwidth Plot on 2.4GHz 802.11n HT40 Channel 09



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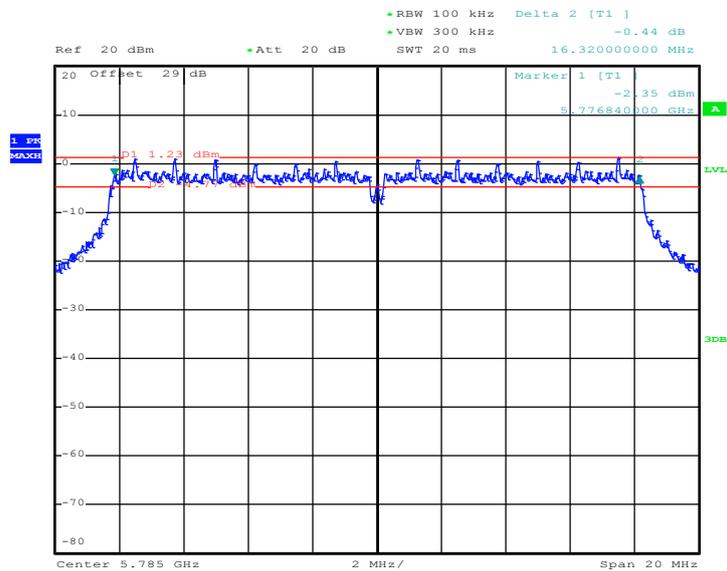


6 dB Bandwidth Plot on 802.11a Channel 149



Date: 7.NOV.2012 22:20:16

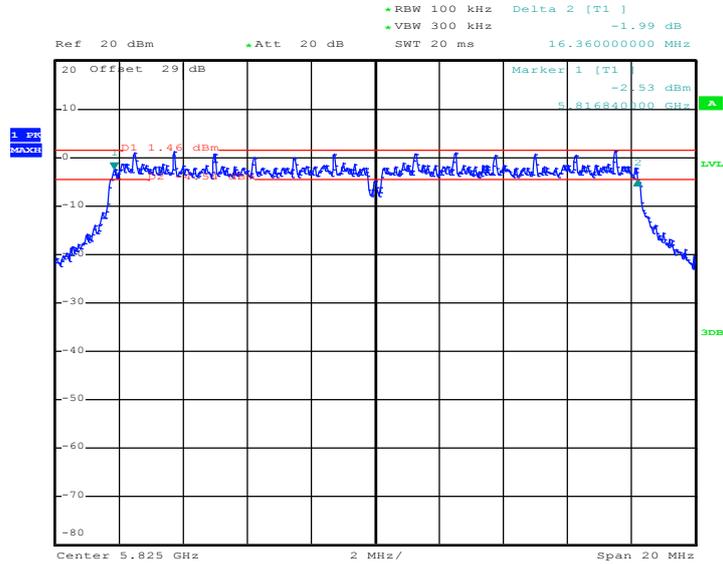
6 dB Bandwidth Plot on 802.11a Channel 157



Date: 7.NOV.2012 22:23:01

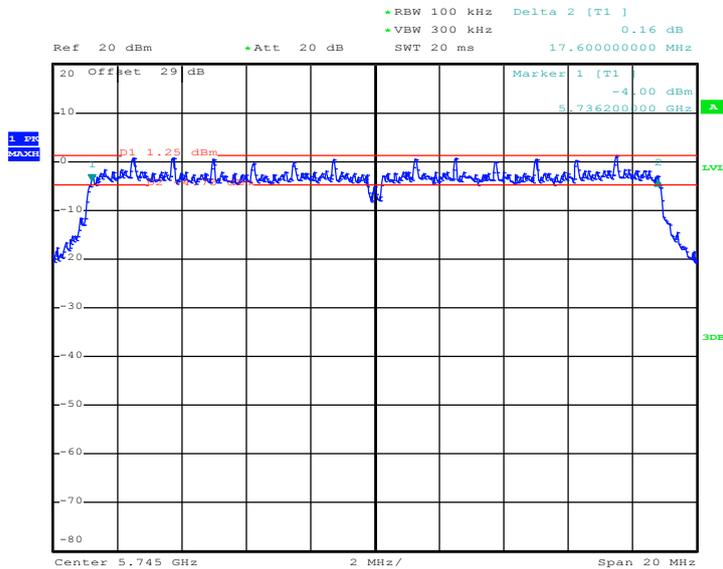


6 dB Bandwidth Plot on 802.11a Channel 165



Date: 7.NOV.2012 22:25:31

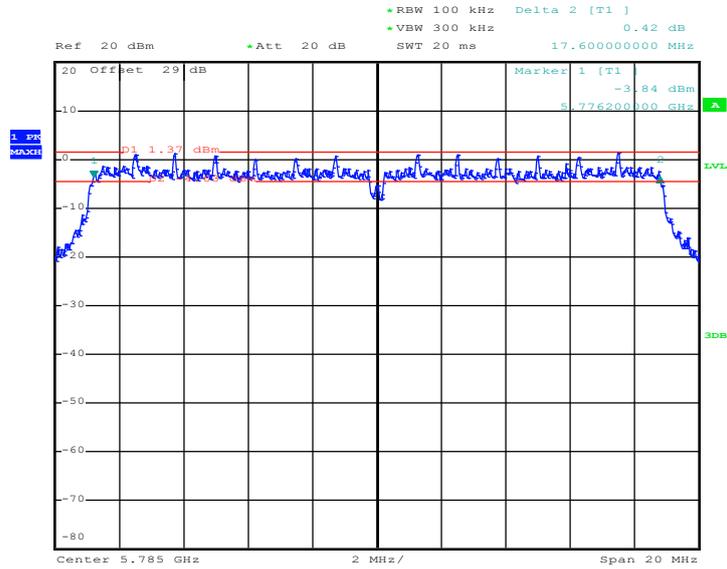
6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 149



Date: 7.NOV.2012 22:36:09

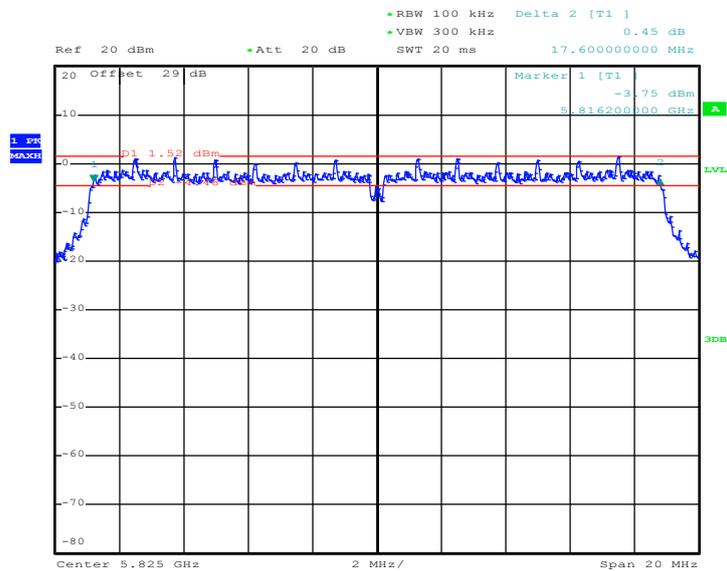


6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 157



Date: 7.NOV.2012 22:33:25

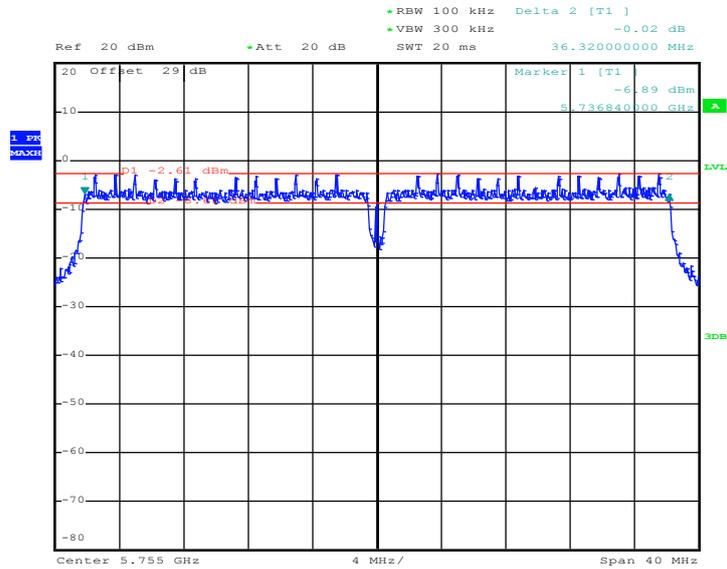
6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 165



Date: 7.NOV.2012 22:30:45

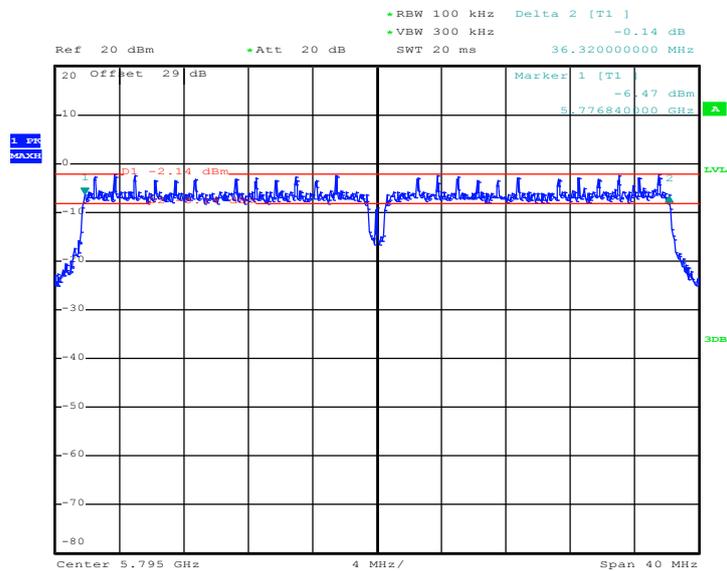


6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 151



Date: 7.NOV.2012 22:10:17

6 dB Bandwidth Plot on 5GHz 802.11n HT40 Channel 159



Date: 7.NOV.2012 22:17:04

## 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.

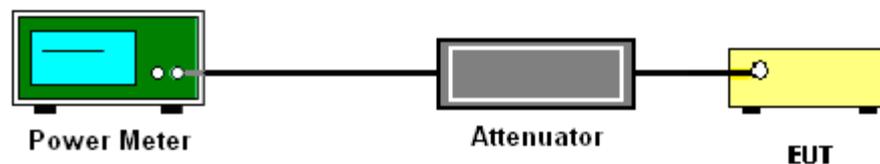
### 3.2.2 Measuring Instruments

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 v02.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

### 3.2.4 Test Setup





3.2.5 Test Result of Peak Output Power

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

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	20.83	30	Pass
06	2437	20.41	30	Pass
11	2462	20.39	30	Pass

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

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.13	30	Pass
06	2437	22.44	30	Pass
11	2462	22.74	30	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.20	30	Pass
06	2437	21.74	30	Pass
11	2462	21.96	30	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
03	2422	22.24	30	Pass
06	2437	21.86	30	Pass
09	2452	22.05	30	Pass



Test Mode :	802.11a	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	23.92	30	Pass
157	5785	23.64	30	Pass
165	5825	24.07	30	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	23.43	30	Pass
157	5785	23.03	30	Pass
165	5825	23.64	30	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT40 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	22.87	30	Pass
159	5795	22.64	30	Pass



3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	99.04%	Duty Factor:	0.04dB

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
01	2412	17.78
06	2437	17.52
11	2462	17.67

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	95.38%	Duty Factor:	0.21dB

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
01	2412	13.05
06	2437	12.55
11	2462	12.82

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	95.05%	Duty Factor:	0.22dB

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Average Output Power (dBm)
01	2412	11.99
06	2437	11.62
11	2462	11.88

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	86.88%	Duty Factor:	0.61dB

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Average Output Power (dBm)
03	2422	12.17
06	2437	11.50
09	2452	11.68



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%
<b>Duty Cycle:</b>	95.38%	<b>Duty Factor:</b>	0.21dB

Channel	Frequency (MHz)	802.11a Average Output Power (dBm)
149	5745	12.07
157	5785	11.92
165	5825	12.23

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%
<b>Duty Cycle:</b>	95.05%	<b>Duty Factor:</b>	0.22dB

Channel	Frequency (MHz)	5GHz 802.11n HT20 Average Output Power (dBm)
149	5745	12.26
157	5785	12.03
165	5825	12.33

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%
<b>Duty Cycle:</b>	87.14%	<b>Duty Factor:</b>	0.60dB

Channel	Frequency (MHz)	5GHz 802.11n HT40 Average Output Power (dBm)
151	5755	11.86
159	5795	11.66

### 3.3 Power Spectral Density Measurement

#### 3.3.1 Limit of Power Spectral Density

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

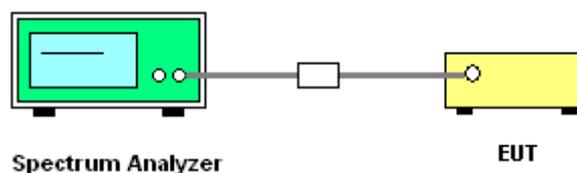
#### 3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.3.3 Test Procedures

1. The testing follows Measurement Procedure 9.1 Option 1 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v02
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. The Measured power density (dBm)/ 100KHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

#### 3.3.4 Test Setup



**3.3.5 Test Result of Power Spectral Density**

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%

Channel	Frequency (MHz)	802.11b Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	8.26	-6.54	8	Pass
06	2437	7.89	-7.12	8	Pass
11	2462	9.82	-4.52	8	Pass

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%

Channel	Frequency (MHz)	802.11g Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	1.50	-12.17	8	Pass
06	2437	1.26	-12.26	8	Pass
11	2462	1.55	-12.44	8	Pass

<b>Test Mode :</b>	802.11n HT20	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
01	2412	-0.61	-13.81	8	Pass
06	2437	0.53	-13.38	8	Pass
11	2462	0.69	-13.18	8	Pass

<b>Test Mode :</b>	802.11n HT40	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Bill Kuo	<b>Relative Humidity :</b>	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT40 Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
03	2422	-2.21	-15.73	8	Pass
06	2437	-1.81	-14.40	8	Pass
09	2452	-2.79	-16.82	8	Pass



Test Mode :	802.11a	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	0.47	-10.85	8	Pass
157	5785	0.85	-11.13	8	Pass
165	5825	0.79	-12.06	8	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT20 Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
149	5745	1.23	-12.02	8	Pass
157	5785	1.35	-10.95	8	Pass
165	5825	1.42	-11.64	8	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT40 Power Density		Max. Limits (dBm/3KHz)	Pass/Fail
		PSD/100KHz (dBm)	PSD/3KHz (dBm)		
151	5755	-2.52	-12.89	8	Pass
159	5795	-2.43	-13.79	8	Pass

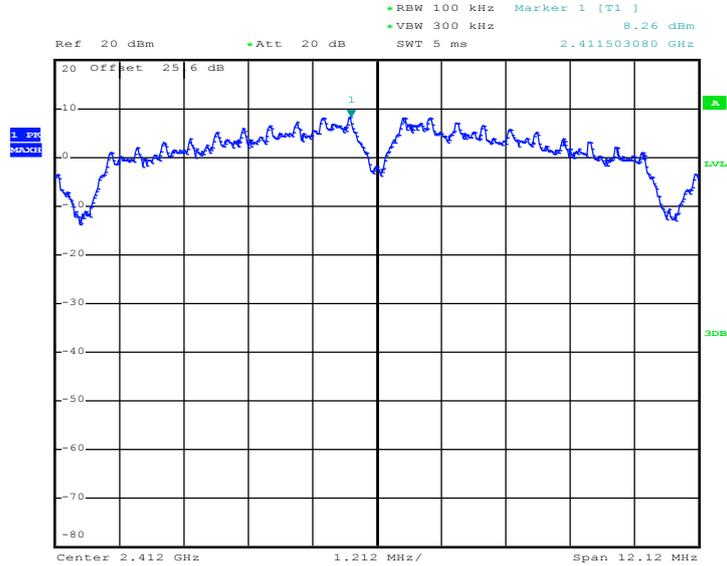
**Note:**

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



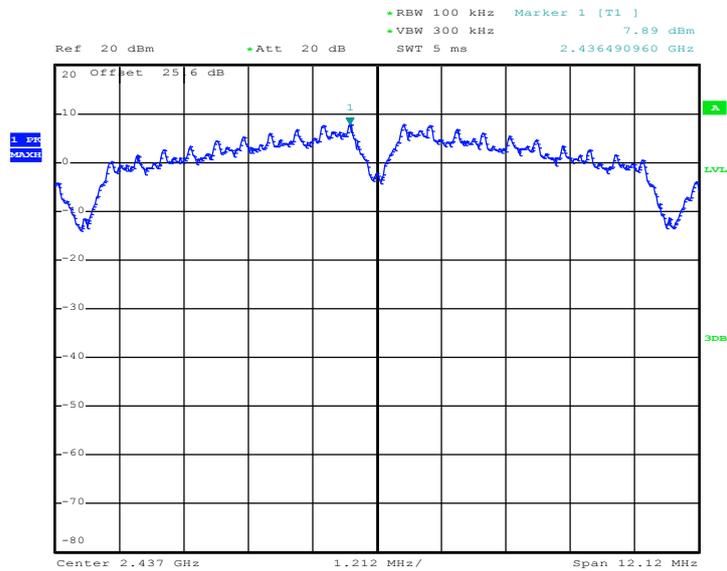
### 3.3.6 Test Result of Power Spectral Density Plots (100kHz)

PSD 100kHz Plot on 802.11b Channel 01



Date: 7.NOV.2012 21:23:06

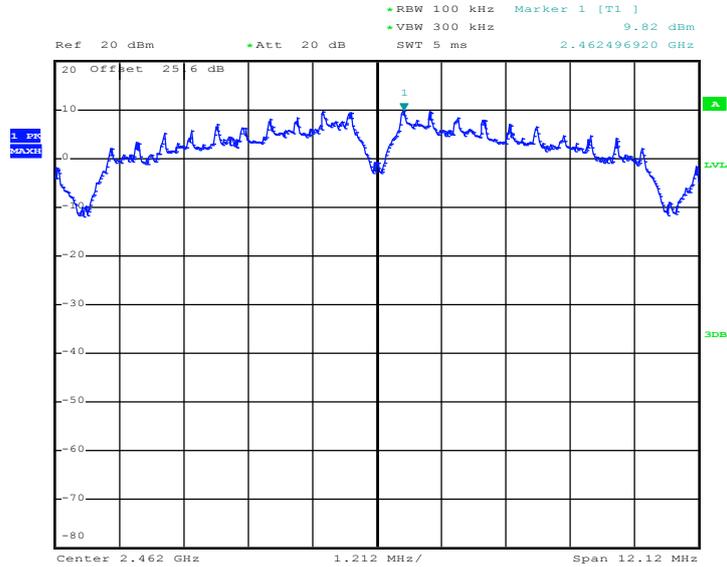
PSD 100kHz Plot on 802.11b Channel 06



Date: 7.NOV.2012 21:31:17

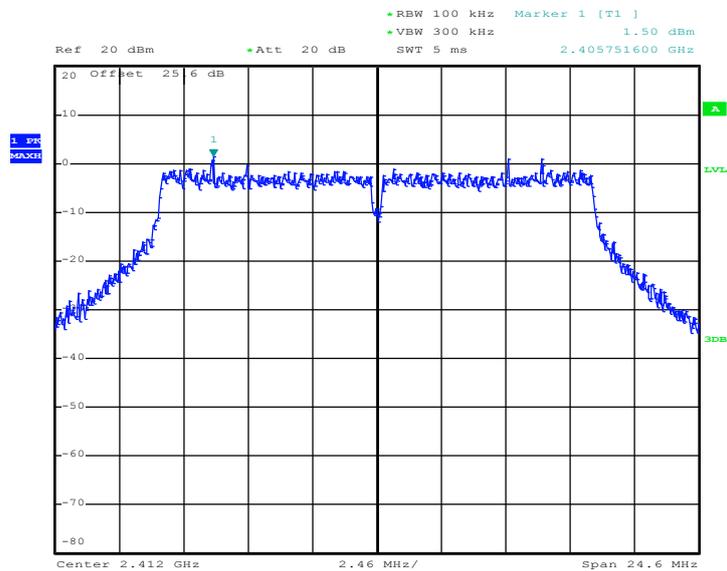


PSD 100kHz Plot on 802.11b Channel 11



Date: 7.NOV.2012 23:03:17

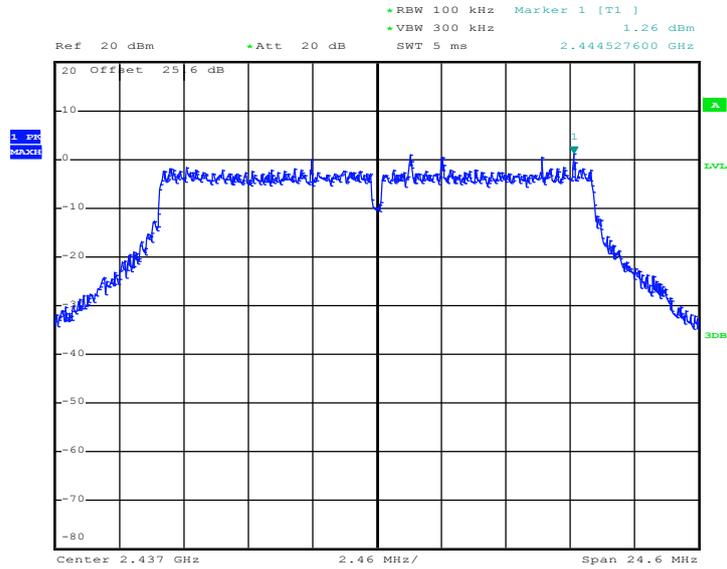
PSD 100kHz Plot on 802.11g Channel 01



Date: 7.NOV.2012 21:46:23

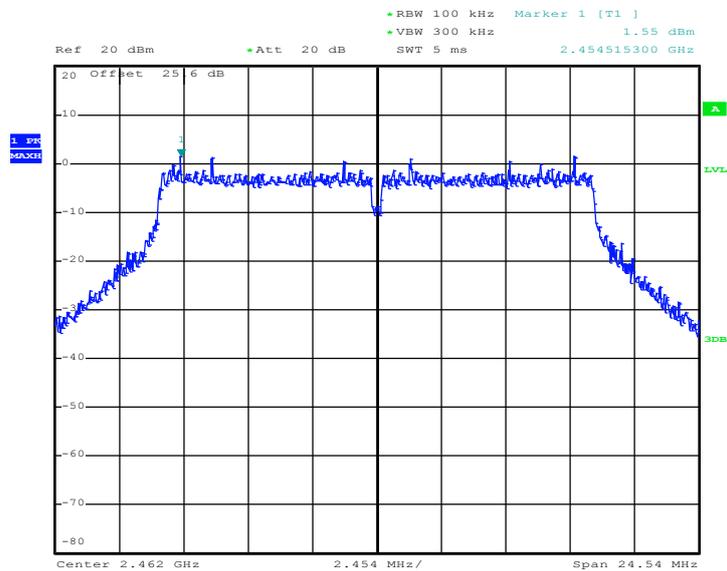


PSD 100kHz Plot 802.11g Channel 06



Date: 7.NOV.2012 21:44:11

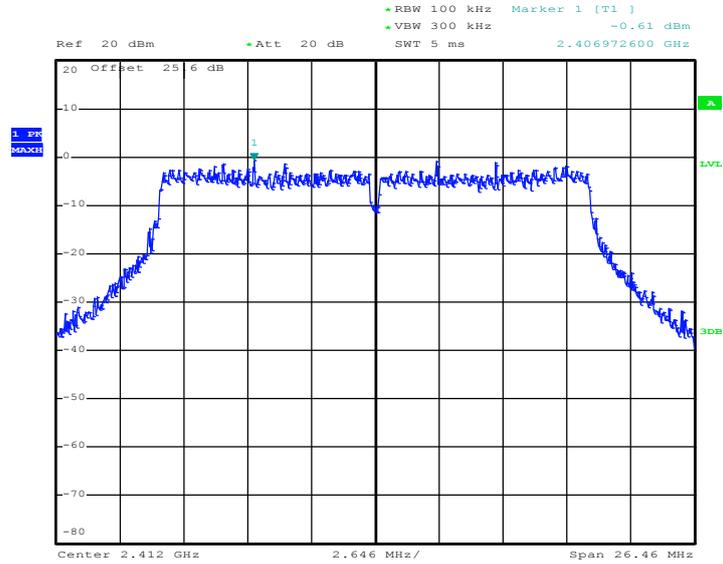
PSD 100kHz Plot 802.11g Channel 11



Date: 7.NOV.2012 21:36:50

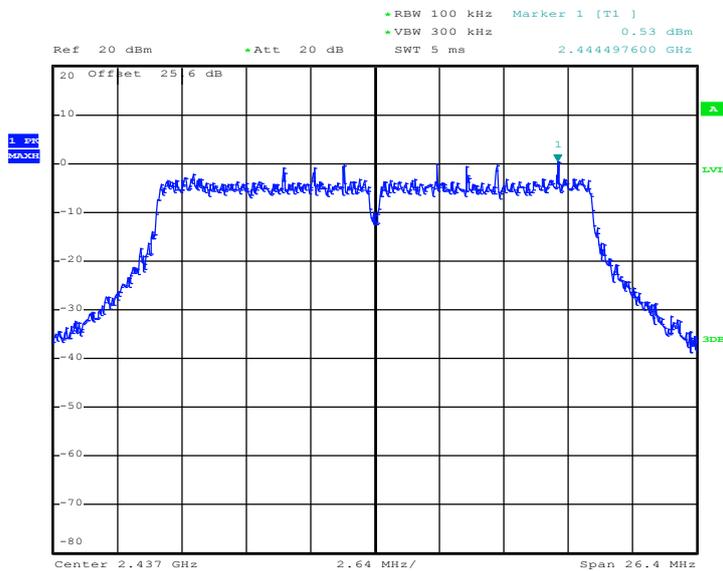


PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 7.NOV.2012 21:49:23

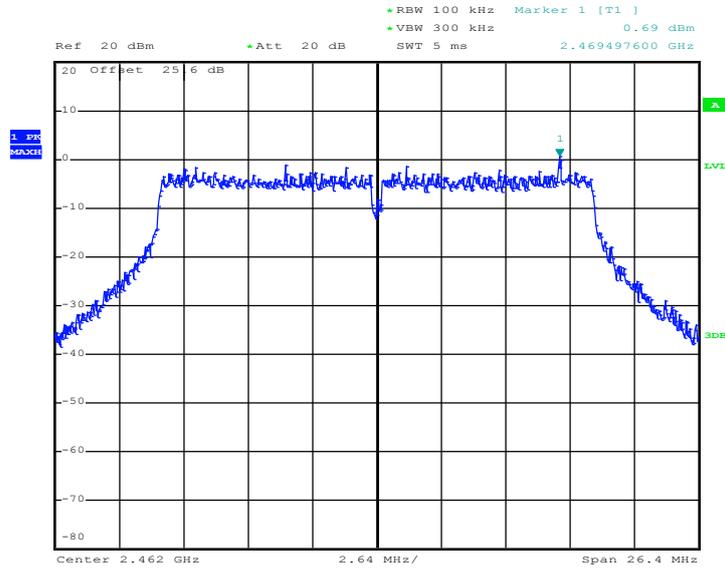
PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 06



Date: 7.NOV.2012 21:52:27

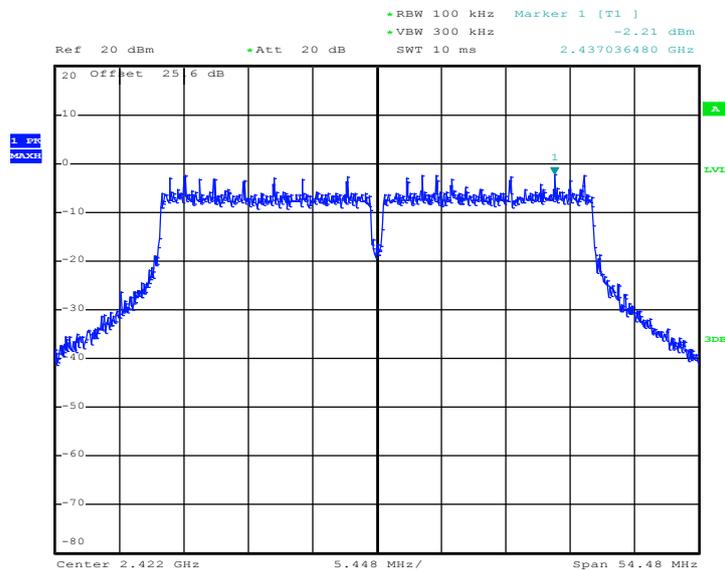


PSD 100kHz Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 7.NOV.2012 21:54:47

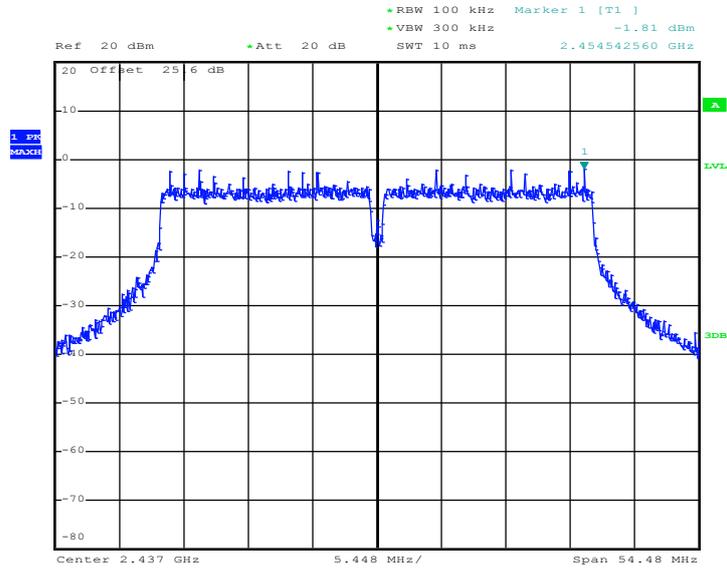
PSD 100kHz Plot on 2.4GHz 802.11n HT40 Channel 03



Date: 7.NOV.2012 21:59:07

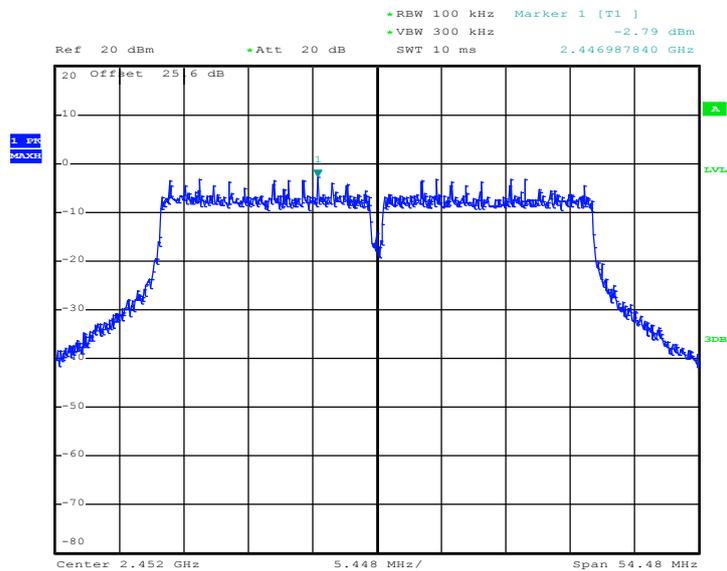


PSD 100kHz Plot on 2.4GHz 802.11n HT40 Channel 06



Date: 7.NOV.2012 22:03:31

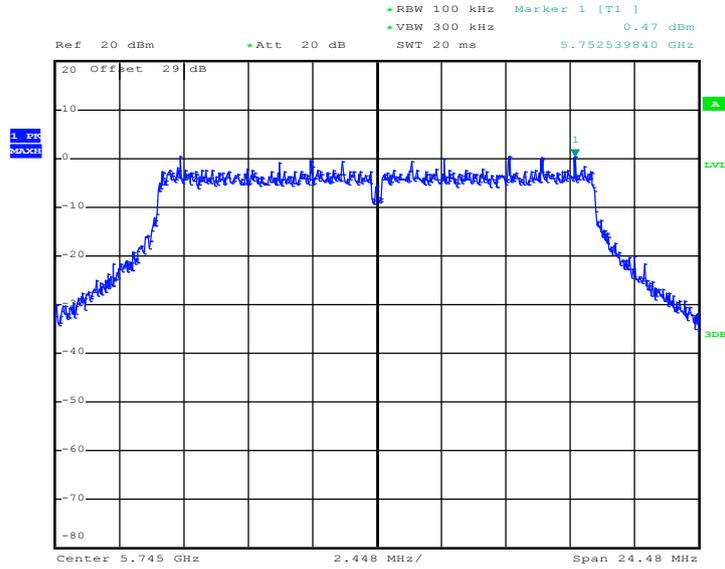
PSD 100kHz Plot on 2.4GHz 802.11n HT40 Channel 09



Date: 7.NOV.2012 22:06:37

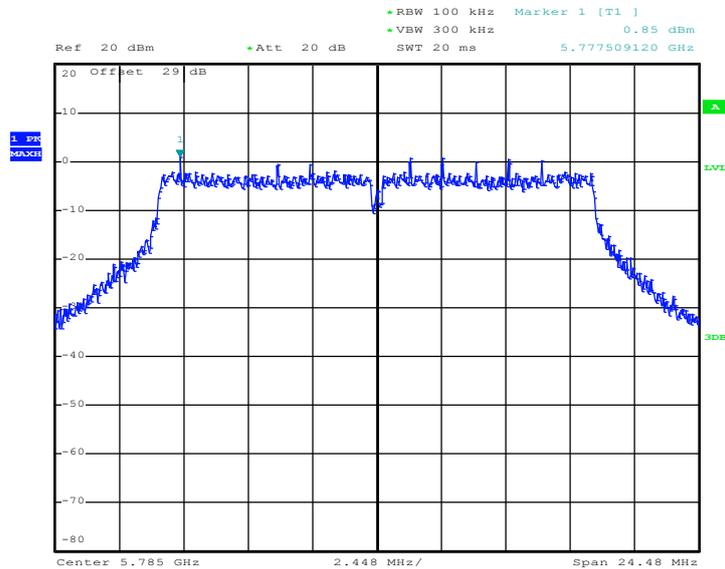


PSD 100kHz Plot on 802.11a Channel 149



Date: 7.NOV.2012 22:20:45

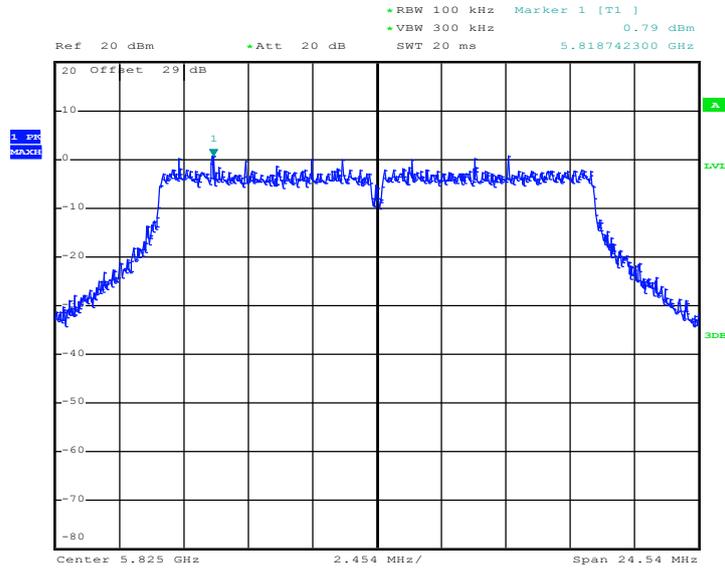
PSD 100kHz Plot on 802.11a Channel 157



Date: 7.NOV.2012 22:23:30

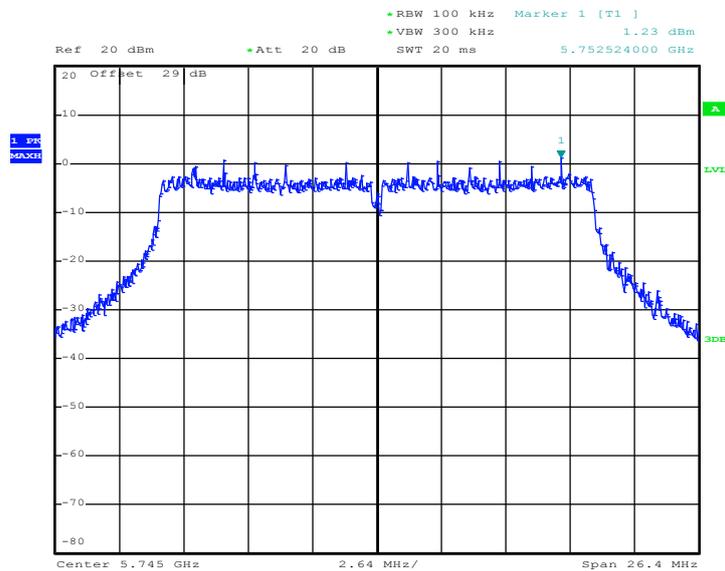


PSD 100kHz Plot on 802.11a Channel 165



Date: 7.NOV.2012 22:26:01

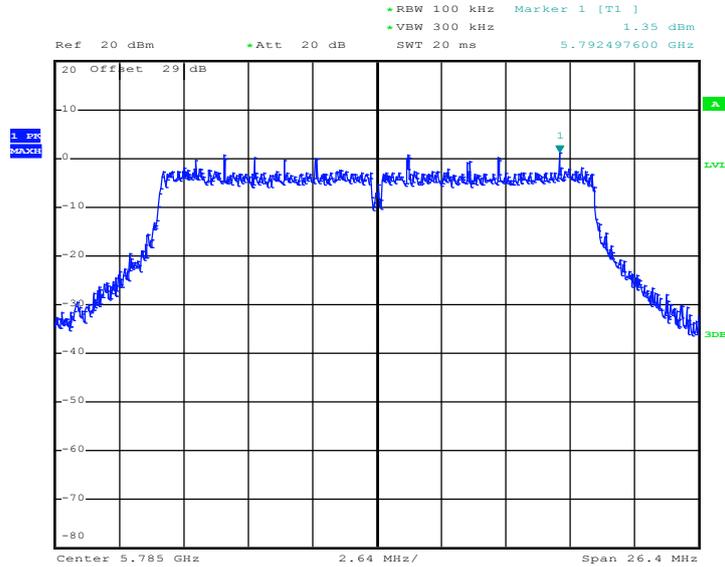
PSD 100kHz Plot on 5GHz 802.11n HT20 Channel 149



Date: 7.NOV.2012 22:36:39

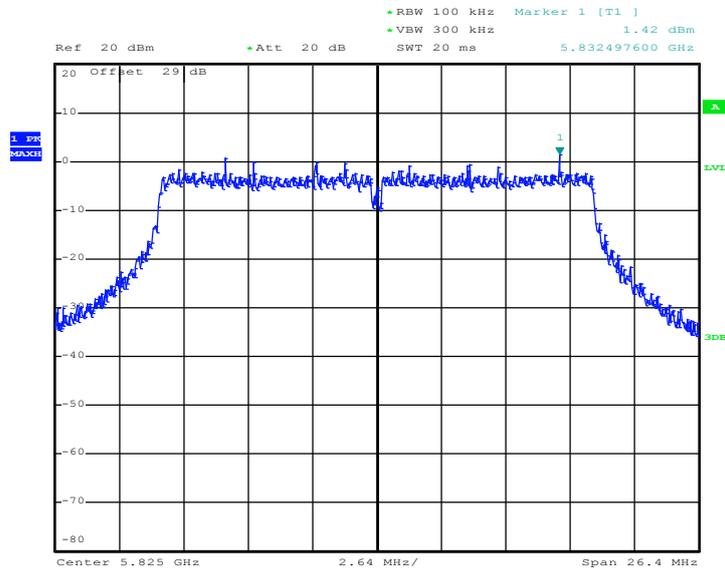


PSD 100kHz Plot on 5GHz 802.11n HT20 Channel 157



Date: 7.NOV.2012 22:33:55

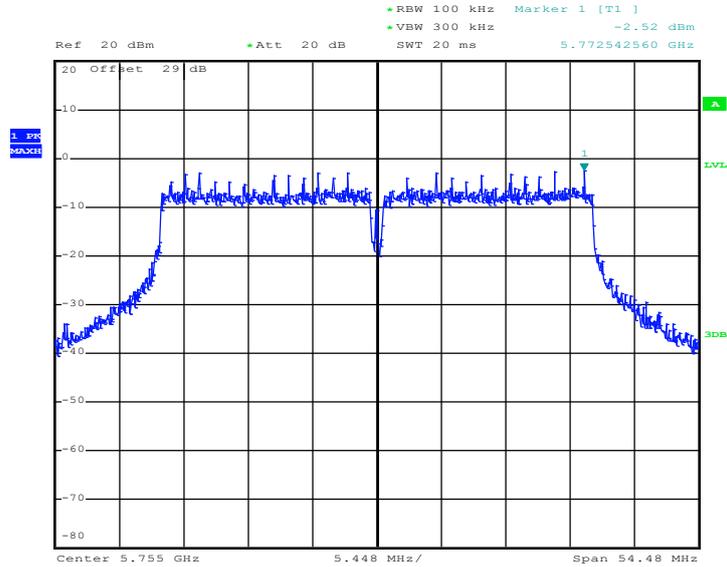
PSD 100kHz Plot on 5GHz 802.11n HT20 Channel 165



Date: 7.NOV.2012 22:31:15

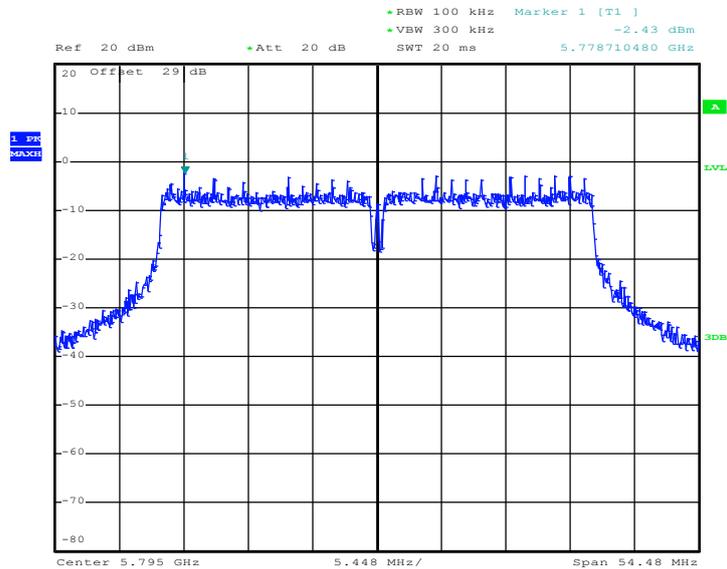


PSD 100kHz Plot on 5GHz 802.11n HT40 Channel 151



Date: 7.NOV.2012 22:10:50

PSD 100kHz Plot on 5GHz 802.11n HT40 Channel 159

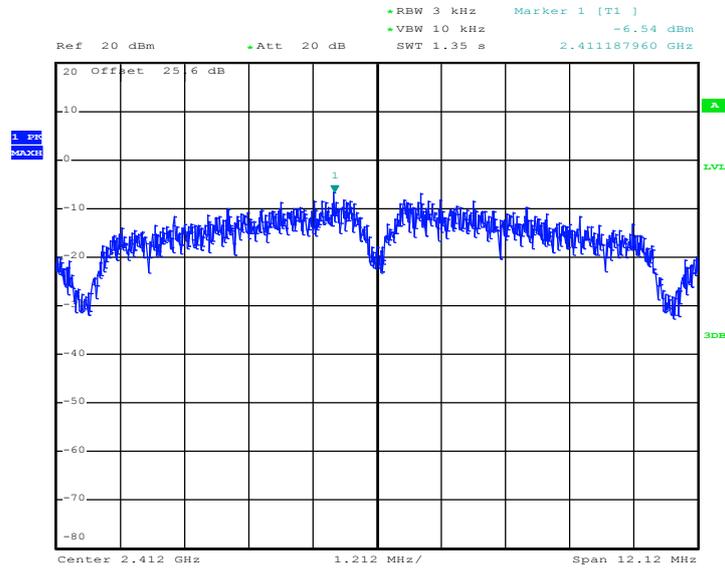


Date: 7.NOV.2012 22:17:36



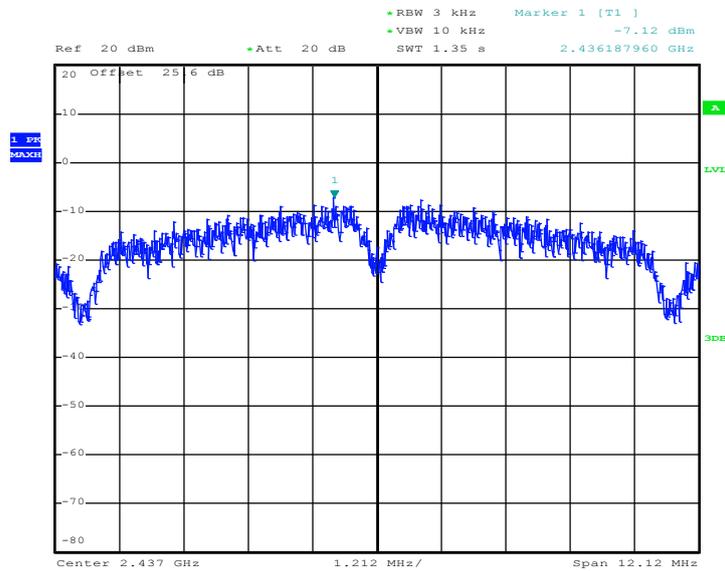
### 3.3.7 Test Result of Power Spectral Density Plots (3kHz)

PSD 3kHz Plot on 802.11b Channel 01



Date: 7.NOV.2012 21:22:57

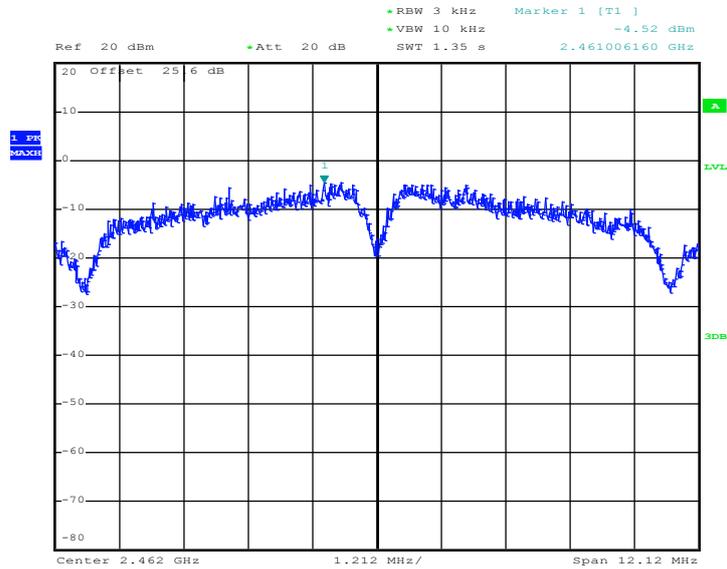
PSD 3kHz Plot on 802.11b Channel 06



Date: 7.NOV.2012 21:31:08

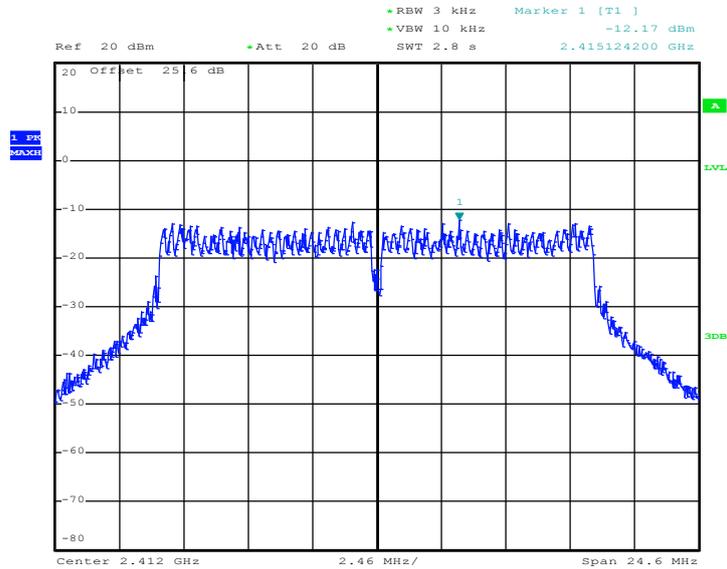


PSD 3kHz Plot on 802.11b Channel 11



Date: 7.NOV.2012 23:03:08

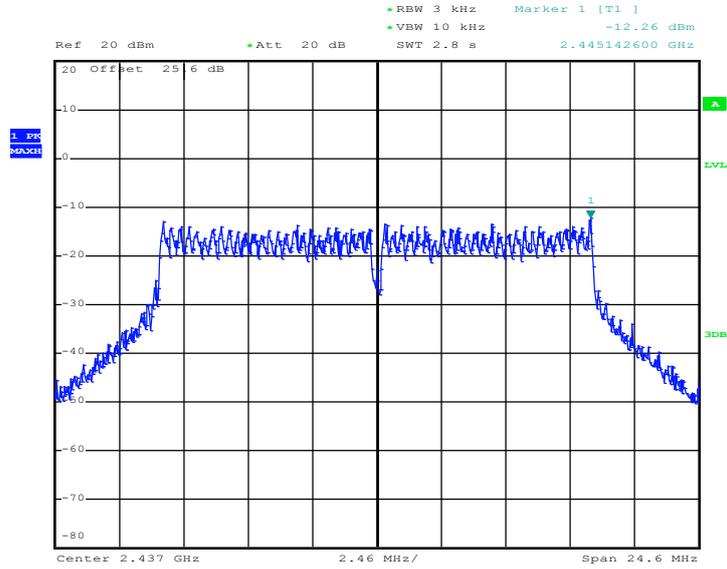
PSD 3kHz Plot on 802.11g Channel 01



Date: 7.NOV.2012 21:46:14

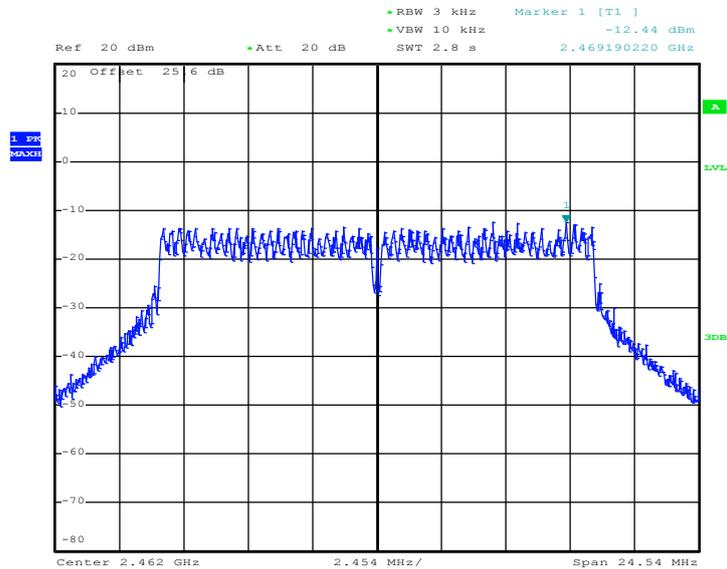


PSD 3kHz Plot on 802.11g Channel 06



Date: 7.NOV.2012 21:44:02

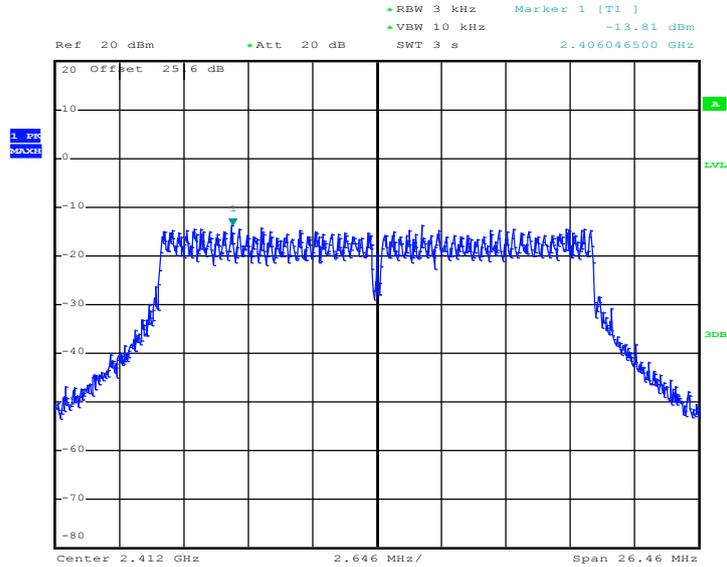
PSD 3kHz Plot on 802.11g Channel 11



Date: 7.NOV.2012 21:36:41

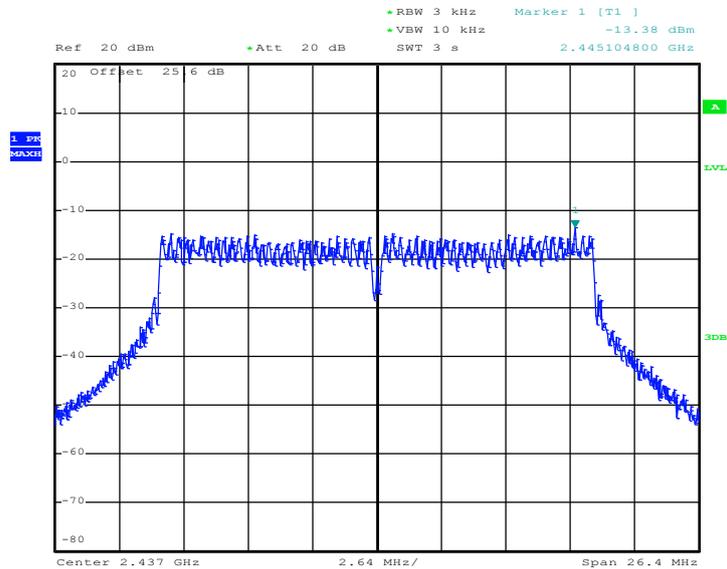


PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 01



Date: 7.NOV.2012 21:49:13

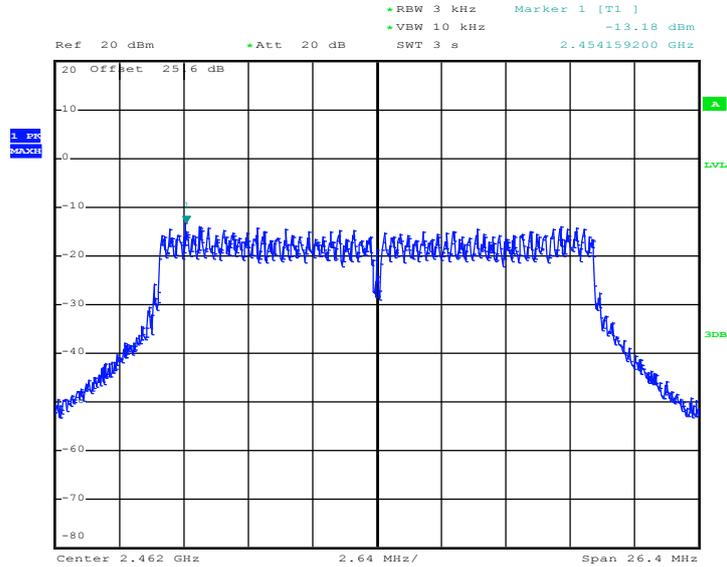
PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 06



Date: 7.NOV.2012 21:52:18

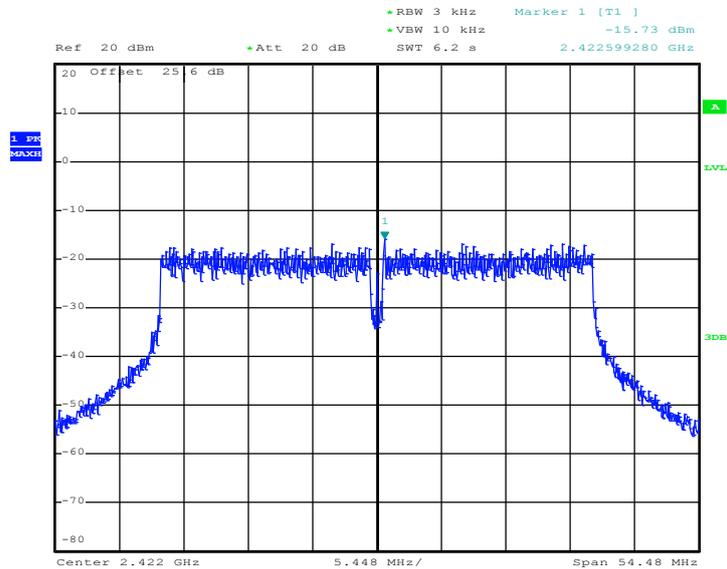


PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 11



Date: 7.NOV.2012 21:54:38

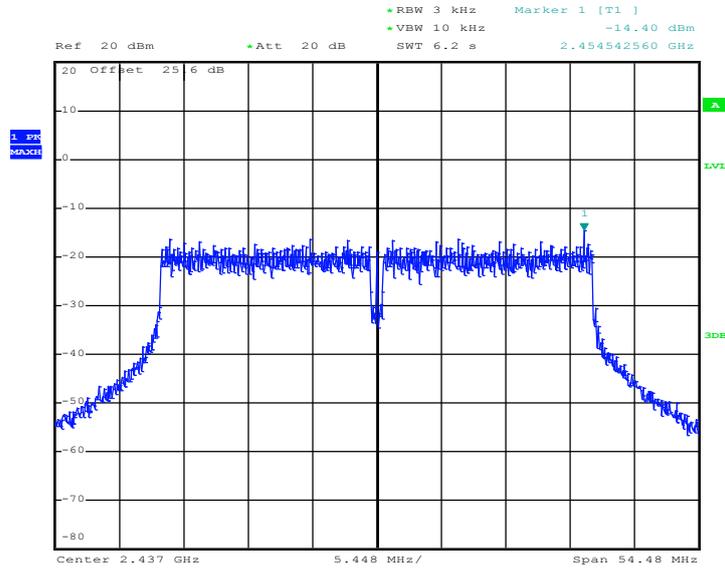
PSD 3kHz Plot on 2.4GHz 802.11n HT40 Channel 03



Date: 7.NOV.2012 21:58:58

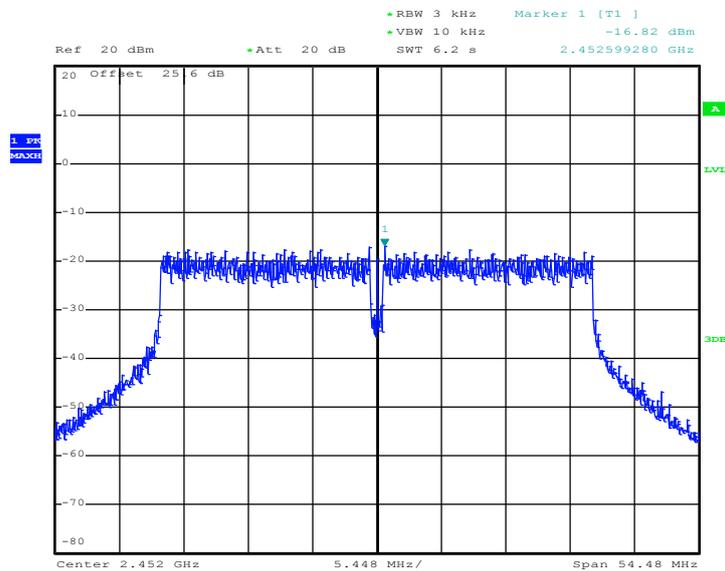


PSD 3kHz Plot on 2.4GHz 802.11n HT40 Channel 06



Date: 7.NOV.2012 22:03:21

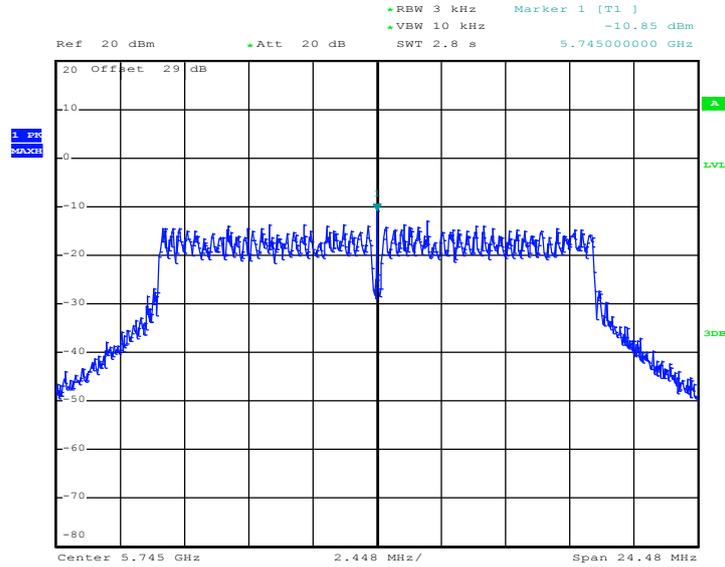
PSD 3kHz Plot on 2.4GHz 802.11n HT40 Channel 09



Date: 7.NOV.2012 22:06:28

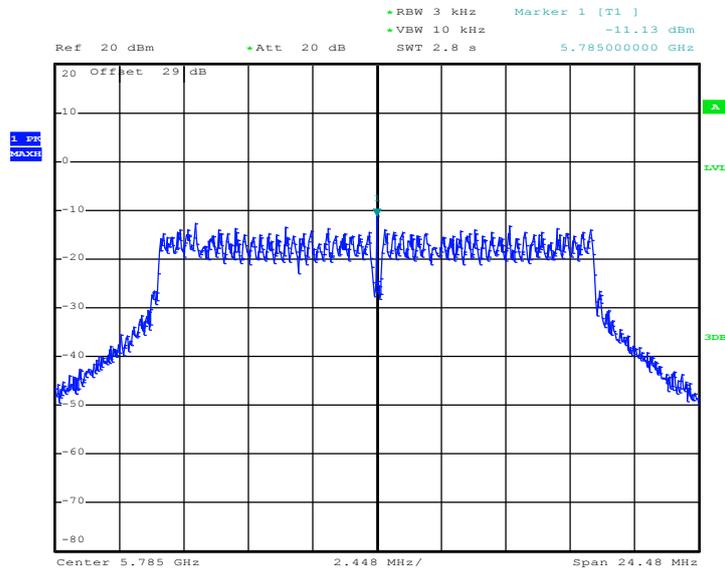


PSD 3kHz Plot on 802.11a Channel 149



Date: 7.NOV.2012 22:20:36

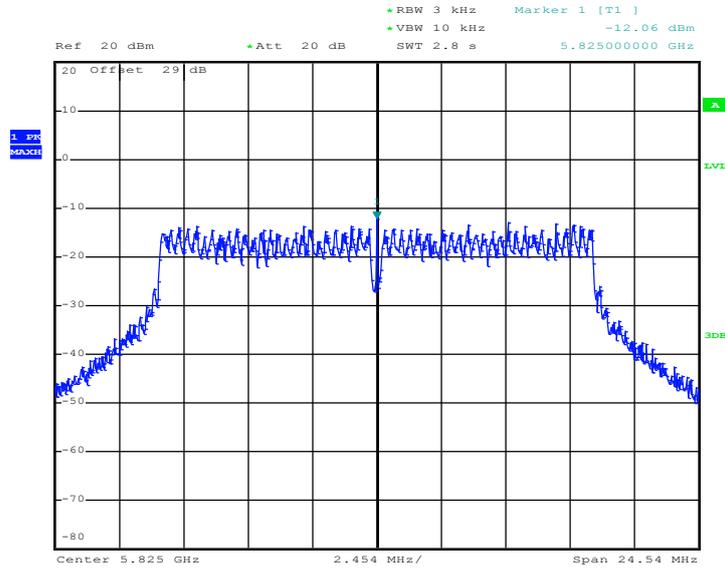
PSD 3kHz Plot on 802.11a Channel 157



Date: 7.NOV.2012 22:23:21

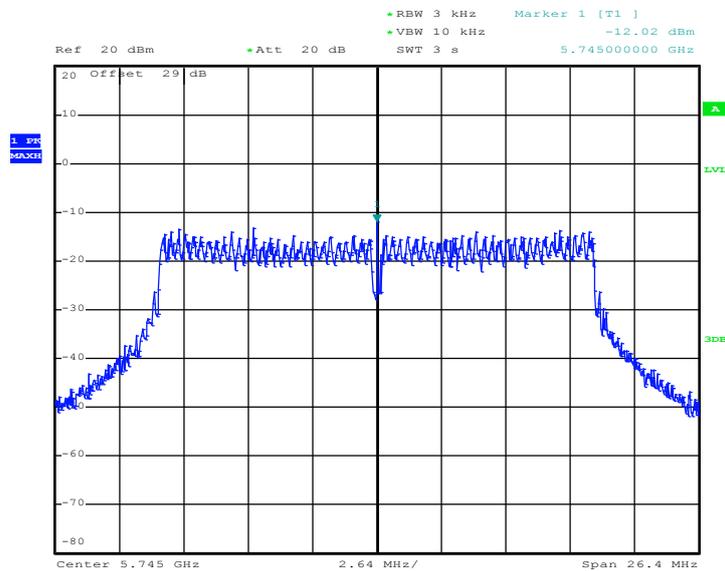


PSD 3kHz Plot on 802.11a Channel 165



Date: 7.NOV.2012 22:25:51

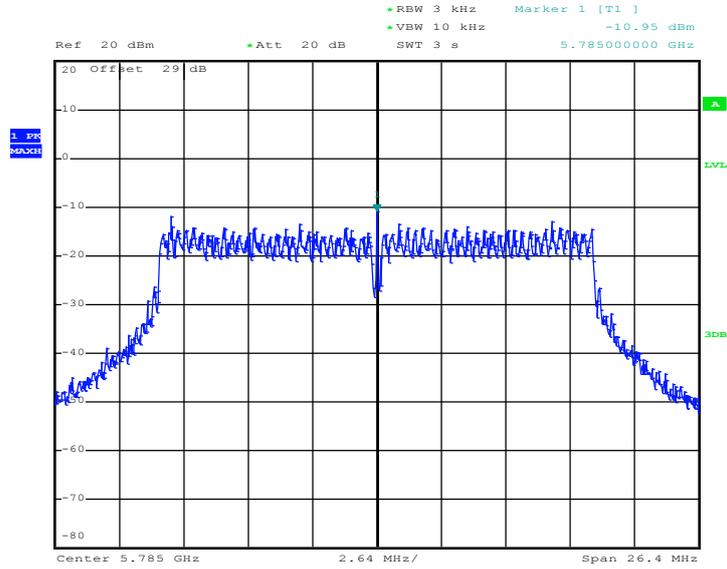
PSD 3kHz Plot on 5GHz 802.11n HT20 Channel 149



Date: 7.NOV.2012 22:36:30

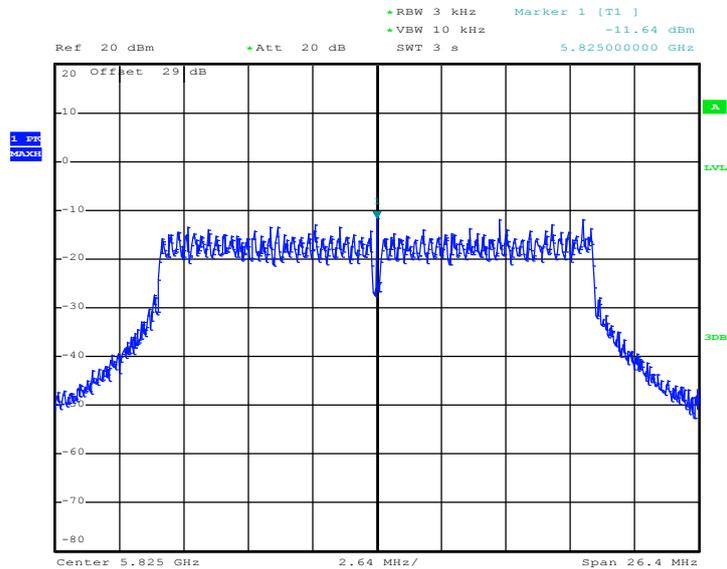


PSD 3kHz Plot on 5GHz 802.11n HT20 Channel 157



Date: 7.NOV.2012 22:33:46

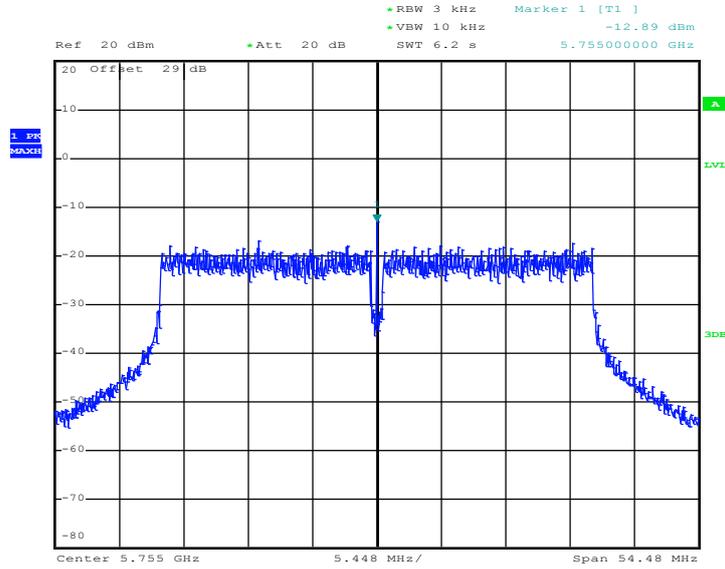
PSD 3kHz Plot on 5GHz 802.11n HT20 Channel 165



Date: 7.NOV.2012 22:31:06

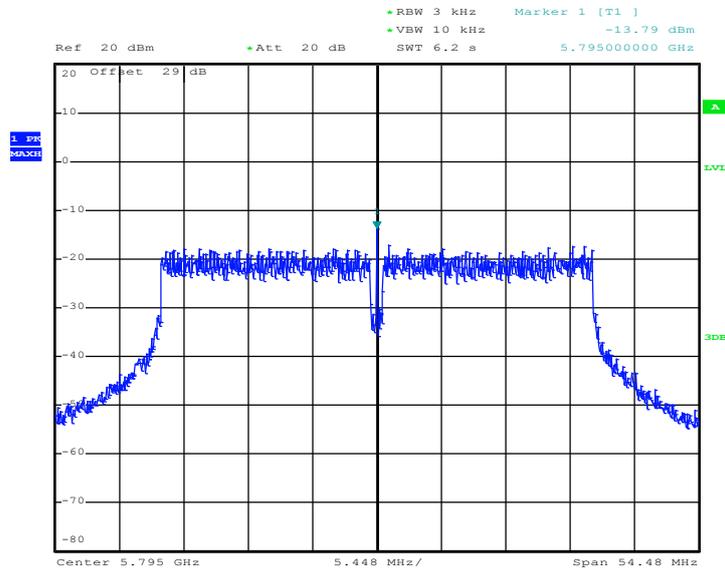


PSD 3kHz Plot on 5GHz 802.11n HT40 Channel 151



Date: 7.NOV.2012 22:10:41

PSD 3kHz Plot on 5GHz 802.11n HT40 Channel 159



Date: 7.NOV.2012 22:17:27

## 3.4 Conducted Band Edges and Spurious Emission Measurement

### 3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

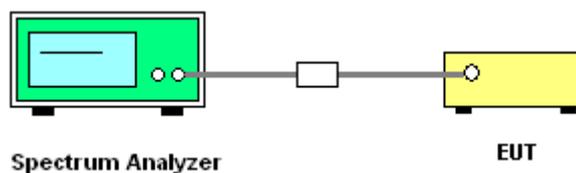
### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v02.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 KHz, VBW=300 KHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

### 3.4.4 Test Setup

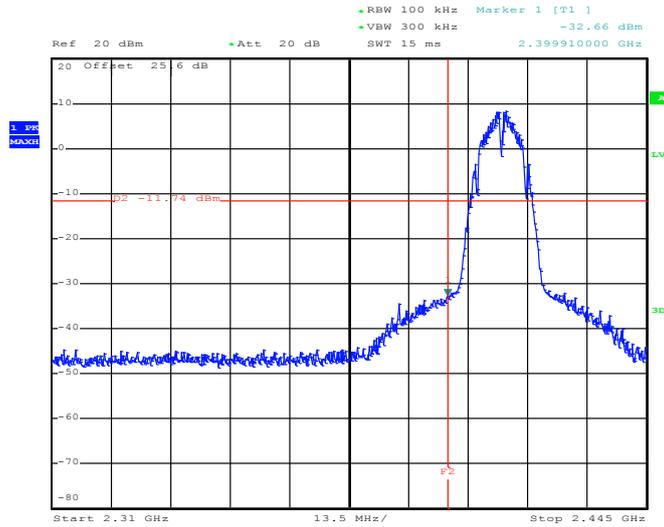




### 3.4.6 Test Result of Conducted Spurious at Band Edges

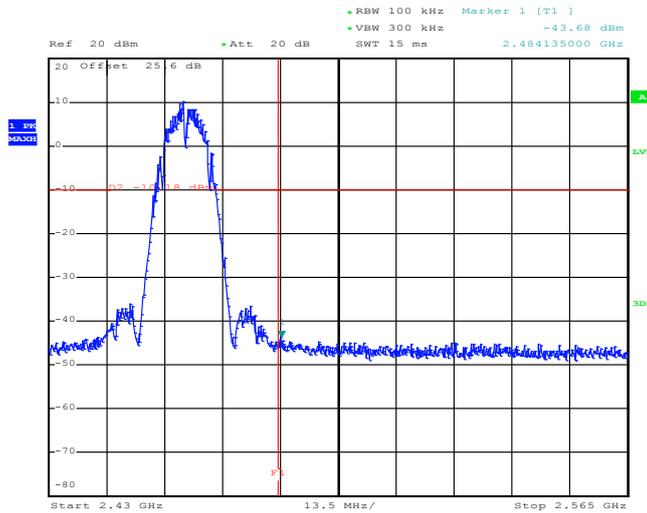
Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

Low Band Edge Plot on 802.11b Channel 01



Date: 7.NOV.2012 21:23:21

High Band Edge Plot on 802.11b Channel 11

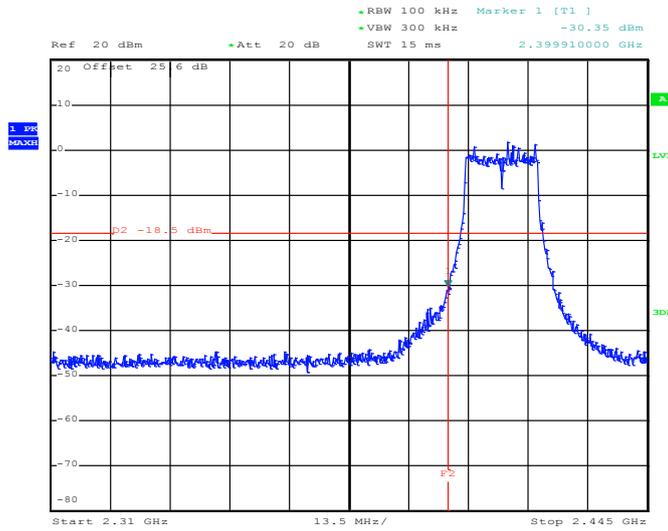


Date: 7.NOV.2012 23:03:32



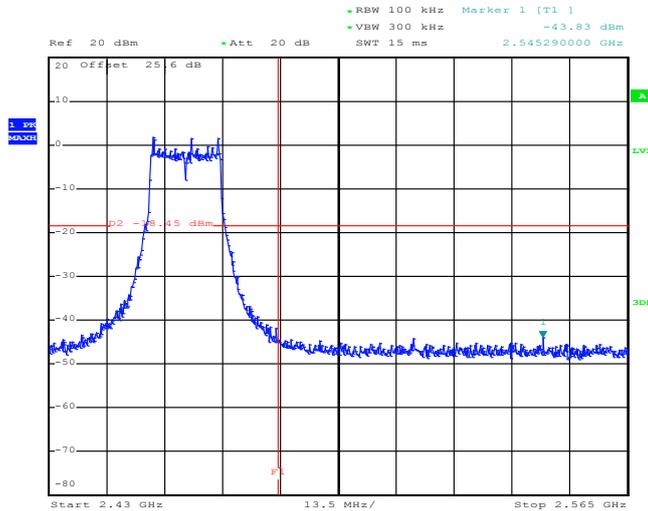
Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

Low Band Edge Plot on 802.11g Channel 01



Date: 7.NOV.2012 21:47:37

High Band Edge Plot on 802.11g Channel 11

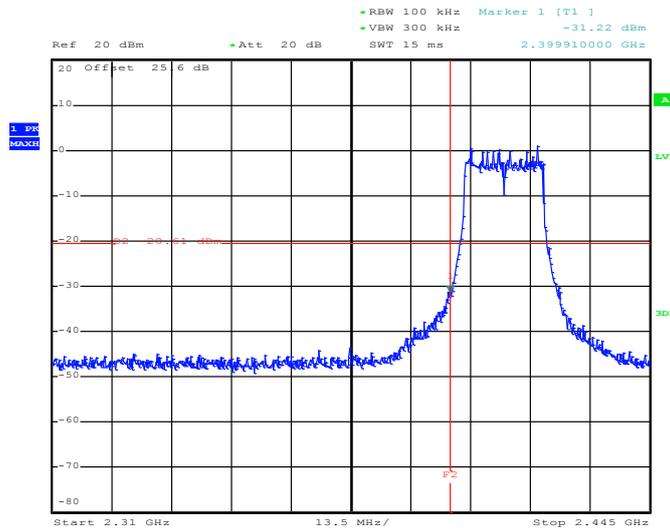


Date: 7.NOV.2012 21:37:07



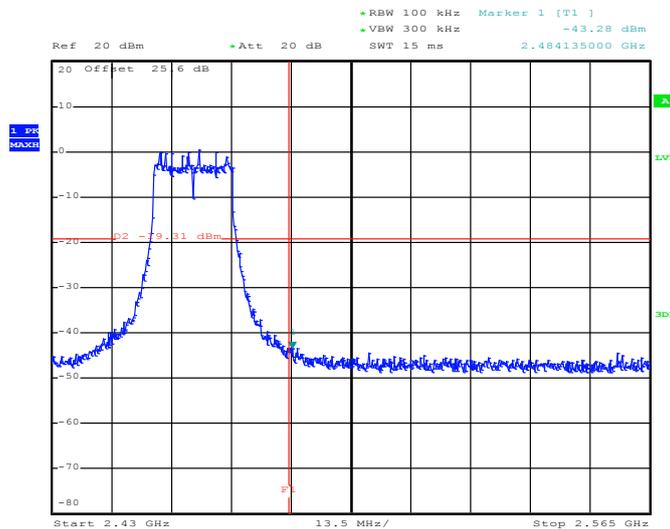
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

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



Date: 7.NOV.2012 21:49:38

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

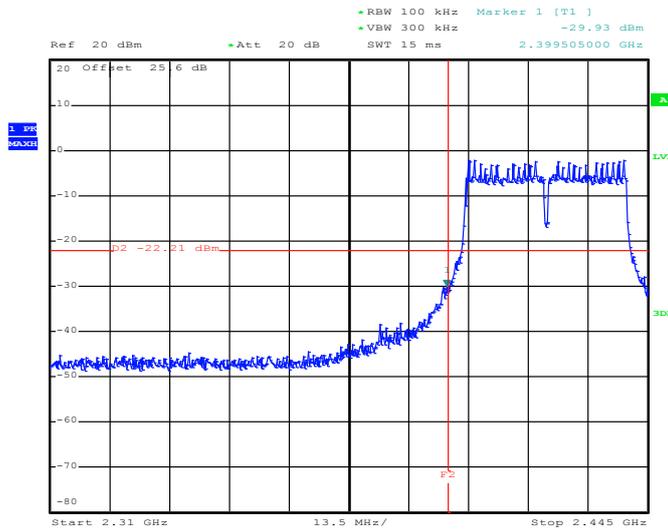


Date: 7.NOV.2012 21:55:04



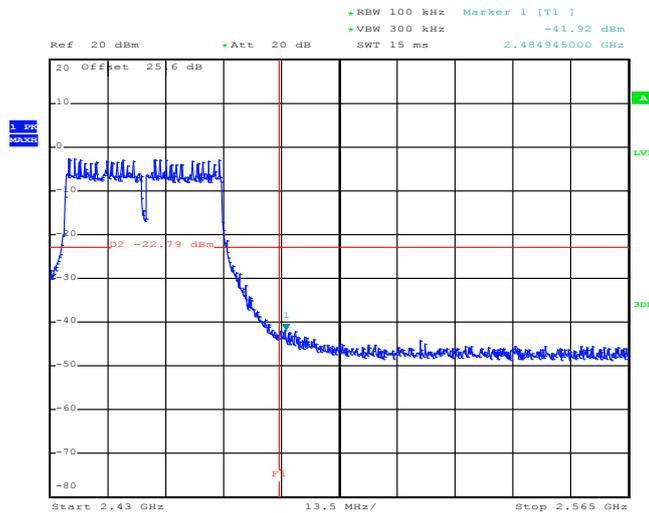
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	03 and 09	Test Engineer :	Bill Kuo

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



Date: 7.NOV.2012 21:59:23

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



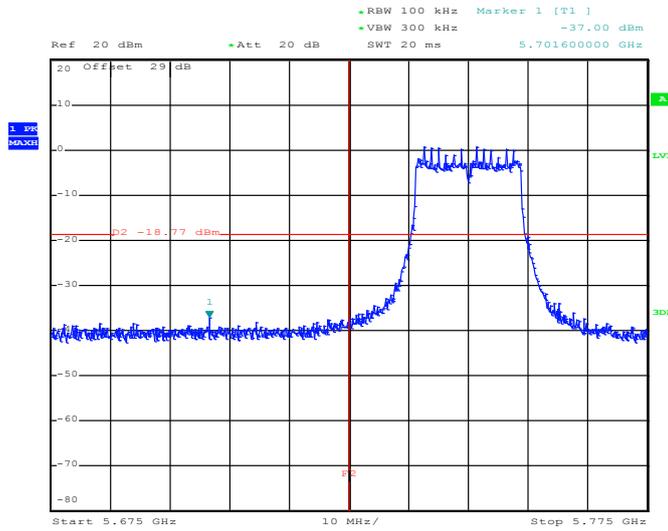
Date: 7.NOV.2012 22:06:54





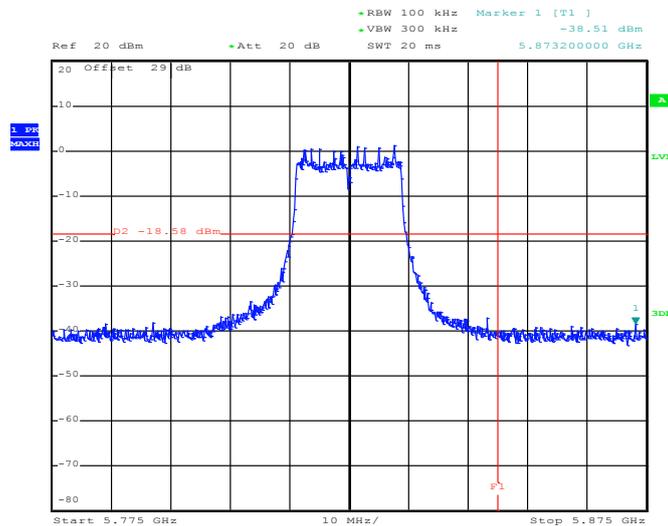
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Bill Kuo

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



Date: 7.NOV.2012 22:36:56

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

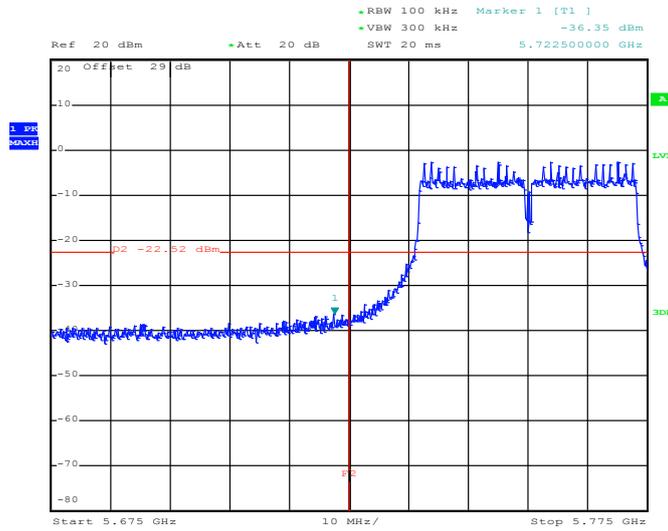


Date: 7.NOV.2012 22:31:33



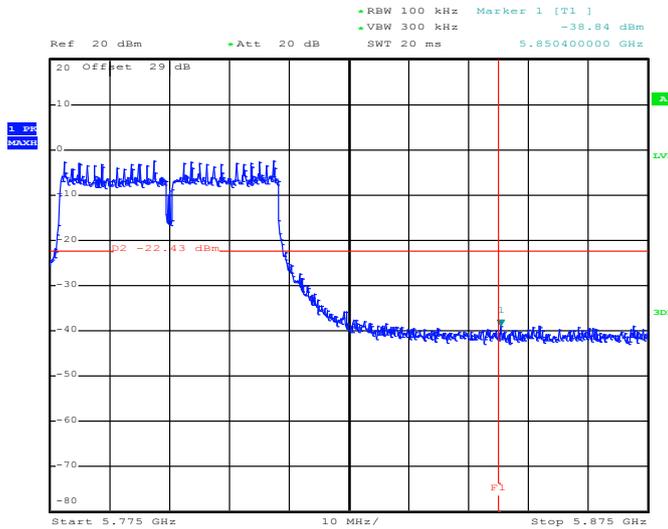
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Bill Kuo

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



Date: 7.NOV.2012 22:11:10

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



Date: 7.NOV.2012 22:17:55

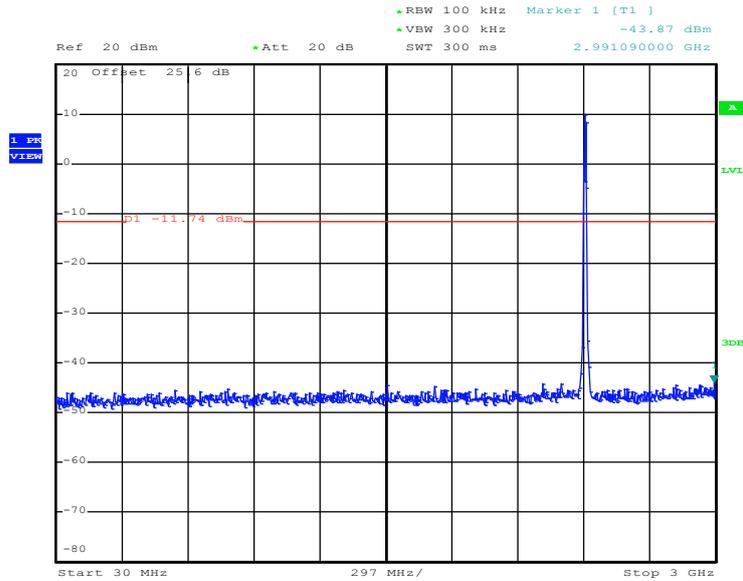


### 3.4.7 Test Result of Conducted Spurious Emission

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

#### 802.11b 30 MHz~3 GHz

#### Conducted Spurious Emission Plot on Channel 01

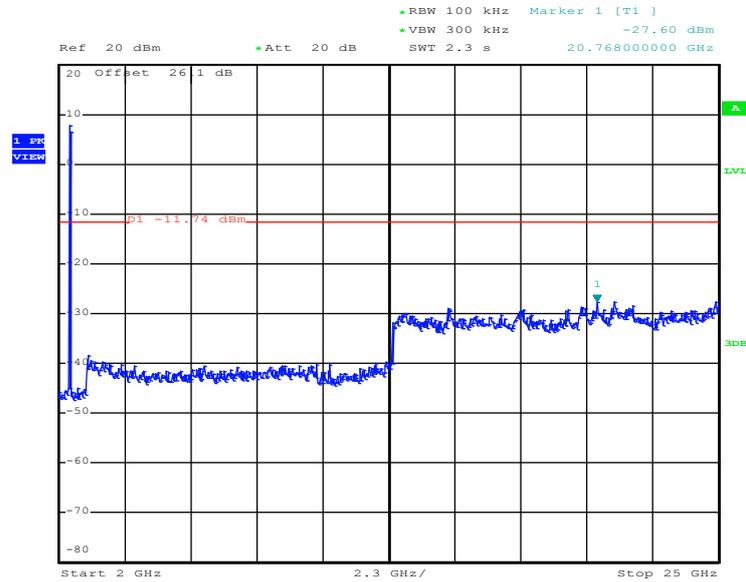


Date: 7.NOV.2012 21:42:03



802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

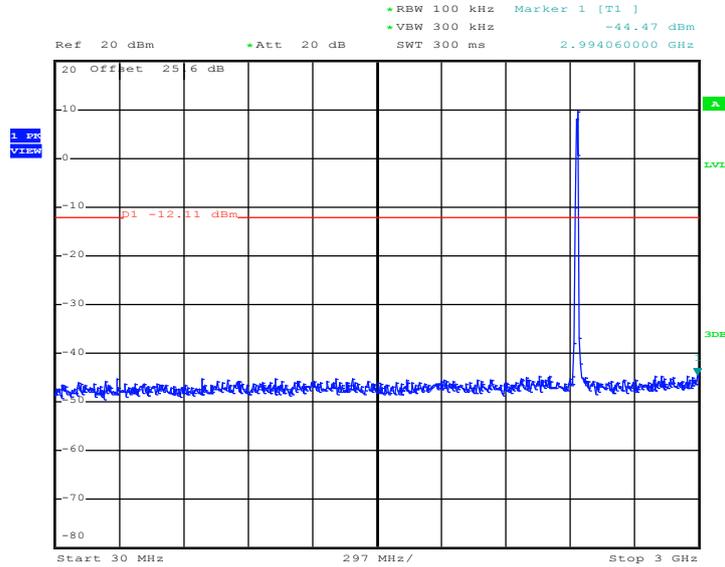


Date: 7.NOV.2012 21:42:21



802.11b 30 MHz~3 GHz

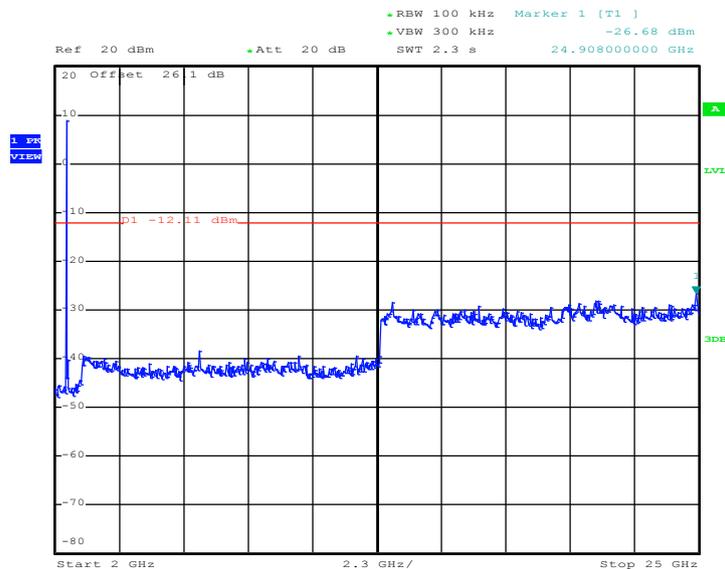
Conducted Spurious Emission Plot on Channel 06



Date: 7.NOV.2012 21:41:13

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

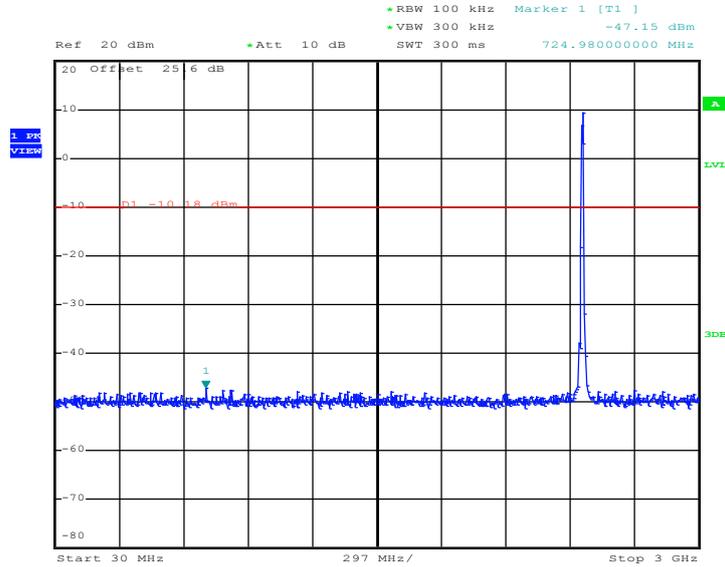


Date: 7.NOV.2012 21:41:30



802.11b 30 MHz~3 GHz

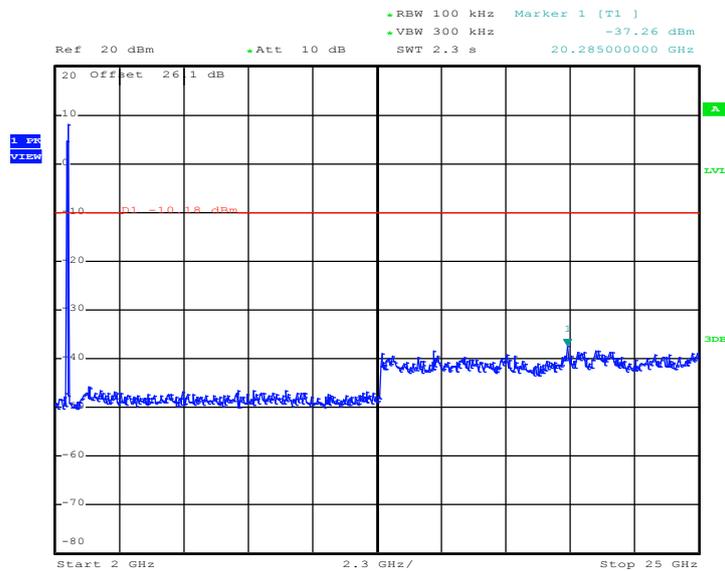
Conducted Spurious Emission Plot on Channel 11



Date: 7.NOV.2012 23:03:50

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



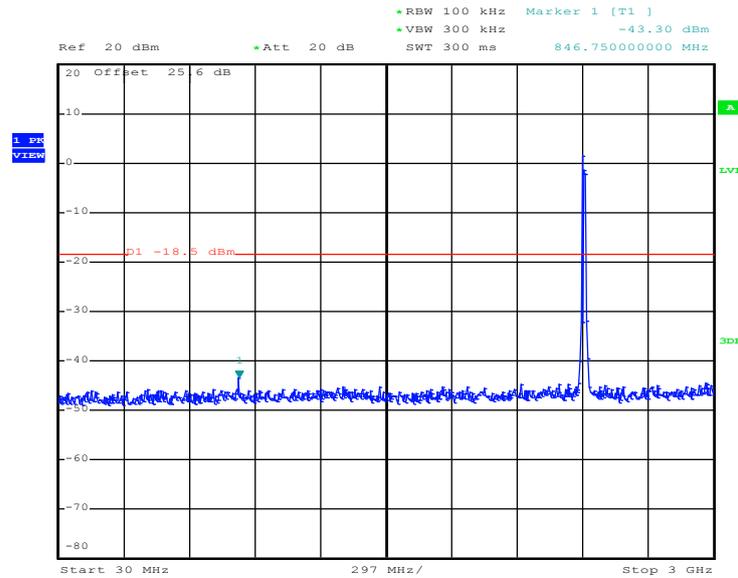
Date: 7.NOV.2012 23:04:07



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

802.11g 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01

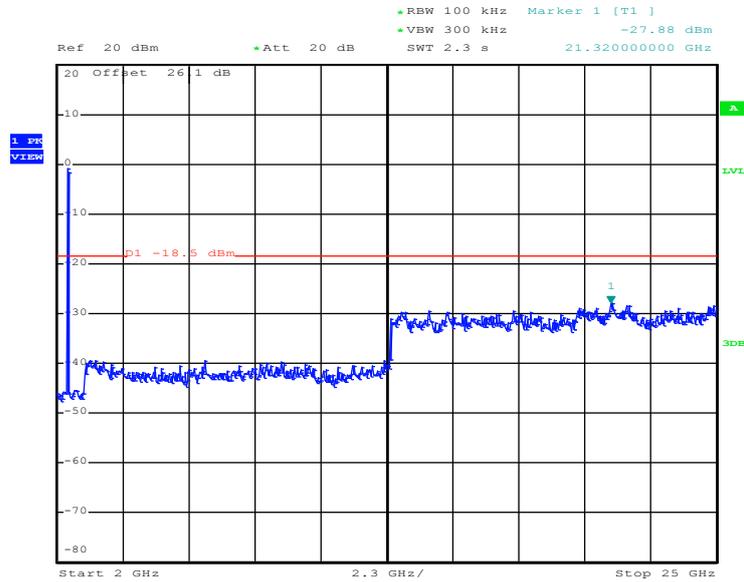


Date: 7.NOV.2012 21:46:56



802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

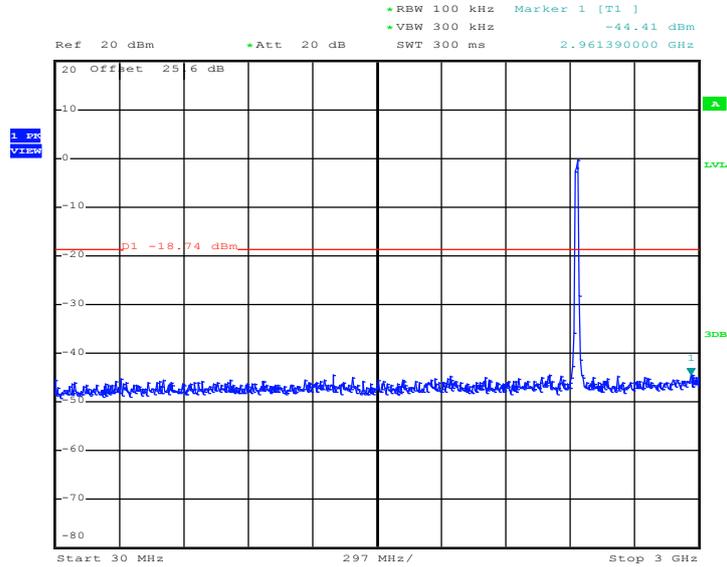


Date: 7.NOV.2012 21:47:14



802.11g 30 MHz~3 GHz

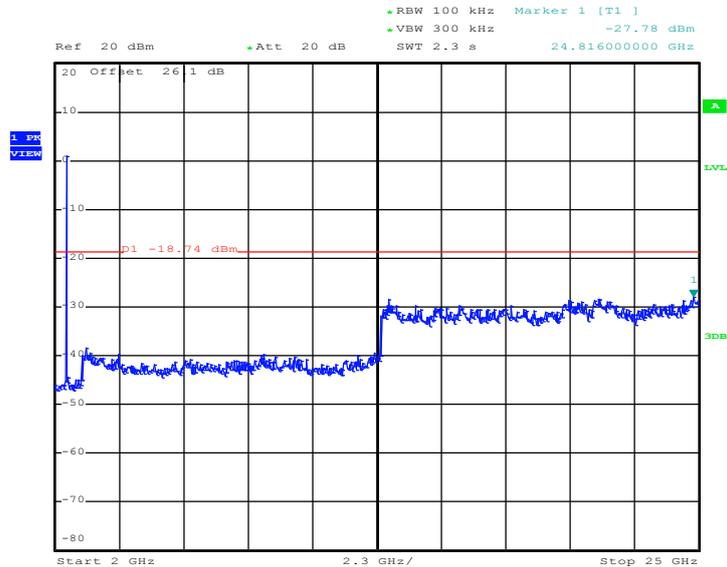
Conducted Spurious Emission Plot on Channel 06



Date: 7.NOV.2012 21:44:36

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

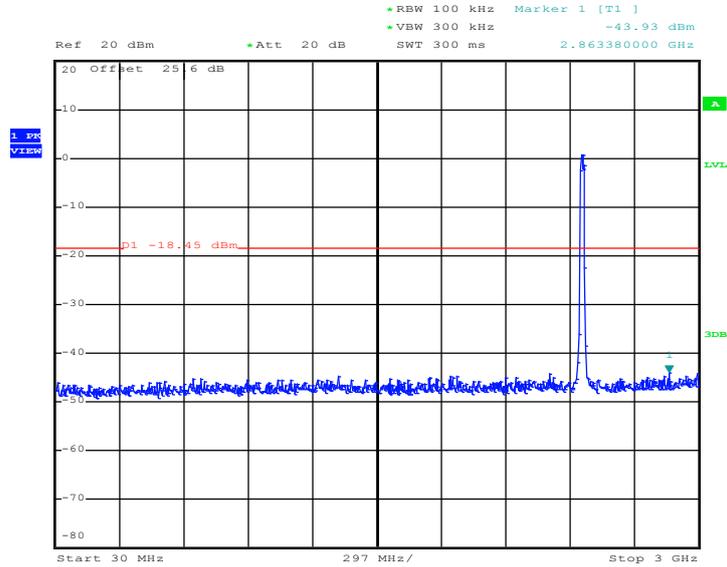


Date: 7.NOV.2012 21:44:54



802.11g 30 MHz~3 GHz

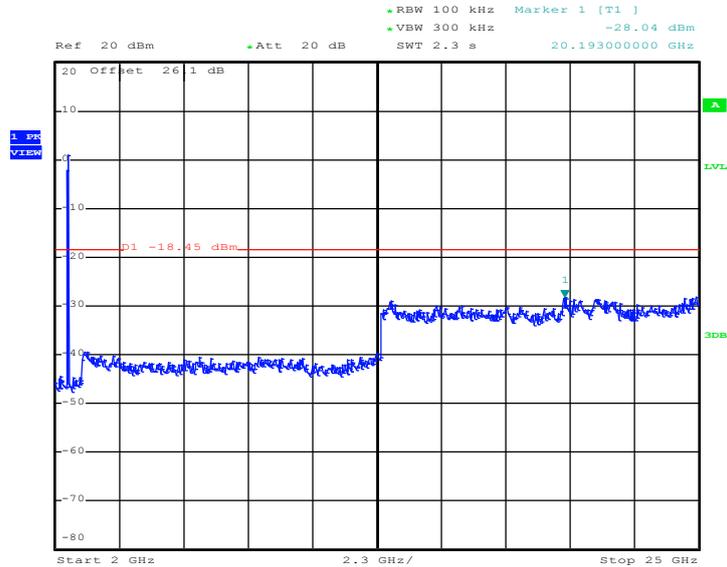
Conducted Spurious Emission Plot on Channel 11



Date: 7.NOV.2012 21:38:21

802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



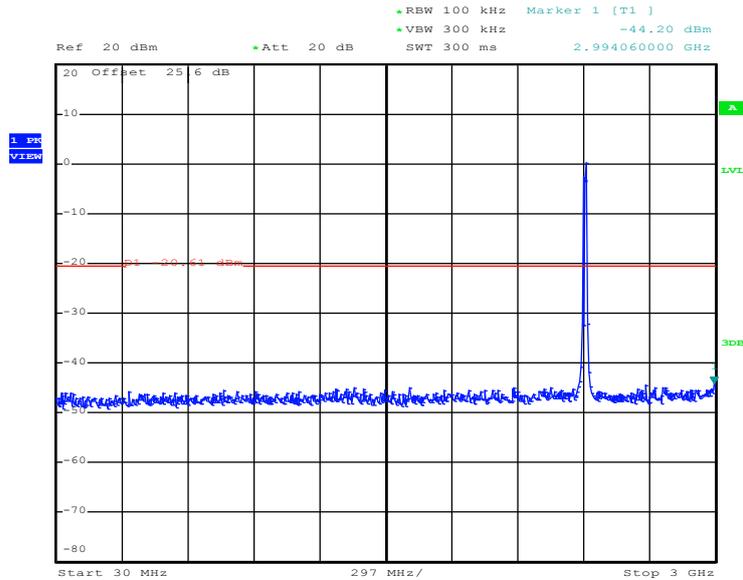
Date: 7.NOV.2012 21:38:38



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

2.4GHz 802.11n HT20 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01

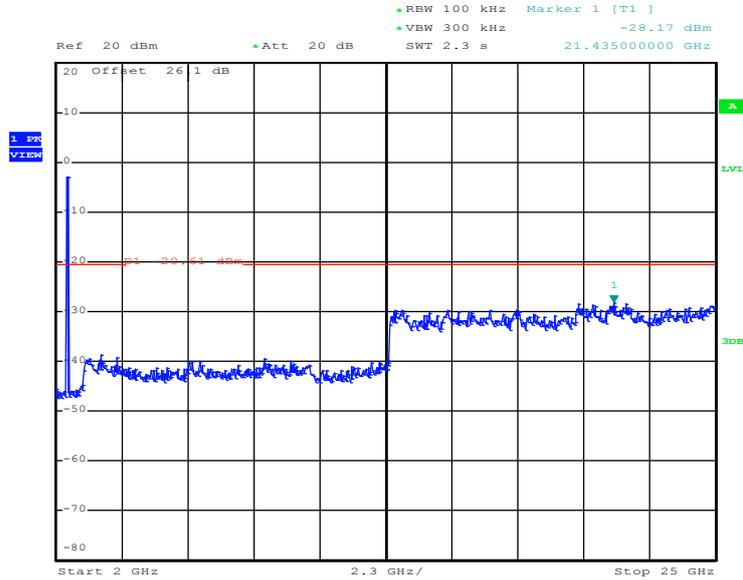


Date: 7.NOV.2012 21:50:42



2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01

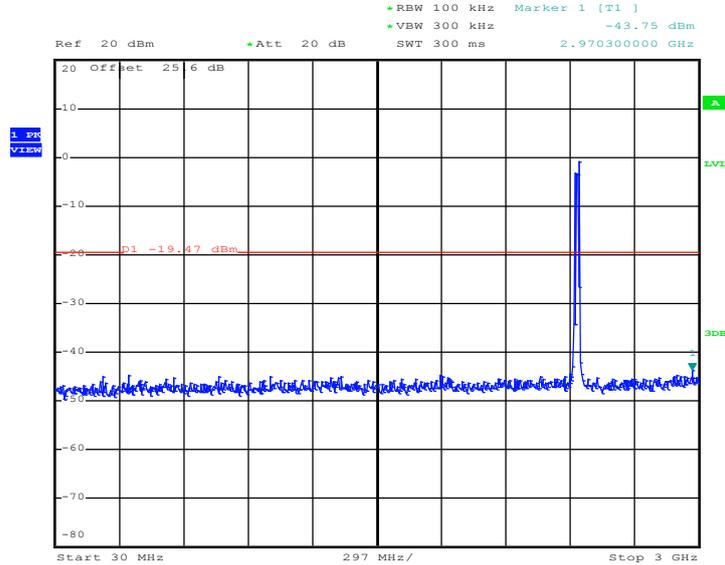


Date: 7.NOV.2012 21:51:00



2.4GHz 802.11n HT20 30 MHz~3 GHz

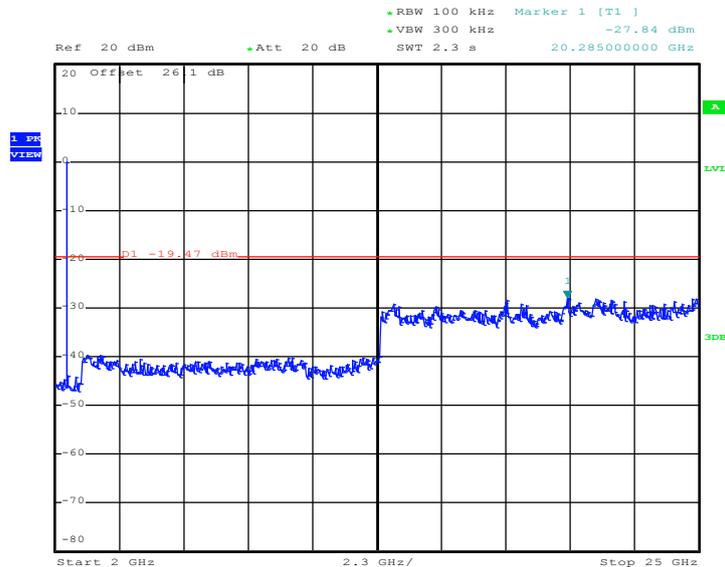
Conducted Spurious Emission Plot on Channel 06



Date: 7.NOV.2012 21:52:52

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

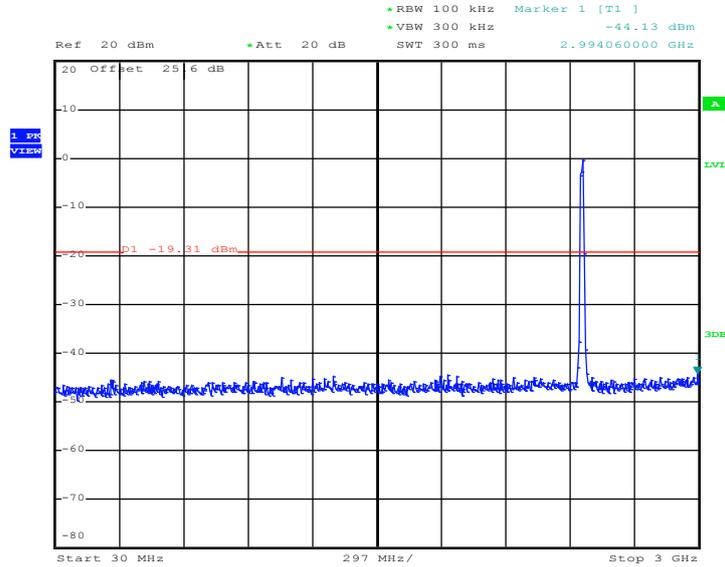


Date: 7.NOV.2012 21:53:10



2.4GHz 802.11n HT20 30 MHz~3 GHz

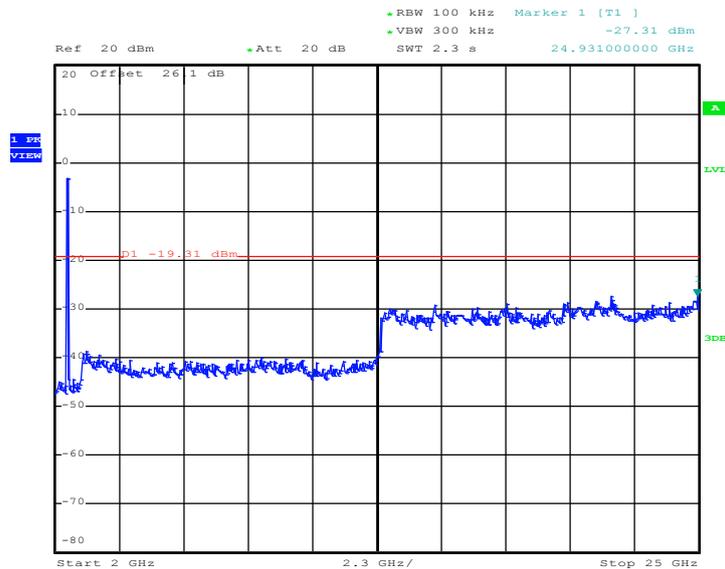
Conducted Spurious Emission Plot on Channel 11



Date: 7.NOV.2012 21:55:22

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



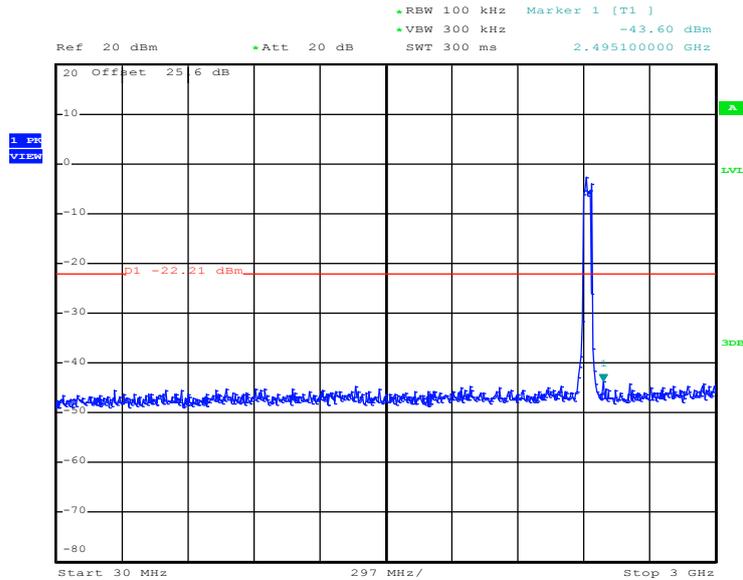
Date: 7.NOV.2012 21:55:39



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

2.4GHz 802.11n HT40 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 03

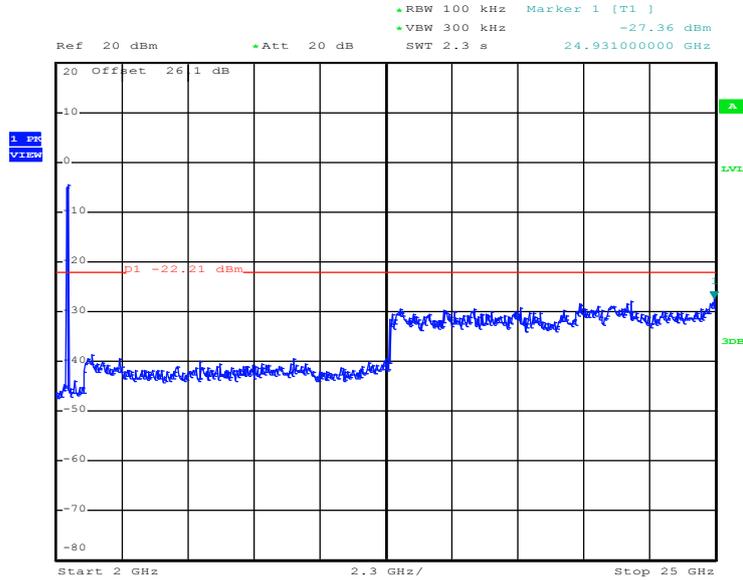


Date: 7.NOV.2012 22:01:38



2.4GHz 802.11n HT40 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 03

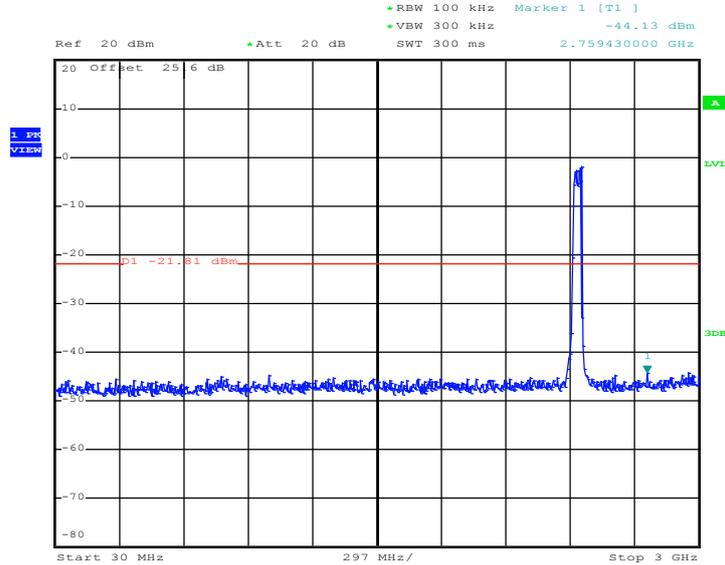


Date: 7.NOV.2012 22:01:56



2.4GHz 802.11n HT40 30 MHz~3 GHz

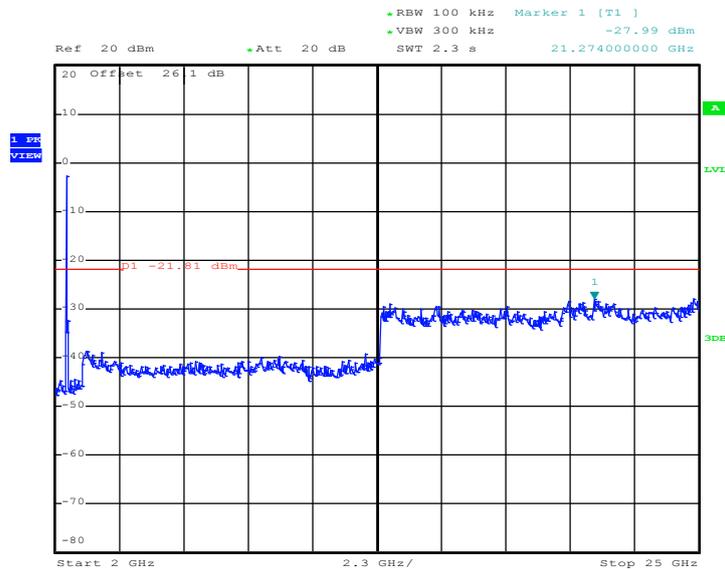
Conducted Spurious Emission Plot on Channel 06



Date: 7.NOV.2012 22:04:41

2.4GHz 802.11n HT40 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06

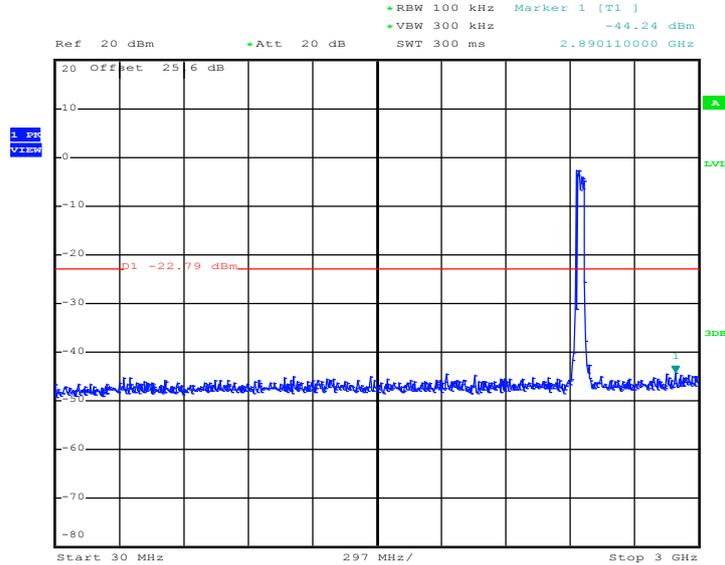


Date: 7.NOV.2012 22:04:58



2.4GHz 802.11n HT40 30 MHz~3 GHz

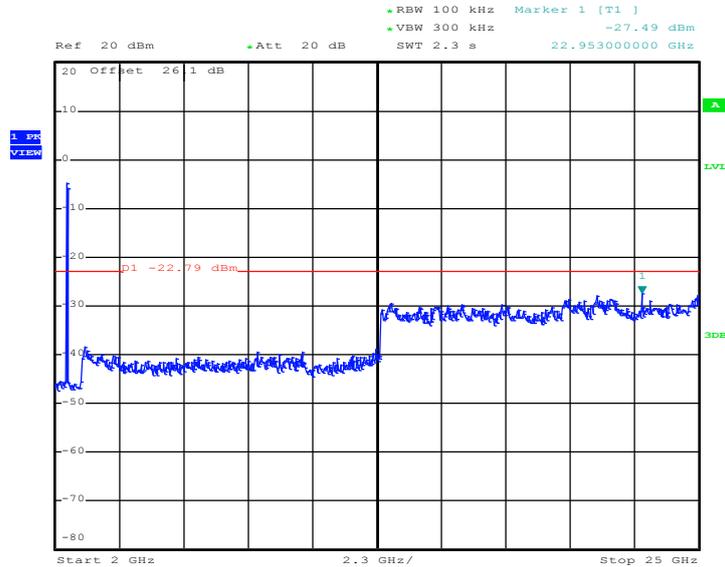
Conducted Spurious Emission Plot on Channel 09



Date: 7.NOV.2012 22:08:33

2.4GHz 802.11n HT40 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 09



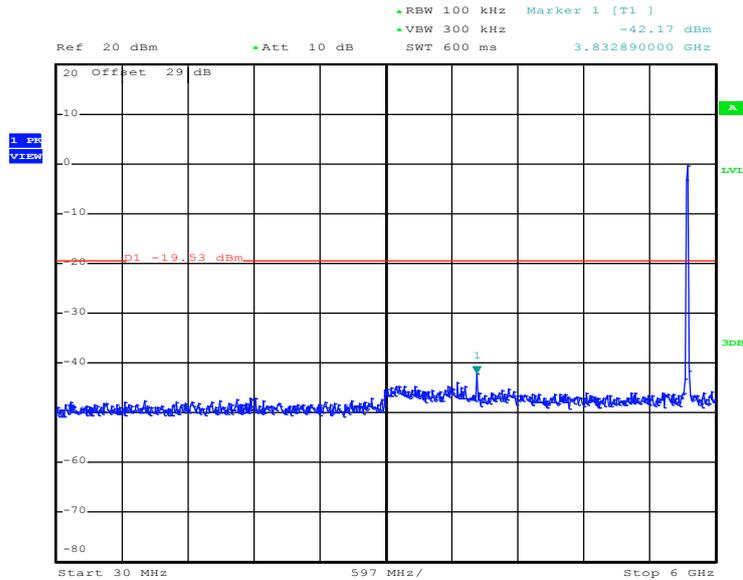
Date: 7.NOV.2012 22:08:50



Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Bill Kuo

802.11a 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149

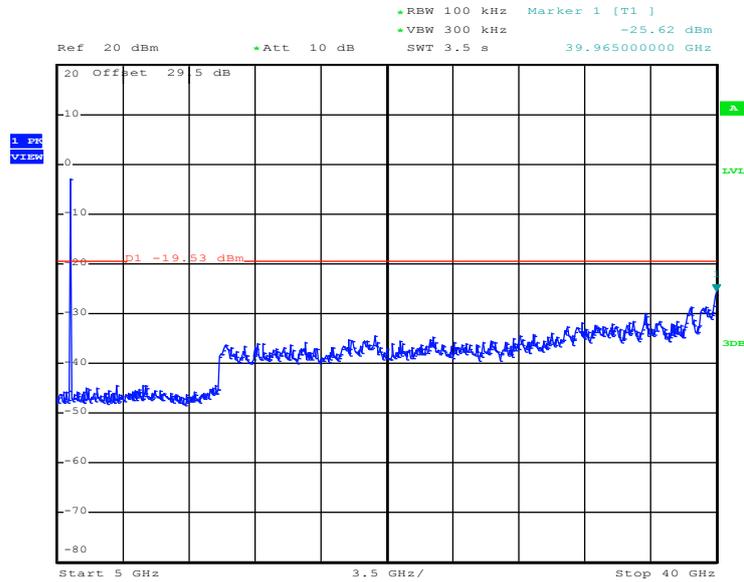


Date: 7.NOV.2012 22:21:21



802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 149

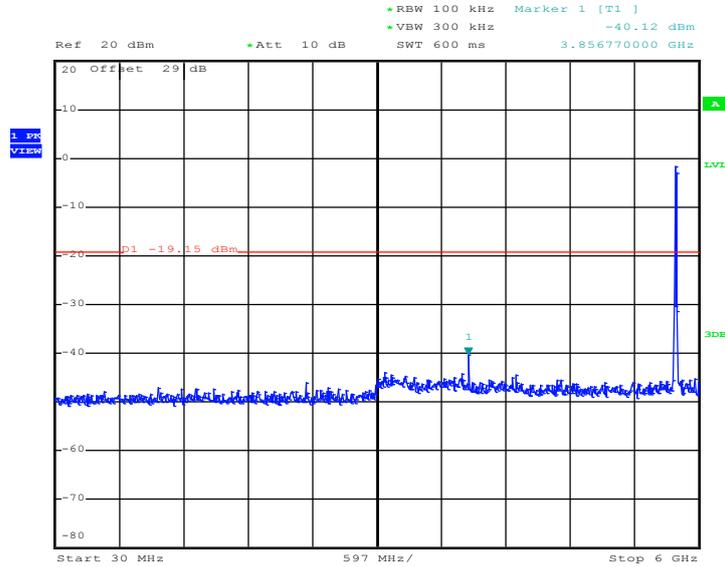


Date: 7.NOV.2012 22:21:38



802.11a 30 MHz~6 GHz

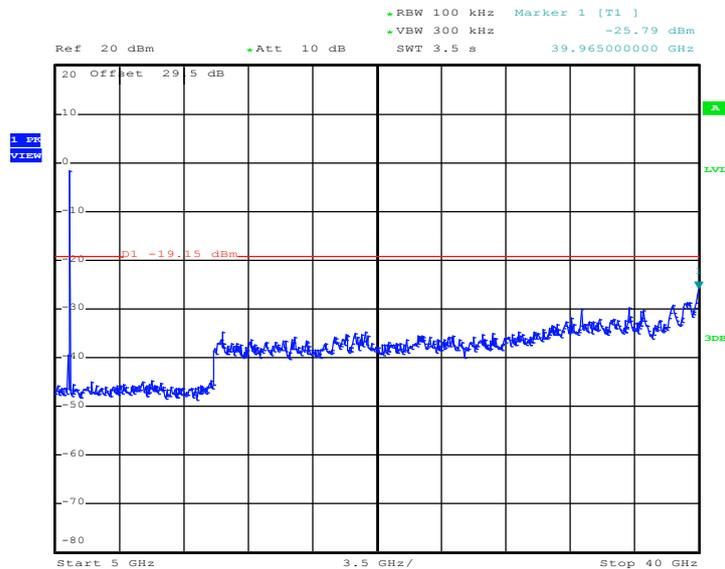
Conducted Spurious Emission Plot on Channel 157



Date: 7.NOV.2012 22:23:56

802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 157

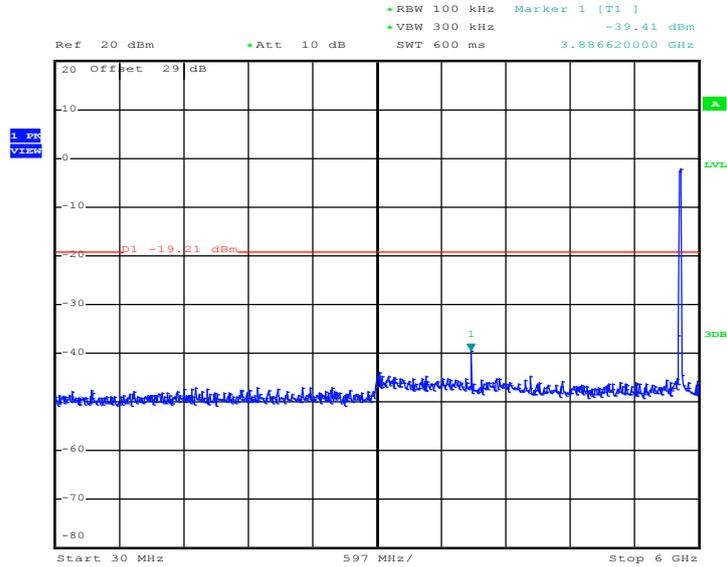


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802.11a 30 MHz~6 GHz

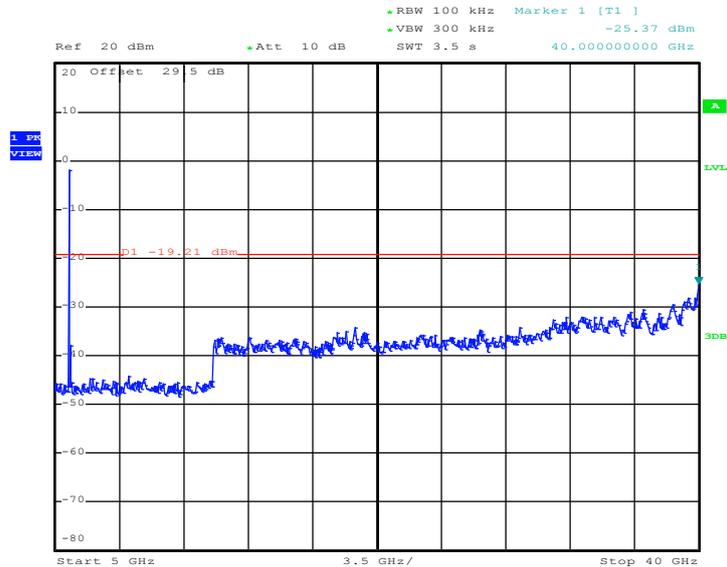
Conducted Spurious Emission Plot on Channel 165



Date: 7.NOV.2012 22:26:36

802.11a 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165



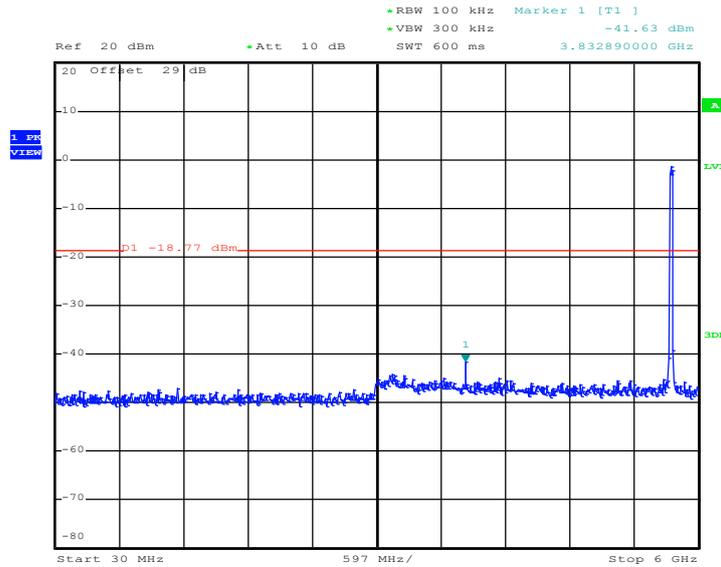
Date: 7.NOV.2012 22:26:54



Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	30MHz-5GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Bill Kuo

5GHz 802.11n HT20 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149

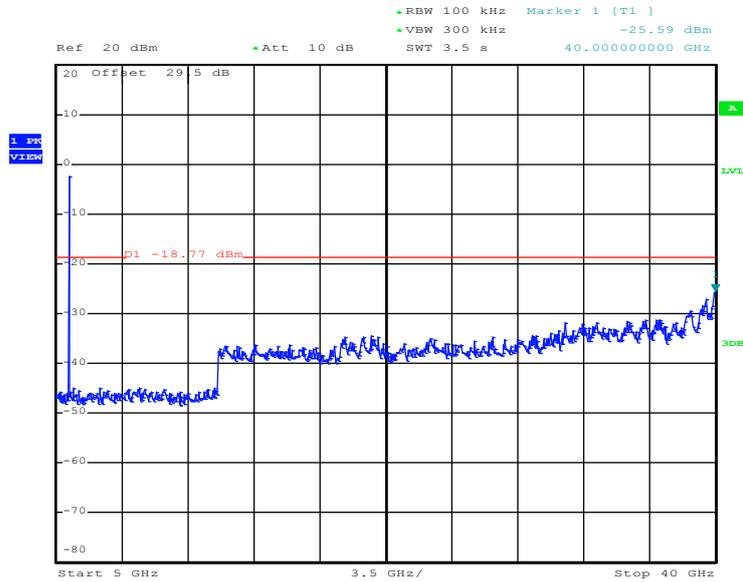


Date: 7.NOV.2012 22:37:14



5GHz 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 149

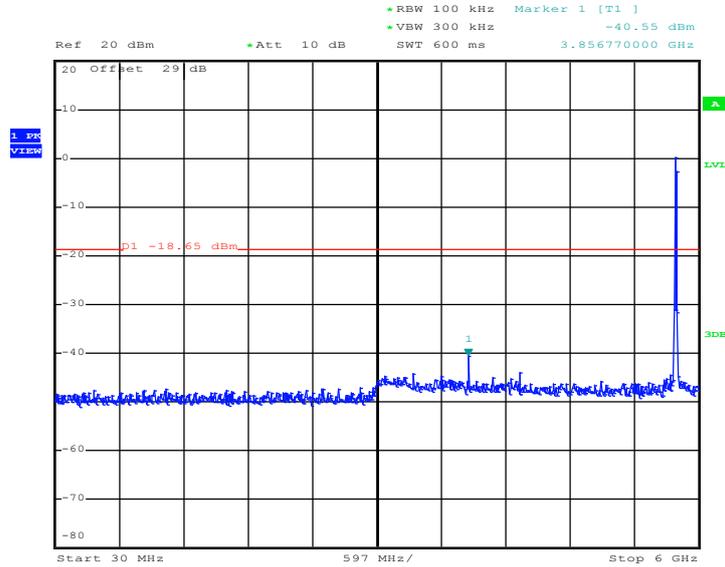


Date: 7.NOV.2012 22:37:31



5GHz 802.11n HT20 30 MHz~6 GHz

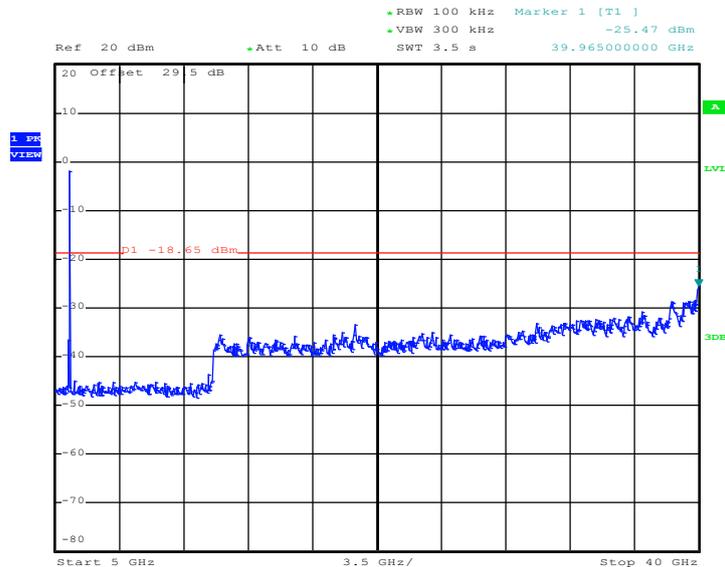
Conducted Spurious Emission Plot on Channel 157



Date: 7.NOV.2012 22:34:21

5GHz 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 157

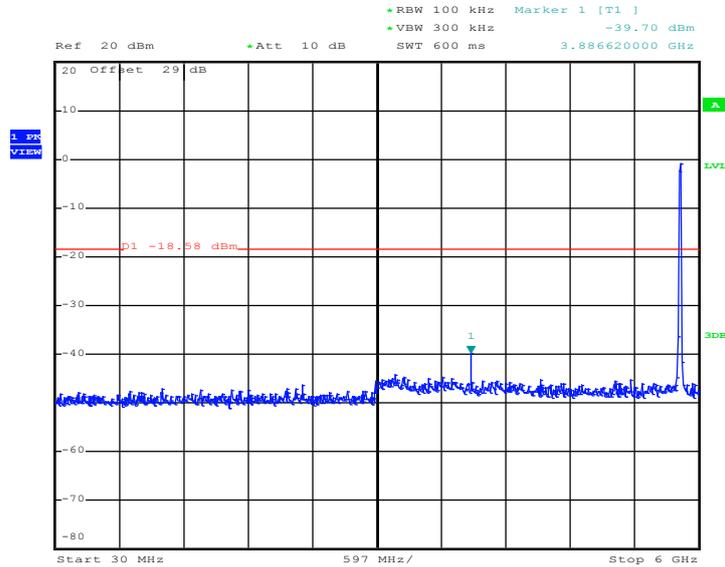


Date: 7.NOV.2012 22:34:39



5GHz 802.11n HT20 30 MHz~6 GHz

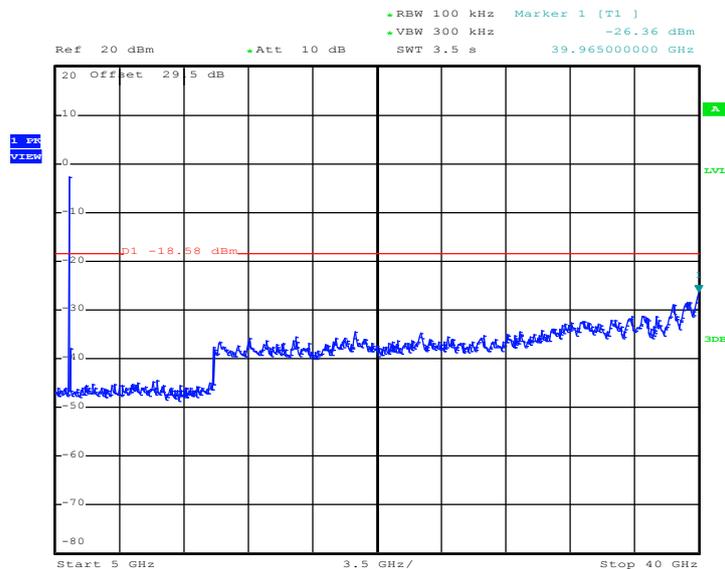
Conducted Spurious Emission Plot on Channel 165



Date: 7.NOV.2012 22:31:51

5GHz 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165



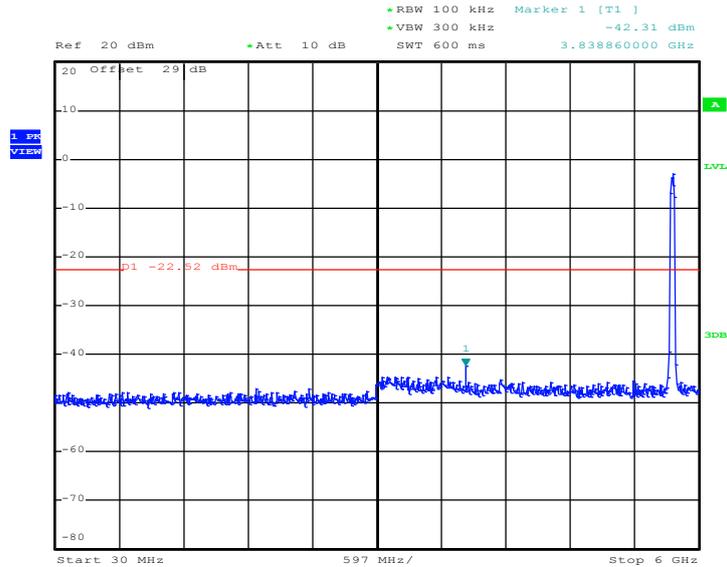
Date: 7.NOV.2012 22:32:08



Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Bill Kuo

5GHz 802.11n HT40 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 151

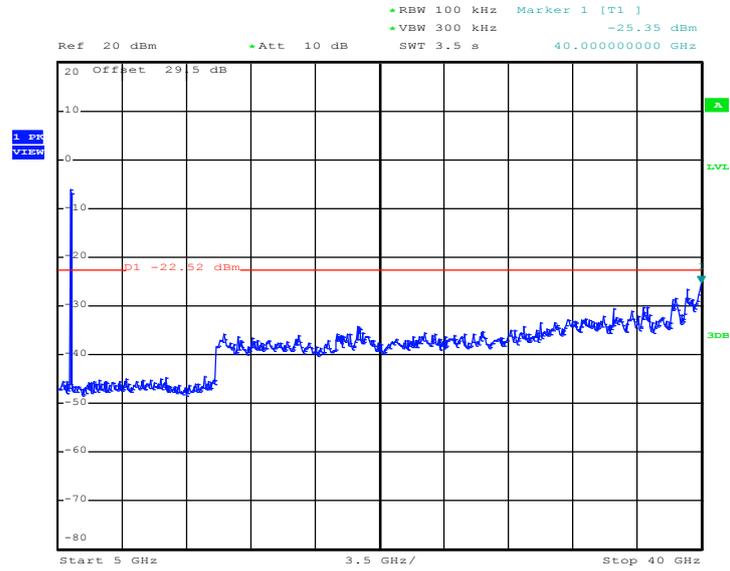


Date: 7.NOV.2012 22:14:50



5GHz 802.11n HT40 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 151

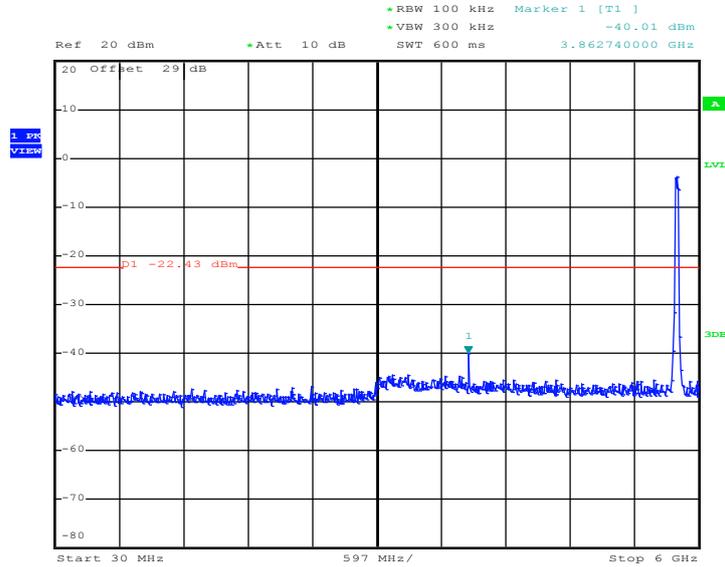


Date: 7.NOV.2012 22:15:07



5GHz 802.11n HT40 30 MHz~6 GHz

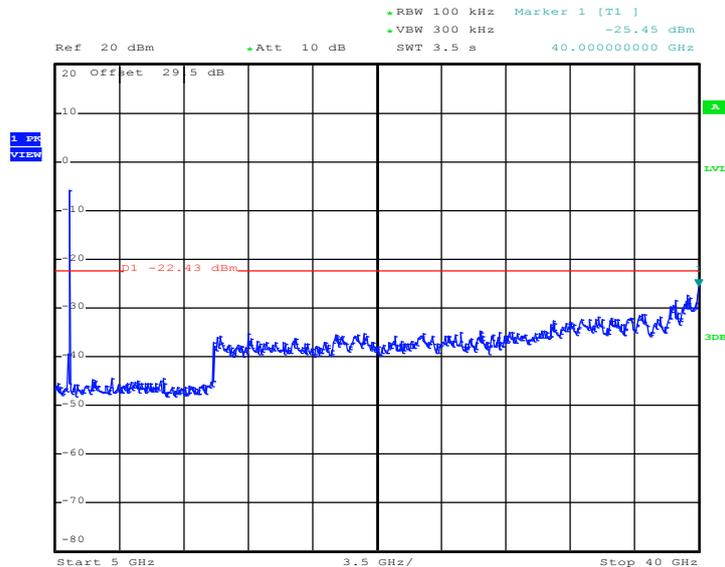
Conducted Spurious Emission Plot on Channel 159



Date: 7.NOV.2012 22:18:13

5GHz 802.11n HT40 5GHz~40 GHz

Conducted Spurious Emission Plot on Channel 159



Date: 7.NOV.2012 22:18:30

### 3.5 Radiated Band Edges and Spurious Emission Measurement

#### 3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

#### 3.5.2 Measuring Instruments

See list of measuring instruments of this test report.



3.5.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
  - (1) Span shall wide enough to fully capture the emission being measured;
  - (2) Set RBW=100 KHz for f < 1 GHz; VBW ≥ 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:

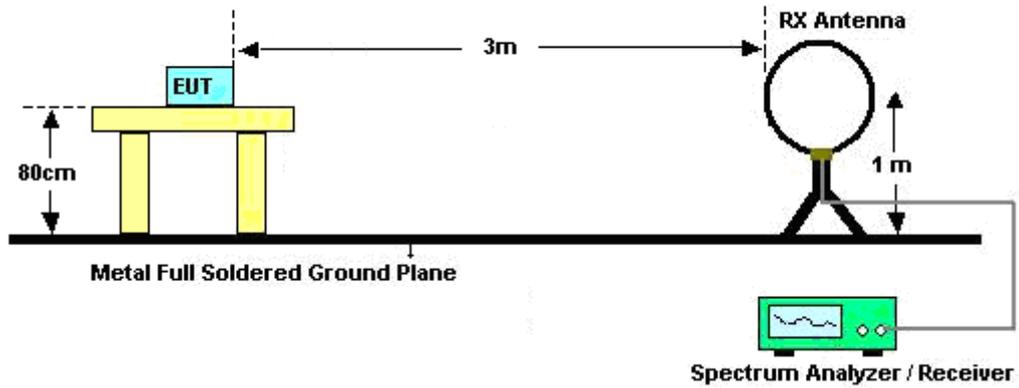
    - VBW = 10 Hz, when duty cycle is no less than 98 percent.
    - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(us)	1/T(KHz)	VBW Setting
802.11b	99.04	-	-	10Hz
802.11g	95.38	2065	0.484	1kHz
2.4GHz 802.11n HT20	95.05	1920	0.521	1kHz
2.4GHz 802.11n HT40	86.88	662	1.511	3kHz
802.11a	95.38	2065	0.484	1kHz
5GHz 802.11n HT20	95.05	1920	0.521	1kHz
5GHz 802.11n HT40	87.14	664	1.506	3kHz

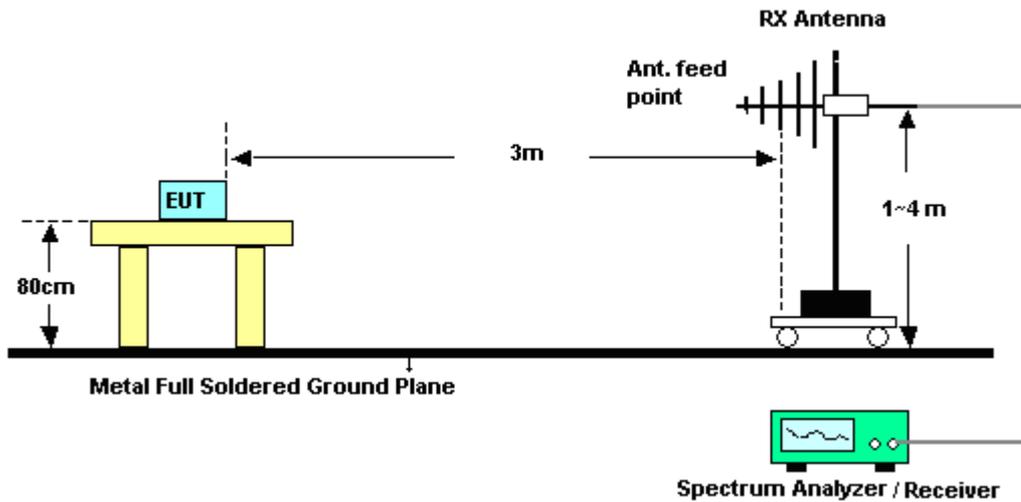
**Note:** For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

### 3.5.4 Test Setup

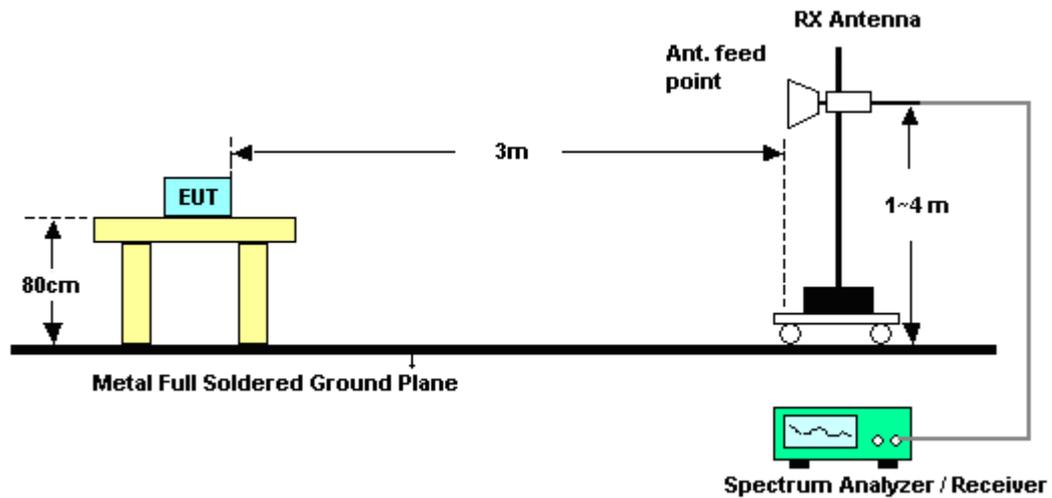
For radiated emissions below 30MHz



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

<Sample 1>

Test Mode :	802.11b	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	01	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2388.93	56.29	-17.71	74	55.41	32.18	4.58	35.88	106	254	Peak
2390.01	43.81	-10.19	54	42.91	32.18	4.58	35.86	106	254	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2388.48	52.75	-21.25	74	51.87	32.18	4.58	35.88	100	314	Peak
2388.66	40.12	-13.88	54	39.24	32.18	4.58	35.88	100	314	Average

Test Mode :	802.11b	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	11	Test Engineer :	David Ke

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
2486.04	57.81	-16.19	74	56.7	32.28	4.64	35.81	104	207	Peak
2485.68	43.73	-10.27	54	42.62	32.28	4.64	35.81	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
2484.42	52.5	-21.5	74	51.39	32.28	4.64	35.81	100	328	Peak
2485.74	37.99	-16.01	54	36.88	32.28	4.64	35.81	100	328	Average



Test Mode :	802.11g	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	01	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.74	66.04	-7.96	74	65.16	32.18	4.58	35.88	105	261	Peak
2390.00	47.99	-6.01	54	47.09	32.18	4.58	35.86	105	261	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390.00	58.34	-15.66	74	57.44	32.18	4.58	35.86	100	318	Peak
2390.00	43.4	-10.6	54	42.5	32.18	4.58	35.86	100	318	Average

Test Mode :	802.11g	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	11	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.7	65.68	-8.32	74	64.57	32.28	4.64	35.81	129	224	Peak
2483.52	47.29	-6.71	54	46.18	32.28	4.64	35.81	129	224	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.54	58.25	-15.75	74	57.14	32.28	4.64	35.81	100	319	Peak
2483.52	40.23	-13.77	54	39.12	32.28	4.64	35.81	100	319	Average



Test Mode :	802.11n HT20	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	01	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.83	64.12	-9.88	74	63.22	32.18	4.58	35.86	106	257	Peak
2390	46.87	-7.13	54	45.97	32.18	4.58	35.86	106	257	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
2389.92	57.58	-16.42	74	56.68	32.18	4.58	35.86	100	318	Peak
2390	41.97	-12.03	54	41.07	32.18	4.58	35.86	100	318	Average

Test Mode :	802.11n HT20	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	11	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.56	66.28	-7.72	74	65.17	32.28	4.64	35.81	106	262	Peak
2483.5	48.11	-5.89	54	47	32.28	4.64	35.81	106	262	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.86	60.35	-13.65	74	59.24	32.28	4.64	35.81	114	319	Peak
2483.5	43.38	-10.62	54	42.27	32.28	4.64	35.81	114	319	Average



Test Mode :	802.11n HT40	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	03	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390	65.19	-8.81	74	64.29	32.18	4.58	35.86	105	262	Peak
2389.56	49.84	-4.16	54	48.96	32.18	4.58	35.88	105	262	Average
2485.66	52.6	-21.4	74	51.49	32.28	4.64	35.81	105	262	Peak
2485.22	38.94	-15.06	54	37.83	32.28	4.64	35.81	105	262	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
2389.74	61.98	-12.02	74	61.1	32.18	4.58	35.88	100	320	Peak
2389.92	44.53	-9.47	54	43.63	32.18	4.58	35.86	100	320	Average
2485.34	48.47	-25.53	74	47.36	32.28	4.64	35.81	100	320	Peak
2484.38	34.94	-19.06	54	33.83	32.28	4.64	35.81	100	320	Average



Test Mode :	802.11n HT40	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	09	Test Engineer :	David Ke

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.02	49.5	-24.5	74	48.62	32.18	4.58	35.88	106	268	Peak
2389.11	38.28	-15.72	54	37.4	32.18	4.58	35.88	106	268	Average
2488.02	68.42	-5.58	74	67.29	32.3	4.64	35.81	106	268	Peak
2483.62	50.57	-3.43	54	49.46	32.28	4.64	35.81	106	268	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
2313.15	46.62	-27.38	74	45.94	32.07	4.53	35.92	118	317	Peak
2388.21	34.27	-19.73	54	33.39	32.18	4.58	35.88	118	317	Average
2483.54	63.44	-10.56	74	62.33	32.28	4.64	35.81	118	317	Peak
2483.56	46	-8	54	44.89	32.28	4.64	35.81	118	317	Average



Test Mode :	802.11a	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	149	Test Engineer :	David Ke

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
5725	58.03	-19.23	77.26	50.64	35.07	7.17	34.85	100	55	Peak
5745	86.73	-	-	79.3	35.09	7.19	34.85	100	55	Average
5745	97.26	-	-	89.83	35.09	7.19	34.85	100	55	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
5725	56.58	-19.23	75.81	49.19	35.07	7.17	34.85	103	268	Peak
5745	85.36	-	-	77.93	35.09	7.19	34.85	103	268	Average
5745	95.81	-	-	88.4	35.09	7.17	34.85	103	268	Peak

Test Mode :	802.11a	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	165	Test Engineer :	David Ke

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	87.82	-	-	80.23	35.19	7.27	34.87	100	336	Average
5825	97.85	-	-	90.28	35.17	7.27	34.87	100	336	Peak
5850	50.4	-27.45	77.85	42.77	35.21	7.29	34.87	100	336	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	86.55	-	-	78.96	35.19	7.27	34.87	102	266	Average
5825	96.66	-	-	89.07	35.19	7.27	34.87	102	266	Peak
5850	50.15	-26.51	76.66	42.52	35.21	7.29	34.87	102	266	Peak



Test Mode :	802.11n HT20	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	149	Test Engineer :	David Ke

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
5725	57.81	-20.04	77.85	50.42	35.07	7.17	34.85	100	336	Peak
5745	87.4	-	-	79.97	35.09	7.19	34.85	100	336	Average
5745	97.85	-	-	90.44	35.09	7.17	34.85	100	336	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
5725	55.41	-20.39	75.8	48.02	35.07	7.17	34.85	104	261	Peak
5745	85.55	-	-	78.12	35.09	7.19	34.85	104	261	Average
5745	95.8	-	-	88.37	35.09	7.19	34.85	104	261	Peak

Test Mode :	802.11n HT20	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	165	Test Engineer :	David Ke

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	87.16	-	-	79.57	35.19	7.27	34.87	100	338	Average
5825	97.34	-	-	89.77	35.17	7.27	34.87	100	338	Peak
5850	51.64	-25.7	77.34	44.01	35.21	7.29	34.87	100	338	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	85.95	-	-	78.36	35.19	7.27	34.87	103	266	Average
5825	96.18	-	-	88.61	35.17	7.27	34.87	103	266	Peak
5850	50.94	-25.24	76.18	43.31	35.21	7.29	34.87	103	266	Peak



Test Mode :	802.11n HT40	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	151	Test Engineer :	David Ke

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
5725	61.87	-12.7	74.57	54.48	35.07	7.17	34.85	100	335	Peak
5755	84.47	-	-	77.02	35.11	7.19	34.85	100	335	Average
5755	94.57	-	-	87.12	35.11	7.19	34.85	100	335	Peak
5850	49.5	-25.07	74.57	41.87	35.21	7.29	34.87	100	335	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
5725	59.27	-14.23	73.5	51.88	35.07	7.17	34.85	103	259	Peak
5755	83.78	-	-	76.33	35.11	7.19	34.85	103	259	Average
5755	93.5	-	-	86.07	35.09	7.19	34.85	103	259	Peak
5850	49.46	-24.04	73.5	41.83	35.21	7.29	34.87	103	259	Peak



Test Mode :	802.11n HT40	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	159	Test Engineer :	David Ke

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
5725	49.86	-24.72	74.58	42.47	35.07	7.17	34.85	100	335	Peak
5795	84.73	-	-	77.2	35.15	7.24	34.86	100	335	Average
5795	94.58	-	-	87.08	35.13	7.22	34.85	100	335	Peak
5850	50.54	-24.04	74.58	42.91	35.21	7.29	34.87	100	335	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
5725	49.56	-23.38	72.94	42.17	35.07	7.17	34.85	103	276	Peak
5795	82.58	-	-	75.05	35.15	7.24	34.86	103	276	Average
5795	92.94	-	-	85.45	35.13	7.22	34.86	103	276	Peak
5850	48.92	-24.02	72.94	41.29	35.21	7.29	34.87	103	276	Peak



<Sample 2>

Test Mode :	802.11n HT40	Temperature :	22~25°C
Test Band :	High	Relative Humidity :	52~57%
Test Channel :	09	Test Engineer :	David Ke

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
2386.86	50.3	-23.7	74	49.42	32.18	4.58	35.88	104	215	Peak
2389.11	38.88	-15.12	54	38	32.18	4.58	35.88	104	215	Average
2488.24	70.49	-3.51	74	69.36	32.3	4.64	35.81	104	215	Peak
2483.84	52.18	-1.82	54	51.07	32.28	4.64	35.81	104	215	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2388.12	48.47	-25.53	74	47.59	32.18	4.58	35.88	100	330	Peak
2389.47	37.33	-16.67	54	36.45	32.18	4.58	35.88	100	330	Average
2487.86	62.94	-11.06	74	61.81	32.3	4.64	35.81	100	330	Peak
2483.58	45.24	-8.76	54	44.13	32.28	4.64	35.81	100	330	Average



Test Mode :	802.11n HT40	Temperature :	22~25°C
Test Band :	Low	Relative Humidity :	52~57%
Test Channel :	151	Test Engineer :	David Ke

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
5725	64.11	-13.31	77.42	56.72	35.07	7.17	34.85	125	123	Peak
5755	87.22	-	-	79.77	35.11	7.19	34.85	125	123	Average
5755	97.42	-	-	89.97	35.11	7.19	34.85	125	123	Peak
5850	50.75	-26.67	77.42	43.12	35.21	7.29	34.87	125	123	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
5725	59.1	-13.16	72.26	51.71	35.07	7.17	34.85	100	348	Peak
5755	82.47	-	-	75.02	35.11	7.19	34.85	100	348	Average
5755	92.26	-	-	84.85	35.09	7.17	34.85	100	348	Peak
5850	50.47	-21.79	72.26	42.84	35.21	7.29	34.87	100	348	Peak



3.5.7 Test Result of Radiated Emission (30MHz ~ 10<sup>th</sup> Harmonic)

<Sample 1>

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
47.28	23.63	-16.37	40	44.52	9.8	0.79	31.48	-	-	Peak
150.15	29.25	-14.25	43.5	47.93	11.3	1.27	31.25	145	182	Peak
221.97	24.85	-21.15	46	44.8	9.44	1.55	30.94	-	-	Peak
314	18.35	-27.65	46	34.11	13.34	1.81	30.91	-	-	Peak
577.9	21.19	-24.81	46	29.76	19.74	2.38	30.69	-	-	Peak
782.3	24.6	-21.4	46	29.69	22.05	2.8	29.94	-	-	Peak
2412	104.74	-	-	103.81	32.2	4.59	35.86	106	254	Average
2412	109.49	-	-	108.56	32.2	4.59	35.86	106	254	Peak
3618	45.58	-28.42	74	66.14	32.87	5.76	59.19	100	0	Peak



<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
46.47	36.59	-3.41	40	57.08	10.23	0.78	31.5	103	92	Peak
107.49	25.93	-17.57	43.5	45.75	10.58	1.13	31.53	-	-	Peak
152.58	23.44	-20.06	43.5	42.21	11.18	1.29	31.24	-	-	Peak
414.8	18.43	-27.57	46	31.18	16.3	2.05	31.1	-	-	Peak
617.8	22.05	-23.95	46	29.65	20.22	2.48	30.3	-	-	Peak
839.7	25.21	-20.79	46	28.82	23.2	2.9	29.71	-	-	Peak
2412	100.97	-	-	100.04	32.2	4.59	35.86	100	314	Average
2412	105.71	-	-	104.78	32.2	4.59	35.86	100	314	Peak
3618	44.65	-29.35	74	65.21	32.87	5.76	59.19	100	0	Peak



<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	103.83	-	-	102.82	32.24	4.61	35.84	107	275	Average
2437	108.42	-	-	107.43	32.22	4.61	35.84	107	275	Peak
3654	45.55	-28.45	74	66.11	32.92	5.78	59.26	100	0	Peak

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	99.23	-	-	98.22	32.24	4.61	35.84	100	316	Average
2437	103.96	-	-	102.95	32.24	4.61	35.84	100	316	Peak
3654	40.73	-33.27	74	61.29	32.92	5.78	59.26	100	0	Peak



<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	103.22	-	-	102.17	32.26	4.62	35.83	104	207	Average
2462	108.12	-	-	107.07	32.26	4.62	35.83	104	207	Peak
3690	43.21	-30.79	74	63.77	32.97	5.8	59.33	100	0	Peak

<b>Test Mode :</b>	802.11b	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	99.14	-	-	98.09	32.26	4.62	35.83	100	328	Average
2462	104.05	-	-	103	32.26	4.62	35.83	100	328	Peak
3690	39.25	-34.75	74	59.81	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
46.74	24.43	-15.57	40	44.92	10.23	0.78	31.5	-	-	Peak
151.5	27.87	-15.63	43.5	46.59	11.24	1.28	31.24	131	175	Peak
224.4	25.07	-20.93	46	44.87	9.58	1.56	30.94	-	-	Peak
325.2	19.14	-26.86	46	34.76	13.5	1.84	30.96	-	-	Peak
569.5	20.9	-25.1	46	29.42	19.93	2.36	30.81	-	-	Peak
750.8	24.52	-21.48	46	29.86	22.1	2.75	30.19	-	-	Peak
2412	97.26	-	-	96.33	32.2	4.59	35.86	105	261	Average
2412	107	-	-	106.03	32.22	4.59	35.84	105	261	Peak
3618	47.45	-26.55	74	68.01	32.87	5.76	59.19	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
46.74	36.77	-3.23	40	57.26	10.23	0.78	31.5	105	325	Peak
106.68	26.63	-16.87	43.5	46.51	10.52	1.12	31.52	-	-	Peak
152.85	23.22	-20.28	43.5	42.05	11.12	1.29	31.24	-	-	Peak
424.6	18.15	-27.85	46	30.51	16.6	2.08	31.04	-	-	Peak
641.6	23.06	-22.94	46	30.28	20.38	2.56	30.16	-	-	Peak
842.5	26.73	-19.27	46	30.3	23.23	2.91	29.71	-	-	Peak
2412	91.23	-	-	90.3	32.2	4.59	35.86	100	318	Average
2412	101.21	-	-	100.28	32.2	4.59	35.86	100	318	Peak
3618	43.65	-30.35	74	64.21	32.87	5.76	59.19	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	95.11	-	-	94.1	32.24	4.61	35.84	105	222	Average
2437	106.5	-	-	105.51	32.22	4.61	35.84	105	222	Peak
3654	45.84	-28.16	74	66.4	32.92	5.78	59.26	100	0	Peak

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	90.01	-	-	89	32.24	4.61	35.84	100	5	Average
2437	100.34	-	-	99.33	32.24	4.61	35.84	100	5	Peak
3654	40.99	-33.01	74	61.55	32.92	5.78	59.26	100	0	Peak



<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	94.78	-	-	93.73	32.26	4.62	35.83	129	224	Average
2462	105.31	-	-	104.26	32.26	4.62	35.83	129	224	Peak
3690	43.52	-30.48	74	64.08	32.97	5.8	59.33	100	0	Peak

<b>Test Mode :</b>	802.11g	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	88.39	-	-	87.34	32.26	4.62	35.83	100	319	Average
2462	99.05	-	-	98	32.26	4.62	35.83	100	319	Peak
3690	39.57	-34.43	74	60.13	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	94.79	-	-	93.86	32.2	4.59	35.86	106	257	Average
2412	104.21	-	-	103.24	32.22	4.59	35.84	106	257	Peak
3618	47.11	-26.89	74	67.67	32.87	5.76	59.19	100	0	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2412	89.94	-	-	89.01	32.2	4.59	35.86	100	318	Average
2412	100.54	-	-	99.61	32.2	4.59	35.86	100	318	Peak
3618	44.92	-29.08	74	65.48	32.87	5.76	59.19	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	93.37	-	-	92.36	32.24	4.61	35.84	105	269	Average
2437	103.71	-	-	102.72	32.22	4.61	35.84	105	269	Peak
3654	46.04	-27.96	74	66.6	32.92	5.78	59.26	100	0	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	89.63	-	-	88.62	32.24	4.61	35.84	118	317	Average
2437	99.9	-	-	98.88	32.24	4.61	35.83	118	317	Peak
3654	42.17	-31.83	74	62.73	32.92	5.78	59.26	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
47.01	24.38	-15.62	40	45.27	9.8	0.79	31.48	121	302	Peak
151.23	27.79	-15.71	43.5	46.52	11.24	1.28	31.25	-	-	Peak
222.24	25.42	-20.58	46	45.37	9.44	1.55	30.94	-	-	Peak
321	18.92	-27.08	46	34.58	13.42	1.83	30.91	-	-	Peak
605.9	21.94	-24.06	46	30.05	19.82	2.44	30.37	-	-	Peak
780.9	25.45	-20.55	46	30.53	22.08	2.8	29.96	-	-	Peak
2462	93.95	-	-	92.9	32.26	4.62	35.83	106	262	Average
2462	104.15	-	-	103.1	32.26	4.62	35.83	106	262	Peak
3690	43.14	-30.86	74	63.7	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
47.01	36.68	-3.32	40	57.57	9.8	0.79	31.48	100	306	Peak
102.9	27.3	-16.2	43.5	47.5	10.16	1.11	31.47	-	-	Peak
152.85	24.38	-19.12	43.5	43.21	11.12	1.29	31.24	-	-	Peak
415.5	19.08	-26.92	46	31.82	16.3	2.05	31.09	-	-	Peak
608.7	21.53	-24.47	46	29.55	19.88	2.45	30.35	-	-	Peak
827.8	24.91	-21.09	46	29.01	22.76	2.88	29.74	-	-	Peak
2462	89.72	-	-	88.67	32.26	4.62	35.83	114	319	Average
2462	99.75	-	-	98.68	32.26	4.62	35.81	114	319	Peak
3690	40.03	-33.97	74	60.59	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2422 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2422	91.85	-	-	90.88	32.22	4.59	35.84	105	262	Average
2422	101.47	-	-	100.48	32.22	4.61	35.84	105	262	Peak
3630	46.36	-27.64	74	66.93	32.89	5.77	59.23	100	0	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2422 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2422	87.48	-	-	86.51	32.22	4.59	35.84	100	320	Average
2422	97.29	-	-	96.36	32.2	4.59	35.86	100	320	Peak
3630	43.46	-30.54	74	64.03	32.89	5.77	59.23	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	91.3	-	-	90.29	32.24	4.61	35.84	107	261	Average
2437	101.09	-	-	100.12	32.22	4.59	35.84	107	261	Peak
3654	45.57	-28.43	74	66.13	32.92	5.78	59.26	100	0	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	86.38	-	-	85.37	32.24	4.61	35.84	118	320	Average
2437	96.26	-	-	95.24	32.24	4.61	35.83	118	320	Peak
3654	42.75	-31.25	74	63.31	32.92	5.78	59.26	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
47.55	23.96	-16.04	40	44.85	9.8	0.79	31.48	-	-	Peak
152.31	27.91	-15.59	43.5	46.68	11.18	1.29	31.24	132	278	Peak
228.45	24.72	-21.28	46	44.13	9.93	1.58	30.92	-	-	Peak
328	18.59	-27.41	46	34.18	13.56	1.85	31	-	-	Peak
545	20.92	-25.08	46	30.56	19.05	2.32	31.01	-	-	Peak
771.8	24.66	-21.34	46	29.8	22.1	2.79	30.03	-	-	Peak
2452	92.13	-	-	91.11	32.24	4.61	35.83	106	268	Average
2452	101.31	-	-	100.32	32.22	4.61	35.84	106	268	Peak
3678	44.15	-29.85	74	64.71	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
47.28	36.81	-3.19	40	57.7	9.8	0.79	31.48	100	302	Peak
105.87	24.42	-19.08	43.5	44.35	10.46	1.12	31.51	-	-	Peak
155.01	23.58	-19.92	43.5	42.51	11	1.31	31.24	-	-	Peak
327.3	16.88	-29.12	46	32.48	13.54	1.84	30.98	-	-	Peak
557.6	20.39	-25.61	46	28.93	20.08	2.34	30.96	-	-	Peak
776	24.56	-21.44	46	29.67	22.1	2.79	30	-	-	Peak
2452	86.13	-	-	85.11	32.24	4.61	35.83	118	317	Average
2452	96.39	-	-	95.37	32.24	4.61	35.83	118	317	Peak
3678	42.44	-31.56	74	63	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31.		

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
47.01	24.61	-15.39	40	45.5	9.8	0.79	31.48	-	-	Peak
152.04	28.18	-15.32	43.5	46.95	11.18	1.29	31.24	141	200	Peak
222.51	24.97	-21.03	46	44.92	9.44	1.55	30.94	-	-	Peak
329.4	18.48	-27.52	46	34.04	13.6	1.85	31.01	-	-	Peak
628.3	22.61	-23.39	46	29.95	20.38	2.52	30.24	-	-	Peak
842.5	25.67	-20.33	46	29.24	23.23	2.91	29.71	-	-	Peak
5745	86.73	-	-	79.3	35.09	7.19	34.85	100	55	Average
5745	97.26	-	-	89.83	35.09	7.19	34.85	100	55	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31.		

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
46.47	36.86	-3.14	40	57.35	10.23	0.78	31.5	100	174	Peak
106.68	24.29	-19.21	43.5	44.17	10.52	1.12	31.52	-	-	Peak
150.69	23.34	-20.16	43.5	42.02	11.3	1.27	31.25	-	-	Peak
433	19.36	-26.64	46	31.51	16.75	2.1	31	-	-	Peak
633.9	22.46	-23.54	46	29.72	20.4	2.54	30.2	-	-	Peak
839	25.69	-20.31	46	29.34	23.17	2.9	29.72	-	-	Peak
5745	85.36	-	-	77.93	35.09	7.19	34.85	103	268	Average
5745	95.81	-	-	88.4	35.09	7.17	34.85	103	268	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
5785	87.1	-	-	79.61	35.13	7.22	34.86	100	330	Average
5785	97.99	-	-	90.46	35.15	7.24	34.86	100	330	Peak

<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
5785	85.64	-	-	78.15	35.13	7.22	34.86	103	266	Average
5785	95.97	-	-	88.47	35.13	7.22	34.85	103	266	Peak



<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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	87.82	-	-	80.23	35.19	7.27	34.87	100	336	Average
5825	97.85	-	-	90.28	35.17	7.27	34.87	100	336	Peak

<b>Test Mode :</b>	802.11a	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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	86.55	-	-	78.96	35.19	7.27	34.87	102	266	Average
5825	96.66	-	-	89.07	35.19	7.27	34.87	102	266	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
47.01	23.94	-16.06	40	44.83	9.8	0.79	31.48	-	-	Peak
153.93	28.29	-15.21	43.5	47.17	11.06	1.3	31.24	136	317	Peak
220.89	24.46	-21.54	46	44.5	9.37	1.54	30.95	-	-	Peak
328.7	19.51	-26.49	46	35.08	13.58	1.85	31	-	-	Peak
553.4	20.72	-25.28	46	29.55	19.84	2.34	31.01	-	-	Peak
770.4	24.33	-21.67	46	29.48	22.1	2.78	30.03	-	-	Peak
5745	87.4	-	-	79.97	35.09	7.19	34.85	100	336	Average
5745	97.85	-	-	90.44	35.09	7.17	34.85	100	336	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
46.74	36.74	-3.26	40	57.23	10.23	0.78	31.5	100	337	Peak
107.22	27.1	-16.4	43.5	46.91	10.58	1.13	31.52	-	-	Peak
153.39	24.04	-19.46	43.5	42.87	11.12	1.29	31.24	-	-	Peak
423.2	19.4	-26.6	46	31.82	16.56	2.07	31.05	-	-	Peak
641.6	22.51	-23.49	46	29.73	20.38	2.56	30.16	-	-	Peak
817.3	24.85	-21.15	46	29.42	22.34	2.86	29.77	-	-	Peak
5745	85.55	-	-	78.12	35.09	7.19	34.85	104	261	Average
5745	95.8	-	-	88.37	35.09	7.19	34.85	104	261	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
5785	87.27	-	-	79.78	35.13	7.22	34.86	100	335	Average
5785	97.76	-	-	90.23	35.15	7.24	34.86	100	335	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
5785	85.61	-	-	78.12	35.13	7.22	34.86	103	274	Average
5785	95.8	-	-	88.27	35.15	7.24	34.86	103	274	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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	87.16	-	-	79.57	35.19	7.27	34.87	100	338	Average
5825	97.34	-	-	89.77	35.17	7.27	34.87	100	338	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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	85.95	-	-	78.36	35.19	7.27	34.87	103	266	Average
5825	96.18	-	-	88.61	35.17	7.27	34.87	103	266	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5755 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
47.01	24.01	-15.99	40	44.9	9.8	0.79	31.48	-	-	Peak
151.5	27.84	-15.66	43.5	46.56	11.24	1.28	31.24	125	276	Peak
225.21	24.83	-21.17	46	44.56	9.65	1.56	30.94	-	-	Peak
318.9	18.71	-27.29	46	34.39	13.39	1.83	30.9	-	-	Peak
524	19.85	-26.15	46	30.25	18.14	2.28	30.82	-	-	Peak
782.3	23.99	-22.01	46	29.08	22.05	2.8	29.94	-	-	Peak
5755	84.47	-	-	77.02	35.11	7.19	34.85	100	335	Average
5755	94.57	-	-	87.12	35.11	7.19	34.85	100	335	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5755 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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
47.01	36.64	-3.36	40	57.53	9.8	0.79	31.48	100	350	Peak
107.22	24.91	-18.59	43.5	44.72	10.58	1.13	31.52	-	-	Peak
152.31	23.3	-20.2	43.5	42.07	11.18	1.29	31.24	-	-	Peak
332.2	16.71	-29.29	46	32.18	13.71	1.86	31.04	-	-	Peak
584.2	21.28	-24.72	46	29.83	19.66	2.39	30.6	-	-	Peak
752.2	24.2	-21.8	46	29.53	22.1	2.75	30.18	-	-	Peak
5755	83.78	-	-	76.33	35.11	7.19	34.85	103	259	Average
5755	93.5	-	-	86.07	35.09	7.19	34.85	103	259	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5795 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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	84.73	-	-	77.2	35.15	7.24	34.86	100	335	Average
5795	94.58	-	-	87.08	35.13	7.22	34.85	100	335	Peak

<b>Test Mode :</b>	5GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5795 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

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	82.58	-	-	75.05	35.15	7.24	34.86	103	276	Average
5795	92.94	-	-	85.45	35.13	7.22	34.86	103	276	Peak



<Sample 2>

<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
30	21.35	-18.65	40	33.59	18.7	0.7	31.64	-	-	Peak
112.35	26.69	-16.81	43.5	46.17	10.85	1.16	31.49	122	314	Peak
233.04	23.88	-22.12	46	42.86	10.36	1.59	30.93	-	-	Peak
326.6	19.16	-26.84	46	34.75	13.54	1.84	30.97	-	-	Peak
550.6	20.27	-25.73	46	29.33	19.66	2.33	31.05	-	-	Peak
765.5	24.41	-21.59	46	29.62	22.1	2.77	30.08	-	-	Peak
2452	91.79	-	-	90.77	32.24	4.61	35.83	104	215	Average
2452	101.46	-	-	100.44	32.24	4.61	35.83	104	215	Peak
3678	49	-25	74	69.56	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
34.32	34.08	-5.92	40	48.44	16.54	0.73	31.63	100	92	Peak
48.36	33.11	-6.89	40	54.39	9.37	0.8	31.45	-	-	Peak
111	30.57	-12.93	43.5	50.15	10.8	1.15	31.53	-	-	Peak
421.8	16.96	-29.04	46	29.4	16.54	2.07	31.05	-	-	Peak
634.6	21.74	-24.26	46	29	20.4	2.54	30.2	-	-	Peak
766.9	23.89	-22.11	46	29.07	22.1	2.78	30.06	-	-	Peak
2452	85.27	-	-	84.25	32.24	4.61	35.83	100	330	Average
2452	95.13	-	-	94.11	32.24	4.61	35.83	100	330	Peak
3678	44.75	-29.25	74	65.31	32.97	5.8	59.33	100	0	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5755 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31.		

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
31.62	21.32	-18.68	40	34.62	17.62	0.72	31.64	-	-	Peak
112.35	27.55	-15.95	43.5	47.03	10.85	1.16	31.49	130	226	Peak
231.42	24.71	-21.29	46	43.81	10.24	1.59	30.93	-	-	Peak
318.2	18.73	-27.27	46	34.43	13.38	1.82	30.9	-	-	Peak
544.3	19.47	-26.53	46	29.22	18.94	2.32	31.01	-	-	Peak
765.5	23.47	-22.53	46	28.68	22.1	2.77	30.08	-	-	Peak
5755	87.22	-	-	79.77	35.11	7.19	34.85	125	123	Average
5755	97.42	-	-	89.97	35.11	7.19	34.85	125	123	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40	<b>Temperature :</b>	22~25°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	52~57%
<b>Test Engineer :</b>	David Ke	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5755 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
34.86	36.38	-3.62	40	51.27	16	0.74	31.63	103	342	Peak
49.17	32.13	-7.87	40	53.83	8.93	0.8	31.43	-	-	Peak
79.95	29.35	-10.65	40	52.37	7.38	0.98	31.38	-	-	Peak
401.5	16.46	-29.54	46	29.87	15.77	2.02	31.2	-	-	Peak
605.9	21.34	-24.66	46	29.45	19.82	2.44	30.37	-	-	Peak
922.3	25.7	-20.3	46	28.84	23.88	3.03	30.05	-	-	Peak
5755	82.47	-	-	75.02	35.11	7.19	34.85	100	348	Average
5755	92.26	-	-	84.85	35.09	7.17	34.85	100	348	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.

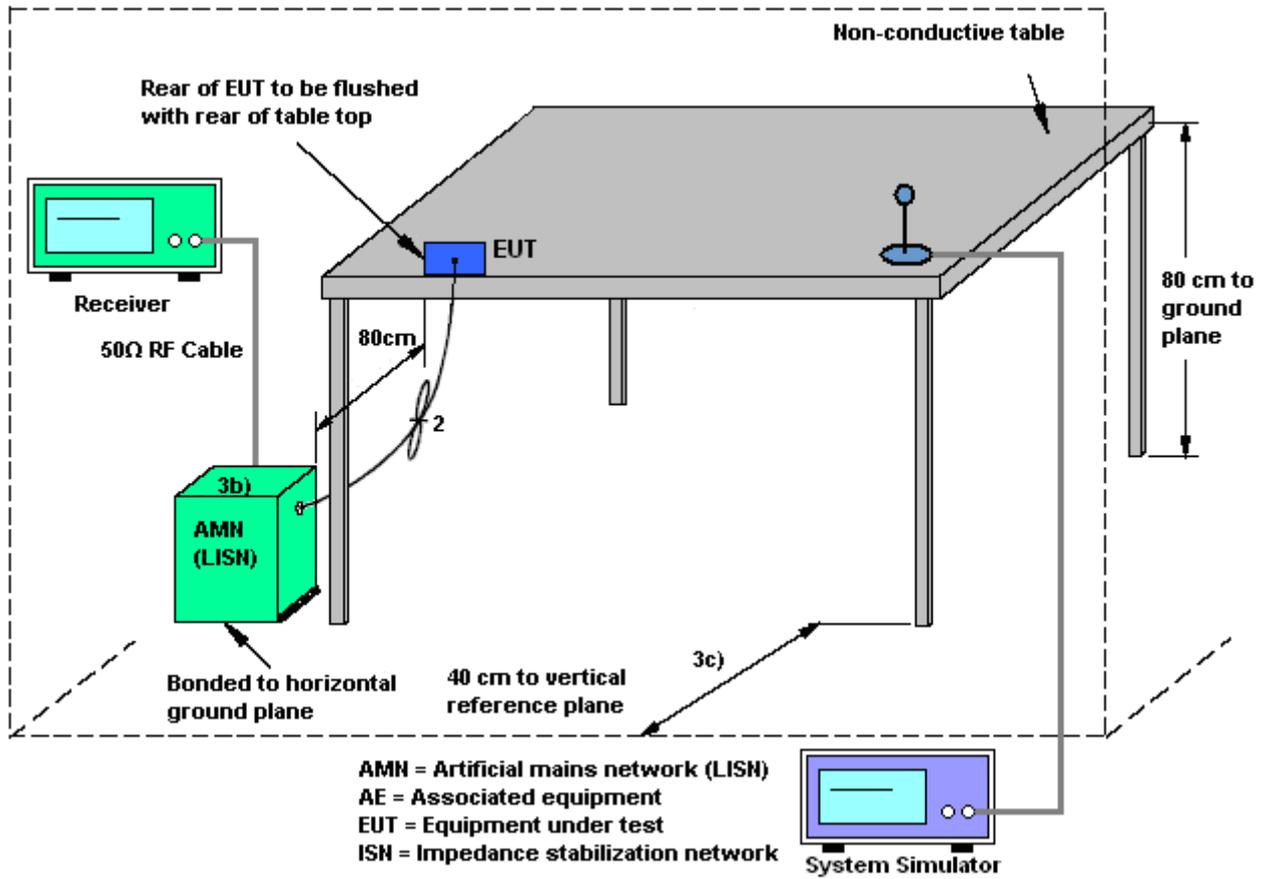
### 3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.6.3 Test Procedures

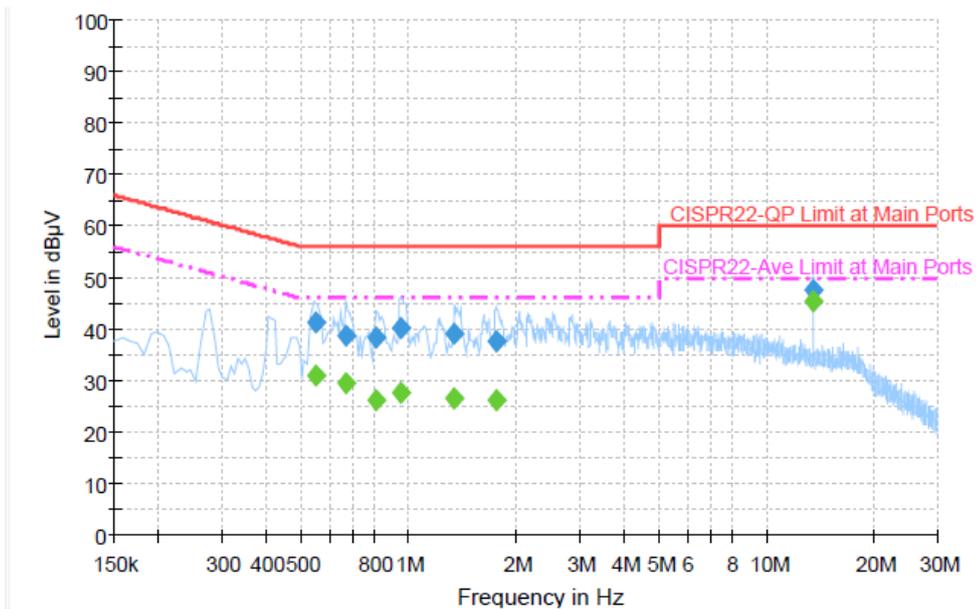
1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 KHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

### 3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



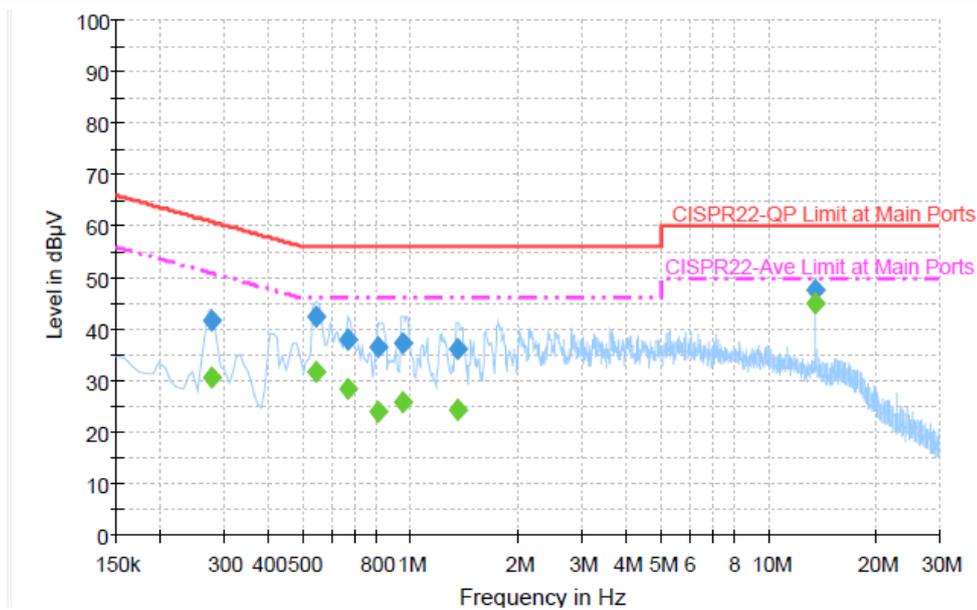
Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.550000	41.2	Off	L1	19.4	14.8	56.0
0.670000	38.8	Off	L1	19.4	17.2	56.0
0.814000	38.3	Off	L1	19.4	17.7	56.0
0.950000	40.2	Off	L1	19.4	15.8	56.0
1.342000	39.2	Off	L1	19.4	16.8	56.0
1.750000	37.5	Off	L1	19.4	18.5	56.0
13.558000	47.7	Off	L1	19.6	12.3	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.550000	31.0	Off	L1	19.4	15.0	46.0
0.670000	29.5	Off	L1	19.4	16.5	46.0
0.814000	26.2	Off	L1	19.4	19.8	46.0
0.950000	27.5	Off	L1	19.4	18.5	46.0
1.342000	26.6	Off	L1	19.4	19.4	46.0
1.750000	26.2	Off	L1	19.4	19.8	46.0
13.558000	45.3	Off	L1	19.6	4.7	50.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



**Final Result : Quasi-Peak**

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.278000	41.9	Off	N	19.4	19.0	60.9
0.542000	42.4	Off	N	19.4	13.6	56.0
0.670000	38.0	Off	N	19.4	18.0	56.0
0.806000	36.4	Off	N	19.4	19.6	56.0
0.950000	37.4	Off	N	19.4	18.6	56.0
1.350000	36.0	Off	N	19.5	20.0	56.0
13.558000	47.4	Off	N	19.7	12.6	60.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.278000	30.8	Off	N	19.4	20.1	50.9
0.542000	31.6	Off	N	19.4	14.4	46.0
0.670000	28.4	Off	N	19.4	17.6	46.0
0.806000	24.1	Off	N	19.4	21.9	46.0
0.950000	25.9	Off	N	19.4	20.1	46.0
1.350000	24.4	Off	N	19.5	21.6	46.0
13.558000	45.1	Off	N	19.7	4.9	50.0



## **3.7 Antenna Requirements**

### **3.7.1 Standard Applicable**

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

### **3.7.2 Antenna Connected Construction**

Non-standard connector used.

### **3.7.3 Antenna Gain**

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



## 4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Nov. 05, 2012 ~ Nov. 07, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Nov. 05, 2012 ~ Nov. 07, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Nov. 05, 2012 ~ Nov. 07, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Spectrum Analyzer	R&S	ESU26	100390	20Hz ~ 26.5GHz	Dec. 22, 2011	Nov. 06, 2012 ~ Nov. 13, 2012	Dec. 21, 2012	Radiation (03CH05-HY)
Bilog Antenna	Schaffner	CBL6111C	2725	30MHz~2GHz	Oct. 06, 2012	Nov. 06, 2012 ~ Nov. 13, 2012	Oct. 05, 2013	Radiation (03CH05-HY)
Turn Table	HD	Deis HD 2000	420/611	0 ~ 360 degree	N/A	Nov. 06, 2012 ~ Nov. 13, 2012	N/A	Radiation (03CH05-HY)
Antenna Mast	HD	MA 240	240/666	1 m ~ 4 m	N/A	Nov. 06, 2012 ~ Nov. 13, 2012	N/A	Radiation (03CH05-HY)
Horn Antenna	ESCO	3117	66584	1GHz~18GHz	Aug. 10, 2012	Nov. 06, 2012 ~ Nov. 13, 2012	Aug. 09, 2013	Radiation (03CH05-HY)
Pre Amplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Aug. 28, 2012	Nov. 06, 2012 ~ Nov. 13, 2012	Aug. 27, 2013	Radiation (03CH05-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Nov. 06, 2012 ~ Nov. 13, 2012	Sep. 27, 2013	Radiation (03CH05-HY)
Pre Amplifier	COM-POWER	PA-103	161075	10-1000MHz.32dB.GAIN	Feb. 27, 2012	Nov. 06, 2012 ~ Nov. 13, 2012	Feb. 26, 2013	Radiation (03CH05-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Nov. 06, 2012 ~ Nov. 13, 2012	Jul. 02, 2013	Radiation (03CH05-HY)
EMI Test Receiver	R&S	ESCI 7	100724	9kHz~7GHz	Sep. 03, 2012	Nov. 07, 2012 ~ Nov. 29, 2012	Sep. 02, 2013	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Nov. 07, 2012 ~ Nov. 29, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Nov. 07, 2012 ~ Nov. 29, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Nov. 07, 2012 ~ Nov. 29, 2012	N/A	Conduction (CO05-HY)
System Simulator	Agilent	E5515C (8960)	MY48360820	N/A	Jan. 05, 2012	Nov. 07, 2012 ~ Nov. 29, 2012	Jan. 04, 2014	Conduction (CO05-HY)



## 5 Uncertainty of Evaluation

### Uncertainty of Conducted Emission Measurement (150KHz ~ 30MHz)

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

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

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