

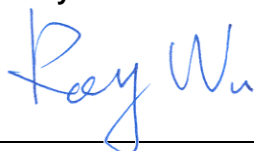
# FCC RF Test Report

APPLICANT : Hewlett-Packard Company, Palm GBU  
EQUIPMENT : Phone  
BRAND NAME : HP  
MODEL NAME : HSTNH-F30CN  
FCC ID : B94HHF30CN  
STANDARD : FCC Part 15 Subpart C §15.247  
CLASSIFICATION : Digital Transmission System (DTS)

The product was received on Feb. 14, 2011 and completely tested on Mar. 14, 2011. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown the compliance with the applicable technical standards.

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

Reviewed by:



Roy Wu / 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.



# TABLE OF CONTENTS

**REVISION HISTORY ..... 3**

**SUMMARY OF TEST RESULT ..... 4**

**1 GENERAL DESCRIPTION ..... 5**

    1.1 Applicant ..... 5

    1.2 Manufacturer ..... 5

    1.3 Feature of Equipment Under Test ..... 5

    1.4 Testing Site ..... 6

    1.5 Applied Standards ..... 6

    1.6 Ancillary Equipment List ..... 6

**2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST ..... 7**

    2.1 RF Power ..... 7

    2.2 Test Mode ..... 9

    2.3 Connection Diagram of Test System ..... 10

    2.4 RF Utility ..... 10

**3 TEST RESULT ..... 11**

    3.1 6dB and 99% Bandwidth Measurement ..... 11

    3.2 Output Power Measurement ..... 34

    3.3 Band Edges Measurement ..... 37

    3.4 Spurious Emission Measurement ..... 48

    3.5 Power Spectral Density Measurement ..... 66

    3.6 AC Conducted Emission Measurement ..... 78

    3.7 Radiated Emission Measurement ..... 82

    3.8 Antenna Requirements ..... 119

**4 LIST OF MEASURING EQUIPMENT ..... 120**

**5 UNCERTAINTY OF EVALUATION ..... 121**



### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR121417B	Rev. 01	Initial issue of report	Apr. 01, 2011

## SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	Gen 4.4.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	$\leq 20\text{dBc}$	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	$< 20\text{ dBc}$	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}$	Pass	-
3.6	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 3.7 dB at 0.62 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.02 dB at 2483.5 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-



# 1 General Description

## 1.1 Applicant

Hewlett-Packard Company, Palm GBU  
950 W Maude Avenue, Sunnyvale, CA 94085

## 1.2 Manufacturer

Hewlett-Packard Company, Palm GBU  
950 W Maude Avenue, Sunnyvale, CA 94085

## 1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Phone
Brand Name	HP
Model Name	HSTNH-F30CN
FCC ID	B94HHF30CN
Tx/Rx Frequency Range	802.11b/g/n : 2400 MHz ~ 2483.5 MHz 802.11a/n : 5725 MHz ~ 5850 MHz
Channel Spacing	802.11b/g : 5 MHz 802.11a : 20 MHz
Maximum Output Power to Antenna	<b>&lt;2400 MHz ~ 2483.5 MHz&gt;</b> 802.11b : 19.04 dBm (0.08 W) 802.11g : 23.57 dBm (0.22 W) 802.11n (BW 20MHz) : 23.54 dBm (0.22 W) <b>&lt;5725 MHz ~ 5850 MHz&gt;</b> 802.11a : 23.54 dBm (0.22 W) 802.11n (BW 20MHz) : 23.38 dBm (0.21 W) 802.11n (BW 40MHz) : 23.29 dBm (0.21 W)
Antenna Type	802.11b/g/n : PIFA Antenna with gain 0.3 dBi 802.11a/n : PIFA Antenna with gain 4.5 dBi
HW Version	D1
SW Version	WebOS 2.3
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

### Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Digital Transmission System (DTS).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

## 1.4 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>
	CO05-HY	03CH07HY	722060/4086B-1

## 1.5 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 (Measurement Guidelines of DTS)
- ♦ ANSI C63.4-2003
- ♦ IC RSS-210 Issue 8

### 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 (DoC), recorded in a separate test report.

## 1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Vostro 1510	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A

## 2 Test Configuration of Equipment Under Test

### 2.1 RF Power

Preliminary tests were performed in different data rate and recorded the RF power output in the following table:

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	18.85	18.93	19.02	19.04
CH 06	2437 MHz	18.17	-	-	18.25
CH 11	2462 MHz	17.96	-	-	18.28

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	22.34	-	-	-	-	-	-	23.10
CH 06	2437 MHz	22.74	-	-	-	-	-	-	23.45
CH 11	2462 MHz	22.77	22.69	22.97	22.6	22.96	23.54	22.96	23.57

Channel	Frequency	2.4GHz 802.11n (BW 20MHz) RF Power (dBm)							
		OFDM Data Rate							
		M0	M1	M2	M3	M4	M5	M6	M7
CH 01	2412 MHz	22.36	-	-	-	-	-	-	23.05
CH 06	2437 MHz	22.70	-	-	-	-	-	-	23.11
CH 11	2462 MHz	22.90	22.85	23.00	22.75	22.79	23.36	23.50	23.54

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745 MHz	23.42	-	-	-	-	-	-	-
CH157	5785 MHz	23.54	23.42	23.42	23.11	23.50	23.52	23.46	23.34
CH165	5825 MHz	23.16	-	-	-	-	-	-	-

Channel	Frequency	802.11n (BW 20MHz) RF Power (dBm)							
		OFDM Data Rate							
		M0	M1	M2	M3	M4	M5	M6	M7
CH149	5745 MHz	23.35	-	-	-	-	-	-	-
CH157	5785 MHz	23.38	23.24	23.22	23.02	22.80	22.71	23.03	22.64
CH165	5825 MHz	23.08	-	-	-	-	-	-	-

Channel	Frequency	802.11n (BW 40MHz) RF Power (dBm)							
		OFDM Data Rate							
		M0	M1	M2	M3	M4	M5	M6	M7
CH151	5755 MHz	23.12	-	-	-	-	-	-	-
CH159	5795 MHz	23.29	23.25	23.22	23.1	23.07	23.17	23	22.82

**Remark:**

1. The data rates of WLAN 802.11a/b/g/n were set in 11Mbps for 802.11b, 54Mbps for 802.11g, M7 for 802.11n (BW 20MHz), 6Mbps for 802.11a, M0 for 802.11n (BW 20MHz), and M0 for 802.11n (BW 40MHz) for all the test cases due to the highest RF output power.
2. The EUT is programmed to transmit signals continuously for all testing.





## 2.2 Test Mode

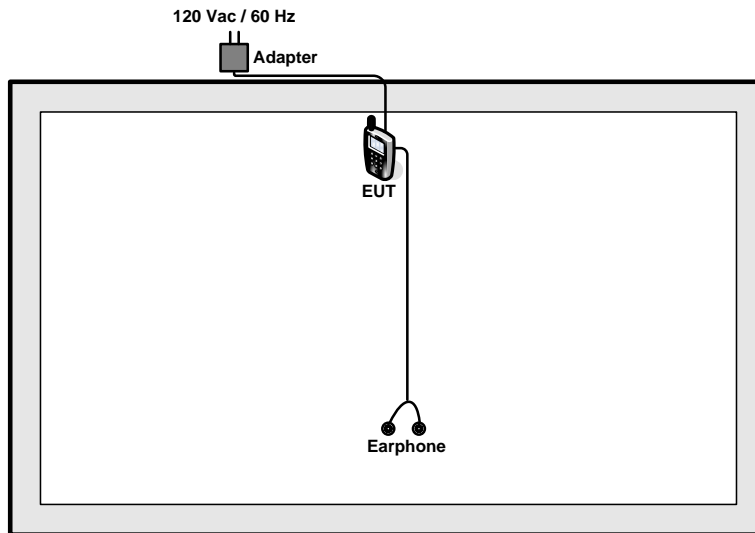
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

The following table is showing the total pre-scanned test modes, and the worst modes are recorded in this report only.

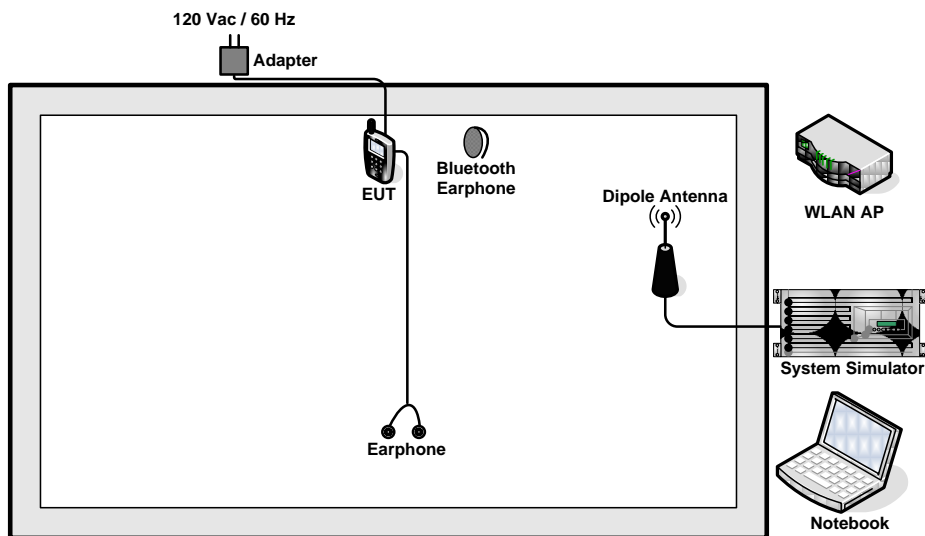
Test Cases		
Test Item	802.11b (Modulation : DSSS) 802.11g/n (Modulation : OFDM)	802.11a/n (Modulation : OFDM)
<b>Conducted TCs</b>	Mode 1: 802.11b_CH01_2412 MHz Mode 2: 802.11b_CH06_2437 MHz Mode 3: 802.11b_CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n_CH01_2412 MHz (BW 20M) Mode 8: 802.11n_CH06_2437 MHz (BW 20M) Mode 9: 802.11n_CH11_2462 MHz (BW 20M)	Mode 10: 802.11a_CH149_5745 MHz Mode 11: 802.11a_CH157_5785 MHz Mode 12: 802.11a_CH165_5825 MHz Mode 13: 802.11n_CH149_5745 MHz (BW 20M) Mode 14: 802.11n_CH157_5785 MHz (BW 20M) Mode 15: 802.11n_CH165_5825 MHz (BW 20M) Mode 16: 802.11n_CH151_5755 MHz (BW 40M) Mode 17: 802.11n_CH159_5795 MHz (BW 40M)
<b>Radiated TCs</b>	Mode 1: 802.11b_CH01_2412 MHz Mode 2: 802.11b_CH06_2437 MHz Mode 3: 802.11b_CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n_CH01_2412 MHz (BW 20M) Mode 8: 802.11n_CH06_2437 MHz (BW 20M) Mode 9: 802.11n_CH11_2462 MHz (BW 20M)	Mode 10: 802.11a_CH149_5745 MHz Mode 11: 802.11a_CH157_5785 MHz Mode 12: 802.11a_CH165_5825 MHz Mode 13: 802.11n_CH149_5745 MHz (BW 20M) Mode 14: 802.11n_CH157_5785 MHz (BW 20M) Mode 15: 802.11n_CH165_5825 MHz (BW 20M) Mode 16: 802.11n_CH151_5755 MHz (BW 40M) Mode 17: 802.11n_CH159_5795 MHz (BW 40M)
<b>AC Conducted Emission</b>	Mode 1 : GSM850 Idle + WLAN Link + Bluetooth Link + Earphone + Adapter	

## 2.3 Connection Diagram of Test System

### <WLAN Tx Mode>



### <AC Conducted Emission Mode>



## 2.4 RF Utility

The programmed RF utility "Compliance" is installed in EUT to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

### 3 Test Result

#### 3.1 6dB and 99% Bandwidth Measurement

##### 3.1.1 Limit of 6dB Bandwidth

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

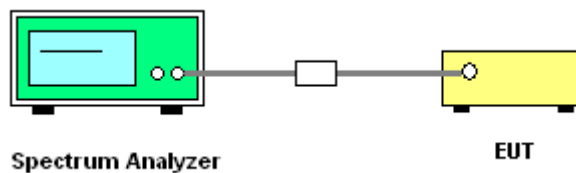
##### 3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

##### 3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

##### 3.1.4 Test Setup





3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	10.00	0.5	Pass
06	2437	9.96	0.5	Pass
11	2462	10.00	0.5	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.44	0.5	Pass
06	2437	16.44	0.5	Pass
11	2462	16.42	0.5	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.16	0.5	Pass
06	2437	17.48	0.5	Pass
11	2462	17.28	0.5	Pass



<b>Test Mode :</b>	Mode 10, 11, 12	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.28	0.5	Pass
157	5785	16.32	0.5	Pass
165	5825	16.32	0.5	Pass

<b>Test Mode :</b>	Mode 13, 14, 15	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.84	0.5	Pass
157	5785	16.80	0.5	Pass
165	5825	16.88	0.5	Pass

<b>Test Mode :</b>	Mode 16, 17	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11n (BW 40MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	35.52	0.5	Pass
159	5795	35.76	0.5	Pass

**3.1.6 Test Result of 99% Occupied Bandwidth**

<b>Test Mode :</b>	Mode 1, 2, 3	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11b 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	14.24	Pass
06	2437	14.16	Pass
11	2462	14.08	Pass

<b>Test Mode :</b>	Mode 4, 5, 6	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11g 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	19.28	Pass
06	2437	18.72	Pass
11	2462	18.48	Pass

<b>Test Mode :</b>	Mode 7, 8, 9	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	20.00	Pass
06	2437	19.60	Pass
11	2462	19.40	Pass



Test Mode :	Mode 10, 11, 12	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	18.40	Pass
157	5785	18.40	Pass
165	5825	18.40	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	19.04	Pass
157	5785	19.00	Pass
165	5825	19.00	Pass

Test Mode :	Mode 16, 17	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

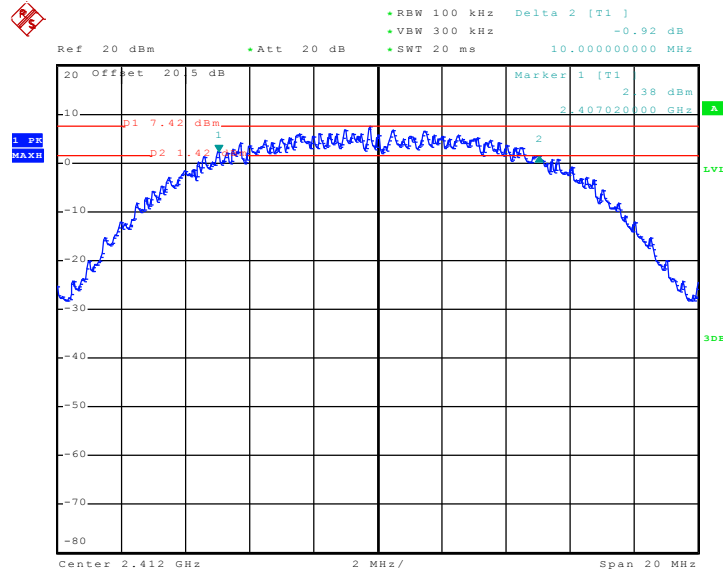
Channel	Frequency (MHz)	802.11n (BW 40MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
151	5755	37.70	Pass
159	5795	37.60	Pass



### 3.1.7 Test Result of 6dB Bandwidth Plots

Mode 1 :

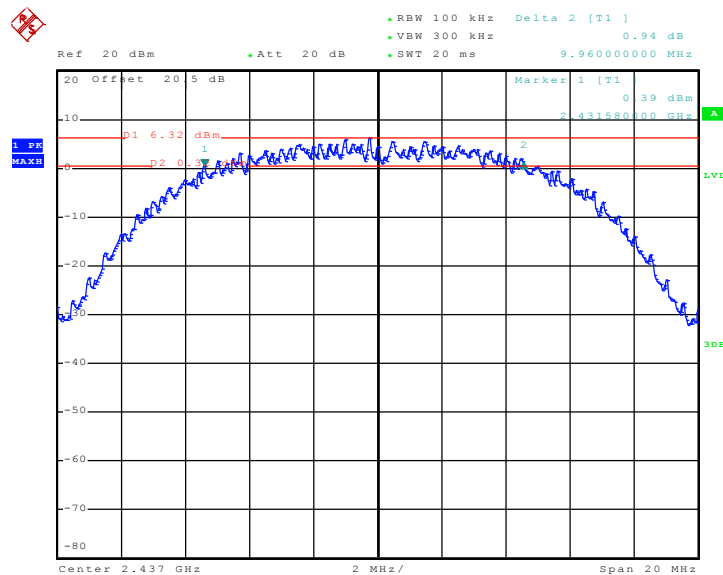
6 dB Bandwidth Plot on 802.11b Channel 01



Date: 5.MAR.2011 13:30:33

Mode 2 :

6 dB Bandwidth Plot on 802.11b Channel 06



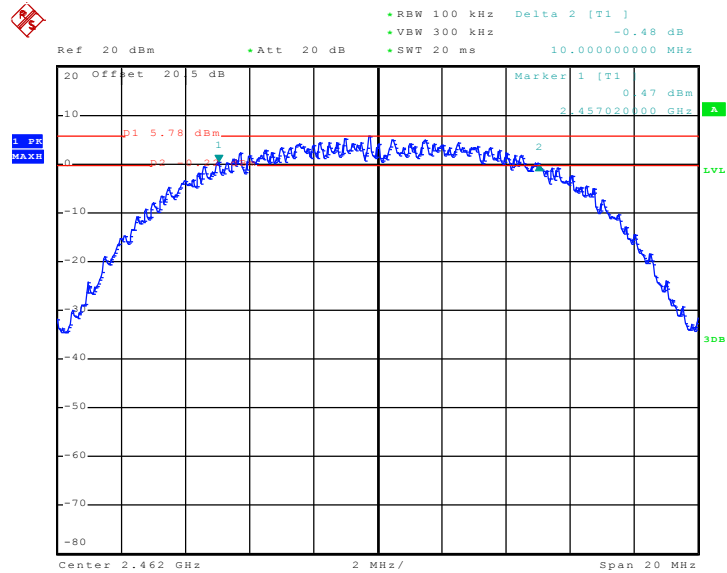
Date: 5.MAR.2011 13:38:39





Mode 3 :

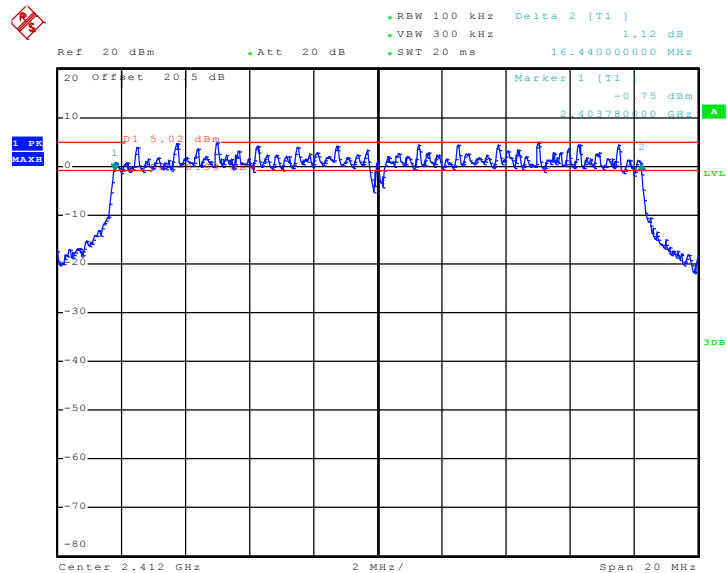
6 dB Bandwidth Plot on 802.11b Channel 11



Date: 5.MAR.2011 13:34:18

Mode 4 :

6 dB Bandwidth Plot on 802.11g Channel 01

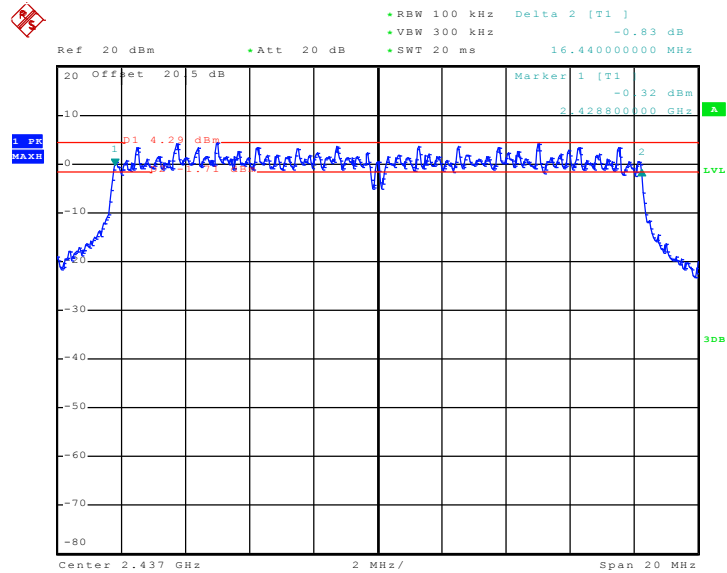


Date: 5.MAR.2011 13:21:10



Mode 5 :

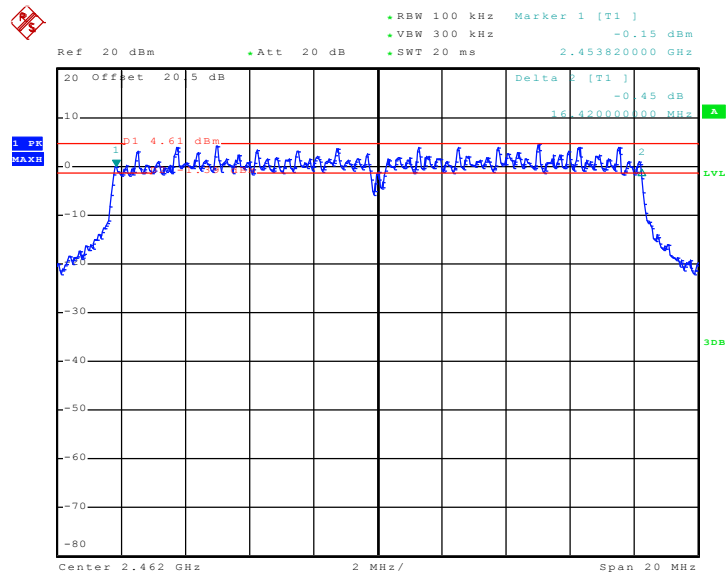
6 dB Bandwidth Plot on 802.11g Channel 06



Date: 5.MAR.2011 13:18:53

Mode 6 :

6 dB Bandwidth Plot on 802.11g Channel 11

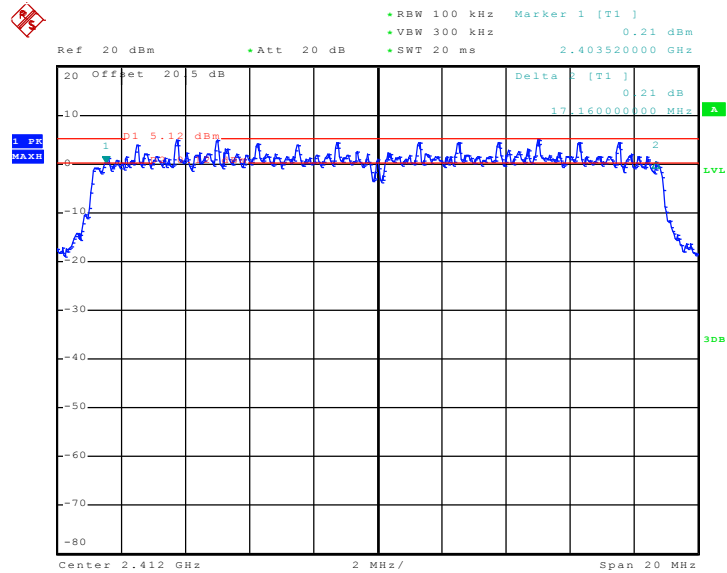


Date: 5.MAR.2011 13:16:04



Mode 7 :

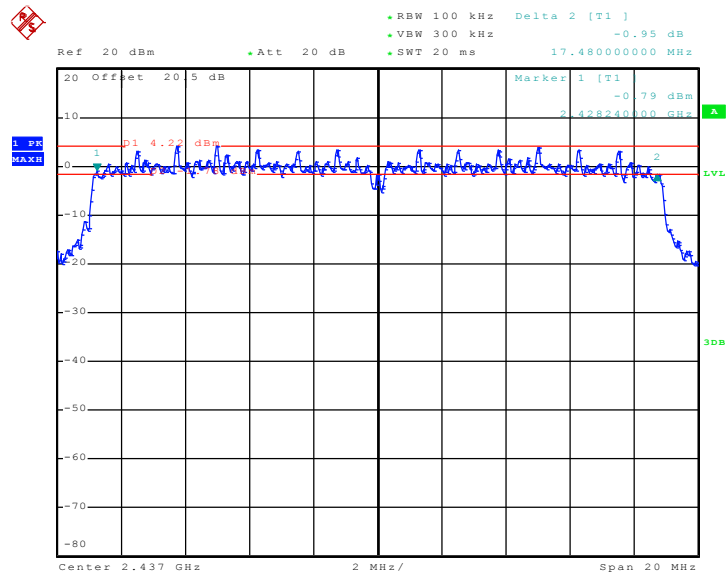
6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 01



Date: 5.MAR.2011 13:02:49

Mode 8 :

6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 06

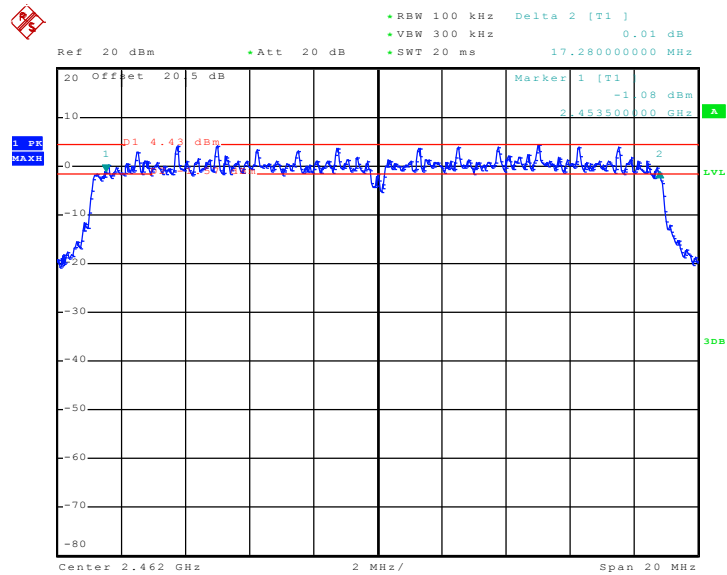


Date: 5.MAR.2011 12:58:00



Mode 9 :

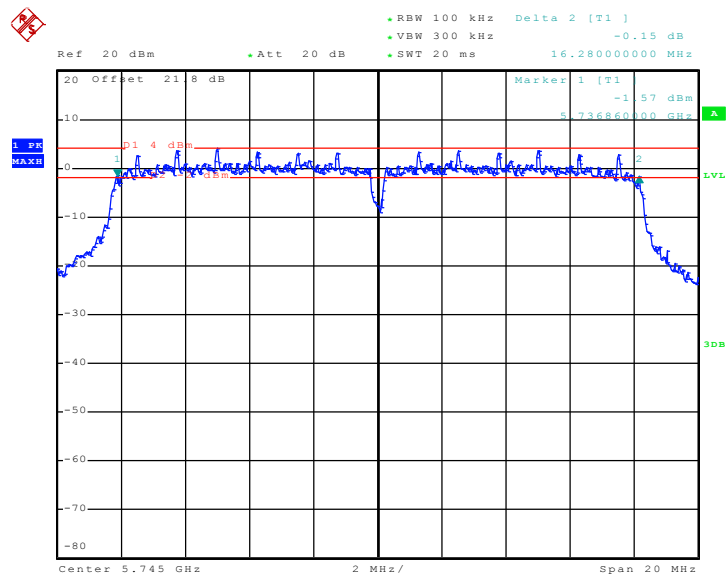
6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 11



Date: 5.MAR.2011 13:09:20

Mode 10:

6 dB Bandwidth Plot on 802.11a Channel 149

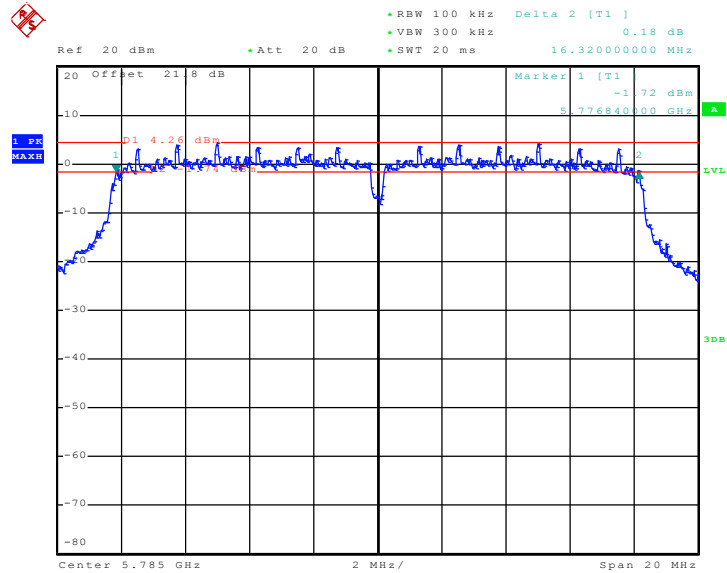


Date: 14.MAR.2011 17:17:57



Mode 11:

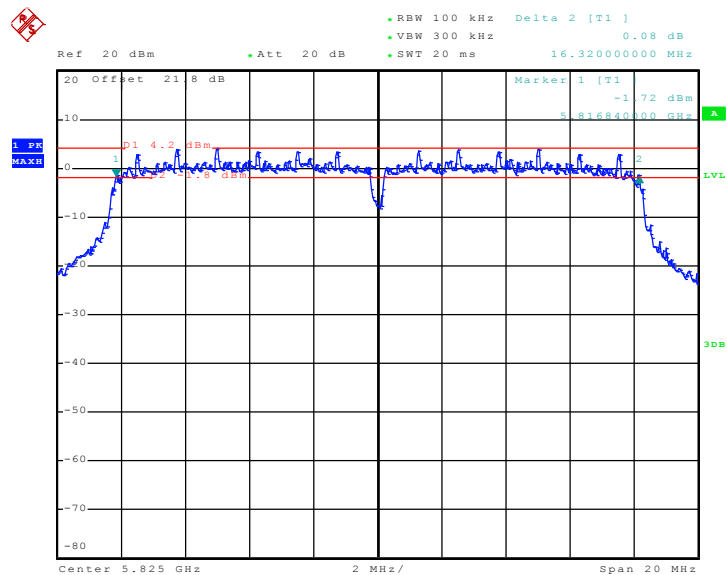
6 dB Bandwidth Plot on 802.11a Channel 157



Date: 14.MAR.2011 17:31:22

Mode 12:

6 dB Bandwidth Plot on 802.11a Channel 165

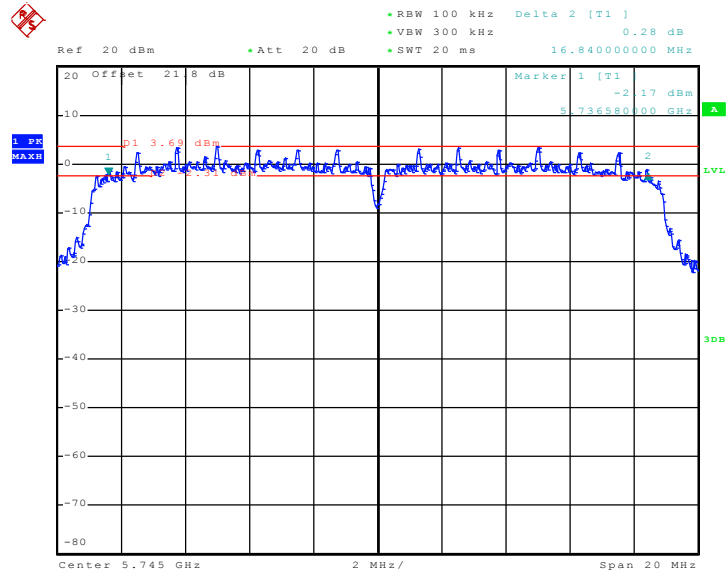


Date: 14.MAR.2011 17:44:32



Mode 13:

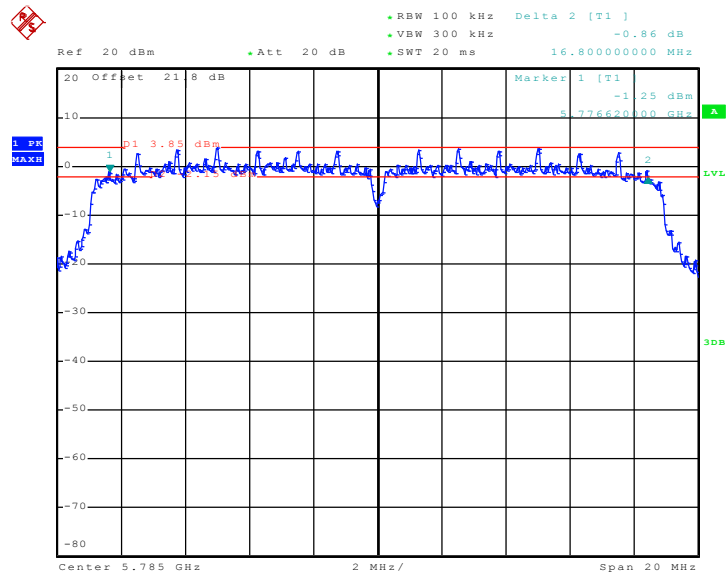
6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 149



Date: 14.MAR.2011 18:23:24

Mode 14:

6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 157

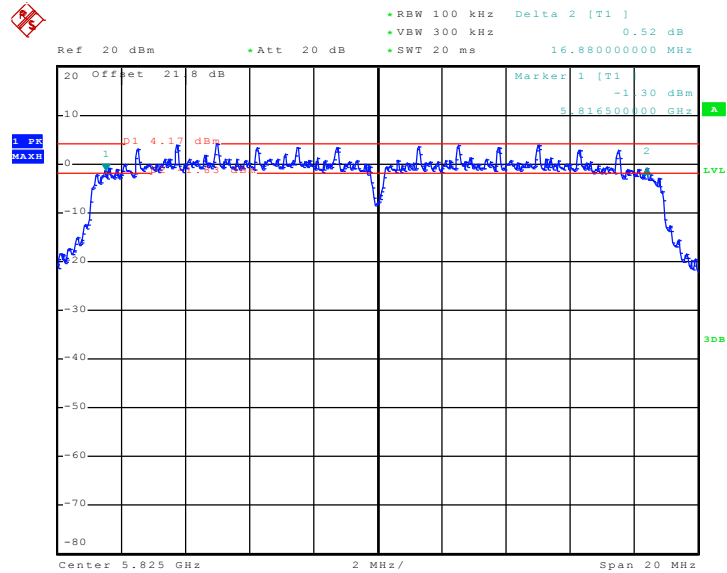


Date: 14.MAR.2011 18:11:39



Mode 15:

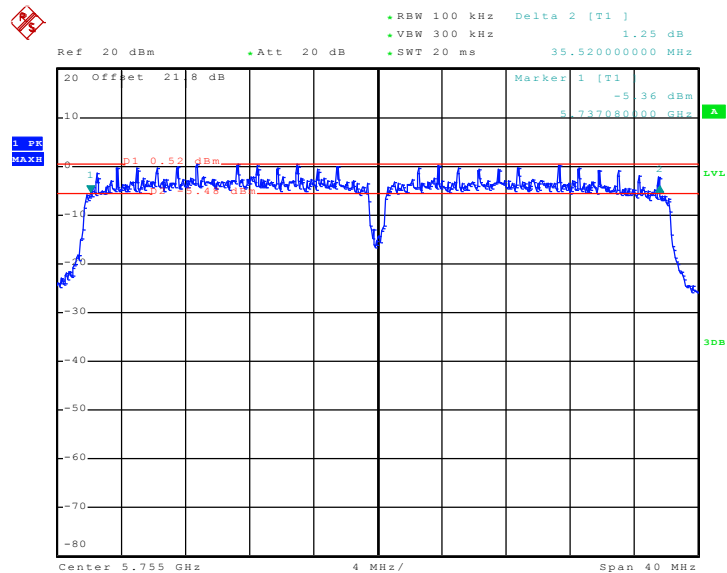
6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 165



Date: 14.MAR.2011 17:59:12

Mode 16:

6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 151

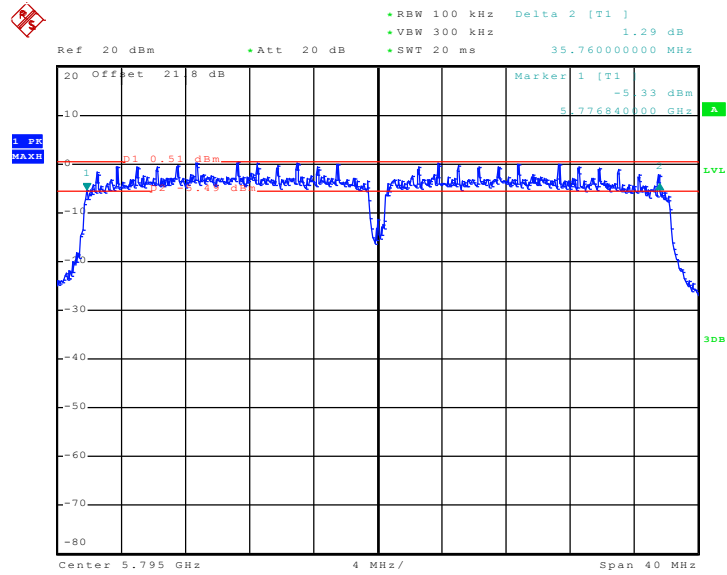


Date: 14.MAR.2011 18:53:43



Mode 17:

6 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 159



Date: 14.MAR.2011 19:10:43

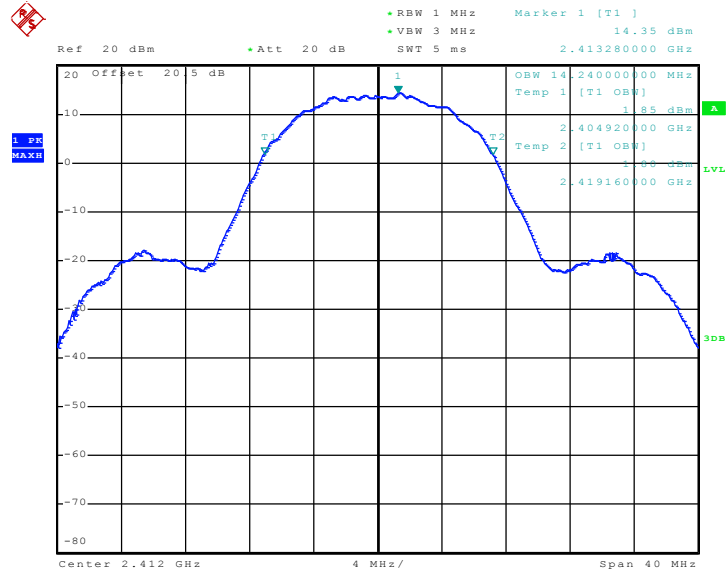




### 3.1.8 Test Result of 99% Bandwidth Plots

Mode 1 :

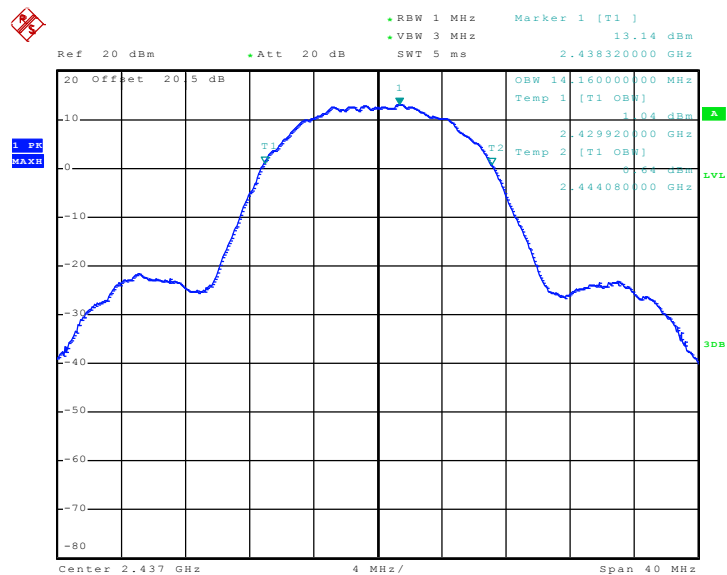
99% Occupied Bandwidth Plot on 802.11b Channel 01



Date: 5.MAR.2011 13:32:06

Mode 2 :

99% Occupied Bandwidth Plot on 802.11b Channel 06

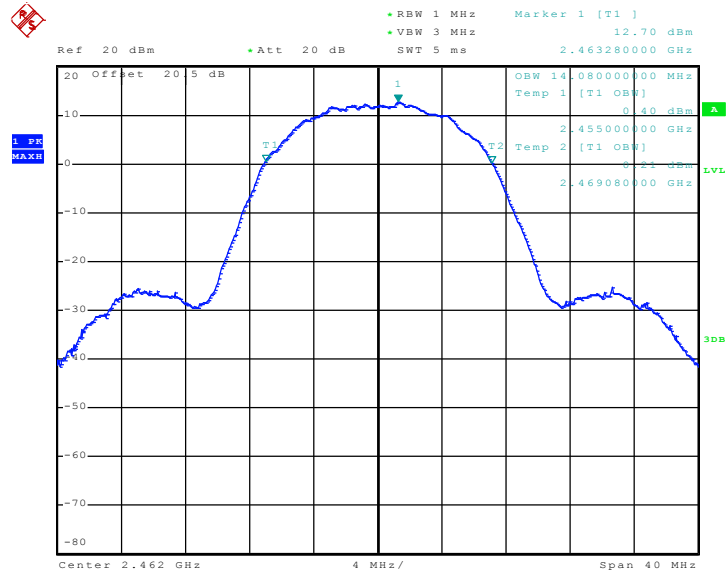


Date: 5.MAR.2011 13:39:09



Mode 3 :

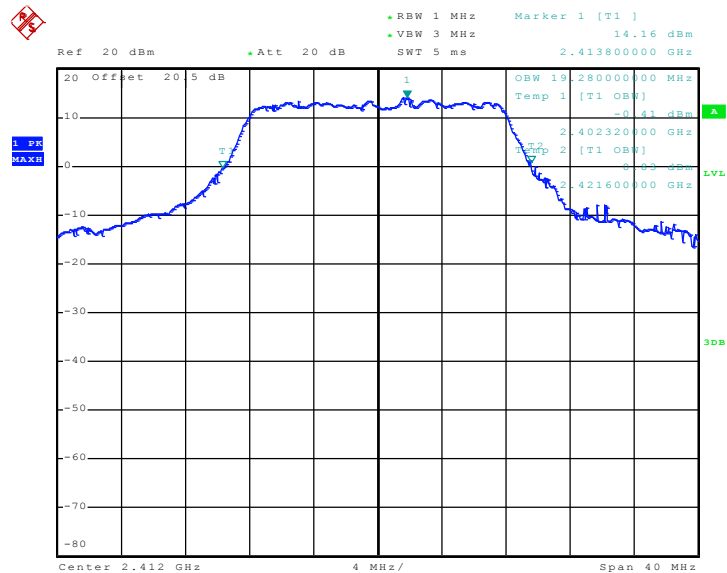
99% Occupied Bandwidth Plot on 802.11b Channel 11



Date: 5.MAR.2011 13:35:29

Mode 4 :

99% Occupied Bandwidth Plot on 802.11g Channel 01

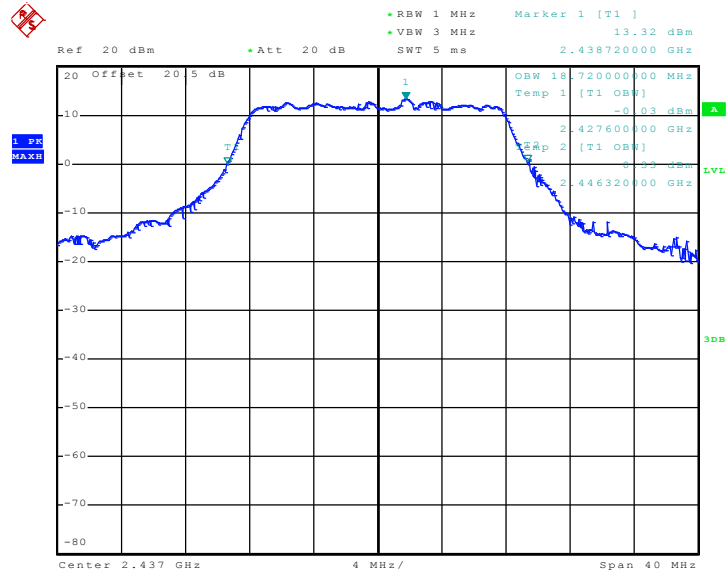


Date: 5.MAR.2011 13:22:44



Mode 5 :

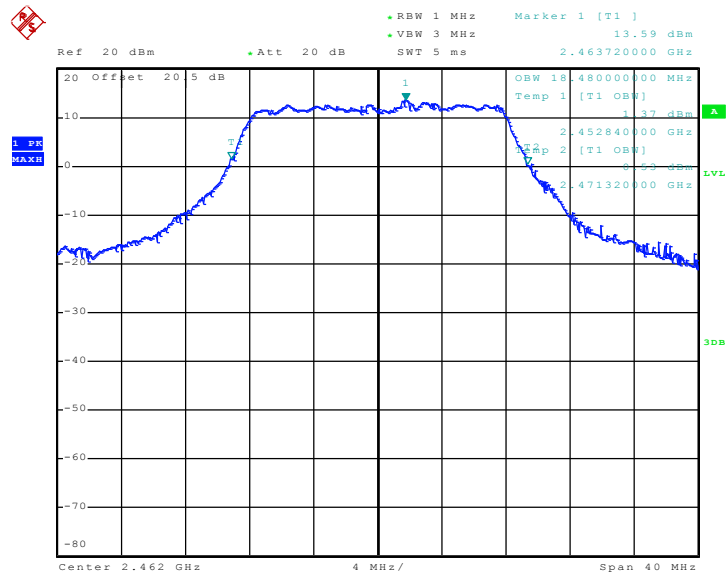
99% Occupied Bandwidth Plot on 802.11g Channel 06



Date: 5.MAR.2011 13:19:49

Mode 6 :

99% Occupied Bandwidth Plot on 802.11g Channel 11

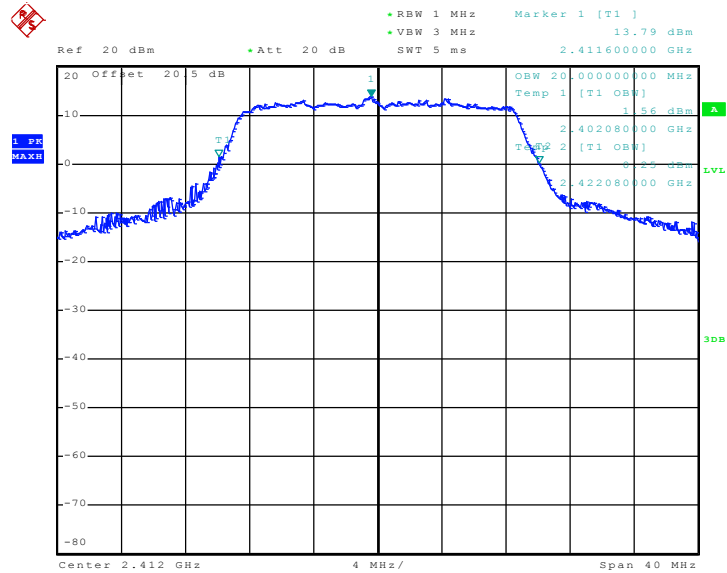


Date: 5.MAR.2011 13:17:16



Mode 7 :

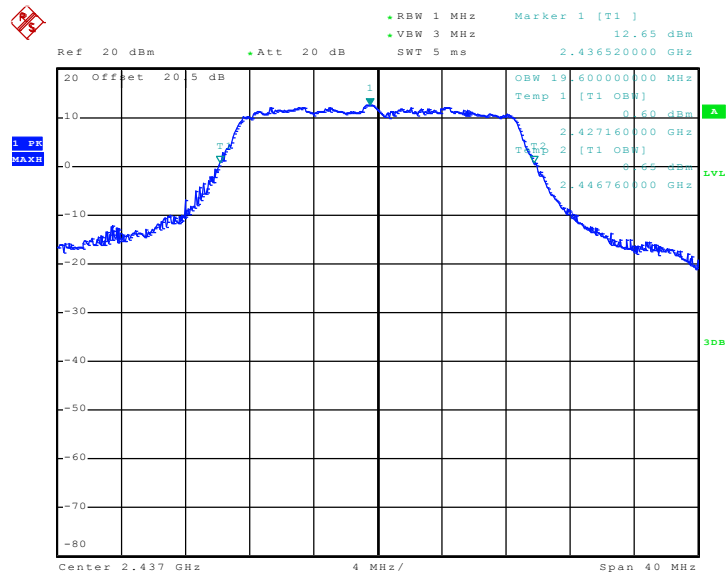
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 01



Date: 5.MAR.2011 13:04:22

Mode 8 :

99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 06

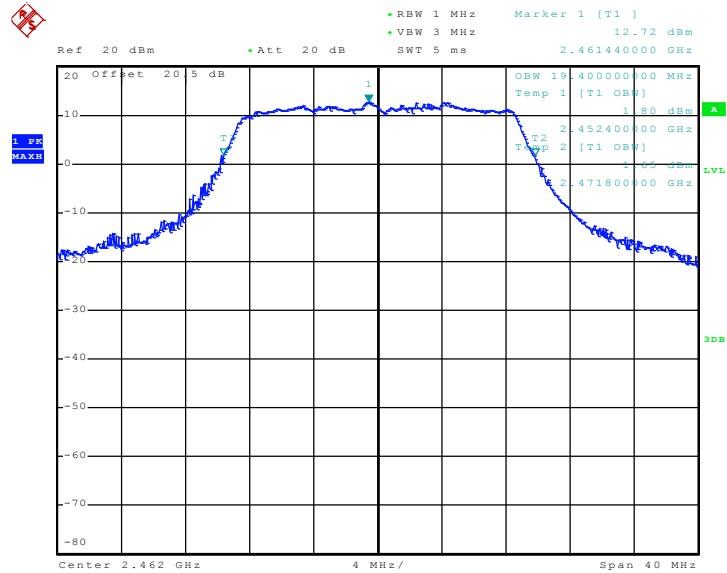


Date: 5.MAR.2011 12:58:30



Mode 9 :

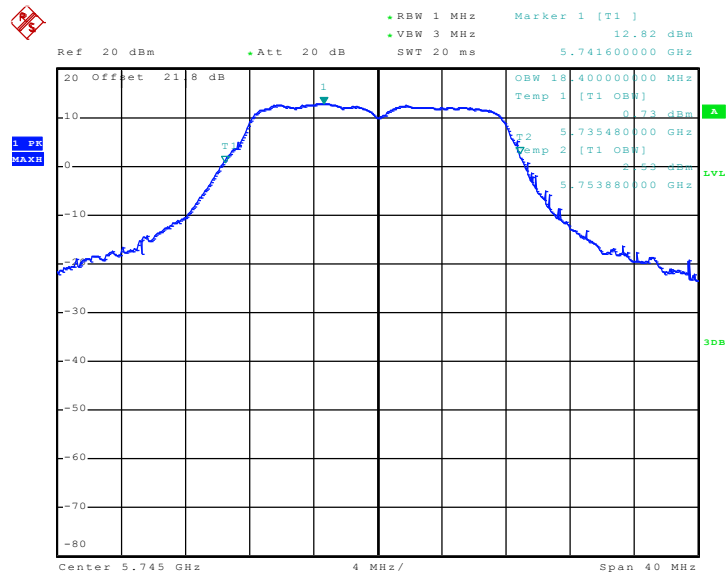
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 11



Date: 5.MAR.2011 13:10:32

Mode 10:

99% Occupied Bandwidth Plot on 802.11a Channel 149

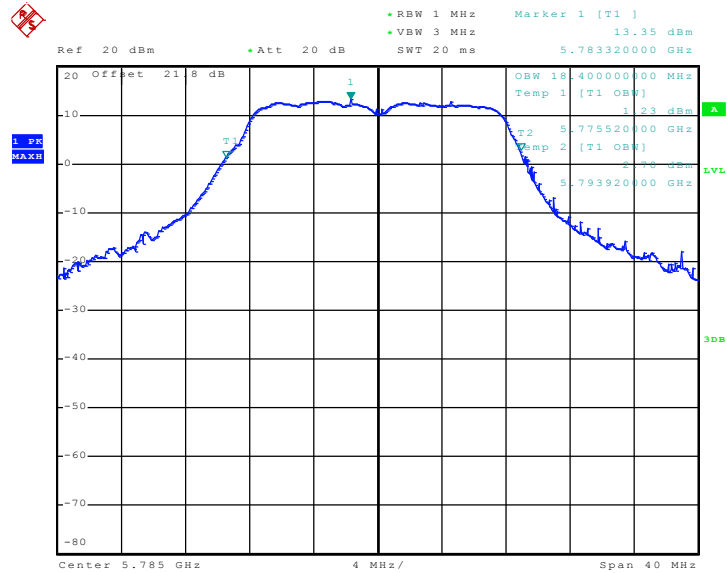


Date: 14.MAR.2011 17:18:48



Mode 11:

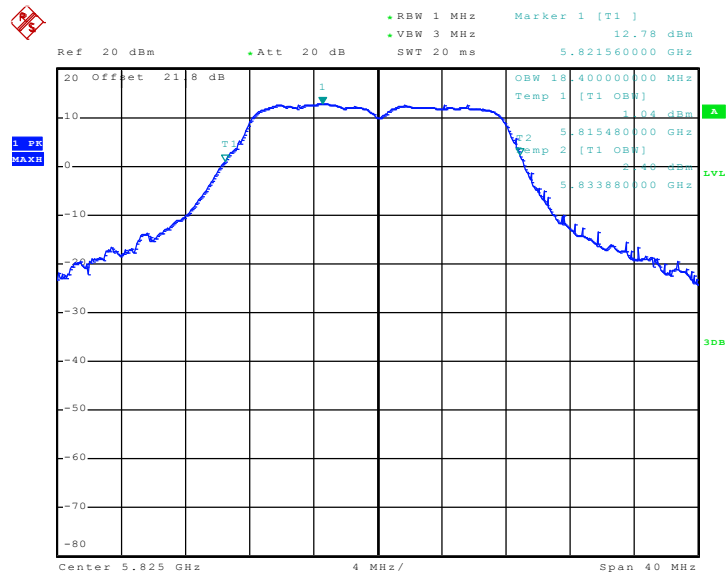
99% Occupied Bandwidth Plot on 802.11a Channel 157



Date: 14.MAR.2011 17:31:51

Mode 12:

99% Occupied Bandwidth Plot on 802.11a Channel 165

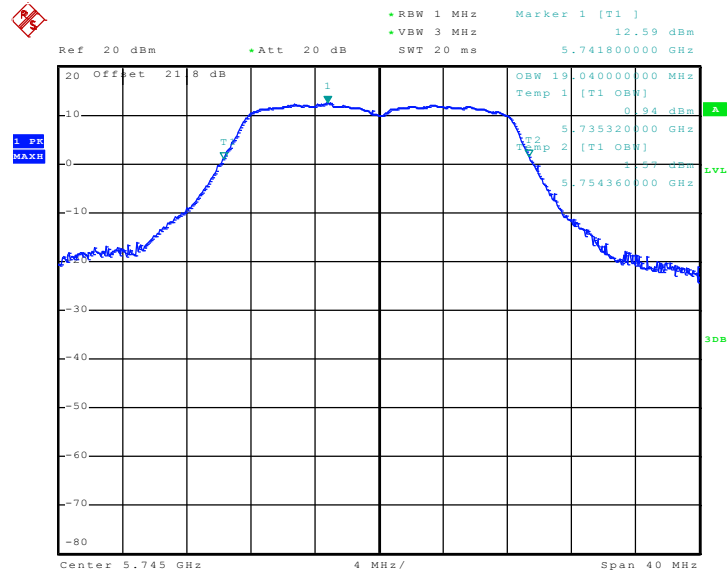


Date: 14.MAR.2011 17:45:23



Mode 13:

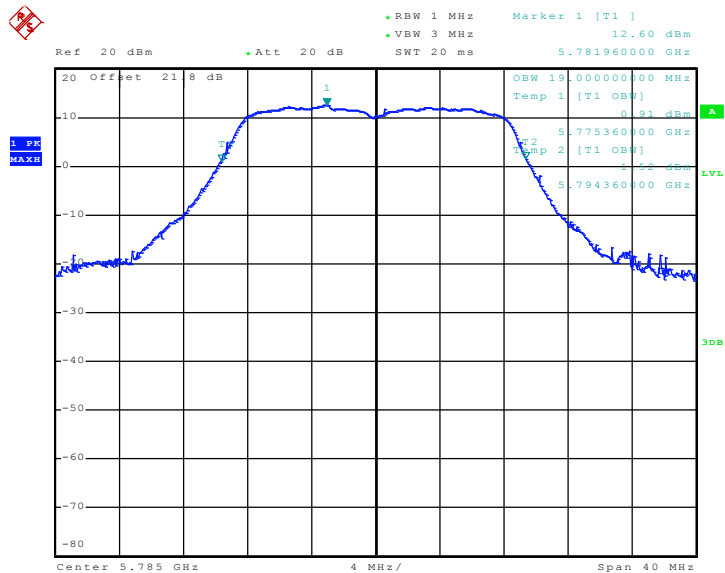
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 149



Date: 14.MAR.2011 18:24:15

Mode 14:

99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 157

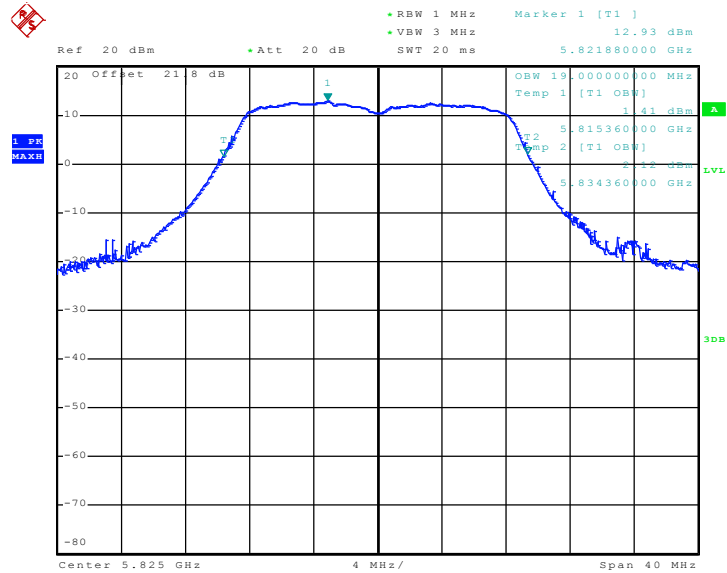


Date: 14.MAR.2011 18:12:09



Mode 15:

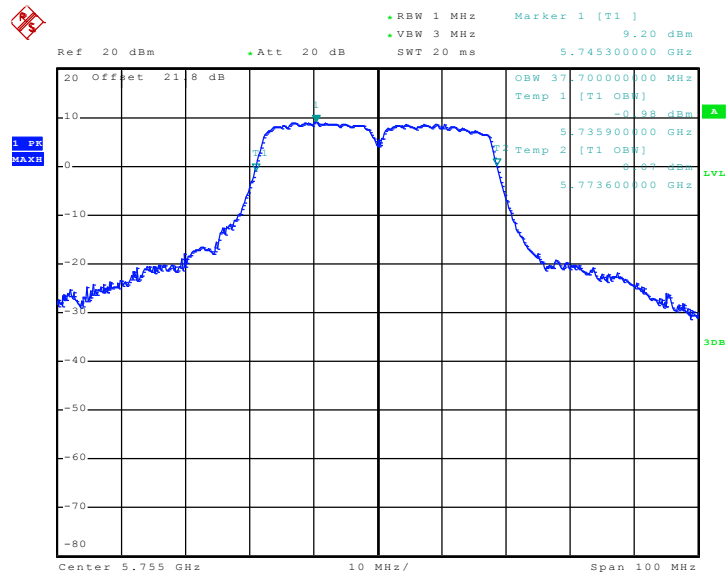
99% Occupied Bandwidth Plot on 802.11n (BW 20MHz) Channel 165



Date: 14.MAR.2011 18:00:03

Mode 16:

99% Occupied Bandwidth Plot on 802.11n (BW 40MHz) Channel 151



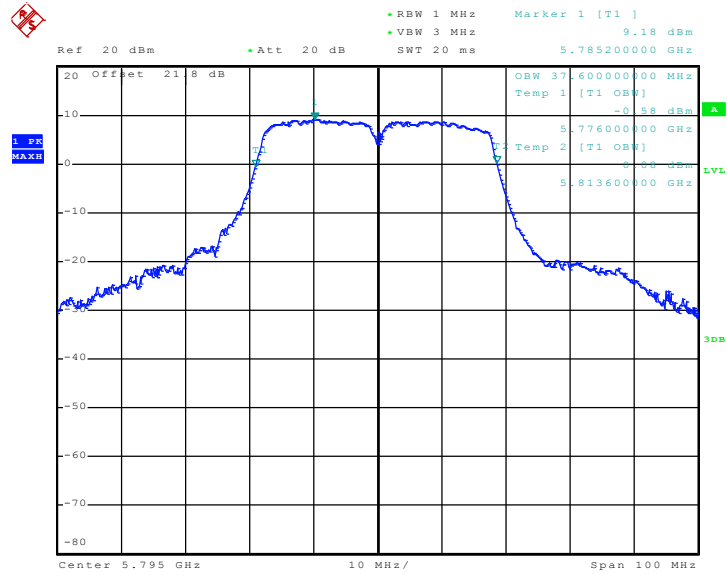
Date: 14.MAR.2011 18:54:34





Mode 17:

99% Occupied Bandwidth Plot on 802.11n (BW 40MHz) Channel 159



Date: 14.MAR.2011 19:11:35

## 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.

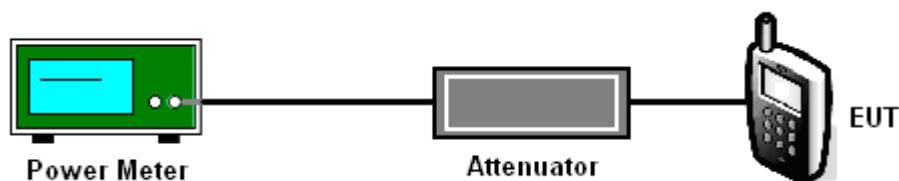
### 3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.2.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the power meter by a low loss cable.
3. Measure the power by power meter.

### 3.2.4 Test Setup





3.2.5 Test Result of Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.04	30	Pass
06	2437	18.25	30	Pass
11	2462	18.28	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.10	30	Pass
06	2437	23.45	30	Pass
11	2462	23.57	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.05	30	Pass
06	2437	23.11	30	Pass
11	2462	23.54	30	Pass



<b>Test Mode :</b>	Mode 10, 11, 12	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	23.42	30	Pass
157	5785	23.54	30	Pass
165	5825	23.16	30	Pass

<b>Test Mode :</b>	Mode 13, 14, 15	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	23.35	30	Pass
157	5785	23.38	30	Pass
165	5825	23.08	30	Pass

<b>Test Mode :</b>	Mode 16, 17	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11n (BW 40MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	23.12	30	Pass
159	5795	23.29	30	Pass



### **3.3 Band Edges Measurement**

#### **3.3.1 Limit of Band Edges**

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. 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.

#### **3.3.2 Measuring Instruments**

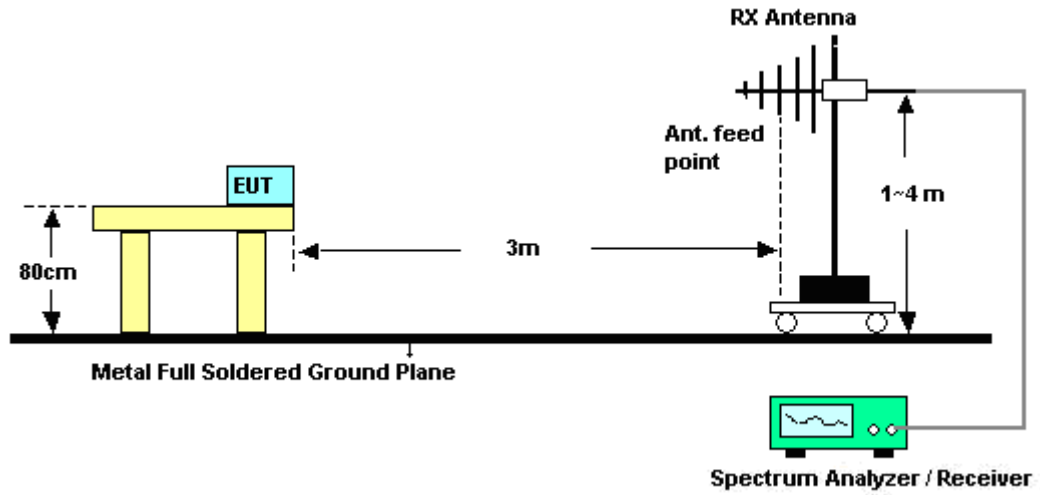
See list of measuring instruments of this test report.

#### **3.3.3 Test Procedures**

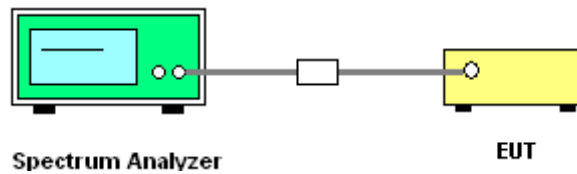
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the output power of this device was measured by power meter, the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

### 3.3.4 Test Setup

#### <Radiated Band Edges>



#### <Conducted Band Edges>





3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	21~23°C
Test Band :	802.11b	Relative Humidity :	48~53%
Test Channel :	01	Test Engineer :	Jason Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2385.1	56.21	-17.79	74	51.87	32.16	6.03	33.85	197	357	Peak
2385.1	45.18	-8.82	54	40.84	32.16	6.03	33.85	197	357	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2386.57	51.88	-22.12	74	47.52	32.18	6.03	33.85	182	258	Peak
2386.57	40.07	-13.93	54	35.71	32.18	6.03	33.85	182	258	Average

Test Mode :	Mode 3	Temperature :	21~23°C
Test Band :	802.11b	Relative Humidity :	48~53%
Test Channel :	11	Test Engineer :	Jason Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2484.42	54.23	-19.77	74	49.67	32.28	6.18	33.9	103	350	Peak
2484.42	41.6	-12.4	54	37.04	32.28	6.18	33.9	103	350	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2488.2	49.21	-24.79	74	44.63	32.3	6.18	33.9	153	16	Peak
2488.2	37.05	-16.95	54	32.47	32.3	6.18	33.9	153	16	Average



Test Mode :	Mode 4	Temperature :	21~23°C
Test Band :	802.11g	Relative Humidity :	48~53%
Test Channel :	01	Test Engineer :	Jason Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.99	69.65	-4.35	74	65.29	32.18	6.03	33.85	197	341	Peak
2389.99	50.21	-3.79	54	45.85	32.18	6.03	33.85	197	341	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.99	67.73	-6.27	74	63.37	32.18	6.03	33.85	109	173	Peak
2389.99	48.41	-5.59	54	44.05	32.18	6.03	33.85	109	173	Average

Test Mode :	Mode 6	Temperature :	21~23°C
Test Band :	802.11g	Relative Humidity :	48~53%
Test Channel :	11	Test Engineer :	Jason Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	72.98	-1.02	74	68.42	32.28	6.18	33.9	185	341	Peak
2483.5	51.19	-2.81	54	46.63	32.28	6.18	33.9	185	341	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	72.72	-1.28	74	68.16	32.28	6.18	33.9	107	0	Peak
2483.5	50.96	-3.04	54	46.4	32.28	6.18	33.9	107	0	Average





Test Mode :	Mode 7	Temperature :	21~23°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	48~53%
Test Channel :	01	Test Engineer :	Jason Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.42	71.17	-2.83	74	66.81	32.18	6.03	33.85	107	353	Peak
2389.42	51.03	-2.97	54	46.67	32.18	6.03	33.85	107	353	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2389.99	68.16	-5.84	74	63.8	32.18	6.03	33.85	179	322	Peak
2389.99	48.73	-5.27	54	44.37	32.18	6.03	33.85	179	322	Average

Test Mode :	Mode 9	Temperature :	21~23°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	48~53%
Test Channel :	11	Test Engineer :	Jason Wang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.66	72.96	-1.04	74	68.6	32.18	6.03	33.85	104	349	Peak
2483.66	50.49	-3.51	54	46.13	32.18	6.03	33.85	104	349	Average

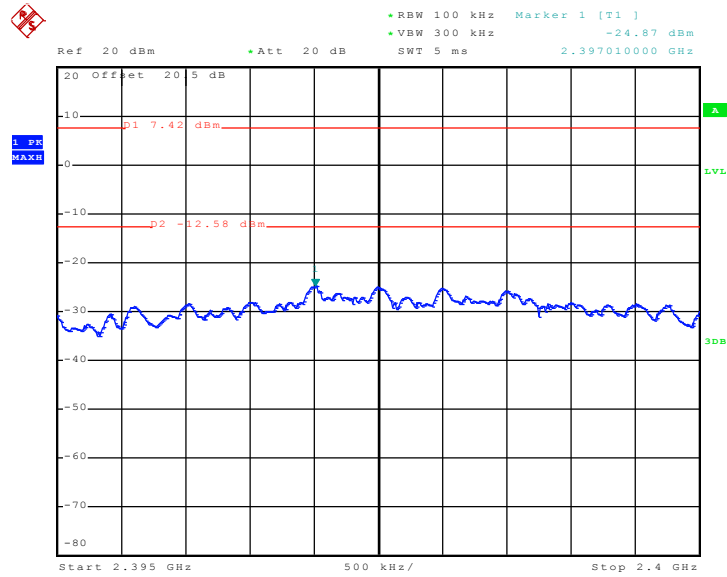
ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.85	66.51	-7.49	74	61.95	32.28	6.18	33.9	103	173	Peak
2483.85	47.98	-6.02	54	43.42	32.28	6.18	33.9	103	173	Average



### 3.3.6 Test Result of Conducted Band Edges

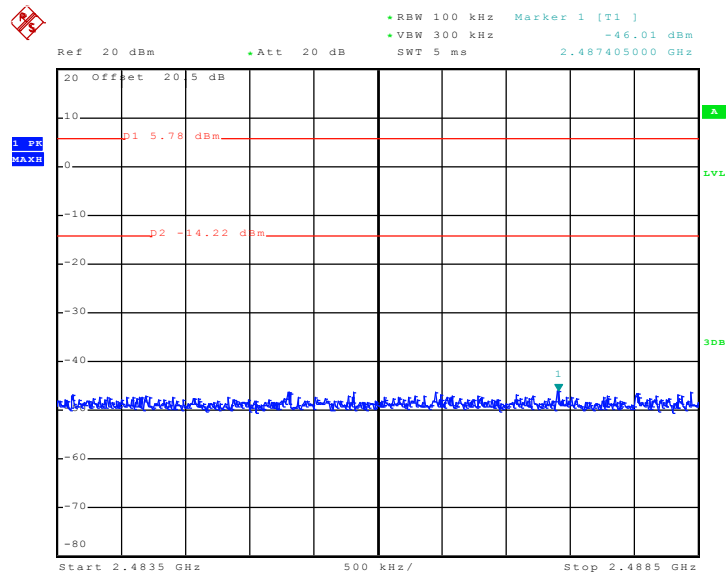
Test Mode :	Mode 1 and 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	40~44%
Test Channel :	01 and 11	Test Engineer :	Hank Yu and Phoenix Chen

Low Band Edge Plot on 802.11b Channel 01



Date: 5.MAR.2011 13:31:41

High Band Edge Plot on 802.11b Channel 11

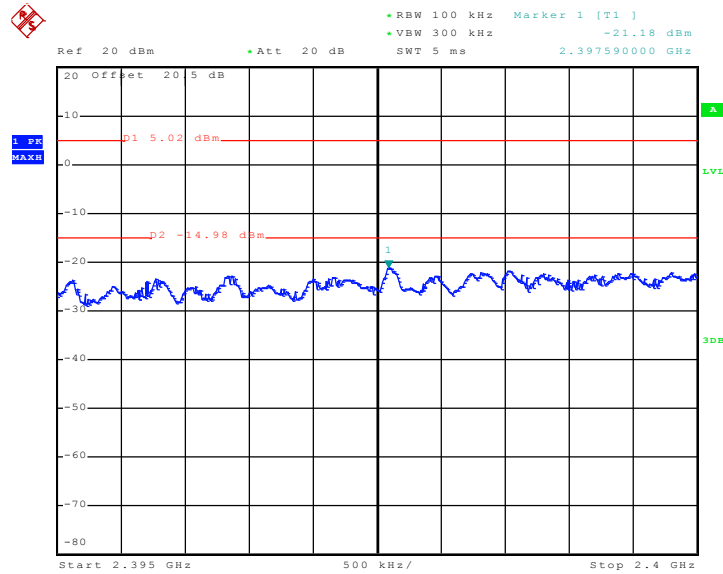


Date: 5.MAR.2011 13:35:04



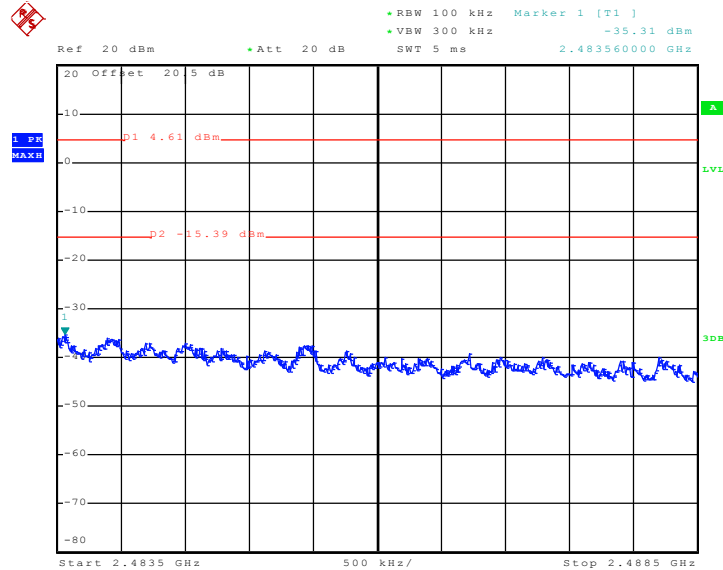
Test Mode :	Mode 4 and 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	40~44%
Test Channel :	01 and 11	Test Engineer :	Hank Yu and Phoenix Chen

Low Band Edge Plot on 802.11g Channel 01



Date: 5.MAR.2011 13:22:18

High Band Edge Plot on 802.11g Channel 11

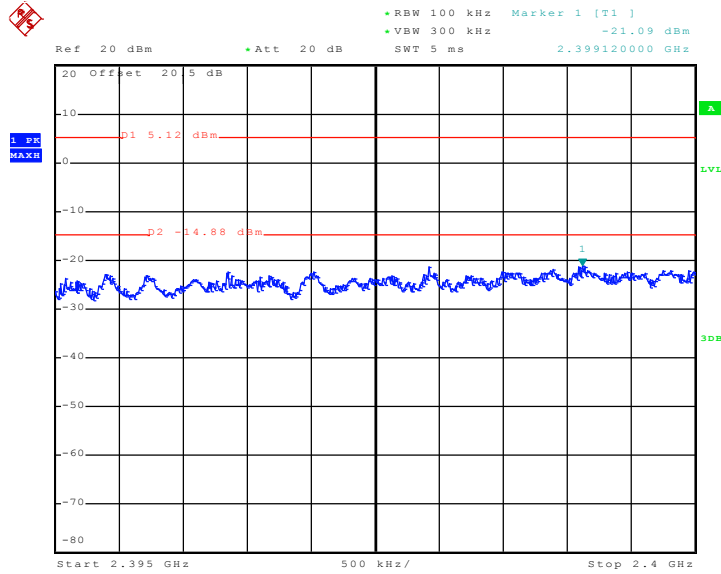


Date: 5.MAR.2011 13:16:51



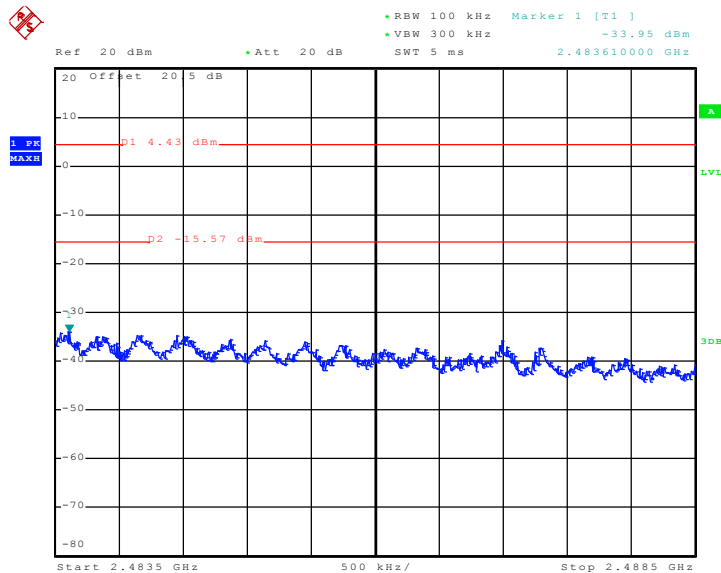
Test Mode :	Mode 7 and 9	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	01 and 11	Test Engineer :	Hank Yu and Phoenix Chen

Low Band Edge Plot on 802.11n Channel 01



Date: 5.MAR.2011 13:03:57

High Band Edge Plot on 802.11n Channel 11

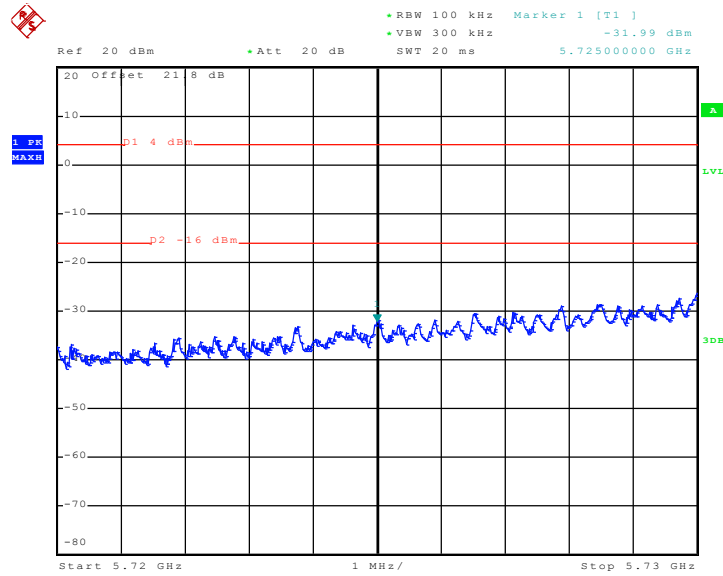


Date: 5.MAR.2011 13:10:07



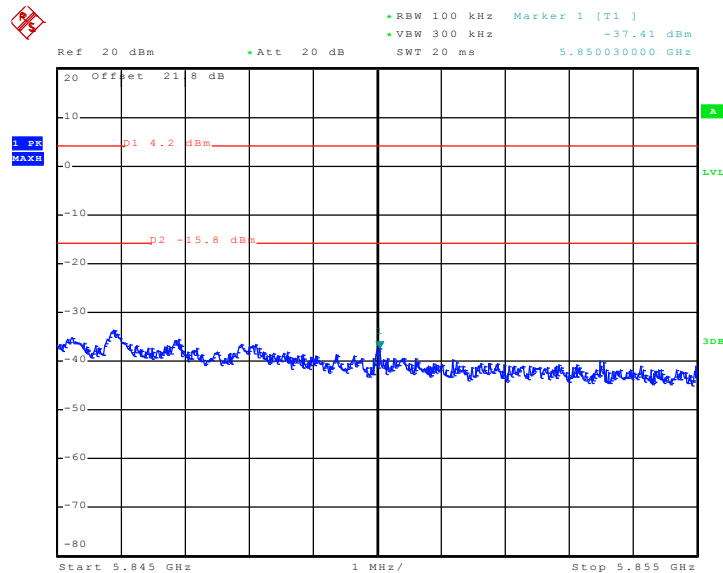
Test Mode :	Mode 10 and 12	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	40~44%
Test Channel :	149 and 165	Test Engineer :	Hank Yu and Phoenix Chen

Low Band Edge Plot on 802.11a Channel 149



Date: 14.MAR.2011 17:18:22

High Band Edge Plot on 802.11a Channel 165

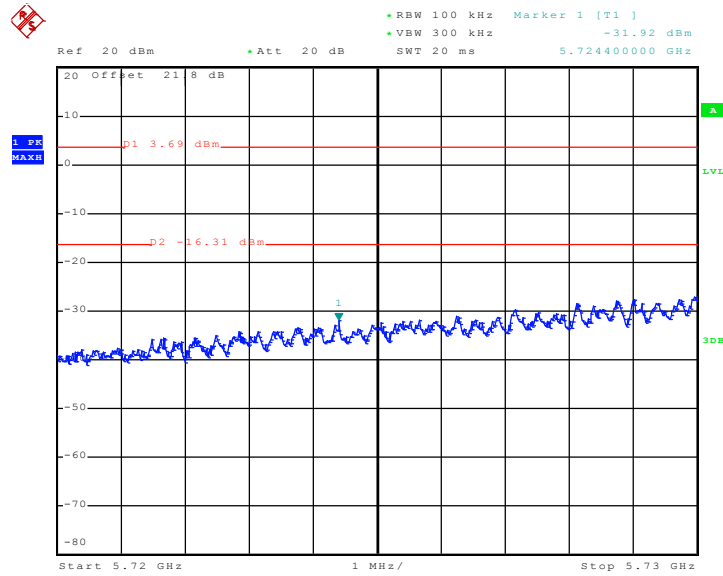


Date: 14.MAR.2011 17:44:58



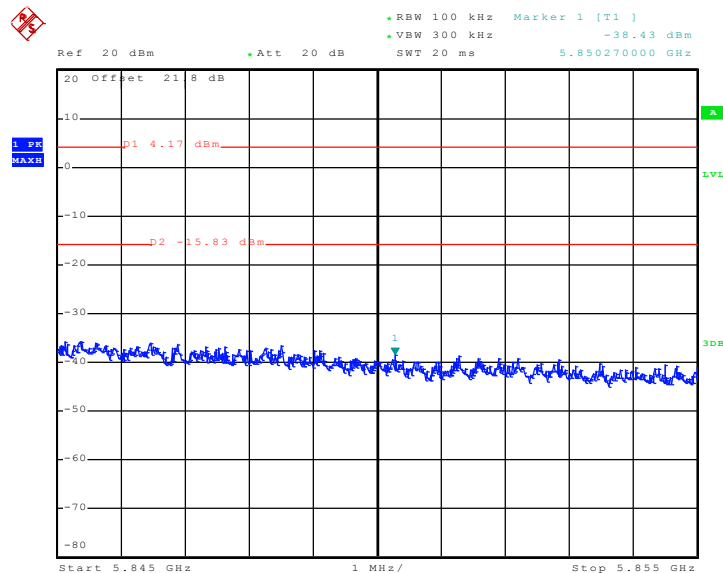
Test Mode :	Mode 13 and 15	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	149 and 165	Test Engineer :	Hank Yu and Phoenix Chen

Low Band Edge Plot on 802.11n Channel 149



Date: 14.MAR.2011 18:23:50

High Band Edge Plot on 802.11n Channel 165

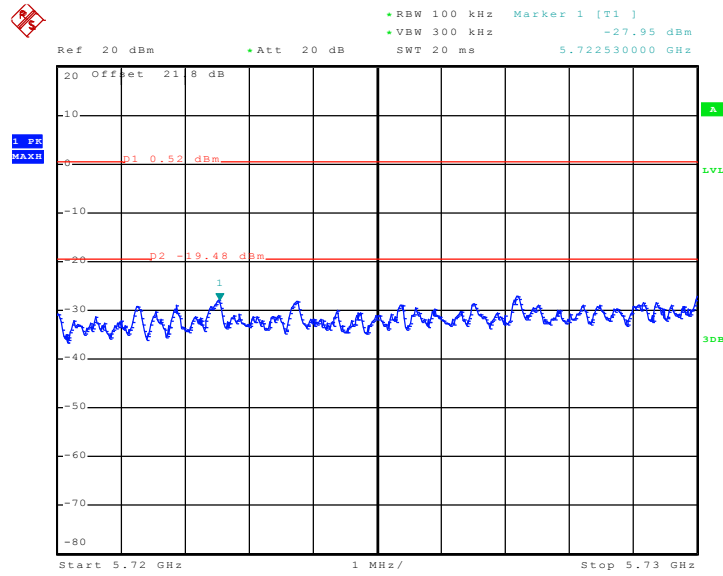


Date: 14.MAR.2011 17:59:38



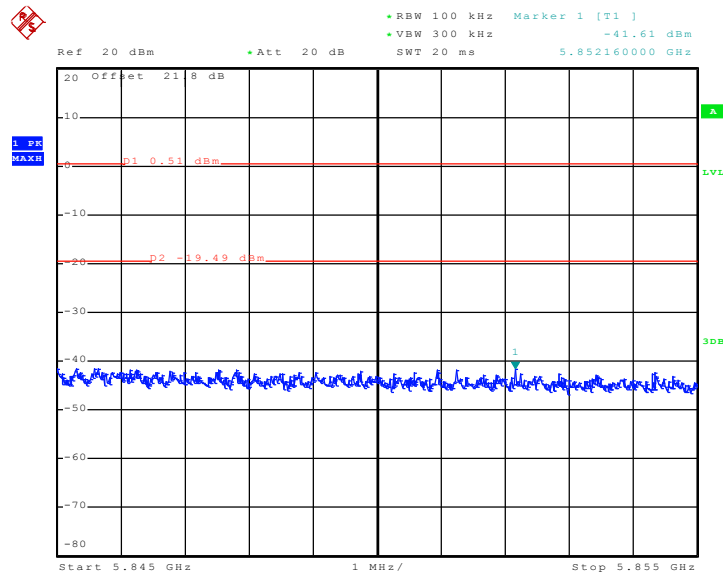
Test Mode :	Mode 16 and 17	Temperature :	24~26°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	40~44%
Test Channel :	151 and 159	Test Engineer :	Hank Yu and Phoenix Chen

Low Band Edge Plot on 802.11n Channel 151



Date: 14.MAR.2011 18:54:09

High Band Edge Plot on 802.11n Channel 159



Date: 14.MAR.2011 19:11:09

## 3.4 Spurious Emission Measurement

### 3.4.1 Limit of Spurious Emission Measurement

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

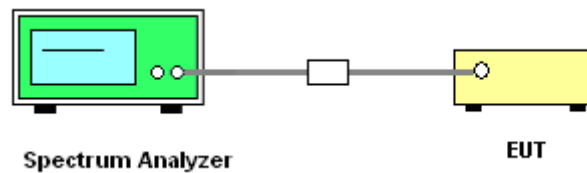
### 3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

### 3.4.4 Test Setup



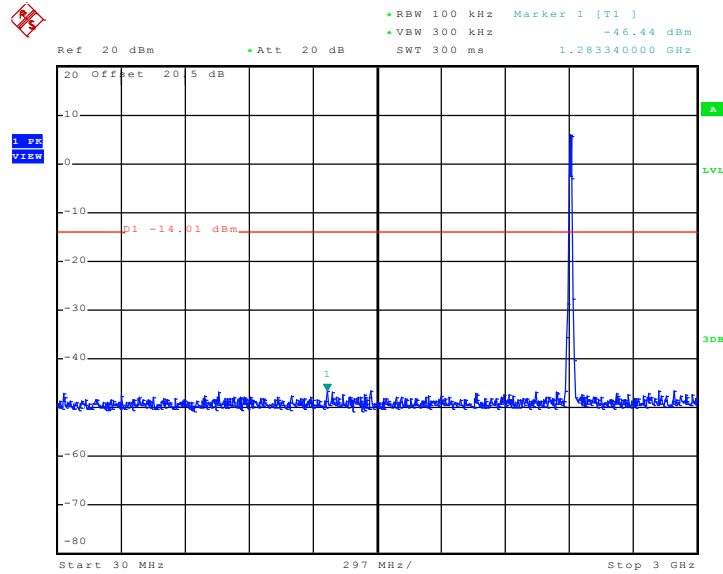




3.4.5 Test Result

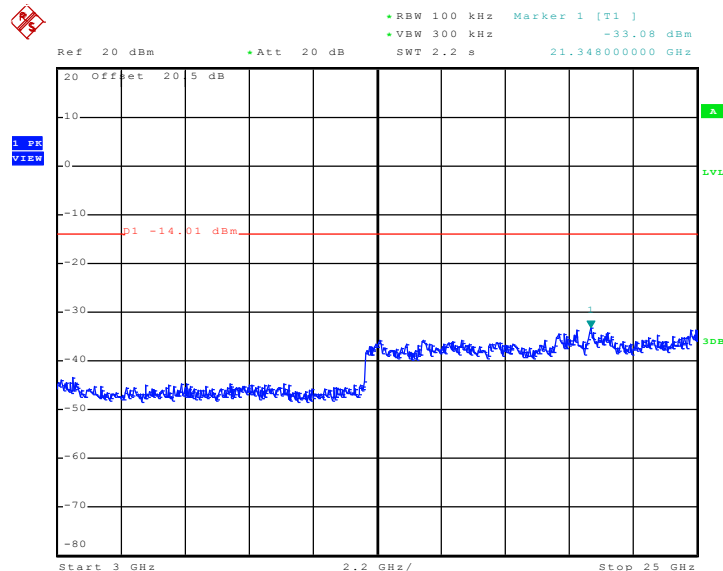
Test Mode :	Mode 1	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	40~44%
Test Channel :	01	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:46:06

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

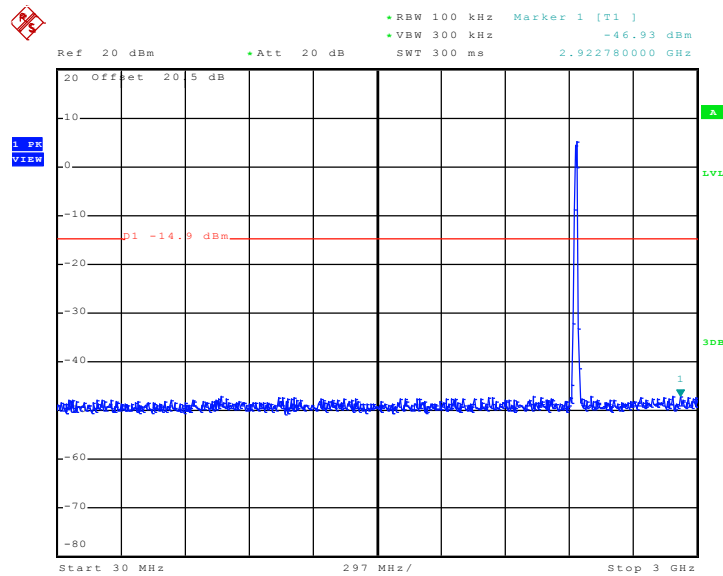


Date: 5.MAR.2011 12:46:23



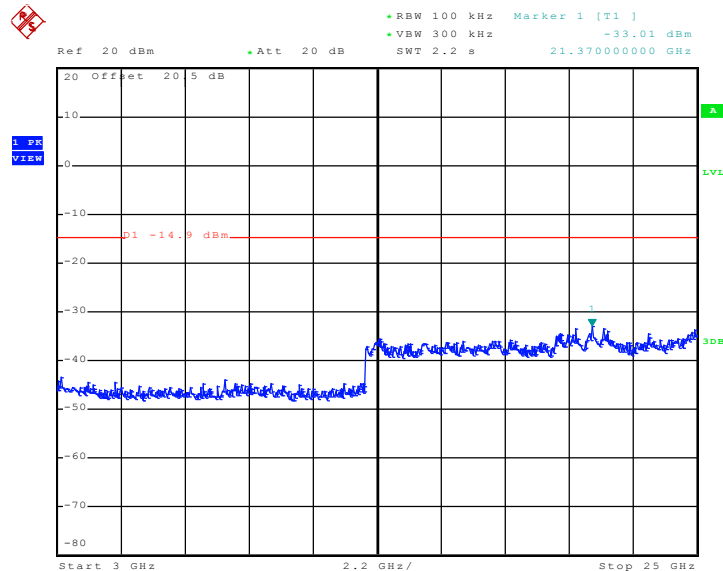
Test Mode :	Mode 2	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	40~44%
Test Channel :	06	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:46:53

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

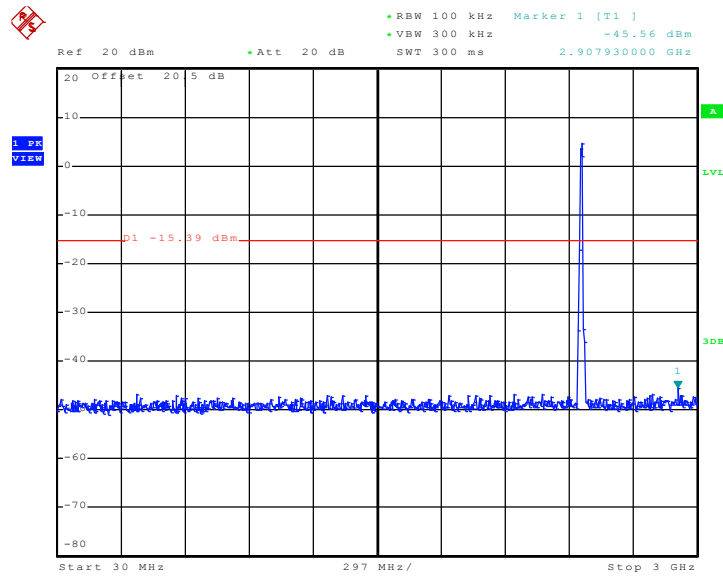


Date: 5.MAR.2011 12:47:10



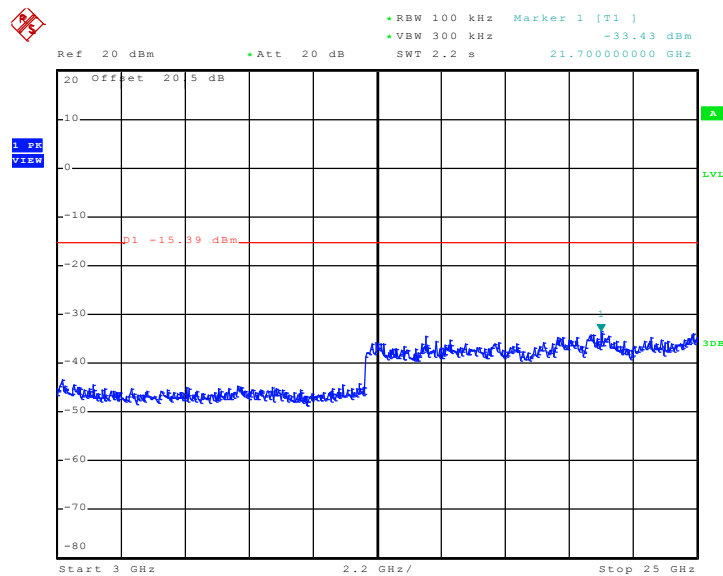
Test Mode :	Mode 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	40~44%
Test Channel :	11	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:47:45

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

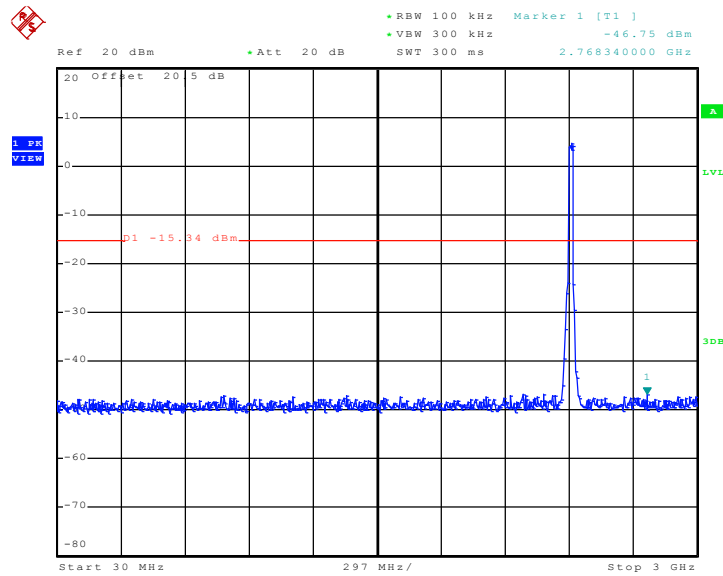


Date: 5.MAR.2011 12:48:02



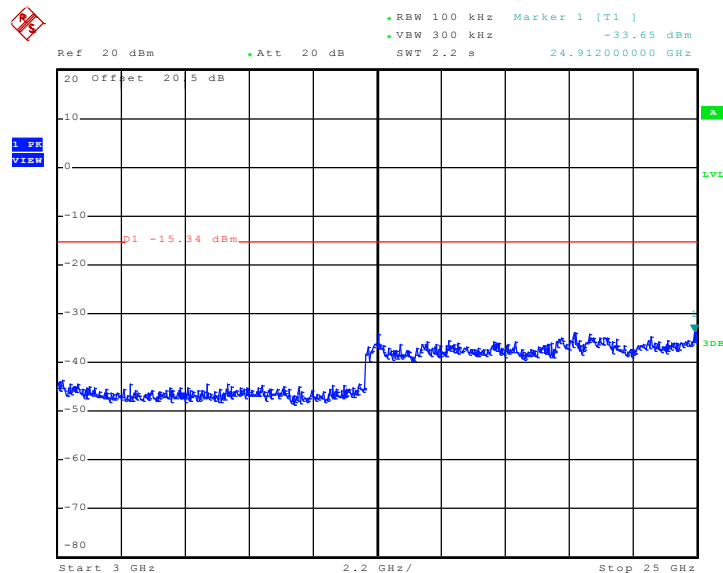
Test Mode :	Mode 4	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	40~44%
Test Channel :	01	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:49:17

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

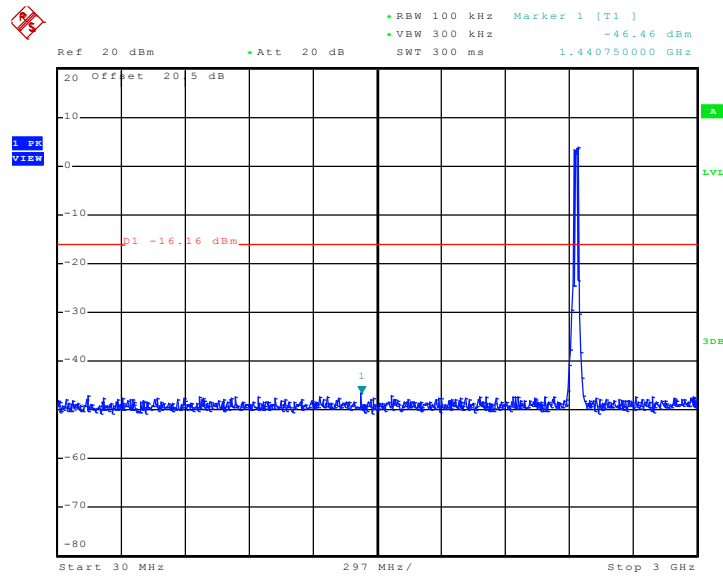


Date: 5.MAR.2011 12:49:34



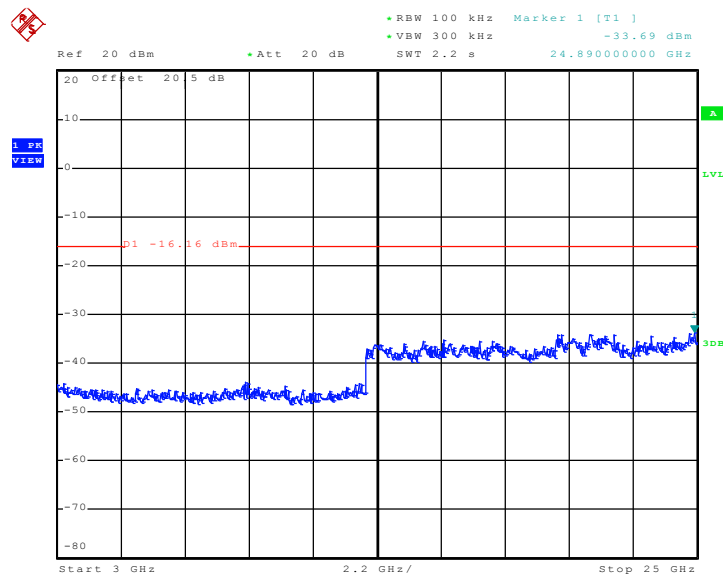
Test Mode :	Mode 5	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	40~44%
Test Channel :	06	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:50:08

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

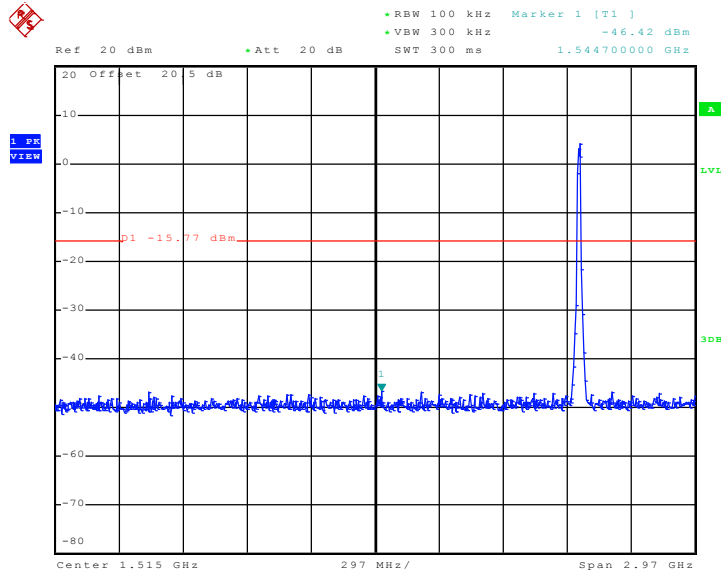


Date: 5.MAR.2011 12:50:25



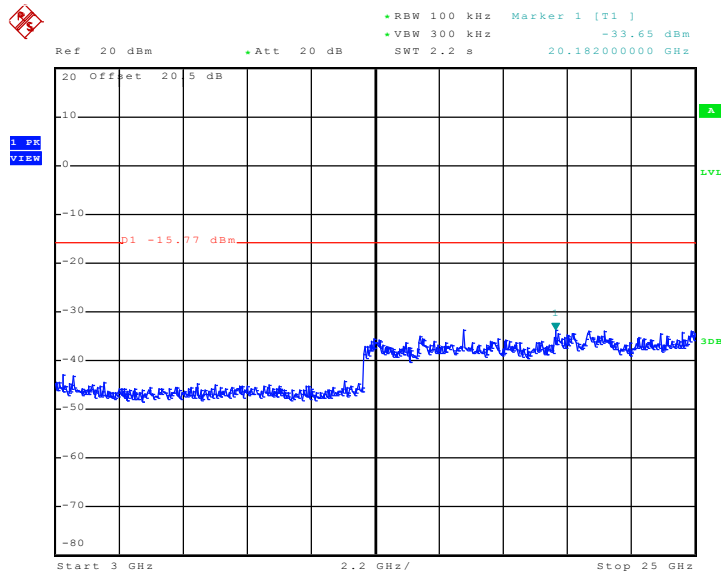
Test Mode :	Mode 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	40~44%
Test Channel :	11	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:48:27

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

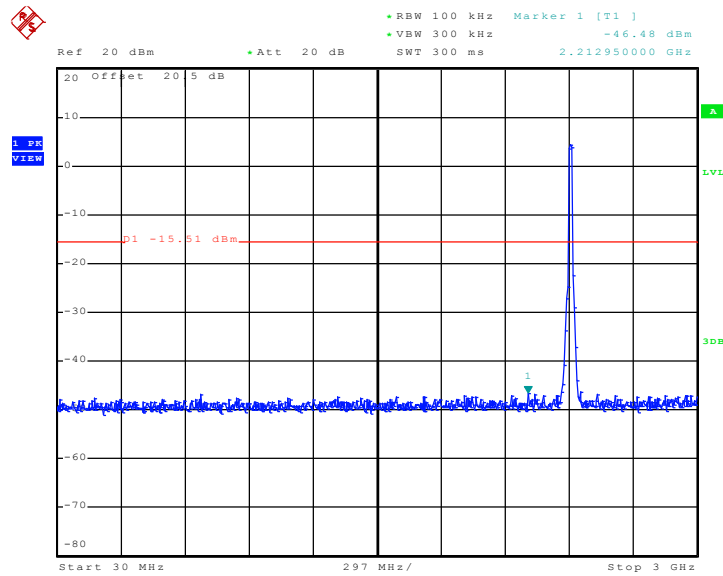


Date: 5.MAR.2011 12:48:44



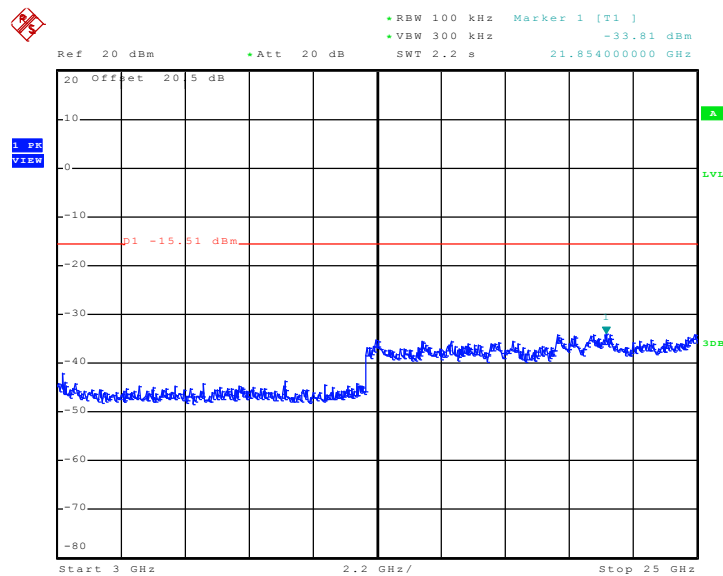
Test Mode :	Mode 7	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	01	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:51:44

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

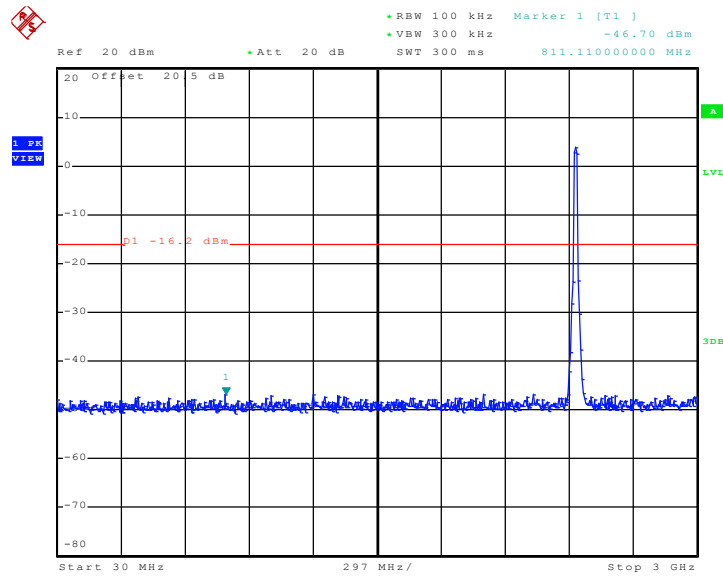


Date: 5.MAR.2011 12:52:01



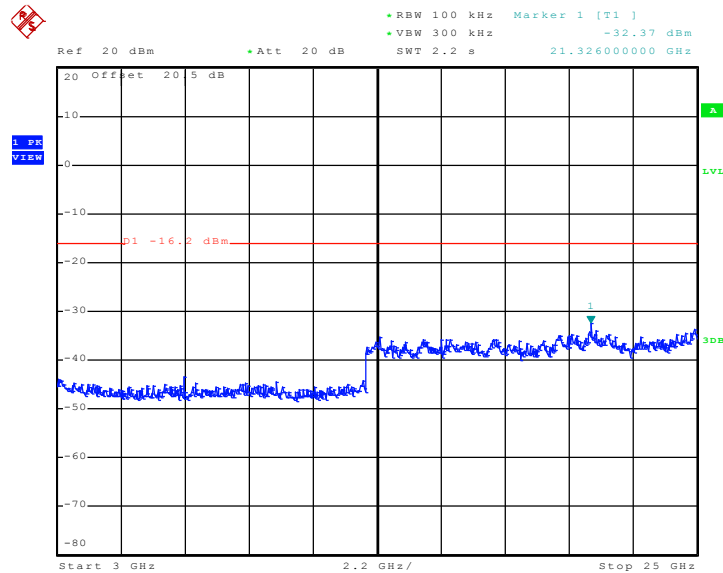
Test Mode :	Mode 8	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	06	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:55:42

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



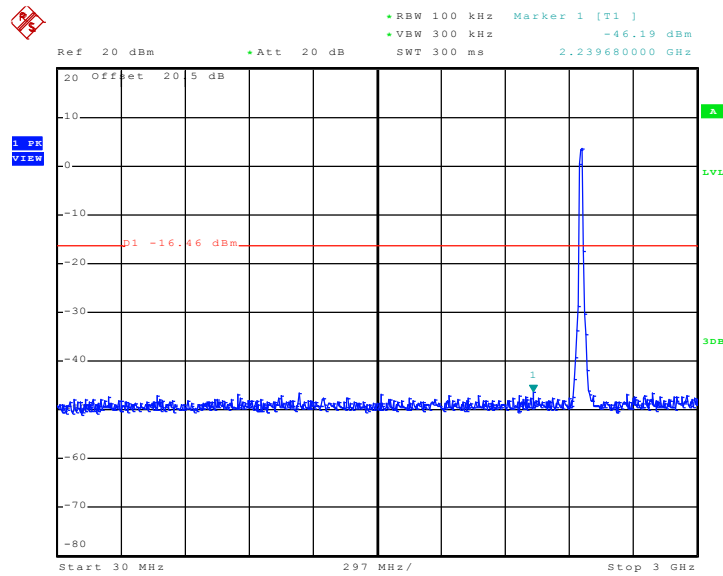
Date: 5.MAR.2011 12:55:59





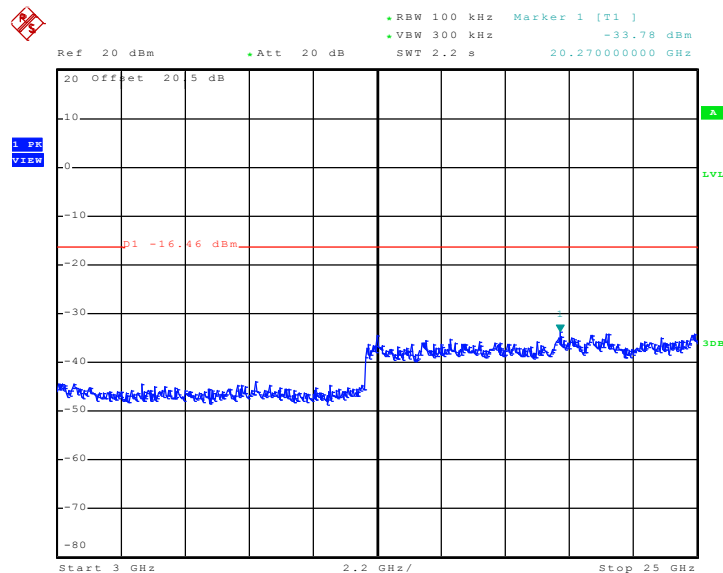
Test Mode :	Mode 9	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	11	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 5.MAR.2011 12:53:04

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

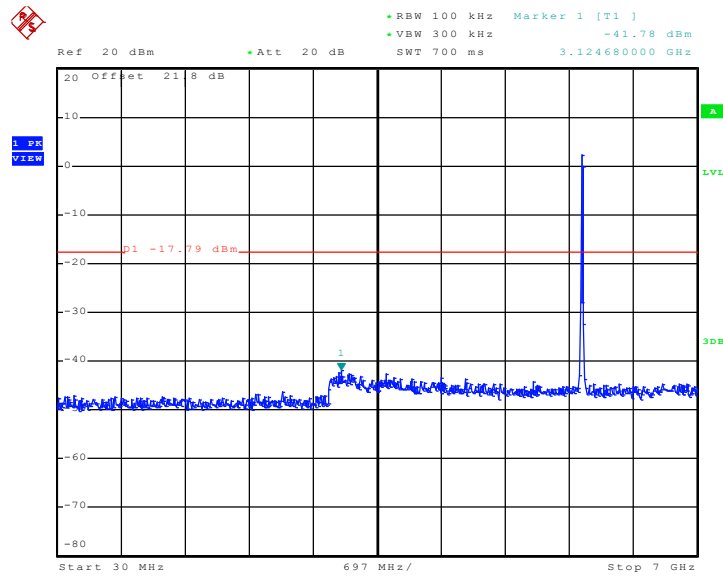


Date: 5.MAR.2011 12:53:21



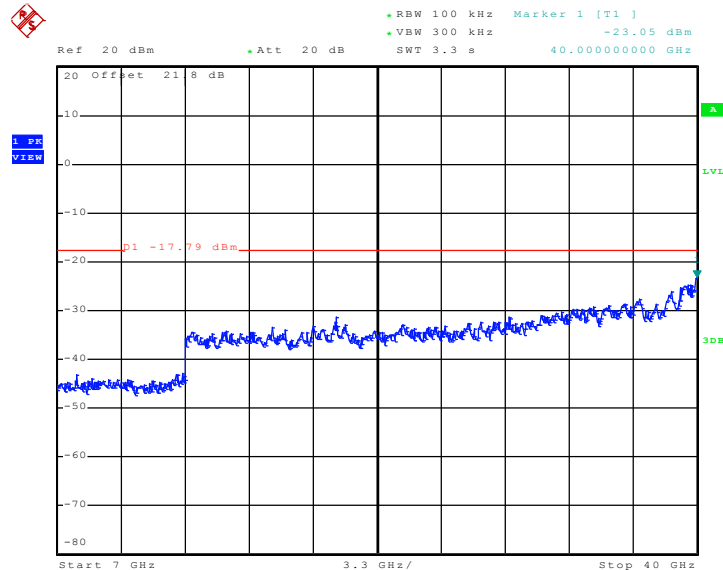
Test Mode :	Mode 10	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	40~44%
Test Channel :	149	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 17:28:02

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

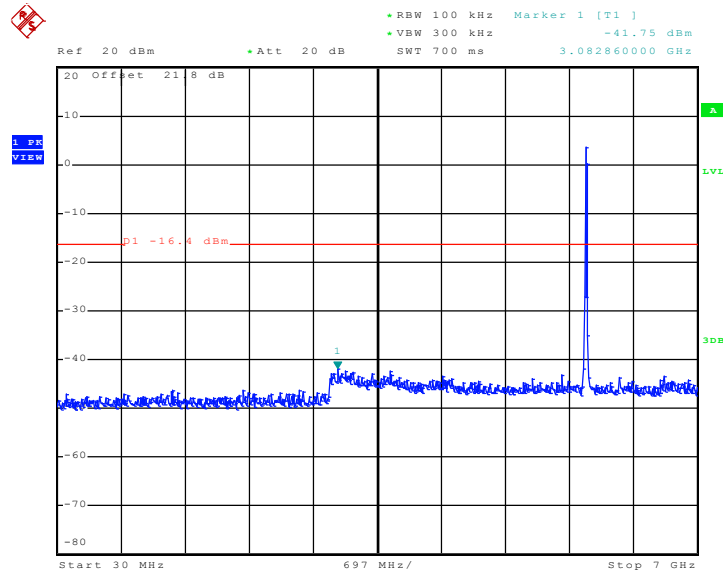


Date: 14.MAR.2011 17:28:19



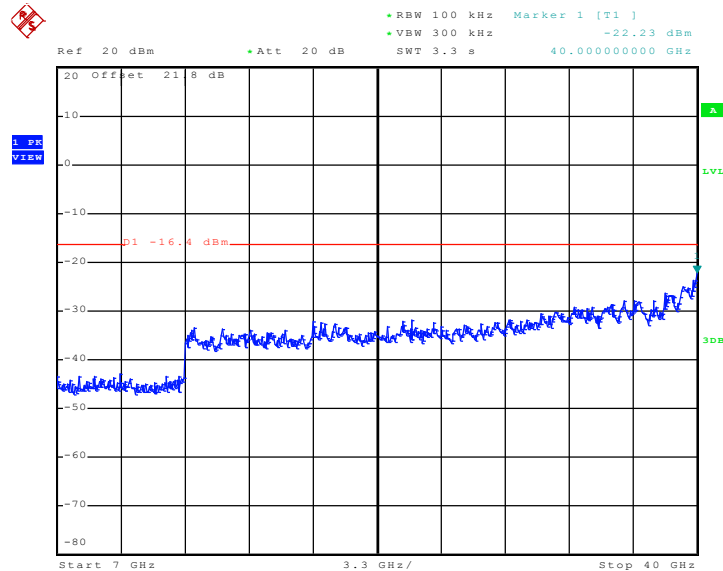
Test Mode :	Mode 11	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	40~44%
Test Channel :	157	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 17:41:18

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

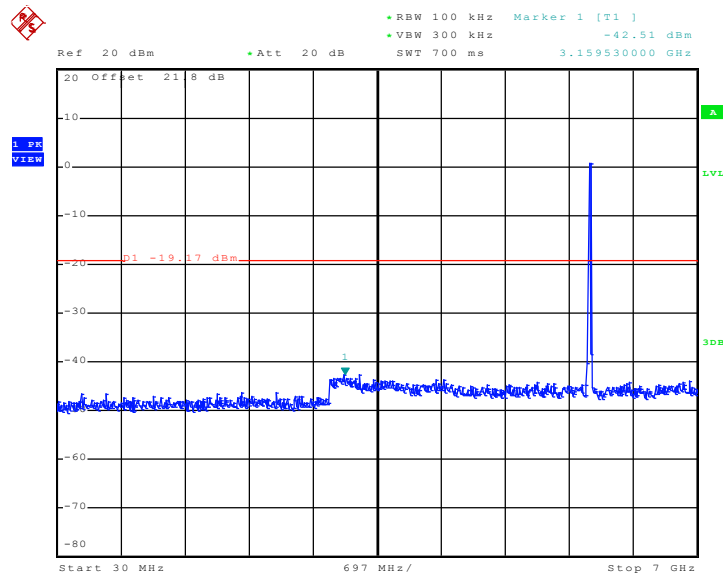


Date: 14.MAR.2011 17:41:34



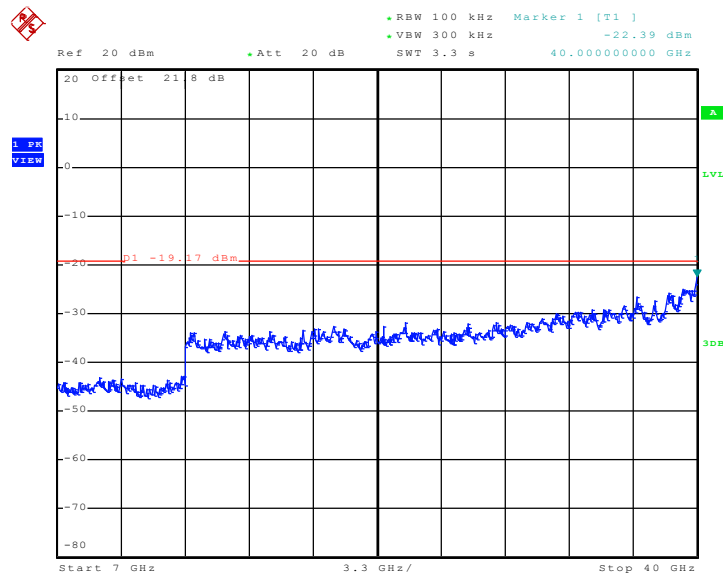
Test Mode :	Mode 12	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	40~44%
Test Channel :	165	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 17:54:24

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

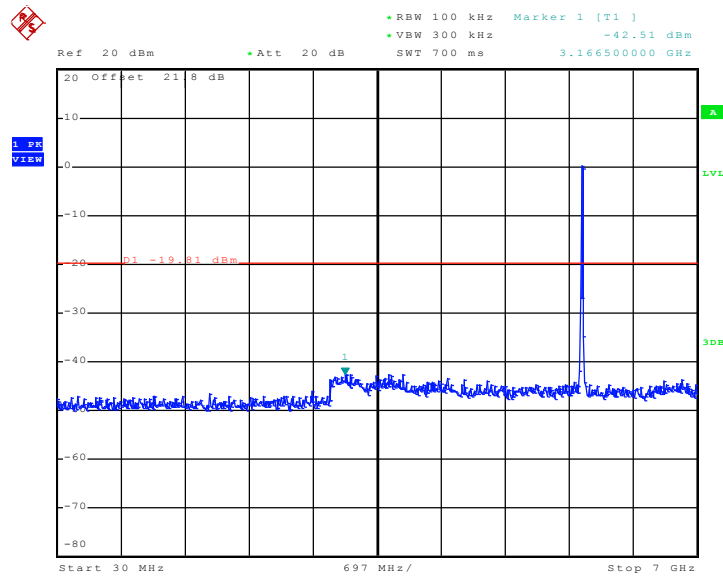


Date: 14.MAR.2011 17:54:41



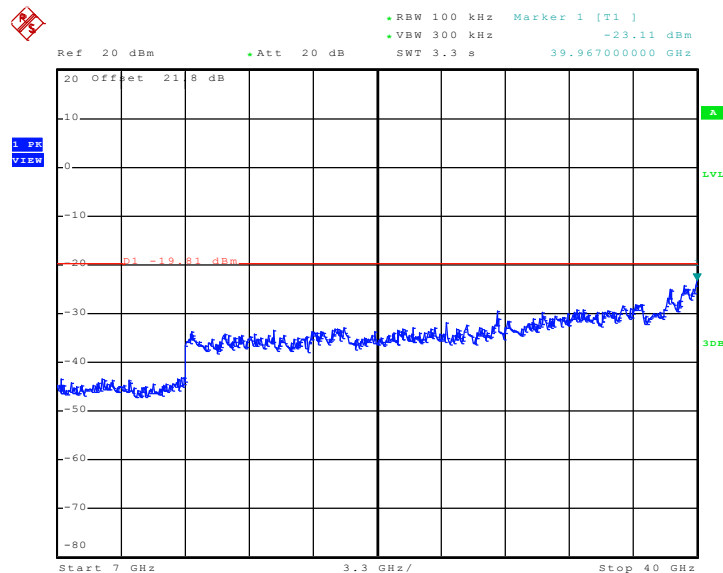
Test Mode :	Mode 13	Temperature :	24~26°C
Test Band :	802.11a (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	149	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 18:50:53

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

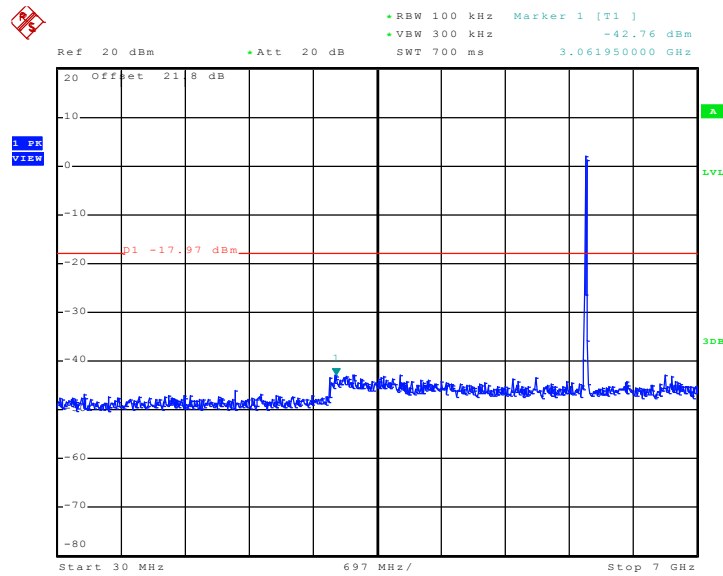


Date: 14.MAR.2011 18:51:09



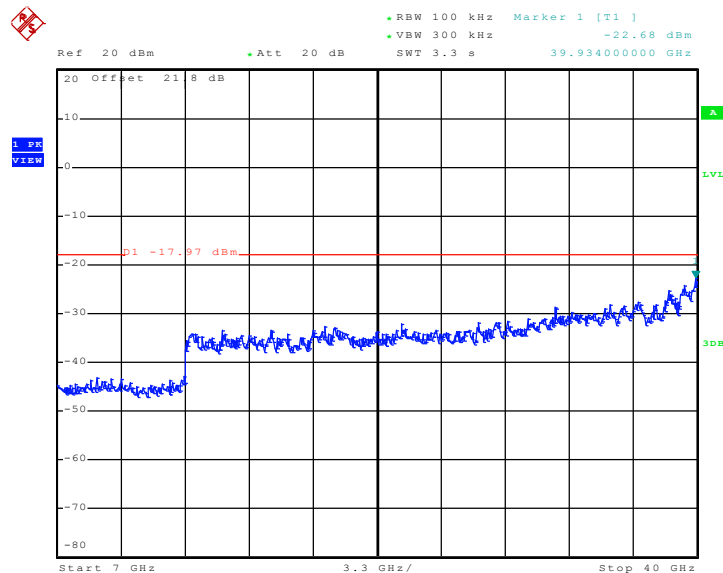
Test Mode :	Mode 14	Temperature :	24~26°C
Test Band :	802.11a (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	151	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 18:21:25

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

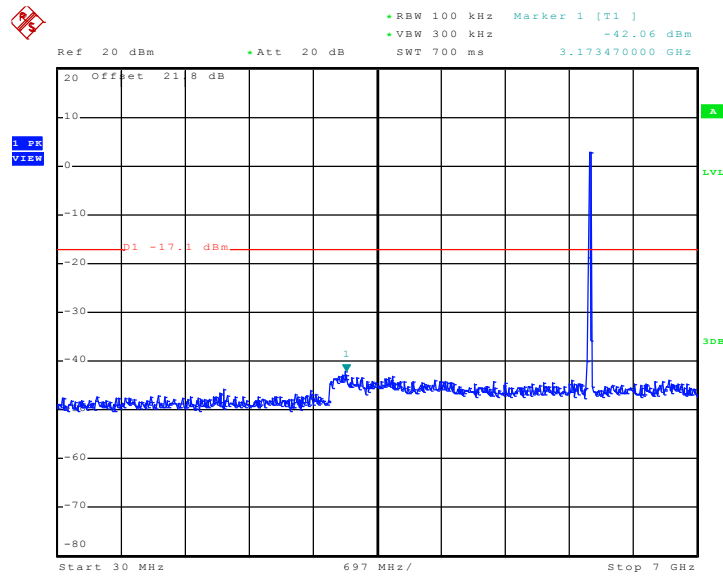


Date: 14.MAR.2011 18:21:42



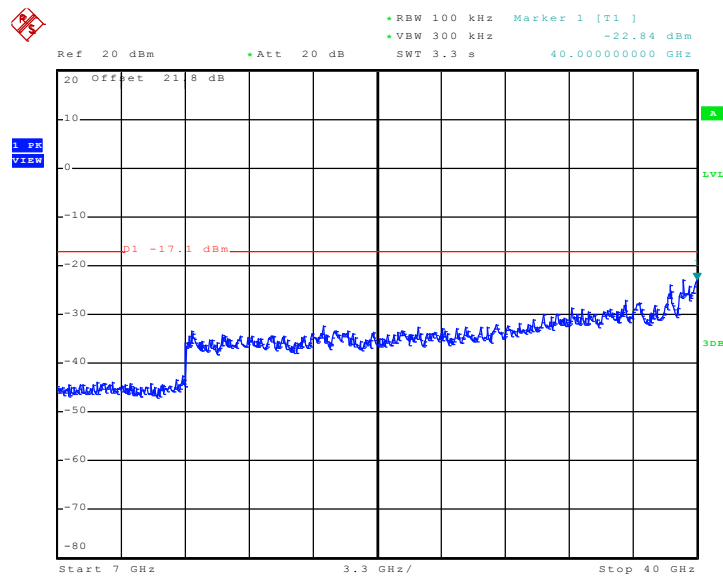
Test Mode :	Mode 15	Temperature :	24~26°C
Test Band :	802.11a (BW 20MHz)	Relative Humidity :	40~44%
Test Channel :	165	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 18:09:03

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

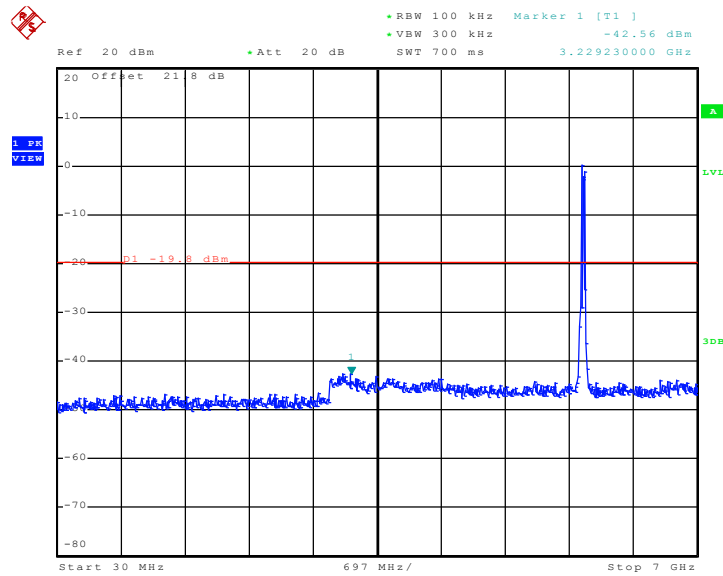


Date: 14.MAR.2011 18:09:20



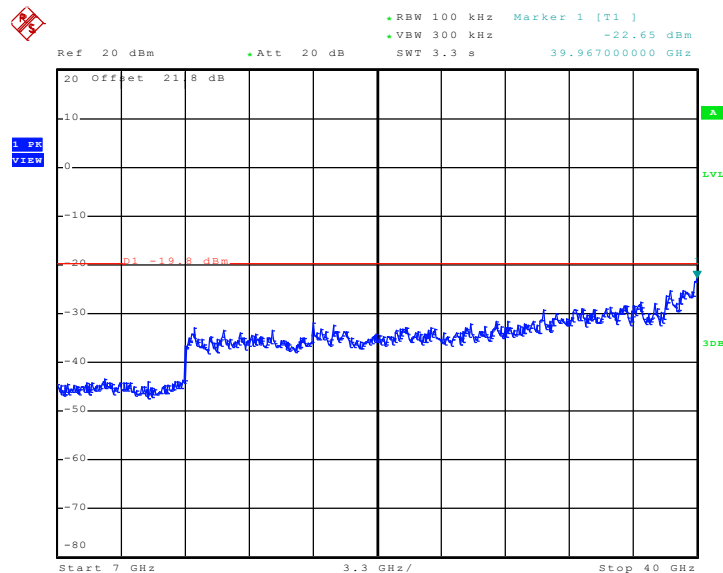
Test Mode :	Mode 16	Temperature :	24~26°C
Test Band :	802.11a (BW 40MHz)	Relative Humidity :	40~44%
Test Channel :	151	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 19:04:09

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



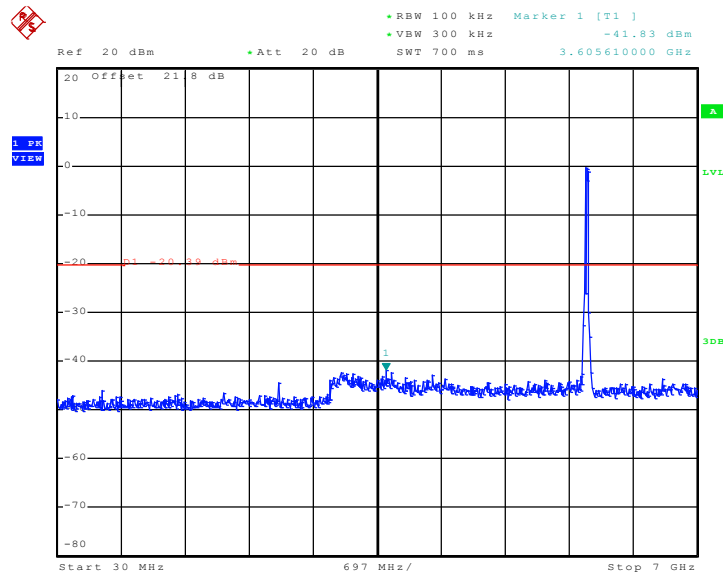
Date: 14.MAR.2011 19:04:25





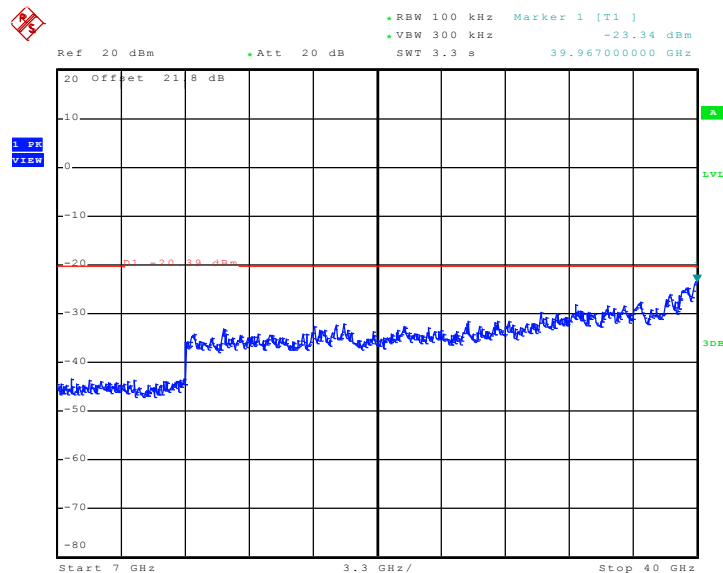
Test Mode :	Mode 17	Temperature :	24~26°C
Test Band :	802.11a (BW 40MHz)	Relative Humidity :	40~44%
Test Channel :	159	Test Engineer :	Hank Yu and Phoenix Chen

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 14.MAR.2011 19:38:23

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 14.MAR.2011 19:38:40

## 3.5 Power Spectral Density Measurement

### 3.5.1 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.

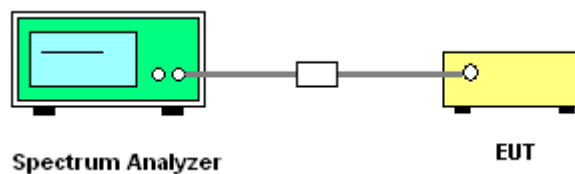
### 3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.5.3 Test Procedures

1. The test follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Take the measured data from spectrum analyzer.

### 3.5.4 Test Setup





3.5.5 Test Result of Power Spectral Density

Test Mode :	Mode 1, 2, 3	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-7.08	8	Pass
06	2437	-7.92	8	Pass
11	2462	-8.11	8	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-2.97	8	Pass
06	2437	-3.87	8	Pass
11	2462	-4.51	8	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Hank Yu and Phoenix Chen	Relative Humidity :	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-3.96	8	Pass
06	2437	-6.04	8	Pass
11	2462	-6.03	8	Pass



<b>Test Mode :</b>	Mode 10, 11, 12	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11a Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-10.48	8	Pass
157	5785	-10.30	8	Pass
165	5825	-10.11	8	Pass

<b>Test Mode :</b>	Mode 13, 14, 15	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-11.12	8	Pass
157	5785	-10.61	8	Pass
165	5825	-10.77	8	Pass

<b>Test Mode :</b>	Mode 16, 17	<b>Temperature :</b>	24~26°C
<b>Test Engineer :</b>	Hank Yu and Phoenix Chen	<b>Relative Humidity :</b>	40~44%

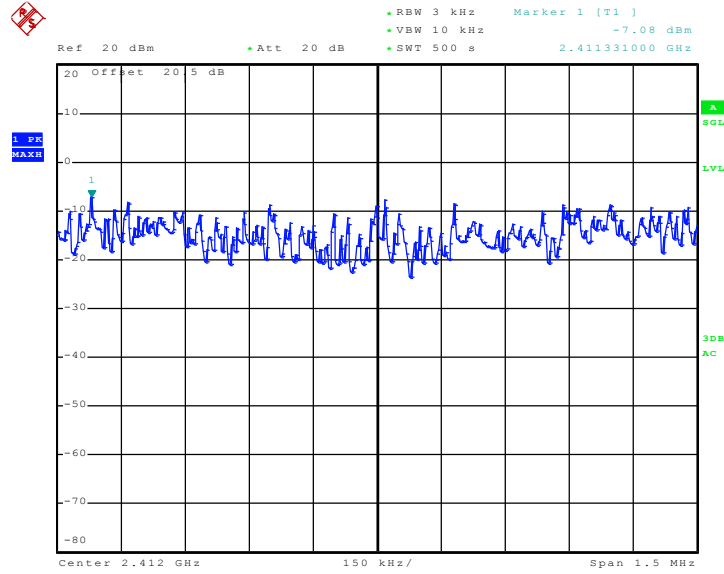
Channel	Frequency (MHz)	802.11n (BW 40MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	-15.91	8	Pass
159	5795	-15.64	8	Pass



### 3.5.6 Test Result of Power Spectral Density Plots

Mode 1 :

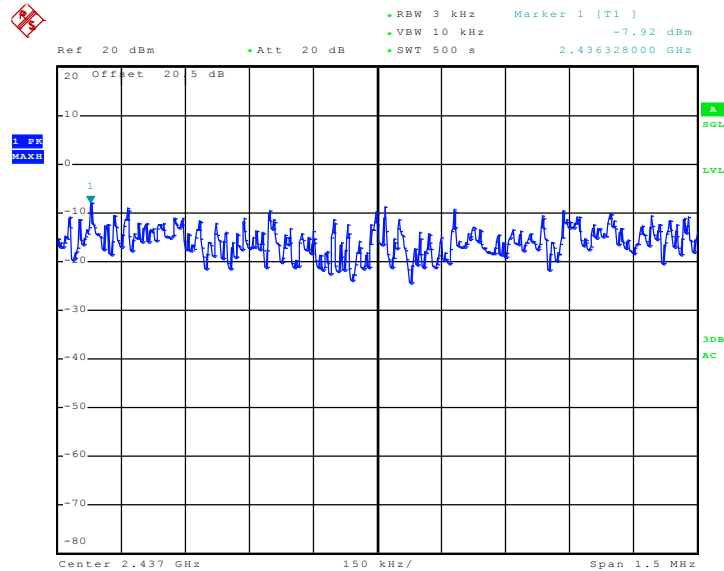
PSD Plot on 802.11b Channel 01



Date: 5.MAR.2011 14:25:11

Mode 2 :

PSD Plot on 802.11b Channel 06

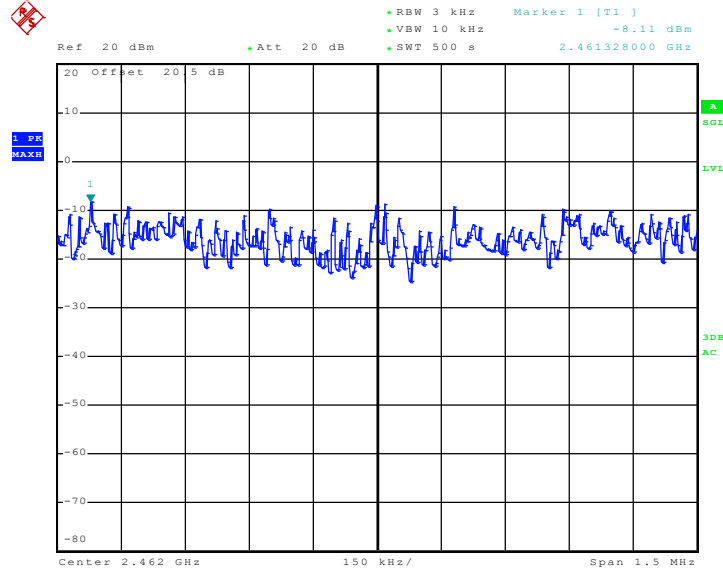


Date: 5.MAR.2011 15:09:49



Mode 3 :

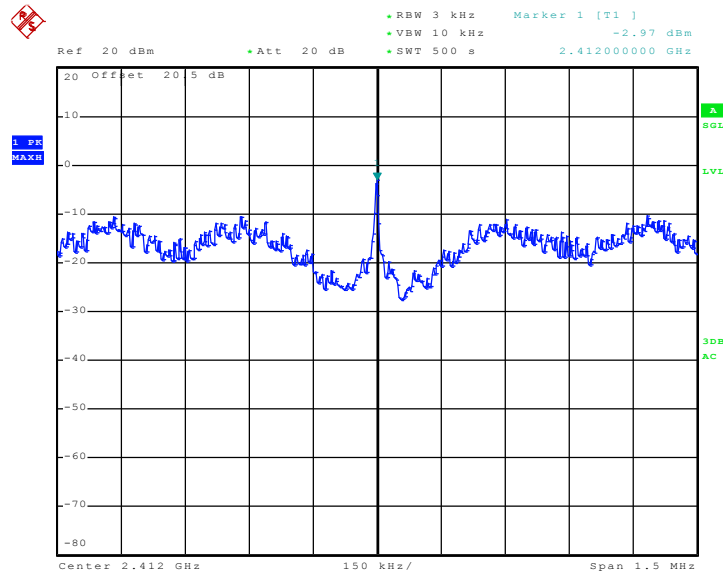
PSD Plot on 802.11b Channel 11



Date: 5.MAR.2011 14:59:43

Mode 4 :

PSD Plot on 802.11g Channel 01

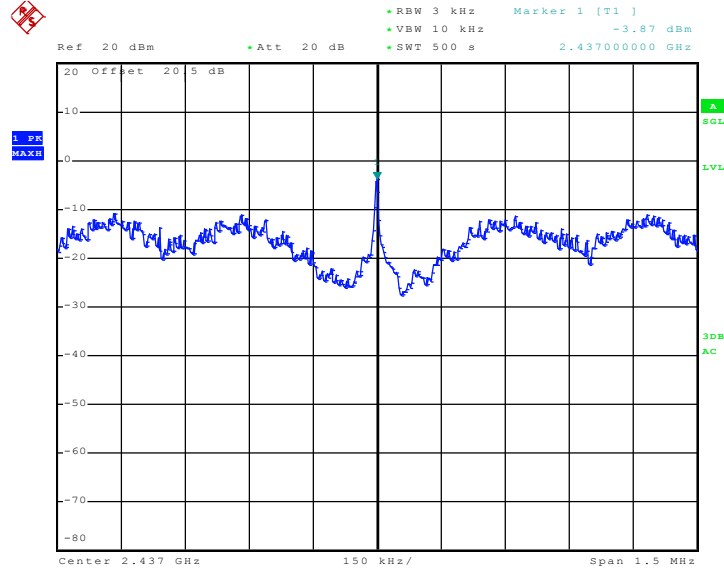


Date: 5.MAR.2011 15:31:24



Mode 5 :

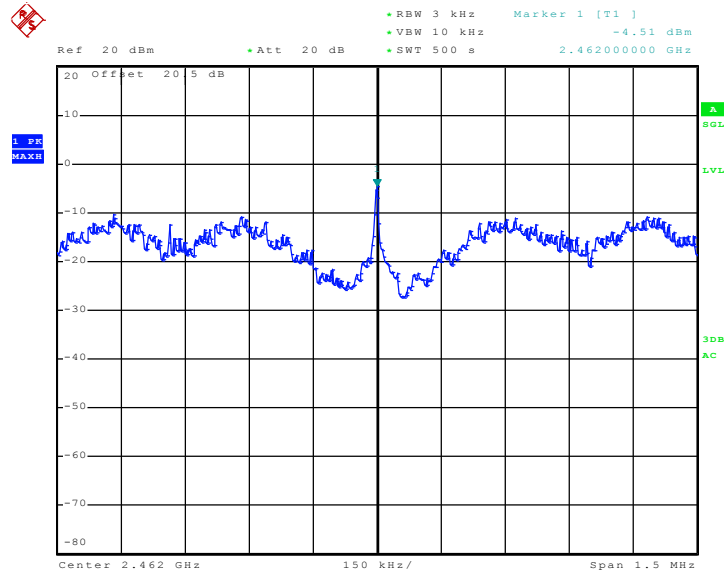
PSD Plot on 802.11g Channel 06



Date: 5.MAR.2011 15:22:04

Mode 6 :

PSD Plot on 802.11g Channel 11

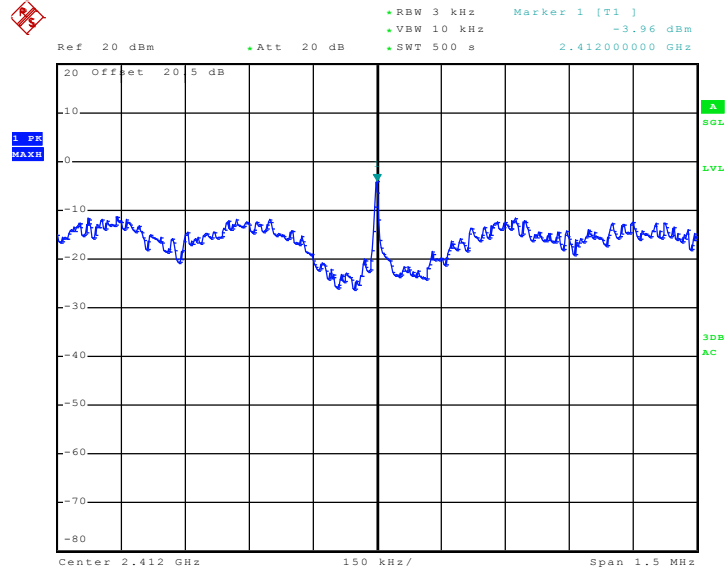


Date: 5.MAR.2011 15:40:33



Mode 7 :

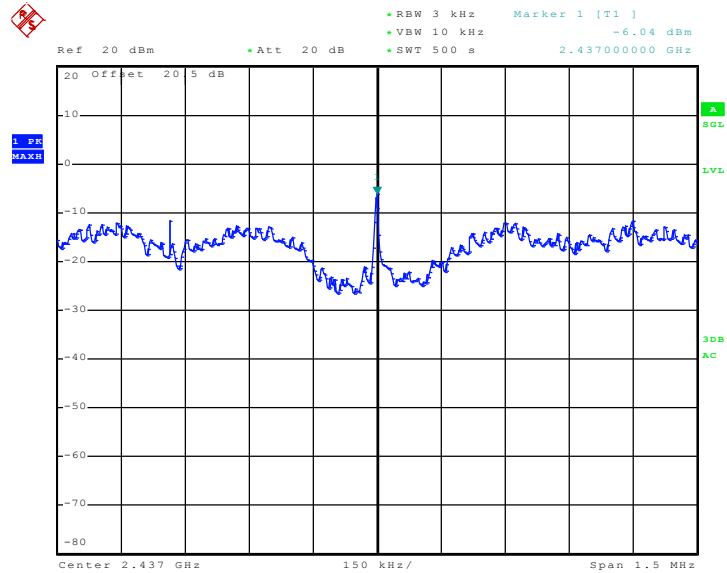
PSD Plot on 802.11n (BW 20MHz) Channel 01



Date: 5.MAR.2011 16:15:13

Mode 8 :

PSD Plot on 802.11n (BW 20MHz) Channel 06



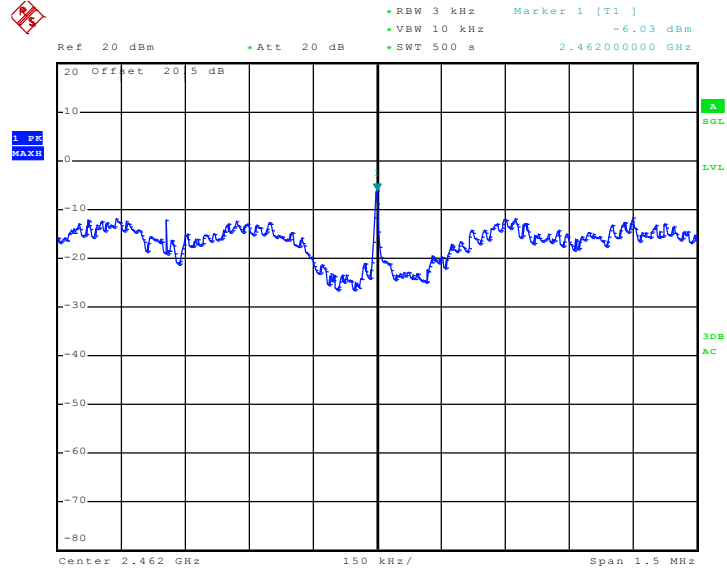
Date: 5.MAR.2011 16:04:31





Mode 9 :

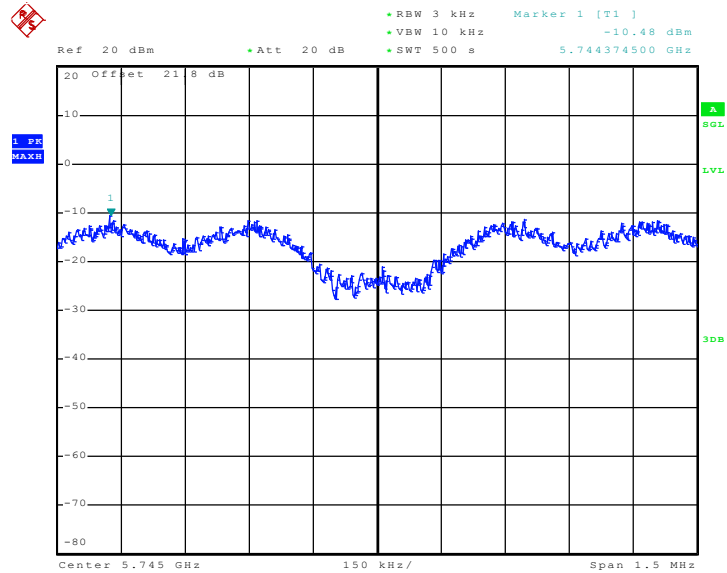
PSD Plot on 802.11n (BW 20MHz) Channel 11



Date: 5.MAR.2011 16:24:03

Mode 10:

PSD Plot on 802.11a Channel 149

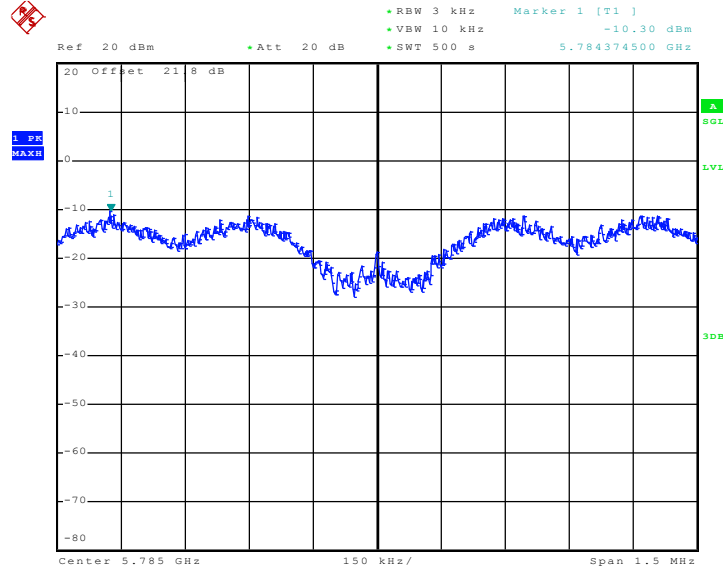


Date: 14.MAR.2011 17:27:41



Mode 11:

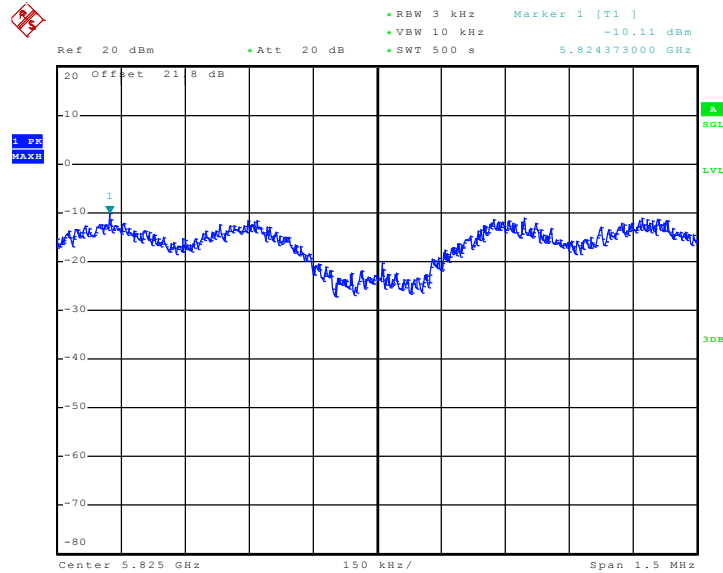
PSD Plot on 802.11a Channel 157



Date: 14.MAR.2011 17:40:57

Mode 12:

PSD Plot on 802.11a Channel 165

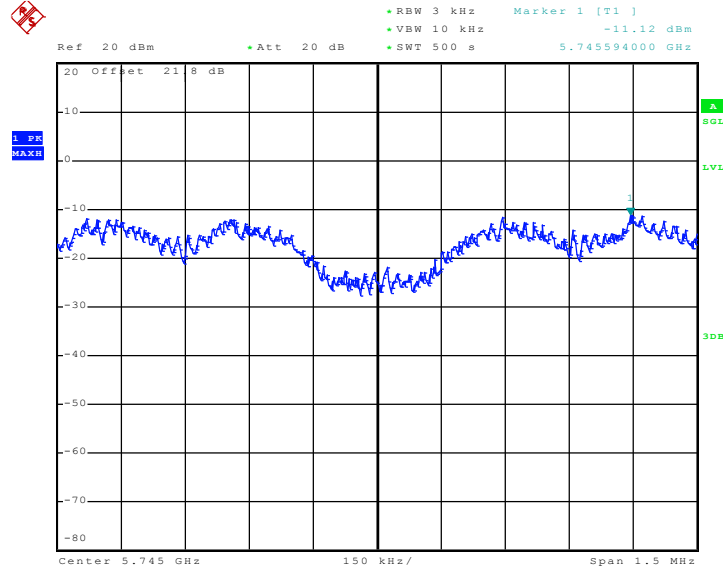


Date: 14.MAR.2011 17:54:03



Mode 13:

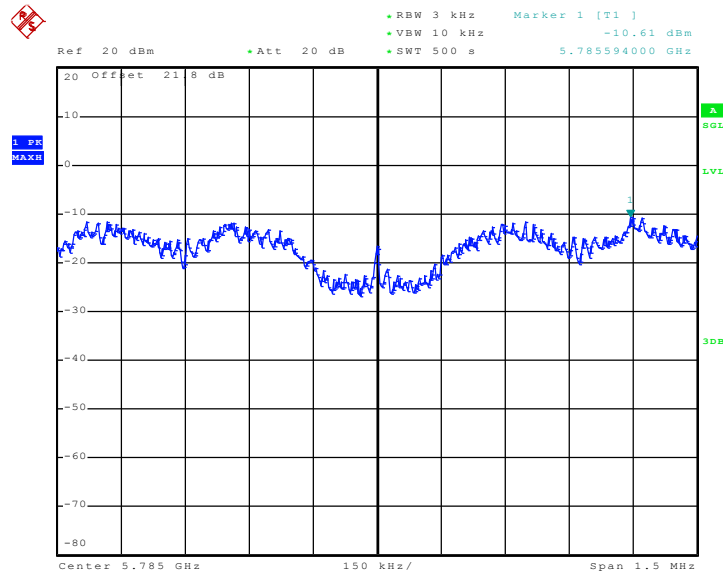
PSD Plot on 802.11n (BW 20MHz) Channel 149



Date: 14.MAR.2011 18:50:32

Mode 14:

PSD Plot on 802.11n (BW 20MHz) Channel 157

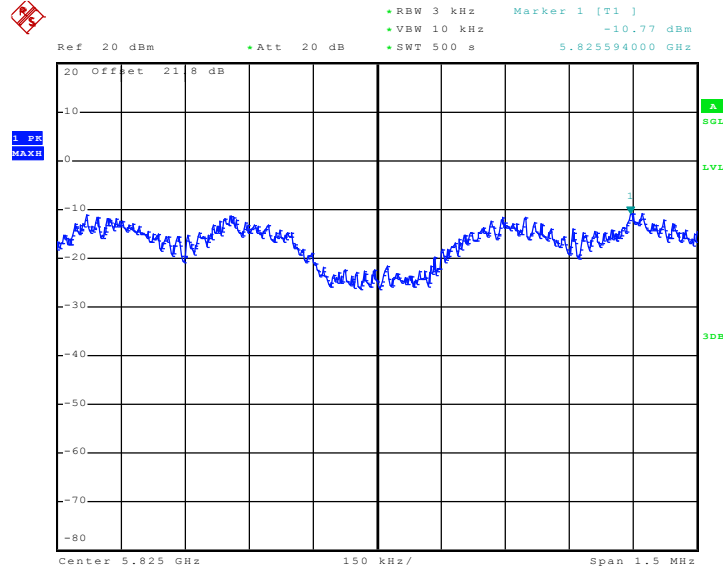


Date: 14.MAR.2011 18:21:04



Mode 15:

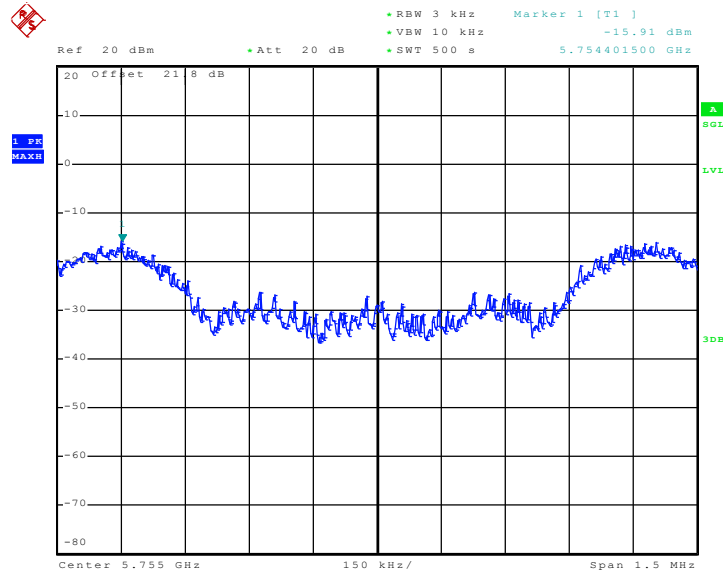
PSD Plot on 802.11n (BW 20MHz) Channel 165



Date: 14.MAR.2011 18:08:42

Mode 16:

PSD Plot on 802.11n (BW 40MHz) Channel 151

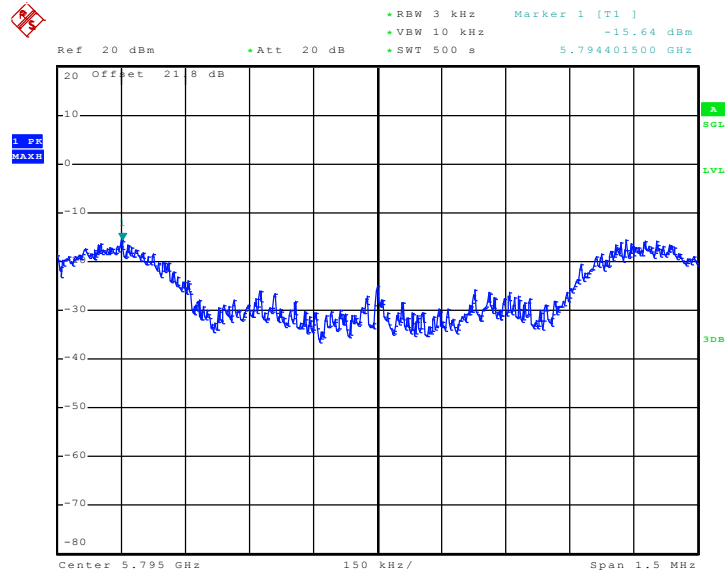


Date: 14.MAR.2011 19:03:48



Mode 17:

PSD Plot on 802.11n (BW 40MHz) Channel 159



Date: 14.MAR.2011 19:37:49

### 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.

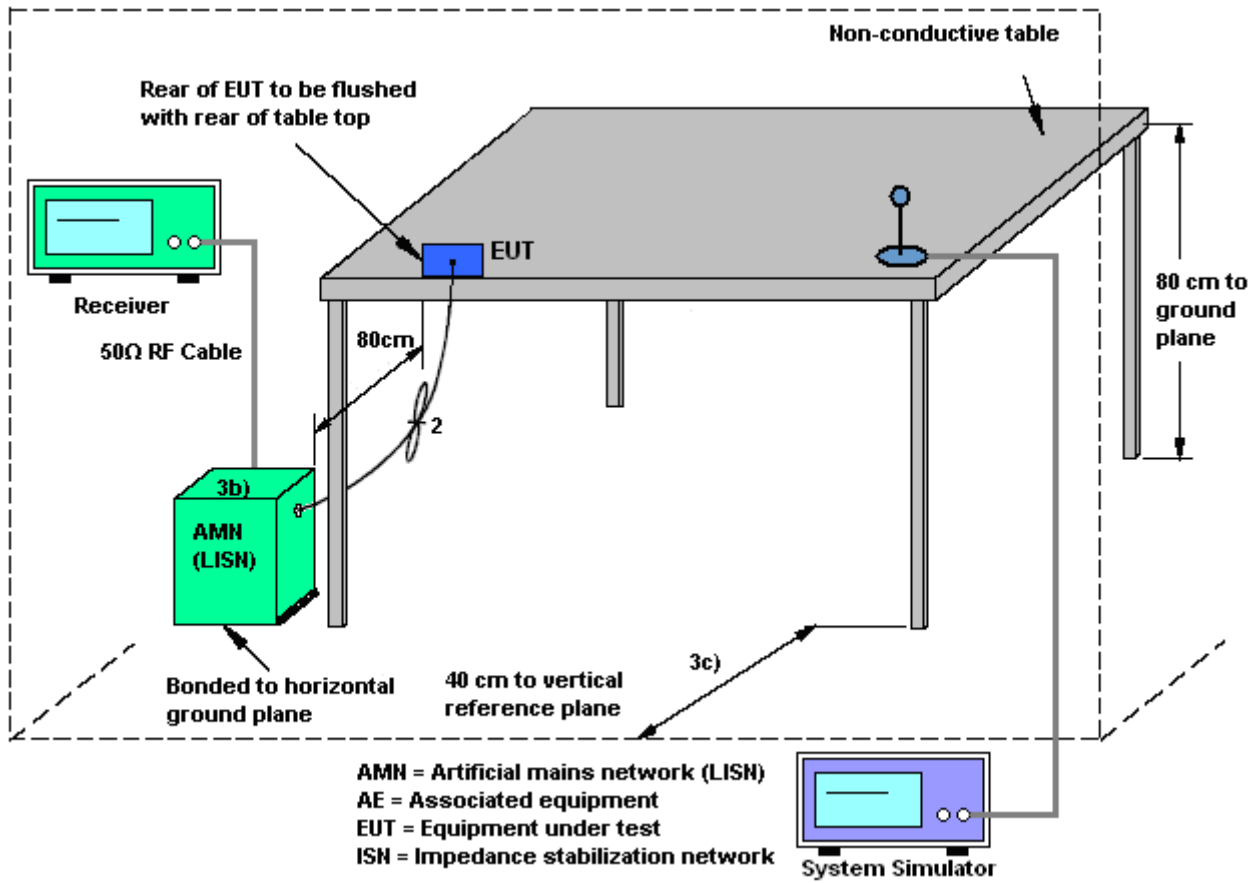
#### 3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

#### 3.6.3 Test Procedures

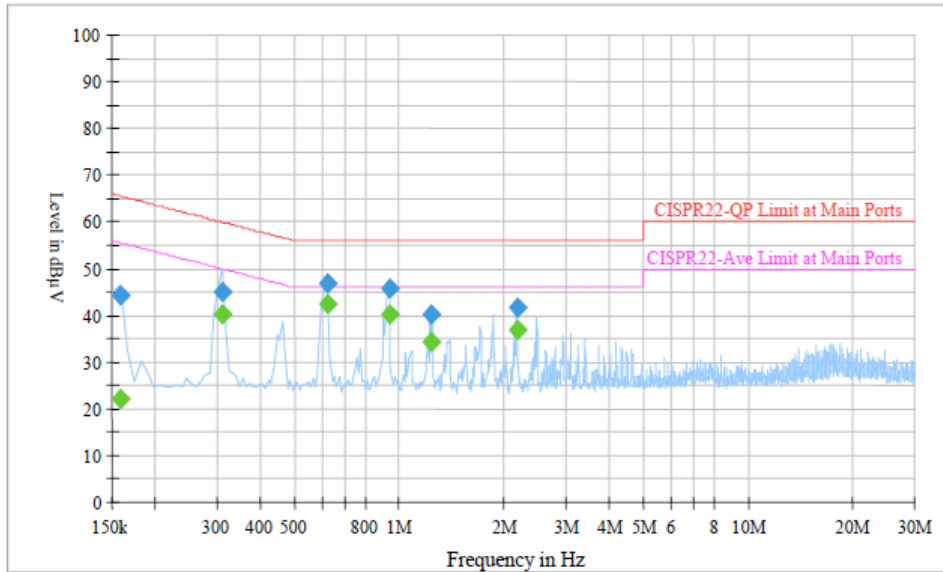
4. The testing follows the guidelines in ANSI C63.4-2003.
5. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
6. Connect EUT to the power mains through a line impedance stabilization network (LISN).
7. All the support units are connecting to the other LISN.
8. The LISN provides 50 ohm coupling impedance for the measuring instrument.
9. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
10. Both sides of AC line were checked for maximum conducted interference.
11. The frequency range from 150 kHz to 30 MHz was searched.
12. 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 :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + WLAN Link + Bluetooth Link + Earphone + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result 1

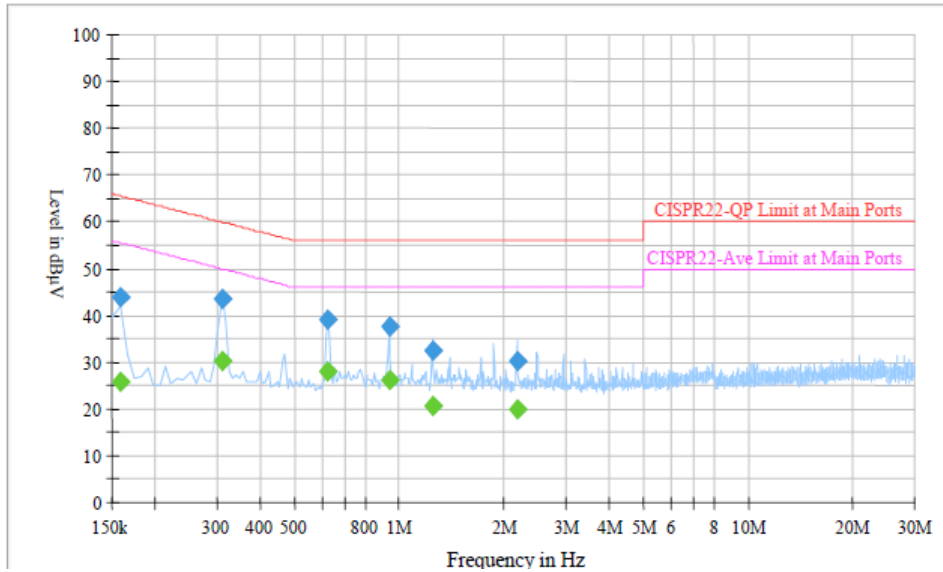
Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	44.2	Off	L1	19.3	21.6	65.6
0.310000	45.0	Off	L1	19.3	15.0	60.0
0.622000	47.0	Off	L1	19.3	9.0	56.0
0.934000	45.6	Off	L1	19.4	10.4	56.0
1.238000	40.4	Off	L1	19.4	15.6	56.0
2.174000	41.6	Off	L1	19.5	14.4	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	22.1	Off	L1	19.3	33.5	55.6
0.310000	40.3	Off	L1	19.3	9.7	50.0
0.622000	42.3	Off	L1	19.3	3.7	46.0
0.934000	40.1	Off	L1	19.4	5.9	46.0
1.238000	34.4	Off	L1	19.4	11.6	46.0
2.174000	36.8	Off	L1	19.5	9.2	46.0



Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Novic Chiang	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + WLAN Link + Bluetooth Link + Earphone + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



**Final Result 1**

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	43.9	Off	N	19.4	21.7	65.6
0.310000	43.5	Off	N	19.3	16.5	60.0
0.622000	39.0	Off	N	19.3	17.0	56.0
0.934000	37.7	Off	N	19.4	18.3	56.0
1.246000	32.3	Off	N	19.5	23.7	56.0
2.182000	30.3	Off	N	19.5	25.7	56.0

**Final Result 2**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	25.9	Off	N	19.4	29.7	55.6
0.310000	30.4	Off	N	19.3	19.6	50.0
0.622000	28.1	Off	N	19.3	17.9	46.0
0.934000	26.3	Off	N	19.4	19.7	46.0
1.246000	20.8	Off	N	19.5	25.2	46.0
2.182000	20.0	Off	N	19.5	26.0	46.0

### 3.7 Radiated Emission Measurement

#### 3.7.1 Limit of Radiated Emission

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

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

#### 3.7.2 Measuring Instruments

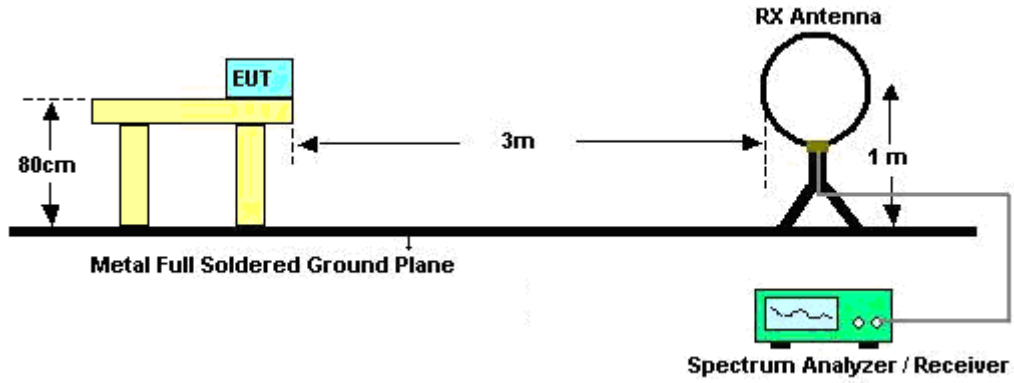
See list of measuring instruments of this test report.

#### 3.7.3 Test Procedures

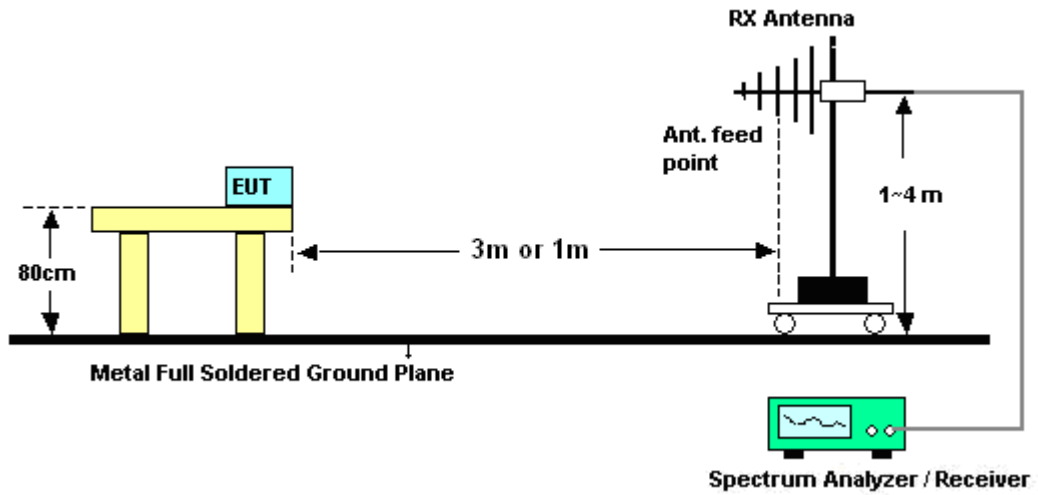
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
  - (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for  $f \geq 1$  GHz, 100 kHz for  $f < 1$  GHz; VBW  $\geq$  RBW; Sweep = auto; Detector function = peak; Trace = max hold.
  - (2) Above 18 GHz shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade from 3m to 1m.  
 Distance extrapolation factor =  $20 \log(\text{specific distance [3m]} / \text{test distance [1m]})$  (dB)
3. Follow the guidelines in ANSI C63.4-2003 with respect to maximizing the emission by rotating the EUT, measuring the emission for three EUT orthogonal planes, and adjusting the measurement antenna height and polarization. A pre-amp and a high pass filter are used for this test in order to get the good signal level.

### 3.7.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz





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

Test Engineer :	Jason Wang	Temperature :	21~23°C	
		Relative Humidity :	48~53%	
Frequency (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor =  $40 \log(\text{specific distance} / \text{test distance})$  (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.



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

Test Mode :	Mode 1	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	48~53%
Test Engineer :	Jason Wang	Polarization :	Horizontal
Remark :	2412 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.76	-14.24	40	44.6	12.04	0.63	31.51	-	-	Peak
51.06	29.57	-10.43	40	52.38	8.02	0.71	31.54	139	268	Peak
190.38	22.74	-20.76	43.5	43.9	9.07	1.28	31.51	-	-	Peak
377	25.81	-20.19	46	39.09	15.87	2.09	31.24	-	-	Peak
811.7	24.74	-21.26	46	29.65	22.61	3.17	30.69	-	-	Peak
988.1	26.18	-27.82	54	28.52	24.74	3.5	30.58	-	-	Peak
2385.1	45.18	-8.82	54	40.84	32.16	6.03	33.85	197	357	Average
2385.1	56.21	-17.79	74	51.87	32.16	6.03	33.85	197	357	Peak
2412	109.75	-	-	105.35	32.2	6.07	33.87	197	357	Peak
2412	100.43	-	-	96.03	32.2	6.07	33.87	197	357	Average
2494	34.08	-19.92	54	29.5	32.3	6.18	33.9	197	357	Average
2494	45.54	-28.46	74	40.96	32.3	6.18	33.9	197	357	Peak
4824	58.02	-15.98	74	71.28	34.07	9.12	56.45	100	0	Peak
4824	44.9	-9.1	54	58.16	34.07	9.12	56.45	100	0	Average



<b>Test Mode :</b>	Mode 1	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.82	-14.18	40	44.66	12.04	0.63	31.51	-	-	Peak
50.25	27.84	-12.16	40	50.4	8.28	0.7	31.54	166	107	Peak
102.9	19.69	-23.81	43.5	40.18	10.04	1.01	31.54	-	-	Peak
382.6	25.13	-20.87	46	38.2	16.05	2.11	31.23	-	-	Peak
783.7	24.66	-21.34	46	30.03	22.21	3.11	30.69	-	-	Peak
979.7	26.38	-27.62	54	28.84	24.63	3.49	30.58	-	-	Peak
2386.57	40.07	-13.93	54	35.71	32.18	6.03	33.85	182	258	Average
2386.57	51.88	-22.12	74	47.52	32.18	6.03	33.85	182	258	Peak
2412	105.18	-	-	100.78	32.2	6.07	33.87	182	258	Peak
2412	95.94	-	-	91.54	32.2	6.07	33.87	182	258	Average
2492	45.72	-28.28	74	41.14	32.3	6.18	33.9	182	258	Peak
2492	33.33	-20.67	54	28.75	32.3	6.18	33.9	182	258	Average
4824	52.99	-21.01	74	66.25	34.07	9.12	56.45	100	292	Peak
4824	38.75	-15.25	54	52.01	34.07	9.12	56.45	100	292	Average



<b>Test Mode :</b>	Mode 2	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.65	-14.35	40	44.49	12.04	0.63	31.51	-	-	Peak
50.25	29.69	-10.31	40	52.25	8.28	0.7	31.54	174	200	Peak
190.38	20.57	-22.93	43.5	41.73	9.07	1.28	31.51	-	-	Peak
368.6	25.1	-20.9	46	38.68	15.6	2.08	31.26	-	-	Peak
926.5	25.4	-20.6	46	28.67	23.96	3.4	30.63	-	-	Peak
967.8	26.54	-27.46	54	29.14	24.49	3.48	30.57	-	-	Peak
2358	46.19	-27.81	74	41.91	32.13	5.99	33.84	195	354	Peak
2358	34.16	-19.84	54	29.88	32.13	5.99	33.84	195	354	Average
2437	109.27	-	-	104.8	32.24	6.11	33.88	195	354	Peak
2437	99.86	-	-	95.39	32.24	6.11	33.88	195	354	Average
2484	47.4	-26.6	74	42.84	32.28	6.18	33.9	195	354	Peak
2484	35.42	-18.58	54	30.86	32.28	6.18	33.9	195	354	Average
4874	57.94	-16.06	74	71.22	34.08	9.13	56.49	100	346	Peak
4874	45.32	-8.68	54	58.6	34.08	9.13	56.49	100	346	Average



<b>Test Mode :</b>	Mode 2	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
31.62	25.95	-14.05	40	40.82	16.04	0.55	31.46	-	-	Peak
49.98	28.38	-11.62	40	50.94	8.28	0.7	31.54	103	118	Peak
103.17	20.28	-23.22	43.5	40.77	10.04	1.01	31.54	-	-	Peak
380.5	25.4	-20.6	46	38.58	15.96	2.1	31.24	-	-	Peak
858.6	25.5	-20.5	46	29.79	23.15	3.28	30.72	-	-	Peak
988.1	27.06	-26.94	54	29.4	24.74	3.5	30.58	-	-	Peak
2382	45.52	-28.48	74	41.18	32.16	6.03	33.85	100	303	Peak
2382	33.54	-20.46	54	29.2	32.16	6.03	33.85	100	303	Average
2437	105.3	-	-	100.83	32.24	6.11	33.88	100	303	Peak
2437	96.03	-	-	91.56	32.24	6.11	33.88	100	303	Average
2486	47.59	-26.41	74	43.03	32.28	6.18	33.9	100	303	Peak
2486	34.55	-19.45	54	29.99	32.28	6.18	33.9	100	303	Average
4874	50.91	-23.09	74	64.19	34.08	9.13	56.49	100	0	Peak





<b>Test Mode :</b>	Mode 3	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	26.04	-13.96	40	44.88	12.04	0.63	31.51	-	-	Peak
51.06	29.32	-10.68	40	52.13	8.02	0.71	31.54	120	55	Peak
190.65	20.96	-22.54	43.5	42.12	9.07	1.28	31.51	-	-	Peak
368.6	25.91	-20.09	46	39.49	15.6	2.08	31.26	-	-	Peak
814.5	25.35	-20.65	46	30.22	22.64	3.18	30.69	-	-	Peak
987.4	26.69	-27.31	54	29.04	24.73	3.5	30.58	-	-	Peak
2358	45.42	-28.58	74	41.14	32.13	5.99	33.84	103	350	Peak
2358	33.5	-20.5	54	29.22	32.13	5.99	33.84	103	350	Average
2462	110.55	-	-	106.04	32.26	6.14	33.89	103	350	Peak
2462	101.18	-	-	96.67	32.26	6.14	33.89	103	350	Average
2484.42	41.6	-12.4	54	37.04	32.28	6.18	33.9	103	350	Average
2484.42	54.23	-19.77	74	49.67	32.28	6.18	33.9	103	350	Peak
4924	58.34	-15.66	74	71.62	34.09	9.15	56.52	100	344	Peak
4924	46.58	-7.42	54	59.86	34.09	9.15	56.52	100	344	Average



<b>Test Mode :</b>	Mode 3	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.91	-14.09	40	44.75	12.04	0.63	31.51	-	-	Peak
50.25	28.04	-11.96	40	50.6	8.28	0.7	31.54	162	33	Peak
103.17	18.93	-24.57	43.5	39.42	10.04	1.01	31.54	-	-	Peak
374.9	26.07	-19.93	46	39.42	15.81	2.09	31.25	-	-	Peak
528.2	23.66	-22.34	46	33.51	18.66	2.51	31.02	-	-	Peak
974.1	25.85	-28.15	54	28.38	24.56	3.48	30.57	-	-	Peak
2318	44.44	-29.56	74	40.25	32.09	5.92	33.82	153	16	Peak
2318	33.05	-20.95	54	28.86	32.09	5.92	33.82	153	16	Average
2462	107.77	-	-	103.26	32.26	6.14	33.89	153	16	Peak
2462	98.28	-	-	93.77	32.26	6.14	33.89	153	16	Average
2488.2	37.05	-16.95	54	32.47	32.3	6.18	33.9	153	16	Average
2488.2	49.21	-24.79	74	44.63	32.3	6.18	33.9	153	16	Peak
4924	50.6	-23.4	74	63.88	34.09	9.15	56.52	100	0	Peak



<b>Test Mode :</b>	Mode 4	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.23	-14.77	40	44.07	12.04	0.63	31.51	-	-	Peak
51.33	30.1	-9.9	40	52.91	8.02	0.71	31.54	185	241	Peak
193.62	21.5	-22	43.5	42.62	9.08	1.3	31.5	-	-	Peak
368.6	26.69	-19.31	46	40.27	15.6	2.08	31.26	-	-	Peak
825	24.42	-21.58	46	29.16	22.76	3.21	30.71	-	-	Peak
993.7	26.08	-27.92	54	28.34	24.82	3.5	30.58	-	-	Peak
2389.99	69.65	-4.35	74	65.29	32.18	6.03	33.85	197	341	Peak
2389.99	50.21	-3.79	54	45.85	32.18	6.03	33.85	197	341	Average
2412	105.97	-	-	101.57	32.2	6.07	33.87	197	341	Peak
2412	88.9	-	-	84.5	32.2	6.07	33.87	197	341	Average
2492	32.79	-21.21	54	28.21	32.3	6.18	33.9	197	341	Average
2492	45.02	-28.98	74	40.44	32.3	6.18	33.9	197	341	Peak
4824	53.02	-20.98	74	66.28	34.07	9.12	56.45	110	345	Peak
4824	42.23	-11.77	54	55.49	34.07	9.12	56.45	110	345	Average



<b>Test Mode :</b>	Mode 4	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.14	-14.86	40	43.98	12.04	0.63	31.51	-	-	Peak
49.98	28.61	-11.39	40	51.17	8.28	0.7	31.54	125	39	Peak
102.9	20.15	-23.35	43.5	40.64	10.04	1.01	31.54	-	-	Peak
383.3	25.51	-20.49	46	38.58	16.05	2.11	31.23	-	-	Peak
864.2	25.55	-20.45	46	29.77	23.21	3.29	30.72	-	-	Peak
965.7	27.33	-26.67	54	29.96	24.46	3.48	30.57	-	-	Peak
2389.99	48.41	-5.59	54	44.05	32.18	6.03	33.85	109	173	Average
2389.99	67.73	-6.27	74	63.37	32.18	6.03	33.85	109	173	Peak
2412	101.96	-	-	97.56	32.2	6.07	33.87	109	173	Peak
2412	85.01	-	-	80.61	32.2	6.07	33.87	109	173	Average
2500	32.87	-21.13	54	28.29	32.3	6.18	33.9	109	173	Average
2500	44.49	-29.51	74	39.91	32.3	6.18	33.9	109	173	Peak
4824	50.27	-23.73	74	63.53	34.07	9.12	56.45	100	0	Peak



<b>Test Mode :</b>	Mode 5	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.53	-14.47	40	44.37	12.04	0.63	31.51	-	-	Peak
51.33	29.5	-10.5	40	52.31	8.02	0.71	31.54	155	307	Peak
192.81	21.94	-21.56	43.5	43.07	9.08	1.29	31.5	-	-	Peak
368.6	25.79	-20.21	46	39.37	15.6	2.08	31.26	-	-	Peak
848.1	24.62	-21.38	46	29.07	23.02	3.26	30.73	-	-	Peak
985.3	27.47	-26.53	54	29.84	24.71	3.5	30.58	-	-	Peak
2390	47.72	-26.28	74	43.36	32.18	6.03	33.85	188	341	Peak
2390	33.74	-20.26	54	29.38	32.18	6.03	33.85	188	341	Average
2437	106.44	-	-	101.97	32.24	6.11	33.88	188	341	Peak
2437	89.13	-	-	84.66	32.24	6.11	33.88	188	341	Average
2484	51.91	-22.09	74	47.35	32.28	6.18	33.9	188	341	Peak
2484	35.08	-18.92	54	30.52	32.28	6.18	33.9	188	341	Average
4874	54.33	-19.67	74	67.6	34.08	9.14	56.49	110	325	Peak
4874	41.96	-12.04	54	55.24	34.08	9.13	56.49	110	325	Average



Test Mode :	Mode 5	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	48~53%
Test Engineer :	Jason Wang	Polarization :	Vertical
Remark :	2437 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.46	-14.54	40	44.3	12.04	0.63	31.51	-	-	Peak
49.98	28.31	-11.69	40	50.87	8.28	0.7	31.54	117	250	Peak
102.9	21.58	-21.92	43.5	42.07	10.04	1.01	31.54	-	-	Peak
377.7	25.45	-20.55	46	38.73	15.87	2.09	31.24	-	-	Peak
845.3	25.18	-20.82	46	29.65	23	3.26	30.73	-	-	Peak
985.3	27.09	-26.91	54	29.46	24.71	3.5	30.58	-	-	Peak
2390	46.59	-27.41	74	42.23	32.18	6.03	33.85	100	305	Peak
2390	33.51	-20.49	54	29.15	32.18	6.03	33.85	100	305	Average
2437	104.23	-	-	99.76	32.24	6.11	33.88	100	305	Peak
2437	86.77	-	-	82.3	32.24	6.11	33.88	100	305	Average
2484	48.74	-25.26	74	44.18	32.28	6.18	33.9	100	305	Peak
2484	33.97	-20.03	54	29.41	32.28	6.18	33.9	100	305	Average
4874	52.63	-21.37	74	65.9	34.08	9.14	56.49	101	346	Peak
4874	37.4	-16.6	54	50.68	34.08	9.13	56.49	101	346	Average



<b>Test Mode :</b>	Mode 6	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.28	-14.72	40	44.12	12.04	0.63	31.51	-	-	Peak
50.25	29.83	-10.17	40	52.39	8.28	0.7	31.54	156	74	Peak
192.81	21.34	-22.16	43.5	42.47	9.08	1.29	31.5	-	-	Peak
368.6	25.93	-20.07	46	39.51	15.6	2.08	31.26	-	-	Peak
830.6	24.42	-21.58	46	29.09	22.82	3.22	30.71	-	-	Peak
976.2	26.09	-27.91	54	28.6	24.58	3.49	30.58	-	-	Peak
2310	45.05	-28.95	74	40.88	32.07	5.92	33.82	185	341	Peak
2310	32.94	-21.06	54	28.77	32.07	5.92	33.82	185	341	Average
2462	107.91	-	-	103.4	32.26	6.14	33.89	185	341	Peak
2462	90.39	-	-	85.88	32.26	6.14	33.89	185	341	Average
2483.5	51.19	-2.81	54	46.63	32.28	6.18	33.9	185	341	Average
2483.5	72.98	-1.02	74	68.42	32.28	6.18	33.9	185	341	Peak
4924	53.88	-20.12	74	67.17	34.08	9.14	56.51	152	19	Peak
4924	40.84	-13.16	54	54.12	34.09	9.15	56.52	152	19	Average



<b>Test Mode :</b>	Mode 6	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
31.89	25.62	-14.38	40	40.49	16.04	0.55	31.46	-	-	Peak
51.06	28.35	-11.65	40	51.16	8.02	0.71	31.54	133	354	Peak
102.9	20.39	-23.11	43.5	40.88	10.04	1.01	31.54	-	-	Peak
377.7	25.56	-20.44	46	38.84	15.87	2.09	31.24	-	-	Peak
886.6	25.59	-20.41	46	29.51	23.47	3.32	30.71	-	-	Peak
993	27.2	-26.8	54	29.48	24.8	3.5	30.58	-	-	Peak
2372	45.54	-28.46	74	41.23	32.16	5.99	33.84	107	0	Peak
2372	32.89	-21.11	54	28.58	32.16	5.99	33.84	107	0	Average
2462	105.1	-	-	100.59	32.26	6.14	33.89	107	0	Peak
2462	87.71	-	-	83.2	32.26	6.14	33.89	107	0	Average
2483.5	72.72	-1.28	74	68.16	32.28	6.18	33.9	107	0	Peak
2483.5	50.96	-3.04	54	46.4	32.28	6.18	33.9	107	0	Average
4924	52.55	-21.45	74	65.84	34.08	9.14	56.51	140	359	Peak
4924	40	-14	54	53.28	34.09	9.15	56.52	140	359	Average





<b>Test Mode :</b>	Mode 7	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.79	-14.21	40	44.63	12.04	0.63	31.51	-	-	Peak
51.06	30.46	-9.54	40	53.27	8.02	0.71	31.54	133	215	Peak
190.65	22.8	-20.7	43.5	43.96	9.07	1.28	31.51	-	-	Peak
368.6	26.6	-19.4	46	40.18	15.6	2.08	31.26	-	-	Peak
889.4	25.05	-20.95	46	28.92	23.51	3.33	30.71	-	-	Peak
993	26.55	-27.45	54	28.83	24.8	3.5	30.58	-	-	Peak
2389.42	51.03	-2.97	54	46.67	32.18	6.03	33.85	107	353	Average
2389.42	71.17	-2.83	74	66.81	32.18	6.03	33.85	107	353	Peak
2412	104.35	-	-	99.95	32.2	6.07	33.87	107	353	Peak
2412	87.02	-	-	82.62	32.2	6.07	33.87	107	353	Average
2484	35.22	-18.78	54	30.66	32.28	6.18	33.9	107	353	Average
2484	47.76	-26.24	74	43.2	32.28	6.18	33.9	107	353	Peak
4824	51.66	-22.34	74	64.92	34.07	9.12	56.45	126	319	Peak
4824	39.23	-14.77	54	52.49	34.07	9.12	56.45	126	319	Average



<b>Test Mode :</b>	Mode 7	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
30.54	27.39	-12.61	40	42.04	16.27	0.54	31.46	107	303	Peak
49.98	26.91	-13.09	40	49.47	8.28	0.7	31.54	-	-	Peak
102.9	22.38	-21.12	43.5	42.87	10.04	1.01	31.54	-	-	Peak
377	25.42	-20.58	46	38.7	15.87	2.09	31.24	-	-	Peak
836.9	26.38	-19.62	46	30.96	22.9	3.24	30.72	-	-	Peak
1000	26.37	-27.63	54	28.55	24.89	3.51	30.58	-	-	Peak
2389.99	48.73	-5.27	54	44.37	32.18	6.03	33.85	179	322	Average
2389.99	68.16	-5.84	74	63.8	32.18	6.03	33.85	179	322	Peak
2412	101.52	-	-	97.12	32.2	6.07	33.87	179	322	Peak
2412	84.22	-	-	79.82	32.2	6.07	33.87	179	322	Average
2494	32.88	-21.12	54	28.3	32.3	6.18	33.9	179	322	Average
2494	44.76	-29.24	74	40.18	32.3	6.18	33.9	179	322	Peak
4824	49.18	-24.82	74	62.44	34.07	9.12	56.45	100	0	Peak



<b>Test Mode :</b>	Mode 8	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.77	-14.23	40	44.61	12.04	0.63	31.51	-	-	Peak
50.25	29.94	-10.06	40	52.5	8.28	0.7	31.54	153	266	Peak
190.65	22.95	-20.55	43.5	44.11	9.07	1.28	31.51	-	-	Peak
368.6	26.49	-19.51	46	40.07	15.6	2.08	31.26	-	-	Peak
867.7	25.39	-20.61	46	29.55	23.26	3.3	30.72	-	-	Peak
990.2	26.07	-27.93	54	28.38	24.77	3.5	30.58	-	-	Peak
2388	44.71	-29.29	74	40.35	32.18	6.03	33.85	131	342	Peak
2388	33.48	-20.52	54	29.12	32.18	6.03	33.85	131	342	Average
2437	102.04	-	-	97.57	32.24	6.11	33.88	131	342	Peak
2437	89.69	-	-	85.22	32.24	6.11	33.88	131	342	Average
2494	46.81	-27.19	74	42.23	32.3	6.18	33.9	131	342	Peak
2494	34.79	-19.21	54	30.21	32.3	6.18	33.9	131	342	Average
4874	51.44	-22.56	74	64.72	34.08	9.13	56.49	110	325	Peak
4874	39.88	-14.12	54	53.16	34.08	9.13	56.49	110	325	Average



<b>Test Mode :</b>	Mode 8	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
31.62	33.29	-6.71	40	48.16	16.04	0.55	31.46	144	30	Peak
50.25	25.06	-14.94	40	47.62	8.28	0.7	31.54	-	-	Peak
102.9	22.8	-20.7	43.5	43.29	10.04	1.01	31.54	-	-	Peak
380.5	24.47	-21.53	46	37.65	15.96	2.1	31.24	-	-	Peak
836.9	26.68	-19.32	46	31.26	22.9	3.24	30.72	-	-	Peak
1000	26.45	-27.55	54	28.63	24.89	3.51	30.58	-	-	Peak
2350	45.33	-28.67	74	41.1	32.11	5.95	33.83	100	150	Peak
2350	33.3	-20.7	54	29.07	32.11	5.95	33.83	100	150	Average
2437	100.7	-	-	96.23	32.24	6.11	33.88	100	150	Peak
2437	87.96	-	-	83.49	32.24	6.11	33.88	100	150	Average
2484	47.28	-26.72	74	42.72	32.28	6.18	33.9	100	150	Peak
2484	34.64	-19.36	54	30.08	32.28	6.18	33.9	100	150	Average
4874	49.63	-24.37	74	62.9	34.08	9.14	56.49	100	0	Peak



<b>Test Mode :</b>	Mode 9	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.34	-14.66	40	44.18	12.04	0.63	31.51	-	-	Peak
50.25	29.44	-10.56	40	52	8.28	0.7	31.54	129	228	Peak
190.65	23.39	-20.11	43.5	44.55	9.07	1.28	31.51	-	-	Peak
368.6	24.88	-21.12	46	38.46	15.6	2.08	31.26	-	-	Peak
836.9	25.56	-20.44	46	30.14	22.9	3.24	30.72	-	-	Peak
1000	28.28	-25.72	54	30.46	24.89	3.51	30.58	-	-	Peak
2390	33.91	-20.09	54	29.55	32.18	6.03	33.85	104	349	Average
2390	45.76	-28.24	74	41.4	32.18	6.03	33.85	104	349	Peak
2462	89.9	-	-	85.39	32.26	6.14	33.89	104	349	Average
2462	107.17	-	-	102.66	32.26	6.14	33.89	104	349	Peak
2483.66	50.49	-3.51	54	46.13	32.18	6.03	33.85	104	349	Average
2483.66	72.96	-1.04	74	68.6	32.18	6.03	33.85	104	349	Peak
4924	51.9	-22.1	74	65.18	34.09	9.15	56.52	100	53	Peak
4924	37.32	-16.68	54	50.6	34.09	9.15	56.52	100	53	Average



<b>Test Mode :</b>	Mode 9	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
31.89	32.52	-7.48	40	47.39	16.04	0.55	31.46	125	334	Peak
38.1	25.97	-14.03	40	42.95	13.91	0.6	31.49	-	-	Peak
102.9	23.72	-19.78	43.5	44.21	10.04	1.01	31.54	-	-	Peak
382.6	24.86	-21.14	46	37.93	16.05	2.11	31.23	-	-	Peak
676.6	21.92	-24.08	46	29.24	20.63	2.89	30.84	-	-	Peak
962.2	26.05	-27.95	54	28.74	24.41	3.47	30.57	-	-	Peak
2372	33.46	-20.54	54	29.15	32.16	5.99	33.84	103	173	Average
2372	45.02	-28.98	74	40.71	32.16	5.99	33.84	103	173	Peak
2462	103.29	-	-	98.78	32.26	6.14	33.89	103	173	Peak
2462	86.64	-	-	82.13	32.26	6.14	33.89	103	173	Average
2483.85	47.98	-6.02	54	43.42	32.28	6.18	33.9	103	173	Average
2483.85	66.51	-7.49	74	61.95	32.28	6.18	33.9	103	173	Peak
4924	48.51	-25.49	74	61.79	34.09	9.15	56.52	100	0	Peak



<b>Test Mode :</b>	Mode 10	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5745 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.38	-14.62	40	44.22	12.04	0.63	31.51	-	-	Peak
51.06	29.74	-10.26	40	52.55	8.02	0.71	31.54	121	145	Peak
188.22	21.75	-21.75	43.5	42.93	9.06	1.27	31.51	-	-	Peak
368.6	25.31	-20.69	46	38.89	15.6	2.08	31.26	-	-	Peak
519.8	22.06	-23.94	46	32.07	18.53	2.49	31.03	-	-	Peak
727.7	22.28	-23.72	46	28.7	21.32	3.01	30.75	-	-	Peak
5745	110.08	-	-	98.54	34.84	9.91	33.21	102	354	Peak
5745	99.39	-	-	87.85	34.84	9.91	33.21	102	354	Average
11490	53.98	-20.02	74	58.27	38.29	13.14	55.72	100	45	Peak
11490	40.75	-13.25	54	45.04	38.29	13.14	55.72	100	45	Average



<b>Test Mode :</b>	Mode 10	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5745 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
30.81	24.78	-15.22	40	39.43	16.27	0.54	31.46	-	-	Peak
51.06	28.17	-11.83	40	50.98	8.02	0.71	31.54	117	263	Peak
103.17	21	-22.5	43.5	41.49	10.04	1.01	31.54	-	-	Peak
377.7	25.35	-20.65	46	38.63	15.87	2.09	31.24	-	-	Peak
519.8	23.81	-22.19	46	33.82	18.53	2.49	31.03	-	-	Peak
738.9	23.21	-22.79	46	29.41	21.5	3.03	30.73	-	-	Peak
5745	105.37	-	-	93.83	34.84	9.91	33.21	101	304	Peak
5745	95.09	-	-	83.55	34.84	9.91	33.21	101	304	Average
11490	56.58	-17.42	74	60.87	38.29	13.14	55.72	122	1	Peak
11490	41.39	-12.61	54	45.68	38.29	13.14	55.72	122	1	Average





<b>Test Mode :</b>	Mode 11	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5785 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.51	-14.49	40	44.35	12.04	0.63	31.51	-	-	Peak
50.25	29.7	-10.3	40	52.26	8.28	0.7	31.54	133	261	Peak
193.62	22.34	-21.16	43.5	43.46	9.08	1.3	31.5	-	-	Peak
318.9	19.71	-26.29	46	35.16	14.06	1.81	31.32	-	-	Peak
368.6	25.87	-20.13	46	39.45	15.6	2.08	31.26	-	-	Peak
528.9	22.79	-23.21	46	32.64	18.66	2.51	31.02	-	-	Peak
5785	109.61	-	-	98.09	34.89	9.89	33.26	100	357	Peak
5785	99.32	-	-	87.77	34.88	9.9	33.23	100	357	Average
11570	54.71	-19.29	74	58.65	38.38	13.18	55.5	100	47	Peak
11570	38.61	-15.39	54	42.56	38.38	13.17	55.5	100	47	Average



<b>Test Mode :</b>	Mode 11	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5785 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
31.89	25.29	-14.71	40	40.16	16.04	0.55	31.46	-	-	Peak
49.98	27.79	-12.21	40	50.35	8.28	0.7	31.54	106	351	Peak
103.17	20.82	-22.68	43.5	41.31	10.04	1.01	31.54	-	-	Peak
316.1	18.5	-27.5	46	34.05	13.97	1.8	31.32	-	-	Peak
380.5	25.25	-20.75	46	38.43	15.96	2.1	31.24	-	-	Peak
746.6	23.44	-22.56	46	29.47	21.63	3.05	30.71	-	-	Peak
5785	105.53	-	-	94.01	34.89	9.89	33.26	100	303	Peak
5785	95.19	-	-	83.64	34.88	9.9	33.23	100	303	Average
11570	56.47	-17.53	74	60.49	38.36	13.17	55.55	100	354	Peak
11570	38.63	-15.37	54	42.58	38.38	13.17	55.5	100	354	Average



<b>Test Mode :</b>	Mode 12	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5825 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.91	-14.09	40	44.75	12.04	0.63	31.51	-	-	Peak
51.33	30.43	-9.57	40	53.24	8.02	0.71	31.54	144	215	Peak
192.81	22.71	-20.79	43.5	43.84	9.08	1.29	31.5	-	-	Peak
318.9	19.98	-26.02	46	35.43	14.06	1.81	31.32	-	-	Peak
368.6	25.53	-20.47	46	39.11	15.6	2.08	31.26	-	-	Peak
596.1	21.62	-24.38	46	30.15	19.71	2.68	30.92	-	-	Peak
5825	110.55	-	-	99.03	34.93	9.88	33.29	102	360	Peak
5825	100.08	-	-	88.56	34.93	9.88	33.29	102	360	Average
11650	57.01	-16.99	74	60.59	38.47	13.22	55.27	100	48	Peak
11650	38.99	-15.01	54	42.57	38.47	13.22	55.27	100	48	Average



<b>Test Mode :</b>	Mode 12	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5825 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25	-15	40	43.84	12.04	0.63	31.51	-	-	Peak
49.98	28.09	-11.91	40	50.65	8.28	0.7	31.54	111	93	Peak
102.9	21	-22.5	43.5	41.49	10.04	1.01	31.54	-	-	Peak
377.7	25.49	-20.51	46	38.77	15.87	2.09	31.24	-	-	Peak
519.8	24.59	-21.41	46	34.6	18.53	2.49	31.03	-	-	Peak
758.5	22.91	-23.09	46	28.73	21.81	3.07	30.7	-	-	Peak
5825	106.32	-	-	94.8	34.93	9.88	33.29	100	302	Peak
5825	96.12	-	-	84.6	34.93	9.88	33.29	100	302	Average
11650	56.79	-17.21	74	60.37	38.47	13.22	55.27	114	353	Peak
11650	39.9	-14.1	54	43.48	38.47	13.22	55.27	114	353	Average



<b>Test Mode :</b>	Mode 13	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5745 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.54	-14.46	40	44.38	12.04	0.63	31.51	-	-	Peak
51.06	29.48	-10.52	40	52.29	8.02	0.71	31.54	124	156	Peak
190.65	22.77	-20.73	43.5	43.93	9.07	1.28	31.51	-	-	Peak
318.9	20.19	-25.81	46	35.64	14.06	1.81	31.32	-	-	Peak
407.8	21.27	-24.73	46	33.58	16.69	2.17	31.17	-	-	Peak
659.8	22.4	-23.6	46	29.97	20.43	2.86	30.86	-	-	Peak
5745	111.5	-	-	99.96	34.84	9.91	33.21	115	18	Peak
5745	100.88	-	-	89.34	34.84	9.91	33.21	115	18	Average
11490	54.4	-19.6	74	58.69	38.29	13.14	55.72	100	45	Peak
11490	41.12	-12.88	54	45.41	38.29	13.14	55.72	100	45	Average



<b>Test Mode :</b>	Mode 13	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5745 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
30	33.33	-6.67	40	47.75	16.51	0.53	31.46	114	318	Peak
49.17	23.66	-16.34	40	45.82	8.68	0.69	31.53	-	-	Peak
103.17	22.46	-21.04	43.5	42.95	10.04	1.01	31.54	-	-	Peak
321.7	17.76	-28.24	46	33.11	14.15	1.82	31.32	-	-	Peak
377	25.29	-20.71	46	38.57	15.87	2.09	31.24	-	-	Peak
508.6	22.67	-23.33	46	32.91	18.35	2.47	31.06	-	-	Peak
5745	104.94	-	-	93.4	34.84	9.91	33.21	100	304	Peak
5745	94.61	-	-	83.07	34.84	9.91	33.21	100	304	Average
11490	56.6	-17.4	74	60.88	38.3	13.14	55.72	122	354	Peak
11490	41.36	-12.64	54	45.65	38.29	13.14	55.72	122	354	Average



<b>Test Mode :</b>	Mode 14	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5785 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.45	-14.55	40	44.29	12.04	0.63	31.51	-	-	Peak
51.06	30.17	-9.83	40	52.98	8.02	0.71	31.54	131	221	Peak
190.65	22.89	-20.61	43.5	44.05	9.07	1.28	31.51	-	-	Peak
321	19.56	-26.44	46	34.95	14.12	1.81	31.32	-	-	Peak
368.6	25	-21	46	38.58	15.6	2.08	31.26	-	-	Peak
624.1	21.32	-24.68	46	29.43	20.03	2.76	30.9	-	-	Peak
5785	109.95	-	-	98.43	34.89	9.89	33.26	101	360	Peak
5785	99.55	-	-	88	34.88	9.9	33.23	101	360	Average
11570	56.44	-17.56	74	60.39	38.38	13.17	55.5	100	48	Peak
11570	38.26	-15.74	54	42.21	38.38	13.17	55.5	100	48	Average



<b>Test Mode :</b>	Mode 14	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5785 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level (dBuV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
31.89	30.96	-9.04	40	45.83	16.04	0.55	31.46	105	299	Peak
49.98	25.74	-14.26	40	48.3	8.28	0.7	31.54	-	-	Peak
103.17	21.81	-21.69	43.5	42.3	10.04	1.01	31.54	-	-	Peak
318.9	17.52	-28.48	46	32.97	14.06	1.81	31.32	-	-	Peak
380.5	24.6	-21.4	46	37.78	15.96	2.1	31.24	-	-	Peak
624.1	21.61	-24.39	46	29.72	20.03	2.76	30.9	-	-	Peak
5785	105.11	-	-	93.56	34.88	9.9	33.23	100	304	Peak
5785	94.88	-	-	83.33	34.88	9.9	33.23	100	304	Average
11570	56.53	-17.47	74	60.47	38.38	13.18	55.5	100	353	Peak
11570	38.22	-15.78	54	42.17	38.38	13.17	55.5	100	353	Average





<b>Test Mode :</b>	Mode 15	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5825 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.61	25.66	-14.34	40	44.5	12.04	0.63	31.51	-	-	Peak
51.06	29.44	-10.56	40	52.25	8.02	0.71	31.54	131	165	Peak
190.65	22.12	-21.38	43.5	43.28	9.07	1.28	31.51	-	-	Peak
318.9	19.92	-26.08	46	35.37	14.06	1.81	31.32	-	-	Peak
368.6	24.85	-21.15	46	38.43	15.6	2.08	31.26	-	-	Peak
676.6	21.39	-24.61	46	28.71	20.63	2.89	30.84	-	-	Peak
5825	112.24	-	-	100.72	34.93	9.88	33.29	102	12	Peak
5825	101.56	-	-	90.04	34.93	9.88	33.29	102	12	Average
11650	57.2	-16.8	74	60.78	38.47	13.22	55.27	100	49	Peak
11650	39.65	-14.35	54	43.23	38.47	13.22	55.27	100	49	Average



<b>Test Mode :</b>	Mode 15	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5825 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
30	33.11	-6.89	40	47.53	16.51	0.53	31.46	121	163	Peak
49.98	26.42	-13.58	40	48.98	8.28	0.7	31.54	-	-	Peak
103.17	23.96	-19.54	43.5	44.45	10.04	1.01	31.54	-	-	Peak
321.7	17.58	-28.42	46	32.93	14.15	1.82	31.32	-	-	Peak
383.3	24.6	-21.4	46	37.67	16.05	2.11	31.23	-	-	Peak
520.5	22.94	-23.06	46	32.94	18.54	2.49	31.03	-	-	Peak
5825	106.19	-	-	94.67	34.93	9.88	33.29	100	302	Peak
5825	96.08	-	-	84.56	34.93	9.88	33.29	100	302	Average
11650	57.8	-16.2	74	61.38	38.47	13.22	55.27	100	340	Peak
11650	39.92	-14.08	54	43.5	38.47	13.22	55.27	100	340	Average



<b>Test Mode :</b>	Mode 16	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5755 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.92	-14.08	40	44.76	12.04	0.63	31.51			Peak
49.98	30.6	-9.4	40	53.16	8.28	0.7	31.54	123	115	Peak
190.65	22.65	-20.85	43.5	43.81	9.07	1.28	31.51			Peak
318.2	19.31	-26.69	46	34.79	14.03	1.81	31.32			Peak
520.5	22.33	-23.67	46	32.33	18.54	2.49	31.03			Peak
758.5	22.81	-23.19	46	28.63	21.81	3.07	30.7			Peak
5755	108.65	-	-	97.11	34.84	9.91	33.21	115	15	Peak
5755	97.52	-	-	85.96	34.86	9.91	33.21	115	15	Average
11510	51.42	-22.58	74	55.7	38.3	13.14	55.72	100	53	Peak
11510	38.47	-15.53	54	42.75	38.3	13.14	55.72	100	53	Average



<b>Test Mode :</b>	Mode 16	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5755 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.05	-14.95	40	43.89	12.04	0.63	31.51	-	-	Peak
54.57	30.74	-9.26	40	54.33	7.24	0.72	31.55	142	260	Peak
103.17	20.92	-22.58	43.5	41.41	10.04	1.01	31.54	-	-	Peak
377.7	24.62	-21.38	46	37.9	15.87	2.09	31.24	-	-	Peak
519.8	23.96	-22.04	46	33.97	18.53	2.49	31.03	-	-	Peak
766.2	23.41	-22.59	46	29.08	21.93	3.09	30.69	-	-	Peak
5755	103.17	-	-	91.63	34.84	9.91	33.21	100	304	Peak
5755	92.29	-	-	80.73	34.86	9.91	33.21	100	304	Average
11510	52.69	-21.31	74	56.98	38.29	13.14	55.72	100	344	Peak
11510	38.38	-15.62	54	42.66	38.3	13.14	55.72	100	344	Average



<b>Test Mode :</b>	Mode 17	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5795 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
41.34	25.84	-14.16	40	44.68	12.04	0.63	31.51	-	-	Peak
50.25	29.52	-10.48	40	52.08	8.28	0.7	31.54	115	123	Peak
190.65	22.39	-21.11	43.5	43.55	9.07	1.28	31.51	-	-	Peak
318.9	19.34	-26.66	46	34.79	14.06	1.81	31.32	-	-	Peak
421.8	19.57	-26.43	46	31.57	16.93	2.22	31.15	-	-	Peak
708.1	21.97	-24.03	46	28.8	21.01	2.96	30.8	-	-	Peak
5795	108.4	-	-	96.88	34.89	9.89	33.26	102	360	Peak
5795	96.98	-	-	85.46	34.89	9.89	33.26	102	360	Average
11590	52.65	-21.35	74	56.42	38.42	13.19	55.38	100	47	Peak
11590	38.49	-15.51	54	42.35	38.4	13.18	55.44	100	47	Average



<b>Test Mode :</b>	Mode 17	<b>Temperature :</b>	21~23°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	48~53%
<b>Test Engineer :</b>	Jason Wang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5795 MHz is Fundamental Signals which can be ignored.		

Frequency ( MHz )	Level ( dBuV/m )	Over Limit ( dB )	Limit Line ( dBuV/m )	Read Level ( dBuV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
30	35.47	-4.53	40	49.89	16.51	0.53	31.46	105	147	Peak
50.25	26.99	-13.01	40	49.55	8.28	0.7	31.54	-	-	Peak
102.9	21.73	-21.77	43.5	42.22	10.04	1.01	31.54	-	-	Peak
321.7	17.84	-28.16	46	33.19	14.15	1.82	31.32	-	-	Peak
380.5	24.4	-21.6	46	37.58	15.96	2.1	31.24	-	-	Peak
539.4	22.74	-23.26	46	32.38	18.83	2.53	31	-	-	Peak
5795	102.9	-	-	91.38	34.89	9.89	33.26	100	305	Peak
5795	91.9	-	-	80.38	34.89	9.89	33.26	100	305	Average
11590	52.86	-21.14	74	56.72	38.4	13.18	55.44	110	355	Peak
11590	38.94	-15.06	54	42.8	38.4	13.18	55.44	110	355	Average



## **3.8 Antenna Requirements**

### **3.8.1 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.

### **3.8.2 Antenna Connected Construction**

The antennas type used in this product is PIFA Antenna and it is considered to meet antenna requirement.

### **3.8.3 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	Due Date	Remark
System Simulator	R&S	CMU200	117995	N/A	Jun. 08, 2009	Jun. 07, 2011	Conducted (TH02-HY)
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 11, 2010	Jun. 10, 2011	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 13, 2010	Sep. 12, 2011	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 14, 2010	Sep. 13, 2011	Conducted (TH02-HY)
Power Meter	Agilent	E4416A	GB412923 44	N/A	Feb. 18, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US404415 48	N/A	Feb. 18, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D35P	TBN-9307 01	N/A	Jul. 30,2010	Jul. 29, 2011	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCS 30	100356	9KHz – 2.75GHz	Aug. 16, 2010	Aug. 15, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz – 30MHz	Dec. 03, 2010	Dec. 02, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz – 30MHz	Dec. 01, 2010	Nov. 30, 2011	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
ISN	Teseq GmbH	ISN T400A	25696	N/A	Jun. 19, 2010	Jun. 18, 2011	Conduction (CO05-HY)
ISN	Teseq GmbH	ISN T800	27134	N/A	Jun. 19, 2010	Jun. 18, 2011	Conduction (CO05-HY)
DC- LISN	R&S	ESH3-26	1000485	0.1MHz~200MH z	Jun. 17, 2010	Jun. 16, 2011	Conduction (CO05-HY)
DC- LISN	R&S	ESH3-26	1000484	0.1MHz~200MH z	Jun. 17, 2010	Jun. 16, 2011	Conduction (CO05-HY)
System Simulator	R&S	CMU200	106656	N/A	May 11, 2010	May 10, 2012	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2010	Oct. 30, 2011	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 03, 2010	Dec. 02, 2011	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 19, 2010	Aug. 18, 2011	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A023 62	1GHz~ 26.5GHz	Dec. 06, 2010	Dec. 05, 2011	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 27, 2010	Mar. 26, 2011	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/00 1	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH07-HY)



## 5 Uncertainty of Evaluation

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

Contribution	Uncertainty of $X_i$		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
<b>Combined Standard Uncertainty <math>U_c(y)</math></b>	<b>1.13</b>		
<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b>	<b>2.26</b>		

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

Contribution	Uncertainty of $X_i$		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
<b>Combined Standard Uncertainty <math>U_c(y)</math></b>	<b>1.27</b>		
<b>Measuring Uncertainty for a Level of Confidence of 95% (<math>U = 2U_c(y)</math>)</b>	<b>2.54</b>		



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

Contribution	Uncertainty of $X_i$		$u(X_i)$	$C_i$	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	±0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	±1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	±0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	±2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	±1.50	Rectangular	0.87	1	0.87
Site Imperfection	±2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
<b>Combined Standard Uncertainty Uc(y)</b>	<b>2.36</b>				
<b>Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))</b>	<b>4.72</b>				