FCC RF Test Report

APPLICANT	:	Research In Motion Limited
EQUIPMENT	:	LTE band 4 & 17 / HSPA+ FDD 1, 2 & 5 Tablet PC
BRAND NAME	:	RIM
MODEL NAME	:	REG51LW
MARKETING NAME	:	P150-32***The stars "*" in model name can be 0 to 9, A to Z or blank, for marking purpose.
FCC ID	:	L6AREG50LW
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

The product was received on Oct. 28, 2011 and completely tested on Dec. 20, 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

Testing Laboratory 1190

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR1D0774B	Rev. 01	Initial issue of report	Jan. 21, 2012

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	≥ 0.5MHz	Pass	-
3.1	-	Gen 4.6.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	A8.4	Power Output Measurement	≤ 30dBm	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	≤ 20dBc	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	< 20 dBc	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	≤ 8dBm	Pass	-
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 8.50 dB at 0.366 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.09 dB at 2483.500 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Research In Motion Limited
295 Phillip Street, Waterloo, Ontario, Canada

1.2 Manufacturer

Quanta Computer Inc.
No. 188, Wen Hwa 2nd Road, Kuei Shan Hsiang, Tao Yuan Shien, 333 Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	LTE band 4 & 17 / HSPA+ FDD 1, 2 & 5 Tablet PC
Brand Name	RIM
Model Name	REG51LW
Marketing Name	P150-32***The stars "*" in model name can be 0 to 9, A to Z or blank, for marking purpose.
FCC ID	L6AREG50LW
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 : 19.60 dBm (0.0912 W) 802.11g : 23.91 dBm (0.2460 W) 802.11n (BW 20MHz) : 23.84 dBm (0.2421 W) **<5725 MHz ~ 5850 MHz>** 802.11a : 22.11 dBm (0.1626 W) 802.11n (BW 20MHz) : 22.46 dBm (0.1762 W)
Antenna Type	802.11b/g/n : Fixed Internal Antenna with gain -3.30482 dBi 802.11a/n : Fixed Internal Antenna with gain -4.27897 dBi
HW Version	DARU3MB1AD0 REVD
SW Version	1.0.0.0
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Identical Prototype

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

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH07HY	722060/4086B-1

1.5 Applied Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 (Measurement Guidelines of DTS)
- ANSI C63.4-2003
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	LCD Monitor	Acer	H223HQ	FCC DoC	N/A	Unshielded, 1.8 m
5.	Earphone	Ergotech	ET-E200	FCC DoC	Unshielded, 1.8 m	N/A
6.	Bluetooth Earphone	Nokia	BH-102	PYAHS-107W	N/A	N/A
7.	iPod	Apple	A1199	FCC DoC	Shielded, 1.0 m	N/A
8.	iPod Earphone	Apple	N/A	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:

Band	2.4GHz 802.11b RF Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Peak Power	19.02	19.36	**19.60**

Band	2.4GHz 802.11g RF Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Peak Power	23.51	23.87	**23.91**

Band	2.4GHz 802.11n (BW 20MHz) RF Power (dBm)		
Channel	1	6	11
Frequency (MHz)	2412	2437	2462
Peak Power	23.67	**23.84**	23.74

Band	5GHz 802.11a RF Power (dBm)		
Channel	149	157	165
Frequency (MHz)	5745	5785	5825
Peak Power	**22.11**	21.64	21.78

Band	5GHz 802.11 n (BW 20MHz) RF Power (dBm)		
Channel	149	157	165
Frequency (MHz)	5745	5785	5825
Peak Power	**22.46**	22.24	21.66

Remark:

1. All the test data for each data rate were verified, but only the worst case was reported.
2. The data rates of WLAN 802.11a/b/g/n were set in 1Mbps for 802.11b, 9Mbps for 802.11g, MCS1 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.
3. The EUT is programmed to transmit signals continuously for all testing.

2.2 Test Mode

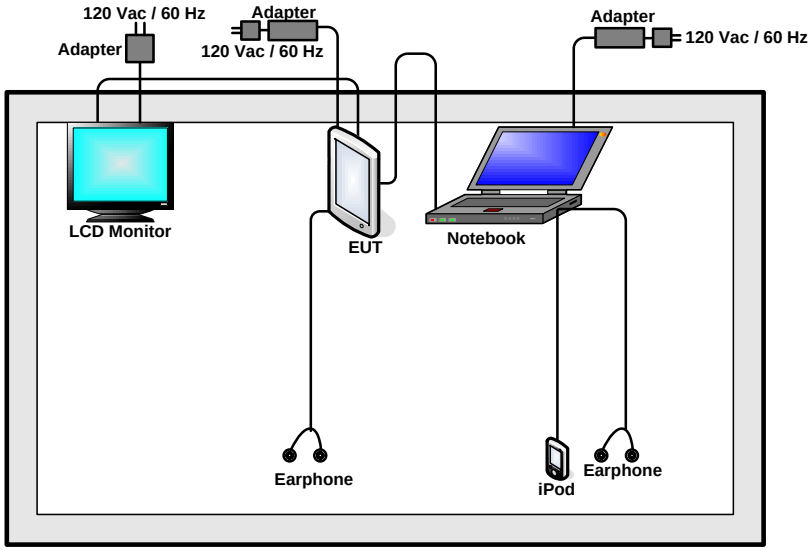
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 KHz to 30 MHz), radiated emission (30 MHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).
Pre-scanned tests, X, Y, Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations, laptop / tablet modes.

The following table is showing the total pre-scanned test modes, and the worst modes (E2 and E1 plane) are recorded in this report only.

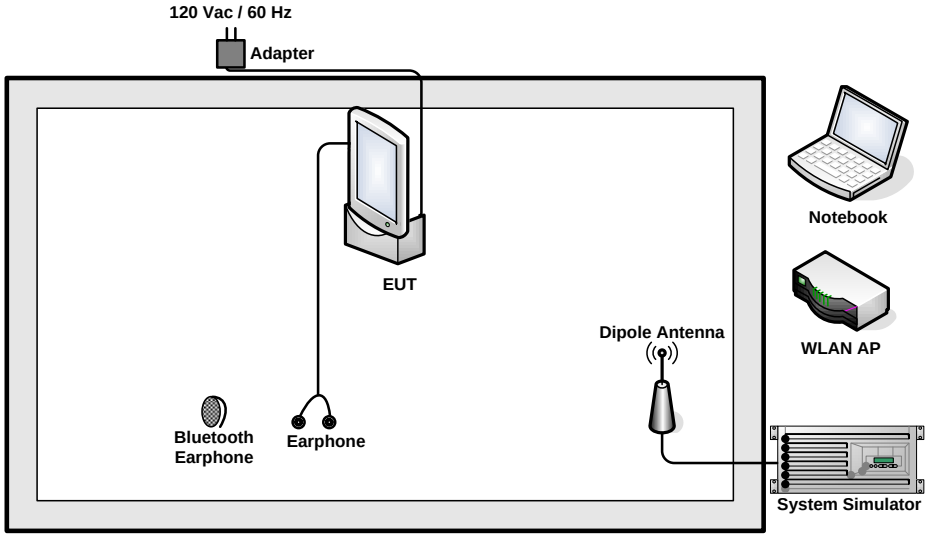
Test Cases		
Test Item	**802.11b (Modulation : DSSS)** **802.11g/n (Modulation : OFDM)**	**802.11a/n (Modulation : OFDM)**
Conducted TCs	Mode 1: 802.11b_CH01_2412 MHz Mode 2: 802.11b_CH06_2437 MHz Mode 3: 802.11b_CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n_CH01_2412 MHz (BW 20M) Mode 8: 802.11n_CH06_2437 MHz (BW 20M) Mode 9: 802.11n_CH11_2462 MHz (BW 20M)	Mode 10: 802.11a_CH149_5745 MHz Mode 11: 802.11a_CH157_5785 MHz Mode 12: 802.11a_CH165_5825 MHz Mode 13: 802.11n_CH149_5745 MHz (BW 20M) Mode 14: 802.11n_CH157_5785 MHz (BW 20M) Mode 15: 802.11n_CH165_5825 MHz (BW 20M)
Radiated TCs	Mode 1: 802.11b_CH01_2412 MHz Mode 2: 802.11b_CH06_2437 MHz Mode 3: 802.11b_CH11_2462 MHz Mode 4: 802.11g_CH01_2412 MHz Mode 5: 802.11g_CH06_2437 MHz Mode 6: 802.11g_CH11_2462 MHz Mode 7: 802.11n_CH01_2412 MHz (BW 20M) Mode 8: 802.11n_CH06_2437 MHz (BW 20M) Mode 9: 802.11n_CH11_2462 MHz (BW 20M)	Mode 10: 802.11a_CH149_5745 MHz Mode 11: 802.11a_CH157_5785 MHz Mode 12: 802.11a_CH165_5825 MHz Mode 13: 802.11n_CH149_5745 MHz (BW 20M) Mode 14: 802.11n_CH157_5785 MHz (BW 20M) Mode 15: 802.11n_CH165_5825 MHz (BW 20M)
AC Conducted Emission	Mode 1 : CDMA 850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter 3 + Battery 1 + H Pattern + Earphone	
Remark: For radiated TCs, all the tests were performance with Adapter 2.		

2.3 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.4 RF Utility

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

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

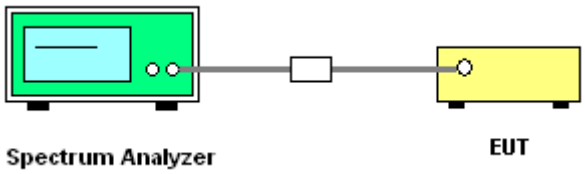
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	9.04	0.5	Pass
06	2437	9.00	0.5	Pass
11	2462	9.04	0.5	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.08	0.5	Pass
06	2437	15.08	0.5	Pass
11	2462	15.08	0.5	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.08	0.5	Pass
06	2437	15.08	0.5	Pass
11	2462	15.08	0.5	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	15.00	0.5	Pass
157	5785	15.10	0.5	Pass
165	5825	15.00	0.5	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	15.05	0.5	Pass
157	5785	15.10	0.5	Pass
165	5825	15.10	0.5	Pass

3.1.6 Test Result of 99% Occupied Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11b 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	14.10	Pass
06	2437	14.10	Pass
11	2462	14.15	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11g 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	17.95	Pass
06	2437	18.05	Pass
11	2462	18.00	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
01	2412	19.05	Pass
06	2437	19.00	Pass
11	2462	19.05	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

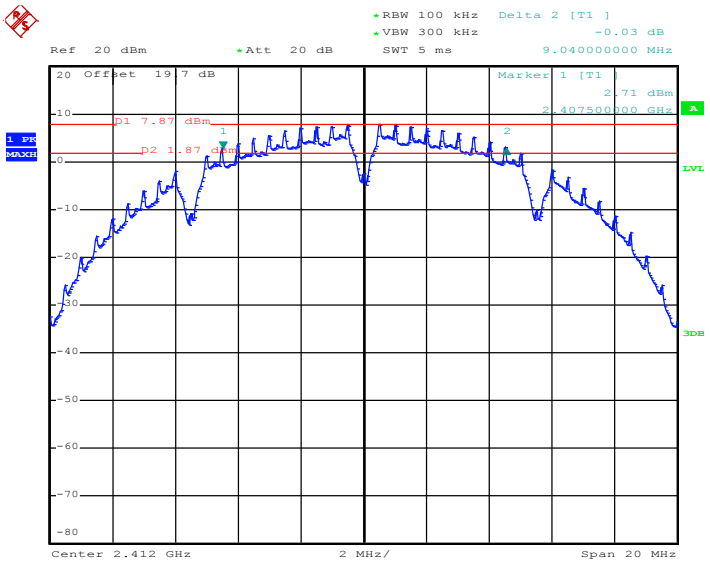
Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	17.75	Pass
157	5785	17.70	Pass
165	5825	17.80	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) 99% Occupied Bandwidth (MHz)	Pass/Fail
149	5745	18.75	Pass
157	5785	18.90	Pass
165	5825	18.80	Pass

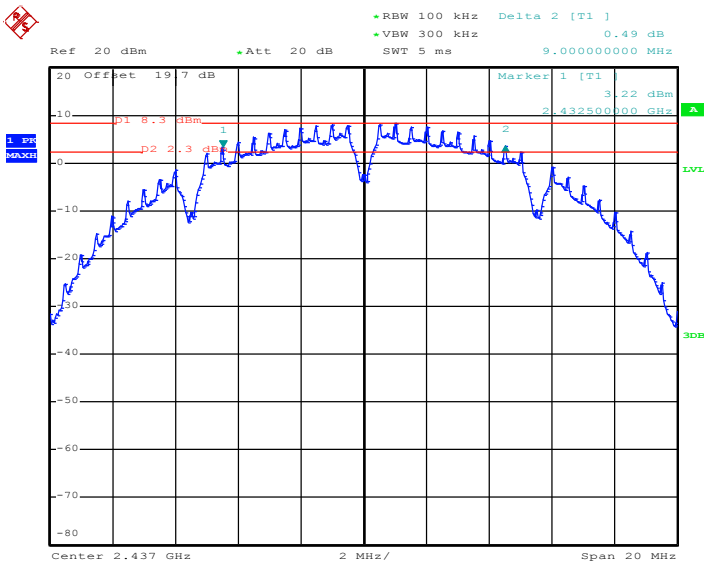
3.1.7 Test Result of 6dB Bandwidth Plots

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



Date: 25.NOV.2011 16:02:50

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



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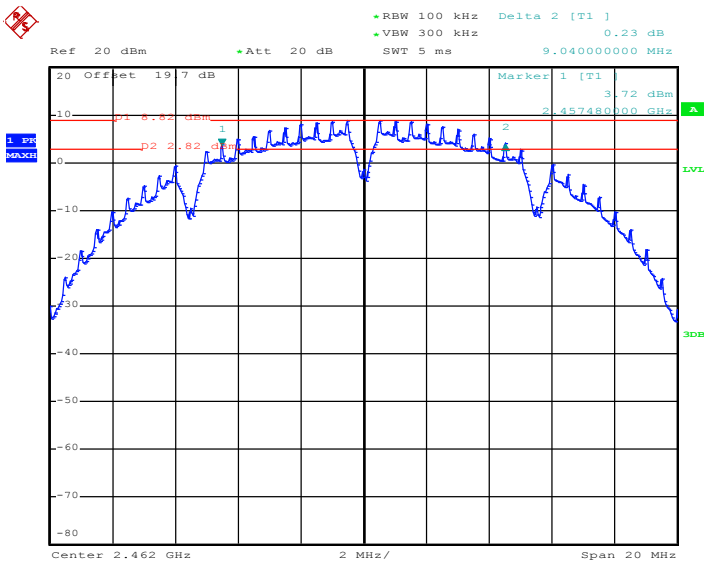
Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11



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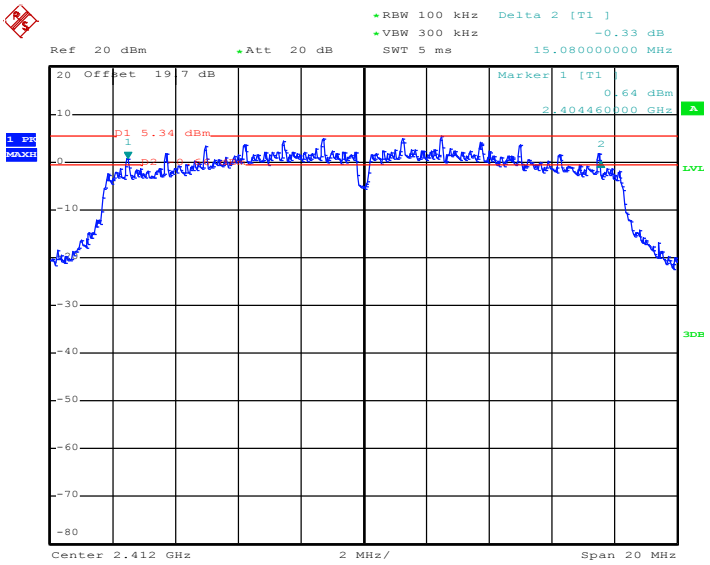
Mode 4 : 6 dB Bandwidth Plot on 802.11g Channel 01



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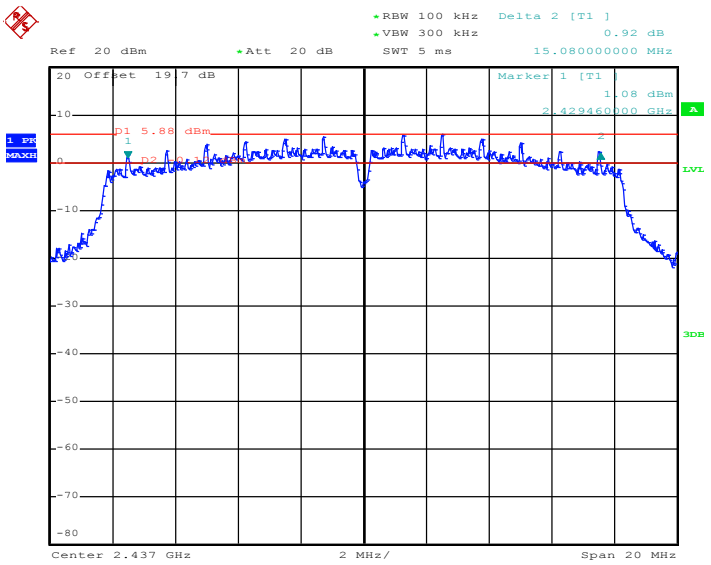
Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06



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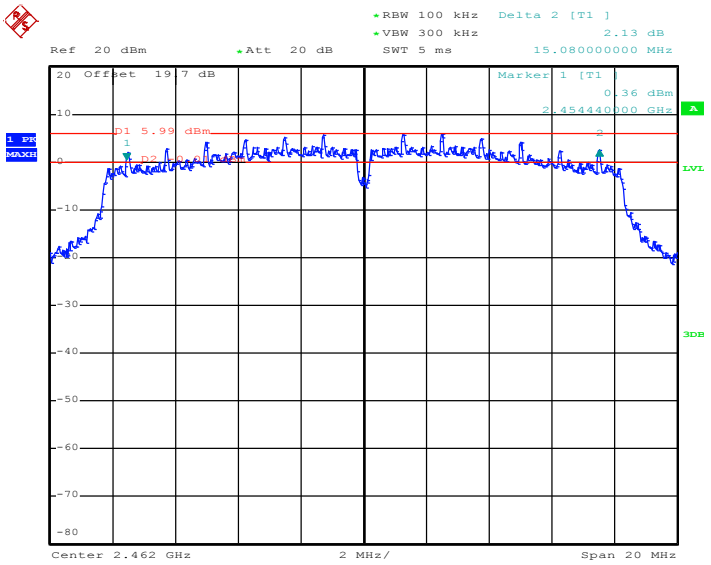
Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11



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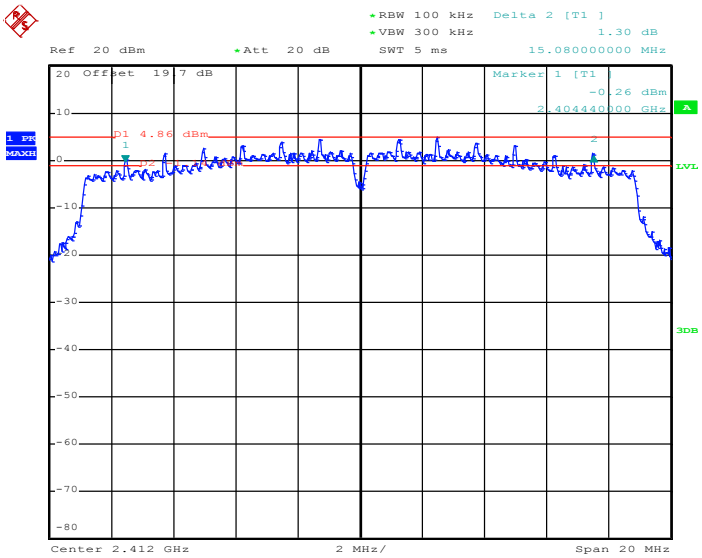
Mode 7 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 01



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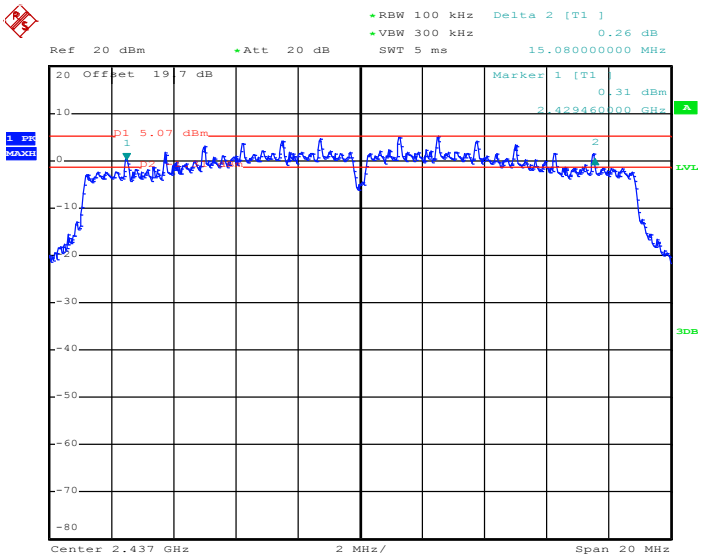
Mode 8 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 06



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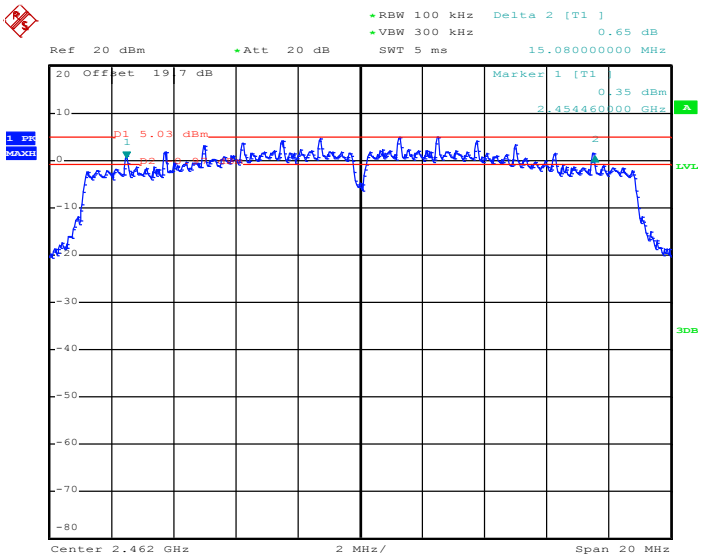
Mode 9 : 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 11



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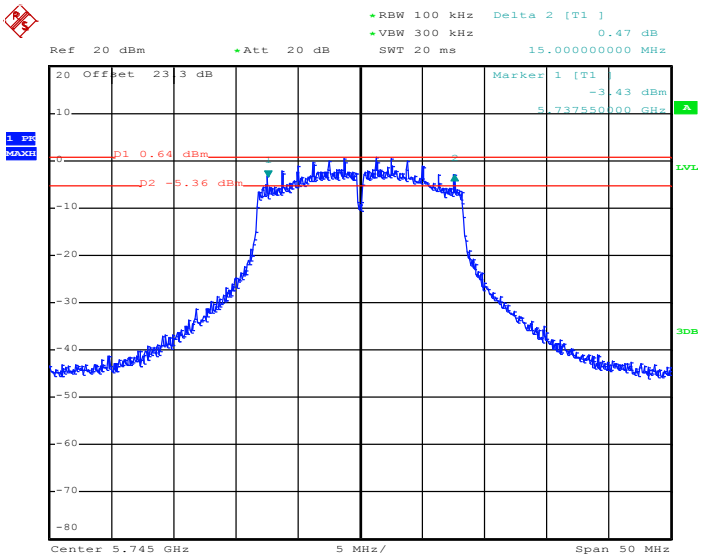
Mode 10: 6 dB Bandwidth Plot on 802.11a Channel 149



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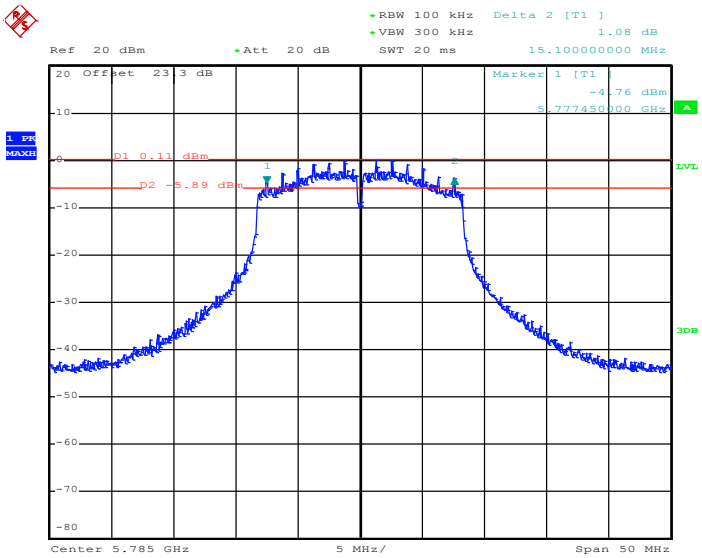
Mode 11: 6 dB Bandwidth Plot on 802.11a Channel 157



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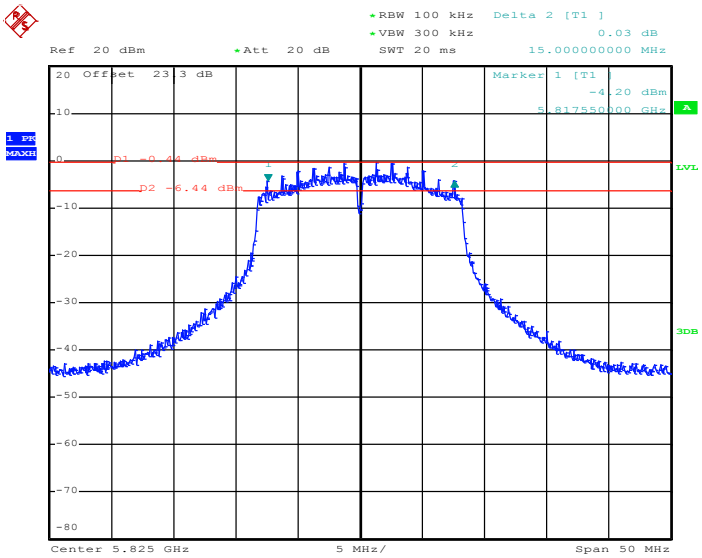
Mode 12: 6 dB Bandwidth Plot on 802.11a Channel 165



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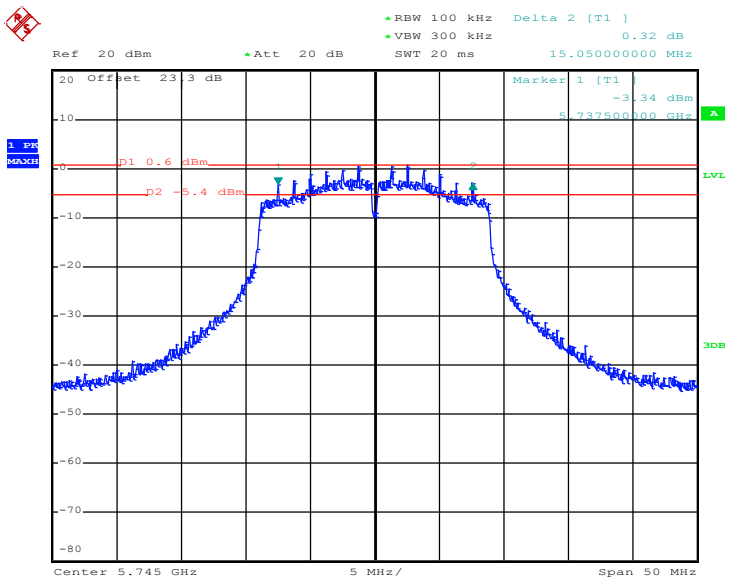
Mode 13: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 149



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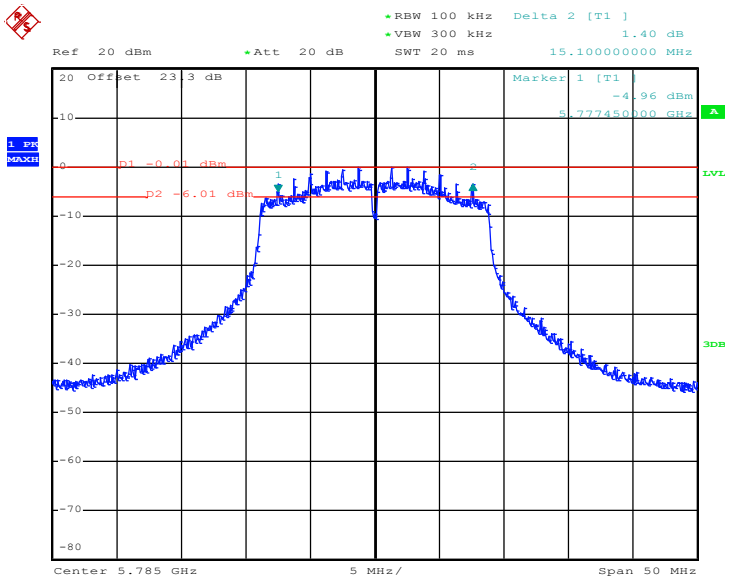
Mode 14: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 157



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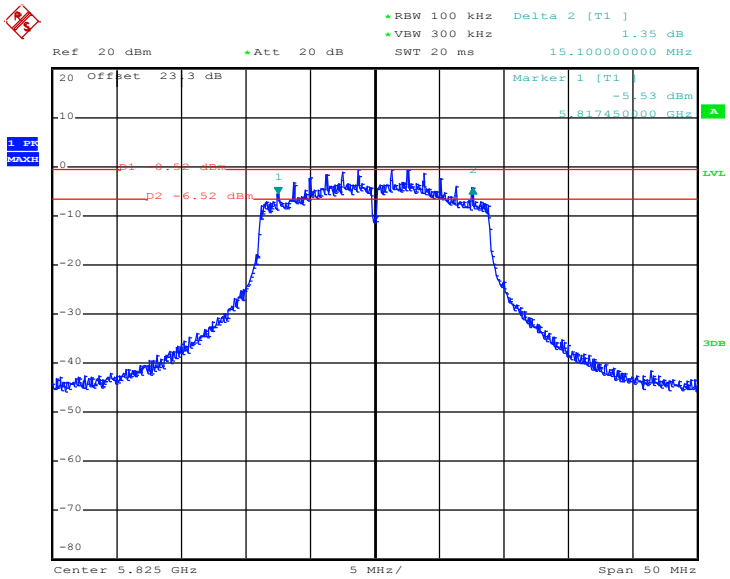
Mode 15: 6 dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 165



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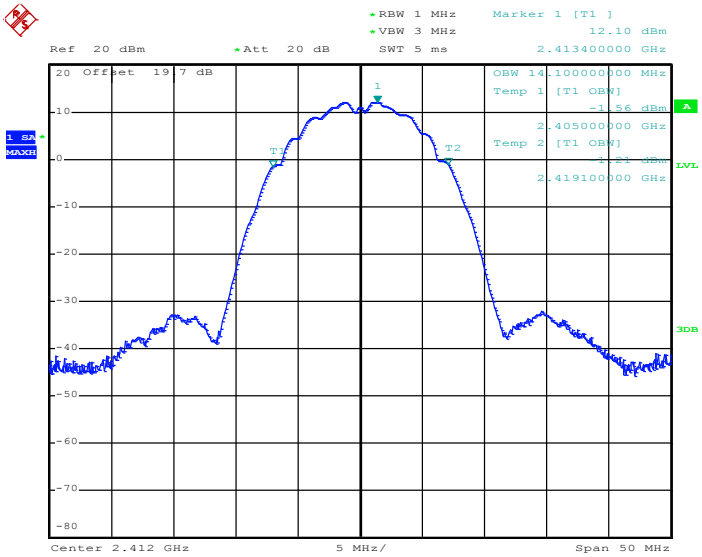
3.1.8 Test Result of 99% Bandwidth Plots

Mode 1 : 99% Occupied Bandwidth Plot on 802.11b Channel 01



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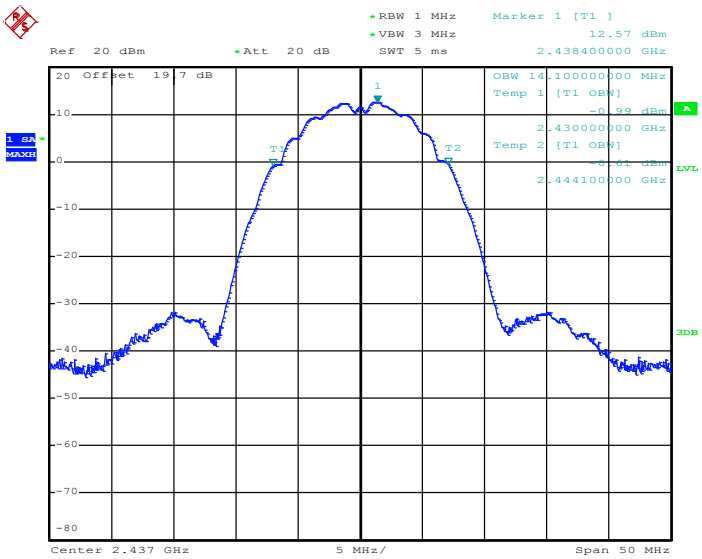
Mode 2 : 99% Occupied Bandwidth Plot on 802.11b Channel 06



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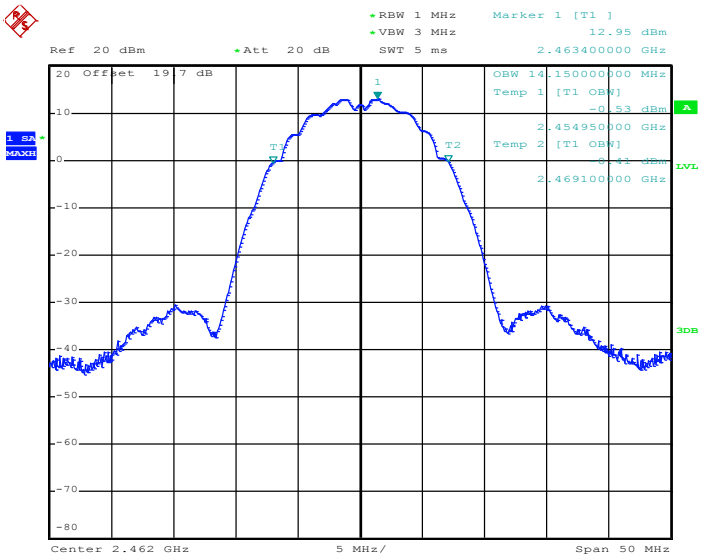
Mode 3 : 99% Occupied Bandwidth Plot on 802.11b Channel 11



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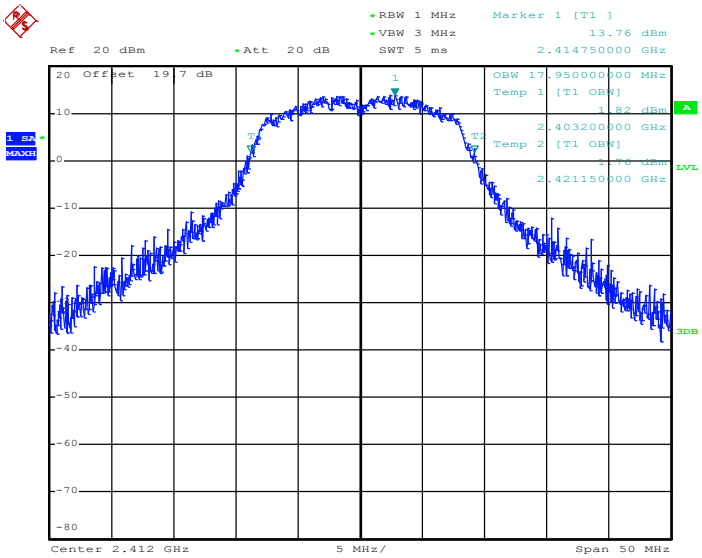
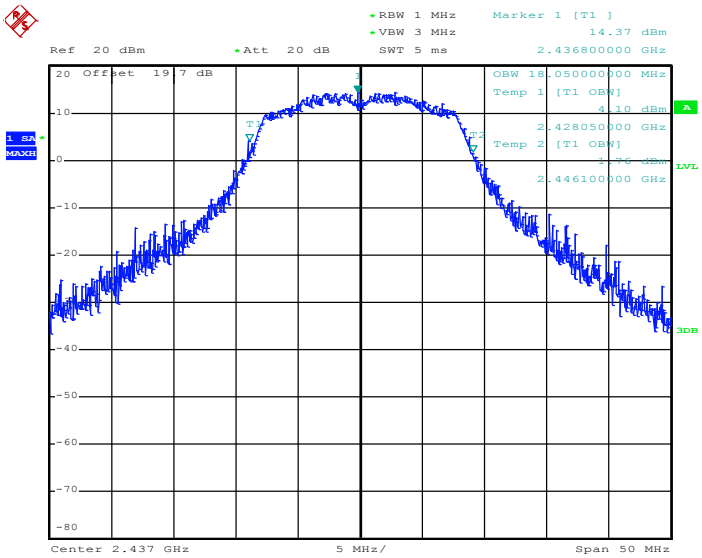
Mode 4 : 99% Occupied Bandwidth Plot on 802.11g Channel 01



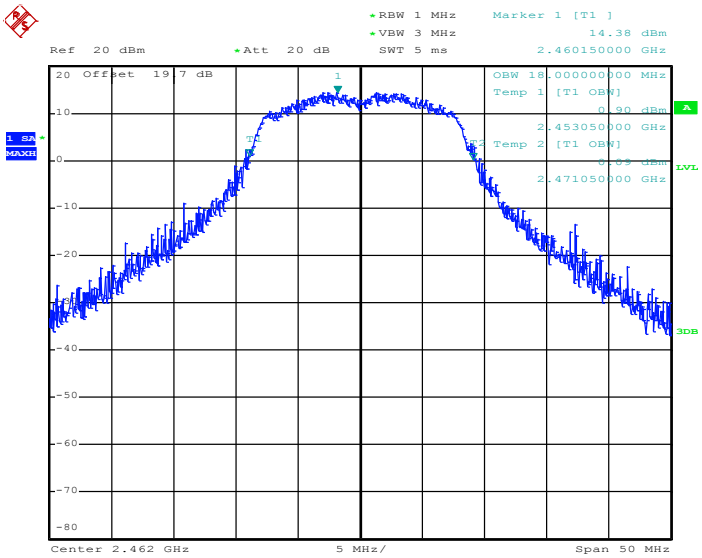
Date: 28.NOV.2011 10:12:53

Mode 5 : 99% Occupied Bandwidth Plot on 802.11g Channel 06



Date: 28.NOV.2011 10:29:36

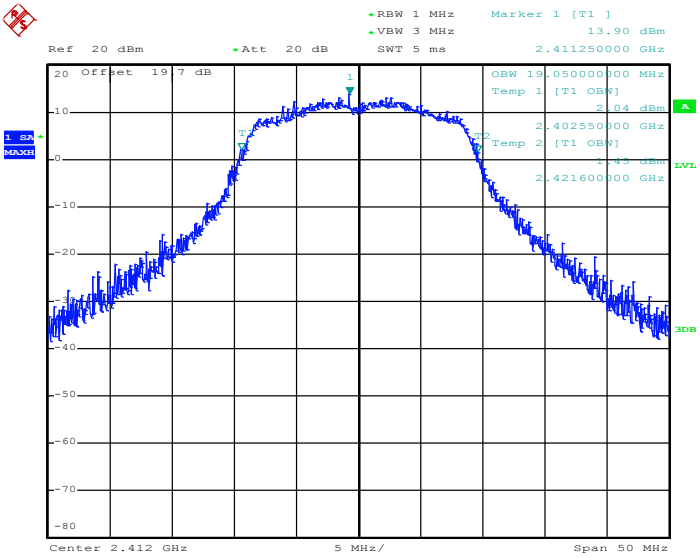
Mode 6 : 99% Occupied Bandwidth Plot on 802.11g Channel 11



Date: 28.NOV.2011 10:26:30

Mode 7 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

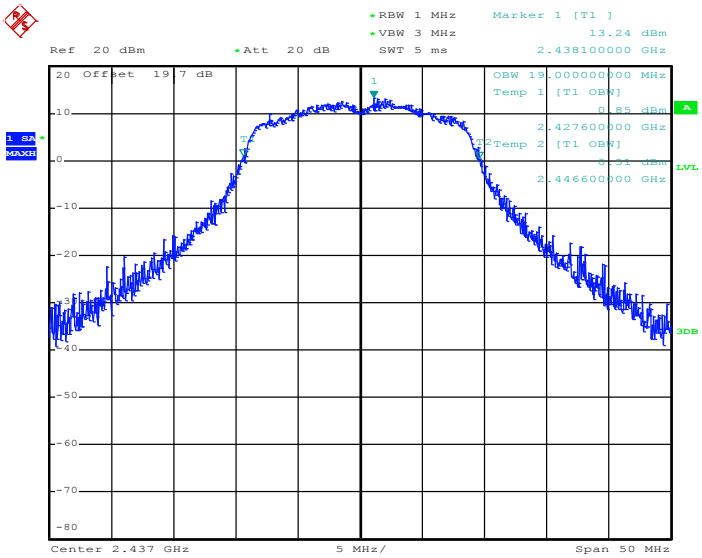
Channel 01



Date: 28.NOV.2011 10:18:53

Mode 8 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

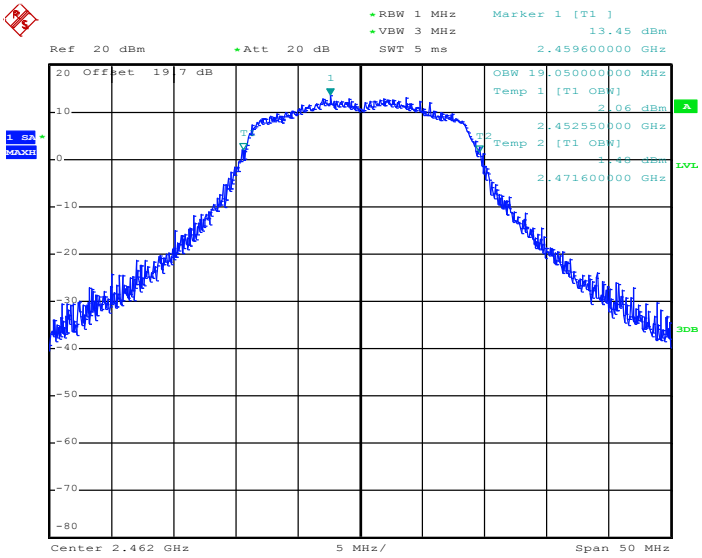
Channel 06



Date: 28.NOV.2011 10:37:22

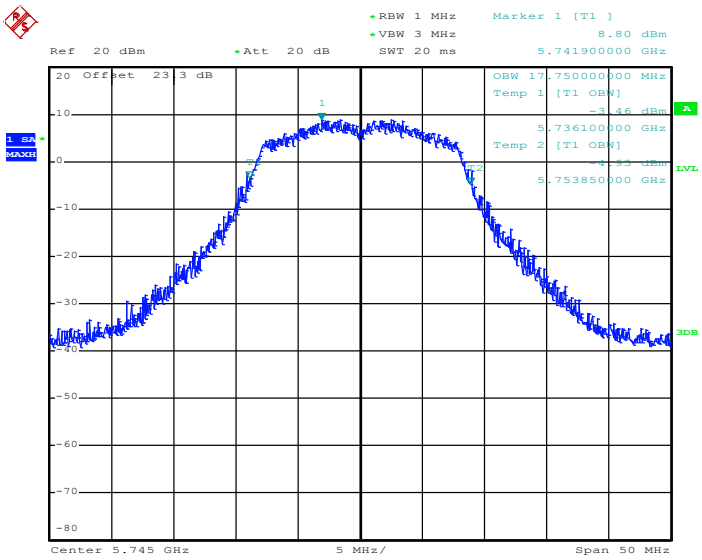
Mode 9 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

Channel 11



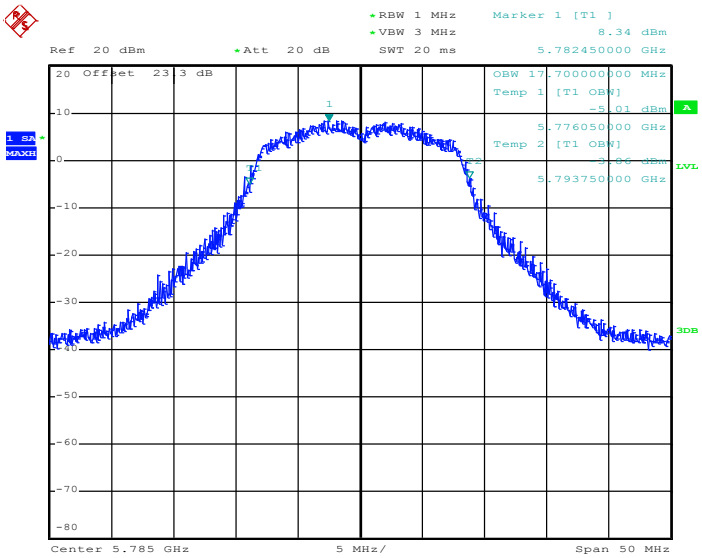
Date: 28.NOV.2011 10:22:57

Mode 10: 99% Occupied Bandwidth Plot on 802.11a Channel 149



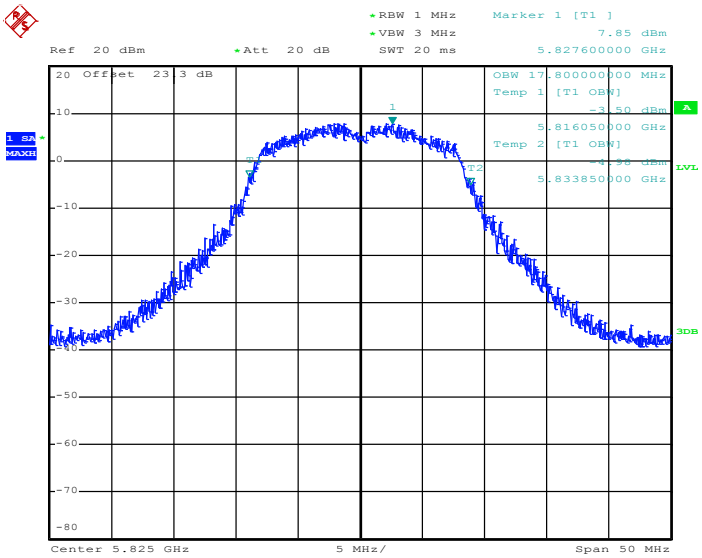
Date: 25.NOV.2011 17:28:22

Mode 11: 99% Occupied Bandwidth Plot on 802.11a Channel 157



Date: 25.NOV.2011 17:41:27

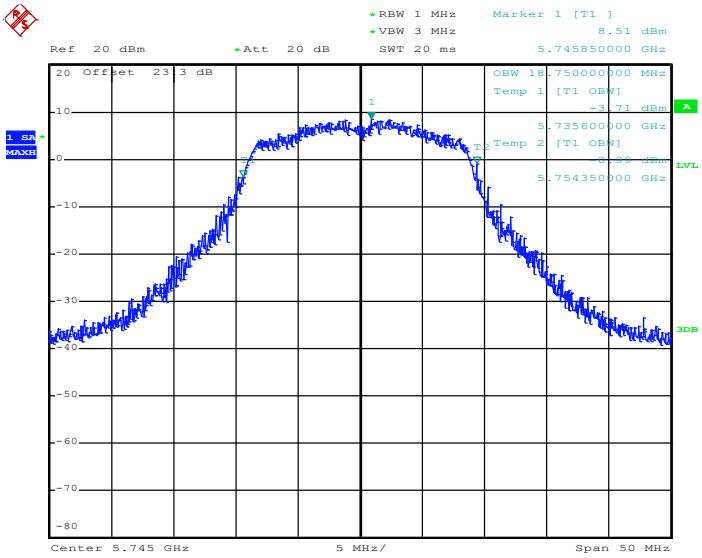
Mode 12: 99% Occupied Bandwidth Plot on 802.11a Channel 165



Date: 25.NOV.2011 17:23:34

Mode 13: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

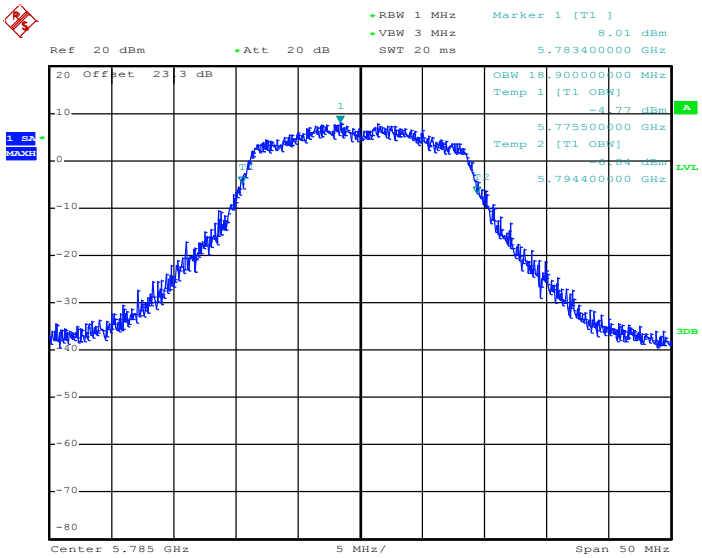
Channel 149



Date: 25.NOV.2011 17:46:52

Mode 14: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

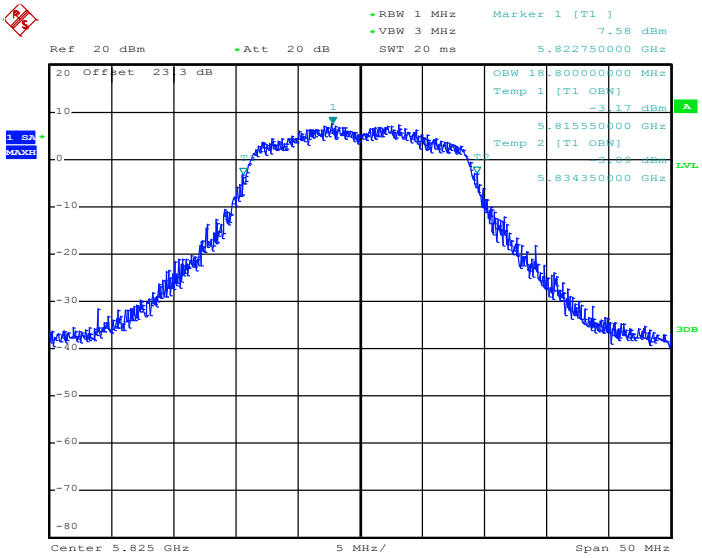
Channel 157



Date: 25.NOV.2011 17:43:39

Mode 15: 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

Channel 165



Date: 25.NOV.2011 17:50:07

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.

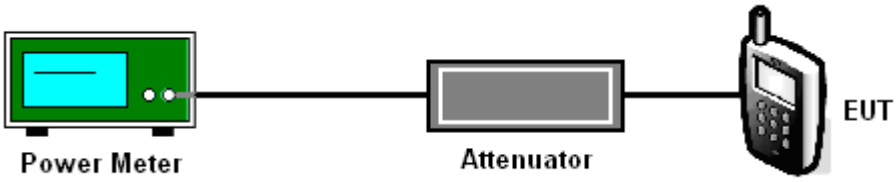
3.2.2 Measuring Instruments

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 :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11b Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.02	30	Pass
06	2437	19.36	30	Pass
11	2462	19.60	30	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11g Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.51	30	Pass
06	2437	23.87	30	Pass
11	2462	23.91	30	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	23.67	30	Pass
06	2437	23.84	30	Pass
11	2462	23.74	30	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.11	30	Pass
157	5785	21.64	30	Pass
165	5825	21.78	30	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.46	30	Pass
157	5785	22.24	30	Pass
165	5825	21.66	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

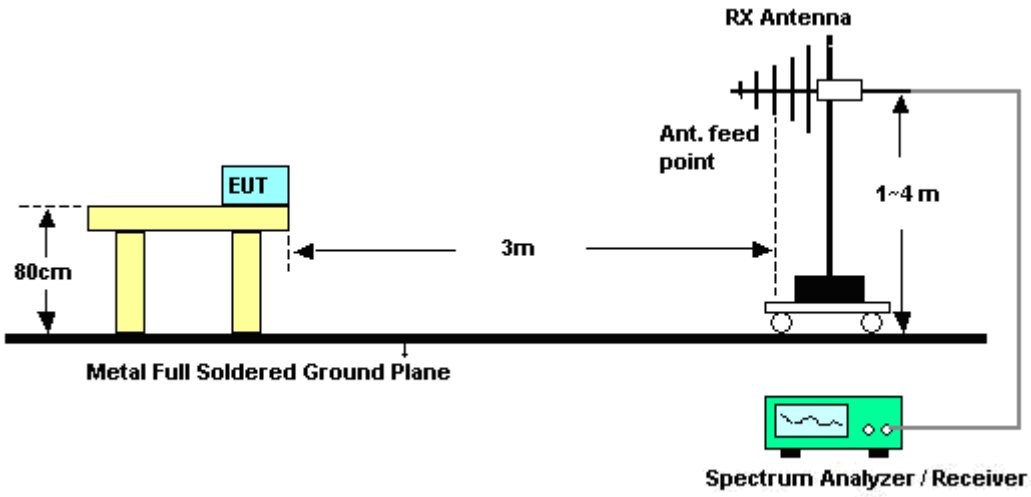
See list of measuring instruments of this test report.

3.3.3 Test Procedures

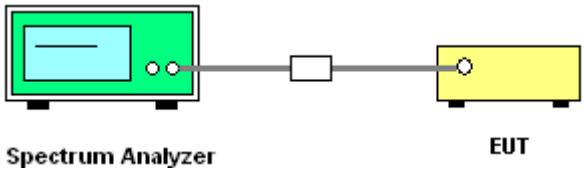
1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 KHz, Video bandwidth (VBW) > RBW. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band 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 :	22~23°C
Test Band :	802.11b	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Kyle Jhuang

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
2369.09	56.93	-17.07	74	52.86	32.03	5.99	33.95	194	98	Peak
2369.09	44.66	-9.34	54	40.59	32.03	5.99	33.95	194	98	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
2382.58	54.13	-19.87	74	50.03	32.03	6.03	33.96	187	72	Peak
2382.58	43.77	-10.23	54	39.67	32.03	6.03	33.96	187	72	Average

Test Mode :	Mode 3	Temperature :	22~23°C
Test Band :	802.11b	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	56.1	-17.9	74	51.74	32.18	6.18	34	100	120	Peak
2483.5	45.09	-8.91	54	40.73	32.18	6.18	34	100	120	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
2491.45	55.32	-18.68	74	50.94	32.2	6.18	34	118	78	Peak
2491.45	45.19	-8.81	54	40.81	32.2	6.18	34	118	78	Average

Test Mode :	Mode 4	Temperature :	22~23°C
Test Band :	802.11g	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	71.84	-2.16	74	67.71	32.06	6.03	33.96	100	102	Peak
2389.99	47.54	-6.46	54	43.41	32.06	6.03	33.96	100	102	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	68.32	-5.68	74	64.19	32.06	6.03	33.96	187	73	Peak
2389.99	44.13	-9.87	54	40	32.06	6.03	33.96	187	73	Average

Test Mode :	Mode 6	Temperature :	22~23°C
Test Band :	802.11g	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	72.91	-1.09	74	68.55	32.18	6.18	34	100	121	Peak
2483.5	51.21	-2.79	54	46.85	32.18	6.18	34	100	121	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	71.44	-2.56	74	67.08	32.18	6.18	34	147	74	Peak
2483.5	49.75	-4.25	54	45.39	32.18	6.18	34	147	74	Average

Test Mode :	Mode 7	Temperature :	22~23°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~51%
Test Channel :	01	Test Engineer :	Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.99	68.23	-5.77	74	64.1	32.06	6.03	33.96	161	106	Peak
2389.99	48.07	-5.93	54	43.94	32.06	6.03	33.96	161	106	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
2389.42	68.02	-5.98	74	63.89	32.06	6.03	33.96	152	78	Peak
2389.42	48.69	-5.31	54	44.56	32.06	6.03	33.96	152	78	Average

Test Mode :	Mode 9	Temperature :	22~23°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~51%
Test Channel :	11	Test Engineer :	Kyle Jhuang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	72.6	-1.4	74	68.24	32.18	6.18	34	126	122	Peak
2483.5	51.28	-2.72	54	46.92	32.18	6.18	34	126	122	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	71.55	-2.45	74	67.19	32.18	6.18	34	149	75	Peak
2483.66	50.61	-3.39	54	46.25	32.18	6.18	34	149	75	Average

Test Mode :	Mode 10	Temperature :	22~23°C
Test Band :	802.11a	Relative Humidity :	49~51%
Test Channel :	149	Test Engineer :	Kyle Jhuang

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
5725	63.17	-21.31	84.48	51.7	34.81	9.92	33.26	100	160	Peak

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
5725	61.35	-21.95	83.3	49.88	34.81	9.92	33.26	100	100	Peak

Test Mode :	Mode 12	Temperature :	22~23°C
Test Band :	802.11a	Relative Humidity :	49~51%
Test Channel :	165	Test Engineer :	Kyle Jhuang

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
5850	54.65	-29.25	83.9	43.26	34.98	9.87	33.46	100	331	Peak

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
5858	53.18	-29.43	82.61	41.76	35.01	9.87	33.46	100	137	Peak

Test Mode :	Mode 13	Temperature :	22~23°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~51%
Test Channel :	149	Test Engineer :	Kyle Jhuang

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
5725	65.15	-22.49	87.64	53.6	34.81	9.92	33.18	108	303	Peak

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
5725	61.18	-22.19	83.37	49.63	34.81	9.92	33.18	100	314	Peak

Test Mode :	Mode 15	Temperature :	22~23°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	49~51%
Test Channel :	165	Test Engineer :	Kyle Jhuang

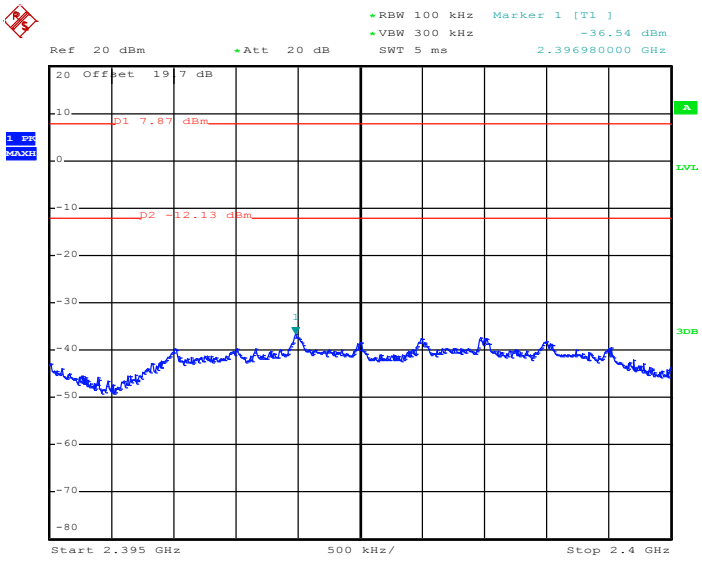
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5850	56.58	-27.67	84.25	45.19	34.98	9.87	33.46	100	329	Peak

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
5850	56.46	-26.49	82.95	45.07	34.98	9.87	33.46	100	135	Peak

3.3.6 Test Result of Conducted Band Edges

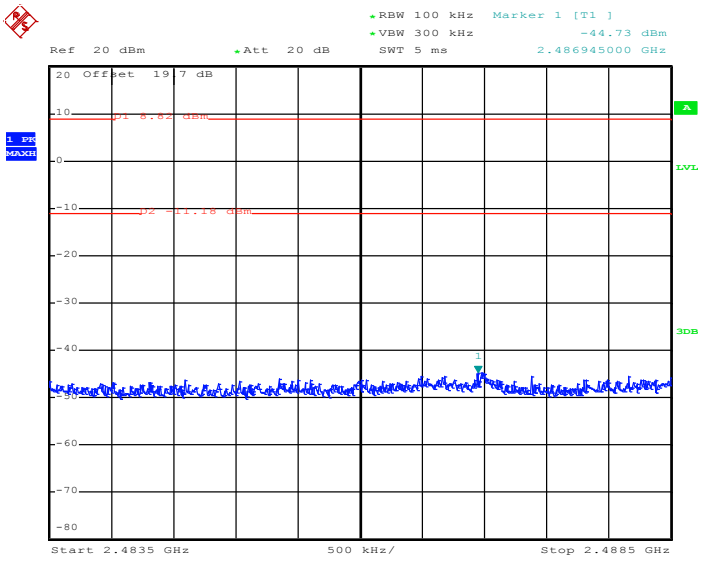
Test Mode :	Mode 1 and 3	**Temperature :**	23~26℃
Test Band :	802.11b	**Relative Humidity :**	50~59%
Test Channel :	01 and 11	**Test Engineer :**	Hank Yu

Low Band Edge Plot on 802.11b Channel 01



Date: 25.NOV.2011 16:03:59

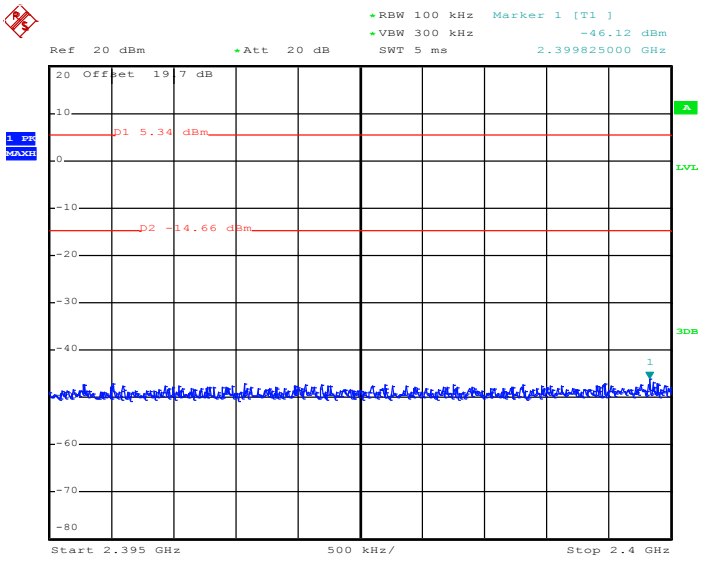
High Band Edge Plot on 802.11b Channel 11



Date: 25.NOV.2011 16:18:36

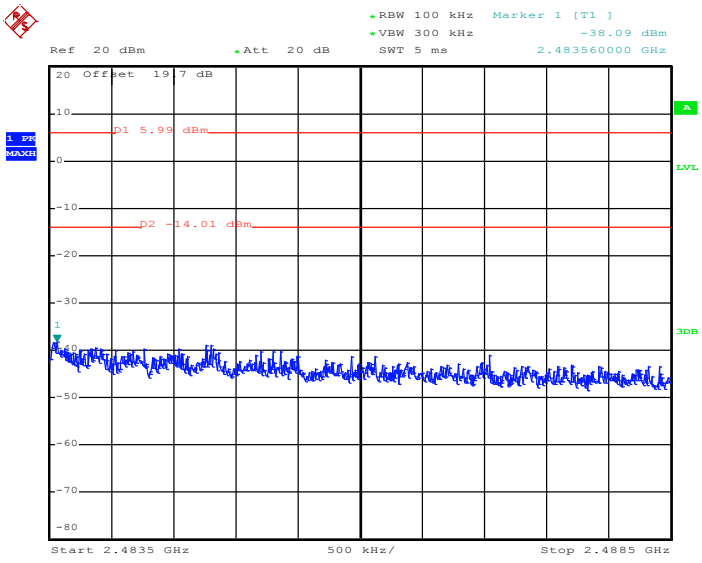
Test Mode :	Mode 4 and 6	**Temperature :**	23~26℃
Test Band :	802.11g	**Relative Humidity :**	50~59%
Test Channel :	01 and 11	**Test Engineer :**	Hank Yu

Low Band Edge Plot on 802.11g Channel 01



Date: 28.NOV.2011 10:06:46

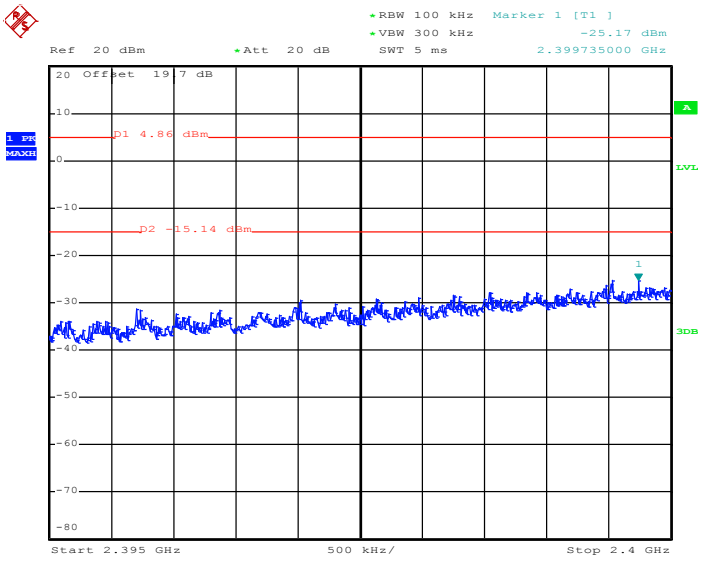
High Band Edge Plot on 802.11g Channel 11



Date: 28.NOV.2011 10:26:04

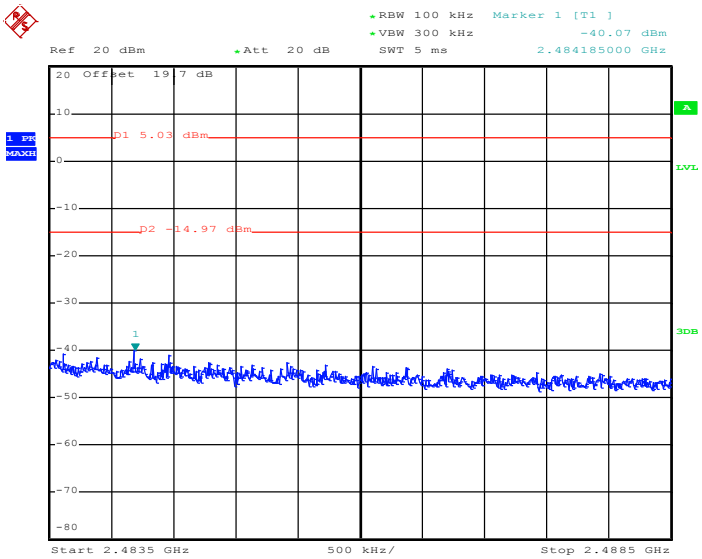
Test Mode :	Mode 7 and 9	**Temperature :**	23~26℃
Test Band :	802.11n (BW 20MHz)	**Relative Humidity :**	50~59%
Test Channel :	01 and 11	**Test Engineer :**	Hank Yu

Low Band Edge Plot on 802.11n Channel 01



Date: 28.NOV.2011 10:18:27

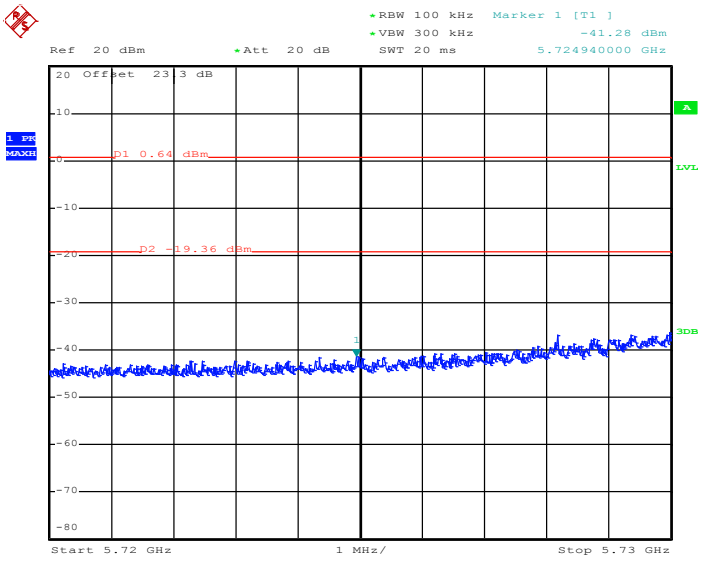
High Band Edge Plot on 802.11n Channel 11



Date: 28.NOV.2011 10:22:31

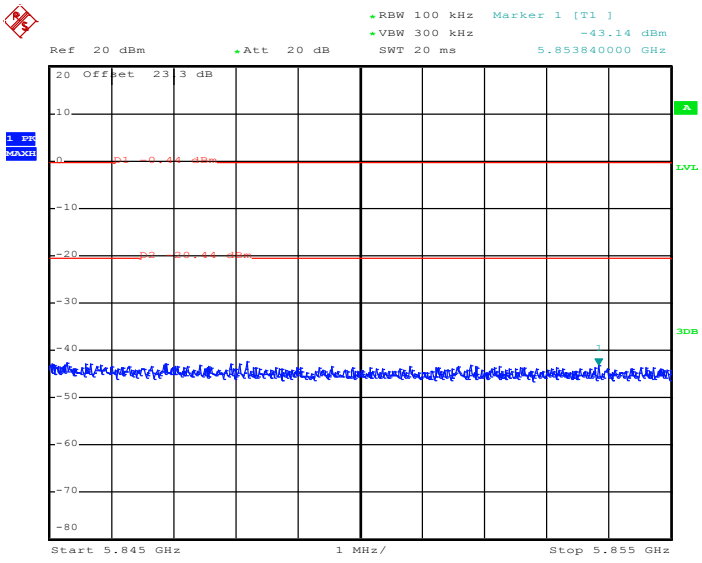
Test Mode :	Mode 10 and 12	Temperature :	23~26℃
Test Band :	802.11a	Relative Humidity :	50~59%
Test Channel :	149 and 165	Test Engineer :	Hank Yu

Low Band Edge Plot on 802.11a Channel 149



Date: 25.NOV.2011 17:27:56

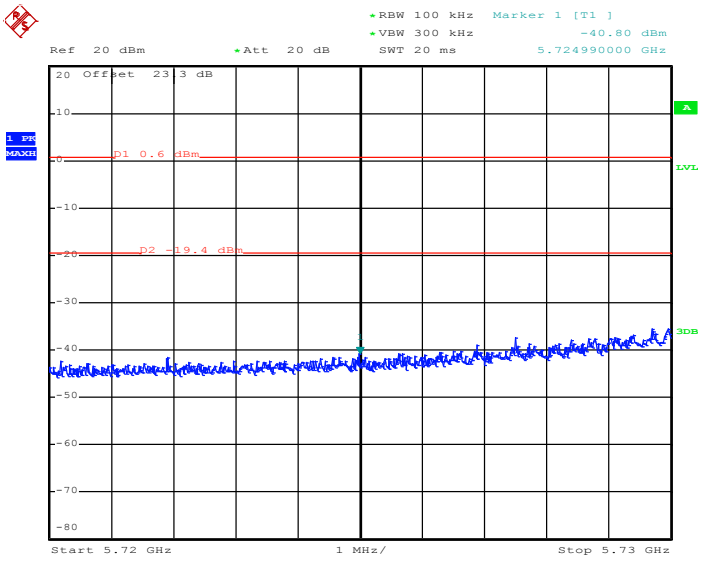
High Band Edge Plot on 802.11a Channel 165



Date: 25.NOV.2011 17:23:09

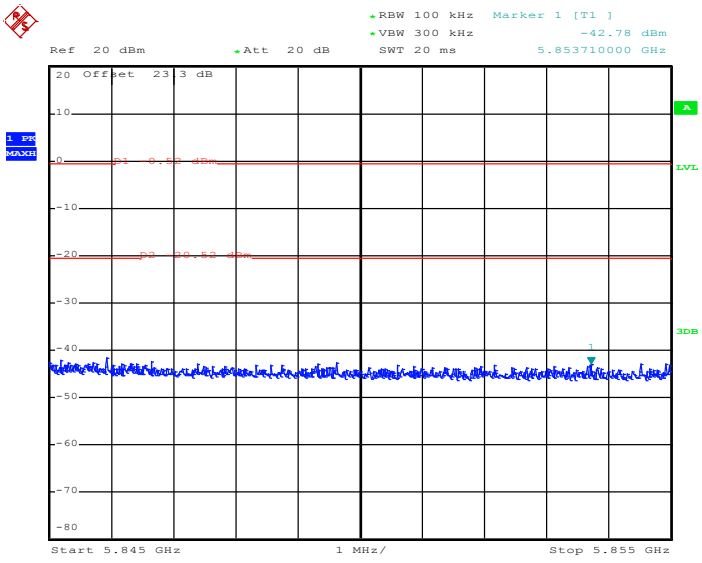
Test Mode :	Mode 13 and 15	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	149 and 165	Test Engineer :	Hank Yu

Low Band Edge Plot on 802.11n Channel 149



Date: 25.NOV.2011 17:46:26

High Band Edge Plot on 802.11n Channel 165



Date: 25.NOV.2011 17:49:41

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

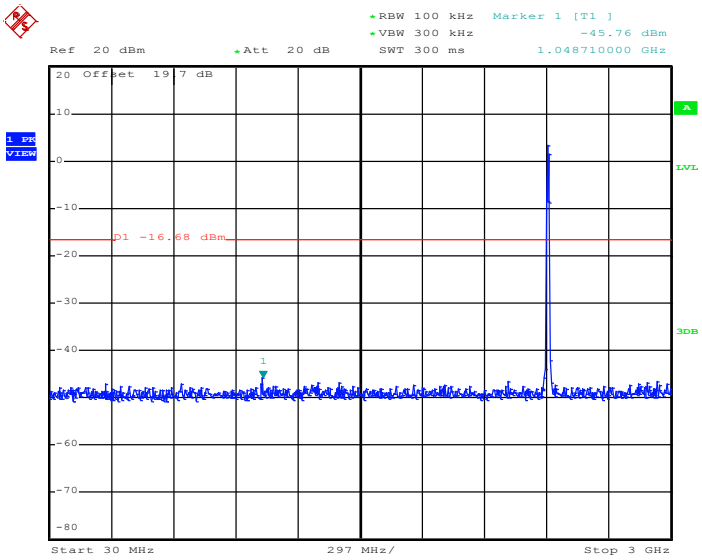
1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 KHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 KHz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

3.4.4 Test Setup

3.4.5 Test Result

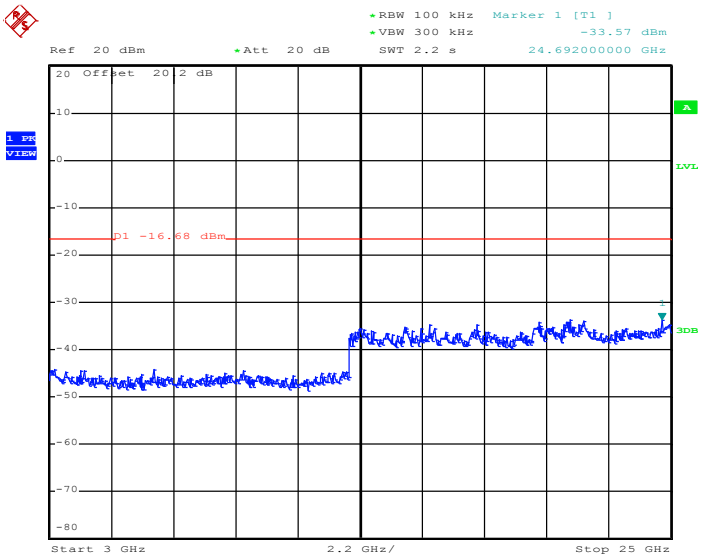
Test Mode :	Mode 1	Temperature :	23~26℃
Test Band :	802.11b	Relative Humidity :	50~59%
Test Channel :	01	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 25.NOV.2011 16:56:08

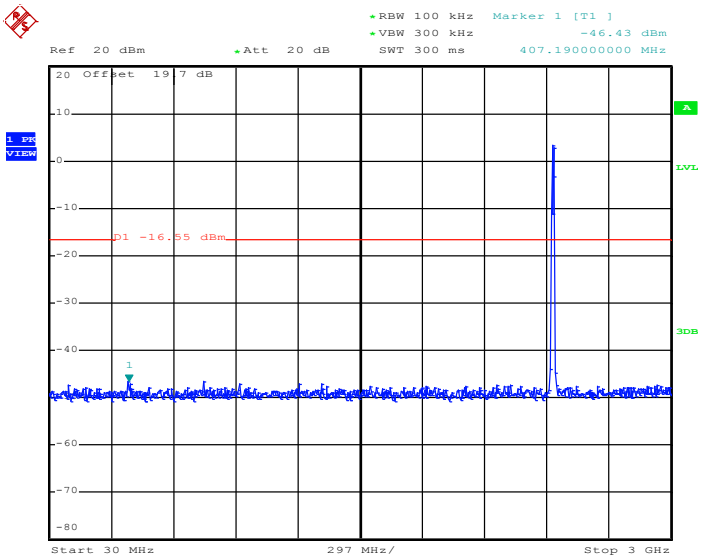
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 25.NOV.2011 16:56:25

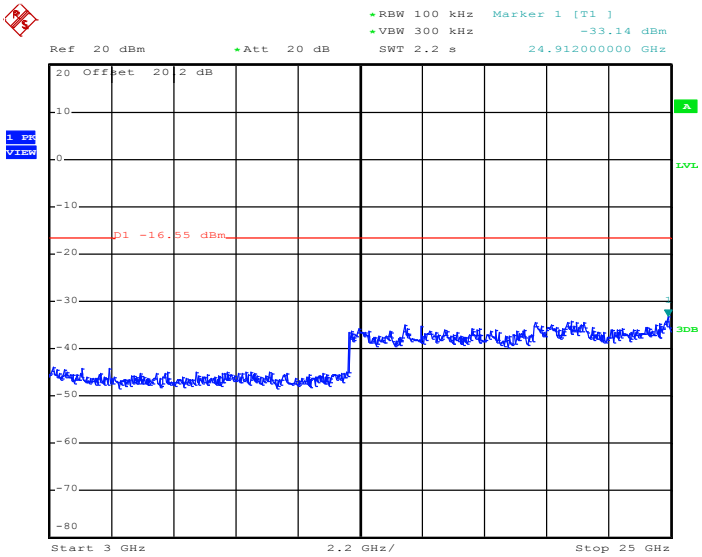
Test Mode :	Mode 2	Temperature :	23~26℃
Test Band :	802.11b	Relative Humidity :	50~59%
Test Channel :	06	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 25.NOV.2011 16:55:06

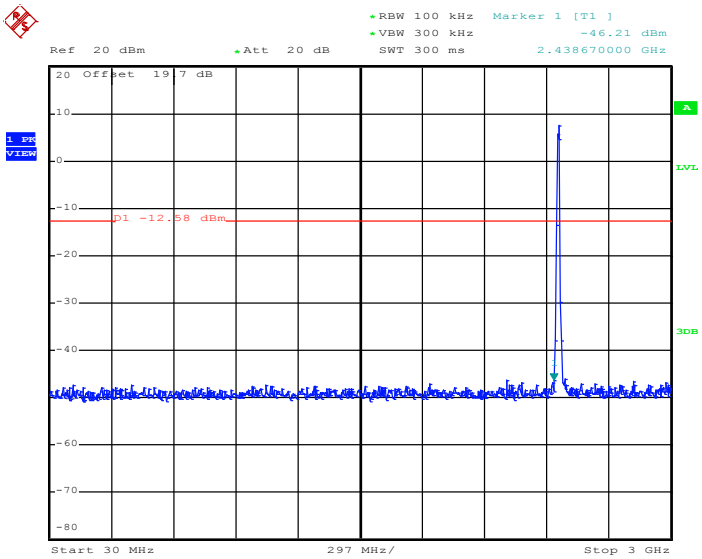
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 25.NOV.2011 16:55:23

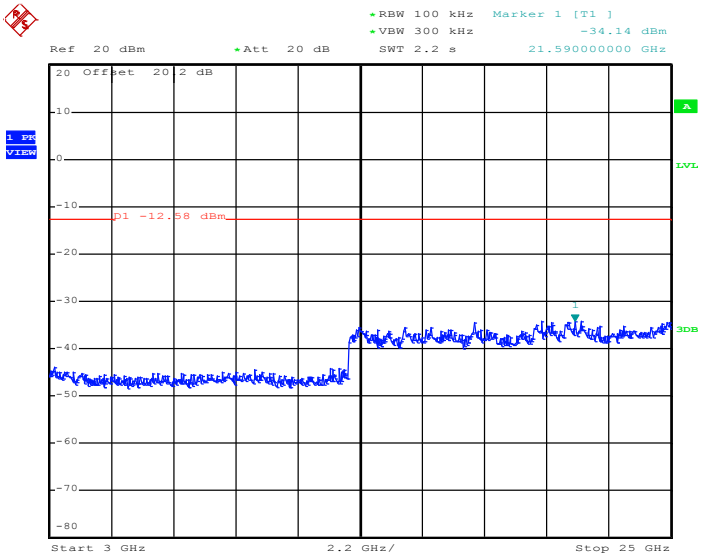
Test Mode :	Mode 3	Temperature :	23~26℃
Test Band :	802.11b	Relative Humidity :	50~59%
Test Channel :	11	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 25.NOV.2011 16:59:16

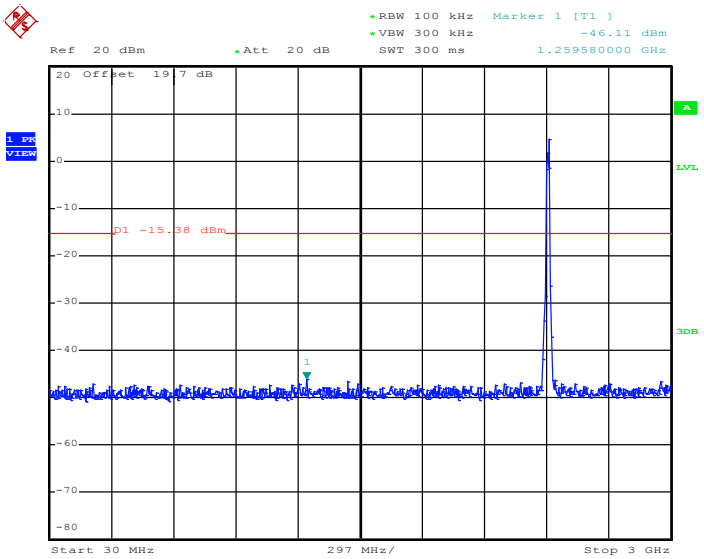
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 25.NOV.2011 16:59:33

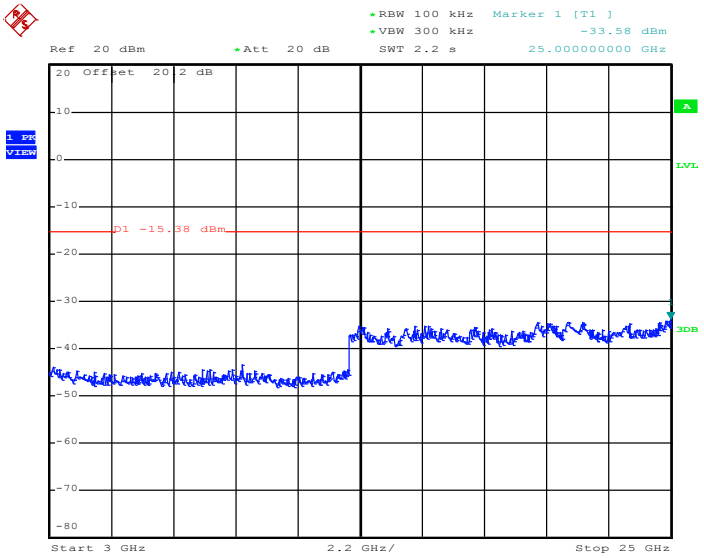
Test Mode :	Mode 4	Temperature :	23~26℃
Test Band :	802.11g	Relative Humidity :	50~59%
Test Channel :	01	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 28.NOV.2011 10:14:31

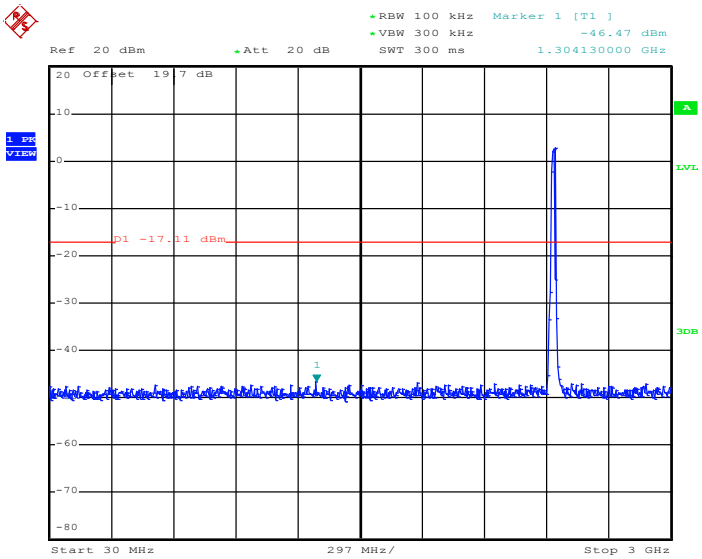
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 28.NOV.2011 10:14:48

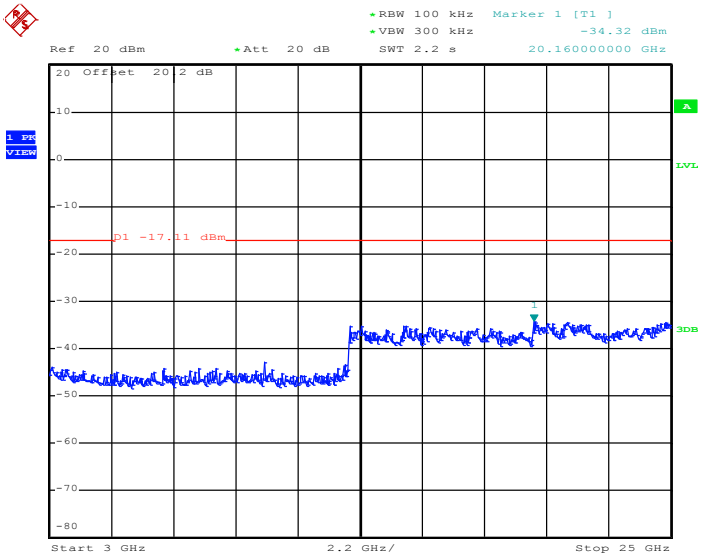
Test Mode :	Mode 5	Temperature :	23~26℃
Test Band :	802.11g	Relative Humidity :	50~59%
Test Channel :	06	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 28.NOV.2011 10:29:57

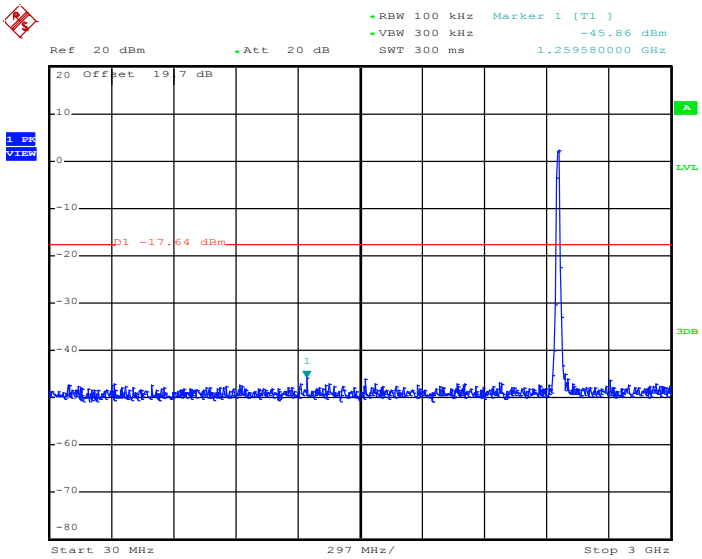
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 28.NOV.2011 10:30:14

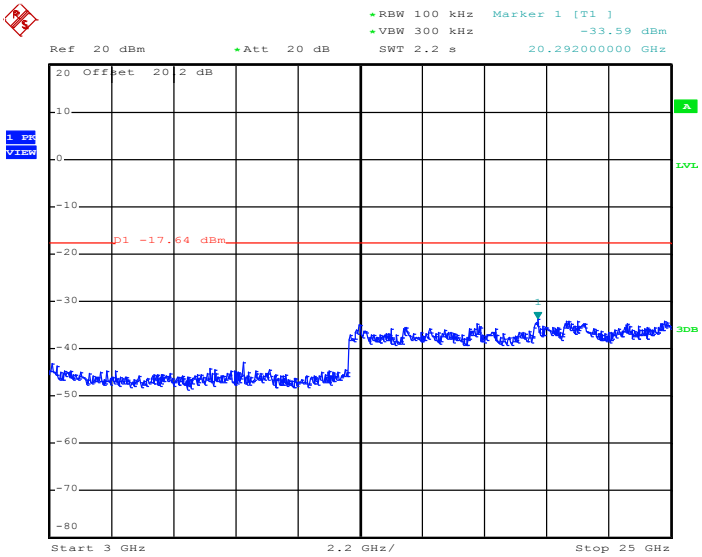
Test Mode :	Mode 6	Temperature :	23~26℃
Test Band :	802.11g	Relative Humidity :	50~59%
Test Channel :	11	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 28.NOV.2011 10:26:50

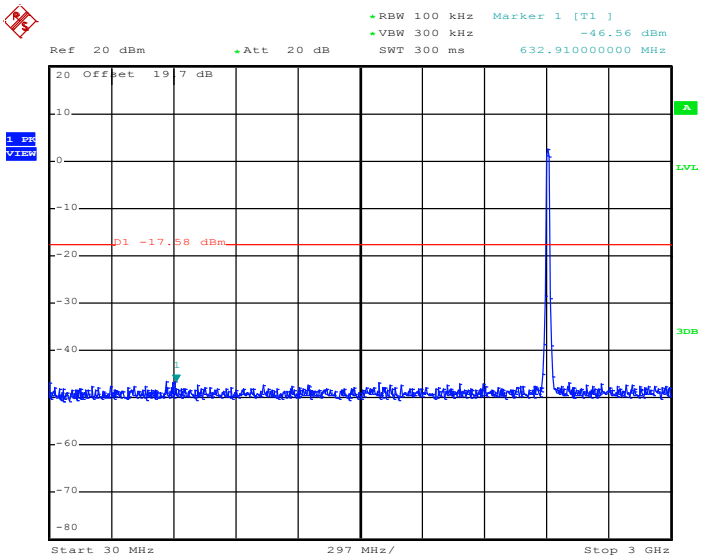
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 28.NOV.2011 10:27:07

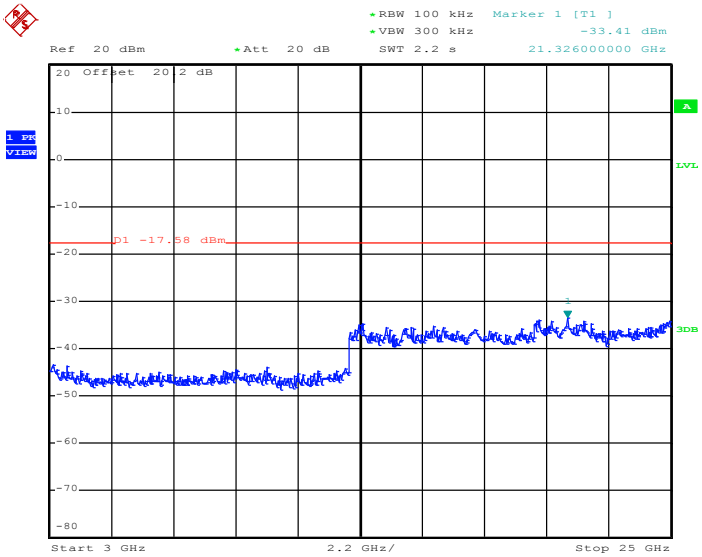
Test Mode :	Mode 7	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	01	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 28.NOV.2011 10:19:14

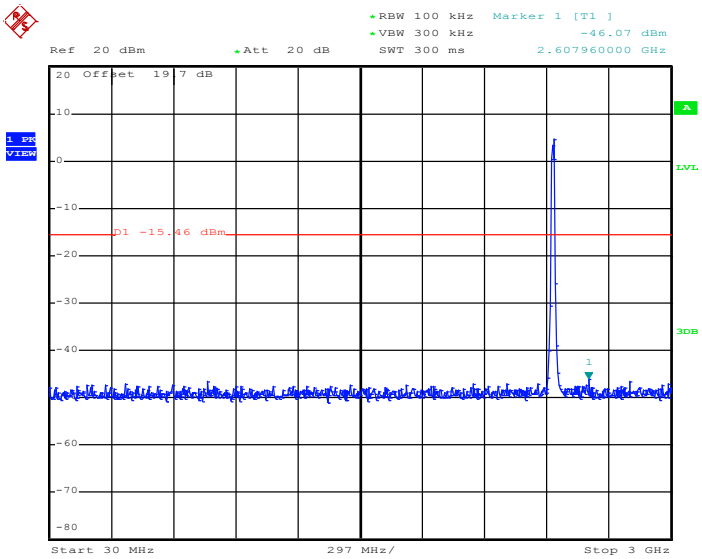
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 28.NOV.2011 10:19:31

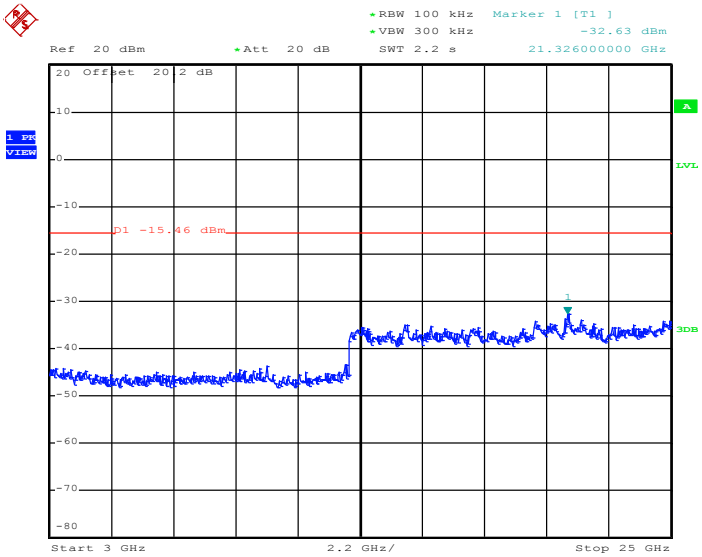
Test Mode :	Mode 8	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	06	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 28.NOV.2011 10:39:16

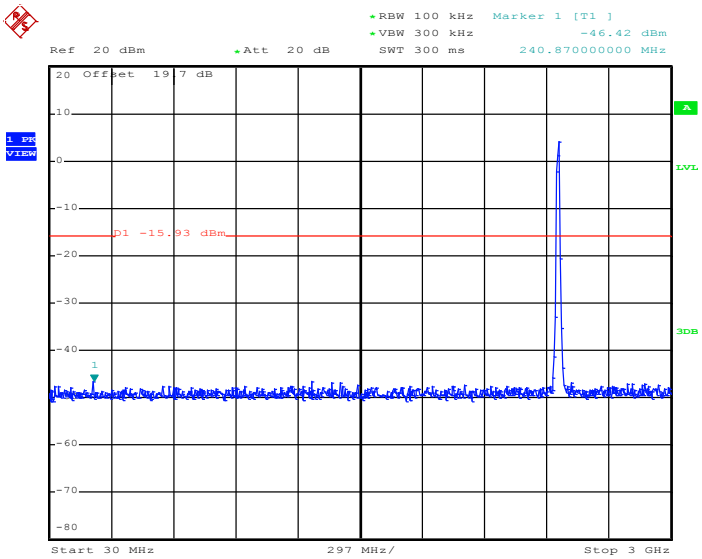
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 28.NOV.2011 10:39:33

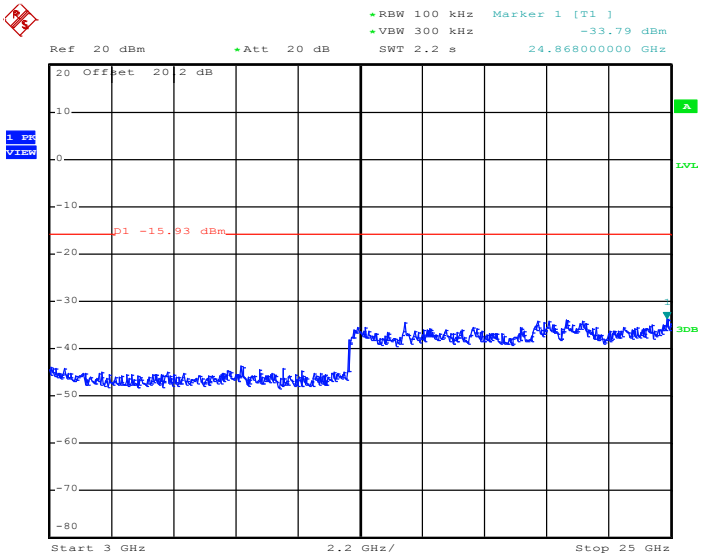
Test Mode :	Mode 9	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	11	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 3 GHz



Date: 28.NOV.2011 10:23:18

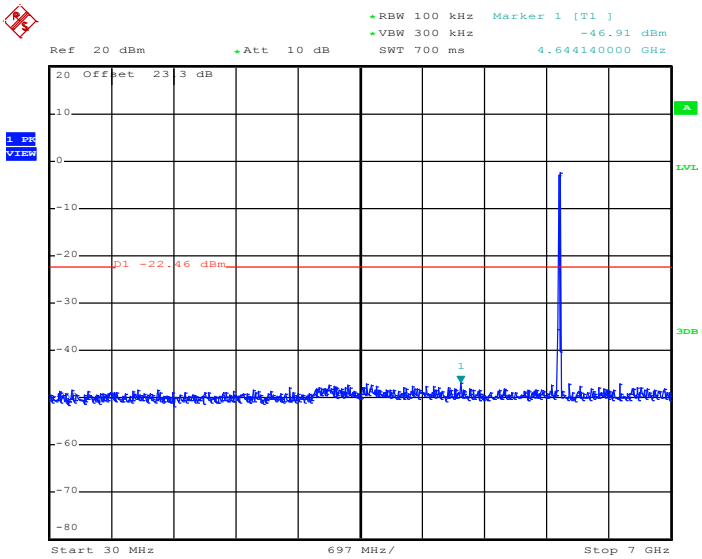
Conducted Spurious Emission Plot between 3 GHz ~ 25 GHz



Date: 28.NOV.2011 10:23:35

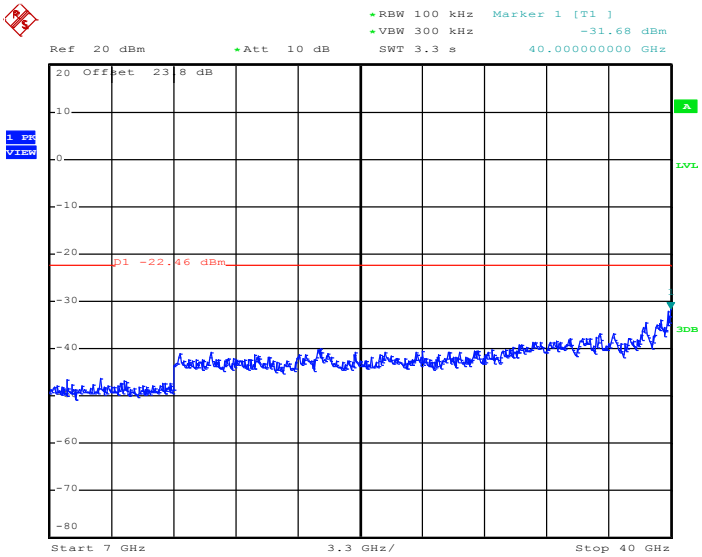
Test Mode :	Mode 10	Temperature :	23~26℃
Test Band :	802.11a	Relative Humidity :	50~59%
Test Channel :	149	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 25.NOV.2011 17:33:18

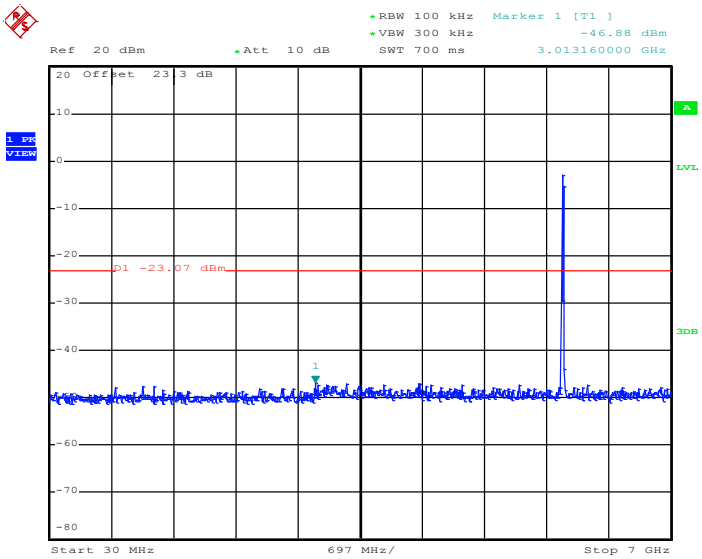
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 25.NOV.2011 17:33:35

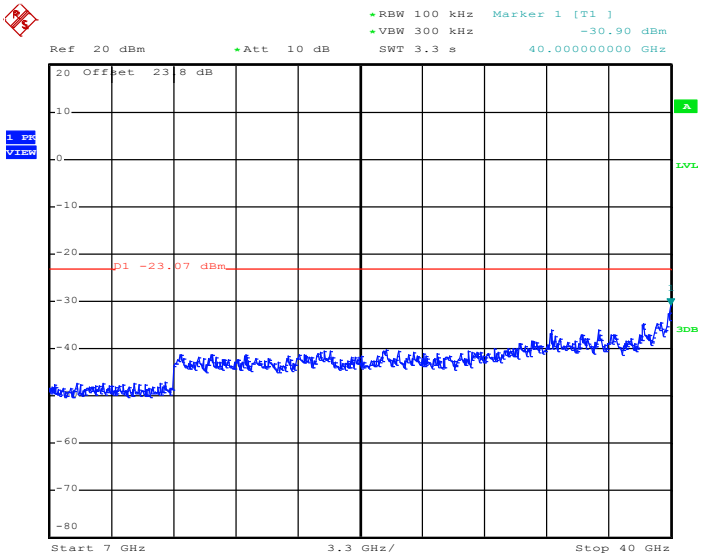
Test Mode :	Mode 11	Temperature :	23~26℃
Test Band :	802.11a	Relative Humidity :	50~59%
Test Channel :	157	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 25.NOV.2011 17:41:48

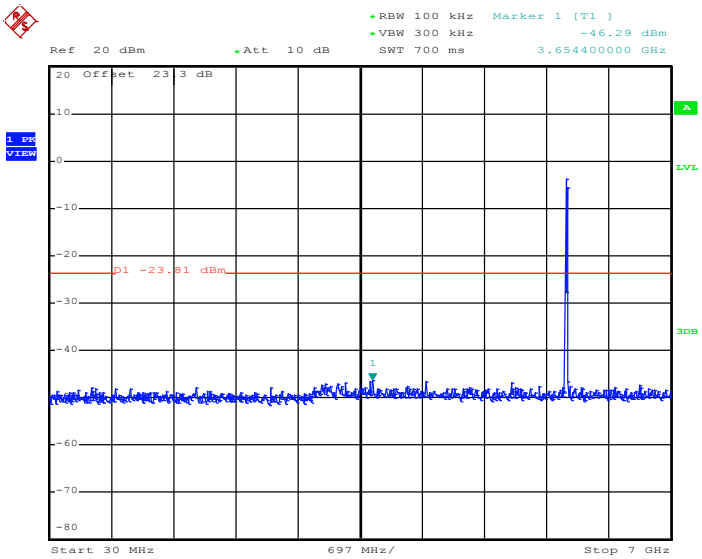
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 25.NOV.2011 17:42:05

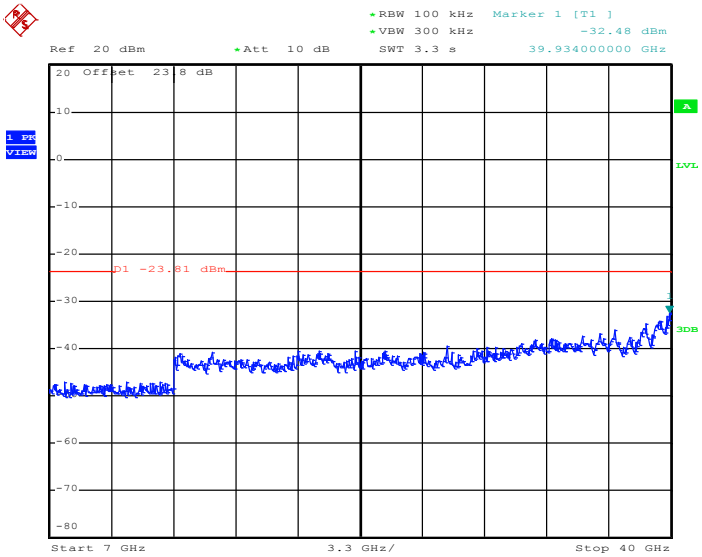
Test Mode :	Mode 12	Temperature :	23~26℃
Test Band :	802.11a	Relative Humidity :	50~59%
Test Channel :	165	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 25.NOV.2011 17:34:58

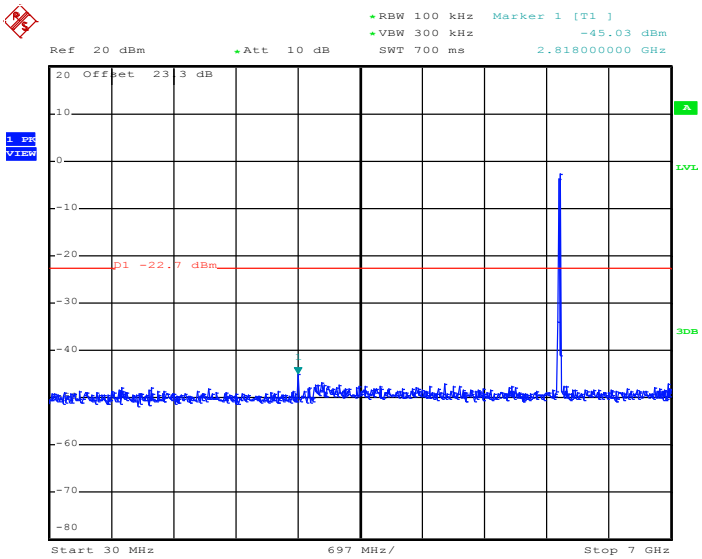
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 25.NOV.2011 17:35:14

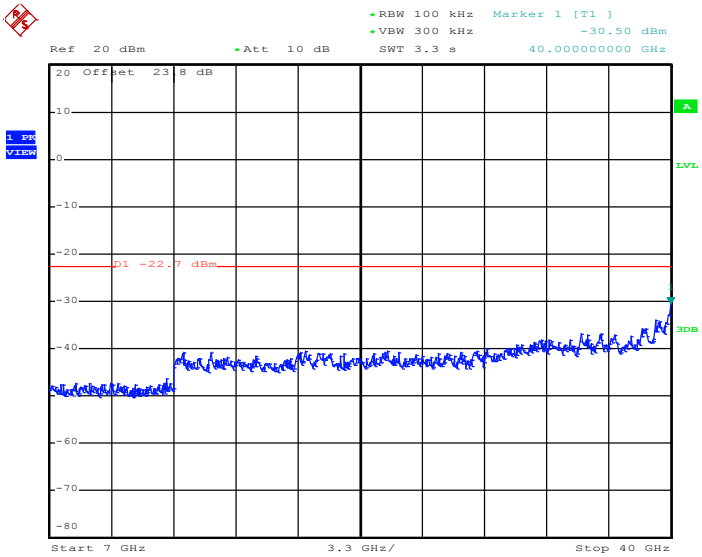
Test Mode :	Mode 13	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	149	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 25.NOV.2011 17:47:13

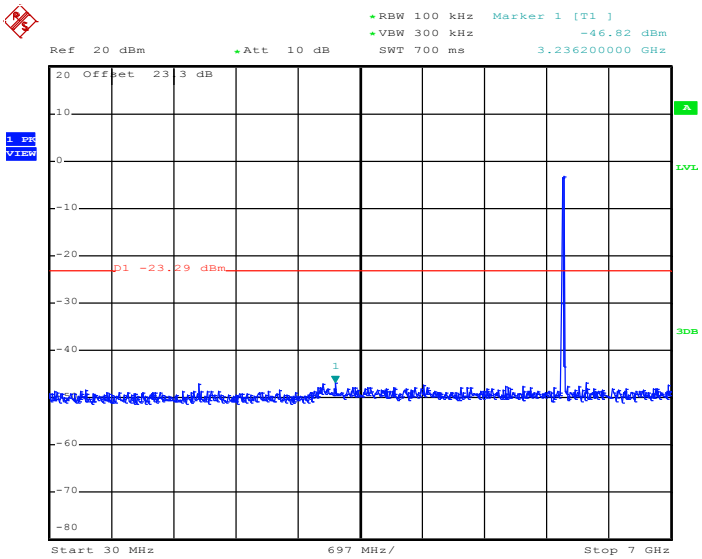
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 25.NOV.2011 17:47:30

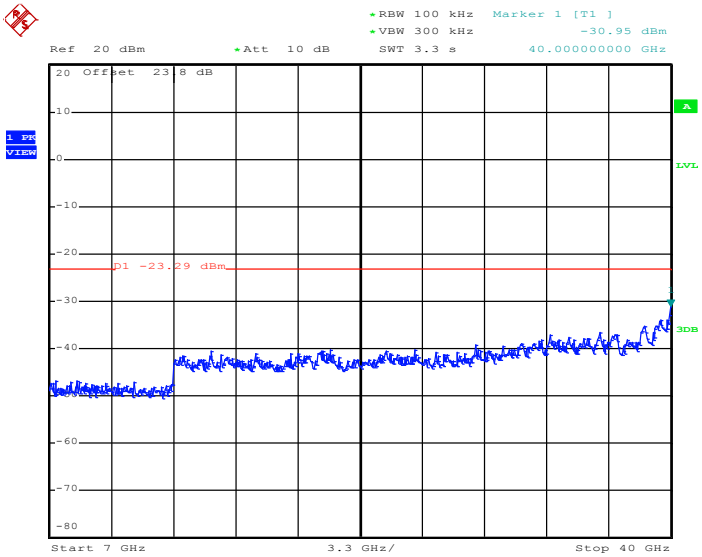
Test Mode :	Mode 14	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	157	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 25.NOV.2011 17:44:00

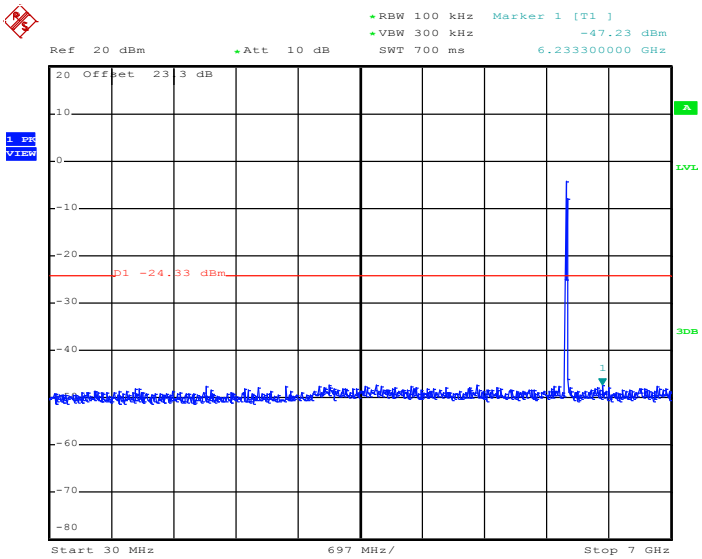
Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 25.NOV.2011 17:44:17

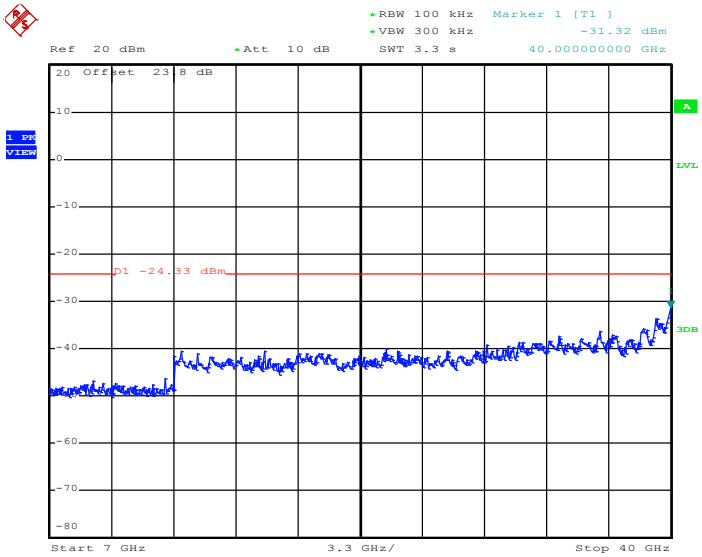
Test Mode :	Mode 15	Temperature :	23~26℃
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	50~59%
Test Channel :	165	Test Engineer :	Hank Yu

Conducted Spurious Emission Plot between 30MHz ~ 7 GHz



Date: 25.NOV.2011 17:50:28

Conducted Spurious Emission Plot between 7 GHz ~ 40 GHz



Date: 25.NOV.2011 17:50:45

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.

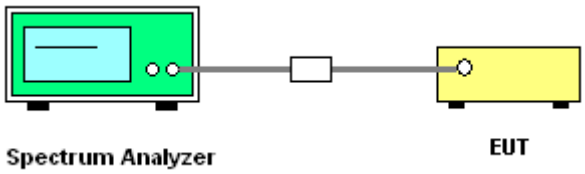
3.5.2 Measuring Instruments

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 :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11b Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-5.67	8	Pass
06	2437	-5.26	8	Pass
11	2462	-4.90	8	Pass

Test Mode :	Mode 4, 5, 6	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11g Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-8.02	8	Pass
06	2437	-7.37	8	Pass
11	2462	-7.26	8	Pass

Test Mode :	Mode 7, 8, 9	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz, 2Tx) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-8.58	8	Pass
06	2437	-8.25	8	Pass
11	2462	-8.19	8	Pass

Test Mode :	Mode 10, 11, 12	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

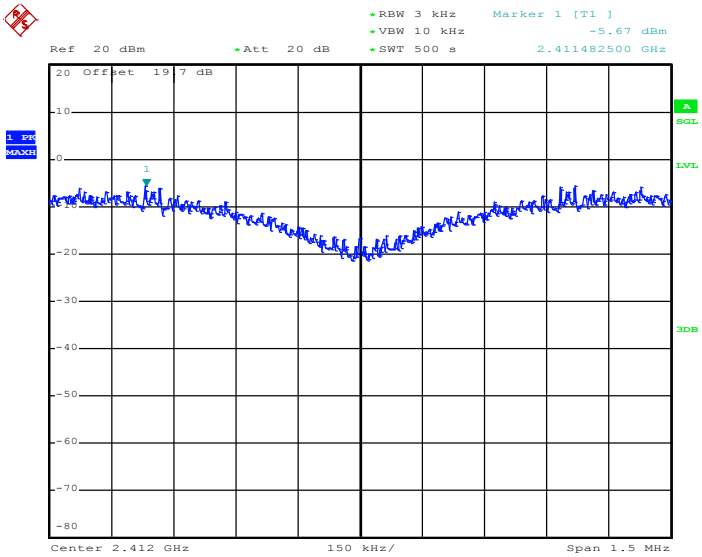
Channel	Frequency (MHz)	802.11a Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-12.94	8	Pass
157	5785	-13.36	8	Pass
165	5825	-14.09	8	Pass

Test Mode :	Mode 13, 14, 15	Temperature :	23~26℃
Test Engineer :	Hank Yu	Relative Humidity :	50~59%

Channel	Frequency (MHz)	802.11n (BW 20MHz) Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-12.28	8	Pass
157	5785	-12.62	8	Pass
165	5825	-12.72	8	Pass

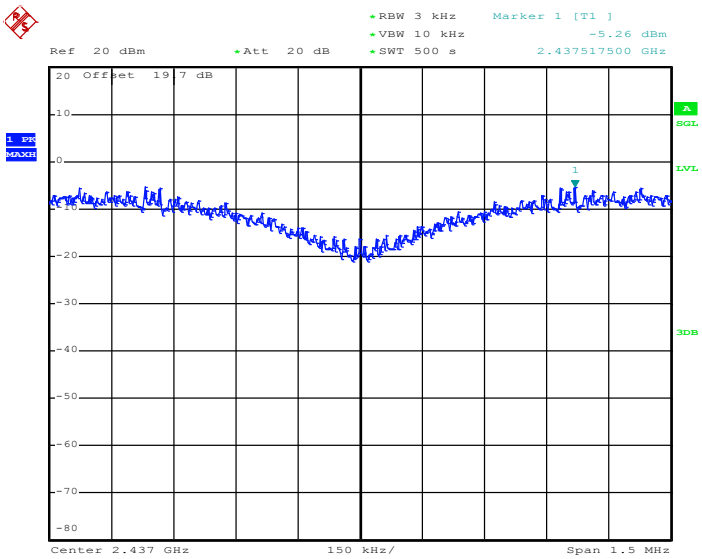
3.5.6 Test Result of Power Spectral Density Plots

Mode 1 : PSD Plot on 802.11b Channel 01



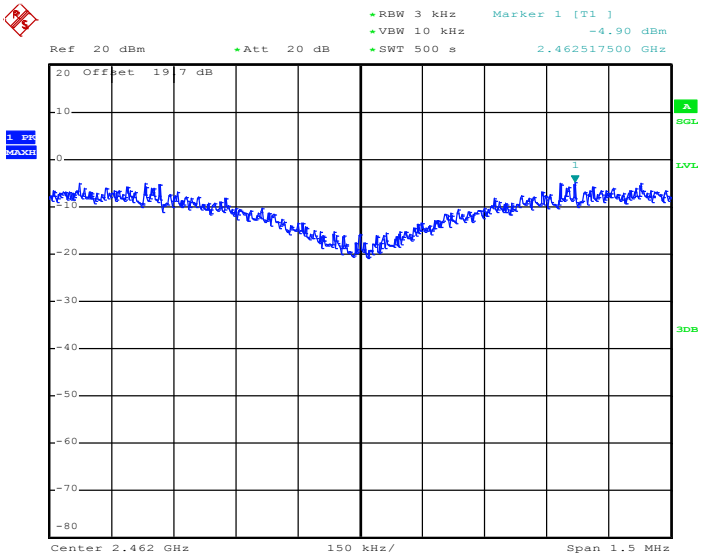
Date: 25.NOV.2011 16:13:29

Mode 2 : PSD Plot on 802.11b Channel 06



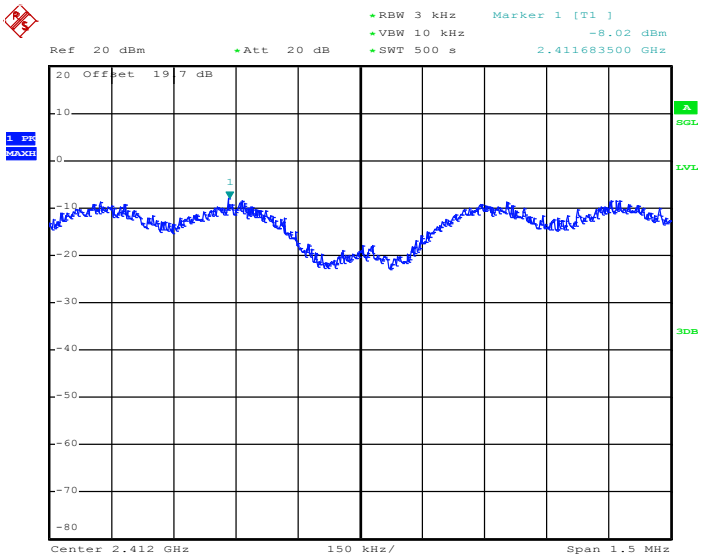
Date: 25.NOV.2011 16:39:30

Mode 3 : PSD Plot on 802.11b Channel 11



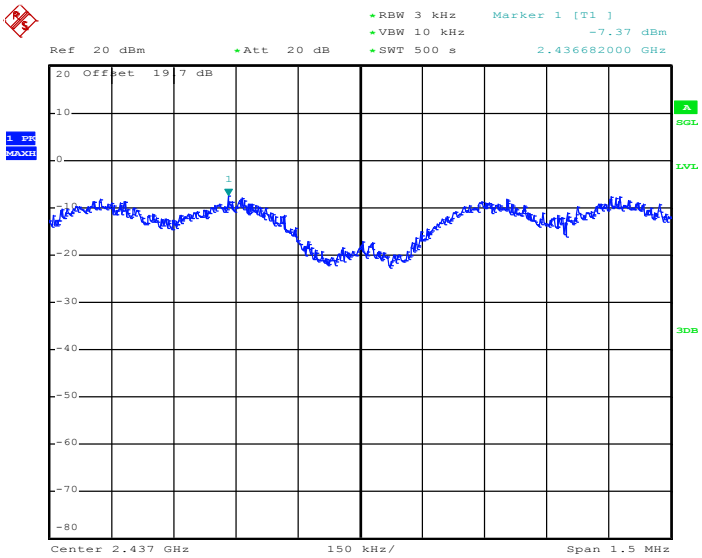
Date: 25.NOV.2011 16:27:37

Mode 4 : PSD Plot on 802.11g Channel 01



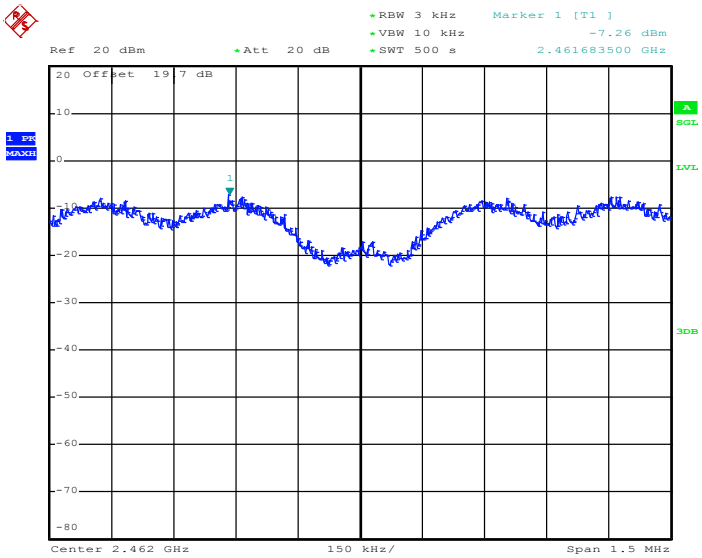
Date: 28.NOV.2011 11:45:15

Mode 5 : PSD Plot on 802.11g Channel 06



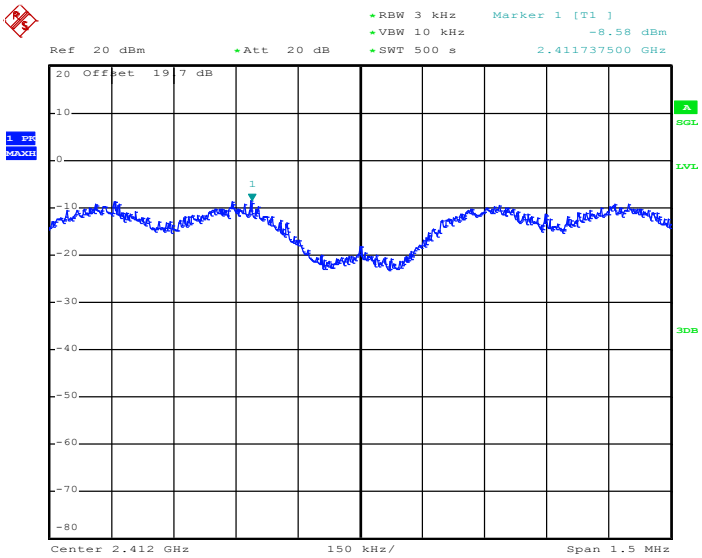
Date: 28.NOV.2011 10:57:05

Mode 6 : PSD Plot on 802.11g Channel 11



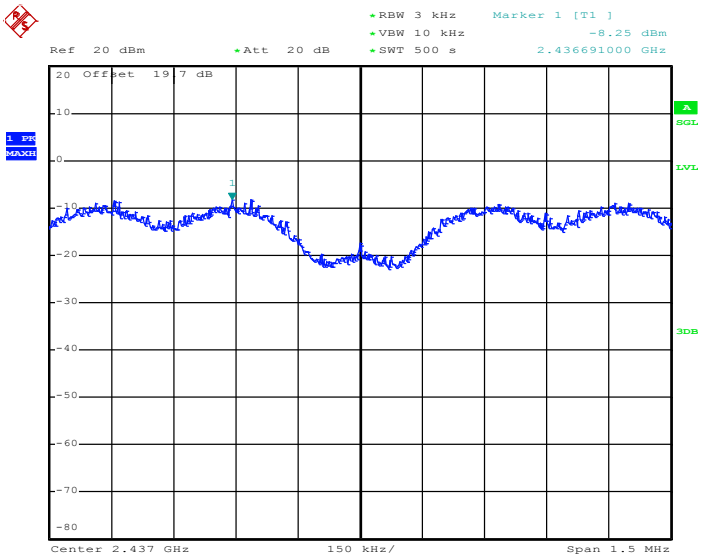
Date: 28.NOV.2011 12:01:08

Mode 7 : PSD Plot on 802.11n (BW 20MHz) Channel 01



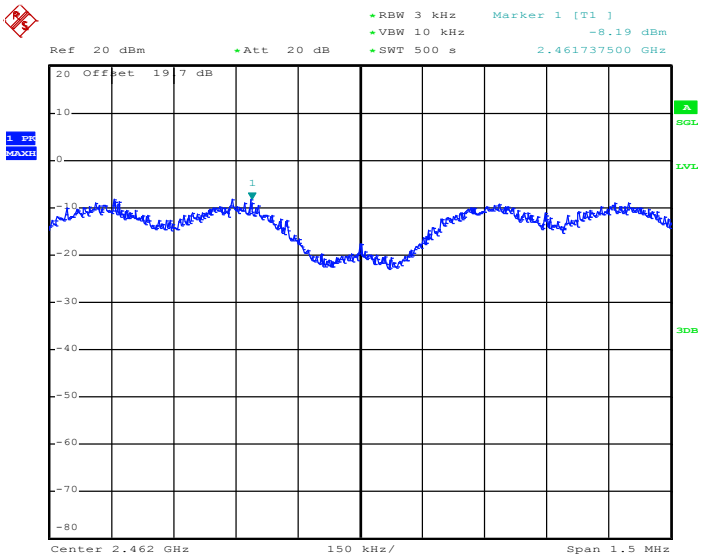
Date: 28.NOV.2011 11:29:18

Mode 8 : PSD Plot on 802.11n (BW 20MHz) Channel 06



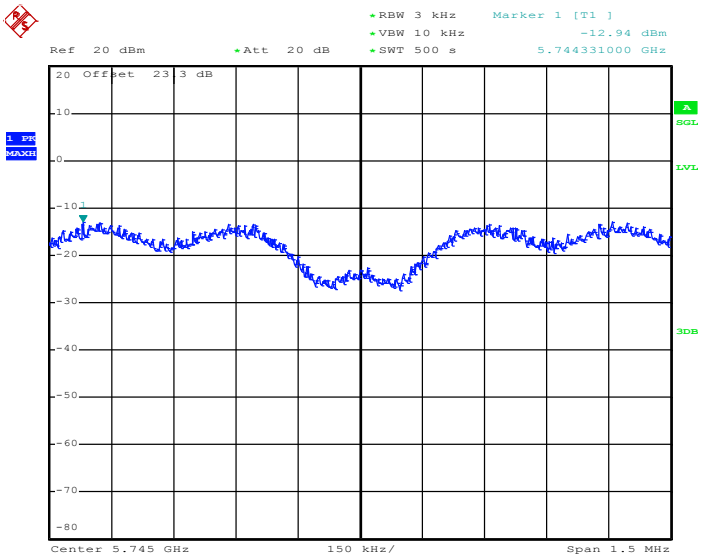
Date: 28.NOV.2011 10:48:10

Mode 9 : PSD Plot on 802.11n (BW 20MHz) Channel 11



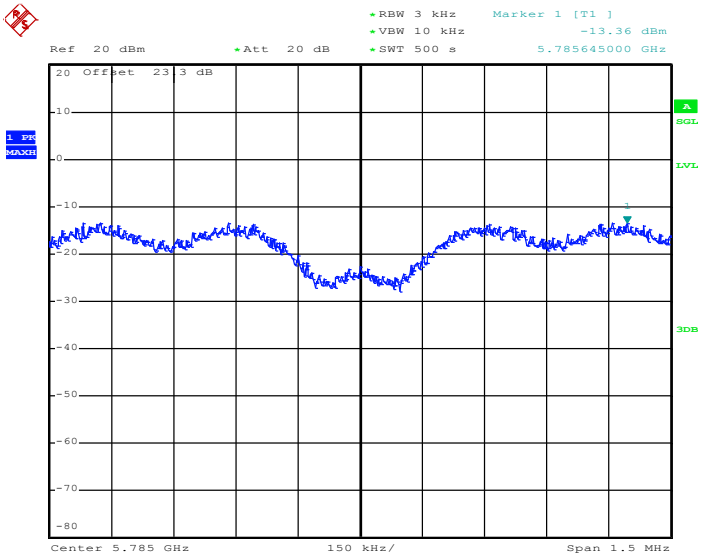
Date: 28.NOV.2011 12:23:17

Mode 10: PSD Plot on 802.11a Channel 149



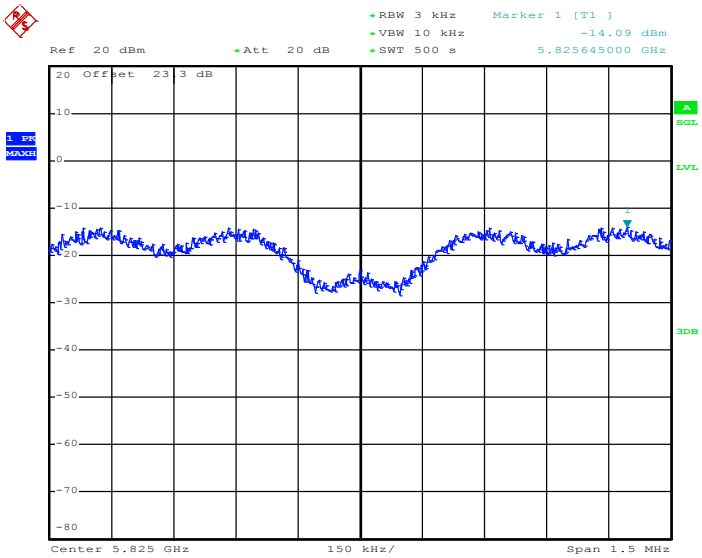
Date: 25.NOV.2011 19:12:18

Mode 11: PSD Plot on 802.11a Channel 157



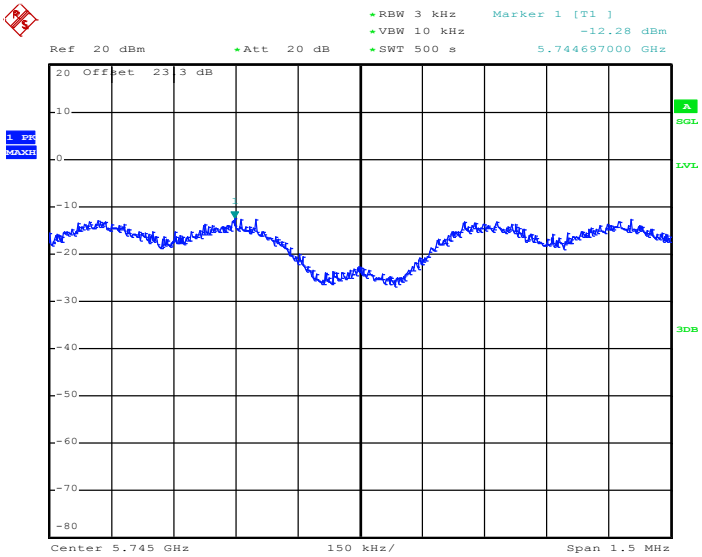
Date: 25.NOV.2011 19:22:12

Mode 12: PSD Plot on 802.11a Channel 165



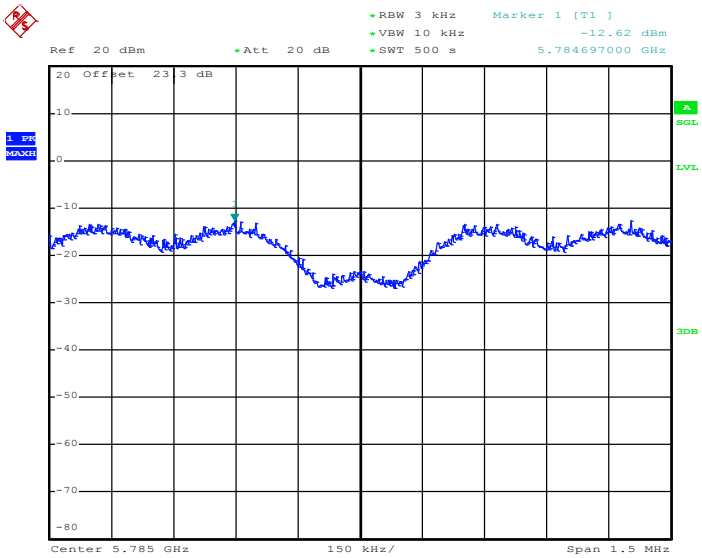
Date: 25.NOV.2011 18:14:32

Mode 13: PSD Plot on 802.11n (BW 20MHz) Channel 149



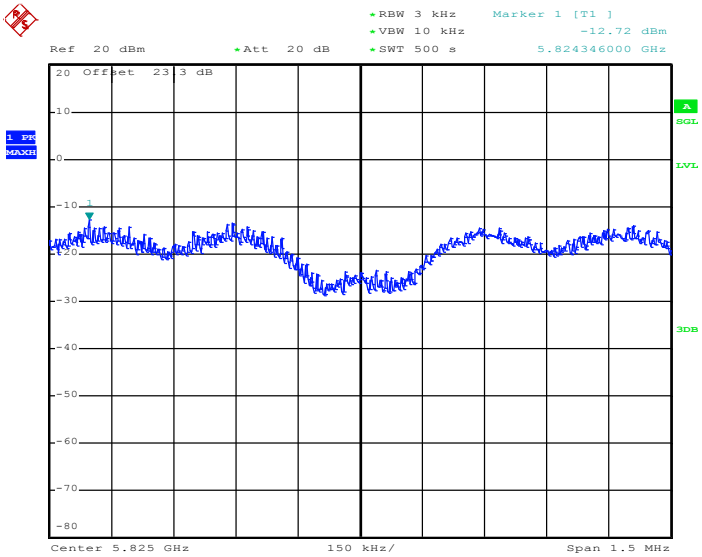
Date: 25.NOV.2011 19:00:25

Mode 14: PSD Plot on 802.11n (BW 20MHz) Channel 157



Date: 25.NOV.2011 18:47:31

Mode 15: PSD Plot on 802.11n (BW 20MHz) Channel 165



Date: 25.NOV.2011 18:28:38

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 KHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

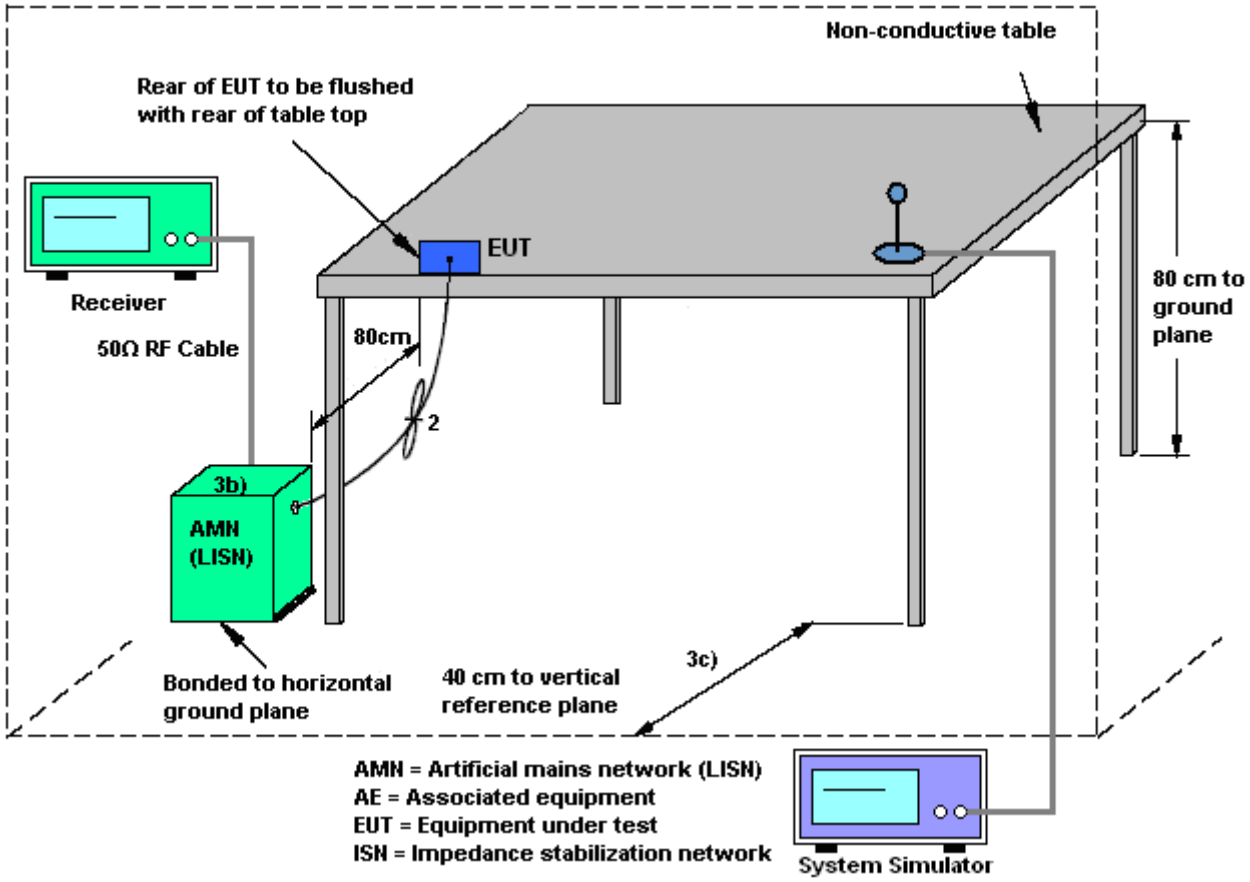
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

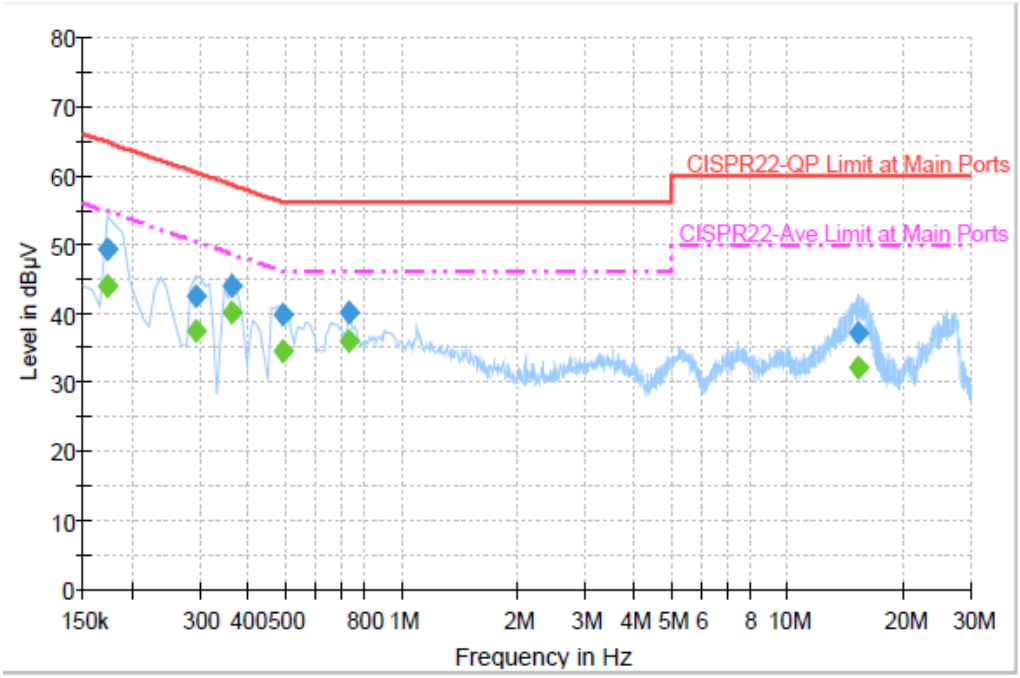
4. The testing follows the guidelines in ANSI C63.4-2003.
5. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
6. Connect EUT to the power mains through a line impedance stabilization network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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	20~23℃
Test Engineer :	Aslen Chiu	**Relative Humidity :**	42~45%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA 850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter 3 + Battery 1 + H Pattern + Earphone		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



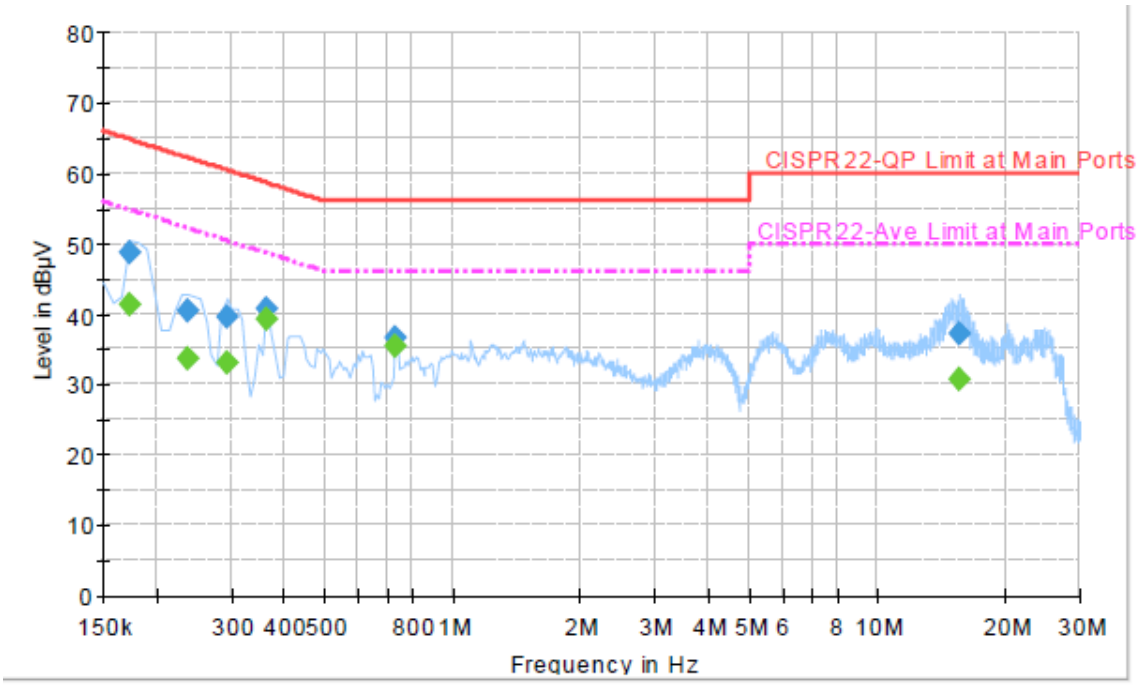
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	49.3	Off	L1	19.4	15.5	64.8
0.294000	42.5	Off	L1	19.4	17.9	60.4
0.366000	44.1	Off	L1	19.4	14.5	58.6
0.494000	39.8	Off	L1	19.4	16.3	56.1
0.734000	40.2	Off	L1	19.4	15.8	56.0
15.238000	37.3	Off	L1	19.7	22.7	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	44.1	Off	L1	19.4	10.7	54.8
0.294000	37.6	Off	L1	19.4	12.8	50.4
0.366000	40.1	Off	L1	19.4	8.5	48.6
0.494000	34.4	Off	L1	19.4	11.7	46.1
0.734000	36.0	Off	L1	19.4	10.0	46.0
15.238000	32.3	Off	L1	19.7	17.7	50.0

Test Mode :	Mode 1	Temperature :	20~23℃
Test Engineer :	Aslen Chiu	Relative Humidity :	42~45%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA 850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter 3 + Battery 1 + H Pattern + Earphone		
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	48.7	Off	N	19.4	16.1	64.8
0.238000	40.4	Off	N	19.4	19.8	62.2
0.294000	39.6	Off	N	19.4	20.8	60.4
0.366000	40.7	Off	N	19.4	17.9	58.6
0.734000	36.7	Off	N	19.4	19.3	56.0
15.566000	37.3	Off	N	19.7	12.7	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.174000	41.4	Off	N	19.4	13.4	54.8
0.238000	33.6	Off	N	19.4	18.6	52.2
0.294000	33.1	Off	N	19.4	17.3	50.4
0.366000	39.2	Off	N	19.4	9.4	48.6
0.734000	35.4	Off	N	19.4	10.6	46.0
15.566000	30.6	Off	N	19.7	19.4	50.0

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

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

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

3.7.2 Measuring Instruments

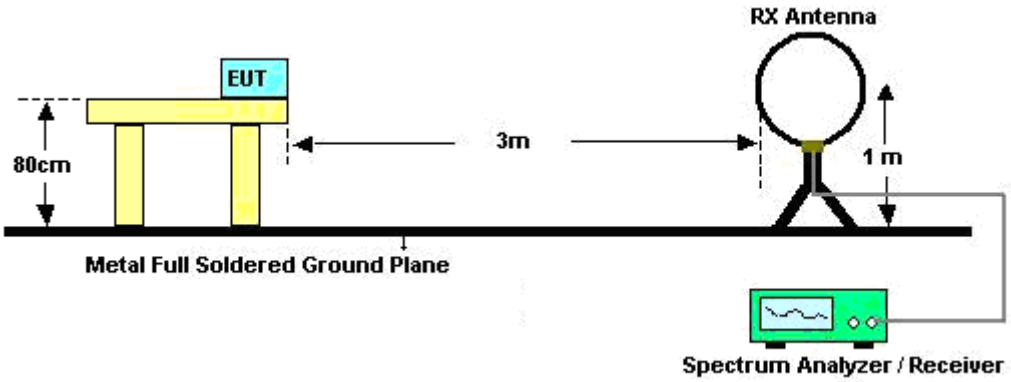
See list of measuring instruments of this test report.

3.7.3 Test Procedures

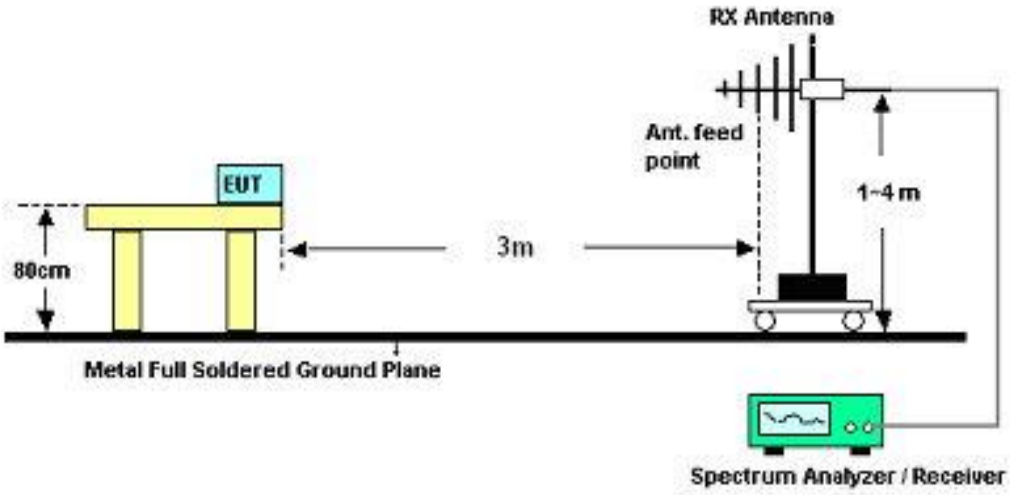
1. The testing follows the guidelines in FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Use the following spectrum analyzer settings:
   (1) Span = wide enough to fully capture the emission being measured; RBW = 1 MHz for f ≥ 1 GHz, 100 KHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto;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

3.7.4 Test Setup

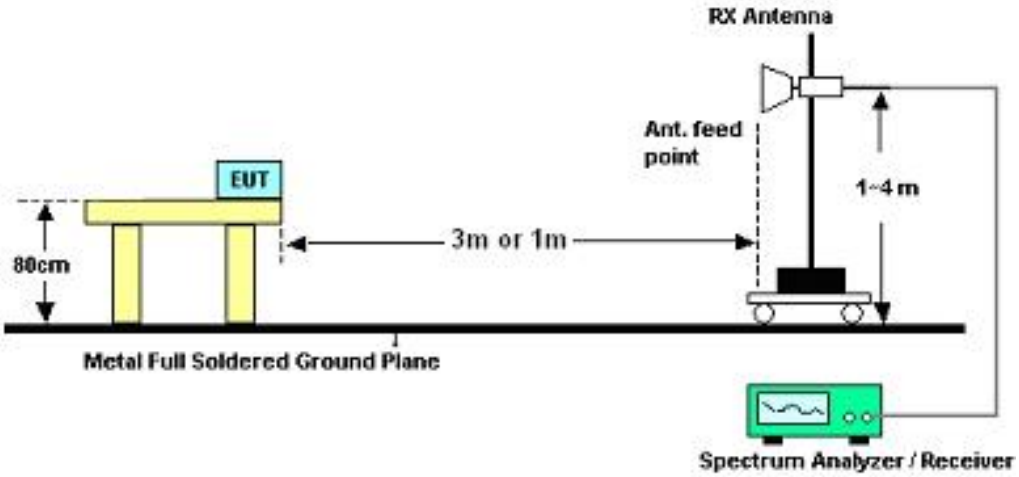
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

Test Engineer :	Kyle Jhuang	Temperature :	22~23°C
		Relative Humidity :	49~51%

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 (specific distance / 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 :**	22~23°C
Test Channel :	01	**Relative Humidity :**	49~51%
Test Engineer :	Kyle Jhuang	**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
48.9	27.41	-12.59	40	49.36	8.9	0.68	31.53	100	20	Peak
184.17	25.02	-18.48	43.5	46.34	8.94	1.26	31.52	-	-	Peak
234.93	22.39	-23.61	46	40.8	11.52	1.5	31.43	-	-	Peak
349	22.01	-23.99	46	36.69	14.64	1.97	31.29	-	-	Peak
794.9	23.85	-22.15	46	29.37	22.03	3.13	30.68	-	-	Peak
985.3	26.44	-27.56	54	29.14	24.38	3.5	30.58	-	-	Peak
2369.09	56.93	-17.07	74	52.86	32.03	5.99	33.95	194	98	Peak
2369.09	44.66	-9.34	54	40.59	32.03	5.99	33.95	194	98	Average
2412	109.63	-	-	105.45	32.08	6.07	33.97	194	98	Peak
2412	105.73	-	-	101.55	32.08	6.07	33.97	194	98	Average
2484	39.88	-14.12	54	35.52	32.18	6.18	34	194	98	Average
2484	52	-22	74	47.64	32.18	6.18	34	194	98	Peak

Test Mode :	Mode 1	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	22.51	-17.49	40	44.46	8.9	0.68	31.53	100	35	Peak
101.82	24	-19.5	43.5	44.56	9.98	1	31.54	-	-	Peak
253.29	28.06	-17.94	46	45.28	12.64	1.55	31.41	-	-	Peak
318.9	21.79	-24.21	46	37.48	13.82	1.81	31.32	-	-	Peak
788.6	23.04	-22.96	46	28.67	21.93	3.12	30.68	-	-	Peak
996.5	26.15	-27.85	54	28.68	24.54	3.51	30.58	-	-	Peak
2382.58	54.13	-19.87	74	50.03	32.03	6.03	33.96	187	72	Peak
2382.58	43.77	-10.23	54	39.67	32.03	6.03	33.96	187	72	Average
2412	108.92	-	-	104.74	32.08	6.07	33.97	187	72	Peak
2412	105.14	-	-	100.96	32.08	6.07	33.97	187	72	Average
2494	39.33	-14.67	54	34.95	32.2	6.18	34	187	72	Average
2494	51.41	-22.59	74	47.03	32.2	6.18	34	187	72	Peak

Test Mode :	Mode 2	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	27.88	-12.12	40	49.83	8.9	0.68	31.53	100	145	Peak
106.41	16.42	-27.08	43.5	36.51	10.43	1.03	31.55	-	-	Peak
242.49	20.88	-25.12	46	38.71	12.06	1.53	31.42	-	-	Peak
318.9	23.28	-22.72	46	38.97	13.82	1.81	31.32	-	-	Peak
718.6	22.38	-23.62	46	29.29	20.88	2.98	30.77	-	-	Peak
985.3	25.9	-28.1	54	28.6	24.38	3.5	30.58	-	-	Peak
2390	50.48	-23.52	74	46.35	32.06	6.03	33.96	159	108	Peak
2390	38.37	-15.63	54	34.24	32.06	6.03	33.96	159	108	Average
2437	111.12	-	-	106.86	32.13	6.11	33.98	159	108	Peak
2437	107.05	-	-	102.79	32.13	6.11	33.98	159	108	Average
2484	51.06	-22.94	74	46.7	32.18	6.18	34	159	108	Peak
2484	39.25	-14.75	54	34.89	32.18	6.18	34	159	108	Average

Test Mode :	Mode 2	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
53.22	34.37	-5.63	40	57.7	7.5	0.72	31.55	100	72	Peak
95.61	30.21	-13.29	43.5	51.44	9.32	0.98	31.53	-	-	Peak
227.1	26.03	-19.97	46	45.04	10.98	1.46	31.45	-	-	Peak
344.1	22	-24	46	36.86	14.51	1.92	31.29	-	-	Peak
836.9	23.76	-22.24	46	28.77	22.47	3.24	30.72	-	-	Peak
953.8	26.05	-19.95	46	29.26	23.9	3.46	30.57	-	-	Peak
2390	48.97	-25.03	74	44.84	32.06	6.03	33.96	181	62	Peak
2390	37.47	-16.53	54	33.34	32.06	6.03	33.96	181	62	Average
2437	109.5	-	-	105.24	32.13	6.11	33.98	181	62	Peak
2437	105.62	-	-	101.36	32.13	6.11	33.98	181	62	Average
2484	51.07	-22.93	74	46.71	32.18	6.18	34	181	62	Peak
2484	38.6	-15.4	54	34.24	32.18	6.18	34	181	62	Average

Test Mode :	Mode 3	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	27.1	-12.9	40	49.05	8.9	0.68	31.53	100	39	Peak
106.41	16.49	-27.01	43.5	36.58	10.43	1.03	31.55	-	-	Peak
242.22	23.19	-22.81	46	41.02	12.06	1.53	31.42	-	-	Peak
349.7	22.19	-23.81	46	36.84	14.66	1.97	31.28	-	-	Peak
738.2	22.41	-23.59	46	28.94	21.17	3.03	30.73	-	-	Peak
984.6	26.73	-27.27	54	29.45	24.37	3.49	30.58	-	-	Peak
2390	47.64	-26.36	74	43.51	32.06	6.03	33.96	100	120	Peak
2390	35.57	-18.43	54	31.44	32.06	6.03	33.96	100	120	Average
2462	111.29	-	-	106.99	32.15	6.14	33.99	100	120	Peak
2462	107.54	-	-	103.24	32.15	6.14	33.99	100	120	Average
2483.5	56.1	-17.9	74	51.74	32.18	6.18	34	100	120	Peak
2483.5	45.09	-8.91	54	40.73	32.18	6.18	34	100	120	Average

Test Mode :	Mode 3	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
31.62	22.25	-17.75	40	34.6	18.56	0.55	31.46	-	-	Peak
205.77	22.53	-20.97	43.5	43.16	9.5	1.34	31.47	-	-	Peak
290.82	28.45	-17.55	46	44.89	13.18	1.7	31.32	100	84	Peak
483.4	21.57	-24.43	46	32.5	17.74	2.39	31.06	-	-	Peak
802.6	23.72	-22.28	46	29.13	22.12	3.15	30.68	-	-	Peak
993	26.4	-27.6	54	28.98	24.5	3.5	30.58	-	-	Peak
2390	45.86	-28.14	74	41.73	32.06	6.03	33.96	118	78	Peak
2390	34.71	-19.29	54	30.58	32.06	6.03	33.96	118	78	Average
2462	110.36	-	-	106.06	32.15	6.14	33.99	118	78	Peak
2462	106.48	-	-	102.18	32.15	6.14	33.99	118	78	Average
2491.45	55.32	-18.68	74	50.94	32.2	6.18	34	118	78	Peak
2491.45	45.19	-8.81	54	40.81	32.2	6.18	34	118	78	Average

Test Mode :	Mode 4	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	27.34	-12.66	40	49.29	8.9	0.68	31.53	100	41	Peak
205.77	18.43	-25.07	43.5	39.06	9.5	1.34	31.47	-	-	Peak
238.17	24.76	-21.24	46	42.87	11.79	1.52	31.42	-	-	Peak
346.9	22	-24	46	36.76	14.58	1.95	31.29	-	-	Peak
718.6	23.6	-22.4	46	30.51	20.88	2.98	30.77	-	-	Peak
965.7	26.01	-27.99	54	29.01	24.09	3.48	30.57	-	-	Peak
2389.99	71.84	-2.16	74	67.71	32.06	6.03	33.96	100	102	Peak
2389.99	47.54	-6.46	54	43.41	32.06	6.03	33.96	100	102	Average
2412	110.44	-	-	106.26	32.08	6.07	33.97	100	102	Peak
2412	98.98	-	-	94.8	32.08	6.07	33.97	100	102	Average
2484	36.99	-17.01	54	32.63	32.18	6.18	34	100	102	Average
2484	49.73	-24.27	74	45.37	32.18	6.18	34	100	102	Peak

Test Mode :	Mode 4	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
32.97	21.61	-18.39	40	34.68	17.84	0.56	31.47	100	82	Peak
101.01	20.49	-23.01	43.5	41.14	9.89	1	31.54	-	-	Peak
229.53	21.85	-24.15	46	40.62	11.19	1.48	31.44	-	-	Peak
416.9	21.68	-24.32	46	34.27	16.36	2.2	31.15	-	-	Peak
814.5	24.26	-21.74	46	29.52	22.25	3.18	30.69	-	-	Peak
973.4	26.1	-27.9	54	28.98	24.21	3.48	30.57	-	-	Peak
2389.99	68.32	-5.68	74	64.19	32.06	6.03	33.96	187	73	Peak
2389.99	44.13	-9.87	54	40	32.06	6.03	33.96	187	73	Average
2412	109.73	-	-	105.55	32.08	6.07	33.97	187	73	Peak
2412	98.18	-	-	94	32.08	6.07	33.97	187	73	Average
2492	35.8	-18.2	54	31.42	32.2	6.18	34	187	73	Average
2492	47.77	-26.23	74	43.39	32.2	6.18	34	187	73	Peak

Test Mode :	Mode 5	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	26.64	-13.36	40	48.59	8.9	0.68	31.53	100	56	Peak
205.77	20.09	-23.41	43.5	40.72	9.5	1.34	31.47	-	-	Peak
257.61	23.41	-22.59	46	40.54	12.71	1.58	31.42	-	-	Peak
318.9	22.74	-23.26	46	38.43	13.82	1.81	31.32	-	-	Peak
702.5	22.17	-23.83	46	29.42	20.63	2.94	30.82	-	-	Peak
984.6	26.28	-27.72	54	29	24.37	3.49	30.58	-	-	Peak
2390	56.54	-17.46	74	52.41	32.06	6.03	33.96	166	122	Peak
2390	36.53	-17.47	54	32.4	32.06	6.03	33.96	166	122	Average
2437	98.74	-	-	94.48	32.13	6.11	33.98	166	122	Average
2437	110.86	-	-	106.6	32.13	6.11	33.98	166	122	Peak
2486	53.22	-20.78	74	48.86	32.18	6.18	34	166	122	Peak
2486	37.18	-16.82	54	32.82	32.18	6.18	34	166	122	Average

Test Mode :	Mode 5	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
47.01	23.29	-16.71	40	44.84	9.3	0.67	31.52	100	77	Peak
106.41	22.02	-21.48	43.5	42.11	10.43	1.03	31.55	-	-	Peak
268.14	26.72	-19.28	46	43.61	12.86	1.63	31.38	-	-	Peak
380.5	21.73	-24.27	46	35.39	15.48	2.1	31.24	-	-	Peak
696.9	21.73	-24.27	46	29.04	20.58	2.93	30.82	-	-	Peak
967.8	26.62	-27.38	54	29.59	24.12	3.48	30.57	-	-	Peak
2382	54.51	-19.49	74	50.41	32.03	6.03	33.96	189	82	Peak
2382	35.83	-18.17	54	31.73	32.03	6.03	33.96	189	82	Average
2437	109.79	-	-	105.53	32.13	6.11	33.98	189	82	Peak
2437	97.21	-	-	92.95	32.13	6.11	33.98	189	82	Average
2484	53.19	-20.81	74	48.83	32.18	6.18	34	189	82	Peak
2484	36.5	-17.5	54	32.14	32.18	6.18	34	189	82	Average

Test Mode :	Mode 6	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	26.75	-13.25	40	48.7	8.9	0.68	31.53	100	96	Peak
106.41	17.73	-25.77	43.5	37.82	10.43	1.03	31.55	-	-	Peak
242.22	21.24	-24.76	46	39.07	12.06	1.53	31.42	-	-	Peak
321	22.98	-23.02	46	38.61	13.88	1.81	31.32	-	-	Peak
738.2	22.09	-23.91	46	28.62	21.17	3.03	30.73	-	-	Peak
984.6	26.09	-27.91	54	28.81	24.37	3.49	30.58	-	-	Peak
2388	47.8	-26.2	74	43.67	32.06	6.03	33.96	100	121	Peak
2388	35.64	-18.36	54	31.51	32.06	6.03	33.96	100	121	Average
2462	112.18	-	-	107.88	32.15	6.14	33.99	100	121	Peak
2462	99.74	-	-	95.44	32.15	6.14	33.99	100	121	Average
2483.5	72.91	-1.09	74	68.55	32.18	6.18	34	100	121	Peak
2483.5	51.21	-2.79	54	46.85	32.18	6.18	34	100	121	Average

Test Mode :	Mode 6	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
31.89	22.19	-17.81	40	34.54	18.56	0.55	31.46	100	75	Peak
106.41	22.47	-21.03	43.5	42.56	10.43	1.03	31.55	-	-	Peak
252.21	27.33	-18.67	46	44.57	12.63	1.54	31.41	-	-	Peak
408.5	23.08	-22.92	46	35.9	16.18	2.17	31.17	-	-	Peak
746.6	22.24	-23.76	46	28.6	21.3	3.05	30.71	-	-	Peak
965	25.62	-28.38	54	28.63	24.08	3.48	30.57	-	-	Peak
2390	46.3	-27.7	74	42.17	32.06	6.03	33.96	147	74	Peak
2390	34.34	-19.66	54	30.21	32.06	6.03	33.96	147	74	Average
2462	98.03	-	-	93.73	32.15	6.14	33.99	147	74	Average
2462	109.83	-	-	105.53	32.15	6.14	33.99	147	74	Peak
2483.5	49.75	-4.25	54	45.39	32.18	6.18	34	147	74	Average
2483.5	71.44	-2.56	74	67.08	32.18	6.18	34	147	74	Peak

Test Mode :	Mode 7	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	26.96	-13.04	40	48.91	8.9	0.68	31.53	100	47	Peak
106.41	18.98	-24.52	43.5	39.07	10.43	1.03	31.55	-	-	Peak
237.09	26.78	-19.22	46	45.04	11.66	1.51	31.43	-	-	Peak
352.5	22.76	-23.24	46	37.33	14.72	1.99	31.28	-	-	Peak
778.1	22.95	-23.05	46	28.77	21.77	3.1	30.69	-	-	Peak
987.4	26.97	-27.03	54	29.64	24.41	3.5	30.58	-	-	Peak
2389.99	48.07	-5.93	54	43.94	32.06	6.03	33.96	161	106	Average
2389.99	68.23	-5.77	74	64.1	32.06	6.03	33.96	161	106	Peak
2412	110.77	-	-	106.59	32.08	6.07	33.97	161	106	Peak
2412	98.85	-	-	94.67	32.08	6.07	33.97	161	106	Average
2494	51.75	-22.25	74	47.37	32.2	6.18	34	161	106	Peak
2494	40.28	-13.72	54	35.9	32.2	6.18	34	161	106	Average

Test Mode :	Mode 7	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
32.97	21.07	-18.93	40	34.14	17.84	0.56	31.47	100	22	Peak
101.82	20.28	-23.22	43.5	40.84	9.98	1	31.54	-	-	Peak
228.45	20.04	-25.96	46	38.89	11.12	1.47	31.44	-	-	Peak
302.1	24.55	-21.45	46	40.72	13.38	1.78	31.33	-	-	Peak
609.4	21.73	-24.27	46	30.05	19.87	2.72	30.91	-	-	Peak
993.7	26.95	-27.05	54	29.52	24.51	3.5	30.58	-	-	Peak
2389.42	68.02	-5.98	74	63.89	32.06	6.03	33.96	152	78	Peak
2389.42	48.69	-5.31	54	44.56	32.06	6.03	33.96	152	78	Average
2412	110.17	-	-	105.99	32.08	6.07	33.97	152	78	Peak
2412	98.84	-	-	94.66	32.08	6.07	33.97	152	78	Average
2484	36.59	-17.41	54	32.23	32.18	6.18	34	152	78	Average
2484	51.37	-22.63	74	47.01	32.18	6.18	34	152	78	Peak

Test Mode :	Mode 8	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	27.84	-12.16	40	49.79	8.9	0.68	31.53	100	71	Peak
106.41	17.26	-26.24	43.5	37.35	10.43	1.03	31.55	-	-	Peak
236.82	24.83	-21.17	46	43.09	11.66	1.51	31.43	-	-	Peak
352.5	22.29	-23.71	46	36.86	14.72	1.99	31.28	-	-	Peak
688.5	21.29	-24.71	46	28.69	20.51	2.92	30.83	-	-	Peak
953.8	24.55	-21.45	46	27.76	23.9	3.46	30.57	-	-	Peak
2388	51.45	-22.55	74	47.32	32.06	6.03	33.96	167	129	Peak
2388	40.43	-13.57	54	36.3	32.06	6.03	33.96	167	129	Average
2437	110.58	-	-	106.35	32.1	6.11	33.98	167	129	Peak
2437	98.75	-	-	94.49	32.13	6.11	33.98	167	129	Average
2484	51.78	-22.22	74	47.42	32.18	6.18	34	167	129	Peak
2484	40.12	-13.88	54	35.76	32.18	6.18	34	167	129	Average

Test Mode :	Mode 8	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
31.89	21.3	-18.7	40	33.65	18.56	0.55	31.46	100	28	Peak
106.41	21.63	-21.87	43.5	41.72	10.43	1.03	31.55	-	-	Peak
258.69	26.44	-19.56	46	43.56	12.72	1.58	31.42	-	-	Peak
383.3	20.67	-25.33	46	34.24	15.55	2.11	31.23	-	-	Peak
701.8	22.6	-23.4	46	29.85	20.63	2.94	30.82	-	-	Peak
946.1	26.82	-19.18	46	30.17	23.78	3.45	30.58	-	-	Peak
2390	54.6	-19.4	74	50.47	32.06	6.03	33.96	156	82	Peak
2390	40.28	-13.72	54	36.15	32.06	6.03	33.96	156	82	Average
2437	109	-	-	104.77	32.1	6.11	33.98	156	82	Peak
2437	96.97	-	-	92.71	32.13	6.11	33.98	156	82	Average
2484	51.16	-22.84	74	46.8	32.18	6.18	34	156	82	Peak
2484	39.69	-14.31	54	35.33	32.18	6.18	34	156	82	Average

Test Mode :	Mode 9	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	28.26	-11.74	40	50.21	8.9	0.68	31.53	100	41	Peak
106.41	17.82	-25.68	43.5	37.91	10.43	1.03	31.55	-	-	Peak
228.45	23.49	-22.51	46	42.34	11.12	1.47	31.44	-	-	Peak
349.7	22.5	-23.5	46	37.15	14.66	1.97	31.28	-	-	Peak
780.2	23.84	-22.16	46	29.63	21.79	3.11	30.69	-	-	Peak
976.2	27.78	-26.22	54	30.63	24.24	3.49	30.58	-	-	Peak
2388	50.24	-23.76	74	46.11	32.06	6.03	33.96	126	122	Peak
2388	39.54	-14.46	54	35.41	32.06	6.03	33.96	126	122	Average
2462	110.32	-	-	106.02	32.15	6.14	33.99	126	122	Peak
2462	98.75	-	-	94.45	32.15	6.14	33.99	126	122	Average
2483.5	72.6	-1.4	74	68.24	32.18	6.18	34	126	122	Peak
2483.5	51.28	-2.72	54	46.92	32.18	6.18	34	126	122	Average

Test Mode :	Mode 9	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	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
48.9	24.06	-15.94	40	46.01	8.9	0.68	31.53	100	55	Peak
101.82	20.66	-22.84	43.5	41.22	9.98	1	31.54	-	-	Peak
233.58	23.37	-22.63	46	41.84	11.46	1.5	31.43	-	-	Peak
355.3	23.94	-22.06	46	38.41	14.79	2.02	31.28	-	-	Peak
654.2	21.86	-24.14	46	29.65	20.23	2.85	30.87	-	-	Peak
993	26.13	-27.87	54	28.71	24.5	3.5	30.58	-	-	Peak
2390	48.56	-25.44	74	44.43	32.06	6.03	33.96	149	75	Peak
2390	39.86	-14.14	54	35.73	32.06	6.03	33.96	149	75	Average
2462	109.88	-	-	105.58	32.15	6.14	33.99	149	75	Peak
2462	98.22	-	-	93.92	32.15	6.14	33.99	149	75	Average
2483.66	71.55	-2.45	74	67.19	32.18	6.18	34	149	75	Peak
2483.66	50.61	-3.39	54	46.25	32.18	6.18	34	149	75	Average

Test Mode :	Mode 10	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 104.48dBuV/m - 20dB = 84.48dBuV/m.		

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
49.98	23.46	-16.54	40	46.2	8.1	0.7	31.54	109	125	Peak
177.42	20.48	-23.02	43.5	41.77	9	1.24	31.53	-	-	Peak
267.06	22.71	-23.29	46	39.65	12.83	1.62	31.39	-	-	Peak
318.9	27.13	-18.87	46	42.82	13.82	1.81	31.32	-	-	Peak
360.2	27.44	-18.56	46	41.72	14.93	2.06	31.27	-	-	Peak
455.4	26.68	-19.32	46	38.29	17.17	2.31	31.09	-	-	Peak
5725	63.17	-21.31	84.48	51.7	34.81	9.92	33.26	100	160	Peak
5745	94.61	-	-	83.14	34.81	9.92	33.26	100	160	Average
5745	104.48	-	-	93.03	34.84	9.91	33.3	100	160	Peak
5850	52.49	-31.99	84.48	41.1	34.98	9.87	33.46	100	160	Peak

Test Mode :	Mode 10	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
54.3	21.29	-18.71	40	44.82	7.3	0.72	31.55	-	-	Peak
96.69	27.51	-15.99	43.5	48.62	9.44	0.98	31.53	-	-	Peak
123.42	21.1	-22.4	43.5	39.84	11.7	1.12	31.56	-	-	Peak
365.8	26.52	-19.48	46	40.63	15.08	2.07	31.26	-	-	Peak
517	27.63	-18.37	46	37.81	18.38	2.48	31.04	-	-	Peak
528.2	30.57	-15.43	46	40.5	18.58	2.51	31.02	118	185	Peak
5725	61.35	-21.95	83.3	49.88	34.81	9.92	33.26	100	100	Peak
5745	92.35	-	-	80.88	34.81	9.92	33.26	100	100	Average
5745	103.3	-	-	91.85	34.84	9.91	33.3	100	100	Peak
5850	52.29	-31.01	83.3	40.9	34.98	9.87	33.46	100	100	Peak

Test Mode :	Mode 11	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 5785MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
48.9	23.41	-16.59	40	45.36	8.9	0.68	31.53	128	169	Peak
177.42	20.48	-23.02	43.5	41.77	9	1.24	31.53	-	-	Peak
267.06	22.71	-23.29	46	39.65	12.83	1.62	31.39	-	-	Peak
318.9	26.5	-19.5	46	42.19	13.82	1.81	31.32	-	-	Peak
365.8	26.6	-19.4	46	40.71	15.08	2.07	31.26	-	-	Peak
458.9	20.64	-25.36	46	32.17	17.23	2.32	31.08	-	-	Peak
5725	53.14	-31.98	85.12	41.67	34.81	9.92	33.26	114	331	Peak
5785	105.12	-	-	93.67	34.89	9.9	33.34	114	331	Peak
5785	94.73	-	-	83.28	34.89	9.9	33.34	114	331	Average
5850	53.09	-32.03	85.12	41.7	34.98	9.87	33.46	114	331	Peak

Test Mode :	Mode 11	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
54.03	20.69	-19.31	40	44.22	7.3	0.72	31.55	106	149	Peak
224.13	22.9	-23.1	46	42.13	10.78	1.44	31.45	-	-	Peak
293.25	26.59	-19.41	46	43	13.2	1.71	31.32	-	-	Peak
318.2	25.54	-20.46	46	41.25	13.8	1.81	31.32	-	-	Peak
365.8	26.62	-19.38	46	40.73	15.08	2.07	31.26	-	-	Peak
556.2	21.44	-24.56	46	30.8	19.04	2.57	30.97	-	-	Peak
5725	52.91	-29.17	82.08	41.44	34.81	9.92	33.26	100	102	Peak
5785	102.08	-	-	90.63	34.89	9.9	33.34	100	102	Peak
5785	92.21	-	-	80.76	34.89	9.9	33.34	100	102	Average
5850	52.85	-29.23	82.08	41.46	34.98	9.87	33.46	100	102	Peak

Test Mode :	Mode 12	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
175.53	19.47	-24.03	43.5	40.69	9.07	1.24	31.53	-	-	Peak
243.3	21.51	-24.49	46	39.27	12.13	1.53	31.42	-	-	Peak
266.25	21.64	-24.36	46	38.58	12.83	1.62	31.39	-	-	Peak
318.2	27.13	-18.87	46	42.84	13.8	1.81	31.32	115	127	Peak
365.8	25.87	-20.13	46	39.98	15.08	2.07	31.26	-	-	Peak
461	20.65	-25.35	46	32.14	17.27	2.32	31.08	-	-	Peak
5725	53.56	-30.34	83.9	42.09	34.81	9.92	33.26	100	331	Peak
5825	103.9	-	-	92.48	34.96	9.88	33.42	100	331	Peak
5825	93.64	-	-	82.22	34.96	9.88	33.42	100	331	Average
5850	54.65	-29.25	83.9	43.26	34.98	9.87	33.46	100	331	Peak

Test Mode :	Mode 12	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5858 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
106.41	19.73	-23.77	43.5	39.82	10.43	1.03	31.55	-	-	Peak
207.93	22.95	-20.55	43.5	43.43	9.64	1.35	31.47	-	-	Peak
227.1	22.59	-23.41	46	41.6	10.98	1.46	31.45	-	-	Peak
318.2	24.54	-21.46	46	40.25	13.8	1.81	31.32	-	-	Peak
365.8	25.47	-20.53	46	39.58	15.08	2.07	31.26	127	161	Peak
579.3	21.58	-24.42	46	30.46	19.44	2.63	30.95	-	-	Peak
5725	53.09	-29.52	82.61	41.62	34.81	9.92	33.26	100	137	Peak
5825	102.61	-	-	91.19	34.96	9.88	33.42	100	137	Peak
5825	93.28	-	-	81.86	34.96	9.88	33.42	100	137	Average
5858	53.18	-29.43	82.61	41.76	35.01	9.87	33.46	100	137	Peak

Test Mode :	Mode 13	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
30.81	19.86	-20.14	40	31.5	19.28	0.54	31.46	-	-	Peak
211.98	20.23	-23.27	43.5	40.35	9.98	1.37	31.47	-	-	Peak
291.09	20.91	-25.09	46	37.35	13.18	1.7	31.32	-	-	Peak
321	21.93	-24.07	46	37.56	13.88	1.81	31.32	-	-	Peak
803.3	24.08	-21.92	46	29.48	22.13	3.15	30.68	-	-	Peak
903.4	29.27	-16.73	46	33.47	23.14	3.35	30.69	100	35	Peak
5725	65.15	-22.49	87.64	53.6	34.81	9.92	33.18	108	303	Peak
5745	107.64	-	-	96.1	34.84	9.91	33.21	108	303	Peak
5745	97.58	-	-	86.04	34.84	9.91	33.21	108	303	Average
5850	52.79	-34.85	87.64	41.26	34.98	9.87	33.32	108	303	Peak

Test Mode :	Mode 13	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
Remark :	1. 5745 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
30.27	24.94	-15.06	40	35.87	20	0.53	31.46	100	36	Peak
124.5	21.22	-22.28	43.5	39.96	11.7	1.12	31.56	-	-	Peak
287.85	25.06	-20.94	46	41.57	13.14	1.68	31.33	-	-	Peak
346.9	19.5	-26.5	46	34.26	14.58	1.95	31.29	-	-	Peak
777.4	22.9	-23.1	46	28.72	21.77	3.1	30.69	-	-	Peak
996.5	25.88	-28.12	54	28.41	24.54	3.51	30.58	-	-	Peak
5725	61.18	-22.19	83.37	49.63	34.81	9.92	33.18	100	314	Peak
5745	103.37	-	-	91.83	34.84	9.91	33.21	100	314	Peak
5745	93.82	-	-	82.28	34.84	9.91	33.21	100	314	Average
5850	52.86	-30.51	83.37	41.33	34.98	9.87	33.32	100	314	Peak

Test Mode :	Mode 14	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
48.9	23.33	-16.67	40	45.28	8.9	0.68	31.53	100	35	Peak
197.13	15.42	-28.08	43.5	36.53	9.07	1.31	31.49	-	-	Peak
279.21	22.82	-23.18	46	39.52	13.01	1.64	31.35	-	-	Peak
318.2	20.66	-25.34	46	36.37	13.8	1.81	31.32	-	-	Peak
721.4	22.29	-23.71	46	29.15	20.92	2.99	30.77	-	-	Peak
985.3	26.37	-27.63	54	29.07	24.38	3.5	30.58	-	-	Peak
5725	53.95	-32.75	86.7	42.4	34.81	9.92	33.18	100	162	Peak
5785	106.7	-	-	95.14	34.89	9.9	33.23	100	162	Peak
5785	96.4	-	-	84.84	34.89	9.9	33.23	100	162	Average
5850	52.41	-34.29	86.7	40.88	34.98	9.87	33.32	100	162	Peak

Test Mode :	Mode 14	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
Remark :	1. 5785 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
30.27	26.54	-13.46	40	37.47	20	0.53	31.46	100	45	Peak
92.37	21.8	-21.7	43.5	43.52	8.84	0.96	31.52	-	-	Peak
239.25	22.14	-23.86	46	40.17	11.86	1.53	31.42	-	-	Peak
421.8	16.4	-29.6	46	28.87	16.46	2.22	31.15	-	-	Peak
626.2	20.3	-25.7	46	28.41	20.01	2.77	30.89	-	-	Peak
968.5	23.73	-30.27	54	26.69	24.13	3.48	30.57	-	-	Peak
5725	53.45	-30.67	84.12	41.9	34.81	9.92	33.18	100	312	Peak
5785	104.12	-	-	92.56	34.89	9.9	33.23	100	312	Peak
5785	94.94	-	-	83.38	34.89	9.9	33.23	100	312	Average
5850	53.22	-30.9	84.12	41.69	34.98	9.87	33.32	100	312	Peak

Test Mode :	Mode 15	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Horizontal
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
30.27	25.44	-14.56	40	36.37	20	0.53	31.46	100	32	Peak
201.45	17.2	-26.3	43.5	38.12	9.23	1.33	31.48	-	-	Peak
296.22	21.71	-24.29	46	38.05	13.25	1.74	31.33	-	-	Peak
321	21.13	-24.87	46	36.76	13.88	1.81	31.32	-	-	Peak
792.1	23.25	-22.75	46	28.82	21.98	3.13	30.68	-	-	Peak
976.9	26.72	-27.28	54	29.56	24.25	3.49	30.58	-	-	Peak
5725	52.81	-31.44	84.25	41.34	34.81	9.92	33.26	100	329	Peak
5825	104.25	-	-	92.83	34.96	9.88	33.42	100	329	Peak
5825	94	-	-	82.58	34.96	9.88	33.42	100	329	Average
5850	56.58	-27.67	84.25	45.19	34.98	9.87	33.46	100	329	Peak

Test Mode :	Mode 15	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	49~51%
Test Engineer :	Kyle Jhuang	Polarization :	Vertical
Remark :	1. 5825 MHz is Fundamental Signals which can be ignored. 2. 5725 MHz and 5850 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
30.81	24	-16	40	35.64	19.28	0.54	31.46	100	38	Peak
92.37	22.58	-20.92	43.5	44.3	8.84	0.96	31.52	-	-	Peak
236.82	25.06	-20.94	46	43.32	11.66	1.51	31.43	-	-	Peak
428.1	24.3	-21.7	46	36.61	16.59	2.24	31.14	-	-	Peak
820.1	24.36	-21.64	46	29.57	22.3	3.19	30.7	-	-	Peak
996.5	26.25	-27.75	54	28.78	24.54	3.51	30.58	-	-	Peak
5725	53.3	-29.65	82.95	41.83	34.81	9.92	33.26	100	135	Peak
5825	102.95	-	-	91.53	34.96	9.88	33.42	100	135	Peak
5825	92.36	-	-	80.94	34.96	9.88	33.42	100	135	Average
5850	56.46	-26.49	82.95	45.07	34.98	9.87	33.46	100	135	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 are Fixed Internal Antennas 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	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100055	9kHz~40GHz	Jun. 13, 2011	Nov. 25, 2011 ~ Nov. 28, 2011	Jun. 12, 2012	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 18, 2011	Nov. 25, 2011 ~ Nov. 28, 2011	Sep. 17, 2012	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 18, 2011	Nov. 25, 2011 ~ Nov. 28, 2011	Sep. 17, 2012	Conducted (TH02-HY)
Power Meter	Agilent	E4416A	GB41292344	N/A	Feb. 18, 2011	Nov. 25, 2011 ~ Nov. 28, 2011	Feb. 17, 2012	Conducted (TH02-HY)
Power Sensor	Agilent	E9327A	US40441548	N/A	Feb. 18, 2011	Nov. 25, 2011 ~ Nov. 28, 2011	Feb. 17, 2012	Conducted (TH02-HY)
EMI Test Receive	R&S	ESCI 7	100724	9kHz~7GHz	Aug. 22, 2011	Dec. 20, 2011	Aug. 21, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz~30MHz	Dec. 09, 2011	Dec. 20, 2011	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz~30MHz	Dec. 06, 2011	Dec. 20, 2011	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Dec. 20, 2011	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	117997	N/A	Aug. 22, 2011	Dec. 20, 2011	Aug. 21, 2012	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 22, 2011	Dec. 07, 2011~ Dec. 13, 2011	Oct. 21, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP30	101067	9KHz ~ 30GHz	Dec. 06, 2011	Dec. 07, 2011~ Dec. 13, 2011	Dec. 05, 2012	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 10, 2011	Dec. 07, 2011~ Dec. 13, 2011	Aug. 09, 2012	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 05, 2011	Dec. 07, 2011~ Dec. 13, 2011	Dec. 04, 2012	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 29, 2011	Dec. 07, 2011~ Dec. 13, 2011	Mar. 28, 2012	Radiation (03CH07-HY)
EMI TEST RECEIVER	R&S	ESCI 7	100724	9kHz~7GHz	Aug. 22, 2011	Dec. 07, 2011~ Dec. 13, 2011	Aug. 21, 2012	Radiation (03CH07-HY)
Pre Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	159088	1GHz ~ 18GHz	Feb. 21, 2011	Dec. 07, 2011~ Dec. 13, 2011	Feb. 20, 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 Uc(y)	**1.13**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(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 Uc(y)	**1.27**		
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(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 Γ1 = 0.197 Antenna VSWR Γ2 = 0.194 Uncertainty = 20Log(1-Γ1*Γ2)	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty Uc(y)	**2.36**				
Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**4.72**				

Appendix A. Photographs of EUT

Please refer to Sporton report number EP1D0774 as below.