

FCC RF Test Report

APPLICANT : Motorola Solutions, Inc.
EQUIPMENT : Enterprise Digital Assistant (EDA)
BRAND NAME : Motorola
MODEL NAME : MC55N0
FCC ID : UZ7MC55N0
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : Digital Transmission System (DTS)

The product was received on Apr. 14, 2011 and completely tested on Jul. 19, 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:



Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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

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	12
2.4 RF Utility	13
3 TEST RESULT	14
3.1 6dB and Bandwidth Measurement	14
3.2 Output Power Measurement	25
3.3 Band Edges Measurement	28
3.4 Spurious Emission Measurement	42
3.5 Power Spectral Density Measurement	58
3.6 AC Conducted Emission Measurement	69
3.7 Radiated Emission Measurement	77
3.8 Antenna Requirements	120
4 LIST OF MEASURING EQUIPMENT	121
5 UNCERTAINTY OF EVALUATION	123
APPENDIX A. PHOTOGRAPHS OF EUT	
APPENDIX B. SETUP PHOTOGRAPHS	

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR141402B	Rev. 01	Initial issue of report	Aug. 05, 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	-
3.2	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 13.3 dB at 0.18 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.52 dB at 2385.62 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Motorola Solutions, Inc.

One Motorola Plaza, Holtsville, NY 11742-1300 USA

1.2 Manufacturer

Motorola Solutions, Inc.

One Motorola Plaza, Holtsville, NY 11742-1300 USA

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Enterprise Digital Assistant (EDA)
Brand Name	Motorola
Model Name	MC55N0
FCC ID	UZ7MC55N0
Sample 1	EUT with Camera
Sample 2	EUT without Camera
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	<2400 MHz ~ 2483.5 MHz> 802.11b : 22.58 dBm (0.18 W) 802.11g : 24.51 dBm (0.28 W) 802.11n (BW 20MHz) : 24.47 dBm (0.28 W) <5725 MHz ~ 5850 MHz> 802.11a : 22.36 dBm (0.17 W) 802.11n (BW 20MHz) : 22.42 dBm (0.18 W)
Antenna Type	802.11b/g/n : PIFA Antenna with gain 2.55 dBi 802.11a/n : PIFA Antenna with gain 2.94 dBi
HW Version	DV
SW Version	BSP36
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

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	CO05-HY	03CH06-HY	03CH07-HY	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.	Bluetooth Base Station	R&S	CBT32	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.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
5.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
6.	iPod	Apple	A1285	FCC DoC	Shielded, 1.0 m	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	19.91	19.84	19.45	19.47
CH 06	2437 MHz	22.58	22.20	21.95	21.77
CH 11	2462 MHz	22.18	22.13	21.82	21.83
CH 12	2467 MHz	15.08	15.01	14.72	14.77
CH 13	2472 MHz	15.18	15.13	14.86	14.89

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	24.04	24.02	23.92	23.88	23.94	24.02	23.73	23.61
CH 06	2437 MHz	24.51	24.46	24.42	24.47	24.40	24.30	24.03	23.93
CH 11	2462 MHz	24.22	24.18	24.10	24.08	24.01	24.09	23.77	23.80
CH 12	2467 MHz	21.12	21.11	20.78	20.72	20.87	20.84	20.83	21.08
CH 13	2472 MHz	-11.75	-11.76	-11.77	-11.78	-11.75	-11.79	-11.77	-11.76

Channel	Frequency	2.4GHz 802.11n (BW 20MHz) RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412 MHz	23.82	23.76	23.72	23.68	23.73	23.65	23.36	22.95
CH 06	2437 MHz	24.47	24.43	24.45	24.24	24.30	24.02	23.95	23.18
CH 11	2462 MHz	24.00	23.96	23.95	23.92	23.96	23.92	23.72	23.19
CH 12	2467 MHz	20.27	20.21	20.15	19.86	19.79	20.18	19.43	19.37
CH 13	2472 MHz	-11.41	-11.43	-11.45	-11.48	-11.44	-11.47	-11.43	-11.42

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	22.34	22.01	21.86	21.85	21.90	21.78	21.25	21.23
CH157	5785 MHz	22.36	22.04	21.91	21.94	21.92	21.85	21.38	21.32
CH165	5825 MHz	22.12	21.93	21.51	21.54	21.83	21.72	21.06	21.13

Channel	Frequency	5GHz 802.11n (BW 20MHz) RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745 MHz	22.30	22.09	21.83	21.64	21.67	21.58	21.35	20.92
CH157	5785 MHz	22.42	22.22	21.97	21.86	21.95	21.64	21.39	21.14
CH165	5825 MHz	22.40	22.20	22.30	22.17	22.23	22.06	21.66	21.32

Remark:

1. The EUT is programmed to transmit signals continuously for all testing.
2. The data rates of WLAN 802.11a/b/g/n were set in 1Mbps for 802.11b, 6Mbps for 802.11g, MCS0 for 802.11n (BW 20MHz), 6Mbps for 802.11a, and MCS0 for 802.11n (BW 20MHz) for all the test cases due to the highest RF output power.

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).

Pre-scanned tests were conducted to determine the final configuration from all possible combinations.

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)
Conducted TCs	Mode 1: 802.11b_CH01_2412 MHz	Mode 10: 802.11a_CH149_5745 MHz
	Mode 2: 802.11b_CH06_2437 MHz	Mode 11: 802.11a_CH157_5785 MHz
	Mode 3: 802.11b_CH11_2462 MHz	Mode 12: 802.11a_CH165_5825 MHz
	Mode 4: 802.11g_CH01_2412 MHz	Mode 13: 802.11n_CH149_5745 MHz (BW 20M)
	Mode 5: 802.11g_CH06_2437 MHz	Mode 14: 802.11n_CH157_5785 MHz (BW 20M)
	Mode 6: 802.11g_CH11_2462 MHz	Mode 15: 802.11n_CH165_5825 MHz (BW 20M)
	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)	

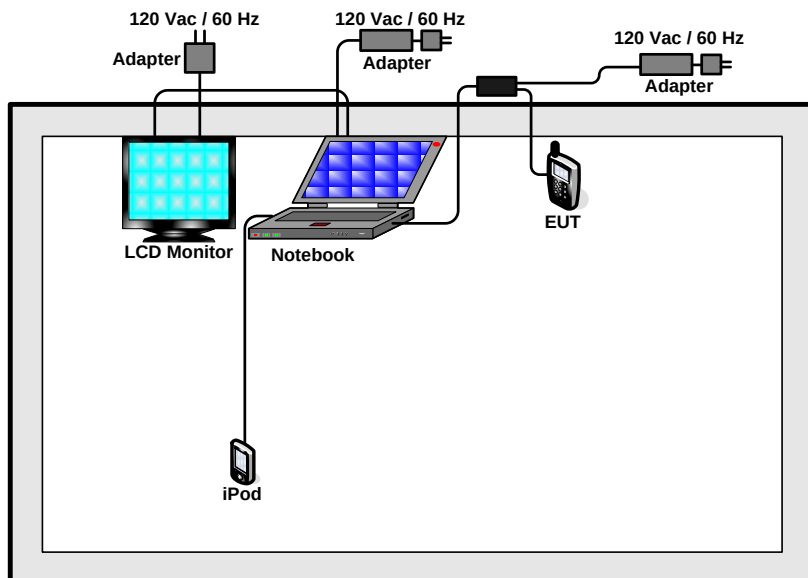


Test Cases		
Test Item	802.11b (Modulation : DSSS) 802.11g/n (Modulation : OFDM)	802.11a/n (Modulation : OFDM)
Radiated TCs	Mode 1: 802.11b_CH01_2412 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 17: 802.11a_CH149_5745 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1
	Mode 2: 802.11b_CH06_2437 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 18: 802.11a_CH157_5785 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1
	Mode 3: 802.11b_CH11_2462 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 19: 802.11a_CH165_5825 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1
	Mode 4: 802.11b_CH12_2467 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 20: 802.11n_CH149_5745 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1
	Mode 5: 802.11b_CH13_2472 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 21: 802.11n_CH157_5785 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1
	Mode 6: 802.11g_CH01_2412 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 22: 802.11n_CH165_5825 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1
	Mode 7: 802.11g_CH06_2437 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	Mode 23: 802.11a_CH165_5825 MHz + Numeric Keypad + Battery (2400mAh) + 1D Scanner for Sample 2
	Mode 8: 802.11g_CH11_2462 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 9: 802.11g_CH12_2467 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 10: 802.11g_CH13_2472 MHz + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 11: 802.11n_CH01_2412 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 12: 802.11n_CH06_2437 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 13: 802.11n_CH11_2462 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 14: 802.11n_CH12_2467 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 15: 802.11n_CH13_2472 MHz (BW 20M) + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1	
	Mode 16: 802.11b_CH01_2412 MHz + PIM Keypad + Battery (2400mAh) + 1D Scanner for Sample 2	

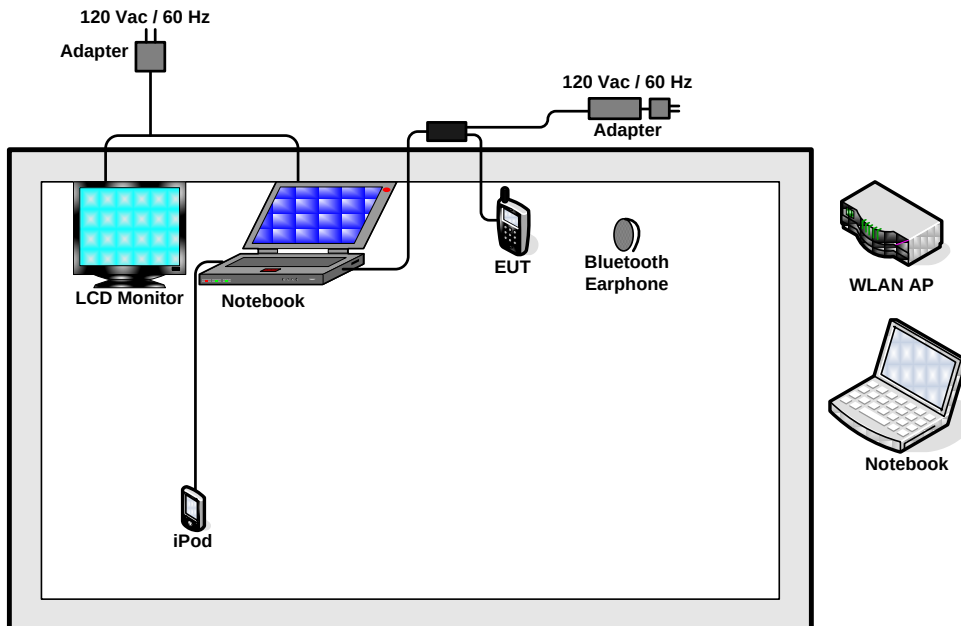
Test Cases		
Test Item	802.11b (Modulation : DSSS) 802.11g/n (Modulation : OFDM)	802.11a/n (Modulation : OFDM)
AC Conducted Emission	Mode 1 : WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1 Mode 2 : WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + Numeric Keypad + Battery (3600mAh) + 2D Scanner for Sample 1 Mode 3 : WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + PIM Keypad + Battery (2400mAh) + 1D Scanner for Sample 1	
Remark: 1. For radiated TCs test was performed together with USB charging cable with AC power. 2. “BT Link” stands for terminal linked to headset by BT function. 3. “WLAN Link” stands for terminal associated with AP at 2.4GHz band. 4. “USB Link” stands for Activesync RNDIS file transfer.		

2.3 Connection Diagram of Test System

<Radiation Test>



<AC Conducted Emission Mode>





2.4 RF Utility

The programmed RF utility "XWingCon", 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 Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

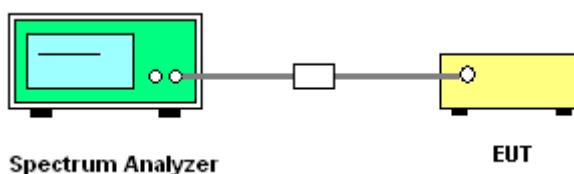
3.1.2 Measuring Instruments

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℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	9.04	0.5	Pass
06	2437	9.04	0.5	Pass
11	2462	9.04	0.5	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.78	0.5	Pass
06	2437	15.64	0.5	Pass
11	2462	15.76	0.5	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.88	0.5	Pass
06	2437	15.32	0.5	Pass
11	2462	15.68	0.5	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	15.60	0.5	Pass
157	5785	15.50	0.5	Pass
165	5825	15.65	0.5	Pass

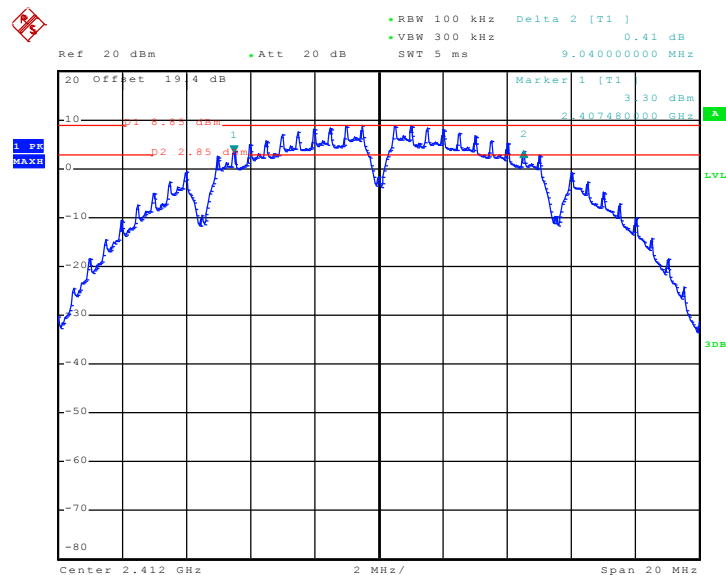
Test Mode :	Mode 13, 14, 15	Temperature :	24~26℃
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	15.70	0.5	Pass
157	5785	15.30	0.5	Pass
165	5825	15.50	0.5	Pass



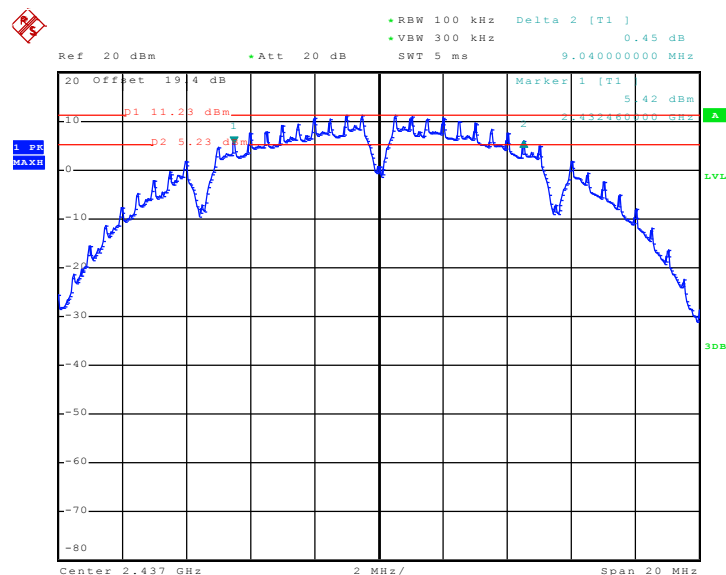
3.1.6 Test Result of 6dB Bandwidth Plots

Mode 1 : 6 dB Bandwidth Plot on 802.11b Channel 01



Date: 28.JUN.2011 11:04:27

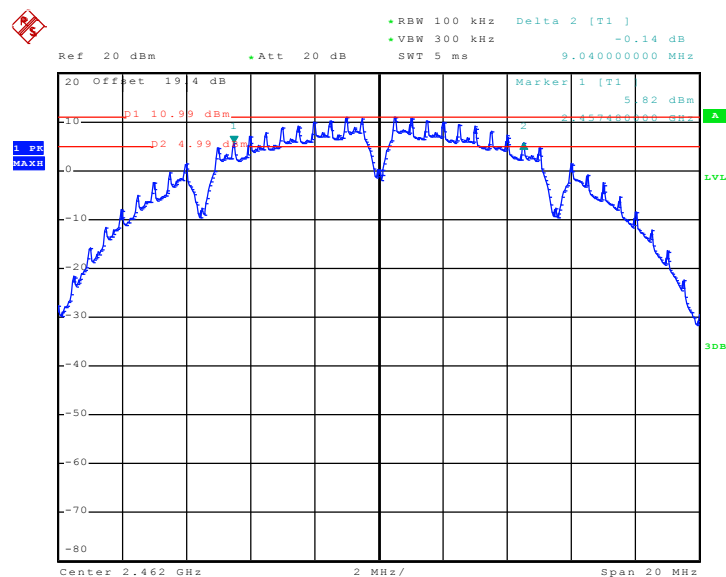
Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06



Date: 28.JUN.2011 11:18:09

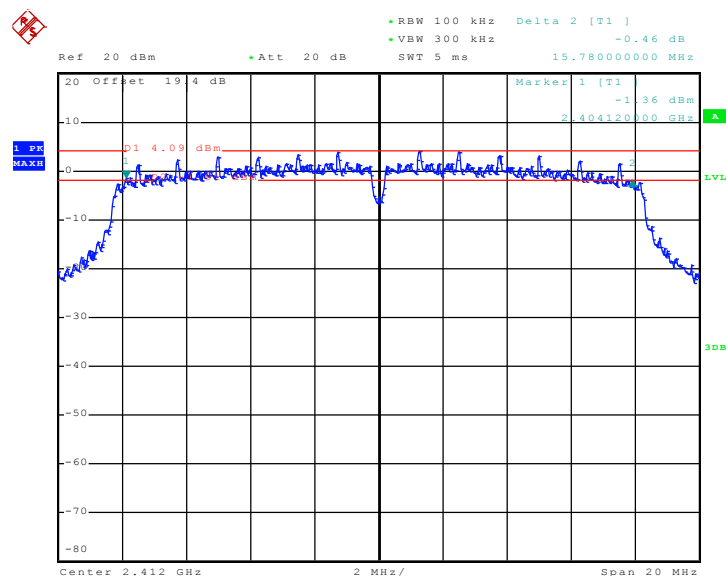


Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11



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Mode 4 : 6 dB Bandwidth Plot on 802.11g Channel 01

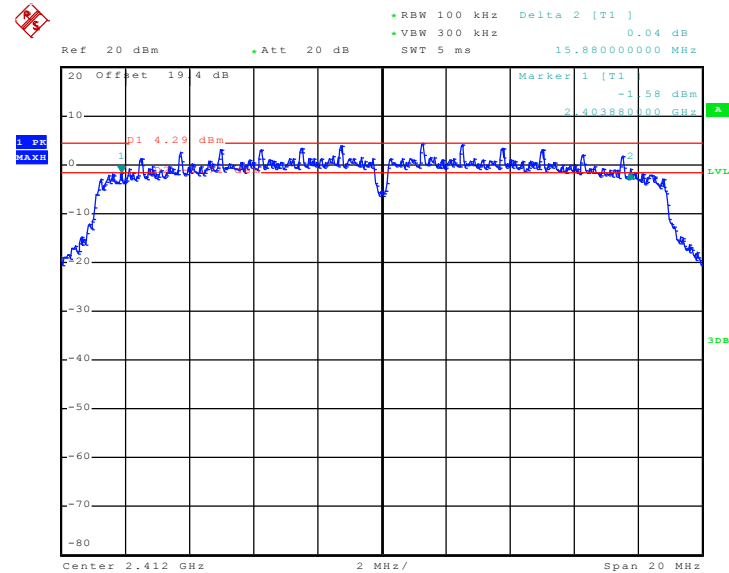


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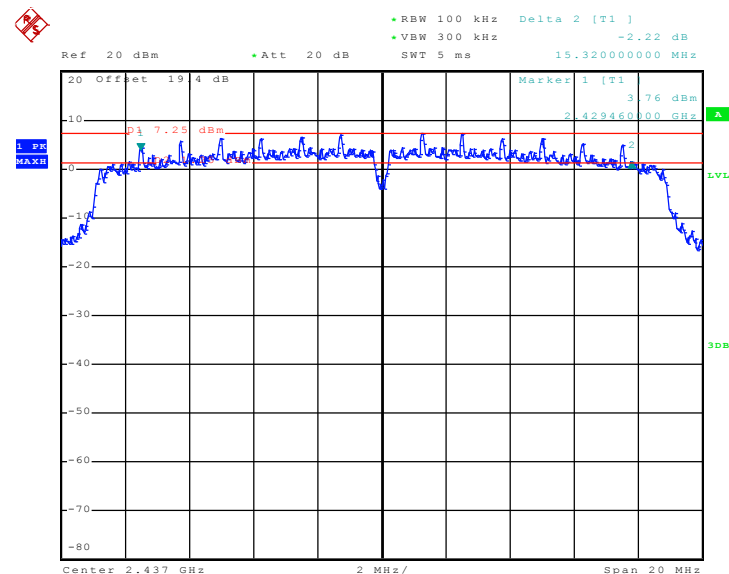


Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11



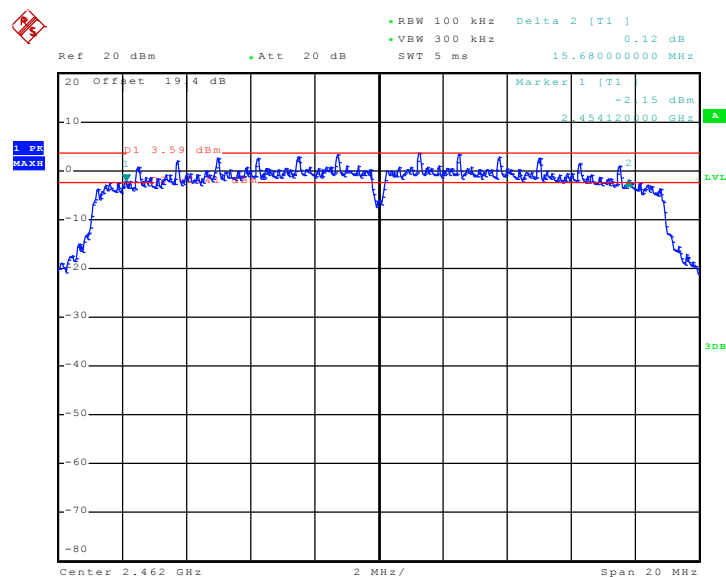
Mode 7 : 6 dB Bandwidth Plot on 802.11n Channel 01


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Mode 8 : 6 dB Bandwidth Plot on 802.11n Channel 06


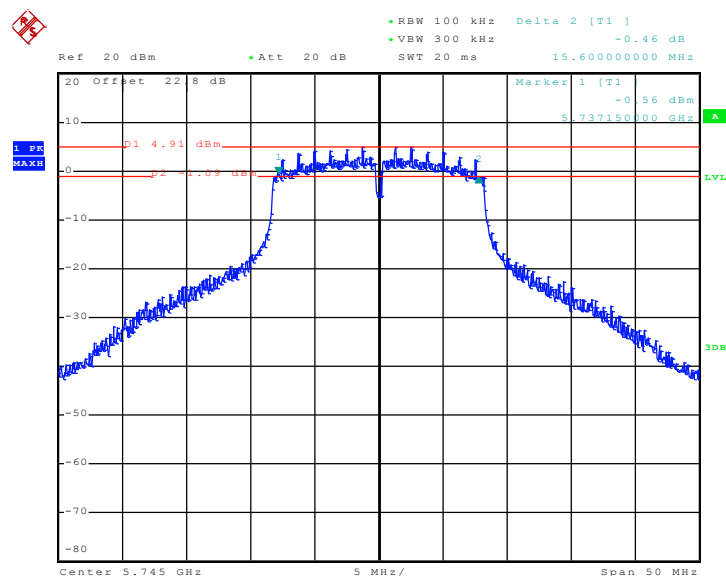
Date: 28.JUN.2011 14:09:37

Mode 9 : 6 dB Bandwidth Plot on 802.11n Channel 11

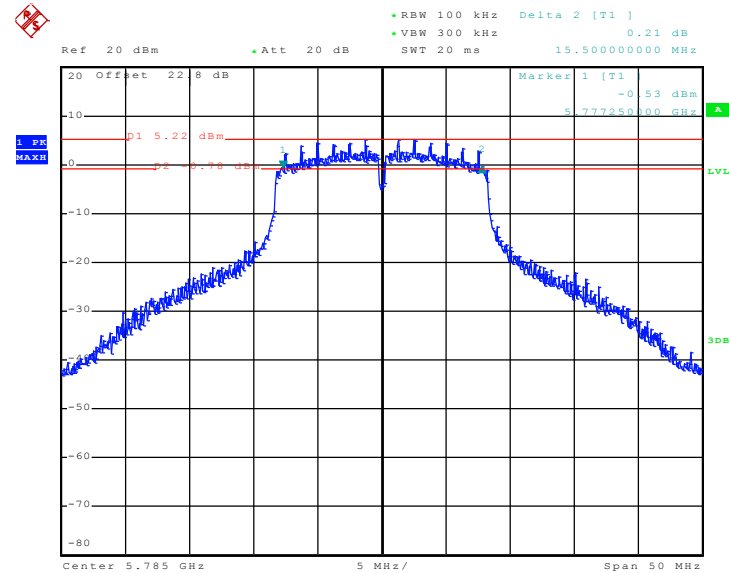


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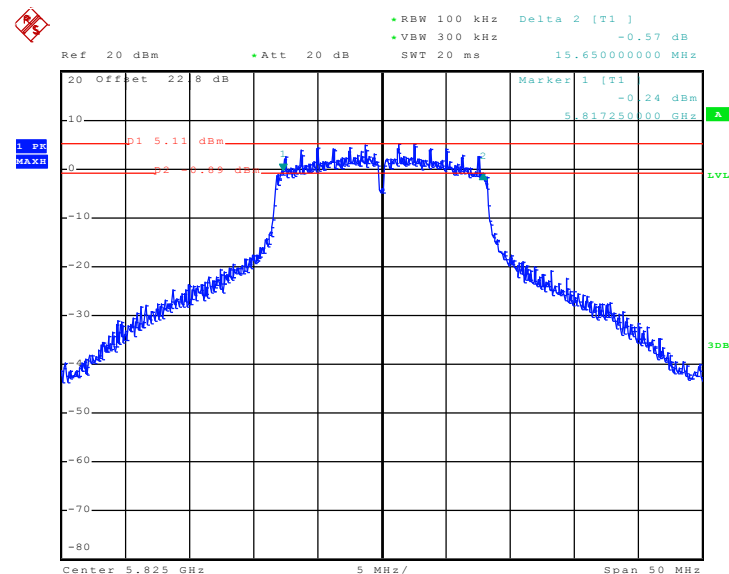
Mode 10: 6 dB Bandwidth Plot on 802.11a Channel 149



Date: 28.JUN.2011 15:08:59

Mode 11: 6 dB Bandwidth Plot on 802.11a Channel 157


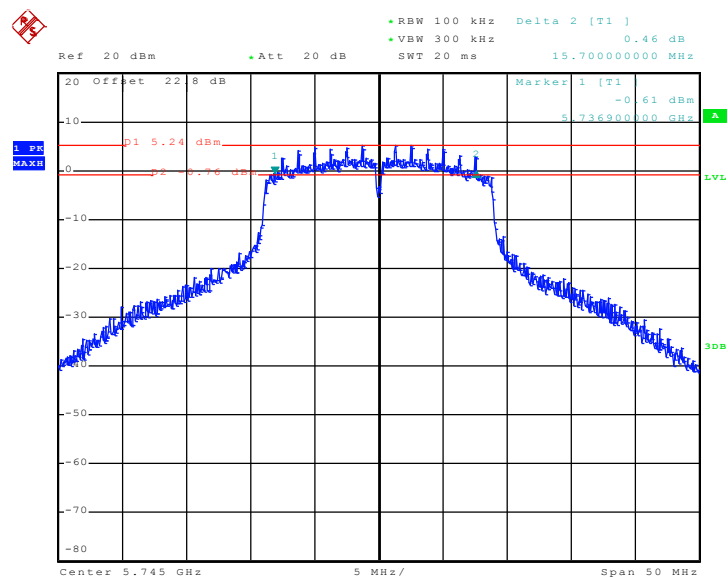
Date: 28.JUN.2011 15:26:36

Mode 12: 6 dB Bandwidth Plot on 802.11a Channel 165


Date: 28.JUN.2011 15:40:35

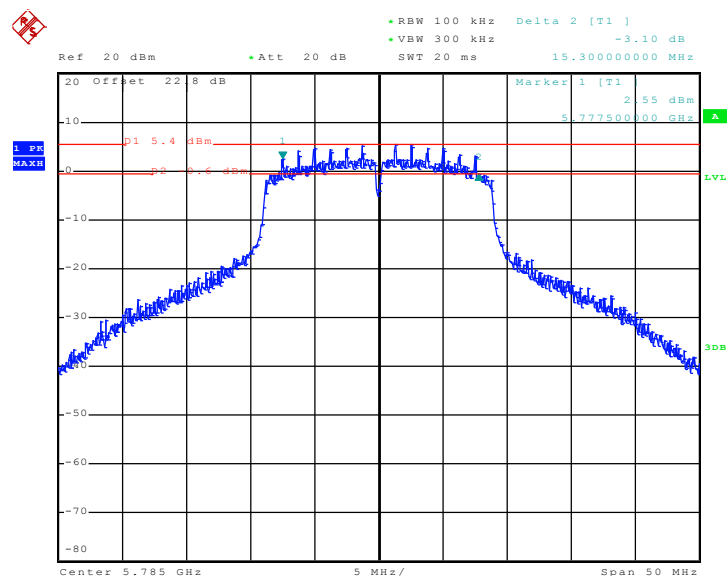


Mode 13: 6 dB Bandwidth Plot on 802.11n Channel 149

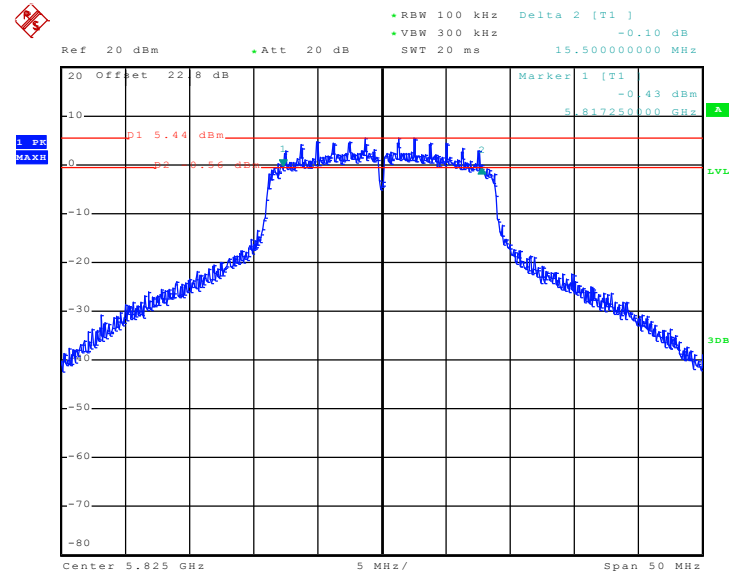


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Mode 14: 6 dB Bandwidth Plot on 802.11n Channel 157



Date: 28.JUN.2011 17:20:06

Mode 15: 6 dB Bandwidth Plot on 802.11n Channel 165


Date: 28.JUN.2011 16:48:01

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.

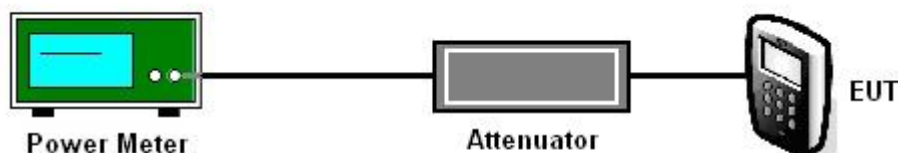
3.2.2 Measuring Instruments

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 :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.91	30	Pass
06	2437	22.58	30	Pass
11	2462	22.18	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	24.04	30	Pass
06	2437	24.51	30	Pass
11	2462	24.22	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.82	30	Pass
06	2437	24.47	30	Pass
11	2462	24.00	30	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.34	30	Pass
157	5785	22.36	30	Pass
165	5825	22.12	30	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.30	30	Pass
157	5785	22.42	30	Pass
165	5825	22.40	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

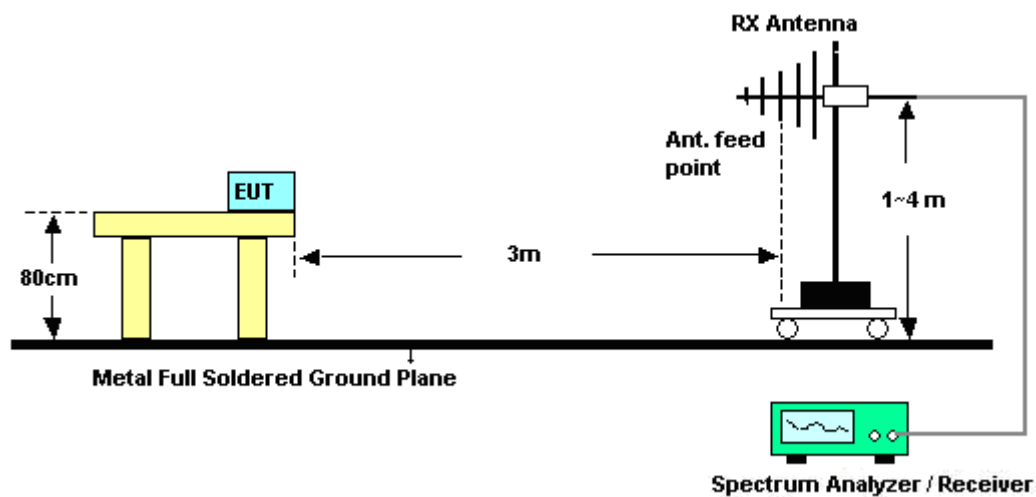
See list of measuring instruments of this test report.

3.3.3 Test Procedures

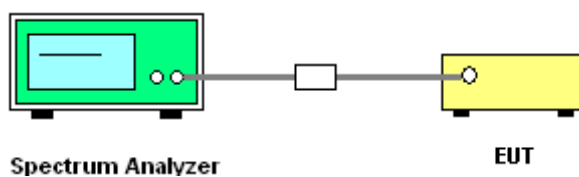
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band 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 :	22~26°C
Test Band :	802.11b	Relative Humidity :	51~55%
Test Channel :	01	Test Engineer :	Wii Chang

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
2385.62	60.73	-13.27	74	57.82	31.9	5.4	34.39	137	9	Peak
2385.62	52.48	-1.52	54	49.57	31.9	5.4	34.39	137	9	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
2385.62	59.72	-14.28	74	56.81	31.9	5.4	34.39	100	285	Peak
2385.62	51.5	-2.5	54	48.59	31.9	5.4	34.39	100	285	Average

Test Mode :	Mode 3	Temperature :	22~26°C
Test Band :	802.11b	Relative Humidity :	51~55%
Test Channel :	11	Test Engineer :	Wii Chang

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
2487.65	58.45	-15.55	74	55.3	32	5.52	34.37	156	2	Peak
2487.65	49.81	-4.19	54	46.66	32	5.52	34.37	156	2	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
2488.22	57.4	-16.6	74	54.25	32	5.52	34.37	119	312	Peak
2488.22	47.73	-6.27	54	44.58	32	5.52	34.37	119	312	Average



Test Mode :	Mode 4	Temperature :	22~26°C
Test Band :	802.11b	Relative Humidity :	51~55%
Test Channel :	12	Test Engineer :	Wii Chang

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
2388	49.48	-24.52	74	46.57	31.9	5.4	34.39	103	10	Peak
2388	35.34	-18.66	54	32.43	31.9	5.4	34.39	103	10	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
2388	50.14	-23.86	74	47.23	31.9	5.4	34.39	100	289	Peak
2388	35.25	-18.75	54	32.34	31.9	5.4	34.39	100	289	Average

Test Mode :	Mode 5	Temperature :	22~26°C
Test Band :	802.11b	Relative Humidity :	51~55%
Test Channel :	13	Test Engineer :	Wii Chang

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
2486.13	58.61	-15.39	74	55.48	31.98	5.52	34.37	100	0	Peak
2486.13	51.43	-2.57	54	48.3	31.98	5.52	34.37	100	0	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
2487.46	57.48	-16.52	74	54.35	31.98	5.52	34.37	119	301	Peak
2487.46	49.52	-4.48	54	46.39	31.98	5.52	34.37	119	301	Average

Test Mode :	Mode 6	Temperature :	22~26°C
Test Band :	802.11g	Relative Humidity :	51~55%
Test Channel :	01	Test Engineer :	Wii Chang

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
2389.61	69.03	-4.97	74	66.12	31.9	5.4	34.39	160	16	Peak
2389.61	47.61	-6.39	54	44.7	31.9	5.4	34.39	160	16	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
2389.61	66.04	-7.96	74	63.13	31.9	5.4	34.39	118	326	Peak
2389.61	44.95	-9.05	54	42.04	31.9	5.4	34.39	118	326	Average

Test Mode :	Mode 8	Temperature :	22~26°C
Test Band :	802.11g	Relative Humidity :	51~55%
Test Channel :	11	Test Engineer :	Wii Chang

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
2483.85	63.6	-10.4	74	60.47	31.98	5.52	34.37	157	2	Peak
2483.85	45.96	-8.04	54	42.83	31.98	5.52	34.37	157	2	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	59.54	-14.46	74	56.41	31.98	5.52	34.37	172	321	Peak
2483.85	43.97	-10.03	54	40.84	31.98	5.52	34.37	172	321	Average

Test Mode :	Mode 9	Temperature :	22~26°C
Test Band :	802.11g	Relative Humidity :	51~55%
Test Channel :	12	Test Engineer :	Wii Chang

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
2366	46.53	-27.47	74	43.7	31.86	5.37	34.4	100	1	Peak
2366	34.35	-19.65	54	31.52	31.86	5.37	34.4	100	1	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
2316	45.52	-28.48	74	42.81	31.81	5.31	34.41	117	300	Peak
2316	33.55	-20.45	54	30.84	31.81	5.31	34.41	117	300	Average

Test Mode :	Mode 10	Temperature :	22~26°C
Test Band :	802.11g	Relative Humidity :	51~55%
Test Channel :	13	Test Engineer :	Wii Chang

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
2483.37	58.39	-15.61	74	55.26	31.98	5.52	34.37	189	7	Peak
2483.37	45.03	-8.97	54	41.9	31.98	5.52	34.37	189	7	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	56.37	-17.63	74	53.24	31.98	5.52	34.37	100	285	Peak
2483.5	43.26	-10.74	54	40.13	31.98	5.52	34.37	100	285	Average

Test Mode :	Mode 11	Temperature :	22~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	51~55%
Test Channel :	01	Test Engineer :	Wii Chang

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
2389.61	71.97	-2.03	74	69.06	31.9	5.4	34.39	161	360	Peak
2389.61	48.28	-5.72	54	45.37	31.9	5.4	34.39	161	360	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	68.29	-5.71	74	65.38	31.9	5.4	34.39	143	315	Peak
2389.99	45.5	-8.5	54	42.59	31.9	5.4	34.39	143	315	Average

Test Mode :	Mode 13	Temperature :	22~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	51~55%
Test Channel :	11	Test Engineer :	Wii Chang

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	65.56	-8.44	74	62.43	31.98	5.52	34.37	157	2	Peak
2483.66	45.67	-8.33	54	42.54	31.98	5.52	34.37	157	2	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
2485.18	62.59	-11.41	74	59.46	31.98	5.52	34.37	114	320	Peak
2485.18	45.2	-8.8	54	42.07	31.98	5.52	34.37	114	320	Average

Test Mode :	Mode 14	Temperature :	22~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	51~55%
Test Channel :	12	Test Engineer :	Wii Chang

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
2356	47.32	-26.68	74	44.53	31.86	5.34	34.41	104	12	Peak
2356	35.38	-18.62	54	32.59	31.86	5.34	34.41	104	12	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
2388	47.54	-26.46	74	44.63	31.9	5.4	34.39	100	288	Peak
2388	34.95	-19.05	54	32.04	31.9	5.4	34.39	100	288	Average

Test Mode :	Mode 15	Temperature :	22~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	51~55%
Test Channel :	13	Test Engineer :	Wii Chang

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	59.27	-14.73	74	56.14	31.98	5.52	34.37	188	9	Peak
2483.66	44.86	-9.14	54	41.73	31.98	5.52	34.37	188	9	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
2483.66	56.96	-17.04	74	53.83	31.98	5.52	34.37	100	284	Peak
2483.66	42.37	-11.63	54	39.24	31.98	5.52	34.37	100	284	Average



Test Mode :	Mode 16	Temperature :	22~26°C
Test Band :	802.11b	Relative Humidity :	51~55%
Test Channel :	01	Test Engineer :	Wii Chang

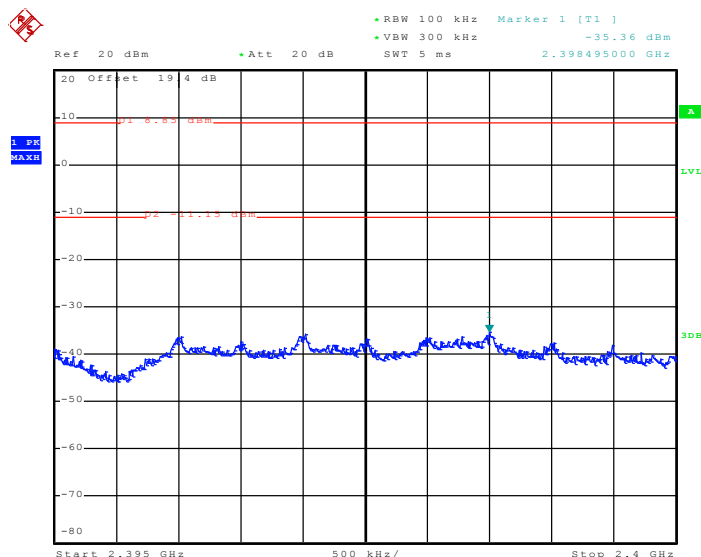
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2492	51.84	-22.16	74	48.69	32	5.52	34.37	100	110	Peak
2492	34.56	-19.44	54	31.41	32	5.52	34.37	100	110	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
2492	51.84	-22.16	74	48.69	32	5.52	34.37	100	2	Peak
2492	34.13	-19.87	54	30.98	32	5.52	34.37	100	2	Average

3.3.6 Test Result of Conducted Band Edges

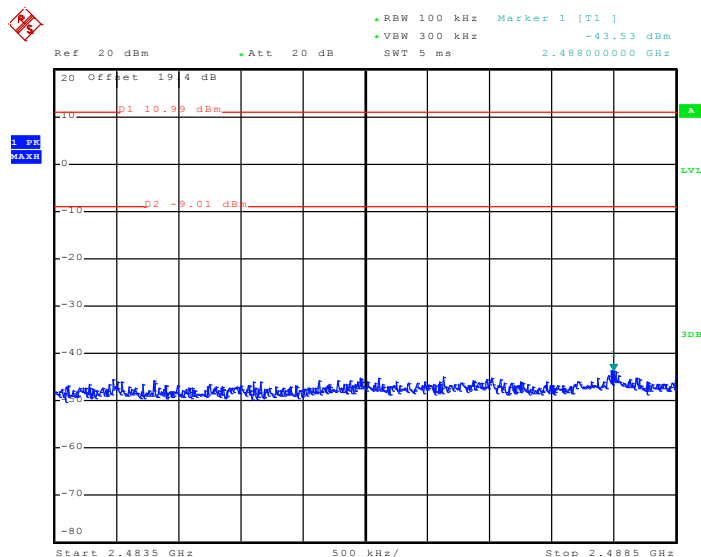
Test Mode :	Mode 1 and 3	Temperature :	24~26℃
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11b Channel 01



Date: 28.JUN.2011 11:05:36

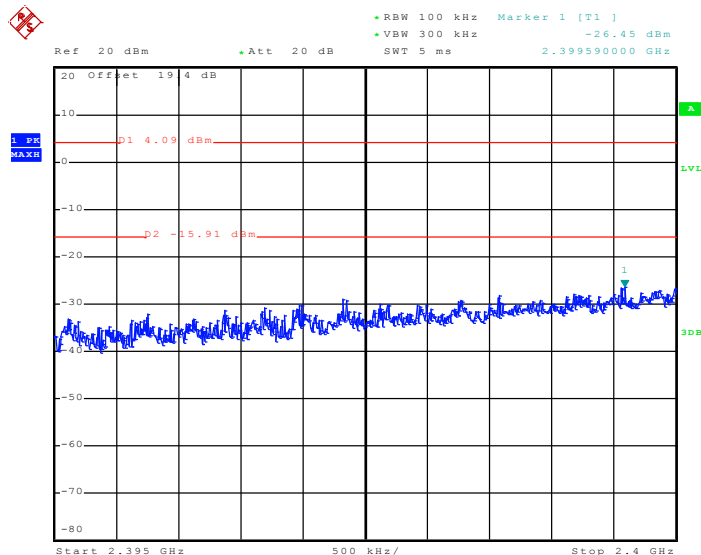
High Band Edge Plot on 802.11b Channel 11



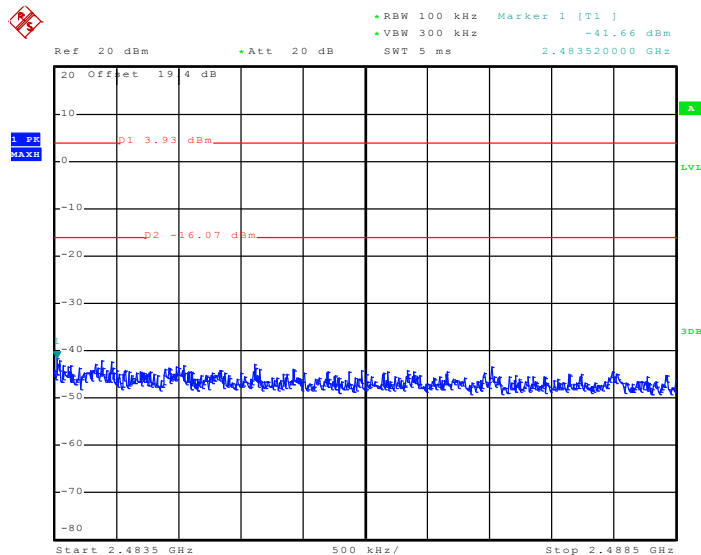
Date: 28.JUN.2011 11:35:40



Test Mode :	Mode 4 and 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11g Channel 01

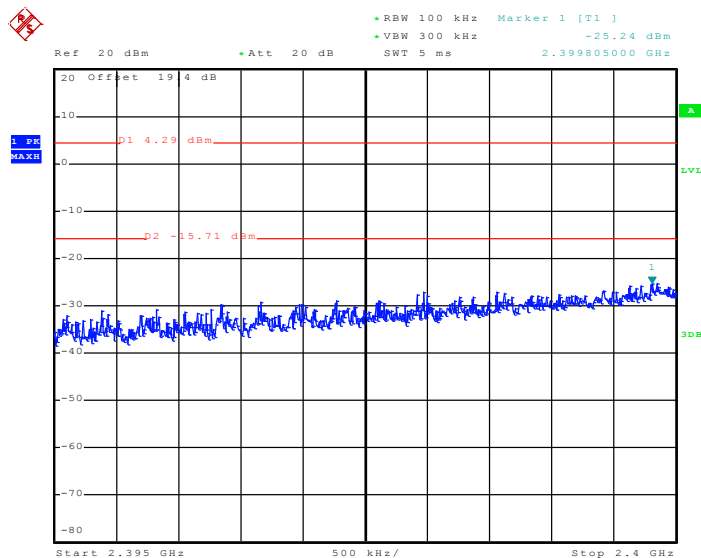
Date: 28.JUN.2011 12:04:25

High Band Edge Plot on 802.11g Channel 11

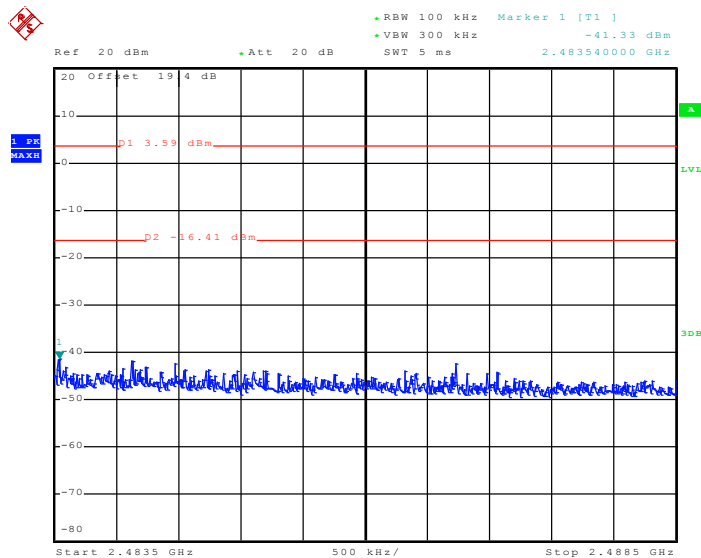
Date: 28.JUN.2011 11:50:52



Test Mode :	Mode 7 and 9	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11n Channel 01

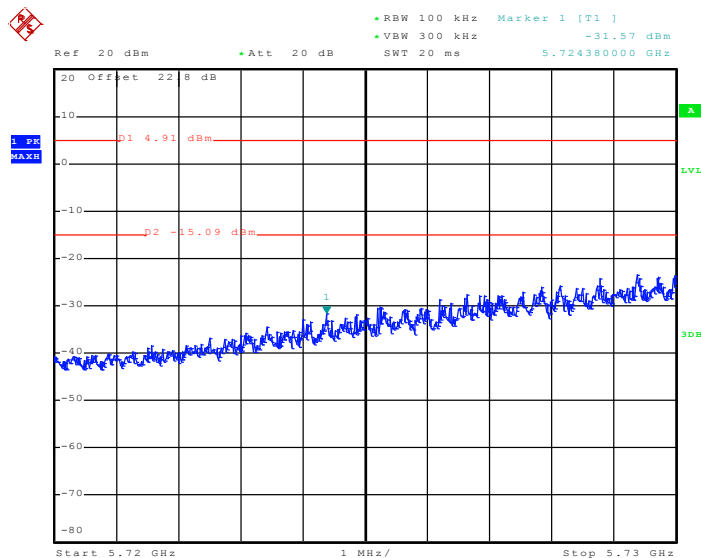
Date: 28.JUN.2011 13:55:16

High Band Edge Plot on 802.11n Channel 11

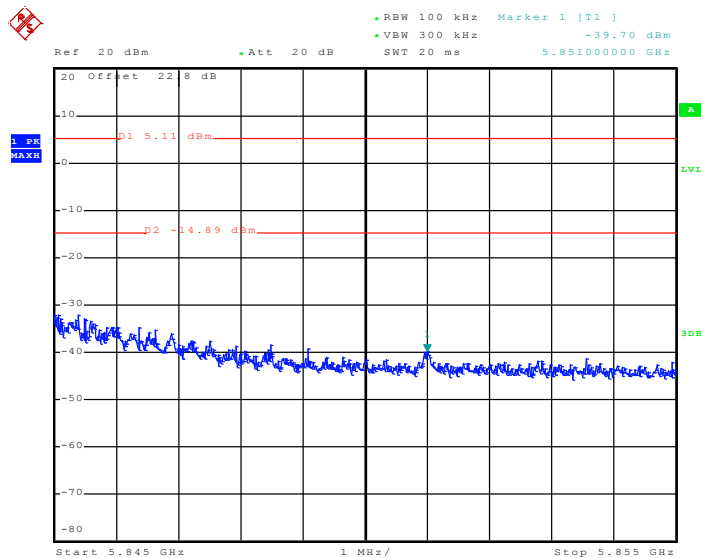
Date: 28.JUN.2011 14:29:32



Test Mode :	Mode 10 and 12	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11a Channel 149

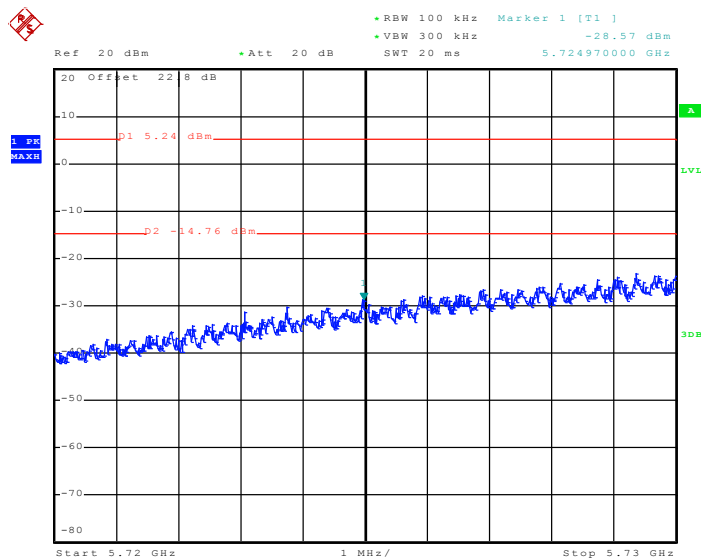
Date: 28.JUN.2011 15:09:25

High Band Edge Plot on 802.11a Channel 165

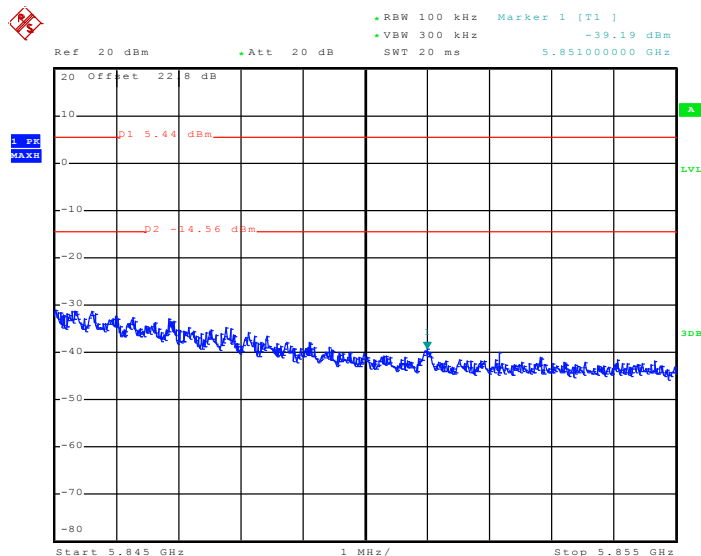
Date: 28.JUN.2011 15:41:01



Test Mode :	Mode 13 and 15	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Pinkston Tu

Low Band Edge Plot on 802.11n Channel 149

Date: 28.JUN.2011 17:04:49

High Band Edge Plot on 802.11n Channel 165

Date: 28.JUN.2011 16:48:27

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.

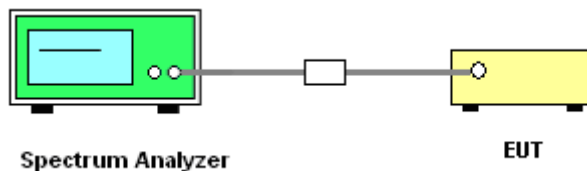
3.4.2 Measuring Instruments

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.

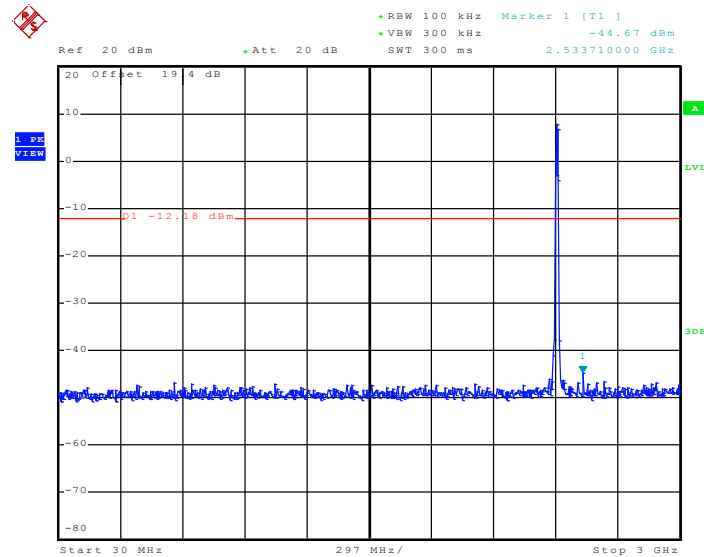
3.4.4 Test Setup



3.4.5 Test Result

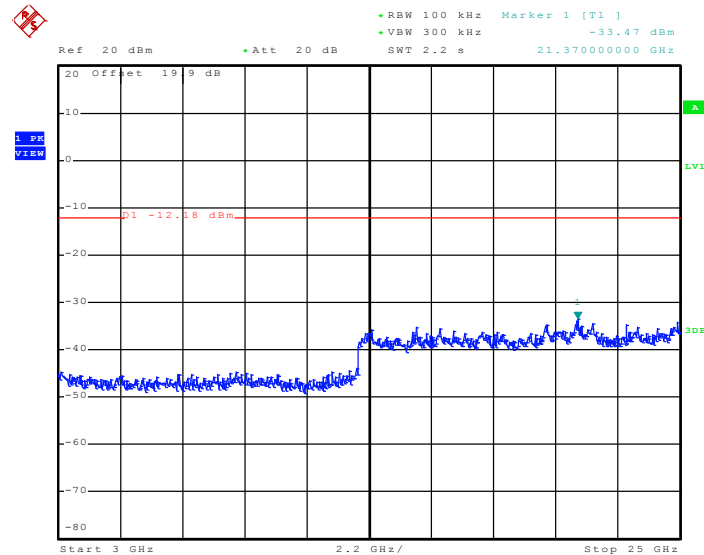
Test Mode :	Mode 1	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



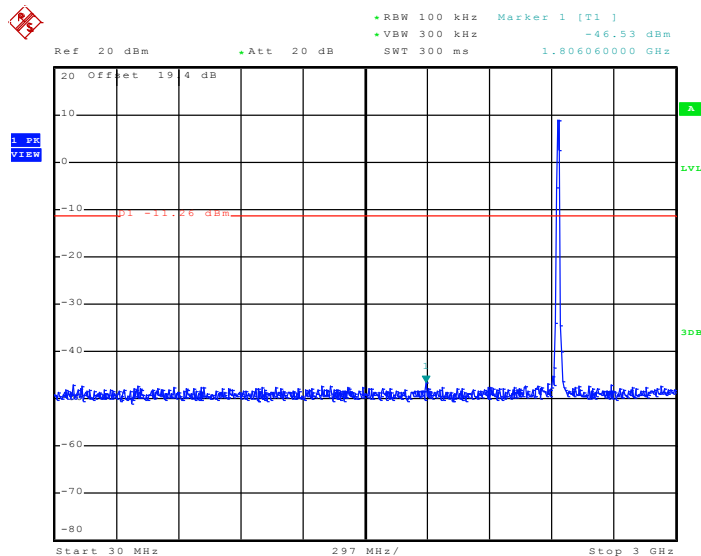
Date: 28.JUN.2011 11:15:31

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

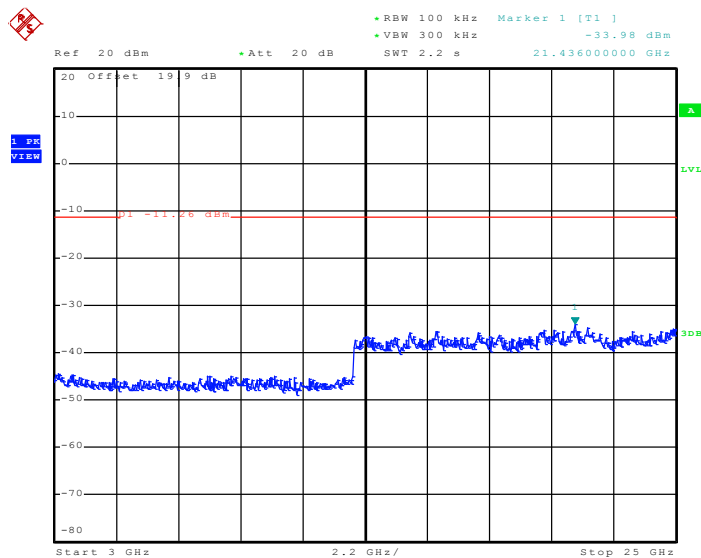


Date: 28.JUN.2011 16:23:22

Test Mode :	Mode 2	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

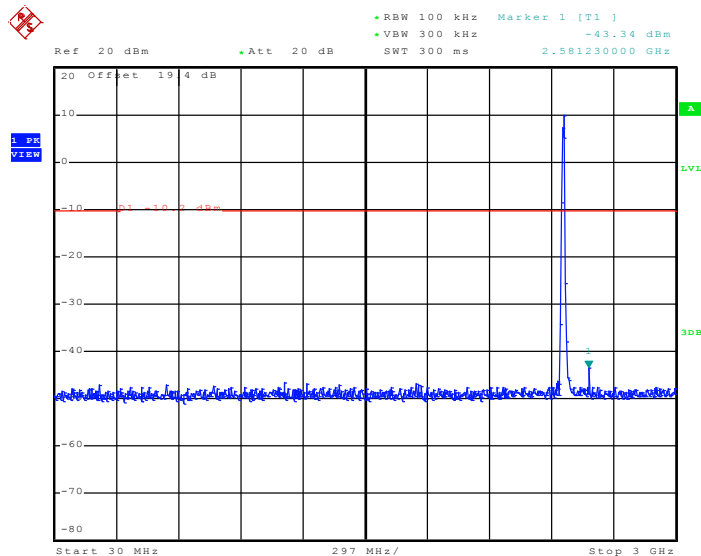
Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


Date: 28.JUN.2011 11:31:52

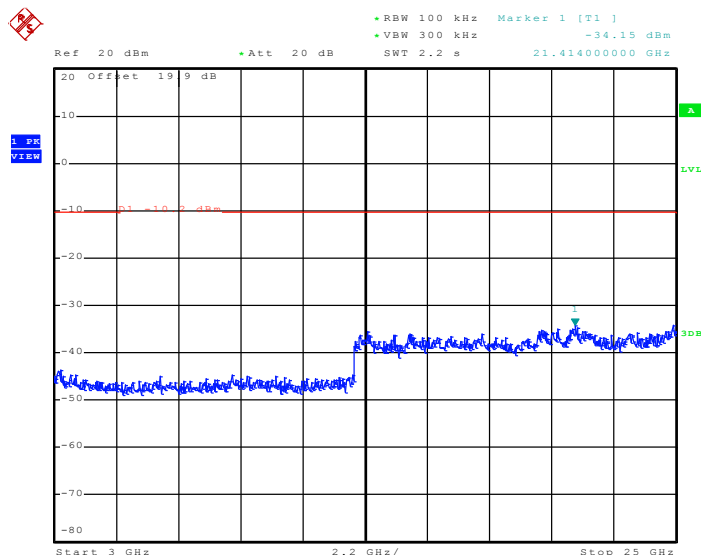
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


Date: 28.JUN.2011 16:24:25

Test Mode :	Mode 3	Temperature :	24~26°C
Test Band :	802.11b	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz


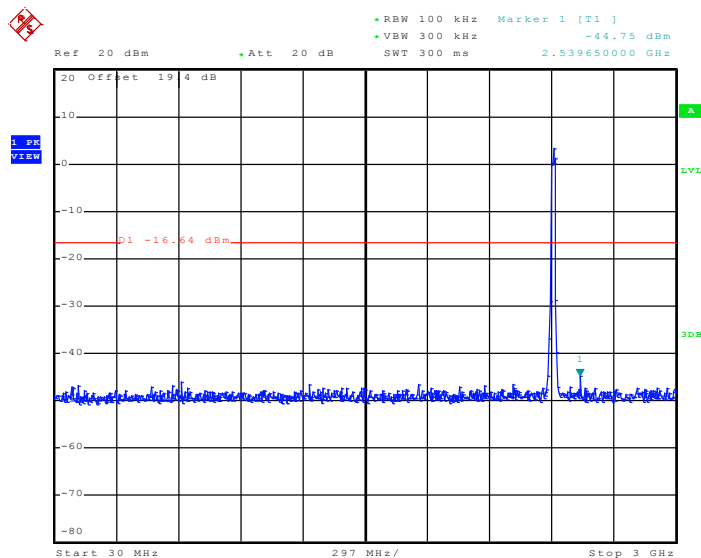
Date: 28.JUN.2011 11:45:03

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz


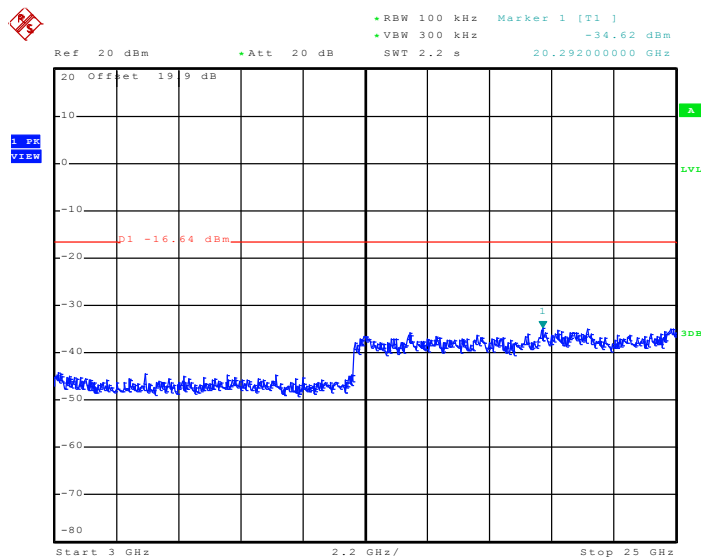
Date: 28.JUN.2011 16:25:34



Test Mode :	Mode 4	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

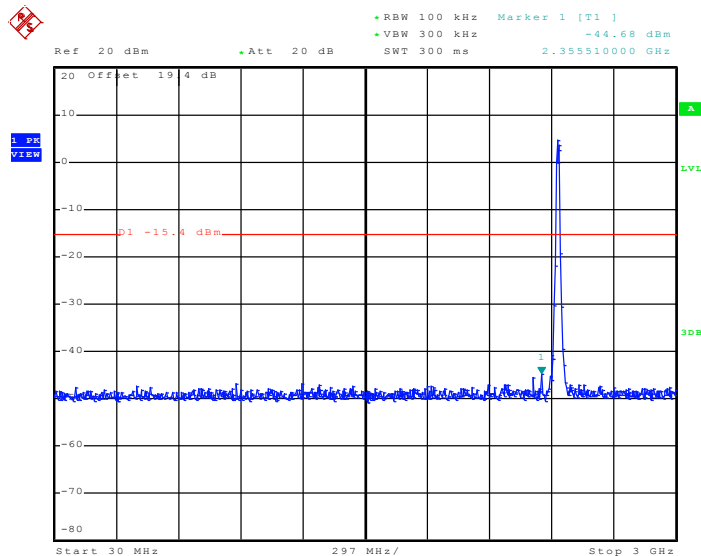
Date: 28.JUN.2011 12:23:13

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

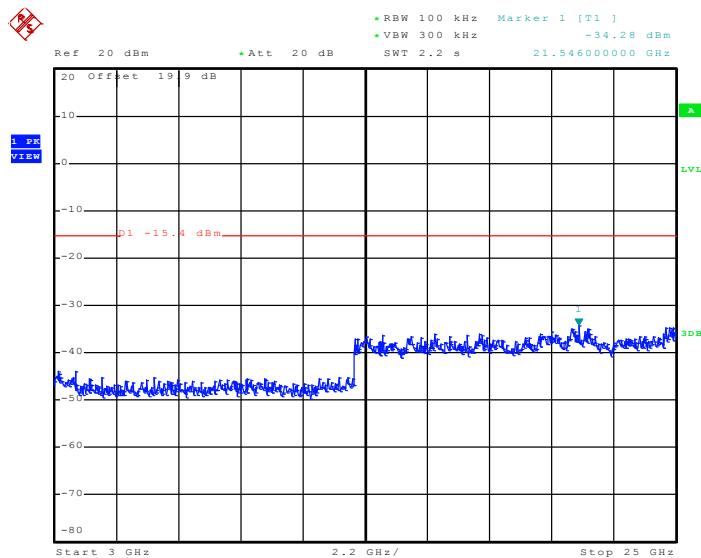
Date: 28.JUN.2011 16:27:01



Test Mode :	Mode 5	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

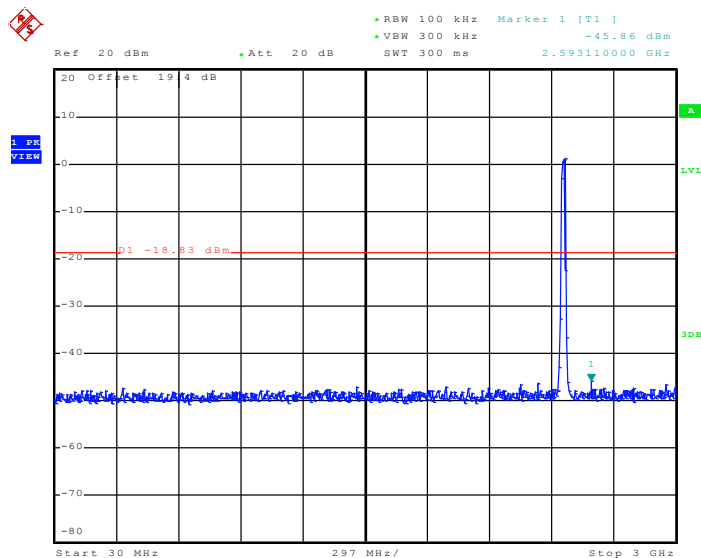
Date: 28.JUN.2011 13:48:04

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

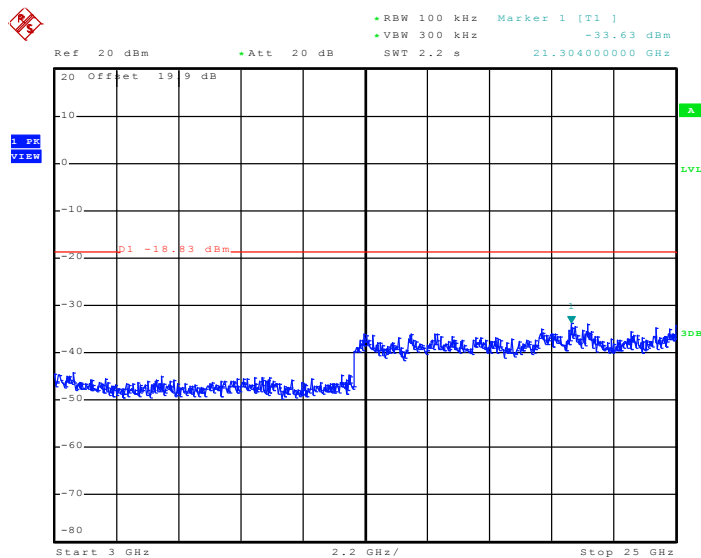
Date: 28.JUN.2011 16:28:15



Test Mode :	Mode 6	Temperature :	24~26°C
Test Band :	802.11g	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

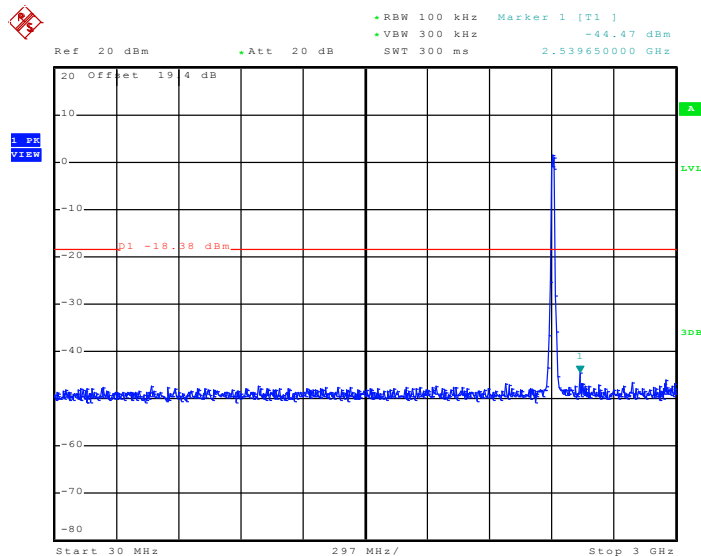
Date: 28.JUN.2011 12:00:49

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

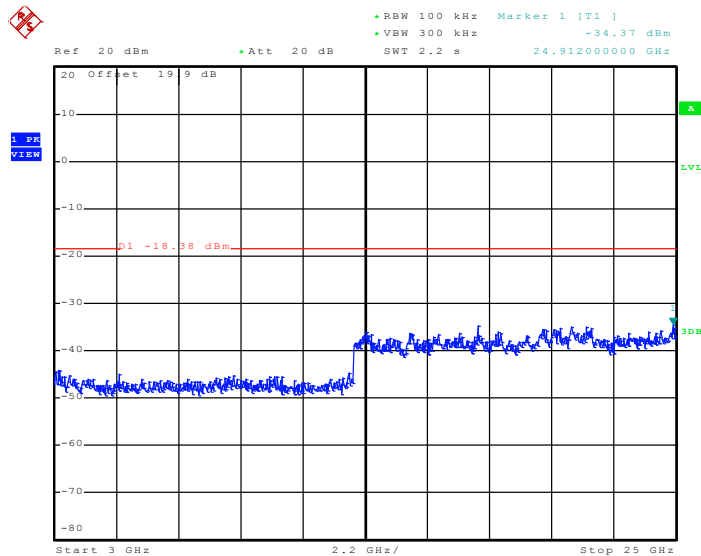
Date: 28.JUN.2011 16:29:33



Test Mode :	Mode 7	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

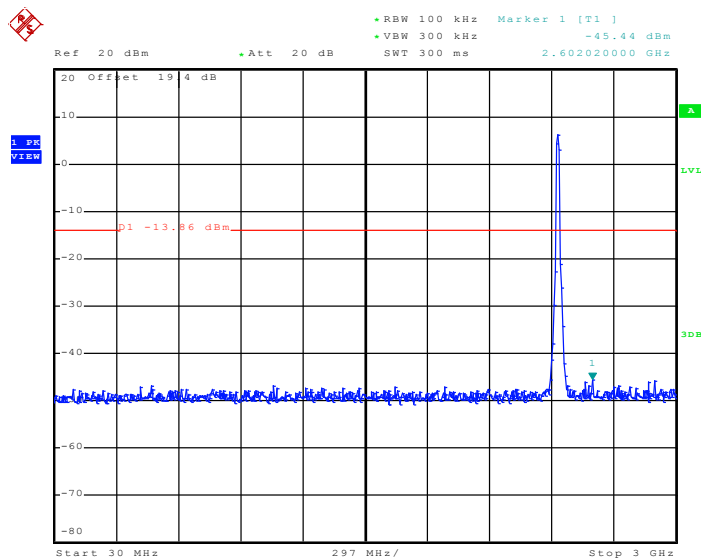
Date: 28.JUN.2011 14:07:04

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

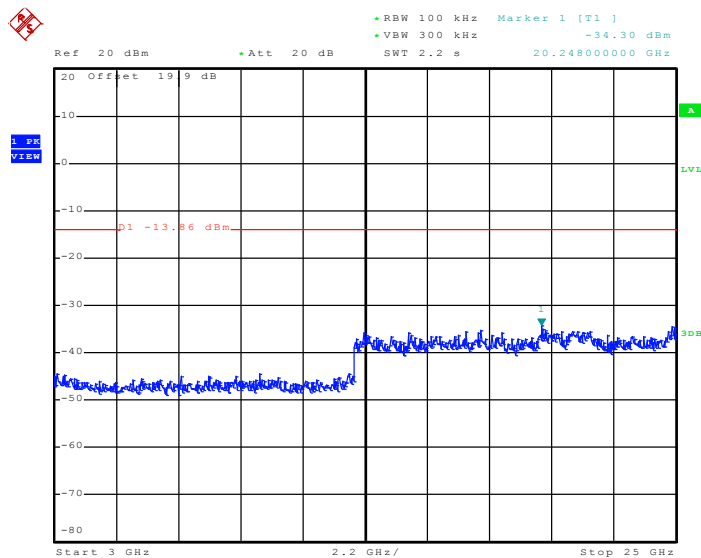
Date: 28.JUN.2011 16:42:22



Test Mode :	Mode 8	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

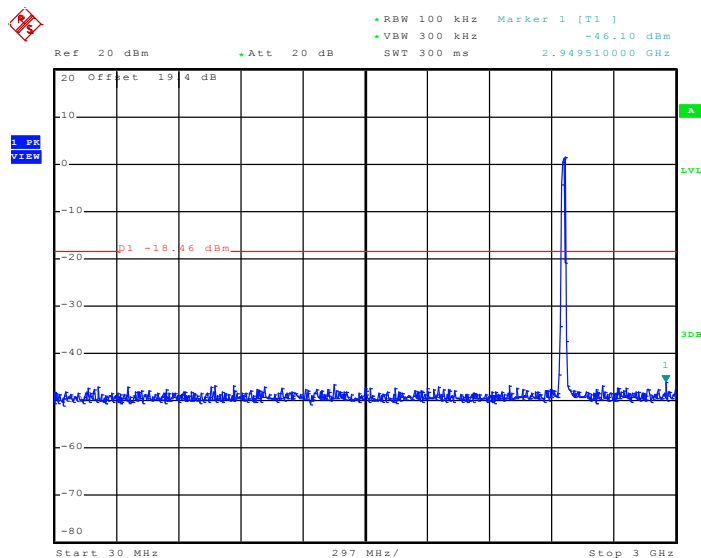
Date: 28.JUN.2011 14:19:12

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

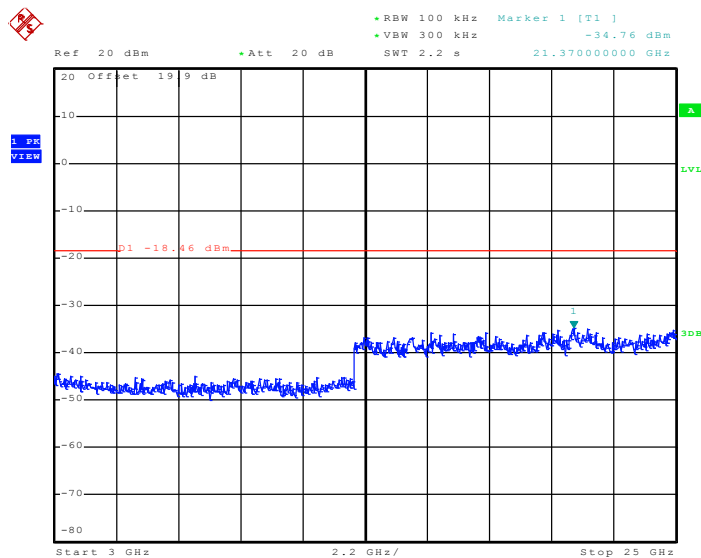
Date: 28.JUN.2011 16:32:41



Test Mode :	Mode 9	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz

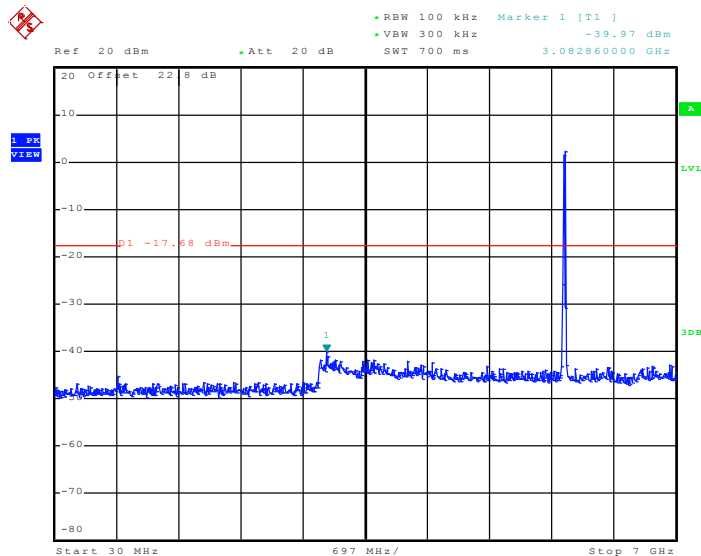
Date: 28.JUN.2011 14:41:59

Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz

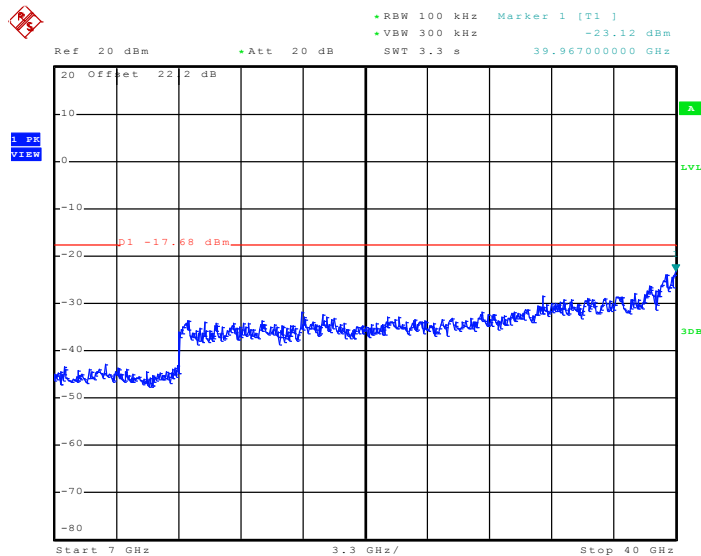
Date: 28.JUN.2011 16:33:47



Test Mode :	Mode 10	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	149	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz

Date: 28.JUN.2011 15:19:01

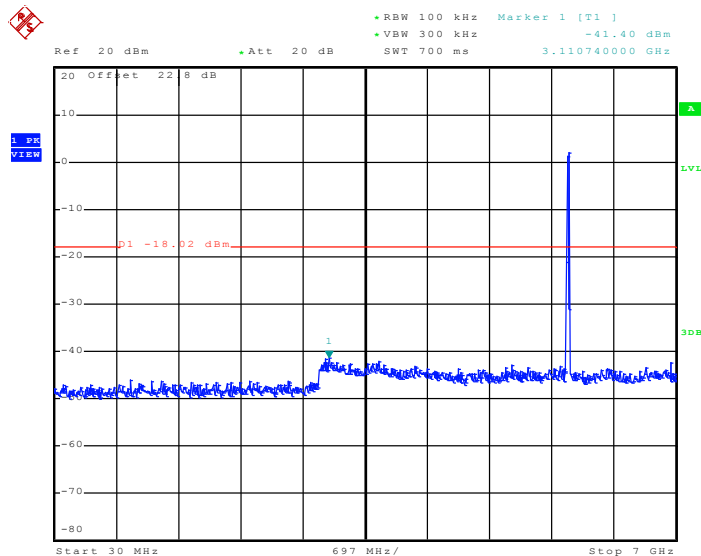
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

Date: 28.JUN.2011 16:09:11



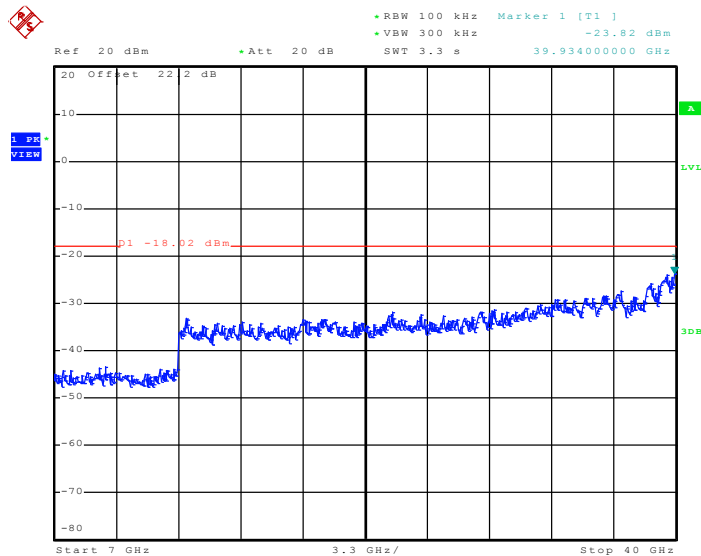
Test Mode :	Mode 11	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 28.JUN.2011 15:36:44

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

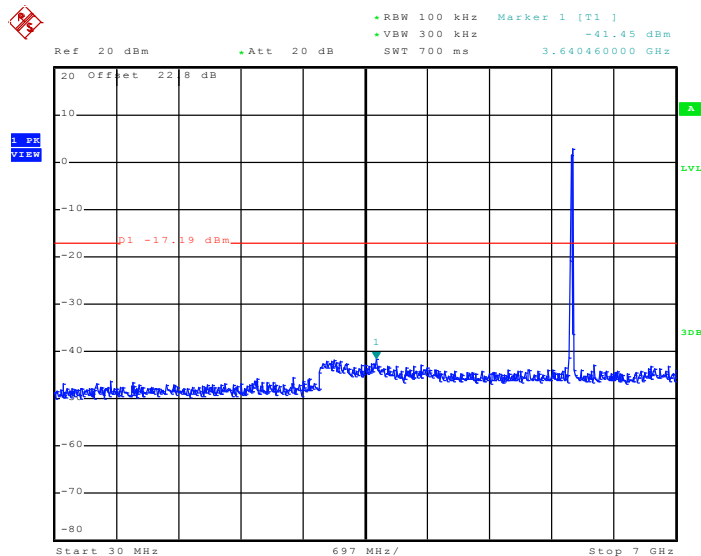


Date: 28.JUN.2011 16:06:49



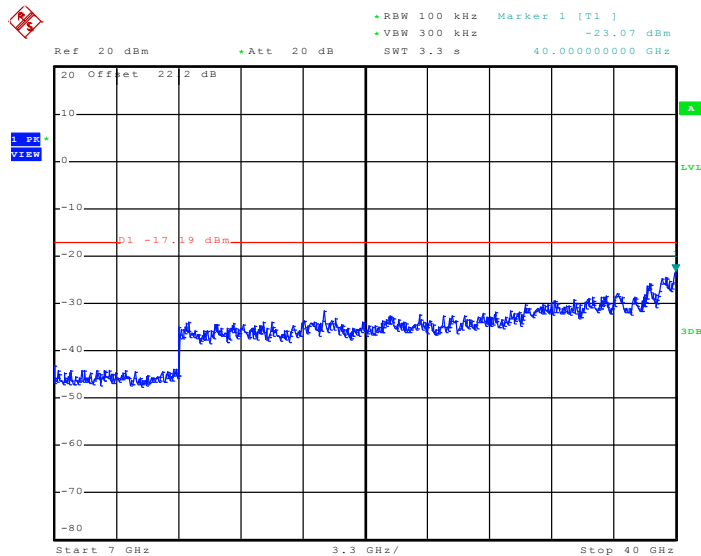
Test Mode :	Mode 12	Temperature :	24~26°C
Test Band :	802.11a	Relative Humidity :	50~53%
Test Channel :	165	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 28.JUN.2011 15:50:47

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

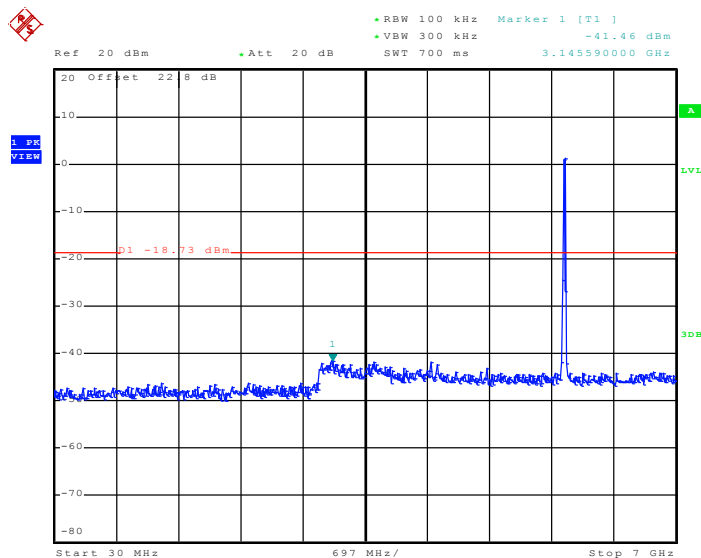


Date: 28.JUN.2011 16:17:43



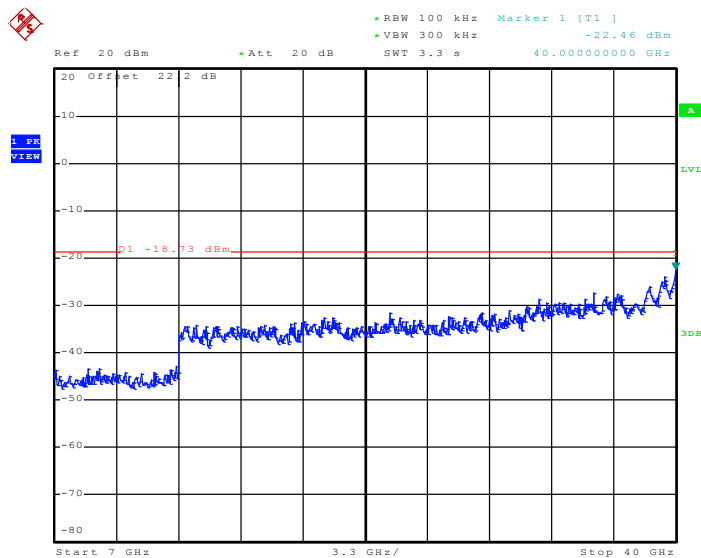
Test Mode :	Mode 13	Temperature :	24~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	149	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 28.JUN.2011 17:14:18

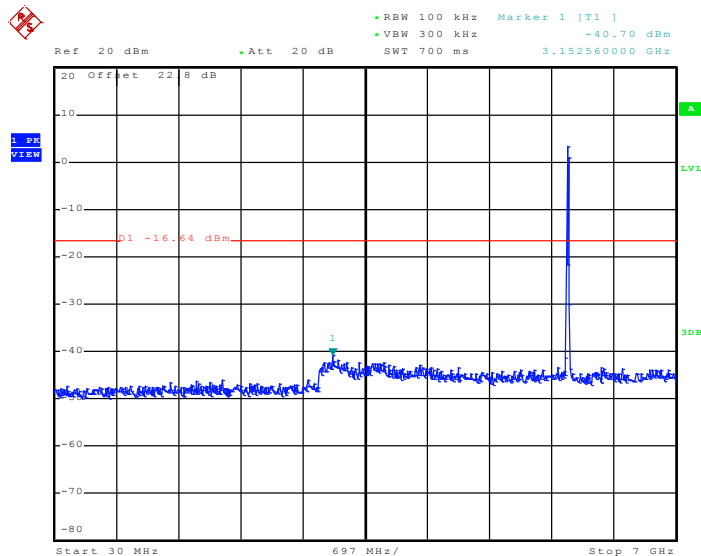
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



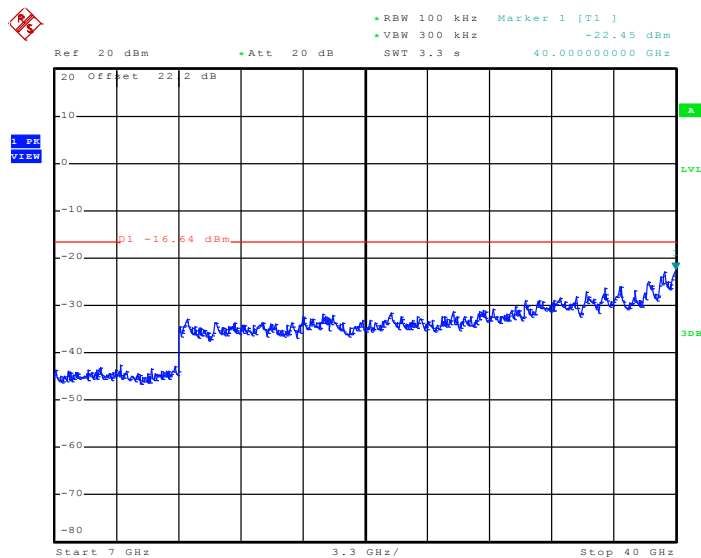
Date: 28.JUN.2011 17:37:17



Test Mode :	Mode 14	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Pinkston Tu

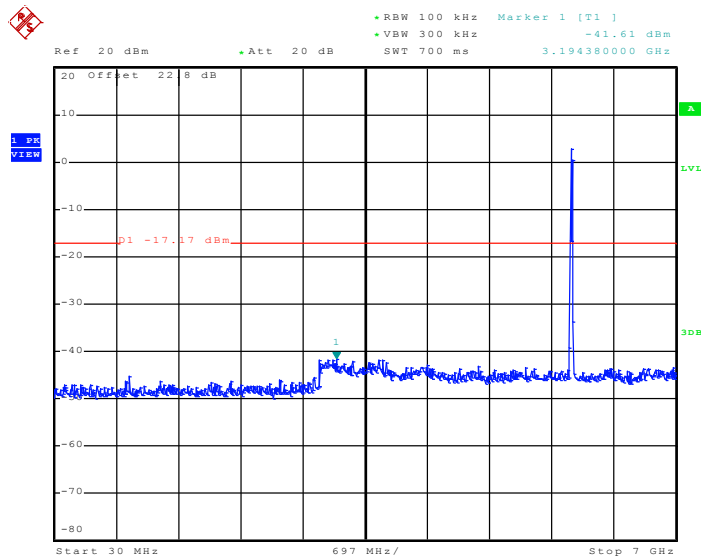
Conducted Spurious Emission Plot between 30MHz ~ 7 GHz

Date: 28.JUN.2011 17:29:36

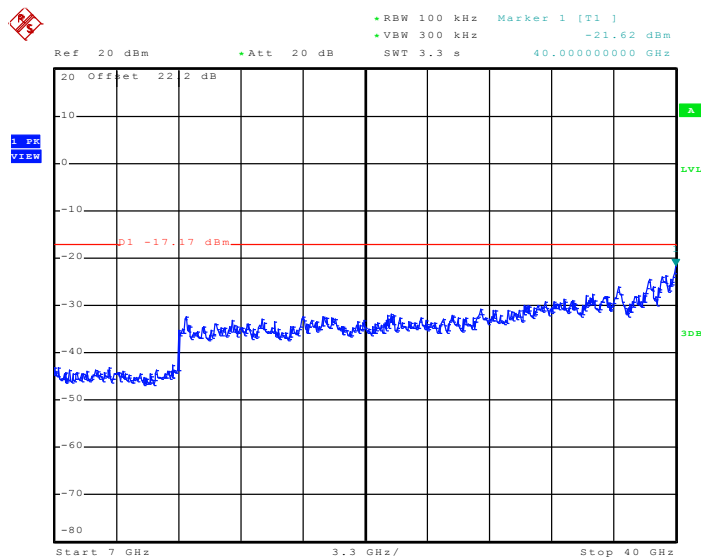
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz

Date: 28.JUN.2011 17:36:21

Test Mode :	Mode 15	Temperature :	24~26°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~53%
Test Channel :	165	Test Engineer :	Pinkston Tu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz


Date: 28.JUN.2011 16:58:53

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz


Date: 28.JUN.2011 17:01:38

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.

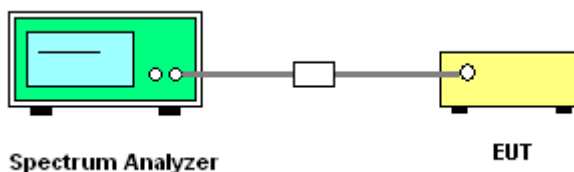
3.5.2 Measuring Instruments

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 :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-4.30	8	Pass
06	2437	-1.79	8	Pass
11	2462	-2.29	8	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-9.01	8	Pass
06	2437	-6.65	8	Pass
11	2462	-9.35	8	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-8.61	8	Pass
06	2437	-5.76	8	Pass
11	2462	-9.39	8	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

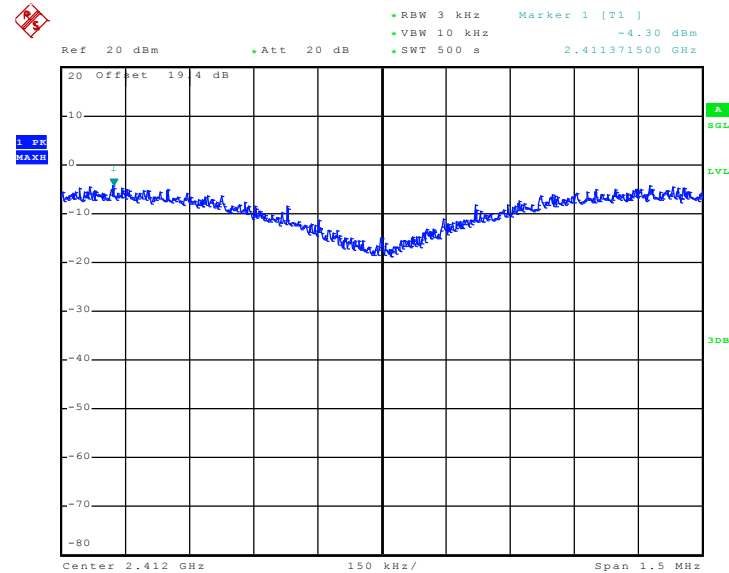
Channel	Frequency (MHz)	802.11a Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-8.63	8	Pass
157	5785	-8.36	8	Pass
165	5825	-8.08	8	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	24~26°C
Test Engineer :	Pinkston Tu	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-7.98	8	Pass
157	5785	-7.88	8	Pass
165	5825	-7.80	8	Pass

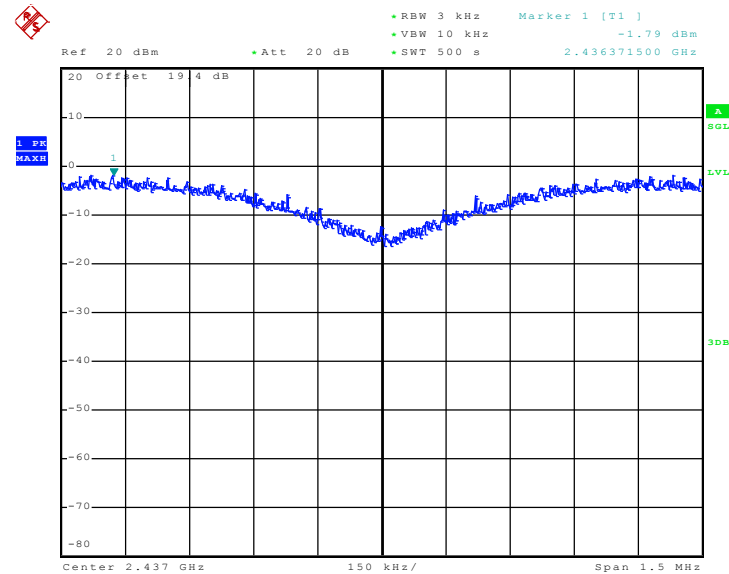
3.5.6 Test Result of Power Spectral Density Plots

Mode 1 : PSD Plot on 802.11b Channel 01

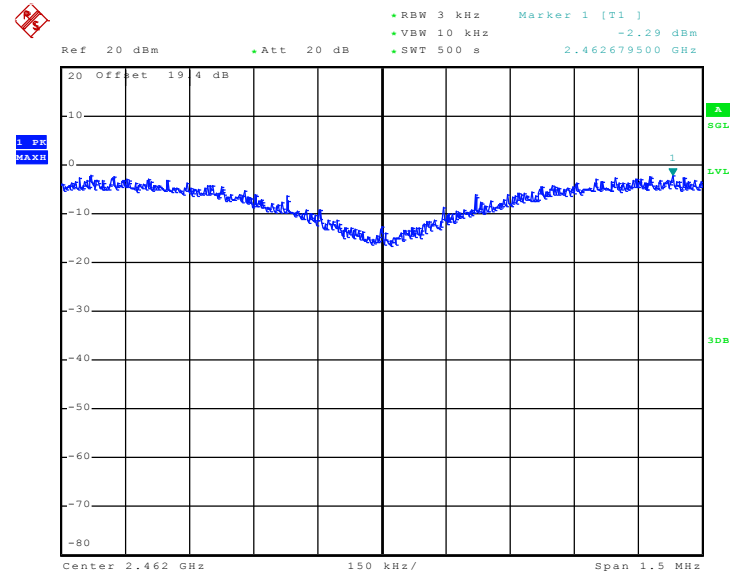


Date: 28.JUN.2011 11:15:10

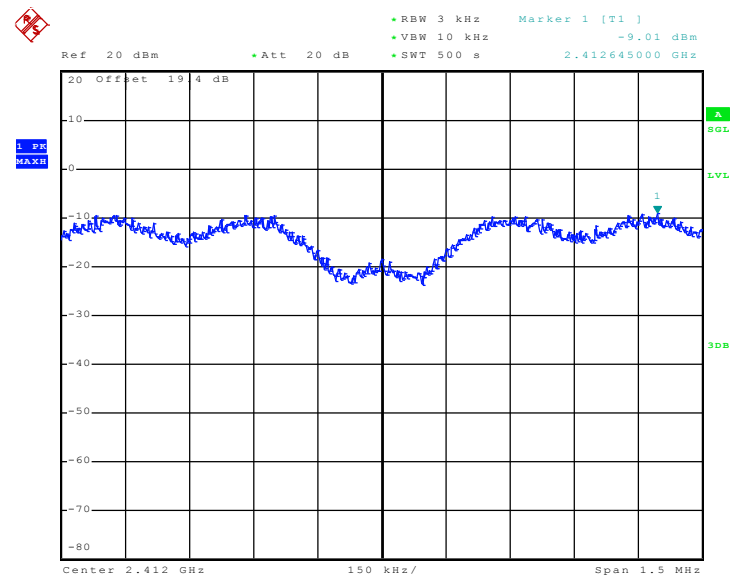
Mode 2 : PSD Plot on 802.11b Channel 06



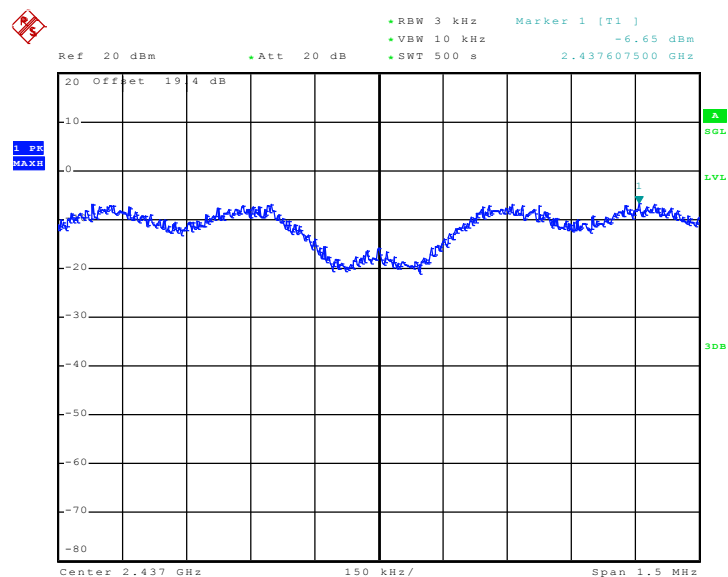
Date: 28.JUN.2011 11:29:59

Mode 3 : PSD Plot on 802.11b Channel 11


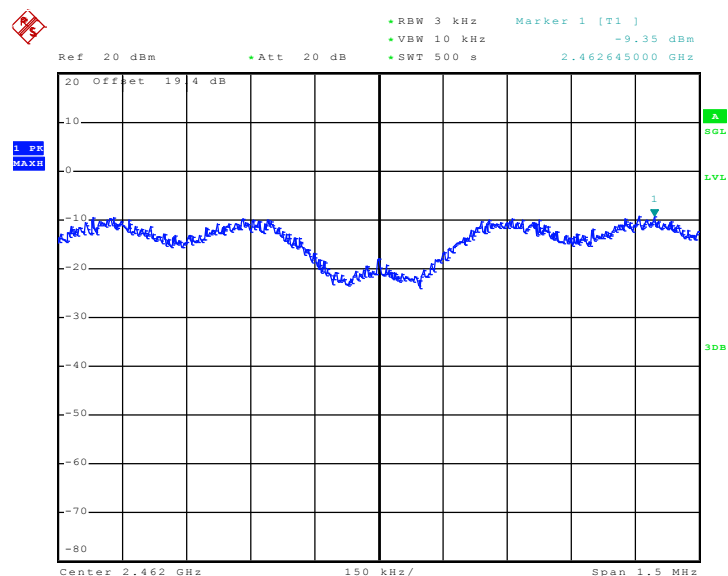
Date: 28.JUN.2011 11:44:42

Mode 4 : PSD Plot on 802.11g Channel 01


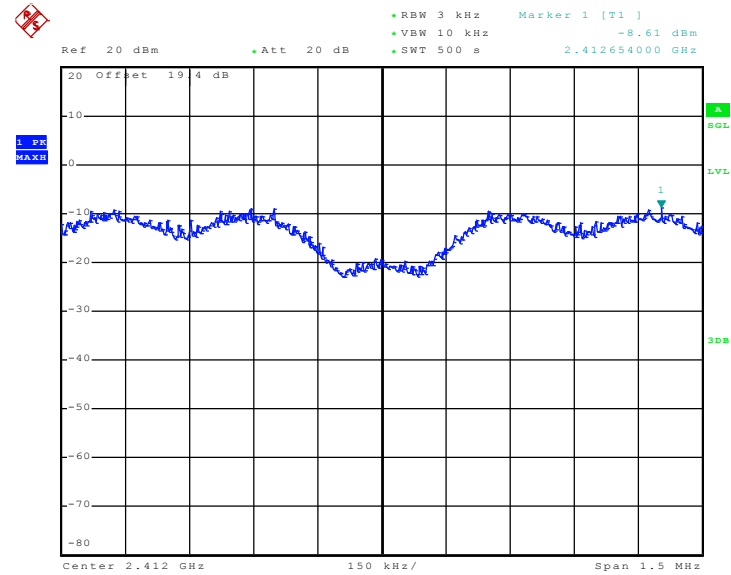
Date: 28.JUN.2011 12:22:52

Mode 5 : PSD Plot on 802.11g Channel 06


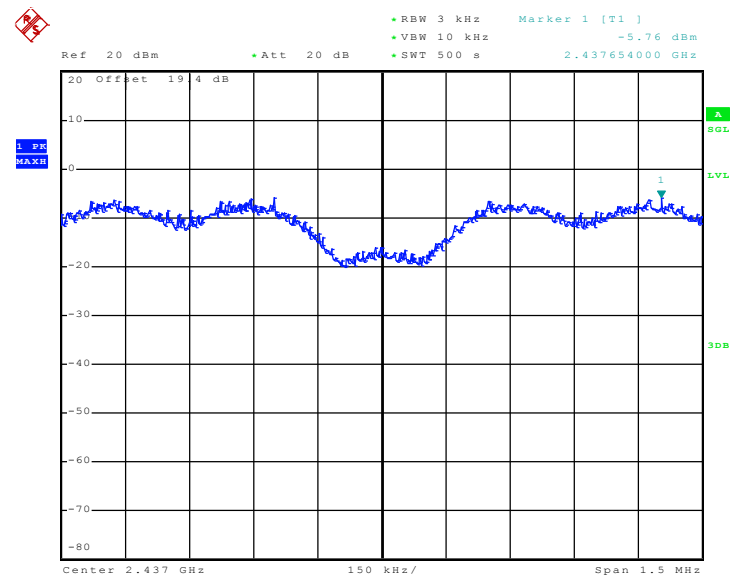
Date: 28.JUN.2011 13:47:43

Mode 6 : PSD Plot on 802.11g Channel 11


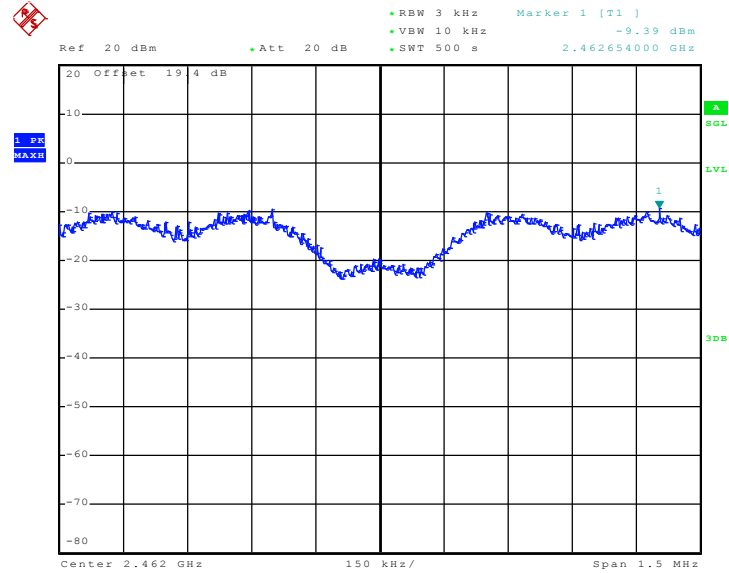
Date: 28.JUN.2011 11:59:51

Mode 7 : PSD Plot on 802.11n Channel 01


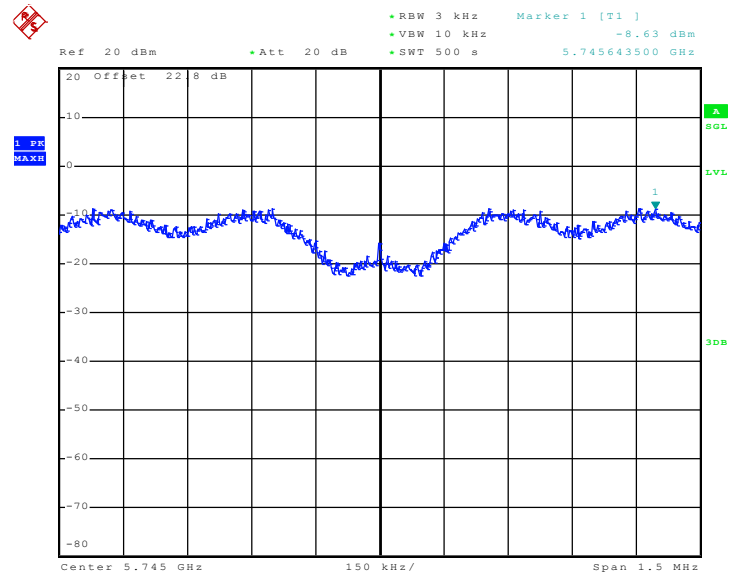
Date: 28.JUN.2011 14:06:43

Mode 8 : PSD Plot on 802.11n Channel 06


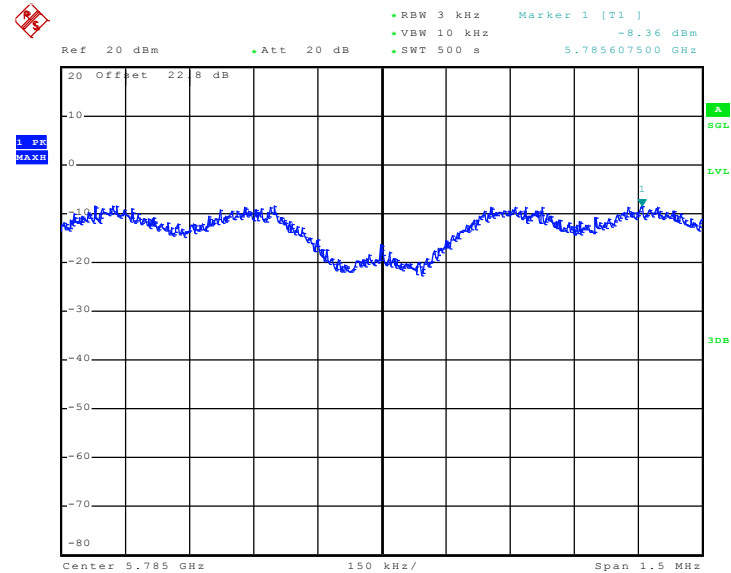
Date: 28.JUN.2011 14:18:51

Mode 9 : PSD Plot on 802.11n Channel 11


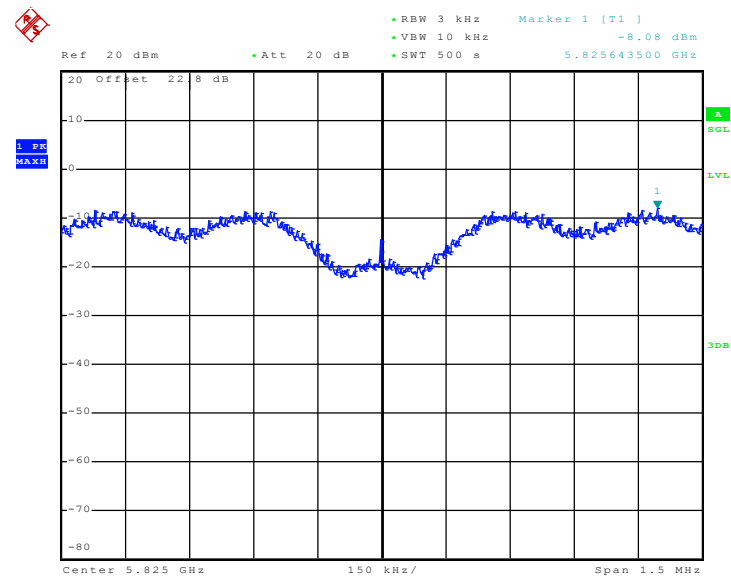
Date: 28.JUN.2011 14:41:38

Mode 10: PSD Plot on 802.11a Channel 149


Date: 28.JUN.2011 15:18:40

Mode 11: PSD Plot on 802.11a Channel 157


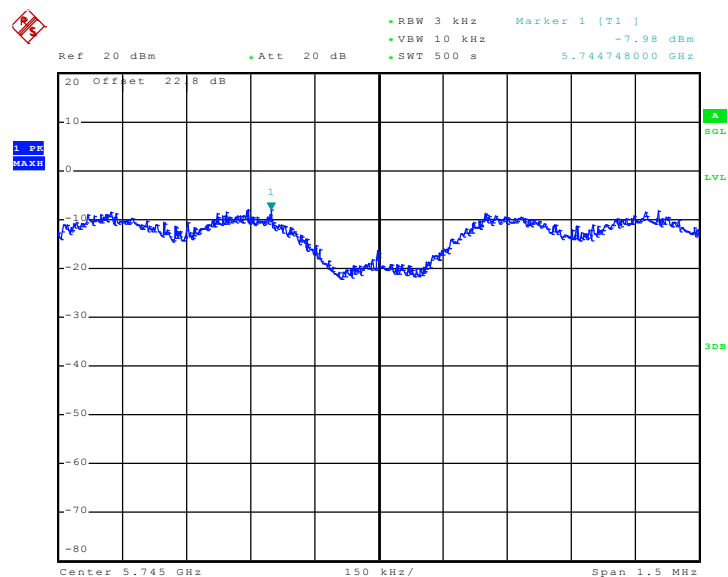
Date: 28.JUN.2011 15:36:23

Mode 12: PSD Plot on 802.11a Channel 165


Date: 28.JUN.2011 15:50:26

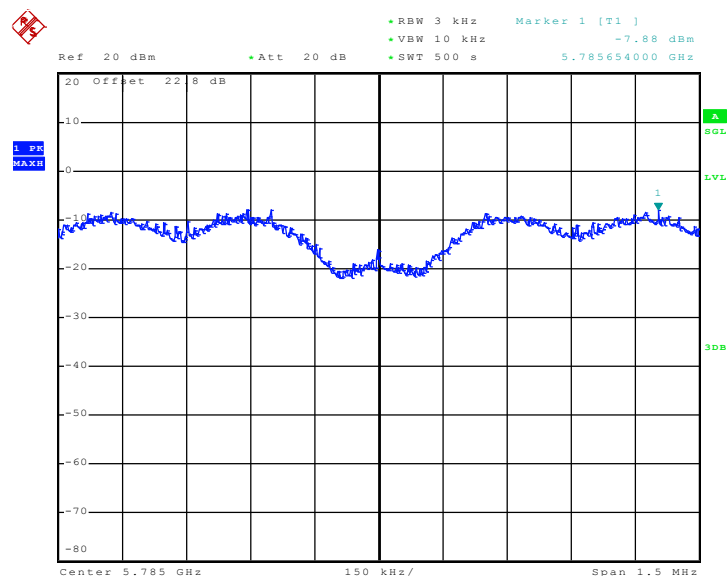


Mode 13: PSD Plot on 802.11n Channel 149



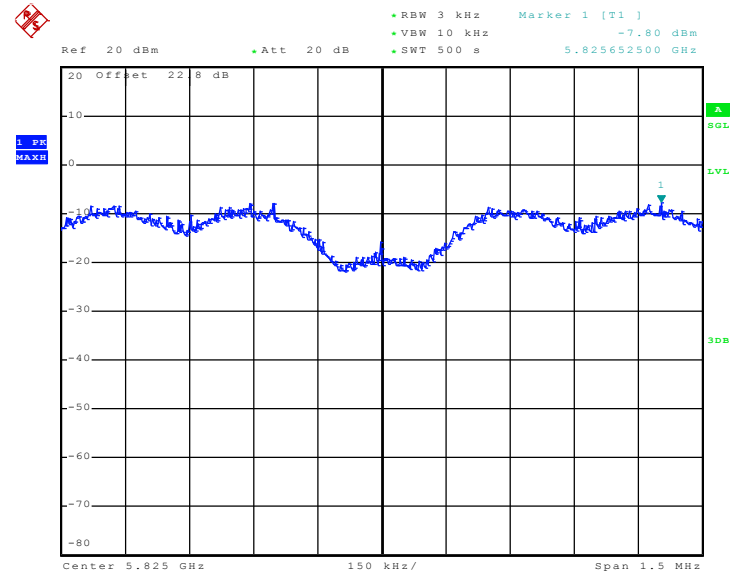
Date: 28.JUN.2011 17:13:57

Mode 14: PSD Plot on 802.11n Channel 157



Date: 28.JUN.2011 17:29:15

Mode 15: PSD Plot on 802.11n Channel 165



Date: 28.JUN.2011 16:58:32

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.

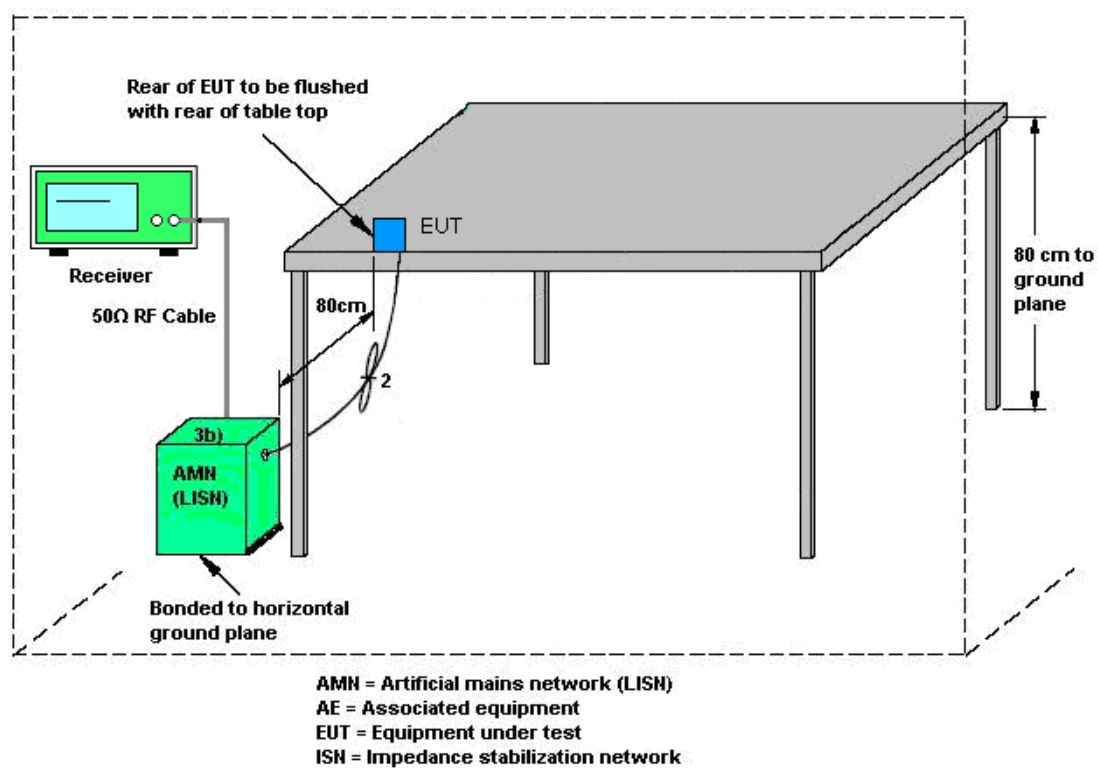
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

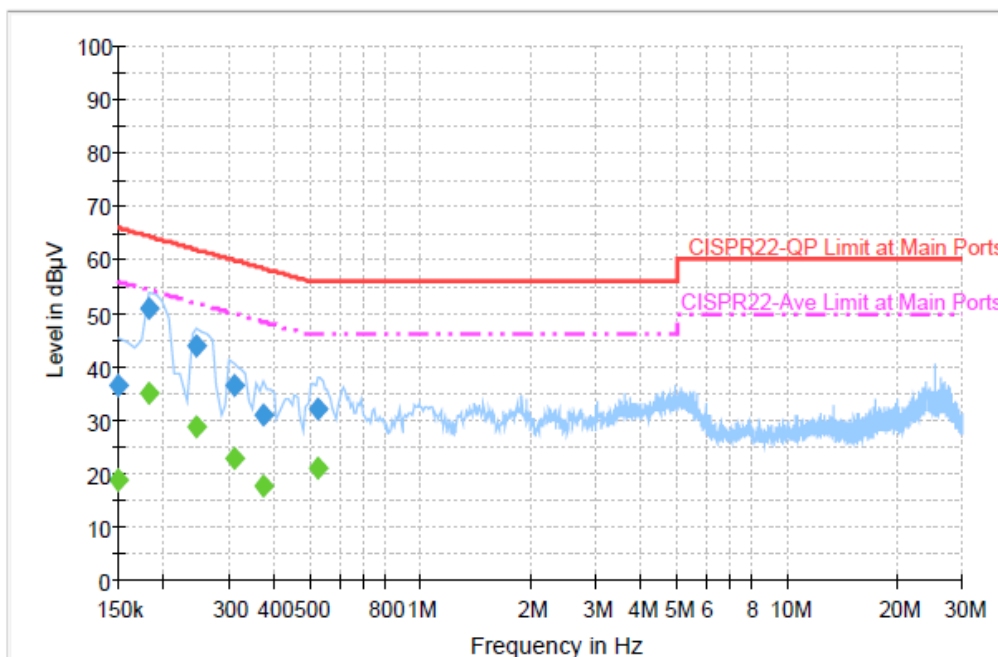
4. The testing follows the guidelines in ANSI C63.4-2003.
5. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
6. Connect EUT to the power mains through a line impedance stabilization network (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 :	22~24℃
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



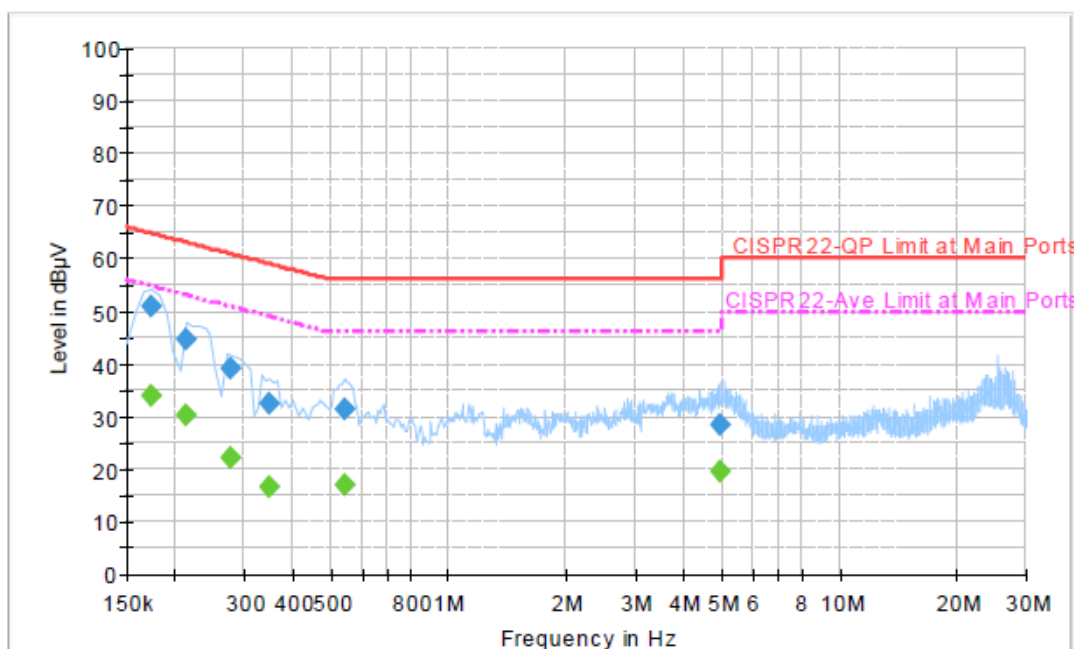
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	36.6	Off	L1	19.4	29.4	66.0
0.182000	51.1	Off	L1	19.4	13.3	64.4
0.246000	43.8	Off	L1	19.4	18.1	61.9
0.310000	36.6	Off	L1	19.4	23.4	60.0
0.374000	31.2	Off	L1	19.4	27.2	58.4
0.526000	32.0	Off	L1	19.4	24.0	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	18.7	Off	L1	19.4	37.3	56.0
0.182000	34.9	Off	L1	19.4	19.5	54.4
0.246000	28.7	Off	L1	19.4	23.2	51.9
0.310000	22.7	Off	L1	19.4	27.3	50.0
0.374000	17.6	Off	L1	19.4	30.8	48.4
0.526000	20.9	Off	L1	19.4	25.1	46.0

Test Mode :	Mode 1	Temperature :	22~24°C
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + Qwerty Keypad + Battery (3600mAh) + 2D Scanner for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

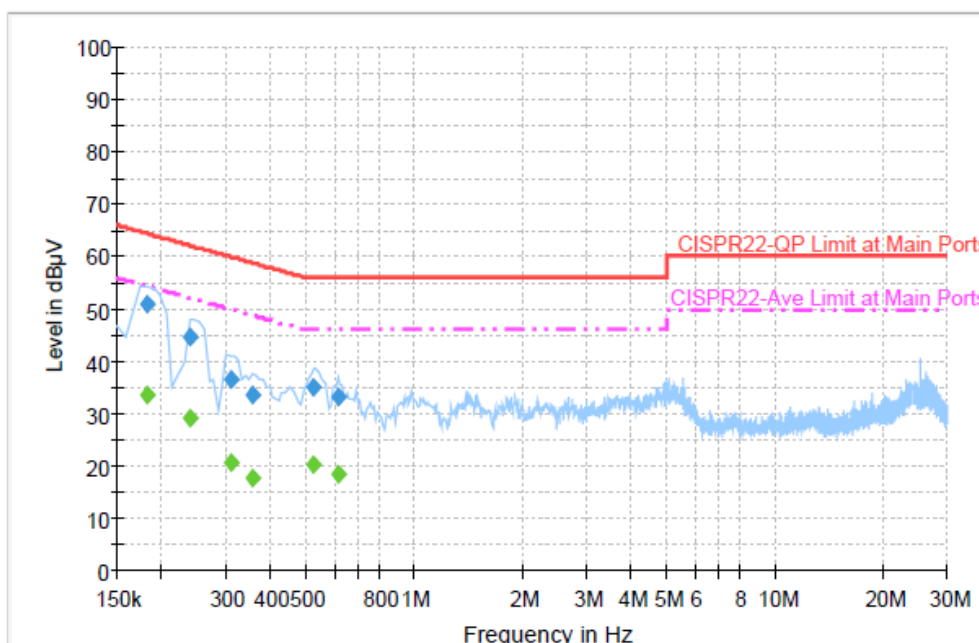

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.174000	50.8	Off	N	19.4	14.0	64.8
0.214000	44.7	Off	N	19.4	18.3	63.0
0.278000	39.0	Off	N	19.4	21.9	60.9
0.350000	32.3	Off	N	19.4	26.7	59.0
0.542000	31.2	Off	N	19.4	24.8	56.0
4.966000	28.3	Off	N	19.6	27.7	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.174000	33.8	Off	N	19.4	21.0	54.8
0.214000	30.1	Off	N	19.4	22.9	53.0
0.278000	22.0	Off	N	19.4	28.9	50.9
0.350000	16.5	Off	N	19.4	32.5	49.0
0.542000	17.0	Off	N	19.4	29.0	46.0
4.966000	19.4	Off	N	19.6	26.6	46.0

Test Mode :	Mode 2	Temperature :	22~24°C
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + Numeric Keypad + Battery (3600mAh) + 2D Scanner for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

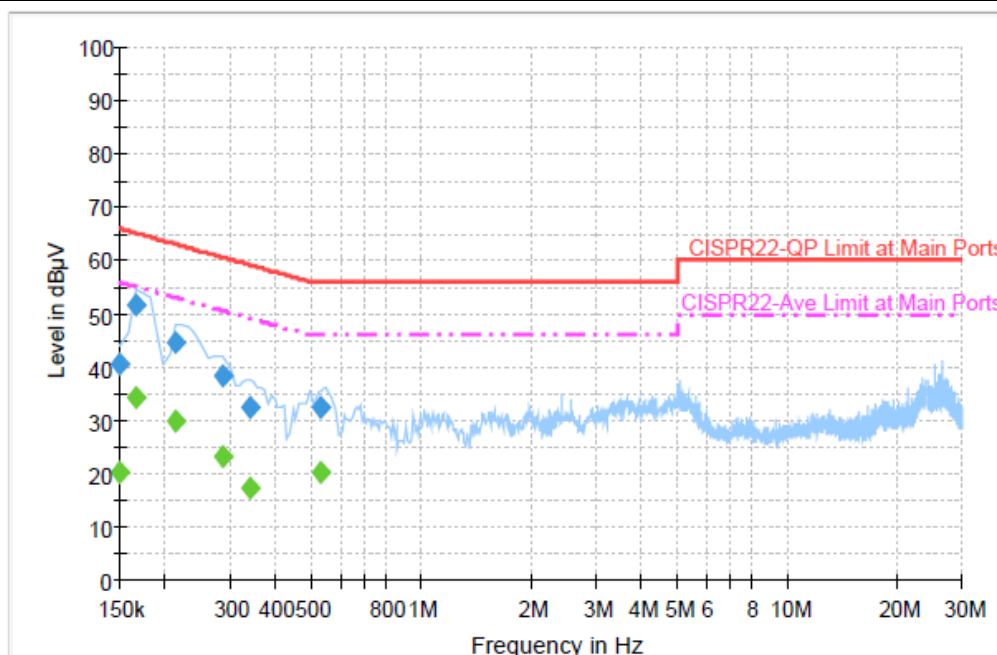

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.182000	50.9	Off	L1	19.4	13.5	64.4
0.238000	44.5	Off	L1	19.4	17.7	62.2
0.310000	36.4	Off	L1	19.4	23.6	60.0
0.358000	33.5	Off	L1	19.4	25.3	58.8
0.526000	35.0	Off	L1	19.4	21.0	56.0
0.614000	33.1	Off	L1	19.4	22.9	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.182000	33.6	Off	L1	19.4	20.8	54.4
0.238000	29.2	Off	L1	19.4	23.0	52.2
0.310000	20.7	Off	L1	19.4	29.3	50.0
0.358000	17.9	Off	L1	19.4	30.9	48.8
0.526000	20.2	Off	L1	19.4	25.8	46.0
0.614000	18.4	Off	L1	19.4	27.6	46.0

Test Mode :	Mode 2	Temperature :	22~24°C
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + Numeric Keypad + Battery (3600mAh) + 2D Scanner for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

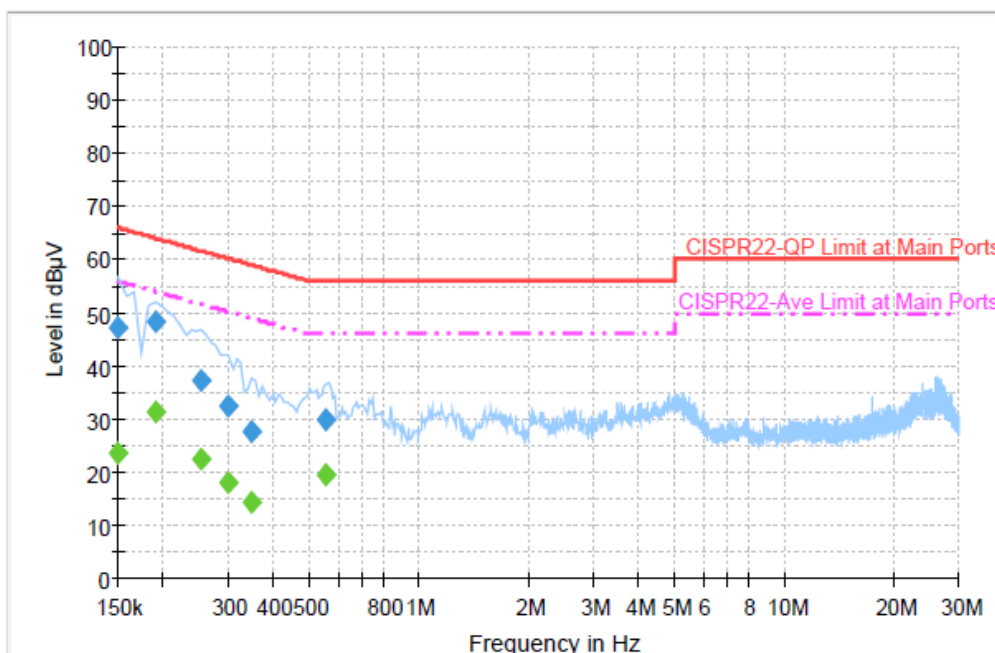

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	40.5	Off	N	19.4	25.5	66.0
0.166000	51.6	Off	N	19.4	13.6	65.2
0.214000	44.7	Off	N	19.4	18.3	63.0
0.286000	38.4	Off	N	19.4	22.2	60.6
0.342000	32.4	Off	N	19.4	26.8	59.2
0.534000	32.3	Off	N	19.4	23.7	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	20.3	Off	N	19.4	35.7	56.0
0.166000	34.4	Off	N	19.4	20.8	55.2
0.214000	29.8	Off	N	19.4	23.2	53.0
0.286000	23.4	Off	N	19.4	27.2	50.6
0.342000	17.4	Off	N	19.4	31.8	49.2
0.534000	20.4	Off	N	19.4	25.6	46.0

Test Mode :	Mode 3	Temperature :	22~24°C
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + PIM Keypad + Battery (2400mAh) + 1D Scanner for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		

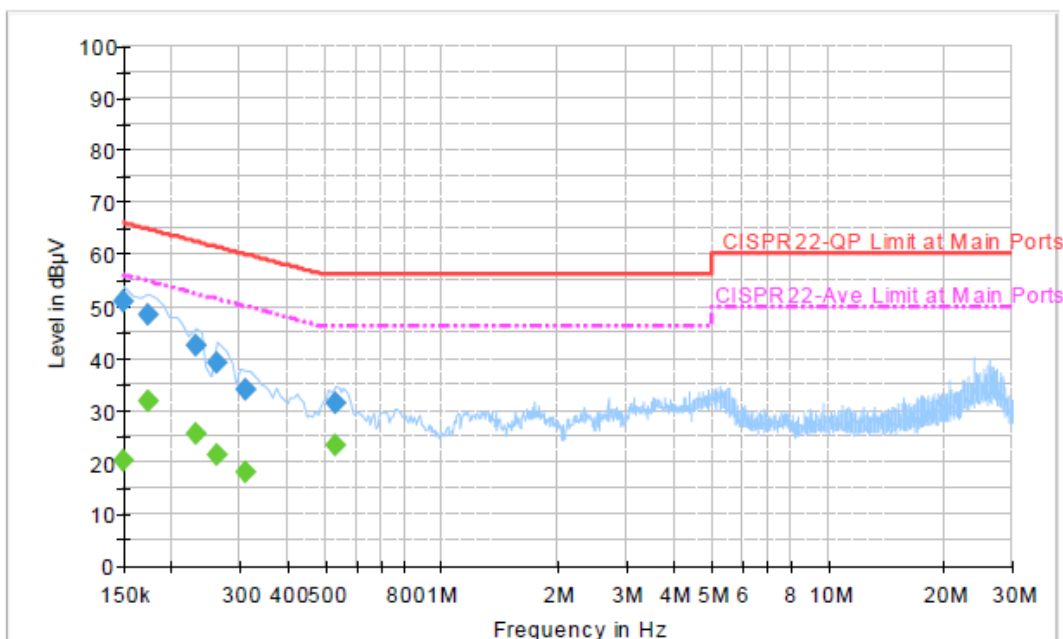

Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.2	Off	L1	19.4	18.8	66.0
0.190000	48.5	Off	L1	19.4	15.5	64.0
0.254000	37.3	Off	L1	19.4	24.3	61.6
0.302000	32.3	Off	L1	19.4	27.9	60.2
0.350000	27.8	Off	L1	19.4	31.2	59.0
0.558000	29.8	Off	L1	19.4	26.2	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	23.5	Off	L1	19.4	32.5	56.0
0.190000	31.5	Off	L1	19.4	22.5	54.0
0.254000	22.5	Off	L1	19.4	29.1	51.6
0.302000	18.0	Off	L1	19.4	32.2	50.2
0.350000	14.5	Off	L1	19.4	34.5	49.0
0.558000	19.6	Off	L1	19.4	26.4	46.0

Test Mode :	Mode 3	Temperature :	22~24°C
Test Engineer :	Novic Chiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link(2.4G) + Bluetooth Link + USB Charging Cable with AC Power + USB Link + PIM Keypad + Battery (2400mAh) + 1D Scanner for Sample 1		
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)
0.150000	50.9	Off	N	19.4	15.1	66.0
0.174000	48.5	Off	N	19.4	16.3	64.8
0.230000	42.4	Off	N	19.5	20.0	62.4
0.262000	39.3	Off	N	19.4	22.1	61.4
0.310000	33.9	Off	N	19.4	26.1	60.0
0.534000	31.5	Off	N	19.4	24.5	56.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	20.2	Off	N	19.4	35.8	56.0
0.174000	31.8	Off	N	19.4	23.0	54.8
0.230000	25.4	Off	N	19.5	27.0	52.4
0.262000	21.4	Off	N	19.4	30.0	51.4
0.310000	18.2	Off	N	19.4	31.8	50.0
0.534000	23.2	Off	N	19.4	22.8	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

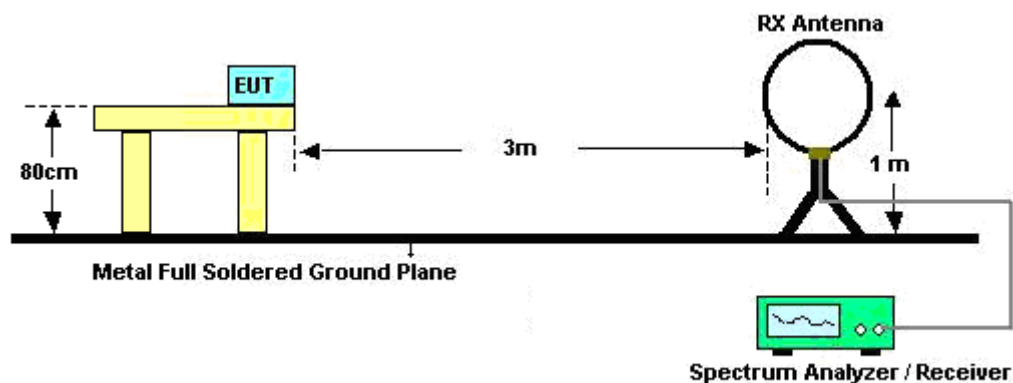
See list of measuring instruments of this test report.

3.7.3 Test Procedures

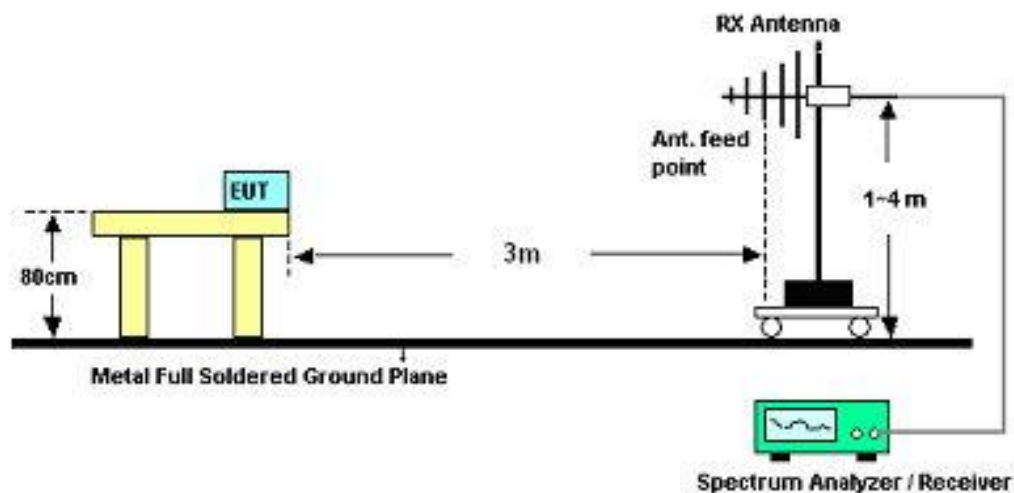
- The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
- Use the following spectrum analyzer settings:
 - Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for $f \geq 1$ GHz, 100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold.
 - 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)
- 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

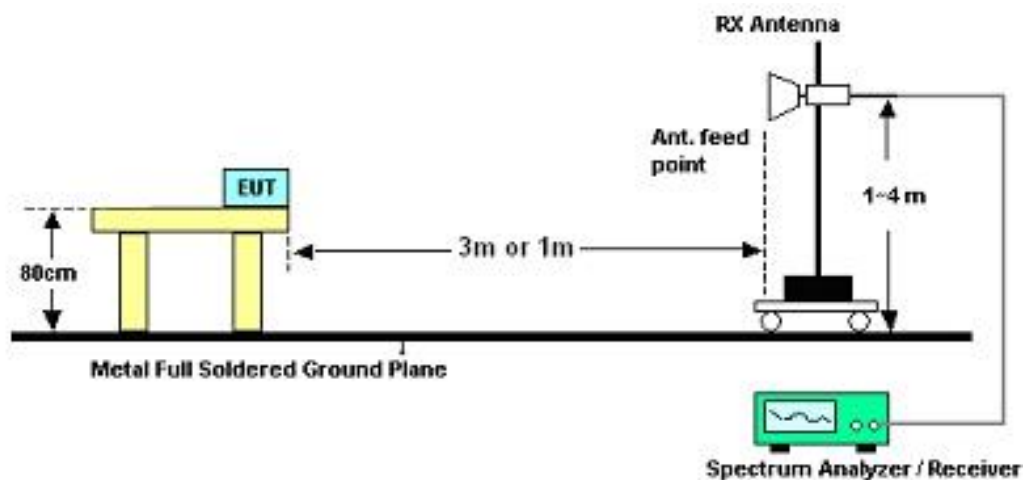
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

Test Engineer :	Wii Chang	Temperature :	22~26°C	
		Relative Humidity :	51~55%	

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 ~ 10th Harmonic)

Test Mode :	Mode 1	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	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
30	17.31	-22.69	40	30.4	17.91	0.72	31.72	-	-	Peak
142.59	23.63	-19.87	43.5	42.67	11.21	1.45	31.7	-	-	Peak
164.73	28.24	-15.26	43.5	48.46	9.91	1.53	31.66	100	21	Peak
358.8	20.45	-25.55	46	34.93	14.82	2.26	31.56	-	-	Peak
549.9	22.13	-23.87	46	32.67	18.49	2.85	31.88	-	-	Peak
745.9	22.94	-23.06	46	31.68	20.02	3.34	32.1	-	-	Peak
2385.62	52.48	-1.52	54	49.57	31.9	5.4	34.39	137	9	Average
2385.62	60.73	-13.27	74	57.82	31.9	5.4	34.39	137	9	Peak
2412	106.56	-	-	103.61	31.91	5.43	34.39	137	9	Average
2412	110.8	-	-	107.85	31.91	5.43	34.39	137	9	Peak
2494	51.7	-22.3	74	48.55	32	5.52	34.37	137	9	Peak
2494	39.12	-14.88	54	35.97	32	5.52	34.37	137	9	Average



Test Mode :	Mode 1	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
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
59.43	35.15	-4.85	40	59.26	6.63	0.95	31.69	100	154	Peak
173.64	32.61	-10.89	43.5	53.12	9.6	1.57	31.68	-	-	Peak
213.33	29.02	-14.48	43.5	48.71	10.24	1.71	31.64	-	-	Peak
327.3	17.26	-28.74	46	32.62	14.09	2.15	31.6	-	-	Peak
535.9	21.49	-24.51	46	32.23	18.31	2.8	31.85	-	-	Peak
682.9	22.9	-23.1	46	32.36	19.35	3.19	32	-	-	Peak
2385.62	59.72	-14.28	74	56.81	31.9	5.4	34.39	100	285	Peak
2385.62	51.5	-2.5	54	48.59	31.9	5.4	34.39	100	285	Average
2412	103.95	-	-	101.04	31.9	5.4	34.39	100	285	Average
2412	108.47	-	-	105.52	31.91	5.43	34.39	100	285	Peak
2492	39.42	-14.58	54	36.27	32	5.52	34.37	100	285	Average
2492	58.59	-15.41	74	55.44	32	5.52	34.37	100	285	Peak

Test Mode :	Mode 2	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
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
30	16.86	-23.14	40	29.95	17.91	0.72	31.72	-	-	Peak
163.38	26.96	-16.54	43.5	47.16	9.94	1.52	31.66	100	51	Peak
224.13	23.28	-22.72	46	42.22	10.95	1.75	31.64	-	-	Peak
355.3	21.77	-24.23	46	36.35	14.73	2.25	31.56	-	-	Peak
490.4	21.46	-24.54	46	32.97	17.63	2.64	31.78	-	-	Peak
780.9	24.02	-21.98	46	32.18	20.5	3.36	32.02	-	-	Peak
2358	57.68	-16.32	74	54.85	31.86	5.37	34.4	158	2	Peak
2358	41.31	-12.69	54	38.48	31.86	5.37	34.4	158	2	Average
2437	111.46	-	-	108.45	31.93	5.46	34.38	158	2	Peak
2437	107.07	-	-	104.04	31.95	5.46	34.38	158	2	Average
2486	40.43	-13.57	54	37.3	31.98	5.52	34.37	158	2	Average
2486	51.55	-22.45	74	48.42	31.98	5.52	34.37	158	2	Peak

Test Mode :	Mode 2	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	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
59.43	35.4	-4.6	40	59.51	6.63	0.95	31.69	100	53	Peak
174.99	32.58	-10.92	43.5	53.12	9.57	1.57	31.68	-	-	Peak
216.84	29.08	-16.92	46	48.51	10.5	1.73	31.66	-	-	Peak
330.8	17.63	-28.37	46	32.89	14.17	2.16	31.59	-	-	Peak
528.9	21.28	-24.72	46	32.14	18.21	2.77	31.84	-	-	Peak
644.4	21.86	-24.14	46	31.55	19.27	3.03	31.99	-	-	Peak
2348	50.16	-23.84	74	47.39	31.84	5.34	34.41	113	324	Peak
2348	38.76	-15.24	54	35.99	31.84	5.34	34.41	113	324	Average
2437	108.9	-	-	105.89	31.93	5.46	34.38	113	324	Peak
2437	101.58	-	-	98.55	31.95	5.46	34.38	113	324	Average
2486	40.39	-13.61	54	37.26	31.98	5.52	34.37	113	324	Average
2486	51.8	-22.2	74	48.67	31.98	5.52	34.37	113	324	Peak



Test Mode :	Mode 3	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	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
30	16.63	-23.37	40	29.72	17.91	0.72	31.72	-	-	Peak
166.89	26.87	-16.63	43.5	47.15	9.84	1.54	31.66	100	78	Peak
228.18	22.5	-23.5	46	41.14	11.2	1.77	31.61	-	-	Peak
357.4	21.88	-24.12	46	36.38	14.8	2.26	31.56	-	-	Peak
528.9	20.73	-25.27	46	31.59	18.21	2.77	31.84	-	-	Peak
687.8	22.41	-23.59	46	31.84	19.36	3.21	32	-	-	Peak
2382	55.61	-18.39	74	52.72	31.88	5.4	34.39	156	2	Peak
2382	40.27	-13.73	54	37.38	31.88	5.4	34.39	156	2	Average
2462	112.68	-	-	109.6	31.97	5.49	34.38	156	2	Peak
2462	108.23	-	-	105.15	31.97	5.49	34.38	156	2	Average
2487.65	49.81	-4.19	54	46.66	32	5.52	34.37	156	2	Average
2487.65	58.45	-15.55	74	55.3	32	5.52	34.37	156	2	Peak

Test Mode :	Mode 3	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	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
38.64	33.33	-6.67	40	50.96	13.27	0.8	31.7	100	54	Peak
174.99	33.04	-10.46	43.5	53.58	9.57	1.57	31.68	-	-	Peak
211.98	29.28	-14.22	43.5	49.02	10.18	1.71	31.63	-	-	Peak
390.3	19.8	-26.2	46	33.66	15.54	2.37	31.77	-	-	Peak
575.8	22.04	-23.96	46	32.32	18.84	2.89	32.01	-	-	Peak
805.4	24.32	-21.68	46	32.09	20.81	3.38	31.96	-	-	Peak
2316	50.74	-23.26	74	48.03	31.81	5.31	34.41	119	312	Peak
2316	39.05	-14.95	54	36.34	31.81	5.31	34.41	119	312	Average
2462	109.91	-	-	106.83	31.97	5.49	34.38	119	312	Peak
2462	105.63	-	-	102.55	31.97	5.49	34.38	119	312	Average
2488.22	47.73	-6.27	54	44.58	32	5.52	34.37	119	312	Average
2488.22	57.4	-16.6	74	54.25	32	5.52	34.37	119	312	Peak

Test Mode :	Mode 4	Temperature :	22~26°C
Test Channel :	12	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2467 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
2388	49.48	-24.52	74	46.57	31.9	5.4	34.39	103	10	Peak
2388	35.34	-18.66	54	32.43	31.9	5.4	34.39	103	10	Average
2467	104.31	-	-	101.23	31.97	5.49	34.38	103	10	Peak
2467	99.7	-	-	96.62	31.97	5.49	34.38	103	10	Average
2483.5	47.35	-6.65	54	44.22	31.98	5.52	34.37	103	10	Average
2483.5	57.57	-16.43	74	54.44	31.98	5.52	34.37	103	10	Peak

Test Mode :	Mode 4	Temperature :	22~26°C
Test Channel :	12	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2467 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
2388	50.14	-23.86	74	47.23	31.9	5.4	34.39	100	289	Peak
2388	35.25	-18.75	54	32.34	31.9	5.4	34.39	100	289	Average
2467	101.65	-	-	98.57	31.97	5.49	34.38	100	289	Peak
2467	97.21	-	-	94.13	31.97	5.49	34.38	100	289	Average
2483.5	45.1	-8.9	54	41.97	31.98	5.52	34.37	100	289	Average
2483.5	54.2	-19.8	74	51.07	31.98	5.52	34.37	100	289	Peak

Test Mode :	Mode 5	Temperature :	22~26°C
Test Channel :	13	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2472 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
2318	34.27	-19.73	54	31.54	31.83	5.31	34.41	100	0	Average
2318	45.96	-28.04	74	43.23	31.83	5.31	34.41	100	0	Peak
2472	98.48	-	-	95.39	31.98	5.49	34.38	100	0	Average
2472	102.95	-	-	99.86	31.98	5.49	34.38	100	0	Peak
2486.13	51.43	-2.57	54	48.3	31.98	5.52	34.37	100	0	Average
2486.13	58.61	-15.39	74	55.48	31.98	5.52	34.37	100	0	Peak

Test Mode :	Mode 5	Temperature :	22~26°C
Test Channel :	13	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2472 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
2350	33.87	-20.13	54	31.1	31.84	5.34	34.41	119	301	Average
2350	45.83	-28.17	74	43.06	31.84	5.34	34.41	119	301	Peak
2472	96.91	-	-	93.82	31.98	5.49	34.38	119	301	Average
2472	101.12	-	-	98.03	31.98	5.49	34.38	119	301	Peak
2487.46	49.52	-4.48	54	46.39	31.98	5.52	34.37	119	301	Average
2487.46	57.48	-16.52	74	54.35	31.98	5.52	34.37	119	301	Peak



Test Mode :	Mode 6	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	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
30	17.93	-22.07	40	31.02	17.91	0.72	31.72	-	-	Peak
166.08	26.51	-16.99	43.5	46.76	9.88	1.53	31.66	100	44	Peak
229.53	22.29	-23.71	46	40.78	11.33	1.77	31.59	-	-	Peak
369.3	20.6	-25.4	46	34.88	15.07	2.3	31.65	-	-	Peak
567.4	21.66	-24.34	46	32.03	18.73	2.87	31.97	-	-	Peak
652.8	21.82	-24.18	46	31.44	19.29	3.06	31.97	-	-	Peak
2389.61	47.61	-6.39	54	44.7	31.9	5.4	34.39	160	16	Average
2389.61	69.03	-4.97	74	66.12	31.9	5.4	34.39	160	16	Peak
2412	99.01	-	-	96.06	31.91	5.43	34.39	160	16	Average
2412	109.21	-	-	106.26	31.91	5.43	34.39	160	16	Peak
2494	53.01	-20.99	74	49.86	32	5.52	34.37	160	16	Peak
2494	36.1	-17.9	54	32.95	32	5.52	34.37	160	16	Average



Test Mode :	Mode 6	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
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	32.56	-7.44	40	51.67	11.78	0.81	31.7	100	66	Peak
174.99	33.17	-10.33	43.5	53.71	9.57	1.57	31.68	-	-	Peak
212.79	28.89	-14.61	43.5	48.64	10.18	1.71	31.64	-	-	Peak
336.4	18.27	-27.73	46	33.36	14.31	2.18	31.58	-	-	Peak
493.9	20.95	-25.05	46	32.39	17.69	2.65	31.78	-	-	Peak
584.9	22.18	-23.82	46	32.37	18.96	2.9	32.05	-	-	Peak
2389.61	44.95	-9.05	54	42.04	31.9	5.4	34.39	118	326	Average
2389.61	66.04	-7.96	74	63.13	31.9	5.4	34.39	118	326	Peak
2412	107.26	-	-	104.29	31.93	5.43	34.39	118	326	Peak
2412	97.21	-	-	94.26	31.91	5.43	34.39	118	326	Average
2486	35.47	-18.53	54	32.34	31.98	5.52	34.37	118	326	Average
2486	50.1	-23.9	74	46.97	31.98	5.52	34.37	118	326	Peak

Test Mode :	Mode 7	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
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
30	16.64	-23.36	40	29.73	17.91	0.72	31.72	-	-	Peak
166.89	27.08	-16.42	43.5	47.36	9.84	1.54	31.66	100	77	Peak
226.83	21.18	-24.82	46	39.9	11.14	1.76	31.62	-	-	Peak
336.4	20.95	-25.05	46	36.04	14.31	2.18	31.58	-	-	Peak
549.9	20.9	-25.1	46	31.44	18.49	2.85	31.88	-	-	Peak
661.9	22.61	-23.39	46	32.19	19.3	3.1	31.98	-	-	Peak
2390	56.25	-17.75	74	53.34	31.9	5.4	34.39	159	3	Peak
2390	40.85	-13.15	54	37.94	31.9	5.4	34.39	159	3	Average
2437	111.98	-	-	108.97	31.93	5.46	34.38	159	3	Peak
2437	100.92	-	-	97.89	31.95	5.46	34.38	159	3	Average
2486	39.97	-14.03	54	36.84	31.98	5.52	34.37	159	3	Average
2486	51.63	-22.37	74	48.5	31.98	5.52	34.37	159	3	Peak

Test Mode :	Mode 7	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	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	32.95	-7.05	40	52.06	11.78	0.81	31.7	100	89	Peak
175.53	33.39	-10.11	43.5	53.96	9.55	1.56	31.68	-	-	Peak
213.33	29.25	-14.25	43.5	48.94	10.24	1.71	31.64	-	-	Peak
332.9	17.18	-28.82	46	32.37	14.22	2.17	31.58	-	-	Peak
493.9	21.38	-24.62	46	32.82	17.69	2.65	31.78	-	-	Peak
612.9	21.9	-24.1	46	31.84	19.2	2.95	32.09	-	-	Peak
2390	54.68	-19.32	74	51.77	31.9	5.4	34.39	118	312	Peak
2390	40	-14	54	37.09	31.9	5.4	34.39	118	312	Average
2437	109.27	-	-	106.26	31.93	5.46	34.38	118	312	Peak
2437	99.05	-	-	96.02	31.95	5.46	34.38	118	312	Average
2484	40.26	-13.74	54	37.13	31.98	5.52	34.37	118	312	Average
2484	53.64	-20.36	74	50.51	31.98	5.52	34.37	118	312	Peak

Test Mode :	Mode 8	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	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
30.54	17.12	-22.88	40	30.81	17.31	0.72	31.72	-	-	Peak
165.54	26.57	-16.93	43.5	46.82	9.88	1.53	31.66	100	32	Peak
224.13	21.61	-24.39	46	40.55	10.95	1.75	31.64	-	-	Peak
357.4	20.85	-25.15	46	35.35	14.8	2.26	31.56	-	-	Peak
617.8	21.36	-24.64	46	31.25	19.21	2.97	32.07	-	-	Peak
761.3	23.18	-22.82	46	31.68	20.23	3.35	32.08	-	-	Peak
2374	49.31	-24.69	74	46.46	31.88	5.37	34.4	157	2	Peak
2374	39.39	-14.61	54	36.54	31.88	5.37	34.4	157	2	Average
2462	108.34	-	-	105.26	31.97	5.49	34.38	157	2	Peak
2462	98.48	-	-	95.4	31.97	5.49	34.38	157	2	Average
2483.85	63.6	-10.4	74	60.47	31.98	5.52	34.37	157	2	Peak
2483.85	45.96	-8.04	54	42.83	31.98	5.52	34.37	157	2	Average

Test Mode :	Mode 8	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	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
41.88	33.16	-6.84	40	52.27	11.78	0.81	31.7	100	11	Peak
174.99	32.8	-10.7	43.5	53.34	9.57	1.57	31.68	-	-	Peak
212.79	28.14	-15.36	43.5	47.89	10.18	1.71	31.64	-	-	Peak
332.9	18.15	-27.85	46	33.34	14.22	2.17	31.58	-	-	Peak
493.9	21.18	-24.82	46	32.62	17.69	2.65	31.78	-	-	Peak
640.9	21.82	-24.18	46	31.53	19.26	3.03	32	-	-	Peak
2372	45.9	-28.1	74	43.05	31.88	5.37	34.4	172	321	Peak
2372	34.07	-19.93	54	31.22	31.88	5.37	34.4	172	321	Average
2462	96.05	-	-	92.97	31.97	5.49	34.38	172	321	Average
2462	106.83	-	-	103.75	31.97	5.49	34.38	172	321	Peak
2483.85	43.97	-10.03	54	40.84	31.98	5.52	34.37	172	321	Average
2483.85	59.54	-14.46	74	56.41	31.98	5.52	34.37	172	321	Peak

Test Mode :	Mode 9	Temperature :	22~26°C
Test Channel :	12	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2467 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
2366	34.35	-19.65	54	31.52	31.86	5.37	34.4	100	1	Average
2366	46.53	-27.47	74	43.7	31.86	5.37	34.4	100	1	Peak
2467	92.64	-	-	89.56	31.97	5.49	34.38	100	1	Average
2467	102.88	-	-	99.8	31.97	5.49	34.38	100	1	Peak
2483.5	47.84	-6.16	54	44.71	31.98	5.52	34.37	100	1	Average
2483.5	68.06	-5.94	74	64.93	31.98	5.52	34.37	100	1	Peak

Test Mode :	Mode 9	Temperature :	22~26°C
Test Channel :	12	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2467 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
2316	33.55	-20.45	54	30.84	31.81	5.31	34.41	117	300	Average
2316	45.52	-28.48	74	42.81	31.81	5.31	34.41	117	300	Peak
2467	88.46	-	-	85.38	31.97	5.49	34.38	117	300	Average
2467	99.15	-	-	96.07	31.97	5.49	34.38	117	300	Peak
2483.5	43.88	-10.12	54	40.75	31.98	5.52	34.37	117	300	Average
2483.5	63.93	-10.07	74	60.8	31.98	5.52	34.37	117	300	Peak

Test Mode :	Mode 10	Temperature :	22~26°C
Test Channel :	13	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2472 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
2334	45.34	-28.66	74	42.58	31.83	5.34	34.41	189	7	Peak
2334	33.21	-20.79	54	30.45	31.83	5.34	34.41	189	7	Average
2472	77.87	-	-	74.79	31.97	5.49	34.38	189	7	Peak
2472	74.72	-	-	71.63	31.98	5.49	34.38	189	7	Average
2483.37	58.39	-15.61	74	55.26	31.98	5.52	34.37	189	7	Peak
2483.37	45.03	-8.97	54	41.9	31.98	5.52	34.37	189	7	Average

Test Mode :	Mode 10	Temperature :	22~26°C
Test Channel :	13	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2472 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
2356	45.04	-28.96	74	42.25	31.86	5.34	34.41	100	285	Peak
2356	33.48	-20.52	54	30.69	31.86	5.34	34.41	100	285	Average
2472	73.77	-	-	70.69	31.97	5.49	34.38	100	285	Peak
2472	70.97	-	-	67.88	31.98	5.49	34.38	100	285	Average
2483.5	43.26	-10.74	54	40.13	31.98	5.52	34.37	100	285	Average
2483.5	56.37	-17.63	74	53.24	31.98	5.52	34.37	100	285	Peak



Test Mode :	Mode 11	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	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
30.81	15.67	-24.33	40	29.36	17.31	0.72	31.72	-	-	Peak
165.54	26.82	-16.68	43.5	47.07	9.88	1.53	31.66	100	77	Peak
230.34	21.16	-24.84	46	39.59	11.39	1.78	31.6	-	-	Peak
337.8	20.73	-25.27	46	35.78	14.33	2.19	31.57	-	-	Peak
596.8	21.82	-24.18	46	31.9	19.12	2.91	32.11	-	-	Peak
775.3	24.12	-21.88	46	32.38	20.42	3.36	32.04	-	-	Peak
2389.61	48.28	-5.72	54	45.37	31.9	5.4	34.39	161	360	Average
2389.61	71.97	-2.03	74	69.06	31.9	5.4	34.39	161	360	Peak
2412	98.39	-	-	95.44	31.91	5.43	34.39	161	360	Average
2412	109.1	-	-	106.15	31.91	5.43	34.39	161	360	Peak
2486	53.8	-20.2	74	50.67	31.98	5.52	34.37	161	360	Peak
2486	38.99	-15.01	54	35.86	31.98	5.52	34.37	161	360	Average

Test Mode :	Mode 11	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
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	33.15	-6.85	40	52.26	11.78	0.81	31.7	100	211	Peak
174.18	32.71	-10.79	43.5	53.25	9.57	1.57	31.68	-	-	Peak
214.14	28.89	-14.61	43.5	48.51	10.31	1.71	31.64	-	-	Peak
336.4	18.16	-27.84	46	33.25	14.31	2.18	31.58	-	-	Peak
432.3	18.19	-27.81	46	31.12	16.44	2.47	31.84	-	-	Peak
493.9	21.63	-24.37	46	33.07	17.69	2.65	31.78	-	-	Peak
2389.99	45.5	-8.5	54	42.59	31.9	5.4	34.39	143	315	Average
2389.99	68.29	-5.71	74	65.38	31.9	5.4	34.39	143	315	Peak
2412	107.52	-	-	104.57	31.91	5.43	34.39	143	315	Peak
2412	97.45	-	-	94.5	31.91	5.43	34.39	143	315	Average
2486	39.05	-14.95	54	35.92	31.98	5.52	34.37	143	315	Average
2486	51.21	-22.79	74	48.08	31.98	5.52	34.37	143	315	Peak



Test Mode :	Mode 12	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
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
30	17.25	-22.75	40	30.34	17.91	0.72	31.72	-	-	Peak
165.54	26.97	-16.53	43.5	47.22	9.88	1.53	31.66	100	221	Peak
227.64	21.51	-24.49	46	40.15	11.2	1.77	31.61	-	-	Peak
357.4	20.86	-25.14	46	35.36	14.8	2.26	31.56	-	-	Peak
584.9	21.51	-24.49	46	31.7	18.96	2.9	32.05	-	-	Peak
747.3	22.96	-23.04	46	31.68	20.03	3.35	32.1	-	-	Peak
2390	58.01	-15.99	74	55.1	31.9	5.4	34.39	158	1	Peak
2390	40.61	-13.39	54	37.7	31.9	5.4	34.39	158	1	Average
2437	111.5	-	-	108.49	31.93	5.46	34.38	158	1	Peak
2437	100.91	-	-	97.88	31.95	5.46	34.38	158	1	Average
2484	39.85	-14.15	54	36.72	31.98	5.52	34.37	158	1	Average
2484	52.61	-21.39	74	49.48	31.98	5.52	34.37	158	1	Peak

Test Mode :	Mode 12	Temperature :	22~26°C
Test Channel :	06	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	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
41.88	33.03	-6.97	40	52.14	11.78	0.81	31.7	100	32	Peak
174.99	32.86	-10.64	43.5	53.4	9.57	1.57	31.68	-	-	Peak
211.98	28.62	-14.88	43.5	48.36	10.18	1.71	31.63	-	-	Peak
404.3	18.22	-27.78	46	31.74	15.86	2.42	31.8	-	-	Peak
551.3	21.72	-24.28	46	32.25	18.51	2.85	31.89	-	-	Peak
742.4	22.88	-23.12	46	31.66	19.97	3.34	32.09	-	-	Peak
2390	55.89	-18.11	74	52.98	31.9	5.4	34.39	117	313	Peak
2390	39.61	-14.39	54	36.7	31.9	5.4	34.39	117	313	Average
2437	109.46	-	-	106.45	31.93	5.46	34.38	117	313	Peak
2437	98.66	-	-	95.63	31.95	5.46	34.38	117	313	Average
2484	40.41	-13.59	54	37.28	31.98	5.52	34.37	117	313	Average
2484	53.77	-20.23	74	50.64	31.98	5.52	34.37	117	313	Peak

Test Mode :	Mode 13	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	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
30.54	16.07	-23.93	40	29.76	17.31	0.72	31.72	-	-	Peak
165.54	27.89	-15.61	43.5	48.14	9.88	1.53	31.66	100	211	Peak
229.53	22.44	-23.56	46	40.93	11.33	1.77	31.59	-	-	Peak
357.4	20.43	-25.57	46	34.93	14.8	2.26	31.56	-	-	Peak
544.3	21.11	-24.89	46	31.73	18.42	2.83	31.87	-	-	Peak
659.8	22.2	-23.8	46	31.79	19.3	3.09	31.98	-	-	Peak
2380	51.37	-22.63	74	48.48	31.88	5.4	34.39	157	2	Peak
2380	39.41	-14.59	54	36.52	31.88	5.4	34.39	157	2	Average
2462	107.57	-	-	104.49	31.97	5.49	34.38	157	2	Peak
2462	97.24	-	-	94.16	31.97	5.49	34.38	157	2	Average
2483.66	45.67	-8.33	54	42.54	31.98	5.52	34.37	157	2	Average
2483.66	65.56	-8.44	74	62.43	31.98	5.52	34.37	157	2	Peak

Test Mode :	Mode 13	Temperature :	22~26°C
Test Channel :	11	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	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	33.18	-6.82	40	52.29	11.78	0.81	31.7	100	145	Peak
174.99	32.65	-10.85	43.5	53.19	9.57	1.57	31.68	-	-	Peak
211.44	28.49	-15.01	43.5	48.3	10.12	1.7	31.63	-	-	Peak
329.4	17.43	-28.57	46	32.71	14.15	2.16	31.59	-	-	Peak
421.8	19.39	-26.61	46	32.55	16.22	2.45	31.83	-	-	Peak
505.8	20.78	-25.22	46	31.97	17.91	2.69	31.79	-	-	Peak
2380	49.27	-24.73	74	46.38	31.88	5.4	34.39	114	320	Peak
2380	38.44	-15.56	54	35.55	31.88	5.4	34.39	114	320	Average
2462	104.38	-	-	101.3	31.97	5.49	34.38	114	320	Peak
2462	93.62	-	-	90.54	31.97	5.49	34.38	114	320	Average
2485.18	45.2	-8.8	54	42.07	31.98	5.52	34.37	114	320	Average
2485.18	62.59	-11.41	74	59.46	31.98	5.52	34.37	114	320	Peak

Test Mode :	Mode 14	Temperature :	22~26°C
Test Channel :	12	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2467 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
2356	47.32	-26.68	74	44.53	31.86	5.34	34.41	104	12	Peak
2356	35.38	-18.62	54	32.59	31.86	5.34	34.41	104	12	Average
2467	102.38	-	-	99.3	31.97	5.49	34.38	104	12	Peak
2467	91.89	-	-	88.81	31.97	5.49	34.38	104	12	Average
2483.5	47.77	-6.23	54	44.64	31.98	5.52	34.37	104	12	Average
2483.5	70.1	-3.9	74	66.97	31.98	5.52	34.37	104	12	Peak

Test Mode :	Mode 14	Temperature :	22~26°C
Test Channel :	12	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2467 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
2388	47.54	-26.46	74	44.63	31.9	5.4	34.39	100	288	Peak
2388	34.95	-19.05	54	32.04	31.9	5.4	34.39	100	288	Average
2467	100.37	-	-	97.29	31.97	5.49	34.38	100	288	Peak
2467	89.86	-	-	86.78	31.97	5.49	34.38	100	288	Average
2483.5	45.46	-8.54	54	42.33	31.98	5.52	34.37	100	288	Average
2483.5	67.17	-6.83	74	64.04	31.98	5.52	34.37	100	288	Peak

Test Mode :	Mode 15	Temperature :	22~26°C
Test Channel :	13	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	2472 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
2390	45.45	-28.55	74	42.54	31.9	5.4	34.39	188	9	Peak
2390	33.34	-20.66	54	30.43	31.9	5.4	34.39	188	9	Average
2472	77.75	-	-	74.67	31.97	5.49	34.38	188	9	Peak
2472	74.68	-	-	71.59	31.98	5.49	34.38	188	9	Average
2483.66	59.27	-14.73	74	56.14	31.98	5.52	34.37	188	9	Peak
2483.66	44.86	-9.14	54	41.73	31.98	5.52	34.37	188	9	Average

Test Mode :	Mode 15	Temperature :	22~26°C
Test Channel :	13	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	2472 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
2332	44.99	-29.01	74	42.23	31.83	5.34	34.41	100	284	Peak
2332	33.43	-20.57	54	30.67	31.83	5.34	34.41	100	284	Average
2472	73.44	-	-	70.36	31.97	5.49	34.38	100	284	Peak
2472	70.68	-	-	67.59	31.98	5.49	34.38	100	284	Average
2483.66	56.96	-17.04	74	53.83	31.98	5.52	34.37	100	284	Peak
2483.66	42.37	-11.63	54	39.24	31.98	5.52	34.37	100	284	Average

Test Mode :	Mode 16	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 2412 MHz is Fundamental Signals which can be ignored. 2. 2534 MHz and 2574 MHz are not within a restricted band.		

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
168.78	23.7	-19.8	43.5	44.04	9.77	1.56	31.67	-	-	Peak
195.24	33.19	-10.31	43.5	53.84	9.37	1.63	31.65	100	111	Peak
220.89	31.24	-14.76	46	50.42	10.75	1.74	31.67	-	-	Peak
301.4	21.02	-24.98	46	37.12	13.5	2.07	31.67	-	-	Peak
654.9	21.95	-24.05	46	31.56	19.29	3.07	31.97	-	-	Peak
876.8	25.23	-20.77	46	31.88	21.43	3.66	31.74	-	-	Peak
2333.37	38.54	-15.46	54	35.78	31.83	5.34	34.41	100	110	Average
2333.37	50.77	-23.23	74	48.01	31.83	5.34	34.41	100	110	Peak
2412	109.46	-	-	106.51	31.91	5.43	34.39	100	110	Peak
2412	99.88	-	-	96.93	31.91	5.43	34.39	100	110	Average
2492	34.56	-19.44	54	31.41	32	5.52	34.37	100	110	Average
2492	51.84	-22.16	74	48.69	32	5.52	34.37	100	110	Peak
2534	55.16	-34.3	89.46	51.89	32.03	5.57	34.33	100	110	Peak
2574	59.52	-29.94	89.46	56.1	32.08	5.63	34.29	100	110	Peak

Test Mode :	Mode 16	Temperature :	22~26°C
Test Channel :	01	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 2412 MHz is Fundamental Signals which can be ignored. 2. 2534 MHz and 2574 MHz are not within a restricted band.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.13	28.06	-11.94	40	44.09	14.93	0.74	31.7	-	-	Peak
195.24	36.65	-6.85	43.5	57.3	9.37	1.63	31.65	100	65	Peak
220.89	35.95	-10.05	46	55.13	10.75	1.74	31.67	-	-	Peak
407.8	17.52	-28.48	46	30.99	15.92	2.42	31.81	-	-	Peak
540.8	20.89	-25.11	46	31.55	18.38	2.82	31.86	-	-	Peak
647.9	23.07	-22.93	46	32.74	19.27	3.04	31.98	-	-	Peak
2386.57	38.13	-15.87	54	35.22	31.9	5.4	34.39	100	2	Average
2386.57	50.32	-23.68	74	47.41	31.9	5.4	34.39	100	2	Peak
2412	106.25	-	-	103.3	31.91	5.43	34.39	100	2	Peak
2412	96.31	-	-	93.36	31.91	5.43	34.39	100	2	Average
2492	34.13	-19.87	54	30.98	32	5.52	34.37	100	2	Average
2492	51.84	-22.16	74	48.69	32	5.52	34.37	100	2	Peak
2534	53.93	-32.32	86.25	50.66	32.03	5.57	34.33	100	2	Peak
2574	59.94	-26.31	86.25	56.52	32.08	5.63	34.29	100	2	Peak

Test Mode :	Mode 17	Temperature :	22~26°C
Test Channel :	149	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 17235 MHz is not within a restricted band.		

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
126.66	28.13	-15.37	43.5	47	11.57	1.13	31.57	144	192	Peak
161.22	24.31	-19.19	43.5	44.29	10.32	1.22	31.52	-	-	Peak
214.41	24.15	-19.35	43.5	44.11	10.13	1.38	31.47	-	-	Peak
337.8	22.23	-23.77	46	37.02	14.63	1.88	31.3	-	-	Peak
595.4	21.27	-24.73	46	29.82	19.7	2.68	30.93	-	-	Peak
806.1	24.51	-21.49	46	29.5	22.54	3.16	30.69	-	-	Peak
5745	114.98	-	-	103.44	34.84	9.91	33.21	100	313	Peak
5745	104.54	-	-	93	34.84	9.91	33.21	100	313	Average
17235	52.49	-42.49	94.98	53.69	41.87	14.37	57.44	100	0	Peak

Test Mode :	Mode 17	Temperature :	22~26°C
Test Channel :	149	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 17235 MHz is not within a restricted band.		

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
71.85	32.53	-7.47	40	56.78	6.46	0.84	31.55	112	27	Peak
89.13	31.74	-11.76	43.5	53.8	8.53	0.93	31.52	-	-	Peak
120.45	29.03	-14.47	43.5	47.96	11.53	1.1	31.56	-	-	Peak
332.2	18.55	-27.45	46	33.52	14.48	1.86	31.31	-	-	Peak
486.2	19.98	-26.02	46	30.65	17.99	2.4	31.06	-	-	Peak
780.2	23.74	-22.26	46	29.17	22.15	3.11	30.69	-	-	Peak
5745	107.23	-	-	95.69	34.84	9.91	33.21	100	229	Peak
5745	96.91	-	-	85.37	34.84	9.91	33.21	100	229	Average
17235	53.06	-34.17	87.23	54.25	41.87	14.38	57.44	100	0	Peak

Test Mode :	Mode 18	Temperature :	22~26°C
Test Channel :	157	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 17355 MHz is not within a restricted band.		

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
75.9	21.92	-18.08	40	45.8	6.8	0.86	31.54	-	-	Peak
126.66	28.4	-15.1	43.5	47.27	11.57	1.13	31.57	137	226	Peak
211.98	24.68	-18.82	43.5	44.79	9.99	1.37	31.47	-	-	Peak
341.3	22.55	-23.45	46	37.2	14.75	1.9	31.3	-	-	Peak
570.9	20.8	-25.2	46	29.82	19.32	2.61	30.95	-	-	Peak
799.8	25.4	-20.6	46	30.47	22.47	3.14	30.68	-	-	Peak
5785	115.02	-	-	103.47	34.88	9.9	33.23	100	311	Peak
5785	104.34	-	-	92.79	34.88	9.9	33.23	100	311	Average
17355	55.44	-39.58	95.02	56.48	41.75	14.42	57.21	100	0	Peak

Test Mode :	Mode 18	Temperature :	22~26°C
Test Channel :	157	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 17355 MHz is not within a restricted band.		

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
72.93	33.43	-6.57	40	57.59	6.54	0.85	31.55	121	329	Peak
88.86	31.85	-11.65	43.5	53.92	8.53	0.93	31.53	-	-	Peak
120.18	28.94	-14.56	43.5	47.87	11.53	1.1	31.56	-	-	Peak
327.3	19.32	-26.68	46	34.49	14.3	1.84	31.31	-	-	Peak
561.8	20.9	-25.1	46	30.12	19.17	2.58	30.97	-	-	Peak
755	23.24	-22.76	46	29.12	21.75	3.07	30.7	-	-	Peak
5785	107.3	-	-	95.78	34.89	9.89	33.26	100	280	Peak
5785	96.47	-	-	84.92	34.88	9.9	33.23	100	280	Average
17355	57.26	-30.04	87.3	58.3	41.75	14.42	57.21	100	0	Peak

Test Mode :	Mode 19	Temperature :	22~26°C
Test Channel :	165	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 17475 MHz is not within a restricted band.		

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	18.66	-21.34	40	33.53	16.04	0.55	31.46	-	-	Peak
125.85	28.08	-15.42	43.5	46.96	11.56	1.13	31.57	128	220	Peak
160.41	24.19	-19.31	43.5	44.11	10.38	1.22	31.52	-	-	Peak
337.8	21.76	-24.24	46	36.55	14.63	1.88	31.3	-	-	Peak
542.9	20.43	-25.57	46	29.99	18.89	2.54	30.99	-	-	Peak
799.8	24.29	-21.71	46	29.36	22.47	3.14	30.68	-	-	Peak
5825	113.63	-	-	102.11	34.93	9.88	33.29	100	312	Peak
5825	103.01	-	-	91.49	34.93	9.88	33.29	100	312	Average
17475	55.53	-38.1	93.63	56.41	41.63	14.46	56.97	100	0	Peak

Test Mode :	Mode 19	Temperature :	22~26°C
Test Channel :	165	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 17475 MHz is not within a restricted band.		

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
72.66	33.74	-6.26	40	57.9	6.54	0.85	31.55	109	113	Peak
89.94	32.32	-11.18	43.5	54.22	8.68	0.94	31.52	-	-	Peak
120.45	29.13	-14.37	43.5	48.06	11.53	1.1	31.56	-	-	Peak
414.1	17.71	-28.29	46	29.88	16.8	2.19	31.16	-	-	Peak
589.8	20.63	-25.37	46	29.29	19.61	2.66	30.93	-	-	Peak
710.2	22.28	-23.72	46	29.07	21.04	2.96	30.79	-	-	Peak
5825	106.11	-	-	94.59	34.93	9.88	33.29	100	288	Peak
5825	95.79	-	-	84.27	34.93	9.88	33.29	100	288	Average
17475	57.92	-28.19	86.11	58.8	41.63	14.46	56.97	100	0	Peak

Test Mode :	Mode 20	Temperature :	22~26°C
Test Channel :	149	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	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
125.85	28.17	-15.33	43.5	47.05	11.56	1.13	31.57	133	118	Peak
160.41	24.68	-18.82	43.5	44.6	10.38	1.22	31.52	-	-	Peak
225.21	25.44	-20.56	46	44.55	10.89	1.45	31.45	-	-	Peak
341.3	22.49	-23.51	46	37.14	14.75	1.9	31.3	-	-	Peak
584.9	20.84	-25.16	46	29.6	19.53	2.65	30.94	-	-	Peak
806.1	25.03	-20.97	46	30.02	22.54	3.16	30.69	-	-	Peak
5745	114.01	-	-	102.47	34.84	9.91	33.21	100	323	Peak
5745	103.64	-	-	92.1	34.84	9.91	33.21	100	323	Average

Test Mode :	Mode 20	Temperature :	22~26°C
Test Channel :	149	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 17235 MHz is not within a restricted band.		

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
73.74	32.91	-7.09	40	56.97	6.63	0.85	31.54	105	153	Peak
89.67	31.99	-11.51	43.5	53.89	8.68	0.94	31.52	-	-	Peak
122.34	28.96	-14.54	43.5	47.87	11.54	1.11	31.56	-	-	Peak
402.2	18.22	-27.78	46	30.64	16.61	2.15	31.18	-	-	Peak
649.3	22.6	-23.4	46	30.32	20.31	2.84	30.87	-	-	Peak
850.9	25.64	-20.36	46	30.04	23.06	3.27	30.73	-	-	Peak
5745	106.75	-	-	95.21	34.84	9.91	33.21	100	228	Peak
5745	96.3	-	-	84.76	34.84	9.91	33.21	100	228	Average
17235	54.57	-32.18	86.75	55.76	41.87	14.38	57.44	100	0	Peak

Test Mode :	Mode 21	Temperature :	22~26°C
Test Channel :	157	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 17355 MHz is not within a restricted band.		

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
124.77	28.05	-15.45	43.5	46.93	11.56	1.12	31.56	140	300	Peak
159.33	23.95	-19.55	43.5	43.8	10.45	1.22	31.52	-	-	Peak
211.98	25.54	-17.96	43.5	45.65	9.99	1.37	31.47	-	-	Peak
341.3	21.96	-24.04	46	36.61	14.75	1.9	31.3	-	-	Peak
528.2	20.47	-25.53	46	30.32	18.66	2.51	31.02	-	-	Peak
806.1	25.24	-20.76	46	30.23	22.54	3.16	30.69	-	-	Peak
5785	114.02	-	-	102.47	34.88	9.9	33.23	100	311	Peak
5785	103.77	-	-	92.22	34.88	9.9	33.23	100	311	Average
17355	55.05	-38.97	94.02	56.09	41.75	14.42	57.21	100	0	Peak

Test Mode :	Mode 21	Temperature :	22~26°C
Test Channel :	157	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 17355 MHz is not within a restricted band.		

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
78.33	32.34	-7.66	40	55.95	7.05	0.87	31.53	115	43	Peak
88.86	32.29	-11.21	43.5	54.36	8.53	0.93	31.53	-	-	Peak
121.53	28.29	-15.21	43.5	47.2	11.54	1.11	31.56	-	-	Peak
321.7	18.32	-27.68	46	33.67	14.15	1.82	31.32	-	-	Peak
514.2	19.39	-26.61	46	29.51	18.44	2.48	31.04	-	-	Peak
747.3	23.52	-22.48	46	29.55	21.63	3.05	30.71	-	-	Peak
5785	107.3	-	-	95.75	34.88	9.9	33.23	100	281	Peak
5785	95.76	-	-	84.21	34.88	9.9	33.23	100	281	Average
17355	57.17	-30.13	87.3	58.21	41.75	14.42	57.21	100	0	Peak

Test Mode :	Mode 22	Temperature :	22~26°C
Test Channel :	165	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 17475 MHz is not within a restricted band.		

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
124.77	28.13	-15.37	43.5	47.01	11.56	1.12	31.56	126	191	Peak
160.41	25	-18.5	43.5	44.92	10.38	1.22	31.52	-	-	Peak
212.25	25	-18.5	43.5	45.11	9.99	1.37	31.47	-	-	Peak
341.3	22.44	-23.56	46	37.09	14.75	1.9	31.3	-	-	Peak
600.3	20.81	-25.19	46	29.27	19.77	2.69	30.92	-	-	Peak
794.2	24.48	-21.52	46	29.65	22.38	3.13	30.68	-	-	Peak
5825	114.13	-	-	102.61	34.93	9.88	33.29	100	309	Peak
5825	103.4	-	-	91.88	34.93	9.88	33.29	100	309	Average
17475	53.6	-40.53	94.13	54.49	41.63	14.45	56.97	100	0	Peak

Test Mode :	Mode 22	Temperature :	22~26°C
Test Channel :	165	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 17475 MHz is not within a restricted band.		

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
79.14	32.06	-7.94	40	55.57	7.14	0.88	31.53	106	101	Peak
121.53	28.33	-15.17	43.5	47.24	11.54	1.11	31.56	-	-	Peak
184.17	23.67	-19.83	43.5	44.88	9.05	1.26	31.52	-	-	Peak
500.2	19.22	-26.78	46	29.61	18.23	2.45	31.07	-	-	Peak
657	22.41	-23.59	46	30.02	20.4	2.85	30.86	-	-	Peak
808.9	24.88	-21.12	46	29.84	22.57	3.16	30.69	-	-	Peak
5825	107.17	-	-	95.65	34.93	9.88	33.29	100	281	Peak
5825	96.55	-	-	85.03	34.93	9.88	33.29	100	281	Average
17475	58.79	-28.38	87.17	59.67	41.63	14.46	56.97	100	0	Peak

Test Mode :	Mode 23	Temperature :	22~26°C
Test Channel :	165	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Horizontal
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 17475 MHz is not within a restricted band.		

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
121.26	27.9	-15.6	43.5	46.81	11.54	1.11	31.56	100	133	Peak
174.18	21.98	-21.52	43.5	42.79	9.47	1.24	31.52	-	-	Peak
225.21	25	-21	46	44.11	10.89	1.45	31.45	-	-	Peak
388.9	20.86	-25.14	46	33.72	16.23	2.12	31.21	-	-	Peak
680.1	21.45	-24.55	46	28.73	20.66	2.9	30.84	-	-	Peak
806.1	24.36	-21.64	46	29.35	22.54	3.16	30.69	-	-	Peak
5825	108.47	-	-	96.95	34.93	9.88	33.29	178	282	Peak
5825	97.8	-	-	86.28	34.93	9.88	33.29	178	282	Average
17475	55.58	-32.89	88.47	56.47	41.63	14.45	56.97	100	0	Peak

Test Mode :	Mode 23	Temperature :	22~26°C
Test Channel :	165	Relative Humidity :	51~55%
Test Engineer :	Wii Chang	Polarization :	Vertical
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 17475 MHz is not within a restricted band.		

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
78.33	32.17	-7.83	40	55.78	7.05	0.87	31.53	120	284	Peak
106.41	27.14	-16.36	43.5	47.29	10.37	1.03	31.55	-	-	Peak
179.58	22.89	-20.61	43.5	44.06	9.11	1.25	31.53	-	-	Peak
310.5	21.18	-24.82	46	36.92	13.79	1.79	31.32	-	-	Peak
635.3	21.11	-24.89	46	29.03	20.16	2.8	30.88	-	-	Peak
957.3	25.73	-20.27	46	28.48	24.35	3.47	30.57	-	-	Peak
5825	114.43	-	-	102.91	34.93	9.88	33.29	110	296	Peak
5825	103.75	-	-	92.23	34.93	9.88	33.29	110	296	Average
17475	56.84	-37.59	94.43	57.73	41.63	14.45	56.97	100	0	Peak

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 without connector 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
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 13, 2011	Jun. 12, 2012	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	GB41292344	N/A	Feb. 18, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 18, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Thermal Chamber	Ten Billion	TTH-D35P	TBN-930701	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)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100057	9KHz-40GHz	Oct. 25, 2010	Oct. 24, 2011	Radiation (03CH06-HY)
EMI TEST RECEIVER	R&S	ESCI 7	100724	9kHz~7GHz	Aug.19, 2010	Aug.19, 2011	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz -2GHz	Oct. 31, 2010	Oct. 31, 2011	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz~18GHz	Aug. 02, 2010	Aug. 01, 2011	Radiation (03CH06-HY)
Double Ridge Horn Antenna	Training Research	AH-0801	95119	8GHz~18GHz	Oct. 20, 2010	Oct. 19, 2011	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH06-HY)
Pre Amplifier	Agilent	8449B	3008A01917	1GHz- 26.5GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz~1GHz	Apr. 14, 2011	Apr. 13, 2012	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2010	Oct. 30, 2011	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	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	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 18, 2010	Oct. 17, 2011	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 06, 2010	Dec. 05, 2011	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32dB.GAIN	Mar. 29, 2011	Mar. 28, 2012	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
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26		

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
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		

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
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				



Appendix A. Photographs of EUT

Please refer to Sporton report number EP141402 as below.