

FCC RF Test Report

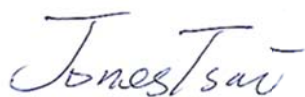
APPLICANT : Hewlett-Packard Co., Ltd.
EQUIPMENT : Tablet PC
BRAND NAME : HP
MODEL NAME : HSTNH-B17CM
MARKETING NAME : HP SLATE 10 HD
FCC ID : B94HHB17CM
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Jun. 27, 2013 and testing was completed on Sep. 30, 2013. We, SPORTON INTERNATIONAL (KUNSHAN) INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

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



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



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TABLE OF CONTENTS

REVISION HISTORY.....	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant.....	5
1.2 Manufacturer.....	5
1.3 Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test.....	6
1.5 Modification of EUT	6
1.6 Testing Site.....	7
1.7 Applied Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency Channel	8
2.2 Pre-Scanned RF Power.....	9
2.3 Test Mode.....	11
2.4 Connection Diagram of Test System.....	13
2.5 Support Unit used in test configuration and system	14
2.6 EUT Operation Test Setup	14
2.7 Measurement Results Explanation Example.....	14
3 TEST RESULT	15
3.1 6dB and 99% Bandwidth Measurement	15
3.2 Output Power Measurement.....	18
3.3 Power Spectral Density Measurement	21
3.4 Conducted Band Edges and Spurious Emission Measurement	24
3.5 Radiated Band Edges and Spurious Emission Measurement	45
3.6 AC Conducted Emission Measurement.....	76
3.7 Antenna Requirements.....	80
4 LIST OF MEASURING EQUIPMENT	81
5 UNCERTAINTY OF EVALUATION	82
APPENDIX A. SETUP PHOTOGRAPHS	

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR362701B	Rev. 01	Initial issue of report	Oct. 21, 2013
FR362701B	Rev. 02	Update report for revising SW version.	Nov. 22, 2013

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-210 A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	RSS-Gen 4.6.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	RSS-210 A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	RSS-210 A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	RSS-210 A8.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 2.77 dB at 2483.500 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 4.69 dB at 0.700 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Hewlett-Packard Co., Ltd.

1501 Page Mill Road Palo Alto, CA 94304 United States

1.2 Manufacturer

BYD Precision Manufacture Co., Ltd.

No.3001, Baohe Road, Baolong Industrial, Longgang, Shenzhen, 518116, P.R.China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Tablet PC
Brand Name	HP
Model Name	HSTNH-B17CM
Marketing Name	HP SLATE 10 HD
FCC ID	B94HHB17CM
EUT supports Radios application	GPRS/EGPRS/WCDMA/HSPA/HSPA+(Downlink Only)/WLAN 802.11abgn/Bluetooth v3.0 + EDR
HW Version	DVT
SW Version	V1.00.09_20131114.155
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.
Maximum Output Power to Antenna	<2412 MHz ~ 2462 MHz> 802.11b : 17.68 dBm (0.0586 W) 802.11g : 23.95 dBm (0.2483 W) 802.11n HT20 : 22.36 dBm (0.1722 W) 802.11n HT40 : 22.96 dBm (0.1977 W) <5745 MHz ~ 5825 MHz> 802.11a : 17.42 dBm (0.0552 W) 802.11n HT20 : 16.63 dBm (0.0460 W) 802.11n HT40 : 17.05 dBm (0.0507 W)
99% Occupied Bandwidth	<2412 MHz ~ 2462 MHz> 802.11b : 13.85MHz 802.11g : 17.60MHz 802.11n HT20 : 18.45MHz 802.11n HT40 : 36.90MHz <5745 MHz ~ 5825 MHz> 802.11a : 17.55MHz 802.11n HT20 : 18.40MHz 802.11n HT40 : 36.80MHz
Antenna Type	802.11b/g/n : Fixed Internal Antenna with gain 1.10 dBi 802.11a/n : Fixed Internal Antenna with gain 1.60 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Testing Site

Test Site	SPORTON INTERNATIONAL (KUNSHAN) INC.			
Test Site Location	No. 3-2, PingXiang Road, Kunshan, Jiangsu Province, P.R.C. TEL: +86-0512-5790-0158 FAX: +86-0512-5790-0958			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH01-KS	CO01-KS	03CH01-KS	149928/4086E-1

Note: The test site complies with ANSI C63.4 2003 requirement.

1.7 Applied Standards

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

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ANSI C63.4-2003
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3
- NOTICE 2012-DRS0126

Remark:

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

2 Test Configuration of Equipment Under Test

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

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

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

2.1 Carrier Frequency Channel

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

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5725-5850 MHz Band 4	149	5745	159	5795
	151	5755	161	5805
	153	5765	165	5825
	157	5785	-	-

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and data rate associated with the highest power were chosen for full test shown in the following tables.

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412 MHz	17.11	17.09	17.58	17.43
CH 06	2437 MHz	17.26	17.11	17.46	17.51
CH 11	2462 MHz	17.68	17.36	17.48	17.62

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412 MHz	23.95	23.85	22.90	23.47	23.52	23.44	22.96	23.22
CH 06	2437 MHz	23.67	23.59	23.54	23.84	23.48	23.51	23.12	23.35
CH 11	2462 MHz	23.57	23.69	23.68	23.49	23.18	23.19	23.26	23.47

Channel	Frequency	2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412 MHz	22.36	21.96	22.18	22.21	22.33	21.44	21.22	21.68
CH 06	2437 MHz	22.12	22.08	21.97	21.80	21.68	20.56	20.78	20.90
CH 11	2462 MHz	22.20	22.13	22.09	21.86	21.78	21.56	21.80	21.78

Channel	Frequency	2.4GHz 802.11n HT40 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 03	2422 MHz	22.96	21.83	21.96	22.36	22.77	22.50	21.61	22.20
CH 06	2437 MHz	22.36	22.16	22.09	22.18	22.30	22.21	22.12	22.20
CH 09	2452 MHz	21.90	21.79	22.15	22.04	21.74	21.84	21.34	21.22

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
CH 149	5745 MHz	17.42	16.80	16.51	15.95	17.28	16.38	17.12	17.14
CH 157	5785 MHz	16.82	16.81	16.42	16.29	17.09	16.81	16.89	16.87
CH 165	5825 MHz	16.57	16.67	16.52	16.87	16.85	16.79	17.11	17.24

Channel	Frequency	5GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 149	5745 MHz	16.63	16.19	16.25	16.24	16.18	16.06	16.26	15.89
CH 157	5785 MHz	16.37	16.18	16.23	15.66	16.21	15.76	16.23	16.18
CH 165	5825 MHz	16.01	16.21	16.23	16.35	15.87	16.22	16.39	15.53

Channel	Frequency	5GHz 802.11n HT40 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH151	5755MHz	17.05	16.81	16.36	16.41	17.03	17.02	16.91	15.73
CH159	5795MHz	16.38	16.32	16.35	16.42	16.87	15.98	16.29	15.97

2.3 Test Mode

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

<2.4GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and 99% BW Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MCS0	1/11
		802.11n HT40	MCS0	3/9
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MCS0	1/11
		802.11n HT40	MCS0	3/9
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MCS0	1/6/11
		802.11n HT40	MCS0	3/6/9

<5GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and 99% BW Power Spectral Density	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
	Conducted Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	MCS0	149/165
		802.11n HT40	MCS0	151/159
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159
Radiated TCs	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MCS0	149/157/165
		802.11n HT40	MCS0	151/159

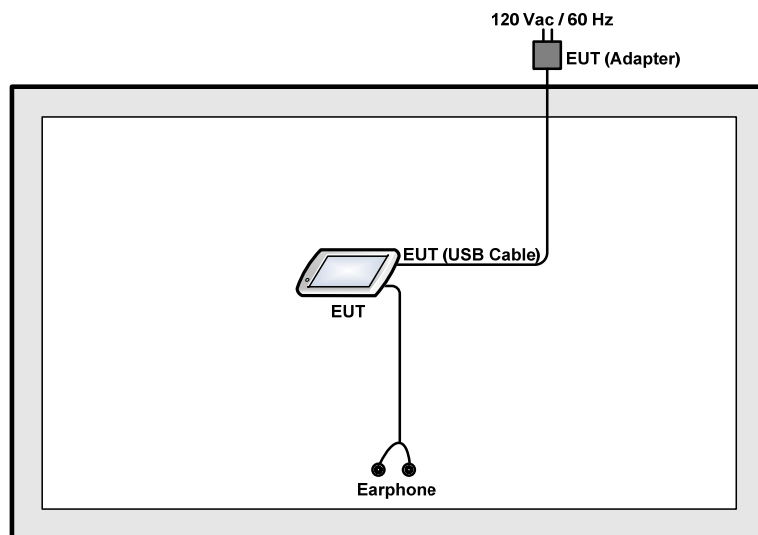
Test Cases	
AC Conducted Emission	Mode 1 : GPRS850 Idle + Bluetooth Link + WLAN (2.4GHz) Link + USB Cable (Charging from Adapter 1) + Earphone
	Mode 2 : GPRS850 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter 2) + Earphone

Remark:

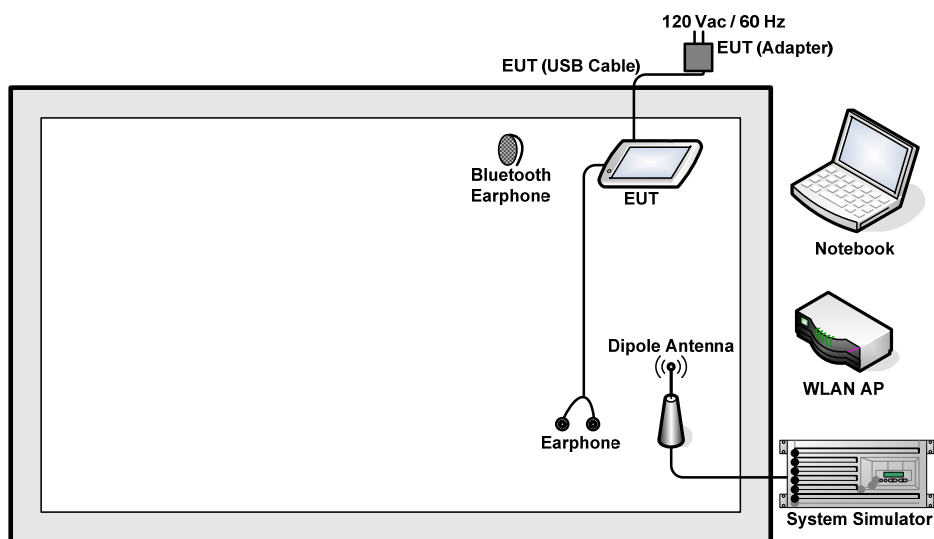
- For Radiated TCs, all the test modes are performed with Adapter 1, only the worst mode (802.11n HT20 CH11) based on Adapter 1 need to verify Adapter 2.
- The worst case of conducted emission is mode 2; only the test data of it is reported.

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-855	KA2DIR855A2	N/A	Unshielded, 1.8 m
2.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
3.	DC Power Supply	GWINSTEK	GPS-3030D	N/A	N/A	Unshielded, 1.8 m
4.	Bluetooth Earphone	Lenovo	LBH301	FCC DoC	N/A	N/A
5.	Earphone	Lenovo	SH100	FCC DoC	N/A	Unshielded, 1.2 m
6.	Notebook	DELL	P08S	QDS-BRCM1030	N/A	AC I/P: Unshielded, 1.8 m DC O/P: Shielded, 1.8 m

2.6 EUT Operation Test Setup

For WLAN RF test items, an engineering test program was provided and enabled to make EUT continuous transmit/receive.

For AC power line conducted emissions, the EUT was set to connect with the WLAN AP under large package sizes transmission.

2.7 Measurement Results Explanation Example

For all conducted test items:

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

Example :

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 5 dB and 10dB attenuator.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 5 + 10 = 15 \text{ (dB)}
 \end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

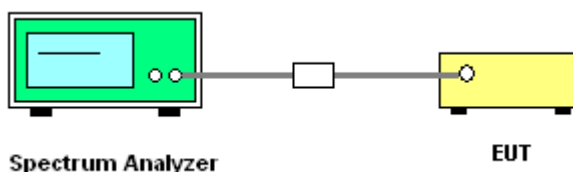
3.1.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) = 1MHz and set the Video bandwidth (VBW) = 3MHz.
6. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

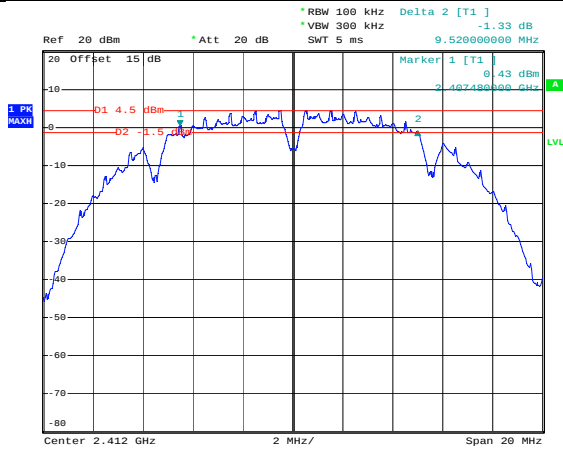
Test Band :	2.4GHz + 5GHz band 4	Temperature :	23~24℃
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	13.80	9.52	0.5	Pass
11b	1Mbps	1	6	2437	13.85	10.04	0.5	Pass
11b	1Mbps	1	11	2462	13.85	10.00	0.5	Pass
11g	6Mbps	1	1	2412	17.55	16.56	0.5	Pass
11g	6Mbps	1	6	2437	17.60	16.56	0.5	Pass
11g	6Mbps	1	11	2462	17.55	16.54	0.5	Pass
HT20	MCS0	1	1	2412	18.40	17.80	0.5	Pass
HT20	MCS0	1	6	2437	18.45	17.80	0.5	Pass
HT20	MCS0	1	11	2462	18.45	17.80	0.5	Pass
HT40	MCS0	1	3	2422	36.90	36.48	0.5	Pass
HT40	MCS0	1	6	2437	36.70	36.48	0.5	Pass
HT40	MCS0	1	9	2452	36.70	36.56	0.5	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11a	6Mbps	1	149	5745	17.45	16.56	0.5	Pass
11a	6Mbps	1	157	5785	17.50	16.56	0.5	Pass
11a	6Mbps	1	165	5825	17.55	16.52	0.5	Pass
HT20	MCS0	1	149	5745	18.40	17.76	0.5	Pass
HT20	MCS0	1	157	5785	18.35	17.76	0.5	Pass
HT20	MCS0	1	165	5825	18.40	17.76	0.5	Pass
HT40	MCS0	1	151	5755	36.70	36.56	0.5	Pass
HT40	MCS0	1	159	5795	36.80	36.48	0.5	Pass

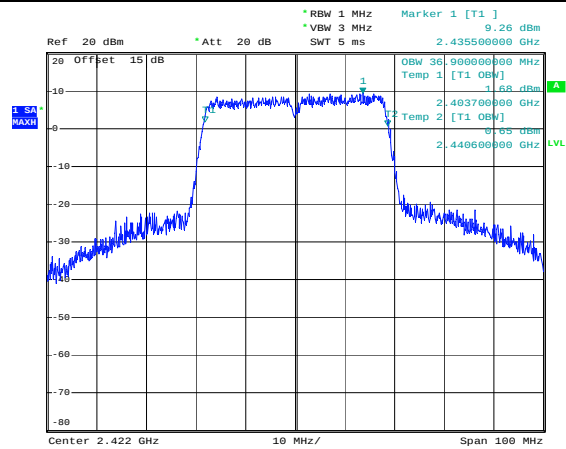


Minimum 6dB Bandwidth



Date: 18.SEP.2013 11:24:01

Maximum 99% Occupied Bandwidth



Date: 18.SEP.2013 13:24:17

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.

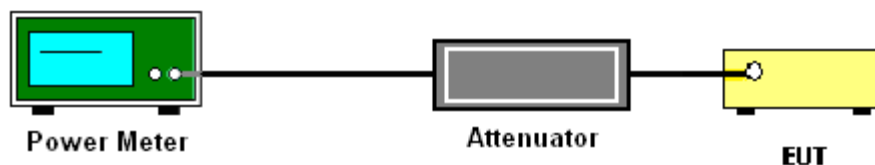
3.2.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	23~24℃
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	17.11	30	1.10	Pass
11b	1Mbps	1	6	2437	17.26	30	1.10	Pass
11b	1Mbps	1	11	2462	17.68	30	1.10	Pass
11g	6Mbps	1	1	2412	23.95	30	1.10	Pass
11g	6Mbps	1	6	2437	23.67	30	1.10	Pass
11g	6Mbps	1	11	2462	23.57	30	1.10	Pass
HT20	MCS0	1	1	2412	22.36	30	1.10	Pass
HT20	MCS0	1	6	2437	22.12	30	1.10	Pass
HT20	MCS0	1	11	2462	22.20	30	1.10	Pass
HT40	MCS0	1	3	2422	22.96	30	1.10	Pass
HT40	MCS0	1	6	2437	22.36	30	1.10	Pass
HT40	MCS0	1	9	2452	21.90	30	1.10	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	17.42	30	1.60	Pass
11a	6Mbps	1	157	5785	16.82	30	1.60	Pass
11a	6Mbps	1	165	5825	16.57	30	1.60	Pass
HT20	MCS0	1	149	5745	16.63	30	1.60	Pass
HT20	MCS0	1	157	5785	16.37	30	1.60	Pass
HT20	MCS0	1	165	5825	16.01	30	1.60	Pass
HT40	MCS0	1	151	5755	17.05	30	1.60	Pass
HT40	MCS0	1	159	5795	16.38	30	1.60	Pass

Note: Measured power (dBm) has offset with cable loss.

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	23~24℃
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	0.00	14.88	30	1.10	Pass
11b	1Mbps	1	6	2437	0.00	15.18	30	1.10	Pass
11b	1Mbps	1	11	2462	0.00	15.21	30	1.10	Pass
11g	6Mbps	1	1	2412	0.00	15.38	30	1.10	Pass
11g	6Mbps	1	6	2437	0.00	15.17	30	1.10	Pass
11g	6Mbps	1	11	2462	0.00	15.21	30	1.10	Pass
HT20	MCS0	1	1	2412	0.00	14.82	30	1.10	Pass
HT20	MCS0	1	6	2437	0.00	14.21	30	1.10	Pass
HT20	MCS0	1	11	2462	0.00	14.36	30	1.10	Pass
HT40	MCS0	1	3	2422	0.00	14.65	30	1.10	Pass
HT40	MCS0	1	6	2437	0.00	14.25	30	1.10	Pass
HT40	MCS0	1	9	2452	0.00	12.70	30	1.10	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	0.00	7.56	30	1.60	Pass
11a	6Mbps	1	157	5785	0.00	7.09	30	1.60	Pass
11a	6Mbps	1	165	5825	0.00	7.06	30	1.60	Pass
HT20	MCS0	1	149	5745	0.00	7.64	30	1.60	Pass
HT20	MCS0	1	157	5785	0.00	7.20	30	1.60	Pass
HT20	MCS0	1	165	5825	0.00	7.17	30	1.60	Pass
HT40	MCS0	1	151	5755	0.00	7.65	30	1.60	Pass
HT40	MCS0	1	159	5795	0.00	6.99	30	1.60	Pass

Note: Measured power (dBm) has offset with cable loss and duty factor.

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

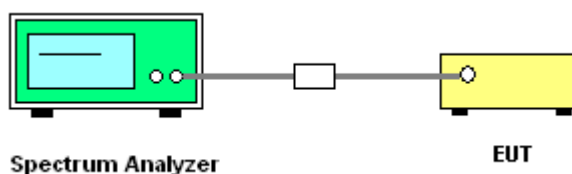
3.3.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.

3.3.4 Test Setup



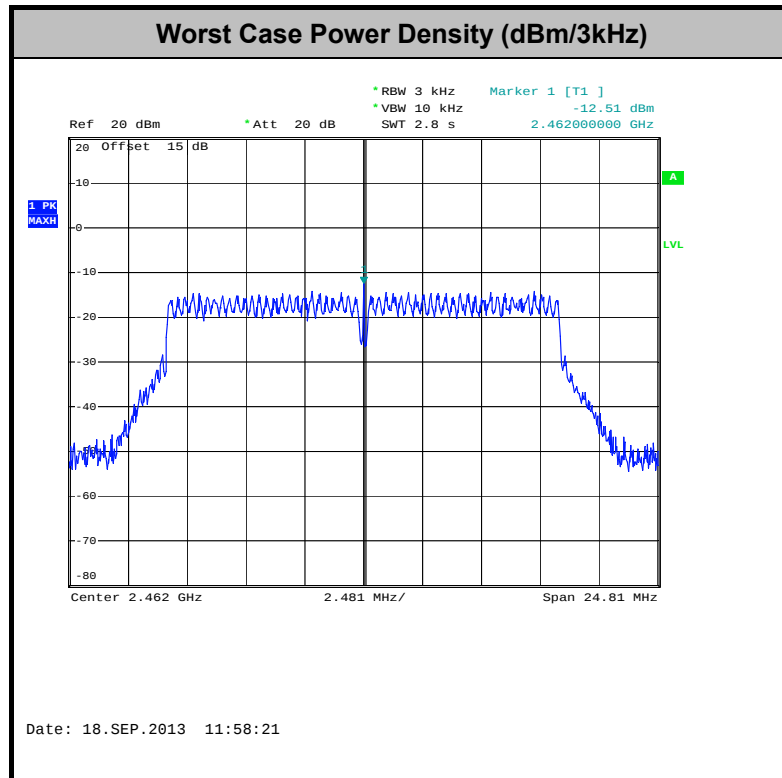
3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	23~24°C
Test Engineer :	Adonis Li	Relative Humidity :	47~48%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	-13.88	8	1.10	Pass
11b	1Mbps	1	6	2437	-13.53	8	1.10	Pass
11b	1Mbps	1	11	2462	-14.16	8	1.10	Pass
11g	6Mbps	1	1	2412	-13.05	8	1.10	Pass
11g	6Mbps	1	6	2437	-13.52	8	1.10	Pass
11g	6Mbps	1	11	2462	-12.51	8	1.10	Pass
HT20	MCS0	1	1	2412	-13.72	8	1.10	Pass
HT20	MCS0	1	6	2437	-13.91	8	1.10	Pass
HT20	MCS0	1	11	2462	-13.71	8	1.10	Pass
HT40	MCS0	1	3	2422	-12.61	8	1.10	Pass
HT40	MCS0	1	6	2437	-14.63	8	1.10	Pass
HT40	MCS0	1	9	2452	-15.48	8	1.10	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	-18.24	8	1.60	Pass
11a	6Mbps	1	157	5785	-18.70	8	1.60	Pass
11a	6Mbps	1	165	5825	-19.58	8	1.60	Pass
HT20	MCS0	1	149	5745	-18.44	8	1.60	Pass
HT20	MCS0	1	157	5785	-18.56	8	1.60	Pass
HT20	MCS0	1	165	5825	-20.06	8	1.60	Pass
HT40	MCS0	1	151	5755	-17.34	8	1.60	Pass
HT40	MCS0	1	159	5795	-18.54	8	1.60	Pass

Note: Measured power density (dBm) has offset with cable loss.



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

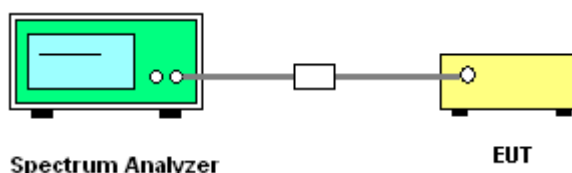
3.4.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



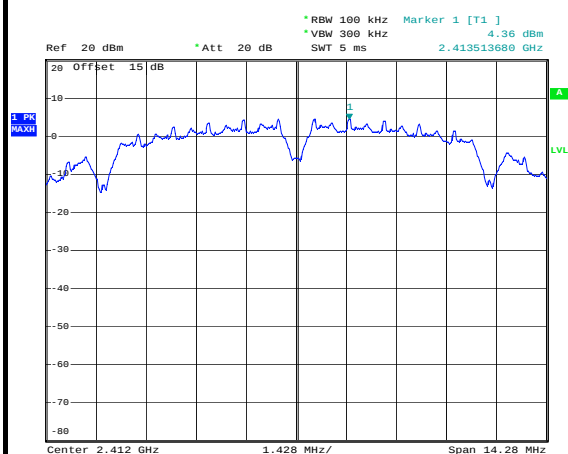


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	23~24℃
Test Band :	2.4GHz Low	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Adonis Li

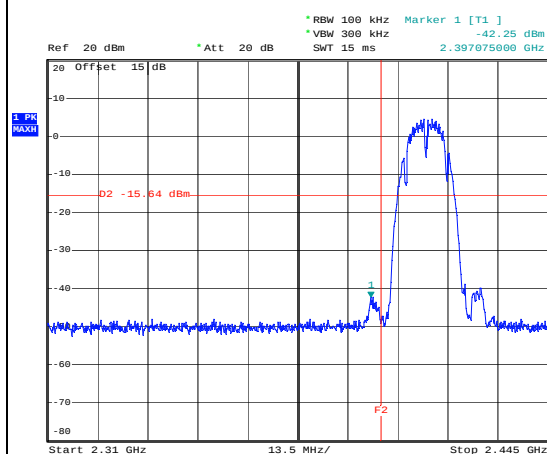
WLAN 802.11b Channel 01

100kHz PSD reference Level



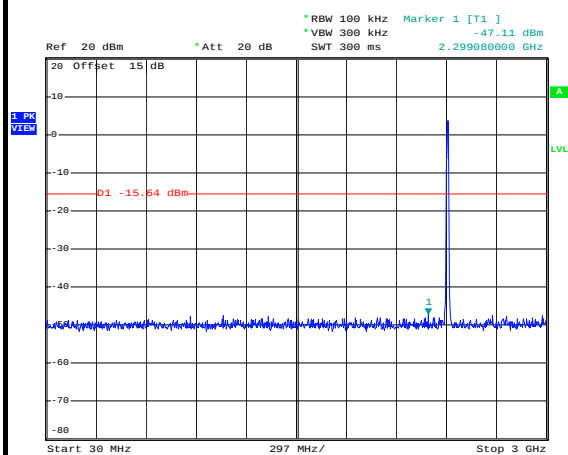
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Low Channel Plot



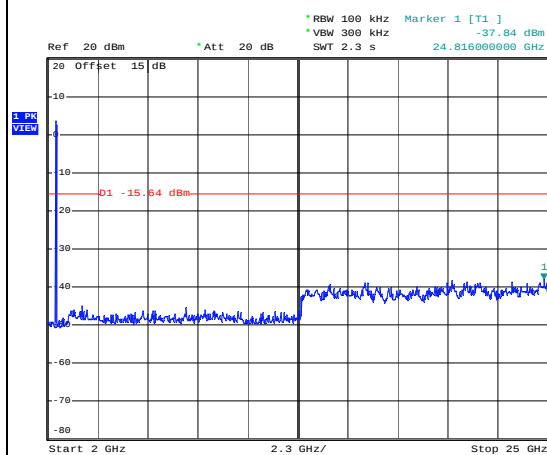
Date: 18.SEP.2013 11:24:47

Spurious Emission 30MHz~3GHz



Date: 18.SEP.2013 18:14:50

Spurious Emission 2GHz~25GHz



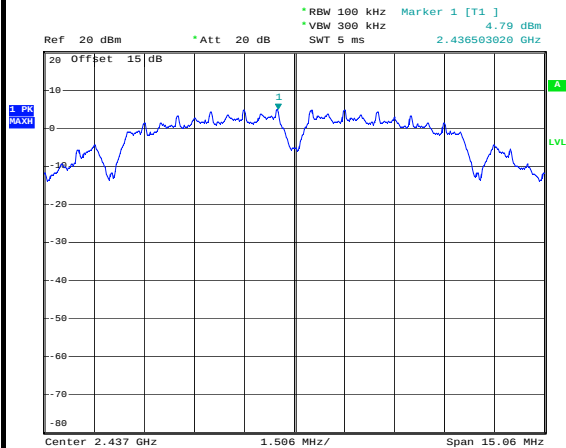
Date: 18.SEP.2013 18:15:10



Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	47~48%
Test Channel :	06	Test Engineer :	Adonis Li

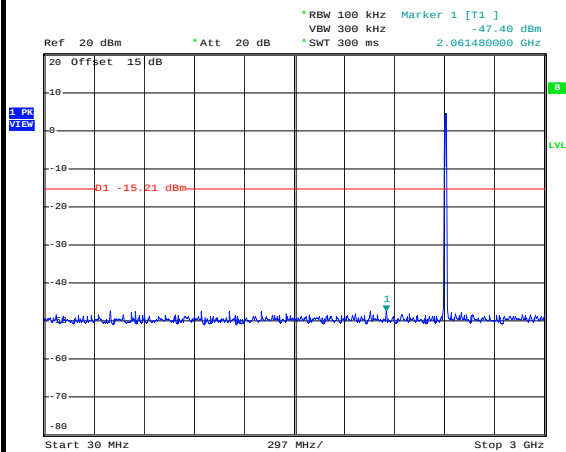
WLAN 802.11b Channel 06

100kHz PSD reference Level



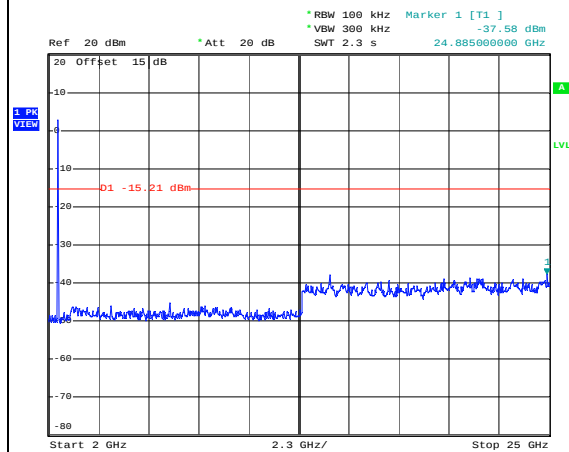
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Spurious Emission 30MHz~3GHz



Date: 24.SEP.2013 16:46:12

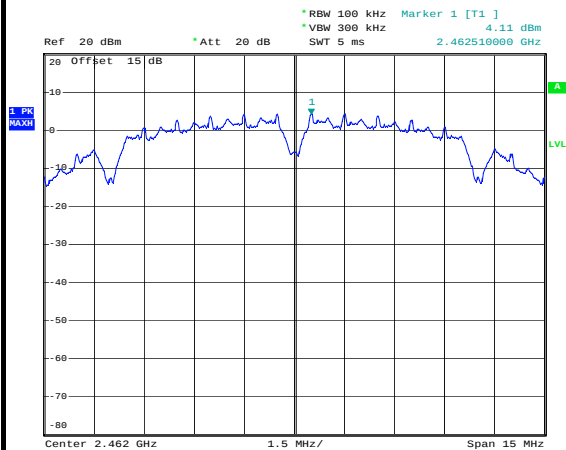
Spurious Emission 2GHz~25GHz



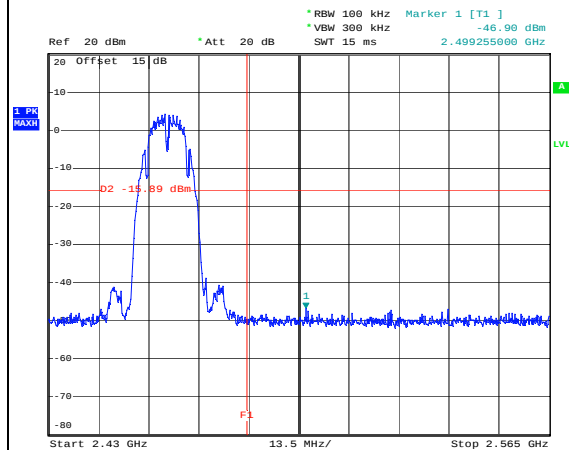
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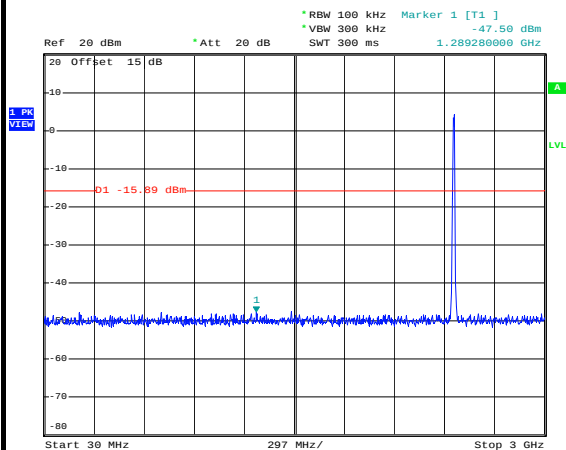
Test Mode :	802.11b	Temperature :	23~24℃
Test Band :	2.4GHz High	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Adonis Li

WLAN 802.11b Channel 11**100kHz PSD reference Level**

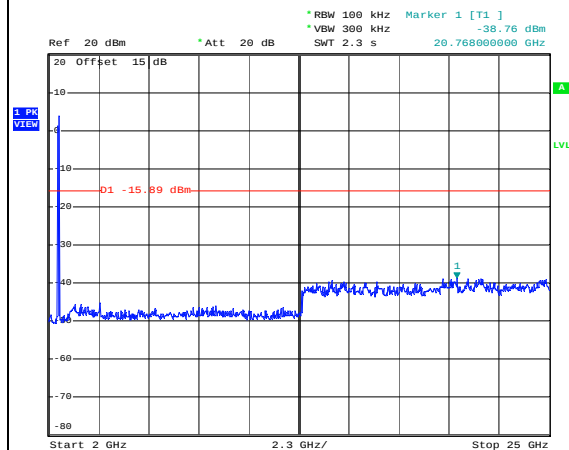
Date: 18.SEP.2013 11:44:03

High Channel Plot

Date: 18.SEP.2013 11:44:18

Spurious Emission 30MHz~3GHz

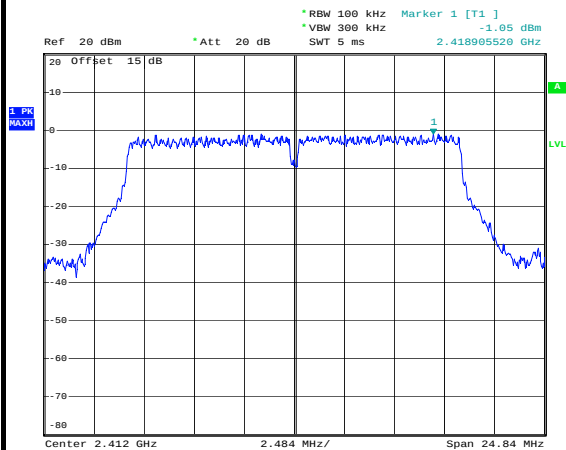
Date: 18.SEP.2013 18:20:18

Spurious Emission 2GHz~25GHz

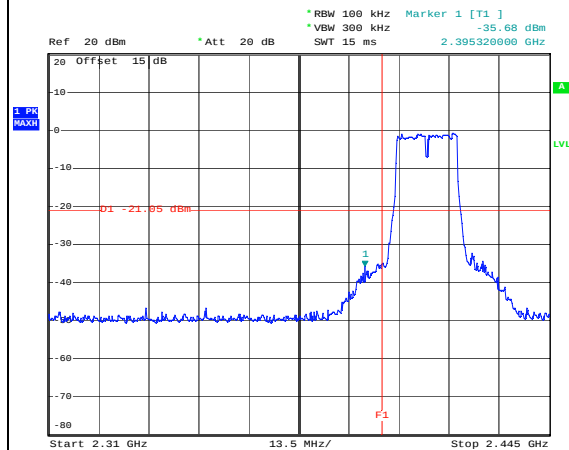
Date: 18.SEP.2013 18:20:37



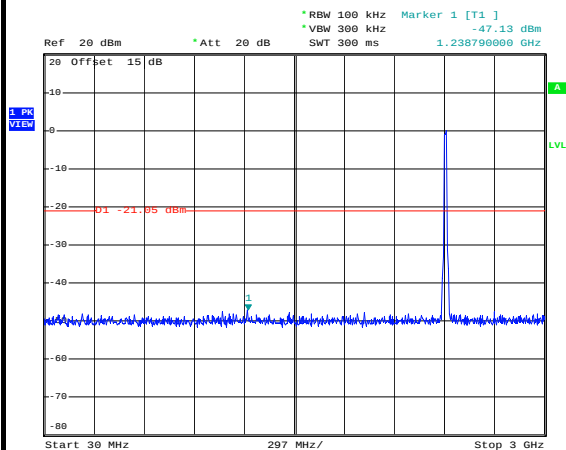
Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Adonis Li

WLAN 802.11g Channel 01**100kHz PSD reference Level**

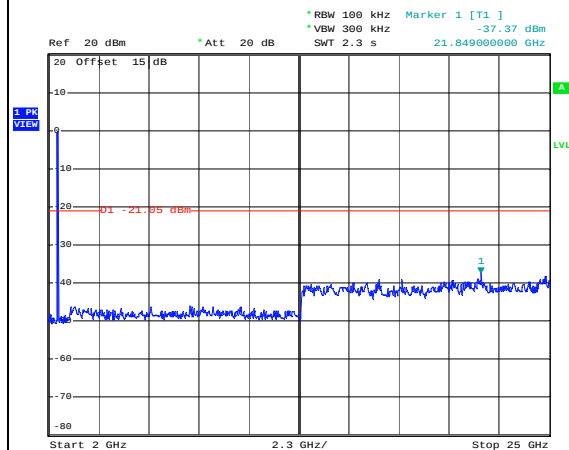
Date: 18.SEP.2013 14:59:59

Low Channel Plot

Date: 24.SEP.2013 17:20:59

Spurious Emission 30MHz~3GHz

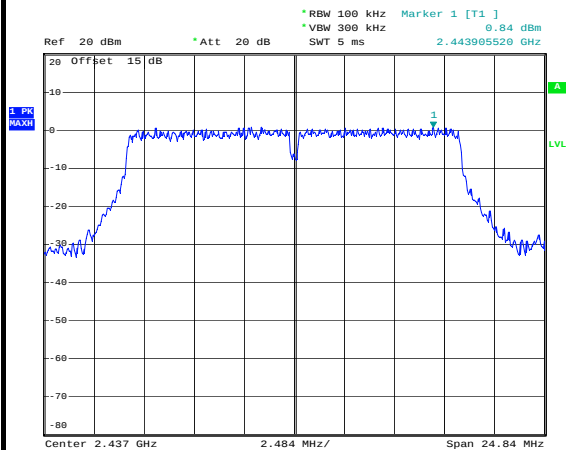
Date: 18.SEP.2013 18:47:15

Spurious Emission 2GHz~25GHz

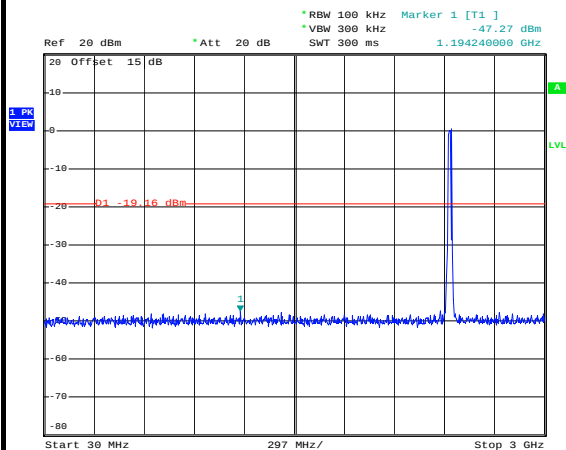
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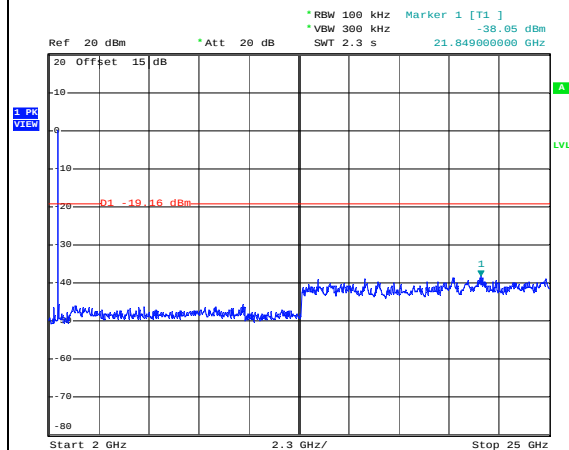
Test Mode :	802.11g	Temperature :	23~24℃
Test Band :	2.4GHz Mid	Relative Humidity :	47~48%
Test Channel :	06	Test Engineer :	Adonis Li

WLAN 802.11g Channel 06**100kHz PSD reference Level**

Date: 18.SEP.2013 11:55:03

Spurious Emission 30MHz~3GHz

Date: 18.SEP.2013 18:48:30

Spurious Emission 2GHz~25GHz

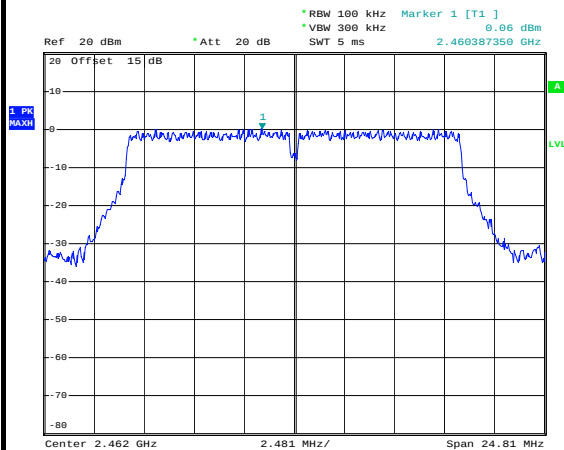
Date: 18.SEP.2013 18:48:49



Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Adonis Li

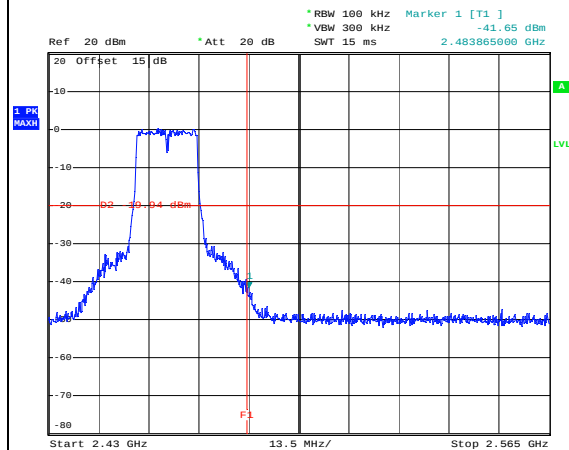
WLAN 802.11g Channel 11

100kHz PSD reference Level



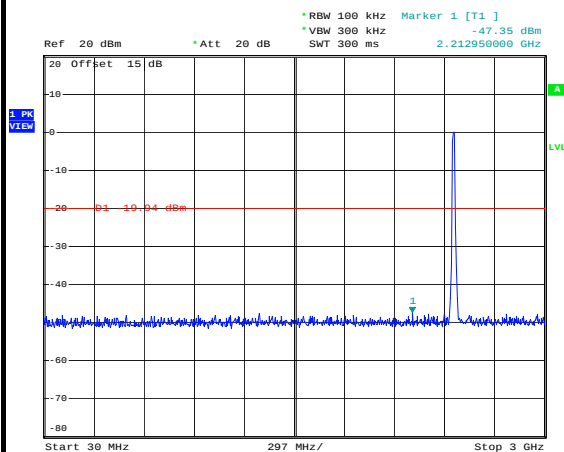
Date: 18.SEP.2013 11:58:31

High Channel Plot



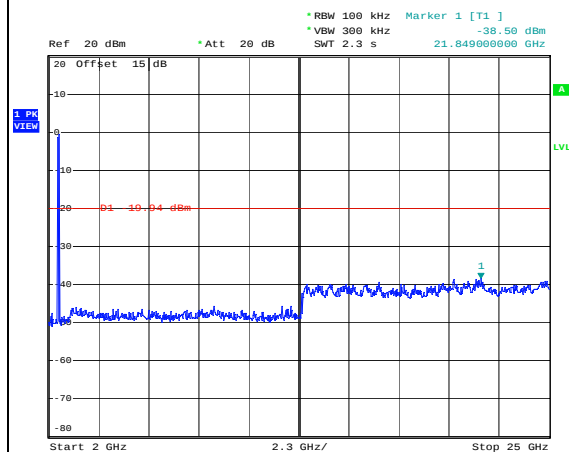
Date: 18.SEP.2013 11:58:45

Spurious Emission 30MHz~3GHz



Date: 18.SEP.2013 18:49:44

Spurious Emission 2GHz~25GHz



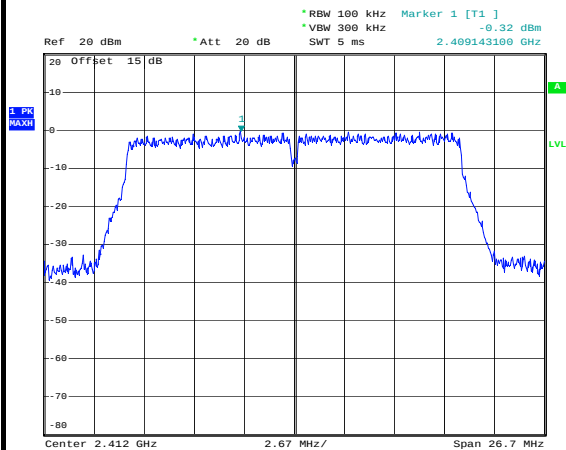
Date: 18.SEP.2013 18:50:03



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	47~48%
Test Channel :	01	Test Engineer :	Adonis Li

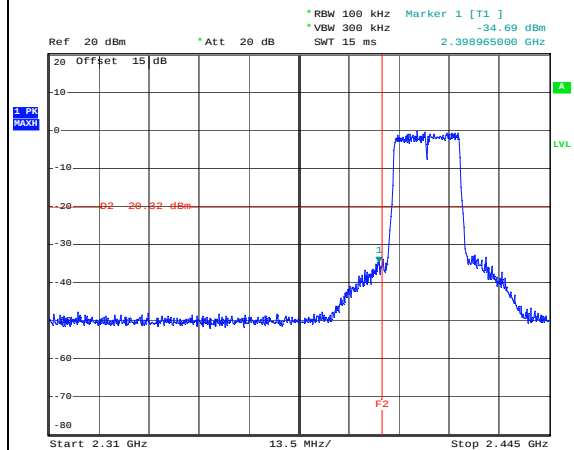
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



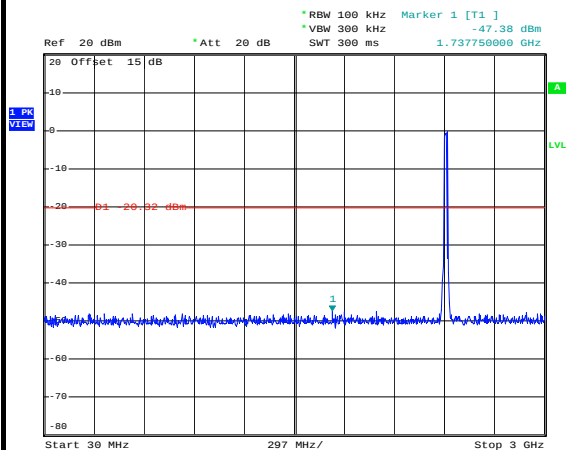
Date: 18.SEP.2013 13:11:13

Low Channel Plot



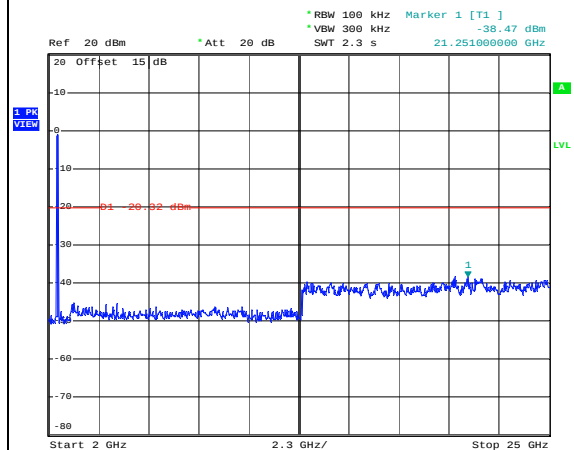
Date: 18.SEP.2013 13:11:28

Spurious Emission 30MHz~3GHz



Date: 18.SEP.2013 18:51:45

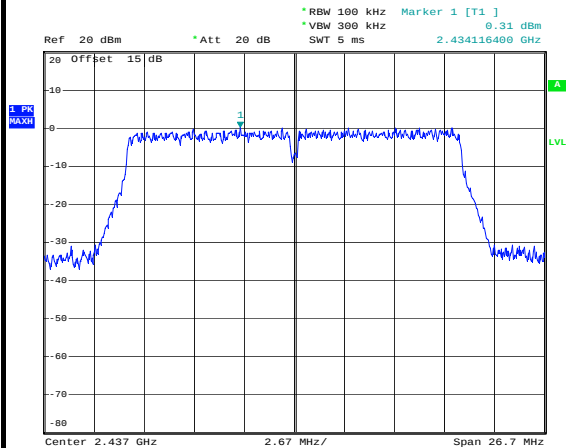
Spurious Emission 2GHz~25GHz



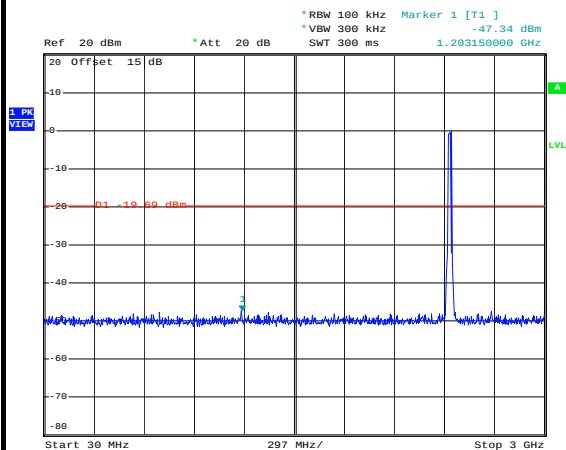
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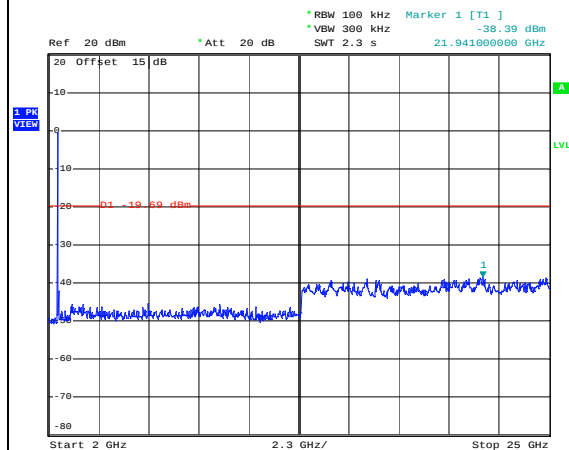
Test Mode :	802.11n HT20	Temperature :	23~24℃
Test Band :	2.4GHz Mid	Relative Humidity :	47~48%
Test Channel :	06	Test Engineer :	Adonis Li

WLAN 802.11n HT20 Channel 06**100kHz PSD reference Level**

Date: 18.SEP.2013 13:14:58

Spurious Emission 30MHz~3GHz

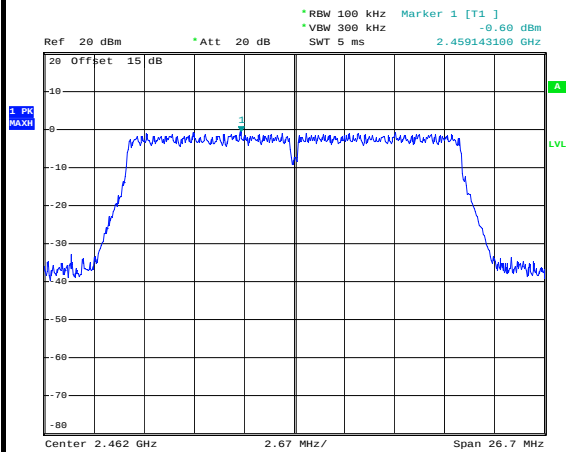
Date: 18.SEP.2013 18:53:20

Spurious Emission 2GHz~25GHz

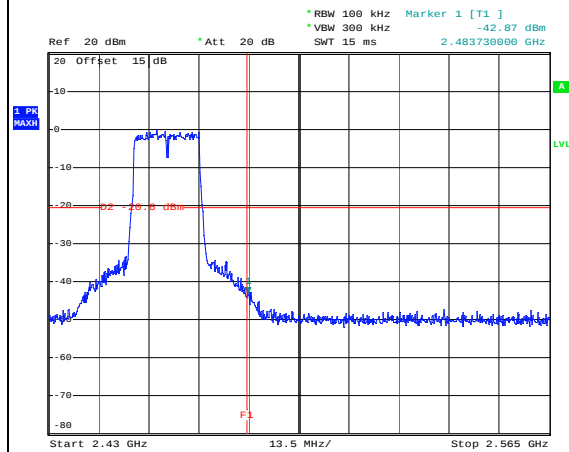
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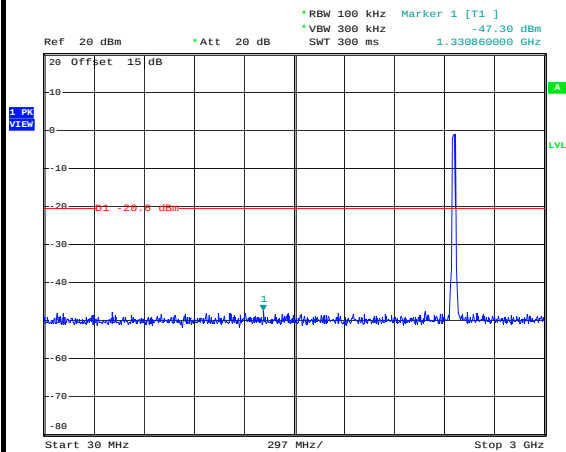
Test Mode :	802.11n HT20	Temperature :	23~24℃
Test Band :	2.4GHz High	Relative Humidity :	47~48%
Test Channel :	11	Test Engineer :	Adonis Li

WLAN 802.11n HT20 Channel 11**100kHz PSD reference Level**

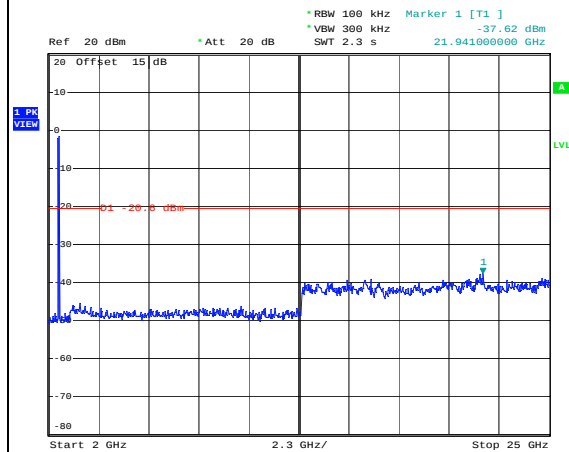
Date: 18.SEP.2013 13:17:51

High Channel Plot

Date: 18.SEP.2013 13:18:06

Spurious Emission 30MHz~3GHz

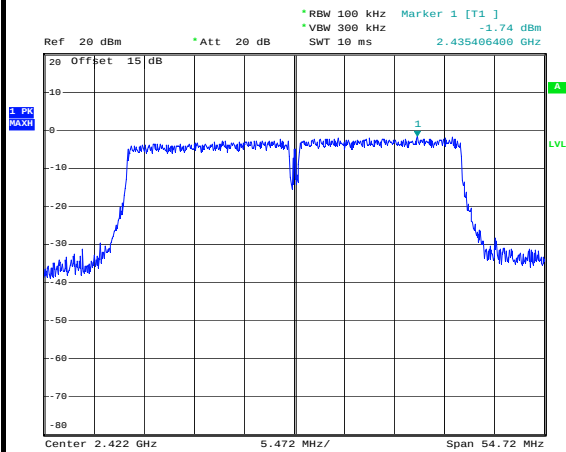
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Spurious Emission 2GHz~25GHz

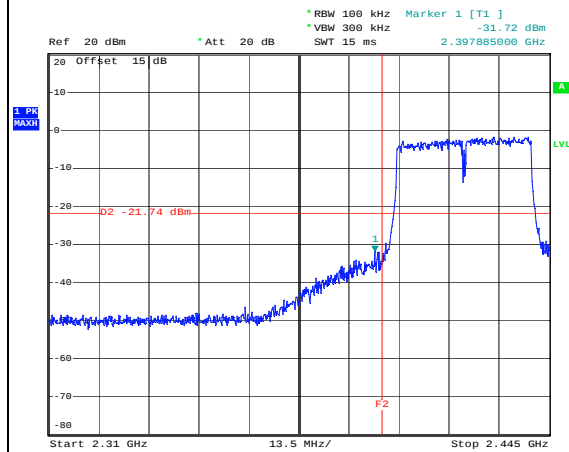
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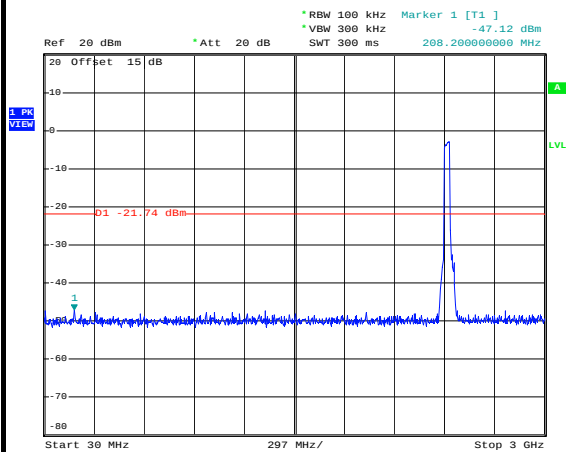
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	47~48%
Test Channel :	03	Test Engineer :	Adonis Li

WLAN 802.11n HT40 Channel 03**100kHz PSD reference Level**

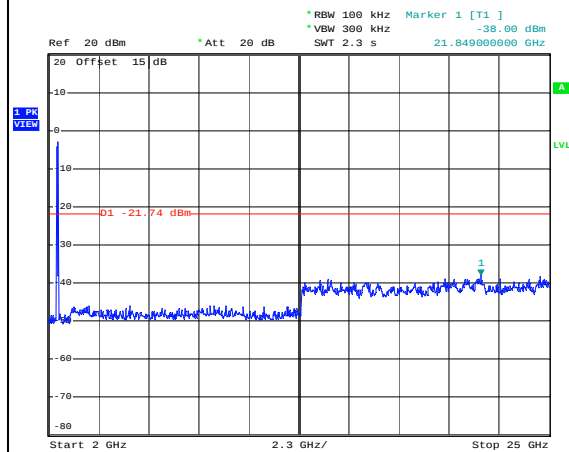
Date: 18.SEP.2013 13:23:11

Low Channel Plot

Date: 18.SEP.2013 13:23:26

Spurious Emission 30MHz~3GHz

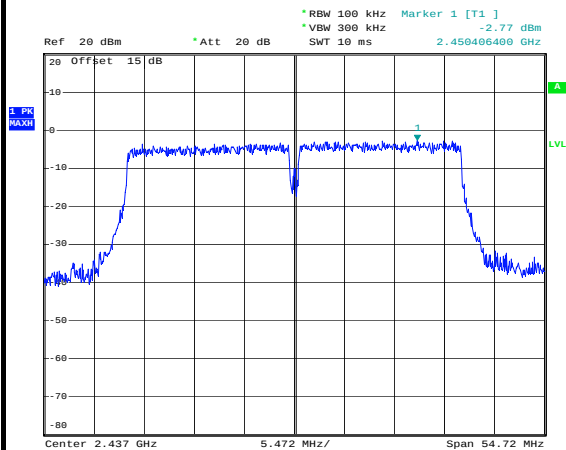
Date: 18.SEP.2013 18:56:31

Spurious Emission 2GHz~25GHz

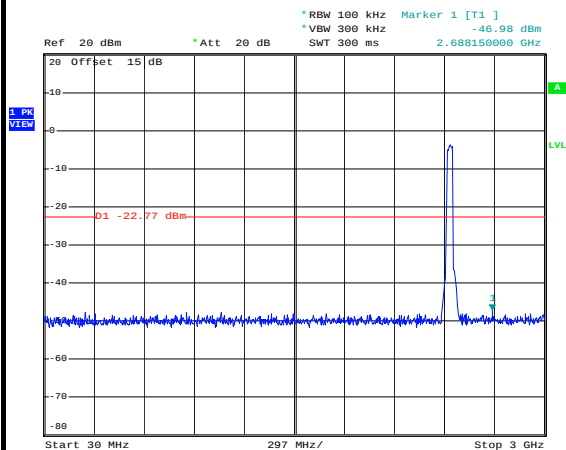
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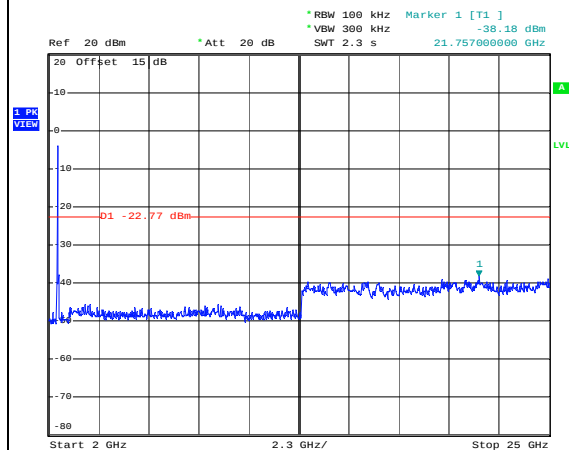
Test Mode :	802.11n HT40	Temperature :	23~24℃
Test Band :	2.4GHz Mid	Relative Humidity :	47~48%
Test Channel :	06	Test Engineer :	Adonis Li

WLAN 802.11n HT40 Channel 06**100kHz PSD reference Level**

Date: 18.SEP.2013 13:29:40

Spurious Emission 30MHz~3GHz

Date: 18.SEP.2013 18:57:44

Spurious Emission 2GHz~25GHz

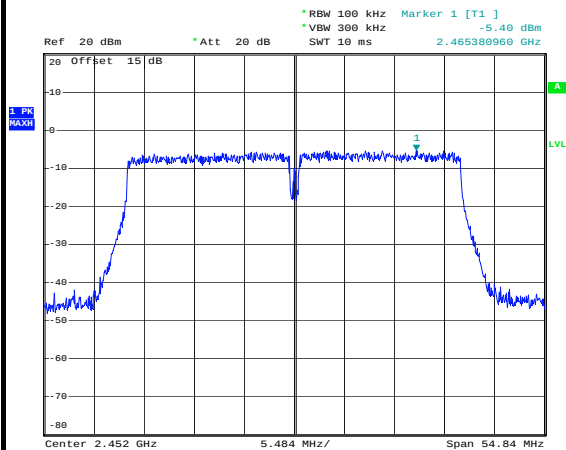
Date: 18.SEP.2013 18:58:03



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	47~48%
Test Channel :	09	Test Engineer :	Adonis Li

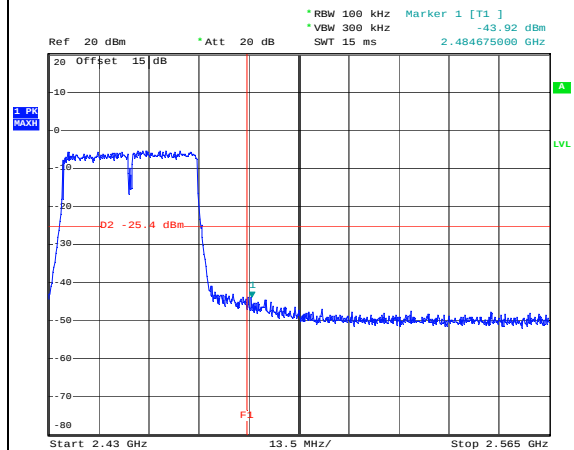
WLAN 802.11n HT40 Channel 09

100kHz PSD reference Level



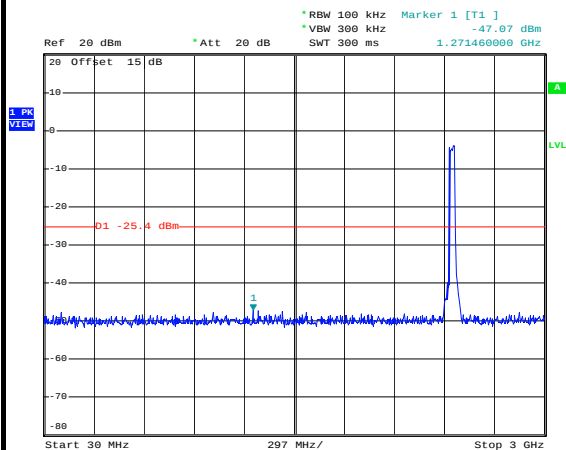
Date: 18.SEP.2013 13:37:36

High Channel Plot



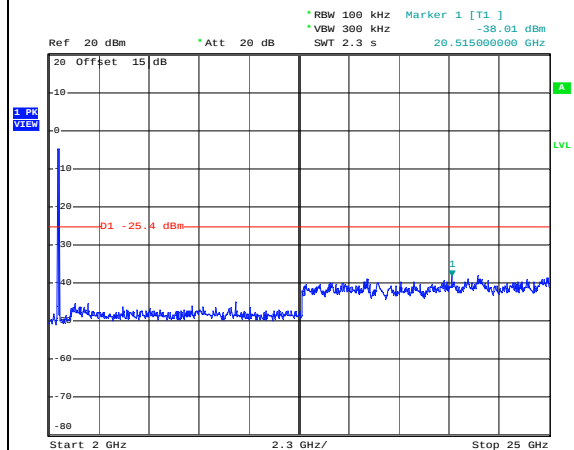
Date: 18.SEP.2013 13:37:51

Spurious Emission 30MHz~3GHz



Date: 18.SEP.2013 18:58:56

Spurious Emission 2GHz~25GHz



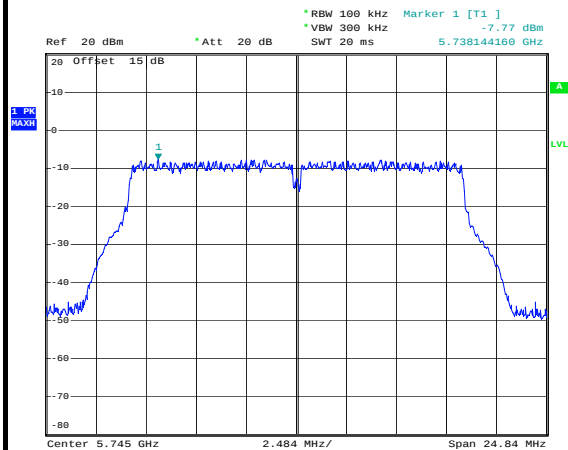
Date: 18.SEP.2013 18:59:15



Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	47~48%
Test Channel :	149	Test Engineer :	Adonis Li

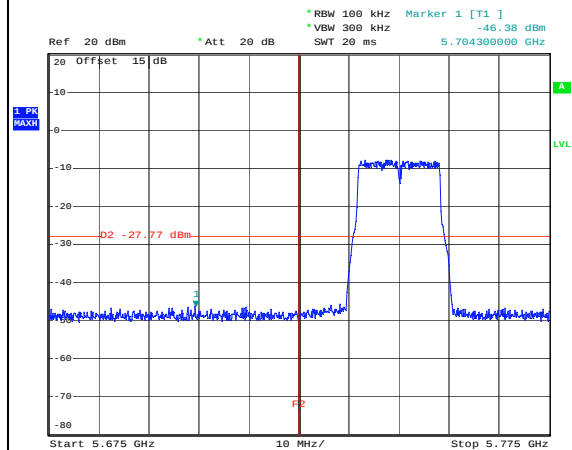
WLAN 802.11a Channel 149

100kHz PSD reference Level



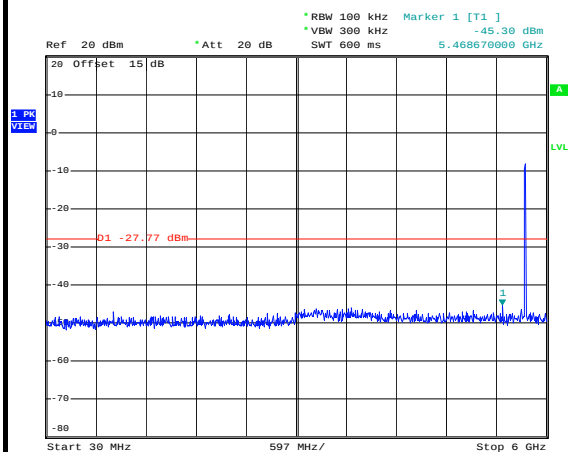
Date: 13.SEP.2013 14:07:59

Low Channel Plot



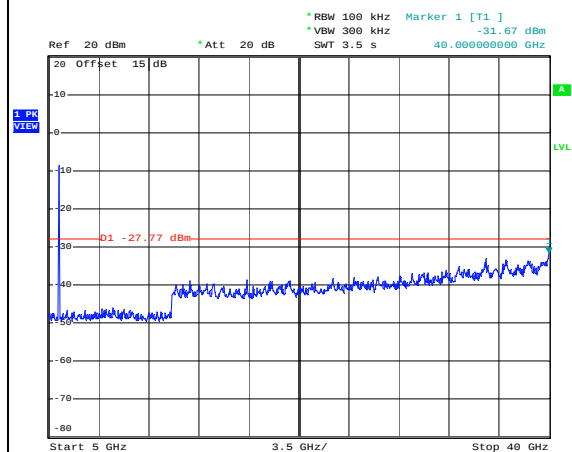
Date: 13.SEP.2013 14:08:14

Spurious Emission 30MHz~6GHz



Date: 13.SEP.2013 14:08:34

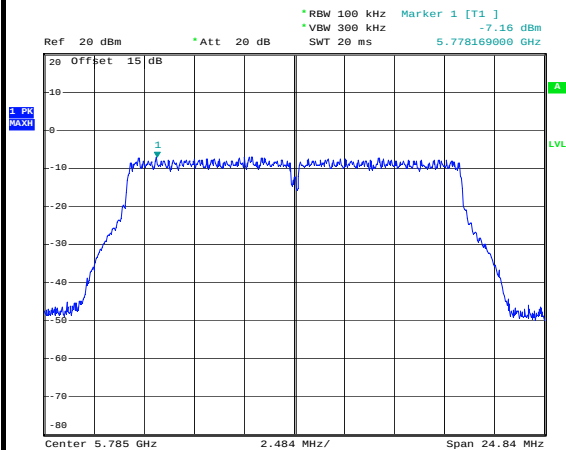
Spurious Emission 5GHz~40GHz



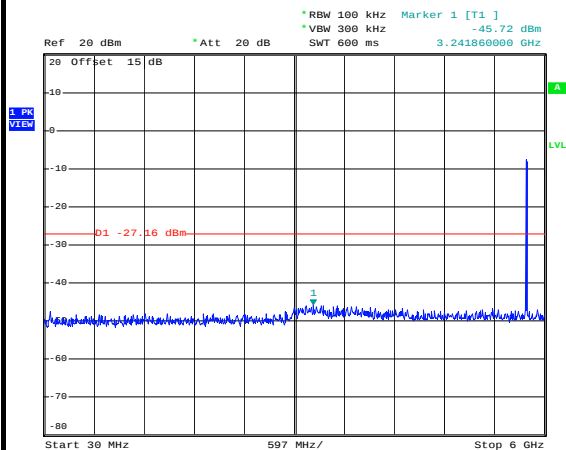
Date: 13.SEP.2013 14:08:53



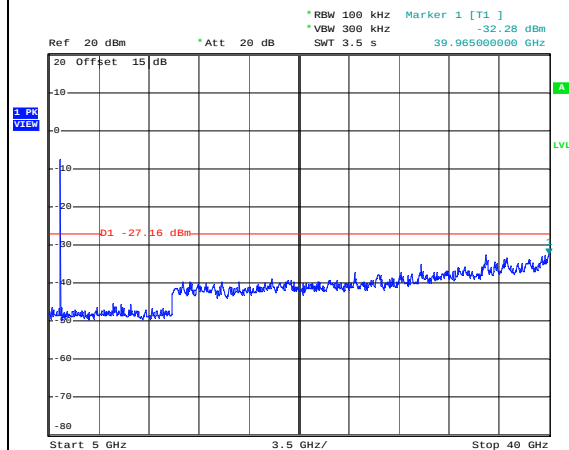
Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	5GHz Mid	Relative Humidity :	47~48%
Test Channel :	157	Test Engineer :	Adonis Li

WLAN 802.11a Channel 157**100kHz PSD reference Level**

Date: 13.SEP.2013 14:10:57

Spurious Emission 30MHz~6GHz

Date: 13.SEP.2013 14:11:18

Spurious Emission 5GHz~40GHz

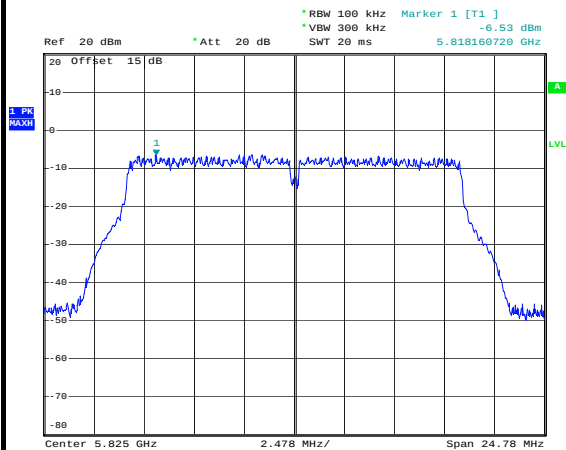
Date: 13.SEP.2013 14:11:37



Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	47~48%
Test Channel :	165	Test Engineer :	Adonis Li

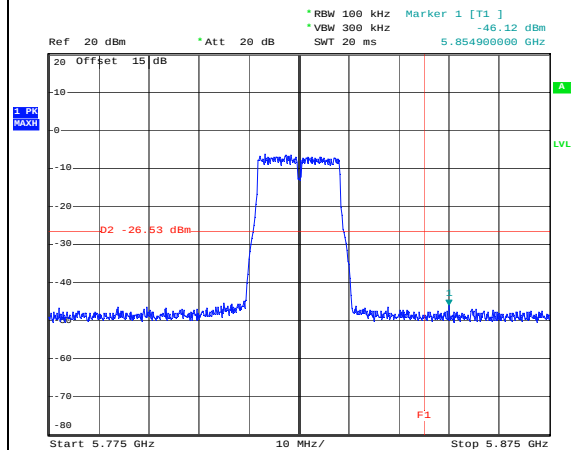
WLAN 802.11a Channel 165

100kHz PSD reference Level



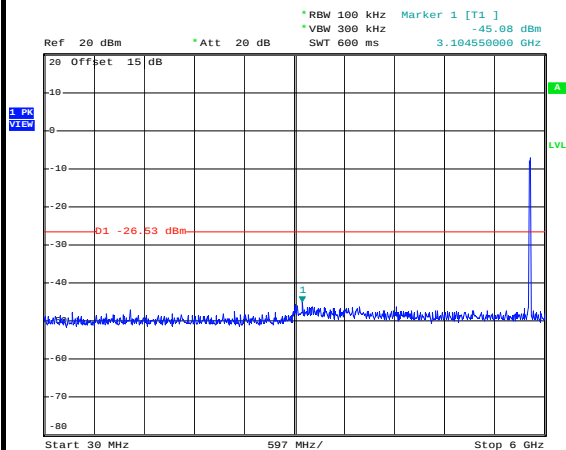
Date: 13.SEP.2013 14:14:09

High Channel Plot



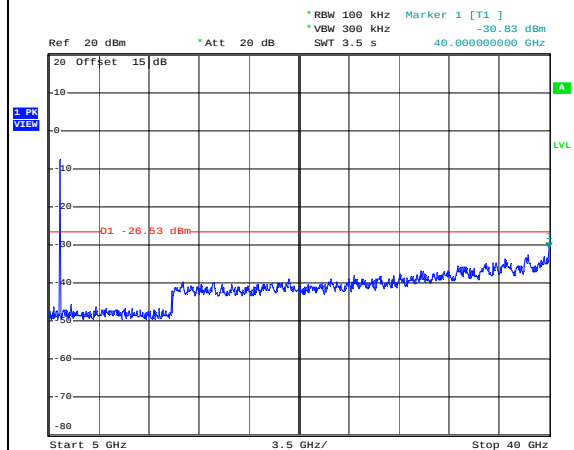
Date: 13.SEP.2013 14:14:24

Spurious Emission 30MHz~6GHz



Date: 13.SEP.2013 14:14:44

Spurious Emission 5GHz~40GHz



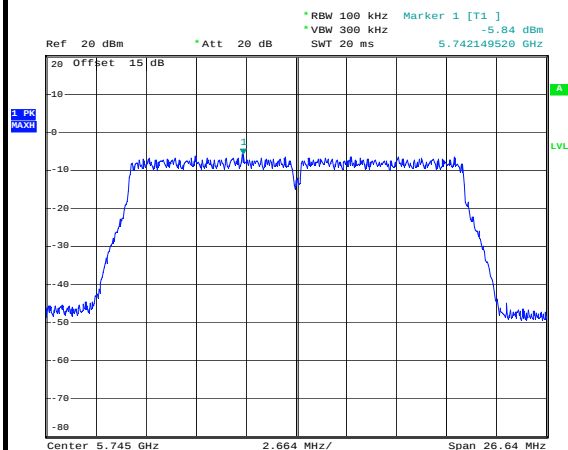
Date: 13.SEP.2013 14:15:03



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	47~48%
Test Channel :	149	Test Engineer :	Adonis Li

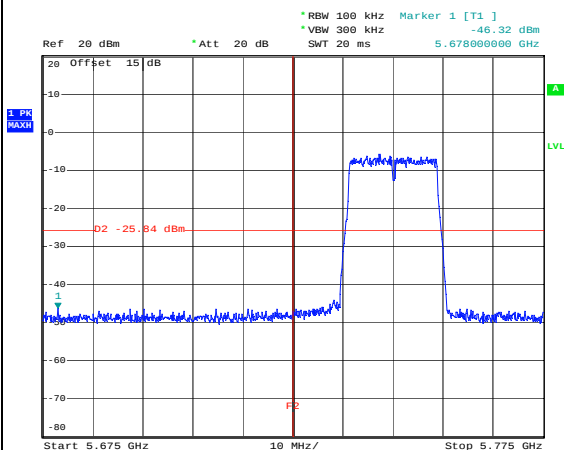
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



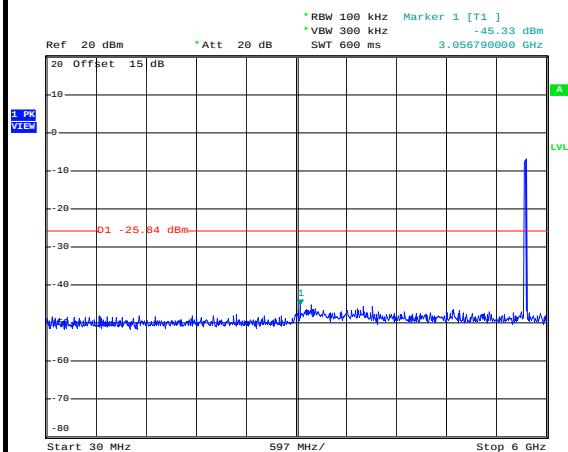
Date: 13.SEP.2013 14:22:56

Low Channel Plot



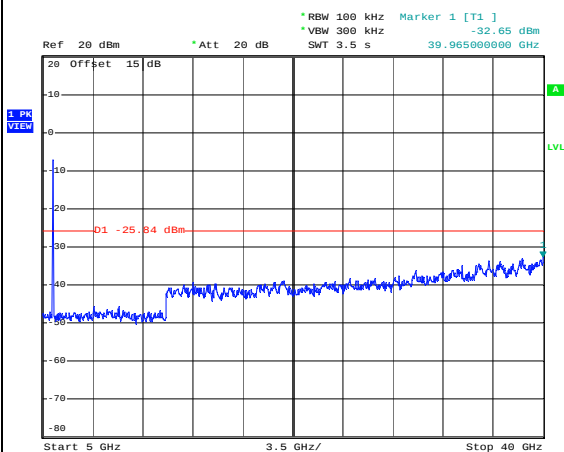
Date: 13.SEP.2013 14:23:11

Spurious Emission 30MHz~6GHz



Date: 13.SEP.2013 14:23:31

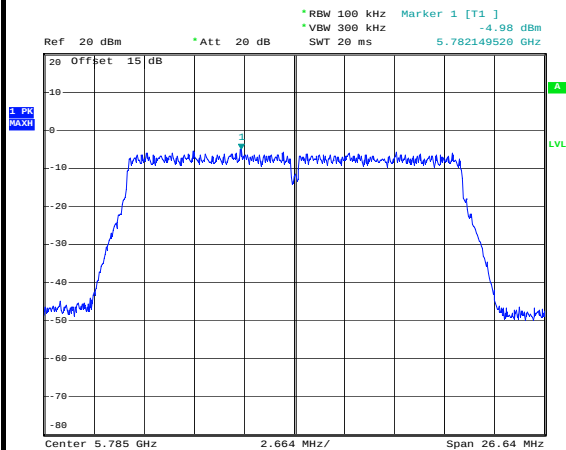
Spurious Emission 5GHz~40GHz



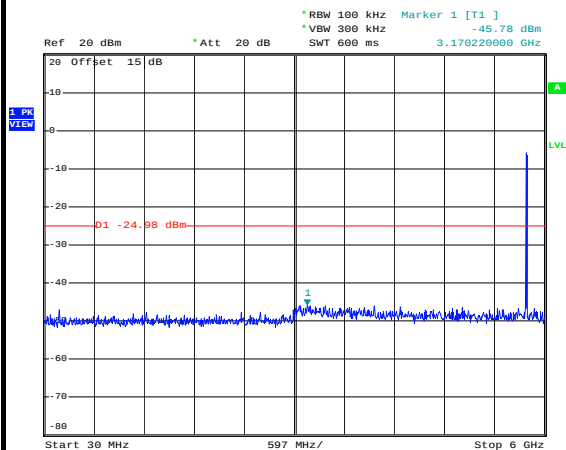
Date: 13.SEP.2013 14:23:50



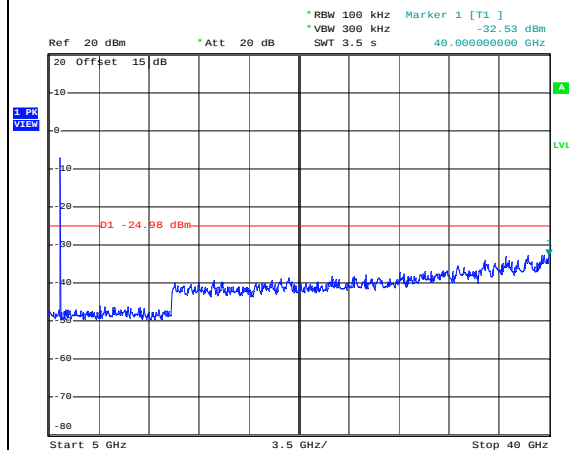
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Mid	Relative Humidity :	47~48%
Test Channel :	157	Test Engineer :	Adonis Li

WLAN 802.11n HT20 Channel 157**100kHz PSD reference Level**

Date: 13.SEP.2013 14:20:09

Spurious Emission 30MHz~6GHz

Date: 13.SEP.2013 14:20:31

Spurious Emission 5GHz~40GHz

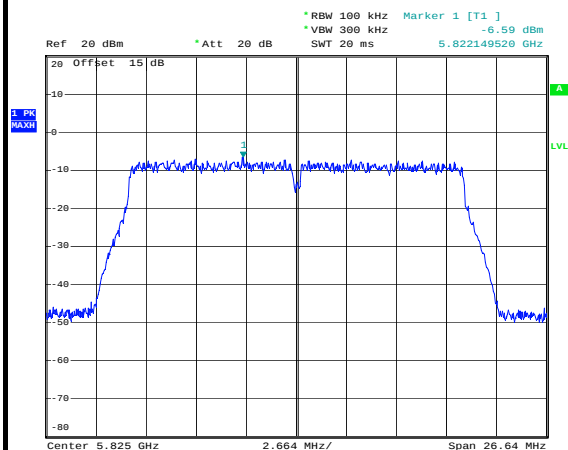
Date: 13.SEP.2013 14:20:50



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	47~48%
Test Channel :	165	Test Engineer :	Adonis Li

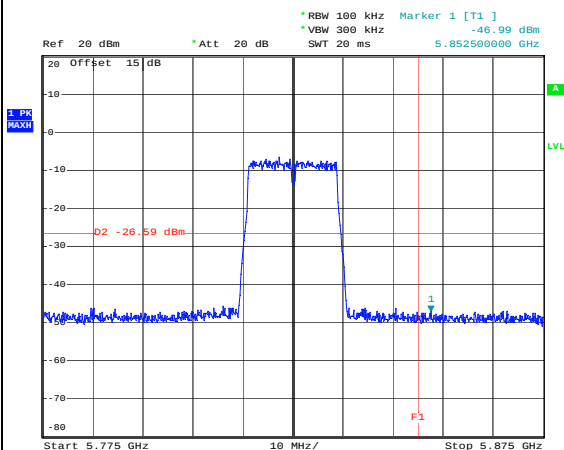
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



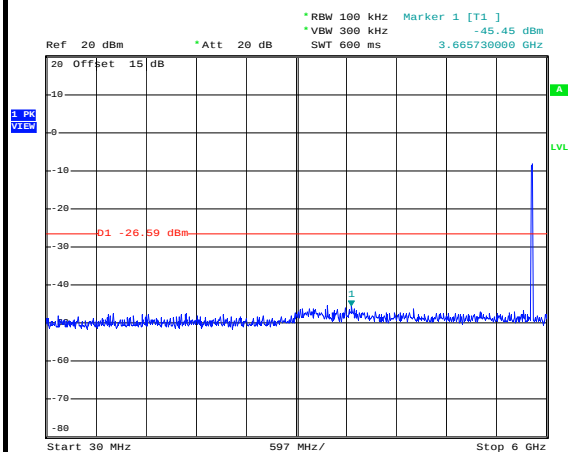
Date: 13.SEP.2013 14:17:15

High Channel Plot



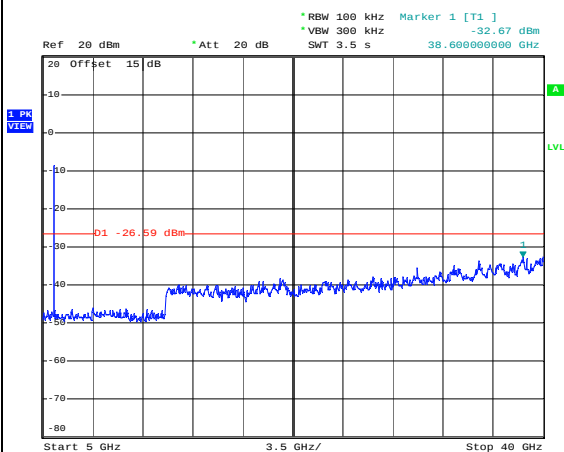
Date: 13.SEP.2013 14:17:30

Spurious Emission 30MHz~6GHz



Date: 13.SEP.2013 14:17:50

Spurious Emission 5GHz~40GHz



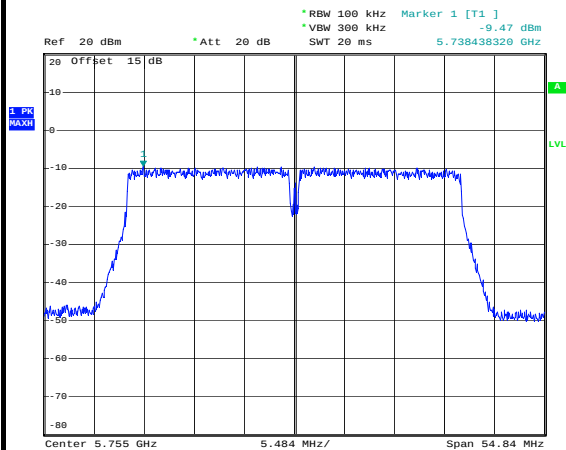
Date: 13.SEP.2013 14:18:09



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	47~48%
Test Channel :	151	Test Engineer :	Adonis Li

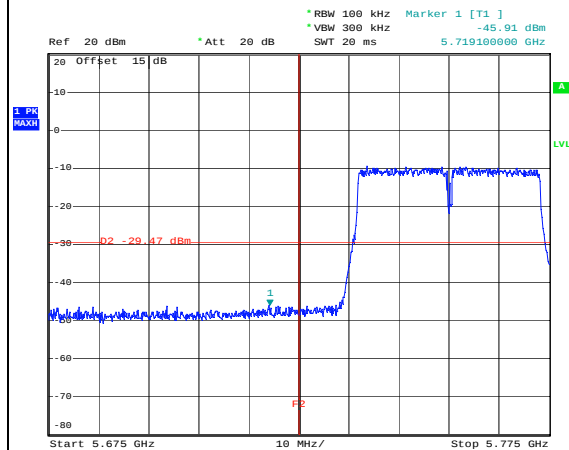
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



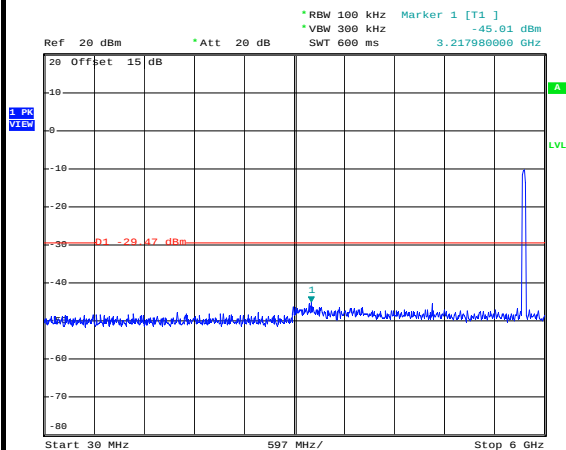
Date: 13.SEP.2013 14:26:07

Low Channel Plot



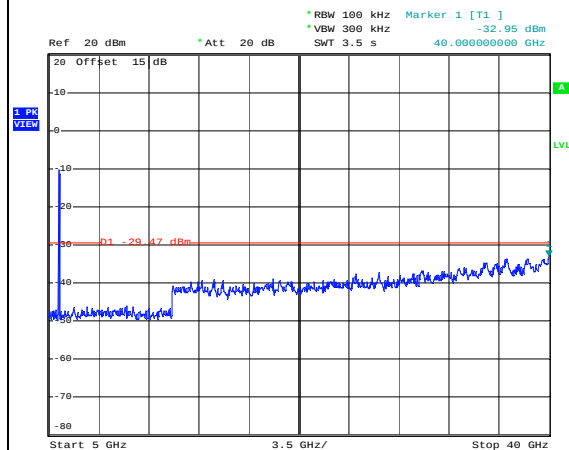
Date: 13.SEP.2013 14:26:22

Spurious Emission 30MHz~6GHz



Date: 13.SEP.2013 14:26:42

Spurious Emission 5GHz~40GHz



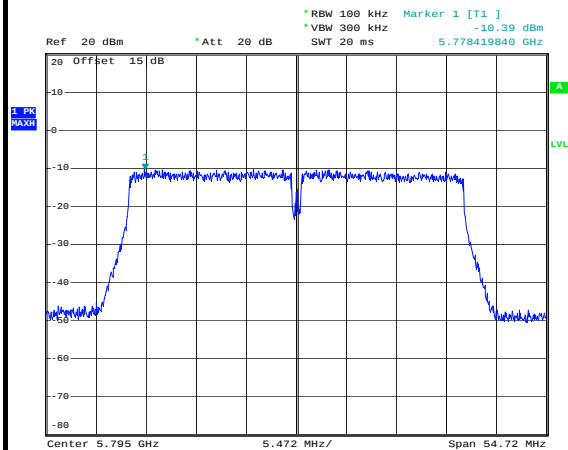
Date: 13.SEP.2013 14:27:01



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	47~48%
Test Channel :	159	Test Engineer :	Adonis Li

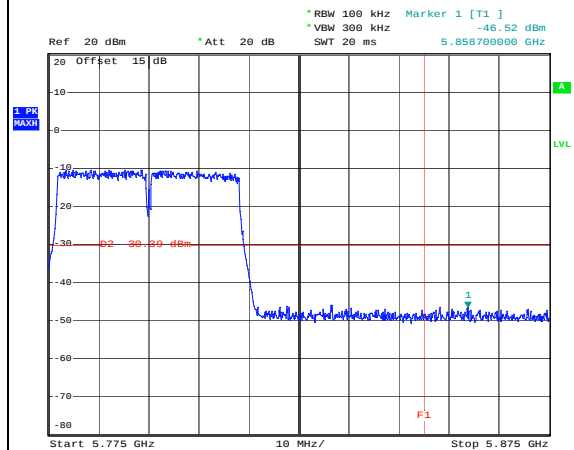
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



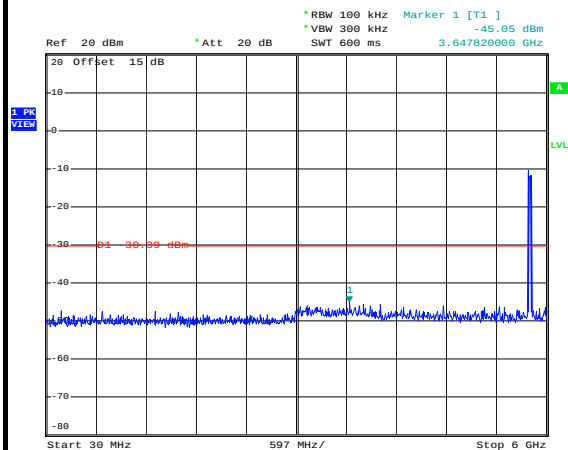
Date: 14.SEP.2013 16:45:52

High Channel Plot



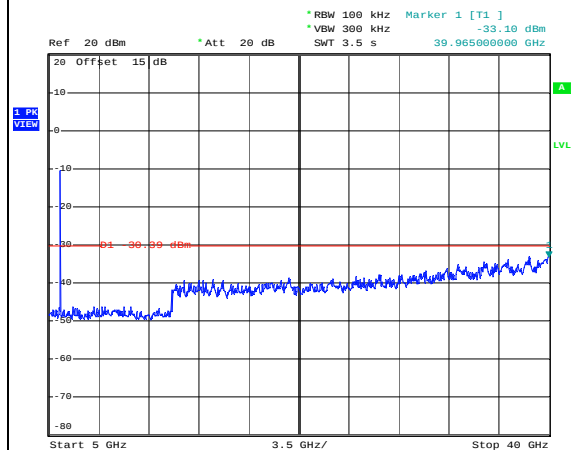
Date: 14.SEP.2013 16:46:07

Spurious Emission 30MHz~6GHz



Date: 14.SEP.2013 16:46:27

Spurious Emission 5GHz~40GHz



Date: 14.SEP.2013 16:46:46

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

The measuring equipment is listed in the section 4 of this test report.

3.5.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamplifier Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

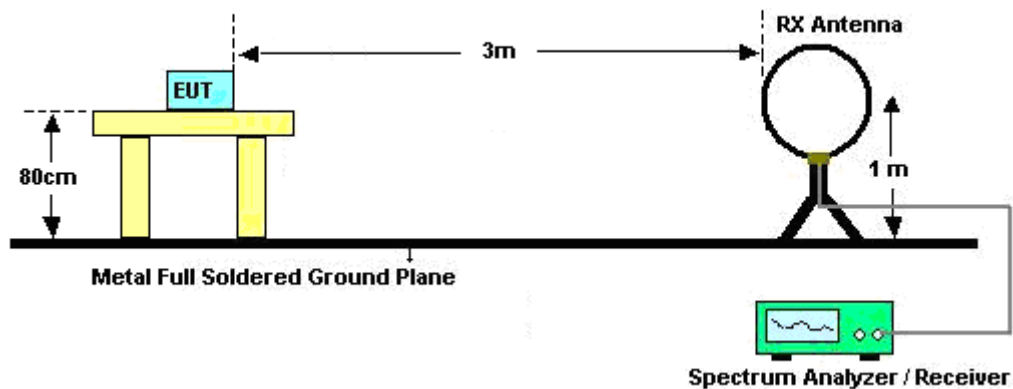
For average measurement:

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

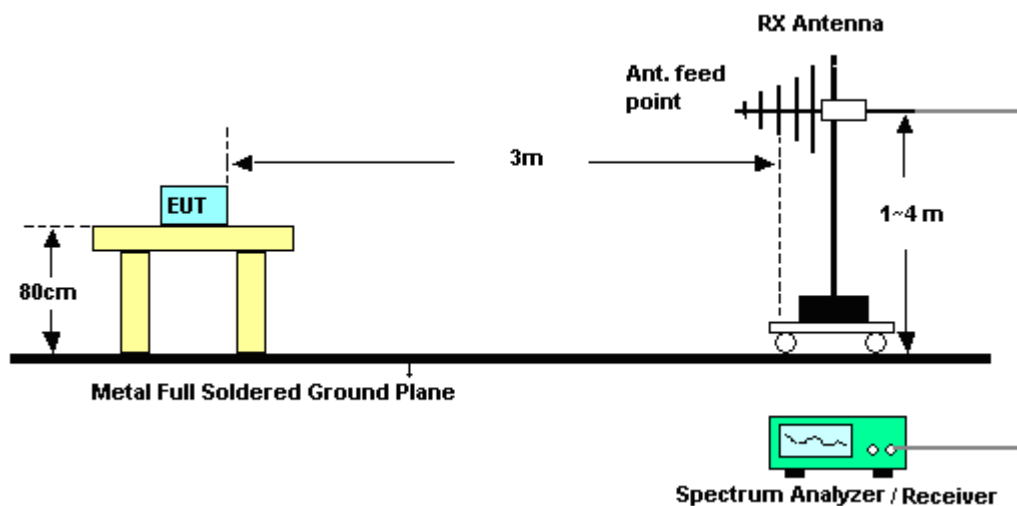
Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	100.00	-	-	10Hz
802.11g	100.00	-	-	10Hz
2.4GHz 802.11n HT20	100.00	-	-	10Hz
2.4GHz 802.11n HT40	100.00	-	-	10Hz
802.11a	100.00	-	-	10Hz
5GHz 802.11n HT20	100.00	-	-	10Hz
5GHz 802.11n HT40	100.00	-	-	10Hz

3.5.4 Test Setup

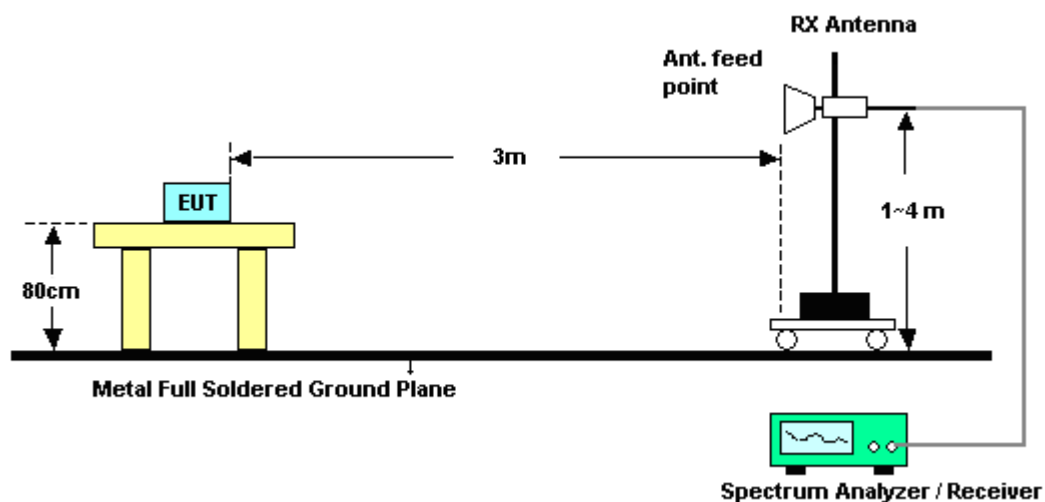
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line per 15.31(o) was not reported.

3.5.6 Test Result of Radiated Spurious at Band Edges

<Adaptor 1>

Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.23	52.7	-21.3	74	47.35	32.86	3.17	30.68	108	330	Peak
2386.59	41.52	-12.48	54	36.17	32.86	3.17	30.68	108	330	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.23	51.18	-22.82	74	45.83	32.86	3.17	30.68	100	264	Peak
2386.41	38.78	-15.22	54	33.43	32.86	3.17	30.68	100	264	Average

Test Mode :	802.11b	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.62	52.31	-21.69	74	46.68	33.01	3.22	30.6	128	203	Peak
2483.5	38.88	-15.12	54	33.25	33.01	3.22	30.6	128	203	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.31	51.01	-22.99	74	45.38	33.01	3.22	30.6	147	269	Peak
2483.5	37.7	-16.3	54	32.07	33.01	3.22	30.6	147	269	Average

Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	61.68	-12.32	74	56.33	32.86	3.17	30.68	167	2	Peak
2390	43.14	-10.86	54	37.79	32.86	3.17	30.68	167	2	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.29	59.32	-14.68	74	53.97	32.86	3.17	30.68	100	267	Peak
2389.83	41.57	-12.43	54	36.22	32.86	3.17	30.68	100	267	Average

Test Mode :	802.11g	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.71	61.96	-12.04	74	56.33	33.01	3.22	30.6	200	0	Peak
2483.5	42.32	-11.68	54	36.69	33.01	3.22	30.6	200	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.31	56.24	-17.76	74	50.61	33.01	3.22	30.6	177	270	Peak
2483.5	39.07	-14.93	54	33.44	33.01	3.22	30.6	177	270	Average

Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	67.32	-6.68	74	61.97	32.86	3.17	30.68	108	206	Peak
2390	44.99	-9.01	54	39.64	32.86	3.17	30.68	108	206	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	66.32	-7.68	74	60.97	32.86	3.17	30.68	118	260	Peak
2390	43.82	-10.18	54	38.47	32.86	3.17	30.68	118	260	Average

Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	71.23	-2.77	74	65.6	33.01	3.22	30.6	107	338	Peak
2483.5	49.16	-4.84	54	43.53	33.01	3.22	30.6	107	338	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.89	65.68	-8.32	74	60.05	33.01	3.22	30.6	119	283	Peak
2483.5	44.33	-9.67	54	38.7	33.01	3.22	30.6	119	283	Average



Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	03	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	69.67	-4.33	74	64.32	32.86	3.17	30.68	200	201	Peak
2390	50.82	-3.18	54	45.47	32.86	3.17	30.68	200	201	Average
2483.62	56.7	-17.3	74	51.07	33.01	3.22	30.6	160	209	Peak
2483.5	41.45	-12.55	54	35.82	33.01	3.22	30.6	160	209	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.66	69.18	-4.82	74	63.83	32.86	3.17	30.68	100	262	Peak
2390	50.52	-3.48	54	45.17	32.86	3.17	30.68	100	262	Average
2484.37	53.01	-20.99	74	47.38	33.01	3.22	30.6	153	306	Peak
2483.59	39.07	-14.93	54	33.44	33.01	3.22	30.6	153	306	Average

Test Mode :	802.11n HT40	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	09	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2380.11	51.58	-22.42	74	46.29	32.83	3.16	30.7	103	235	Peak
2390	37.91	-16.09	54	32.56	32.86	3.17	30.68	103	235	Average
2484.16	67.87	-6.13	74	62.24	33.01	3.22	30.6	133	0	Peak
2483.5	47.15	-6.85	54	41.52	33.01	3.22	30.6	133	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.76	50.94	-23.06	74	45.59	32.86	3.17	30.68	120	294	Peak
2390	37.32	-16.68	54	31.97	32.86	3.17	30.68	120	294	Average
2484.31	60.08	-13.92	74	54.45	33.01	3.22	30.6	120	294	Peak
2483.5	41.85	-12.15	54	36.22	33.01	3.22	30.6	120	294	Average

<Adaptor 2>

Test Mode :	802.11n HT20	Temperature :	22~23°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Star Wei

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	68.49	-5.51	74	62.86	33.01	3.22	30.6	105	0	Peak
2483.5	45.97	-8.03	54	40.34	33.01	3.22	30.6	105	0	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	66.96	-7.04	74	61.33	33.01	3.22	30.6	120	267	Peak
2483.5	44.84	-9.16	54	39.21	33.01	3.22	30.6	120	267	Average

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

Note: Pre-scanned all test modes and only choose the worst case mode recorded in the test report for radiated spurious emission below 1GHz.

<Adaptor 1>

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	108.06	-	-	102.65	32.89	3.18	30.66	108	330	Peak
2412	103.13	-	-	97.72	32.89	3.18	30.66	108	330	Average
4824	50.81	-23.19	74	40.38	35.17	4.58	29.32	100	29	Peak

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	103.4	-	-	97.99	32.89	3.18	30.66	100	264	Peak
2412	98.33	-	-	92.92	32.89	3.18	30.66	100	264	Average
4824	49.6	-24.4	74	39.17	35.17	4.58	29.32	100	25	Peak

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	108.33	-	-	102.81	32.95	3.2	30.63	108	230	Peak
2437	103.34	-	-	97.82	32.95	3.2	30.63	108	230	Average
4874	49.49	-24.51	74	39.03	35.18	4.6	29.32	100	25	Peak
7312	52.5	-21.5	74	40.84	36.2	5.64	30.18	110	95	Peak

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	106.11	-	-	100.59	32.95	3.2	30.63	100	255	Peak
2437	100.62	-	-	95.1	32.95	3.2	30.63	100	255	Average
4874	49.55	-24.45	74	39.09	35.18	4.6	29.32	120	64	Peak
7312	52.64	-21.36	74	40.98	36.2	5.64	30.18	100	19	Peak

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	107.57	-	-	102	32.98	3.21	30.62	128	203	Peak
2462	102.83	-	-	97.26	32.98	3.21	30.62	128	203	Average
4924	49.71	-24.29	74	39.22	35.19	4.61	29.31	100	58	Peak
7386	53.7	-20.3	74	42.02	36.24	5.66	30.22	100	49	Peak

Test Mode :	802.11b	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	104.41	-	-	98.84	32.98	3.21	30.62	147	269	Peak
2462	99.72	-	-	94.15	32.98	3.21	30.62	147	269	Average
4924	49.97	-24.03	74	39.48	35.19	4.61	29.31	125	92	Peak
7386	52.16	-21.84	74	40.48	36.24	5.66	30.22	120	59	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	106.9	-	-	101.49	32.89	3.18	30.66	175	360	Peak
2412	95.3	-	-	89.89	32.89	3.18	30.66	175	360	Average
4824	50.19	-23.81	74	39.76	35.17	4.58	29.32	100	145	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	104.12	-	-	98.71	32.89	3.18	30.66	100	274	Peak
2412	92.85	-	-	87.44	32.89	3.18	30.66	100	274	Average
4824	49.3	-24.7	74	38.87	35.17	4.58	29.32	100	254	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	104.47	-	-	98.95	32.95	3.2	30.63	100	172	Peak
2437	93.45	-	-	87.93	32.95	3.2	30.63	100	172	Average
4874	48.66	-25.34	74	38.2	35.18	4.6	29.32	100	145	Peak
7312	48.46	-25.54	74	36.8	36.2	5.64	30.18	100	125	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	105.28	-	-	99.76	32.95	3.2	30.63	100	273	Peak
2437	94.89	-	-	89.37	32.95	3.2	30.63	100	273	Average
4874	49.28	-24.72	74	38.82	35.18	4.6	29.32	100	124	Peak
7311	47.46	-26.54	74	35.8	36.2	5.64	30.18	100	125	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	108.81	-	-	103.24	32.98	3.21	30.62	135	184	Peak
2462	96.35	-	-	90.78	32.98	3.21	30.62	135	184	Average
4924	50.05	-23.95	74	39.56	35.19	4.61	29.31	100	91	Peak
7386	53.03	-20.97	74	41.35	36.24	5.66	30.22	100	16	Peak

Test Mode :	802.11g	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	101.63	-	-	96.06	32.98	3.21	30.62	179	270	Peak
2462	91.08	-	-	85.51	32.98	3.21	30.62	179	270	Average
4924	50.63	-23.37	74	40.14	35.19	4.61	29.31	100	152	Peak
7386	50.93	-23.07	74	39.25	36.24	5.66	30.22	100	219	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	105.69	-	-	100.28	32.89	3.18	30.66	108	206	Peak
2412	94.67	-	-	89.26	32.89	3.18	30.66	108	206	Average
4824	49.29	-24.71	74	38.86	35.17	4.58	29.32	100	16	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	103.5	-	-	98.09	32.89	3.18	30.66	118	261	Peak
2412	92.46	-	-	87.05	32.89	3.18	30.66	118	261	Average
4824	49.4	-24.6	74	38.97	35.17	4.58	29.32	100	94	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	109.73	-	-	104.21	32.95	3.2	30.63	105	337	Peak
2437	98.77	-	-	93.25	32.95	3.2	30.63	105	337	Average
4874	49.43	-24.57	74	38.97	35.18	4.6	29.32	100	85	Peak
7312	53.5	-20.5	74	41.84	36.2	5.64	30.18	100	93	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	102.98	-	-	97.46	32.95	3.2	30.63	125	246	Peak
2437	92.12	-	-	86.6	32.95	3.2	30.63	125	246	Average
4874	50.38	-23.62	74	39.92	35.18	4.6	29.32	100	85	Peak
7312	53.74	-20.26	74	42.08	36.2	5.64	30.18	100	96	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
148.34	32.08	-11.42	43.5	54.41	10.14	1.11	33.58	-	-	Peak
220.12	34.94	-11.06	46	57	10.1	1.36	33.52	100	14	Peak
299.66	27.48	-18.52	46	46.26	13	1.6	33.38	-	-	Peak
416.06	21.9	-24.1	46	37.24	16.08	1.86	33.28	-	-	Peak
551.86	22.39	-23.61	46	34.8	18.5	2.1	33.01	-	-	Peak
951.5	30.31	-15.69	46	39.2	20.74	2.81	32.44	-	-	Peak
2462	109.46	-	-	103.89	32.98	3.21	30.62	107	340	Peak
2462	98.39	-	-	92.82	32.98	3.21	30.62	107	340	Average
4924	49.94	-24.06	74	39.45	35.19	4.61	29.31	141	56	Peak
7386	52.13	-21.87	74	40.45	36.24	5.66	30.22	160	25	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
43.58	29.26	-10.74	40	52.23	10.03	0.62	33.62	110	16	Peak
94.02	27.67	-15.83	43.5	50.74	9.66	0.89	33.62	-	-	Peak
146.4	27.87	-15.63	43.5	50.06	10.29	1.1	33.58	-	-	Peak
222.06	30.1	-15.9	46	51.99	10.25	1.37	33.51	-	-	Peak
517.91	28.16	-17.84	46	41.61	17.61	2.03	33.09	-	-	Peak
950.53	32.84	-13.16	46	41.74	20.73	2.81	32.44	-	-	Peak
2462	105.73	-	-	100.16	32.98	3.21	30.62	120	283	Peak
2462	94.84	-	-	89.27	32.98	3.21	30.62	120	283	Average
4924	49.68	-24.32	74	39.19	35.19	4.61	29.31	100	12	Peak
7386	53.1	-20.9	74	41.42	36.24	5.66	30.22	150	56	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	03	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2422 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2422	107.39	-	-	101.93	32.92	3.19	30.65	107	212	Peak
2422	96.81	-	-	91.35	32.92	3.19	30.65	107	212	Average
4844	49.39	-24.61	74	38.94	35.18	4.59	29.32	100	52	Peak
7266	53	-21	74	41.34	36.19	5.63	30.16	105	85	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	03	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2422 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2422	103.83	-	-	98.37	32.92	3.19	30.65	100	262	Peak
2422	93.08	-	-	87.62	32.92	3.19	30.65	100	262	Average
4844	50.09	-23.91	74	39.64	35.18	4.59	29.32	100	5	Peak
7266	53.47	-20.53	74	41.81	36.19	5.63	30.16	100	95	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	104.99	-	-	99.47	32.95	3.2	30.63	103	203	Peak
2437	94.01	-	-	88.49	32.95	3.2	30.63	103	203	Average
4874	50.49	-23.51	74	40.03	35.18	4.6	29.32	100	46	Peak
7312	52.93	-21.07	74	41.27	36.2	5.64	30.18	102	8	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	103.45	-	-	97.93	32.95	3.2	30.63	100	262	Peak
2437	92.56	-	-	87.04	32.95	3.2	30.63	100	262	Average
4874	50.3	-23.7	74	39.84	35.18	4.6	29.32	100	54	Peak
7312	52.5	-21.5	74	40.84	36.2	5.64	30.18	100	126	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	09	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2452	104.79	-	-	99.27	32.95	3.2	30.63	103	235	Peak
2452	94.21	-	-	88.69	32.95	3.2	30.63	103	235	Average
4904	49.88	-24.12	74	39.4	35.19	4.61	29.32	125	65	Peak
7356	52.44	-21.56	74	40.78	36.22	5.65	30.21	114	154	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	09	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2452	100.69	-	-	95.17	32.95	3.2	30.63	120	294	Peak
2452	90.19	-	-	84.67	32.95	3.2	30.63	120	294	Average
4904	50.07	-23.93	74	39.59	35.19	4.61	29.32	100	52	Peak
7356	51.49	-22.51	74	39.83	36.22	5.65	30.21	100	98	Peak

Test Mode :	802.11a	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	101.27	-	-	89.95	35.52	5	29.2	100	323	Peak
5745	90.33	-	-	79.01	35.52	5	29.2	100	323	Average
11490	47.31	-26.69	74	54.9	15.14	7.85	30.58	120	141	Peak

Test Mode :	802.11a	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	106.21	-	-	94.89	35.52	5	29.2	100	250	Peak
5745	94.3	-	-	82.98	35.52	5	29.2	100	250	Average
11490	47.73	-26.27	74	55.32	15.14	7.85	30.58	100	212	Peak

Test Mode :	802.11a	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	101.84	-	-	90.49	35.53	5.03	29.21	100	22	Peak
5785	90.92	-	-	79.57	35.53	5.03	29.21	100	22	Average
11571	47.62	-26.38	74	55.06	15.27	7.85	30.56	134	254	Peak

Test Mode :	802.11a	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	105.3	-	-	93.95	35.53	5.03	29.21	106	235	Peak
5785	93.23	-	-	81.88	35.53	5.03	29.21	106	235	Average
11571	47.08	-26.92	74	54.52	15.27	7.85	30.56	120	100	Peak

Test Mode :	802.11a	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	101.3	-	-	89.89	35.55	5.07	29.21	102	34	Peak
5825	90.39	-	-	78.98	35.55	5.07	29.21	102	34	Average
11649	47.36	-26.64	74	54.65	15.41	7.84	30.54	125	141	Peak

Test Mode :	802.11a	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	105.17	-	-	93.76	35.55	5.07	29.21	100	254	Peak
5825	93.64	-	-	82.23	35.55	5.07	29.21	100	254	Average
11649	46.91	-27.09	74	54.2	15.41	7.84	30.54	125	141	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	102.49	-	-	91.17	35.52	5	29.2	103	30	Peak
5745	90.92	-	-	79.6	35.52	5	29.2	103	30	Average
11490	46.98	-27.02	74	54.57	15.14	7.85	30.58	120	114	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	105.67	-	-	94.35	35.52	5	29.2	106	235	Peak
5745	94.02	-	-	82.7	35.52	5	29.2	106	235	Average
11490	47.87	-26.13	74	55.46	15.14	7.85	30.58	102	100	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	101.18	-	-	89.83	35.53	5.03	29.21	100	10	Peak
5785	89.08	-	-	77.73	35.53	5.03	29.21	100	10	Average
11571	47.04	-26.96	74	54.48	15.27	7.85	30.56	102	114	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	105.42	-	-	94.07	35.53	5.03	29.21	100	305	Peak
5785	93.64	-	-	82.29	35.53	5.03	29.21	100	305	Average
11571	45.79	-28.21	74	53.23	15.27	7.85	30.56	100	109	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	100.09	-	-	88.68	35.55	5.07	29.21	100	34	Peak
5825	88.66	-	-	77.25	35.55	5.07	29.21	100	34	Average
11649	46.82	-27.18	74	54.11	15.41	7.84	30.54	120	56	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	103.45	-	-	92.04	35.55	5.07	29.21	100	312	Peak
5825	91.93	-	-	80.52	35.55	5.07	29.21	100	312	Average
11649	46.68	-27.32	74	53.97	15.41	7.84	30.54	114	185	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	151	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5755	97.26	-	-	85.92	35.53	5.01	29.2	100	13	Peak
5755	85.79	-	-	74.45	35.53	5.01	29.2	100	13	Average
11511	45.83	-28.17	74	53.39	15.16	7.86	30.58	132	145	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	151	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5755	102.07	-	-	90.73	35.53	5.01	29.2	102	241	Peak
5755	91.29	-	-	79.95	35.53	5.01	29.2	102	241	Average
11511	46.61	-27.39	74	54.17	15.16	7.86	30.58	102	236	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	159	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5795	98.29	-	-	86.92	35.54	5.04	29.21	100	16	Peak
5795	87.39	-	-	76.02	35.54	5.04	29.21	100	16	Average
11589	46.2	-27.8	74	53.6	15.31	7.85	30.56	100	302	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	22~23°C
Test Channel :	159	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5795	101.85	-	-	90.48	35.54	5.04	29.21	100	225	Peak
5795	90.77	-	-	79.4	35.54	5.04	29.21	100	225	Average
11589	46.03	-27.97	74	53.43	15.31	7.85	30.56	135	251	Peak

<Adaptor 2>

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	108.32	-	-	102.75	32.98	3.21	30.62	105	0	Peak
2462	97.3	-	-	91.73	32.98	3.21	30.62	105	0	Average
4926	50.55	-23.45	74	40.06	35.19	4.61	29.31	100	19	Peak
7386	51.91	-22.09	74	40.23	36.24	5.66	30.22	110	162	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	22~23°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Star Wei	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	106.45	-	-	100.88	32.98	3.21	30.62	120	267	Peak
2462	95.43	-	-	89.86	32.98	3.21	30.62	120	267	Average
4924	49.34	-24.66	74	38.85	35.19	4.61	29.31	100	52	Peak
7386	51.5	-22.5	74	39.82	36.24	5.66	30.22	120	49	Peak

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

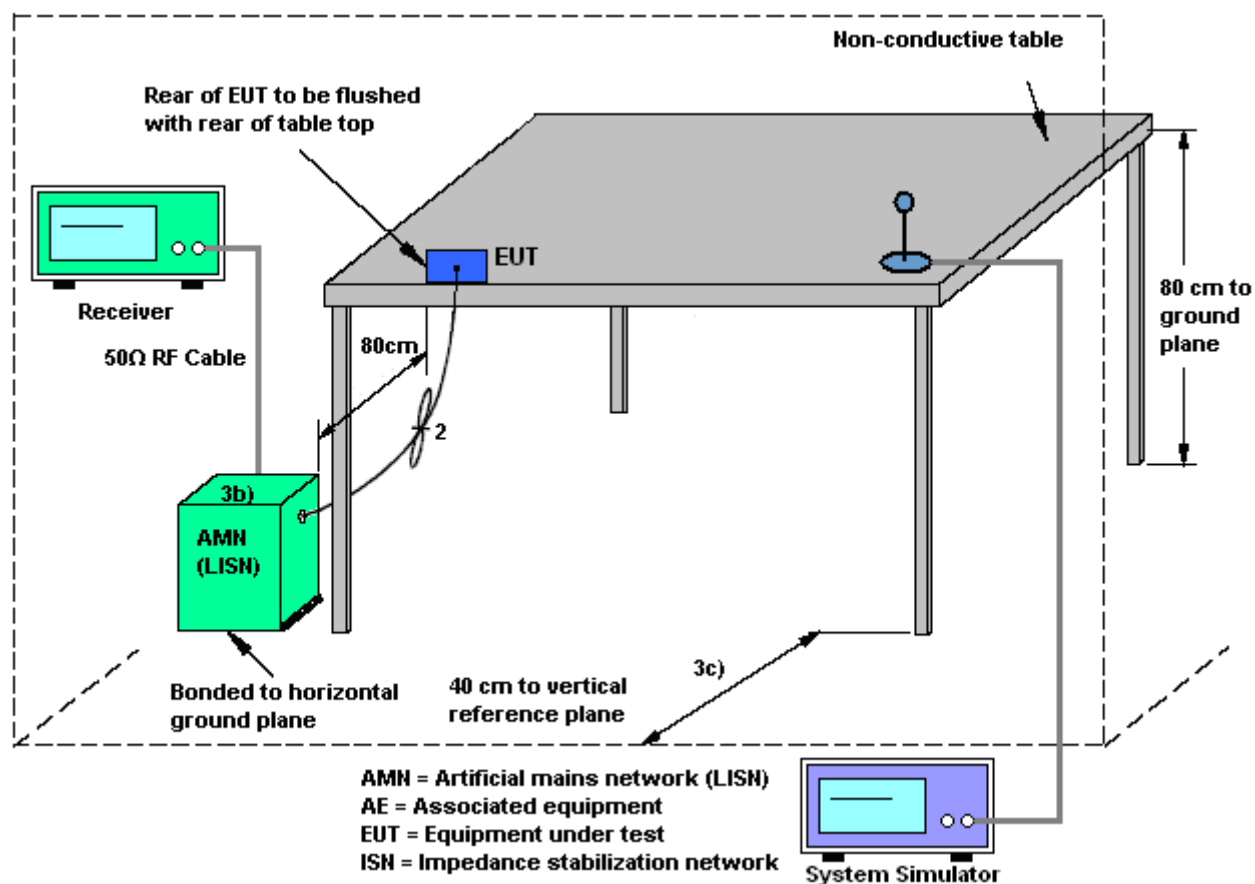
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

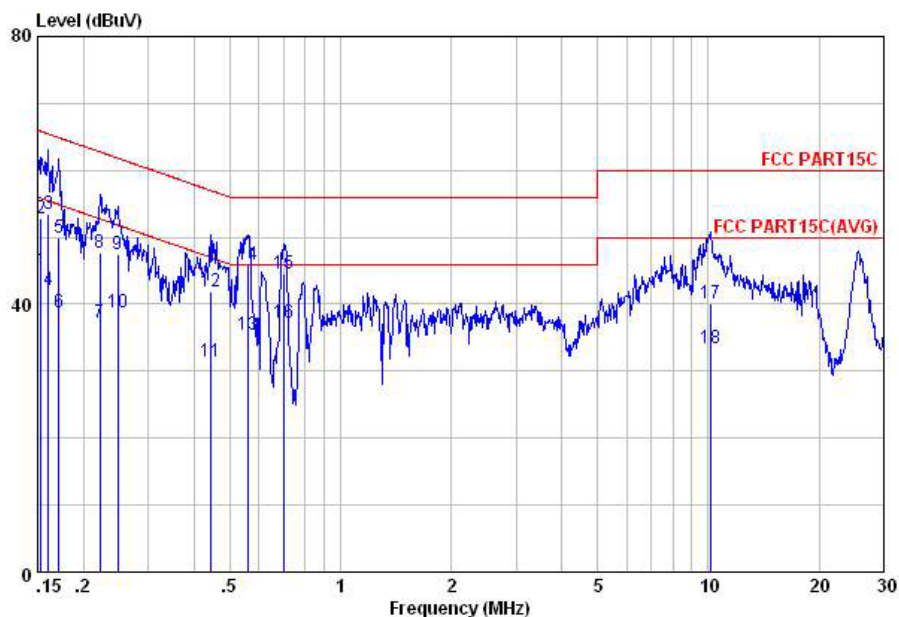
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. 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 2	Temperature :	22~24℃
Test Engineer :	Hawey Tang	Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GPRS850 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter 2) + Earphone		



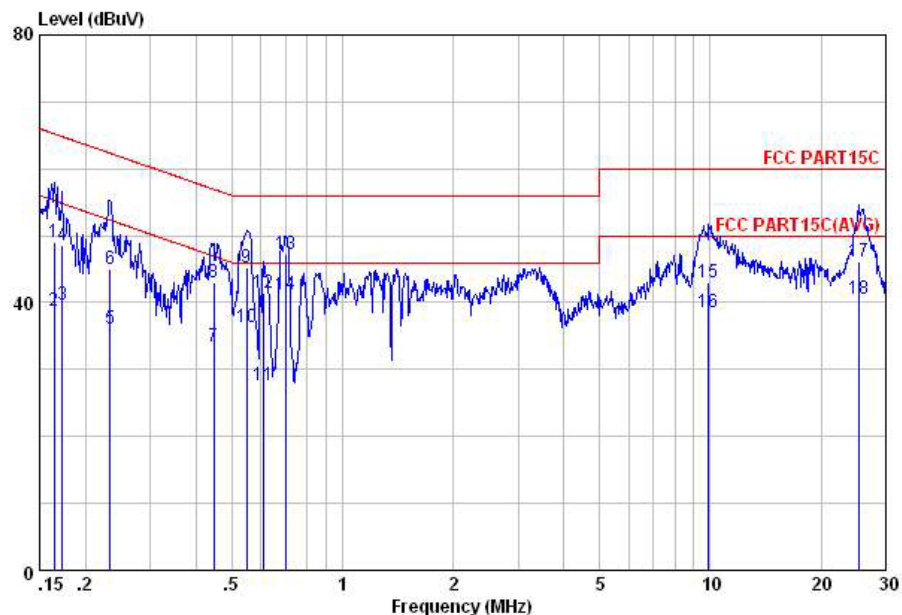
Site : C001-KS
Condition: FCC PART15C LISN-L20130306 LINE

mode : Mode 2

	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBμV	dB	dBμV	dBμV	dB	dB	
1	0.15	44.90	-10.92	55.82	32.30	1.90	10.70	Average
2	0.15	52.80	-13.02	65.82	40.20	1.90	10.70	QP
3	0.16	53.54	-11.89	65.43	41.10	1.77	10.67	QP
4	0.16	42.14	-13.29	55.43	29.70	1.77	10.67	Average
5	0.17	49.97	-14.93	64.90	37.80	1.53	10.64	QP
6	0.17	38.77	-16.13	54.90	26.60	1.53	10.64	Average
7	0.22	37.20	-15.54	52.74	25.70	0.95	10.55	Average
8	0.22	47.70	-15.04	62.74	36.20	0.95	10.55	QP
9	0.25	47.49	-14.33	61.82	36.10	0.88	10.51	QP
10	0.25	38.79	-13.03	51.82	27.40	0.88	10.51	Average
11	0.44	31.43	-15.55	46.98	20.91	0.25	10.27	Average
12	0.44	41.83	-15.15	56.98	31.31	0.25	10.27	QP
13	0.56	35.35	-10.65	46.00	24.90	0.20	10.25	Average
14	0.56	45.85	-10.15	56.00	35.40	0.20	10.25	QP
15	0.70	44.61	-11.39	56.00	34.20	0.20	10.21	QP
16	0.70	37.21	-8.79	46.00	26.80	0.20	10.21	Average
17	10.13	40.16	-19.84	60.00	29.60	0.20	10.36	QP
18	10.13	33.46	-16.54	50.00	22.90	0.20	10.36	Average



Test Mode :	Mode 2	Temperature :	22~24℃
Test Engineer :	Hawey Tang	Relative Humidity :	51~53%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GPRS850 Idle + Bluetooth Link + WLAN (5GHz) Link + USB Cable (Charging from Adapter 2) + Earphone		



Site : C001-KS
Condition: FCC PART15C LISN-N20130306 NEUTRAL

mode : Mode 2

	Freq	Level	Over	Limit	Read	LISN	Cable	
	MHz	dBuV	Limit	Line	Level	Factor	Loss	Remark
			dB	dBuV	dBuV	dB	dB	
1	0.16	49.12	-16.13	65.25	36.80	1.66	10.66	QP
2	0.16	38.72	-16.53	55.25	26.40	1.66	10.66	Average
3	0.17	39.59	-15.22	54.81	27.50	1.45	10.64	Average
4	0.17	48.49	-16.32	64.81	36.40	1.45	10.64	QP
5	0.23	36.07	-16.28	52.35	24.61	0.93	10.53	Average
6	0.23	44.97	-17.38	62.35	33.51	0.93	10.53	QP
7	0.45	33.42	-13.51	46.93	22.80	0.35	10.27	Average
8	0.45	42.92	-14.01	56.93	32.30	0.35	10.27	QP
9	0.55	45.33	-10.67	56.00	34.80	0.28	10.25	QP
10	0.55	36.43	-9.57	46.00	25.90	0.28	10.25	Average
11	0.61	27.58	-18.42	46.00	17.10	0.24	10.24	Average
12	0.61	41.48	-14.52	56.00	31.00	0.24	10.24	QP
13	0.70	47.31	-8.69	56.00	36.90	0.20	10.21	QP
14	0.70	41.31	-4.69	46.00	30.90	0.20	10.21	Average
15	9.91	42.96	-17.04	60.00	32.40	0.20	10.36	QP
16	9.91	38.46	-11.54	50.00	27.90	0.20	10.36	Average
17	25.32	46.05	-13.95	60.00	35.30	0.20	10.55	QP
18	25.32	40.65	-9.35	50.00	29.90	0.20	10.55	Average

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP40	100319	9kHz~40GHz	Dec. 29, 2012	Sep. 13, 2013~ Sep. 24, 2013	Dec. 28, 2013	Conducted (TH01-KS)
Pulse Power Sensor	Anritsu	MA2411B	0917070	N/A	Feb. 28, 2013	Sep. 13, 2013~ Sep. 24, 2013	Feb. 27, 2014	Conducted (TH01-KS)
Power Meter	Anritsu	ML2495A	1005002	N/A	Feb. 28, 2013	Sep. 13, 2013~ Sep. 24, 2013	Feb. 27, 2014	Conducted (TH01-KS)
EMI Test Receiver	R&S	ESCI	100534	9kHz~3GHz	Nov. 08, 2012	Sep. 25, 2013	Nov. 07, 2013	Radiation (03CH01-KS)
Spectrum Analyzer	R&S	FSP30	101399	9kHz~30GHz	May 23, 2013	Sep. 25, 2013	May 22, 2014	Radiation (03CH01-KS)
Bilog Antenna	SCHAFFNER	CBL6112D	23182	25MHz~2GHz	Dec. 07, 2012	Sep. 25, 2013	Dec. 06, 2013	Radiation (03CH01-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 22, 2012	Sep. 25, 2013	Oct. 21, 2013	Radiation (03CH01-KS)
Double Ridge Horn Antenna	EMCO	3117	00075959	1GHz~18GHz	Jan. 06, 2013	Sep. 25, 2013	Jan. 05, 2014	Radiation (03CH01-KS)
Turn Table	MF	MF7802	N/A	0~360 degree	N/A	Sep. 25, 2013	N/A	Radiation (03CH01-KS)
Antenna Mast	MF	MF7802	N/A	1 m~4 m	N/A	Sep. 25, 2013	N/A	Radiation (03CH01-KS)
Amplifier	com-power	PA-103A	161069	1MHz~1GHz	May 23, 2013	Sep. 25, 2013	May 22, 2014	Radiation (03CH01-KS)
Amplifier	Agilent	8449B	3008A02370	1GHz~26.5GHz	Dec. 29, 2012	Sep. 25, 2013	Dec. 28, 2013	Radiation (03CH01-KS)
Active Horn Antenna	com-power	AHA-118	701023	1GHz~18GHz	Nov. 07, 2012	Sep. 25, 2013	Nov. 06, 2013	Radiation (03CH01-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	9170249	15GHz~40GHz	Nov. 23, 2012	Sep. 25, 2013	Nov. 22, 2013	Radiation (03CH01-KS)
EMI Receiver	R&S	ESCI7	100768	9kHz~7GHz	May 23, 2013	Aug. 21, 2013	May 22, 2014	Conduction (CO01-KS)
AC LISN	MessTec	AN3016	60103	9kHz~30MHz	Dec. 29, 2012	Aug. 21, 2013	Dec. 28, 2013	Conduction (CO01-KS)
AC LISN (for auxiliary equipment)	MessTec	AN3016	60105	9kHz~30MHz	Dec. 29, 2012	Aug. 21, 2013	Dec. 28, 2013	Conduction (CO01-KS)
AC Power Source	Chroma	61602	ABP0000008 11	N/A	Nov. 15, 2012	Aug. 21, 2013	Nov. 14, 2013	Conduction (CO01-KS)

5 Uncertainty of Evaluation

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

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

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

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