

FCC RF Test Report

APPLICANT : Ailen LLC
EQUIPMENT : Digital Media Receiver
MODEL NAME : CL1130
FCC ID : S59-4891
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was completely tested on Aug. 30, 2013. We, SPORTON INTERNATIONAL 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 INC., the test report shall not be reproduced except in full.



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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

Report No. : FR332717-02C
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Page Number : 1 of 117

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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.66 dB at 2483.59 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 8.10 dB at 0.502 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Ailen LLC
P.O. Box 8125
Wilmington, DE 19803

1.2 Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	CL1130
FCC ID	S59-4891
EUT supports Radios application	WLAN 11abgn / Bluetooth 2.1/3.0/4.0

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

1.3 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	<p><2412 MHz ~ 2462 MHz > <Ant. 1> 802.11b : 19.76 dBm (0.0946 W) 802.11g : 20.96 dBm (0.1247 W) 802.11n HT20 : 21.06 dBm (0.1276 W) MIMO <Ant. 1+2> 802.11n HT20 : 24.01 dBm (0.2518 W)</p> <p><5745 MHz ~ 5825 MHz > <Ant. 1> 802.11a : 20.20 dBm (0.1047 W) 802.11n HT20 : 20.32 dBm (0.1076 W) 802.11n HT40 : 19.36 dBm (0.0863 W) MIMO <Ant. 1+2> 802.11n HT20 : 23.18 dBm (0.2080 W) 802.11n HT40 : 22.49 dBm (0.1774 W)</p>																		
Antenna Type	<p><Ant. 1> <2412 MHz ~ 2462 MHz > 802.11b/g/n : Fixed Internal Antenna type with gain 3.00 dBi <5745 MHz ~ 5825 MHz > 802.11a/n : Fixed Internal Antenna type with gain 3.60 dBi <Ant. 2> <2412 MHz ~ 2462 MHz > 802.11b/g/n : Fixed Internal Antenna type with gain 1.80 dBi <5745 MHz ~ 5825 MHz > 802.11a/n : Fixed Internal Antenna type with gain 1.00 dBi</p>																		
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)																		
Antenna Function for Transmitter	<table border="1"> <thead> <tr> <th></th> <th>Ant 1.</th> <th>Ant 2.</th> </tr> </thead> <tbody> <tr> <td>802.11 b</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 g</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 a</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 n SISO</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 n MIMO</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Ant 1.	Ant 2.	802.11 b	V	-	802.11 g	V	-	802.11 a	V	-	802.11 n SISO	V	-	802.11 n MIMO	V	V
	Ant 1.	Ant 2.																	
802.11 b	V	-																	
802.11 g	V	-																	
802.11 a	V	-																	
802.11 n SISO	V	-																	
802.11 n MIMO	V	V																	

1.4 Modification of EUT

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

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH02-HY	CO05-HY	03CH08-HY	636805/4086B

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

1.6 Applied Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v01r02.
- ♦ ANSI C63.4-2003

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 (Y plane for SISO; X plane and Z plane for MIMO) 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 and 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 the highest data rates of peak power were chosen for full test shown in the following tables.

<Ant. 1>

802.11b				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	19.76	19.74	19.67	19.68

802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	20.96	20.80	20.77	20.76	20.73	20.72	20.57	20.54

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.06	20.98	20.97	20.86	20.89	20.86	20.85	19.98

802.11a								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	20.20	20.04	19.98	19.91	20.02	19.91	19.75	19.58

5GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	20.32	20.12	20.01	20.00	19.92	19.91	20.11	19.58

5GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	19.36	19.02	18.95	19.00	18.88	19.02	18.95	18.61

MIMO <Ant. 1+2>

2.4GHz 802.11n HT20								
Data Rate (MHz)	MSC0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	23.92	23.85	23.77	23.73	23.75	23.47	23.87	23.23
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	24.01	23.82	23.87	23.98	23.65	24.00	23.80	23.42

5GHz 802.11n HT20								
Data Rate (MHz)	MSC0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.56	22.54	22.51	22.29	22.22	22.29	22.41	21.98
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	23.18	23.11	22.92	22.89	22.63	22.82	22.98	22.76

5GHz 802.11n HT40								
Data Rate (MHz)	MSC0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.24	22.13	22.10	21.66	21.81	21.79	21.77	21.43
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	22.49	22.37	22.40	22.40	22.48	21.96	22.26	22.02

Note: MIMO Ant 1+2 is a calculated result from sum of the power MIMO Ant 1 and MIMO Ant 2.

2.3 Test Mode

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

<2.4GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	6dB BW Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MSC0/MCS8	1/6/11
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/2/6/10/11
		802.11n HT20	MSC0/MCS8	1/2/6/10/11
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	MSC0/MCS8	1/11
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MSC0/MCS8	1/6/11
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/2/10/11
		802.11n HT20	MSC0/MCS8	1/2/10/11
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	MSC0/MCS8	1/6/11

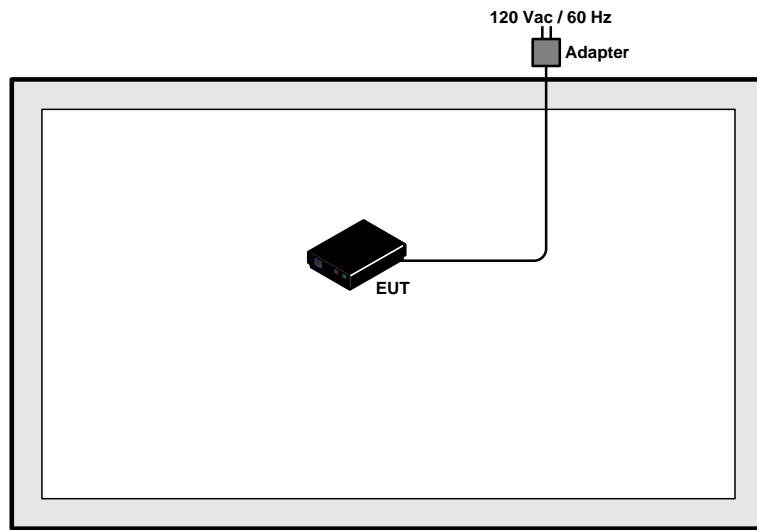
<5GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB BW Power Spectral Density	802.11a	6 Mbps	149/157/165
		802.11n HT20	MSC0/MCS8	149/157/165
		802.11n HT40	MSC0/MCS8	151/159
	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20	MSC0/MCS8	149/157/165
		802.11n HT40	MSC0/MCS8	151/159
	Conducted Band EDGE	802.11a	6 Mbps	149/165
		802.11n HT20	MSC0/MCS8	149/165
		802.11n HT40	MSC0/MCS8	151/159
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	MSC0/MCS8	149/157/165
		802.11n HT40	MSC0/MCS8	151/159
	Radiated TCs	Radiated Band EDGE	802.11a	6 Mbps
802.11n HT20			MSC0/MCS8	149/165
802.11n HT40			MSC0/MCS8	151/159
Radiated Spurious Emission		802.11a	6 Mbps	149/157/165
		802.11n HT20	MSC0/MCS8	149/157/165
		802.11n HT40	MSC0/MCS8	151/159

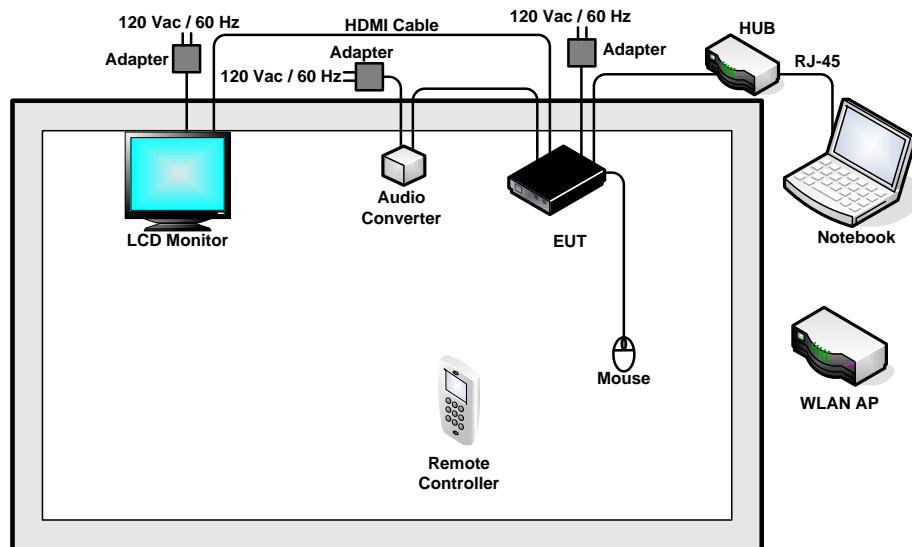
Test Cases	
AC Conducted Emission	Mode 1 : WLAN (2.4G) Link + Bluetooth Link + HDMI Cable + RJ-45 Load + Audio Converter Load + Mouse + MPEG4 + Adapter Mode 2 : WLAN (5G) Link + Bluetooth Link + HDMI Cable + RJ-45 Load + Audio Converter Load + Mouse + MPEG4 + Adapter
Remark:	
1. The worst case of conducted emission is mode 1; only the test data of it was reported. 2. HDMI Cable means media application transferred between EUT and external display.	

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-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	Mouse	Lenovo	SM-1035	FCC DoC	Shielded, 1.4 m	N/A
3.	Audio Converter	Upmost	1039-CA	FCC DoC	Shielded, 1.0 m	Unshielded, 1.8 m
4.	Notebook	DELL	Latitude E6320	FCC DoC	Unshielded, 3m	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
6.	HUB	D-Link	DES-1005A	FCC DoC	Unshielded, 3m	Unshielded, 1.4m
7.	Adapter	Foxlink	RE54WE	Verification	N/A	Shielded, 1.5 m
8.	Remote controller	N/A	DU3560	Verification	N/A	N/A

2.6 Description of RF Function Operation Test Setup

For WLAN function, programmed RF utility, "ADB" make the EUT provides functions like channel selection and power level for continuous transmitting and receiving signals.

2.7 Measurement Results Explanation Example

For all conducted test items:

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

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 4.2 dB and 10dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

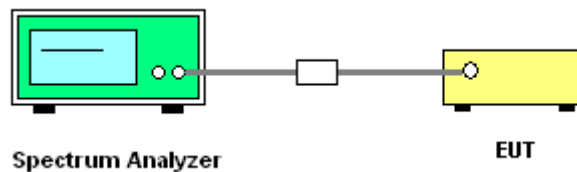
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance 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. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Band :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	55~58%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Chain Port 0 Ant. 1	Chain Port 1 Ant. 2		
11b	1Mbps	1	1	2412	7.10	-	0.5	Pass
11b	1Mbps	1	6	2437	7.56	-	0.5	Pass
11b	1Mbps	1	11	2462	7.10	-	0.5	Pass
11g	6Mbps	1	1	2412	16.31	-	0.5	Pass
11g	6Mbps	1	6	2437	16.33	-	0.5	Pass
11g	6Mbps	1	11	2462	16.30	-	0.5	Pass
HT20	MCS0	1	1	2412	17.50	-	0.5	Pass
HT20	MCS0	1	6	2437	16.96	-	0.5	Pass
HT20	MCS0	1	11	2462	17.34	-	0.5	Pass
HT20	MCS8	2	1	2412	17.62	17.59	0.5	Pass
HT20	MCS8	2	6	2437	17.60	17.60	0.5	Pass
HT20	MCS8	2	11	2462	17.60	17.60	0.5	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Chain Port 0 Ant. 1	Chain Port 1 Ant. 2		
11a	6Mbps	1	149	5745	16.28	-	0.5	Pass
11a	6Mbps	1	157	5785	16.28	-	0.5	Pass
11a	6Mbps	1	165	5825	16.28	-	0.5	Pass
HT20	MCS0	1	149	5745	16.92	-	0.5	Pass
HT20	MCS0	1	157	5785	16.80	-	0.5	Pass
HT20	MCS0	1	165	5825	16.80	-	0.5	Pass
HT40	MCS0	1	151	5755	35.04	-	0.5	Pass
HT40	MCS0	1	159	5795	35.00	-	0.5	Pass
HT20	MCS8	2	149	5745	17.56	17.56	0.5	Pass
HT20	MCS8	2	157	5785	17.56	17.56	0.5	Pass
HT20	MCS8	2	165	5825	17.56	17.54	0.5	Pass
HT40	MCS8	2	151	5755	33.84	35.04	0.5	Pass
HT40	MCS8	2	159	5795	32.56	32.56	0.5	Pass

Minimum 6dB Bandwidth



MARKER 2

2.41550641 GHz

*RBW 100 kHz

Delta 2 [T1]

*VBW 300 kHz

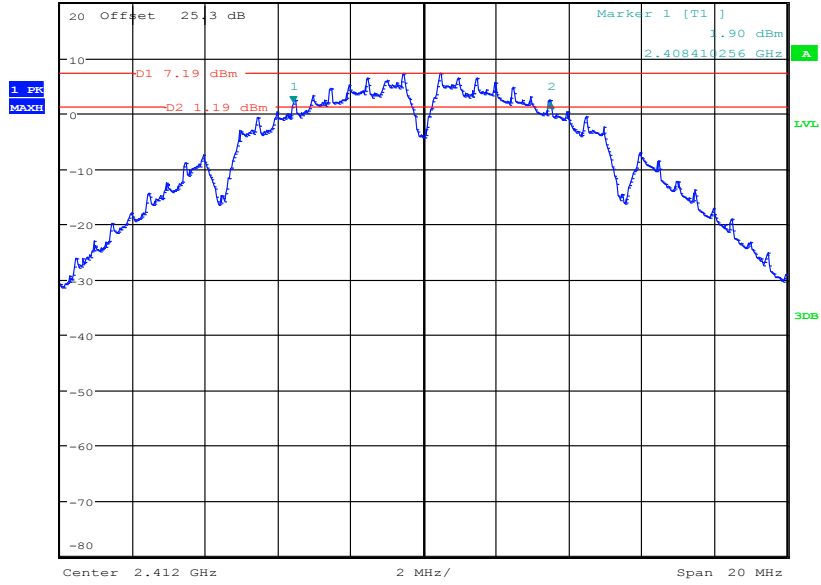
-0.16 dB

Ref 20 dBm

*Att 20 dB

SWT 10 ms

7.096153846 MHz



Date: 1.JUL.2013 16:33:16

3.2 Peak Output Power Measurement

3.2.1 Limit of Peak 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 with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

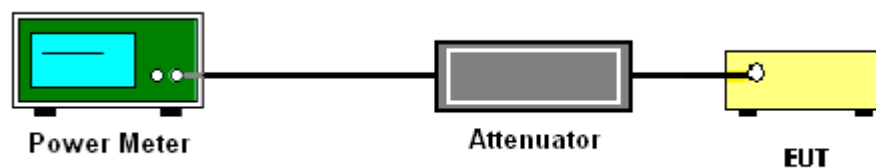
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance 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.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Band :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	55~58%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)			Power Limit (dBm)	DG (dBi)	Pass/Fail
					Chain Port 0 Ant. 1	Chain Port 1 Ant. 2	Sum Power			
11b	1Mbps	1	1	2412	19.76	-	-	30	3.00	Pass
11b	1Mbps	1	6	2437	19.75	-	-	30	3.00	Pass
11b	1Mbps	1	11	2462	19.68	-	-	30	3.00	Pass
11g	6Mbps	1	1	2412	15.73	-	-	30	3.00	Pass
11g	6Mbps	1	2	2417	19.02	-	-	30	3.00	Pass
11g	6Mbps	1	6	2437	20.96	-	-	30	3.00	Pass
11g	6Mbps	1	10	2457	19.65			30	3.00	Pass
11g	6Mbps	1	11	2462	15.54			30	3.00	Pass
HT20	MCS0	1	1	2412	14.51			30	3.00	Pass
HT20	MCS0	1	2	2417	19.65	-	-	30	3.00	Pass
HT20	MCS0	1	6	2437	21.06			30	3.00	Pass
HT20	MCS0	1	10	2457	19.85	-	-	30	3.00	Pass
HT20	MCS0	1	11	2462	14.50	-	-	30	3.00	Pass
HT20	MCS8	2	1	2412	13.29	12.94	16.13	30	2.44	Pass
HT20	MCS8	2	2	2417	18.42	18.92	21.69	30	2.44	Pass
HT20	MCS8	2	6	2437	21.73	20.12	24.01	30	2.44	Pass
HT20	MCS8	2	10	2457	19.52	19.34	22.44	30	2.44	Pass
HT20	MCS8	2	11	2462	15.03	13.51	17.35	30	2.44	Pass

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

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)			Power Limit (dBm)	DG (dBi)	Pass/Fail
					Chain Port 0 Ant. 1	Chain Port 1 Ant. 2	Sum Power			
11a	6Mbps	1	149	5745	20.08	-	-	30	3.60	Pass
11a	6Mbps	1	157	5785	20.20	-	-	30	3.60	Pass
11a	6Mbps	1	165	5825	20.05	-	-	30	3.60	Pass
HT20	MCS0	1	149	5745	20.14	-	-	30	3.60	Pass
HT20	MCS0	1	157	5785	20.32	-	-	30	3.60	Pass
HT20	MCS0	1	165	5825	20.13	-	-	30	3.60	Pass
HT40	MCS0	1	151	5755	19.35	-	-	30	3.60	Pass
HT40	MCS0	1	159	5795	19.36	-	-	30	3.60	Pass
HT20	MCS8	2	149	5745	20.83	19.24	23.12	30	2.49	Pass
HT20	MCS8	2	157	5785	21.22	18.79	23.18	30	2.49	Pass
HT20	MCS8	2	165	5825	20.79	18.79	22.91	30	2.49	Pass
HT40	MCS8	2	151	5755	20.13	18.56	22.43	30	2.49	Pass
HT40	MCS8	2	159	5795	20.31	18.46	22.49	30	2.49	Pass

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

3.2.6 Test Result of Average output Power (Reporting Only)

Test Band :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	55~58%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		RF Output Power (dBm)			Power Limit (dBm)	DG (dBi)	Pass/Fail
					Chain Port 0	Chain Port 1	Chain Port 0	Chain Port 1	Sum Power			
					Ant. 1	Ant. 2	Ant. 1	Ant. 2				
11b	1Mbps	1	1	2412	0.00	-	16.82	-	-	30	3.00	Pass
11b	1Mbps	1	6	2437	0.00	-	16.89	-	-	30	3.00	Pass
11b	1Mbps	1	11	2462	0.00	-	16.72	-	-	30	3.00	Pass
11g	6Mbps	1	1	2412	0.12		9.66			30	3.00	Pass
11g	6Mbps	1	2	2417	0.12		13.24			30	3.00	Pass
11g	6Mbps	1	6	2437	0.12		14.94			30	3.00	Pass
11g	6Mbps	1	10	2457	0.12		13.84			30	3.00	Pass
11g	6Mbps	1	11	2462	0.12	-	9.24	-	-	30	3.00	Pass
HT20	MCS0	1	1	2412	0.13	-	7.94	-	-	30	3.00	Pass
HT20	MCS0	1	2	2417	0.13	-	13.61	-	-	30	3.00	Pass
HT20	MCS0	1	6	2437	0.13	-	15.03	-	-	30	3.00	Pass
HT20	MCS0	1	10	2457	0.13	-	13.72	-	-	30	3.00	Pass
HT20	MCS0	1	11	2462	0.13	-	7.73	-	-	30	3.00	Pass
HT20	MCS8	2	1	2412	0.26	0.30	6.61	6.39	9.51	30	2.44	Pass
HT20	MCS8	2	2	2417	0.26	0.30	12.48	12.99	15.75	30	2.44	Pass
HT20	MCS8	2	6	2437	0.26	0.30	15.81	14.06	18.03	30	2.44	Pass
HT20	MCS8	2	10	2457	0.26	0.30	13.60	13.20	16.41	30	2.44	Pass
HT20	MCS8	2	11	2462	0.26	0.30	8.28	6.87	10.64	30	2.44	Pass

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

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		RF Output Power (dBm)			Power Limit (dBm)	DG (dBi)	Pass/Fail
					Chain	Chain	Chain	Chain	Sum Power			
					Port 0	Port 1	Port 0	Port 1				
					Ant. 1	Ant. 2	Ant. 1	Ant. 2				
11a	6Mbps	1	149	5745	0.08	-	14.91	-	-	30	3.60	Pass
11a	6Mbps	1	157	5785	0.08	-	15.05	-	-	30	3.60	Pass
11a	6Mbps	1	165	5825	0.08	-	15.00	-	-	30	3.60	Pass
HT20	MCS0	1	149	5745	0.09	-	14.89	-	-	30	3.60	Pass
HT20	MCS0	1	157	5785	0.09	-	15.00	-	-	30	3.60	Pass
HT20	MCS0	1	165	5825	0.09	-	14.77	-	-	30	3.60	Pass
HT40	MCS0	1	151	5755	0.13	-	15.09	-	-	30	3.60	Pass
HT40	MCS0	1	159	5795	0.13	-	15.05	-	-	30	3.60	Pass
HT20	MCS8	2	149	5745	0.17	0.17	15.96	13.92	18.07	30	2.49	Pass
HT20	MCS8	2	157	5785	0.17	0.17	16.03	13.39	17.92	30	2.49	Pass
HT20	MCS8	2	165	5825	0.17	0.17	15.86	12.89	17.64	30	2.49	Pass
HT40	MCS8	2	151	5755	0.25	0.30	15.96	13.57	17.94	30	2.49	Pass
HT40	MCS8	2	159	5795	0.25	0.30	16.00	13.39	17.90	30	2.49	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

See list of measuring instruments 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.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02.

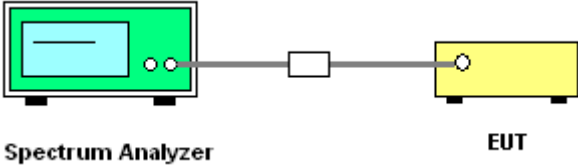
If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

Method (2): Measure and add $10 \log(N)$ dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Band :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	55~58%

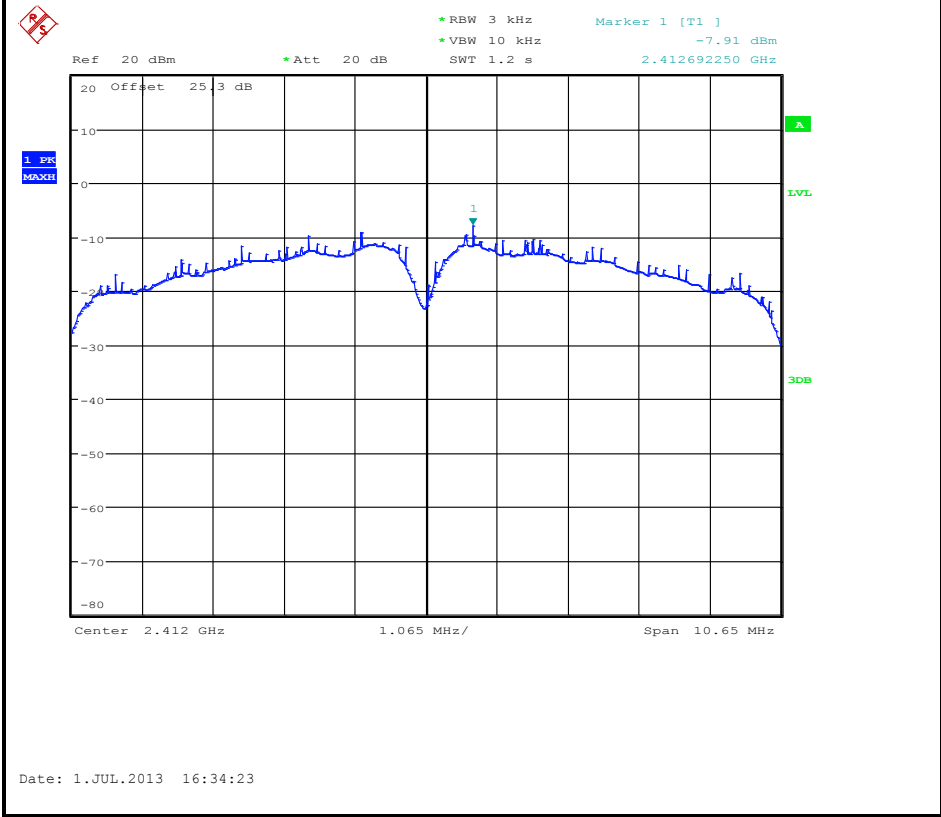
Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)			Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
					Chain Port 0 Ant. 1	Chain Port 1 Ant. 2	Worst +10log(2)			
					11b	1Mbps	1			
11b	1Mbps	1	6	2437	-8.26	-	-	8	3.00	Pass
11b	1Mbps	1	11	2462	-8.06	-	-	8	3.00	Pass
11g	6Mbps	1	1	2412	-18.51	-	-	8	3.00	Pass
11g	6Mbps	1	6	2437	-13.68	-	-	8	3.00	Pass
11g	6Mbps	1	11	2462	-18.13	-	-	8	3.00	Pass
HT20	MCS0	1	1	2412	-19.92	-	-	8	3.00	Pass
HT20	MCS0	1	6	2437	-12.75	-	-	8	3.00	Pass
HT20	MCS0	1	11	2462	-19.20	-	-	8	3.00	Pass
HT20	MCS8	2	1	2412	-21.30	-20.08	-17.07	8	5.45	Pass
HT20	MCS8	2	6	2437	-12.47	-13.04	-9.46	8	5.45	Pass
HT20	MCS8	2	11	2462	-19.10	-18.45	-15.44	8	5.45	Pass

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

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)			Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
					Chain Port 0 Ant. 1	Chain Port 1 Ant. 2	Worst +10log(2)			
11a	6Mbps	1	149	5745	-12.38	-	-	8	3.60	Pass
11a	6Mbps	1	157	5785	-12.52	-	-	8	3.60	Pass
11a	6Mbps	1	165	5825	-12.86	-	-	8	3.60	Pass
HT20	MCS0	1	149	5745	-12.36	-	-	8	3.60	Pass
HT20	MCS0	1	157	5785	-12.60	-	-	8	3.60	Pass
HT20	MCS0	1	165	5825	-12.47	-	-	8	3.60	Pass
HT40	MCS0	1	151	5755	-14.45	-	-	8	3.60	Pass
HT40	MCS0	1	159	5795	-15.18	-	-	8	3.60	Pass
HT20	MCS8	2	149	5745	-11.85	-12.50	-8.84	8	5.50	Pass
HT20	MCS8	2	157	5785	-11.24	-10.50	-7.49	8	5.50	Pass
HT20	MCS8	2	165	5825	-11.11	-12.21	-8.10	8	5.50	Pass
HT40	MCS8	2	151	5755	-13.45	-11.49	-8.48	8	5.50	Pass
HT40	MCS8	2	159	5795	-12.89	-12.66	-9.65	8	5.50	Pass

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

Worst Case Power Density (dBm/3kHz)



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

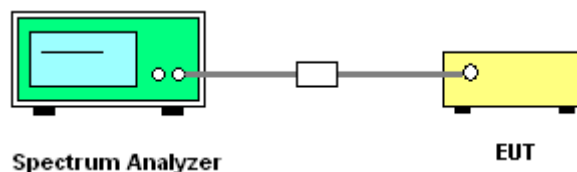
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance 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



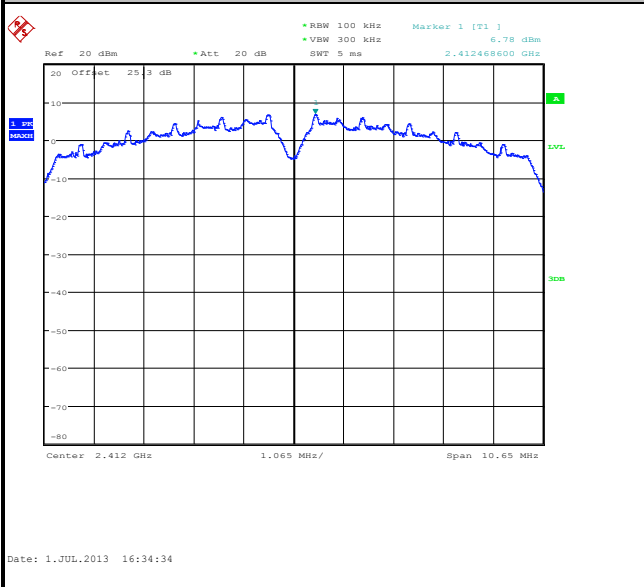
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Chain Port = 0

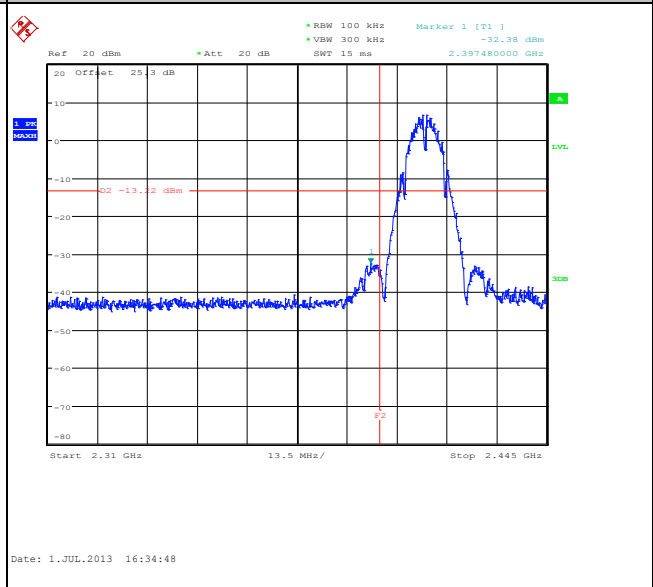
Number of TX	1	Chain Port	0
Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	55~58%
Test Channel :	01	Test Engineer :	Reece Li

WLAN 802.11b Channel 01

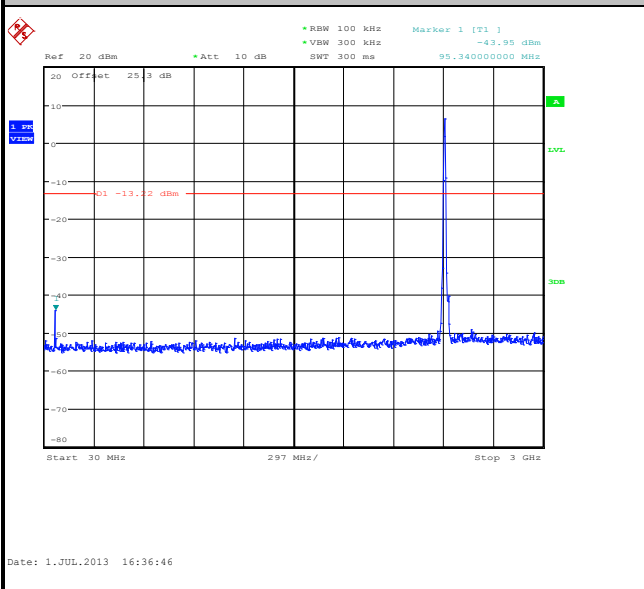
100kHz PSD reference Level



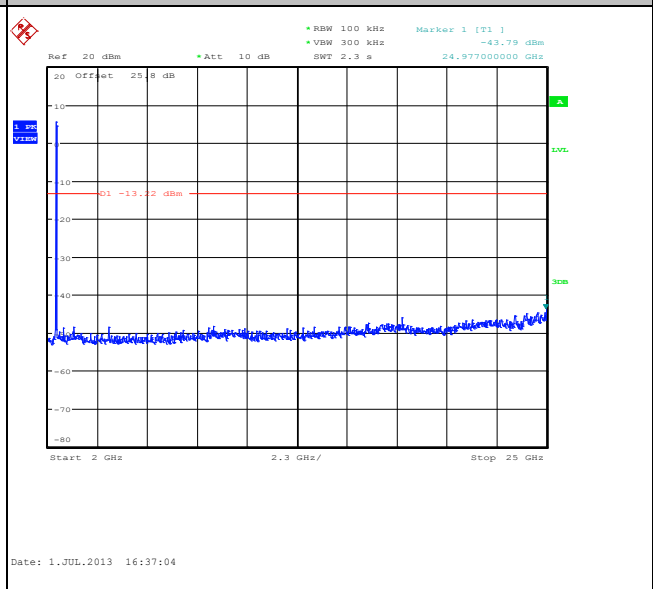
Low Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz



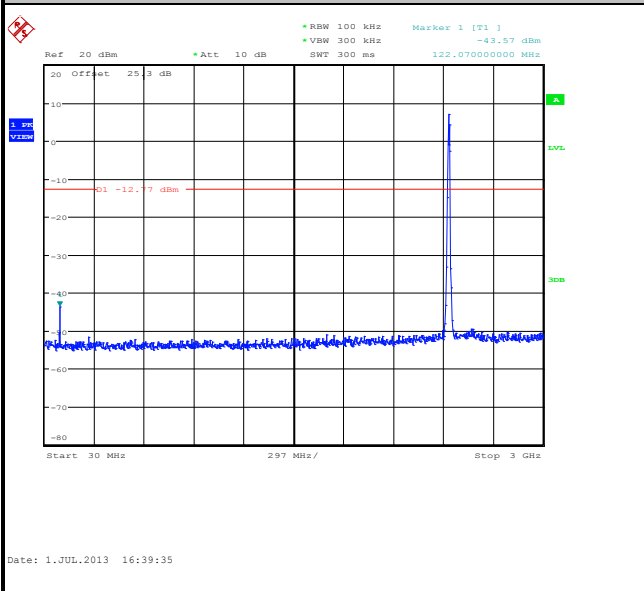
Number of TX :	1	Chain Port :	0
Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	55~58%
Test Channel :	06	Test Engineer :	Reece Li

WLAN 802.11b Channel 06

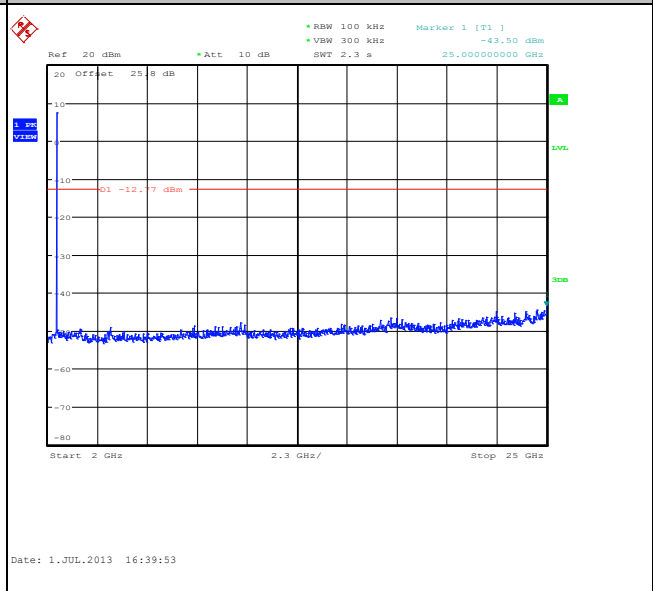
100kHz PSD reference Level



Spurious Emission 30MHz~3GHz



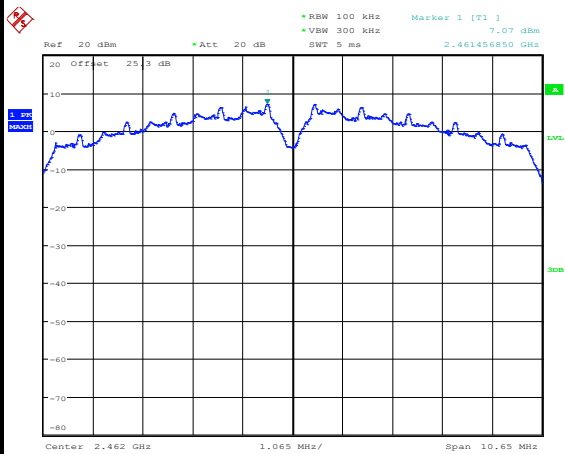
Spurious Emission 2GHz~25GHz



Number of TX :	1	Chain Port :	0
Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	55~58%
Test Channel :	11	Test Engineer :	Reece Li

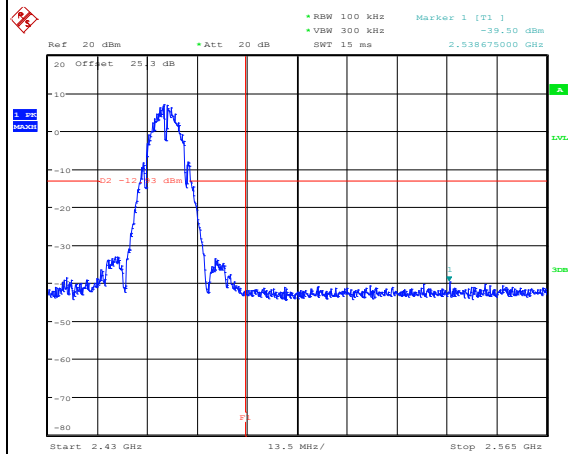
WLAN 802.11b Channel 11

100kHz PSD reference Level



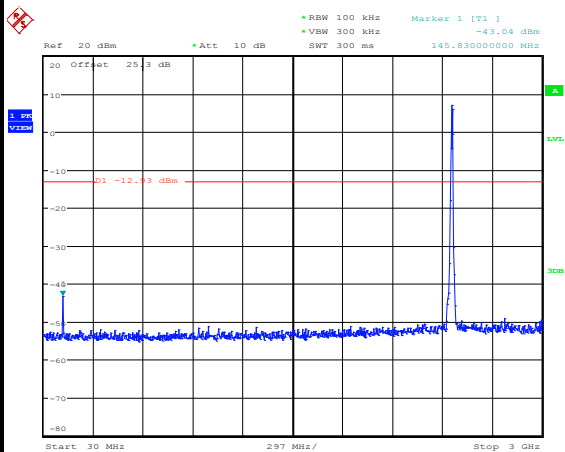
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High Channel Plot



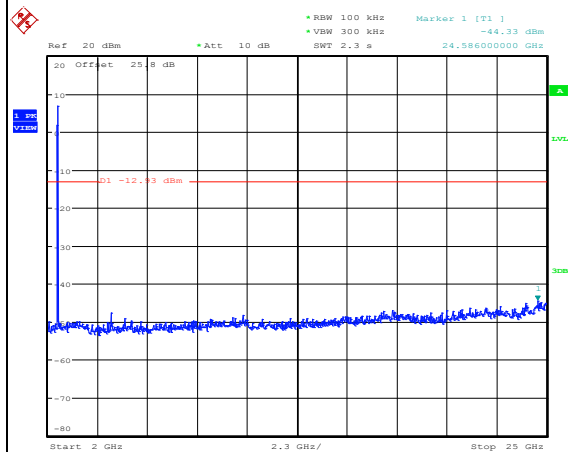
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Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 16:42:55

Spurious Emission 2GHz~25GHz

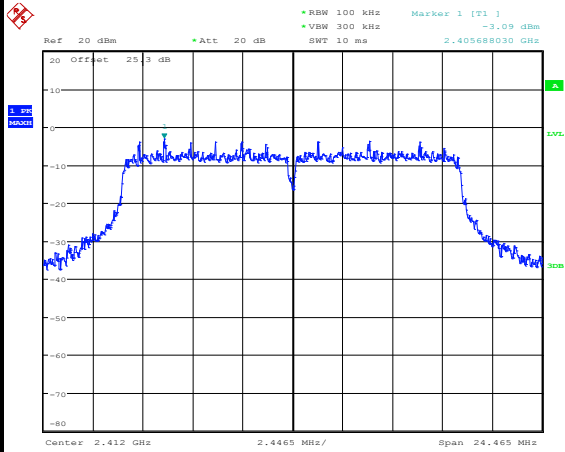


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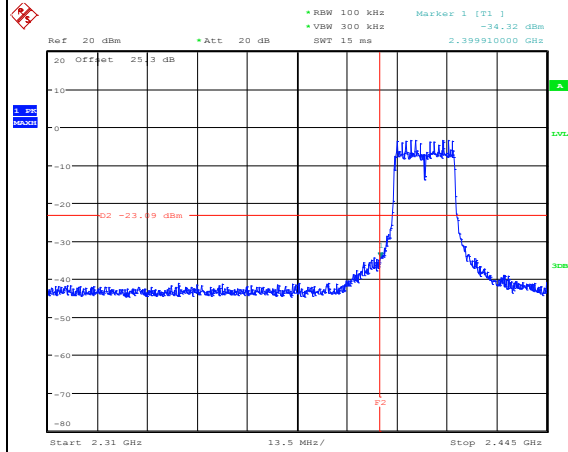
Number of TX :	1	Chain Port :	0
Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	55~58%
Test Channel :	01	Test Engineer :	Reece Li

WLAN 802.11g Channel 01

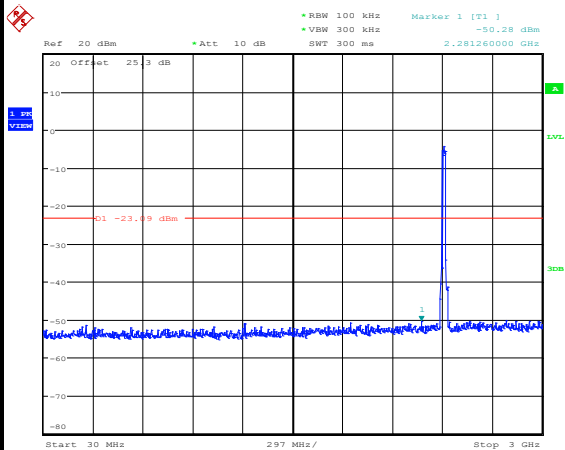
100kHz PSD reference Level



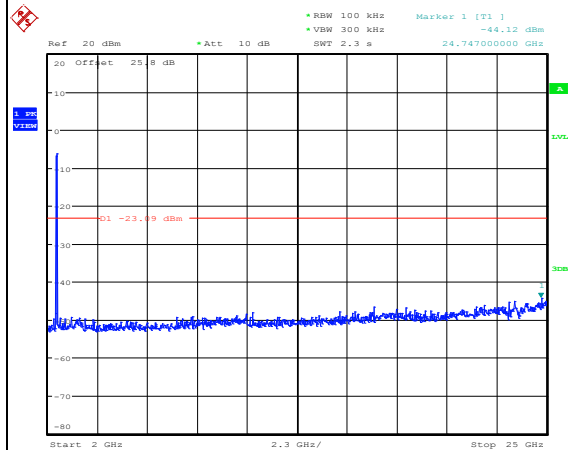
Low Channel Plot



Spurious Emission 30MHz~3GHz



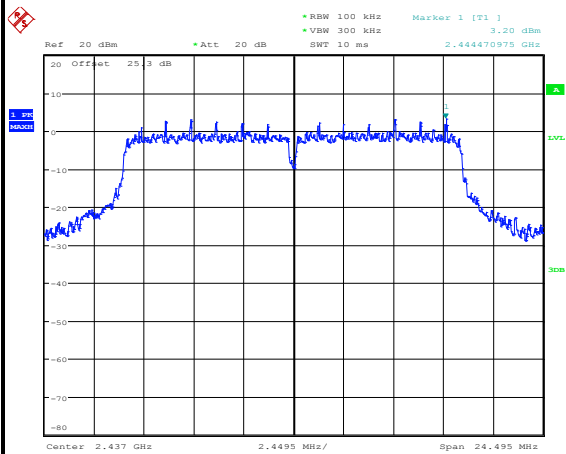
Spurious Emission 2GHz~25GHz



Number of TX :	1	Chain Port :	0
Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	55~58%
Test Channel :	06	Test Engineer :	Reece Li

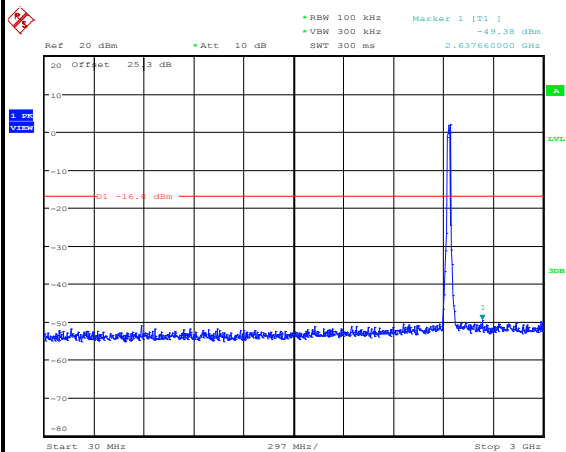
WLAN 802.11g Channel 06

100kHz PSD reference Level



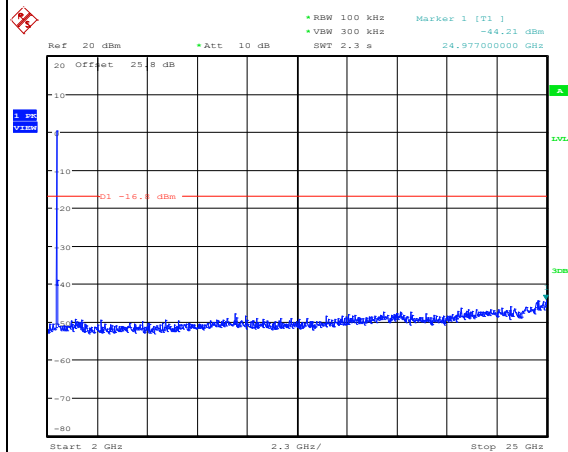
Date: 1.JUL.2013 16:52:35

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 16:52:56

Spurious Emission 2GHz~25GHz

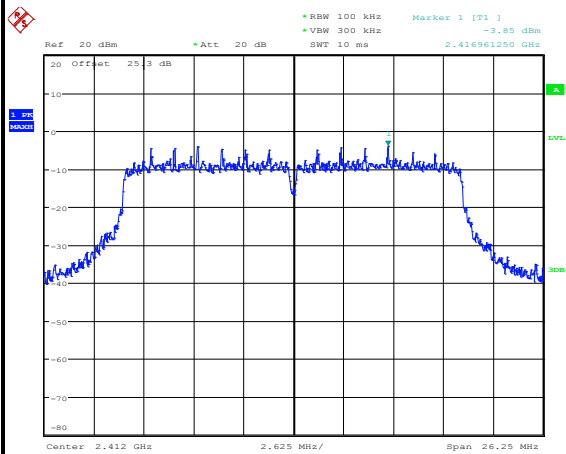


Date: 1.JUL.2013 16:53:14

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	55~58%
Test Channel :	01	Test Engineer :	Reece Li

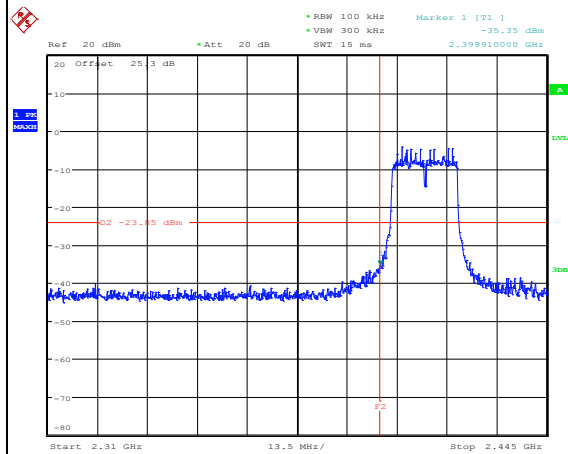
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



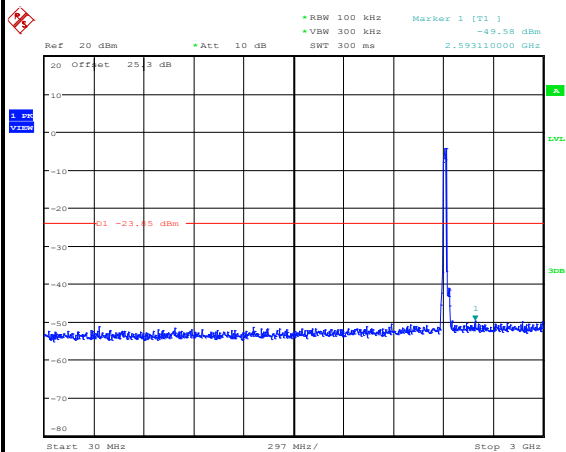
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Low Channel Plot



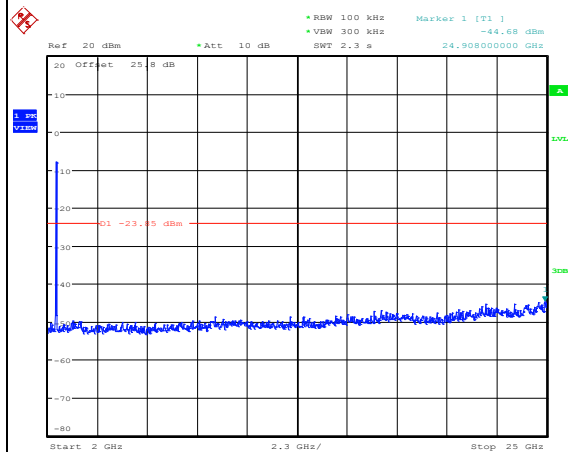
Date: 1.JUL.2013 17:02:23

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 17:04:45

Spurious Emission 2GHz~25GHz

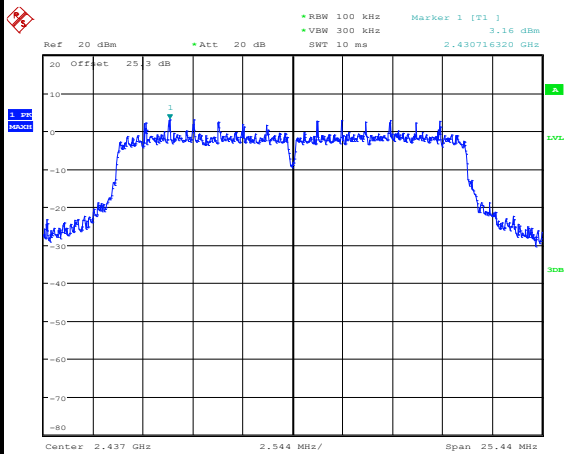


Date: 1.JUL.2013 17:03:01

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	55~58%
Test Channel :	06	Test Engineer :	Reece Li

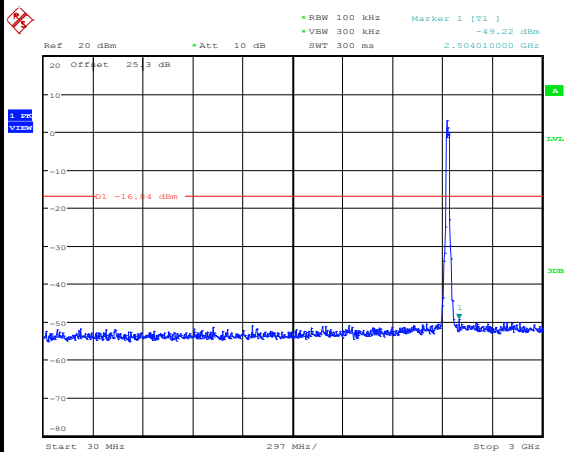
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



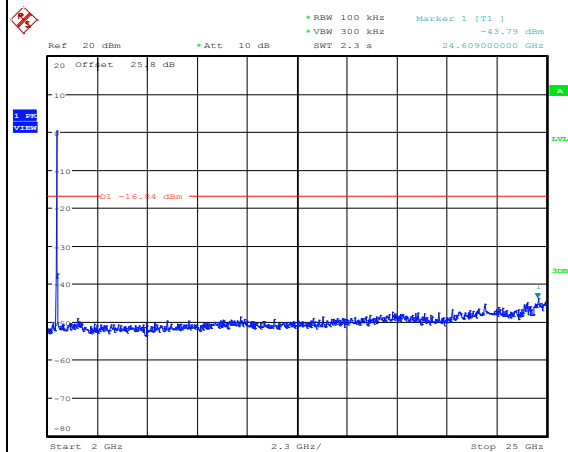
Date: 1.JUL.2013 17:08:23

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 17:08:46

Spurious Emission 2GHz~25GHz

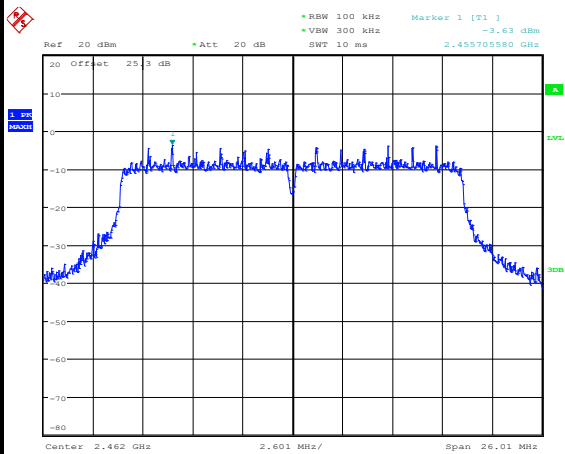


Date: 1.JUL.2013 17:09:04

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	55~58%
Test Channel :	11	Test Engineer :	Reece Li

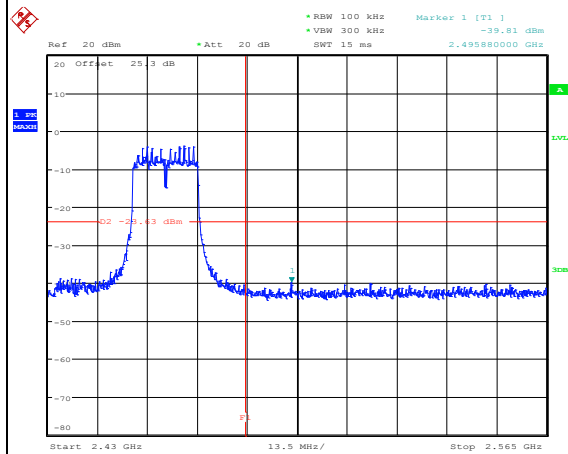
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



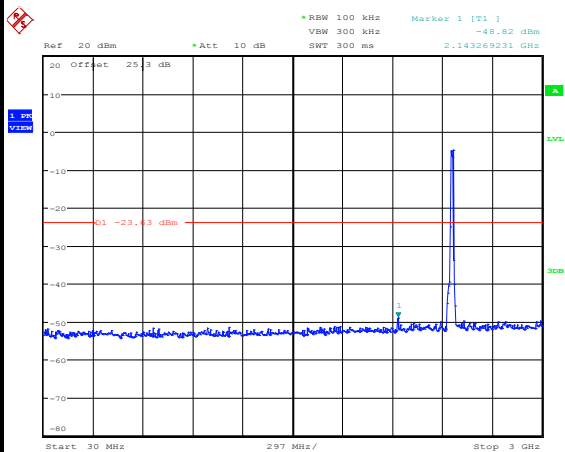
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High Channel Plot



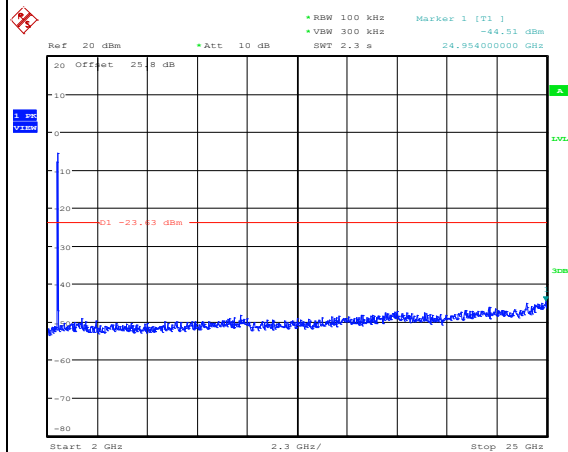
Date: 1.JUL.2013 17:12:39

Spurious Emission 30MHz~3GHz



Date: 4.JUL.2013 13:52:39

Spurious Emission 2GHz~25GHz

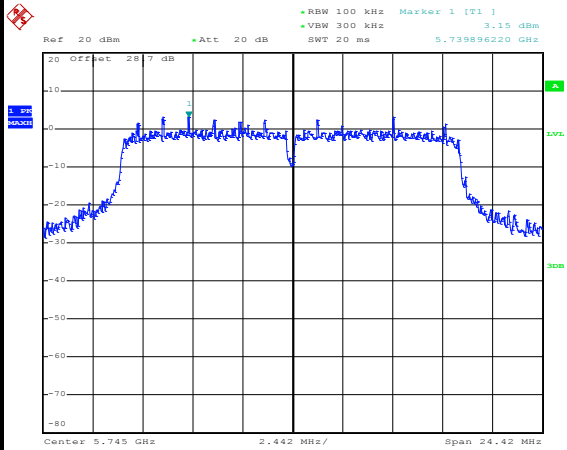


Date: 1.JUL.2013 17:13:41

Number of TX :	1	Chain Port :	0
Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	149	Test Engineer :	Reece Li

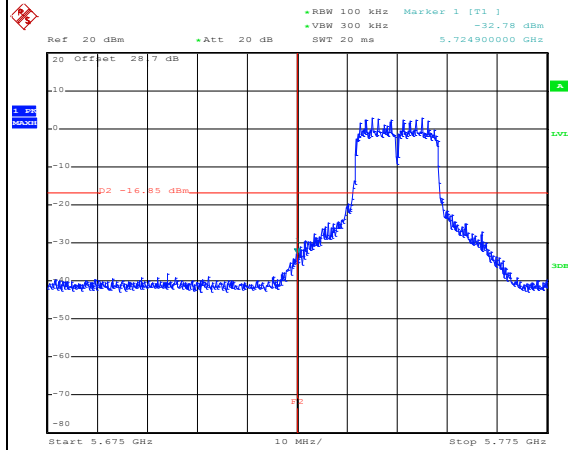
WLAN 802.11a Channel 149

100kHz PSD reference Level



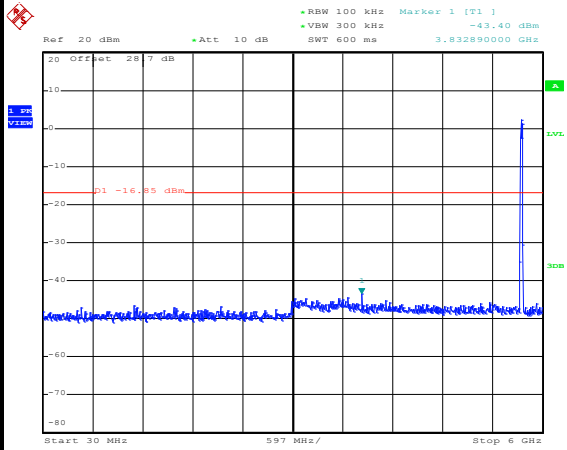
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Low Channel Plot



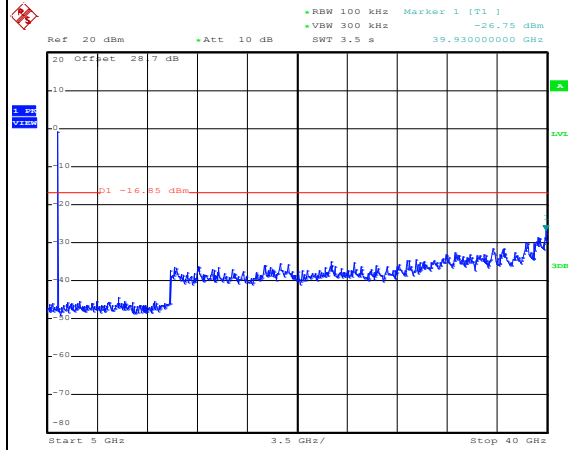
Date: 1.JUL.2013 20:08:16

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 20:08:38

Spurious Emission 5GHz~40GHz

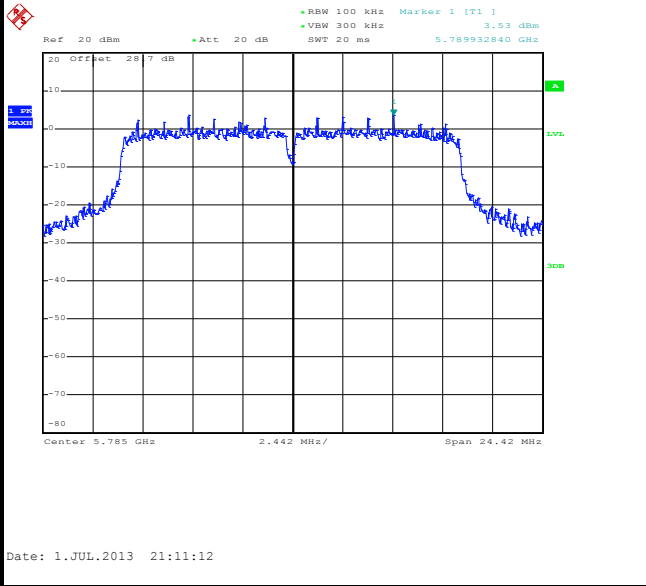


Date: 1.JUL.2013 20:08:57

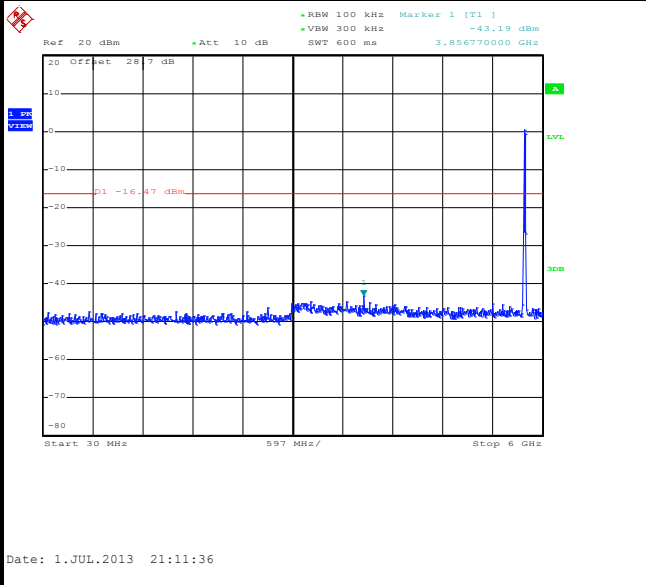
Number of TX :	1	Chain Port :	0
Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	55~58%
Test Channel :	157	Test Engineer :	Reece Li

WLAN 802.11a Channel 157

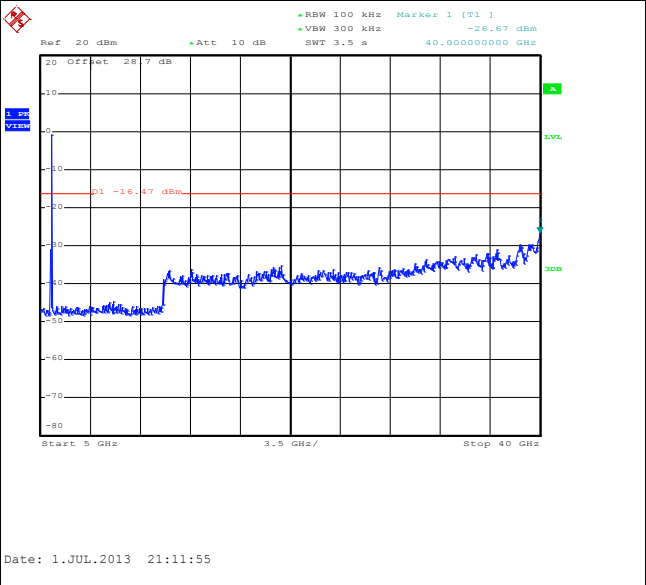
100kHz PSD reference Level



Spurious Emission 30MHz~6GHz



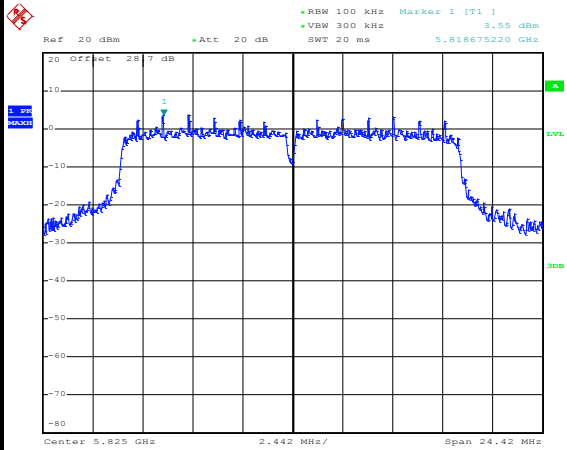
Spurious Emission 5GHz~40GHz



Number of TX :	1	Chain Port :	0
Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	165	Test Engineer :	Reece Li

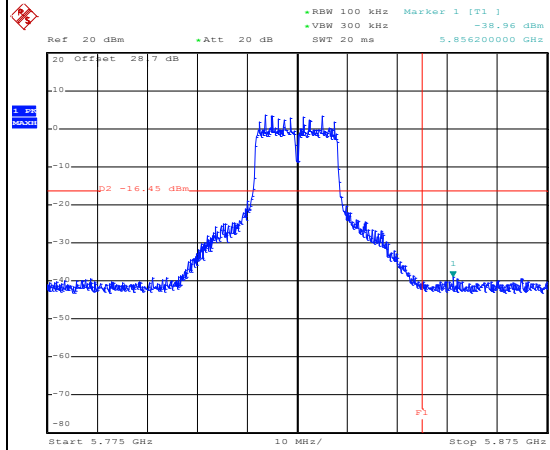
WLAN 802.11a Channel 165

100kHz PSD reference Level



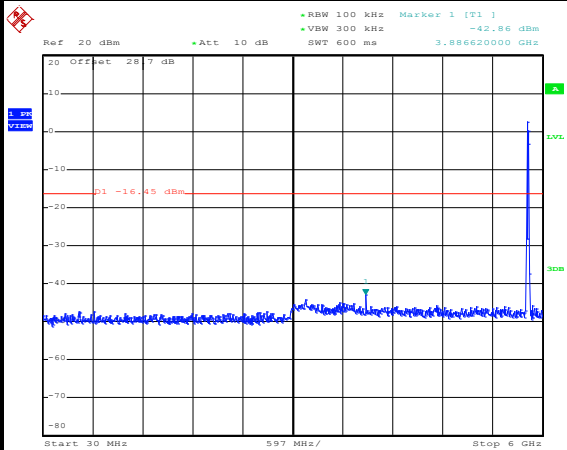
Date: 1.JUL.2013 21:15:36

High Channel Plot



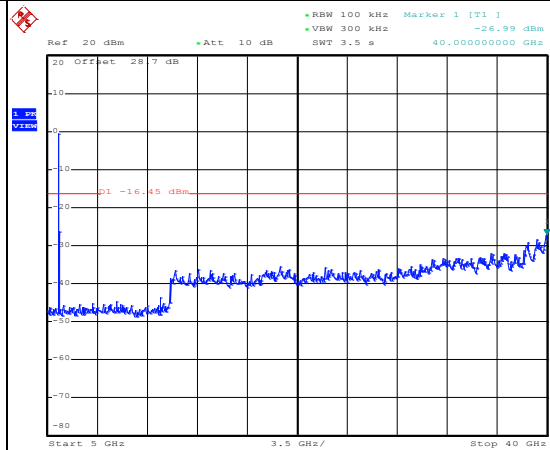
Date: 1.JUL.2013 21:15:56

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 21:16:16

Spurious Emission 5GHz~40GHz

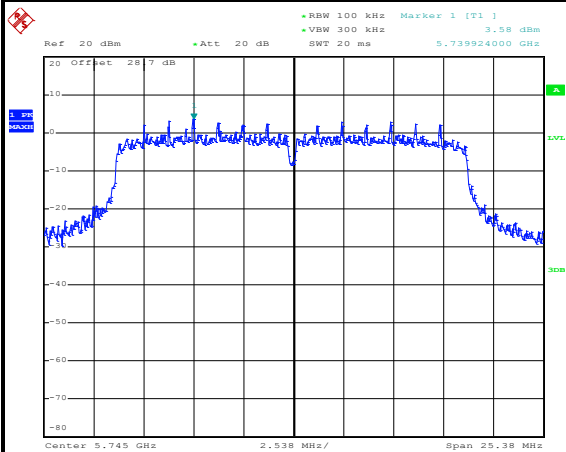


Date: 1.JUL.2013 21:16:35

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	149	Test Engineer :	Reece Li

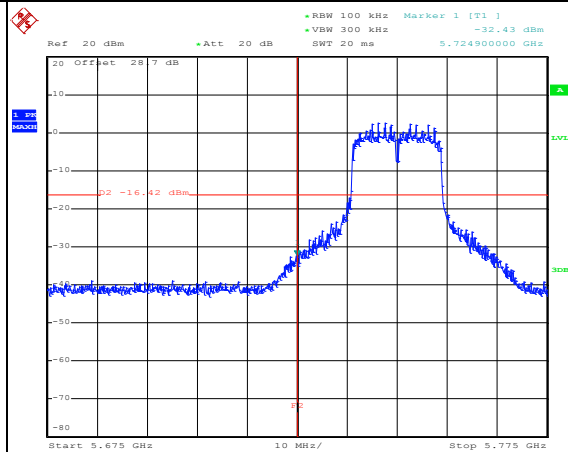
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



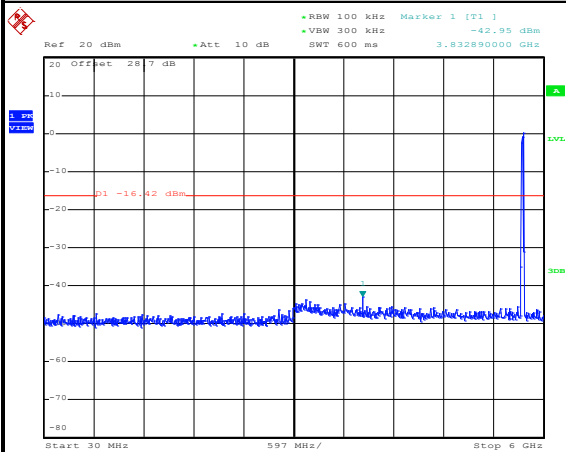
Date: 1.JUL.2013 21:24:41

Low Channel Plot



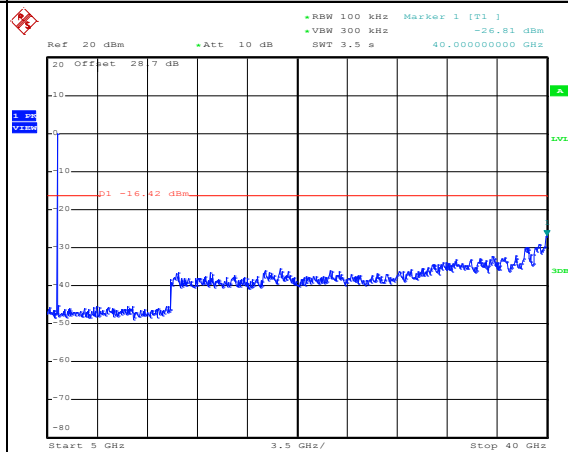
Date: 1.JUL.2013 21:25:00

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 21:25:22

Spurious Emission 5GHz~40GHz

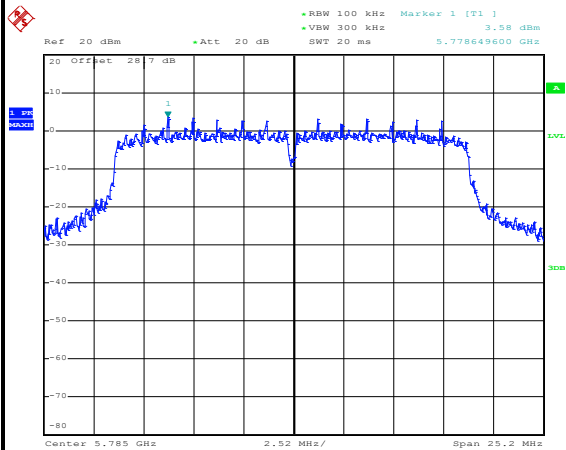


Date: 1.JUL.2013 21:25:40

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	55~58%
Test Channel :	157	Test Engineer :	Reece Li

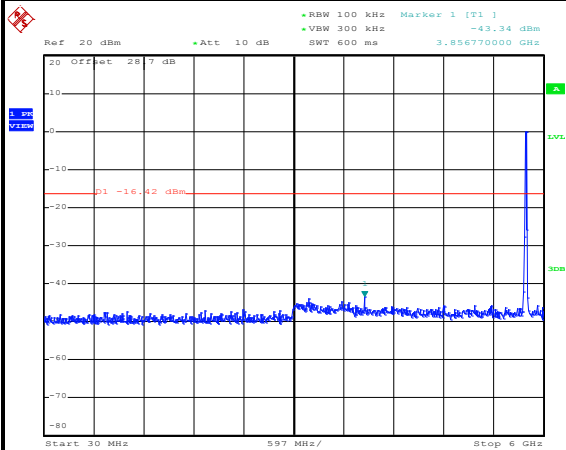
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



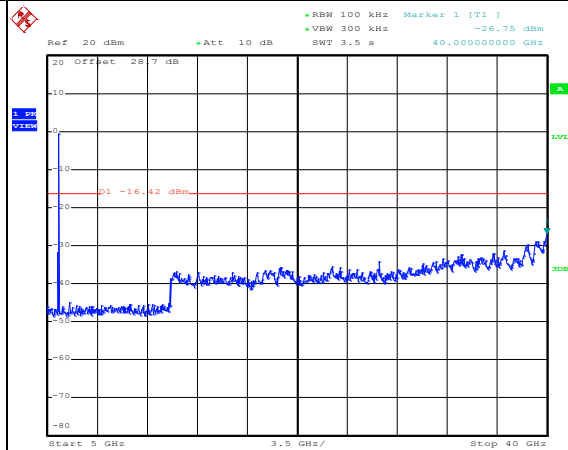
Date: 1.JUL.2013 21:35:53

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 21:36:30

Spurious Emission 5GHz~40GHz

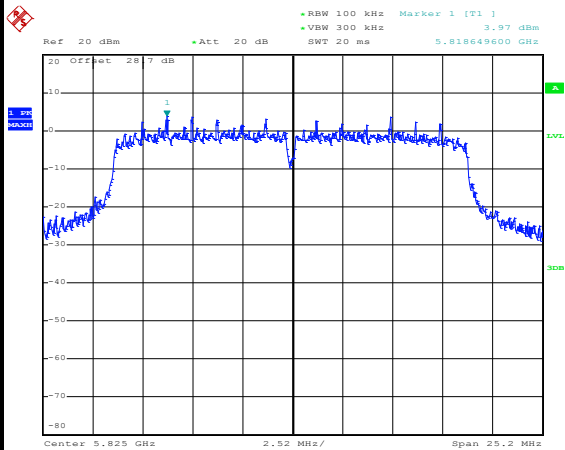


Date: 1.JUL.2013 21:36:48

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	165	Test Engineer :	Reece Li

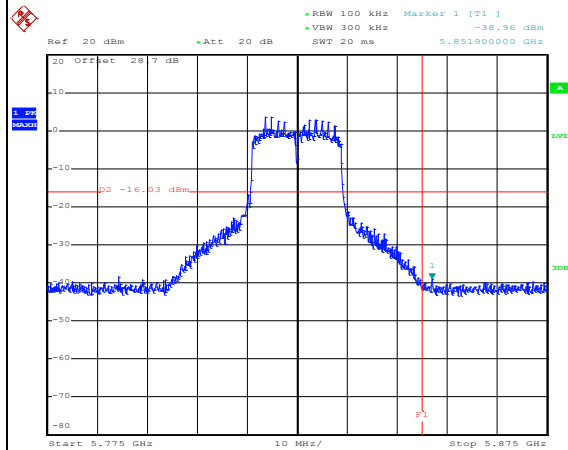
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



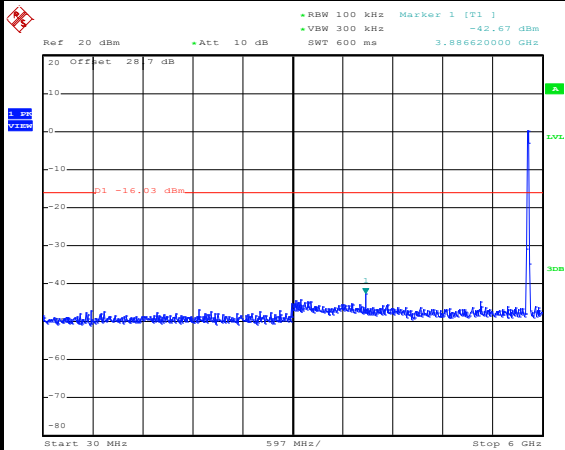
Date: 1.JUL.2013 21:44:06

High Channel Plot



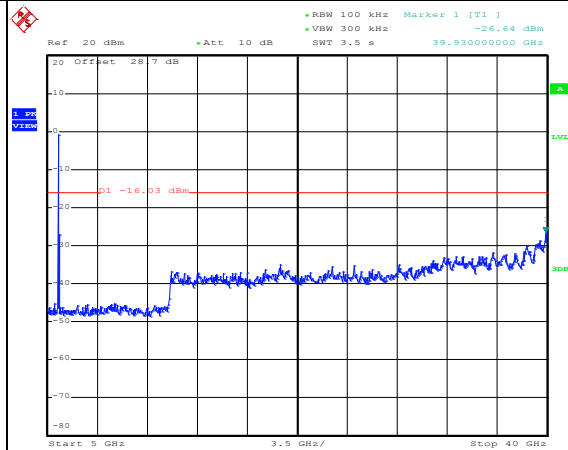
Date: 1.JUL.2013 21:44:37

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 21:44:58

Spurious Emission 5GHz~40GHz

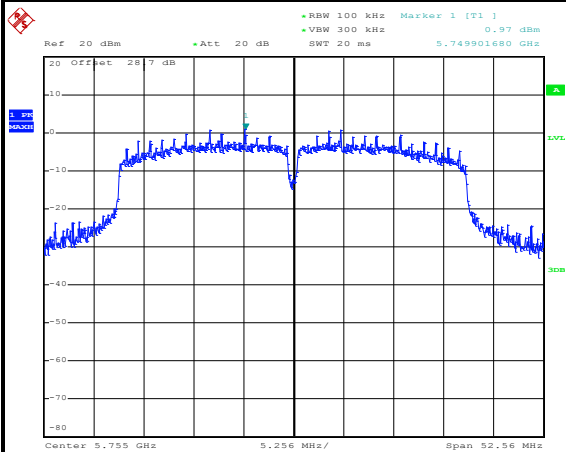


Date: 1.JUL.2013 21:45:17

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	151	Test Engineer :	Reece Li

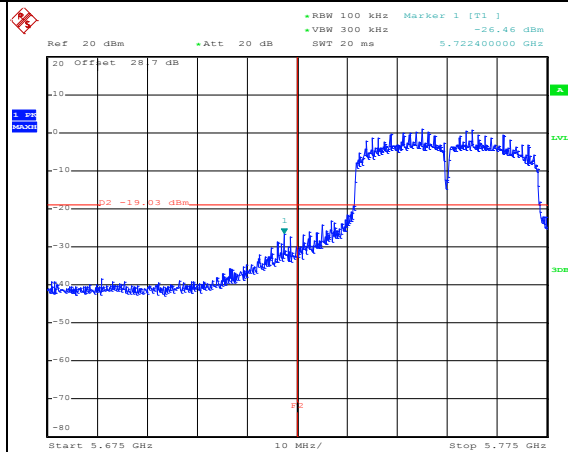
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



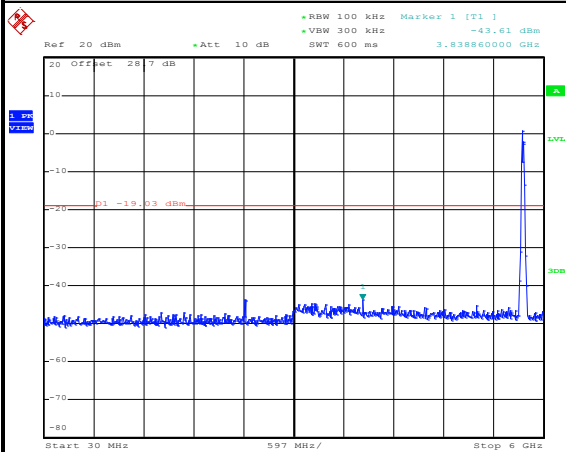
Date: 1.JUL.2013 21:58:29

Low Channel Plot



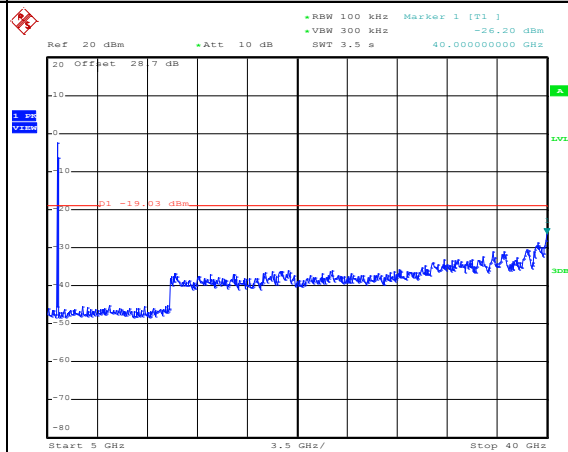
Date: 1.JUL.2013 21:59:09

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 21:59:33

Spurious Emission 5GHz~40GHz

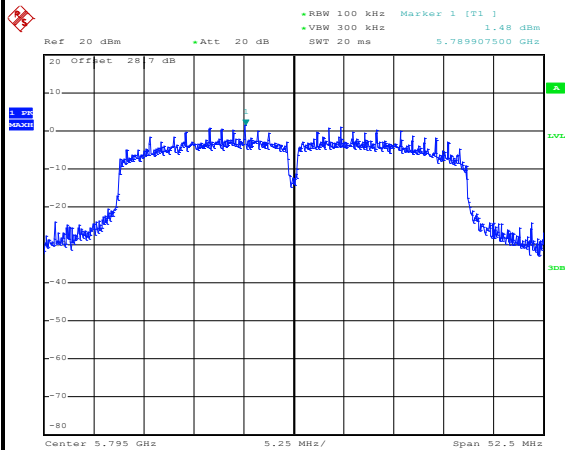


Date: 1.JUL.2013 21:59:51

Number of TX :	1	Chain Port :	0
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	159	Test Engineer :	Reece Li

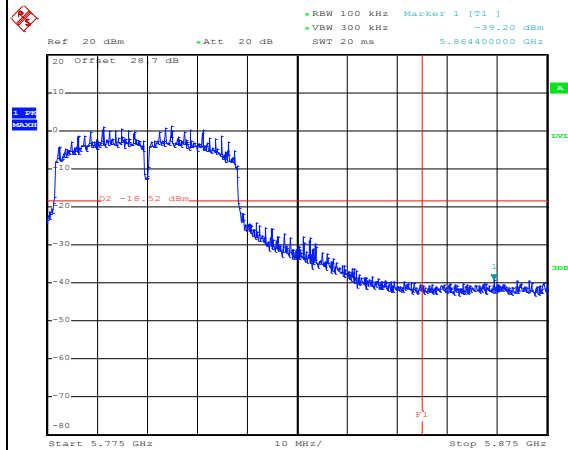
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



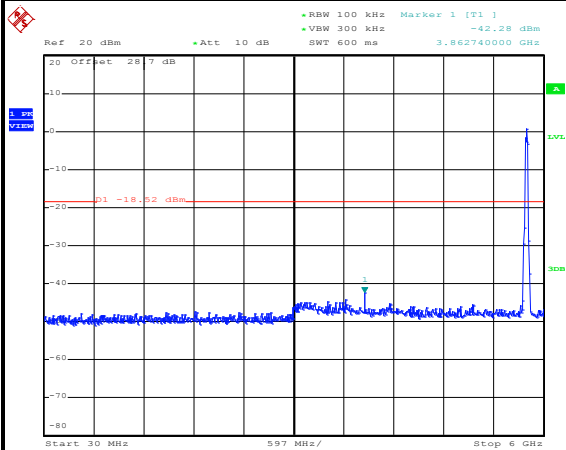
Date: 1.JUL.2013 22:03:57

High Channel Plot



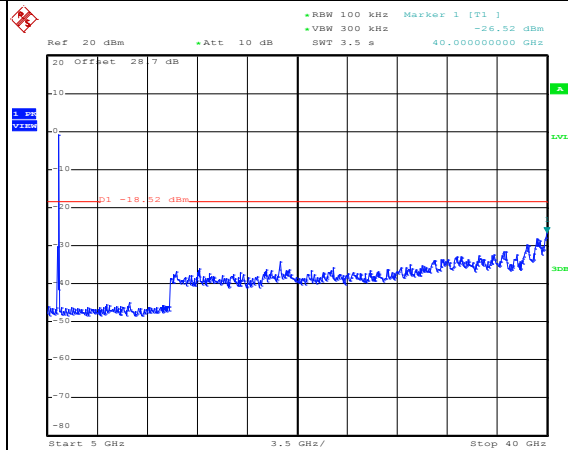
Date: 1.JUL.2013 22:04:15

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 22:04:35

Spurious Emission 5GHz~40GHz



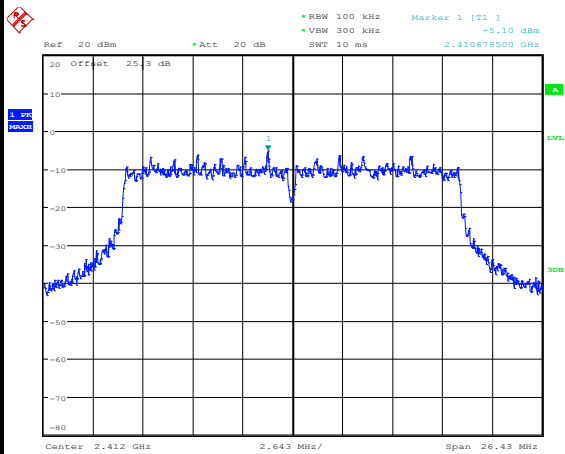
Date: 1.JUL.2013 22:04:54

Number of TX = 2, Chain Port = 0

Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	55~58%
Test Channel :	01	Test Engineer :	Reece Li

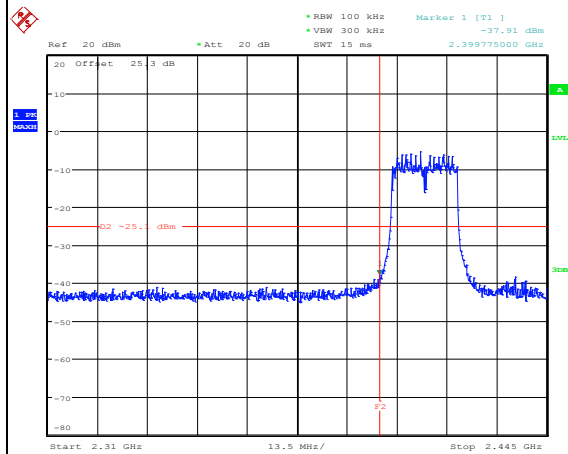
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



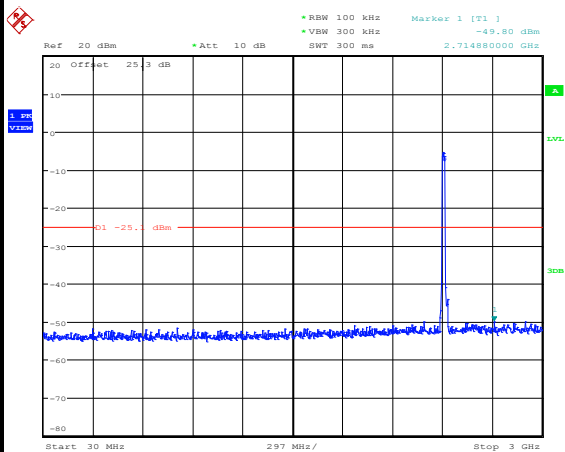
Date: 1.JUL.2013 17:27:26

Low Channel Plot



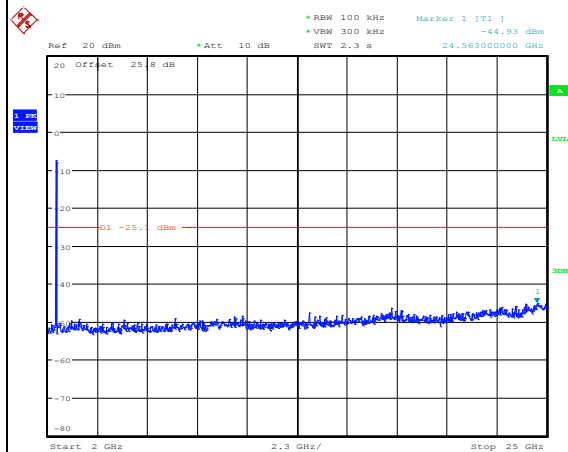
Date: 1.JUL.2013 17:27:57

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 17:30:03

Spurious Emission 2GHz~25GHz

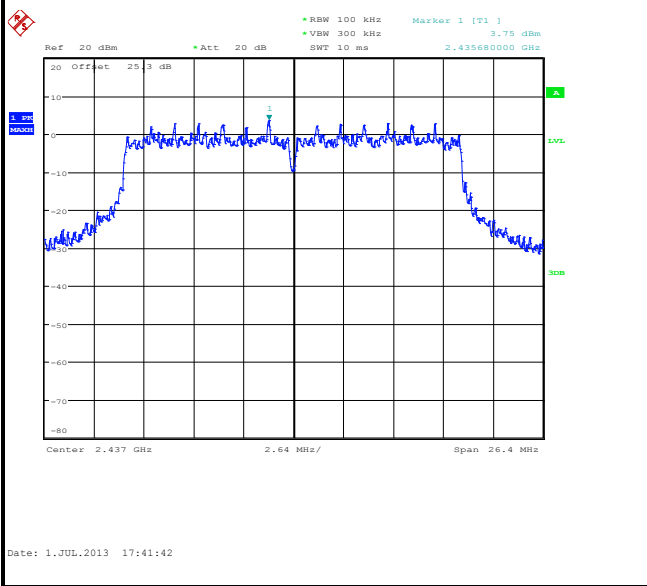


Date: 1.JUL.2013 17:28:35

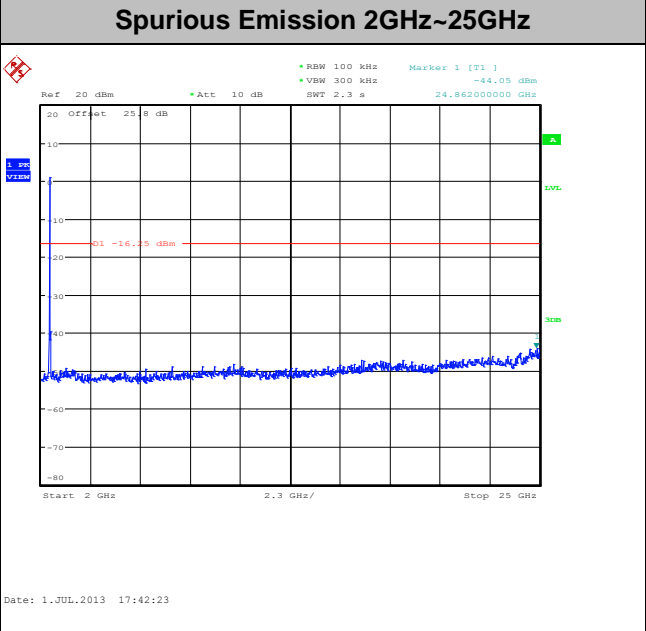
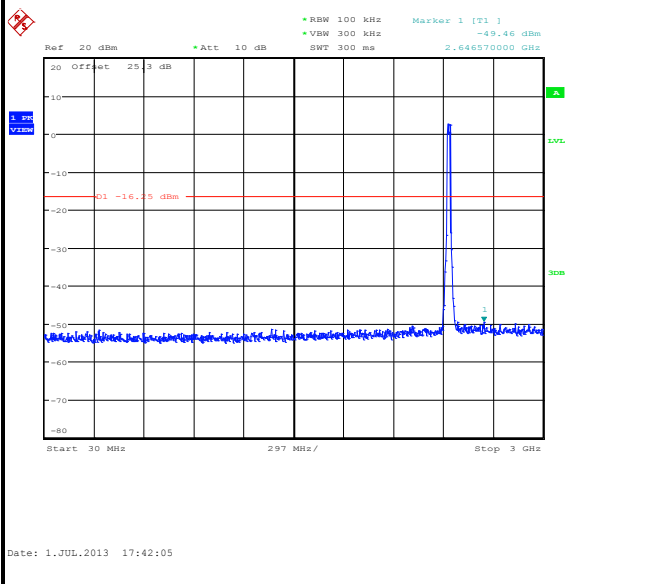
Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	55~58%
Test Channel :	06	Test Engineer :	Reece Li

WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



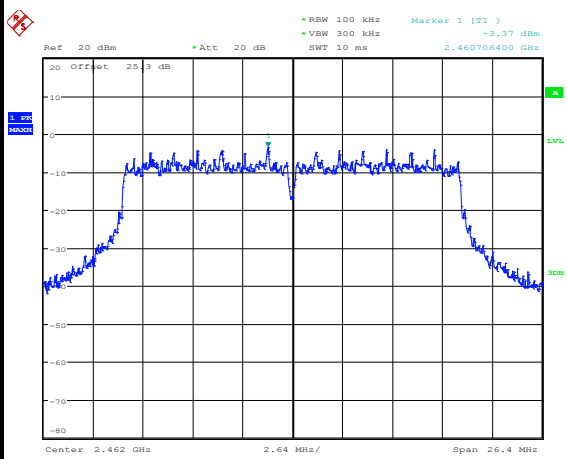
Spurious Emission 30MHz~3GHz



Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	55~58%
Test Channel :	11	Test Engineer :	Reece Li

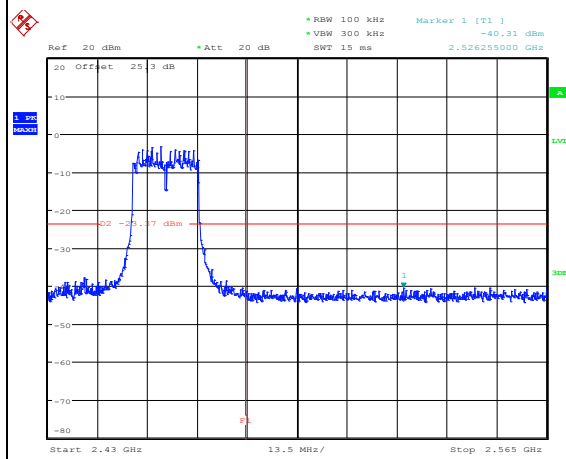
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



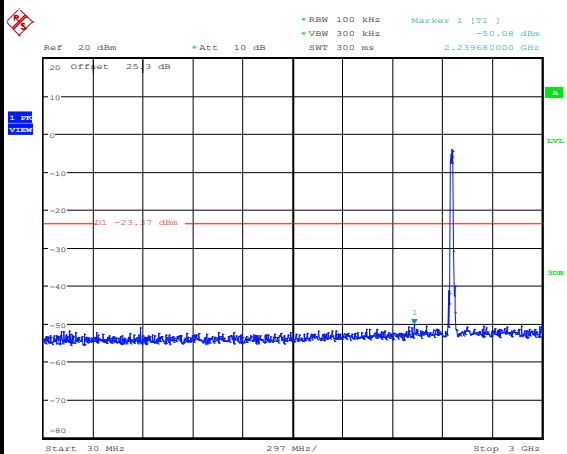
Date: 1.JUL.2013 17:51:13

High Channel Plot



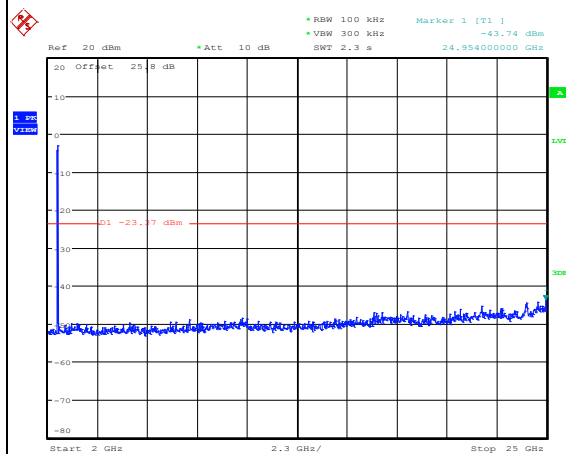
Date: 1.JUL.2013 17:51:36

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 17:55:54

Spurious Emission 2GHz~25GHz

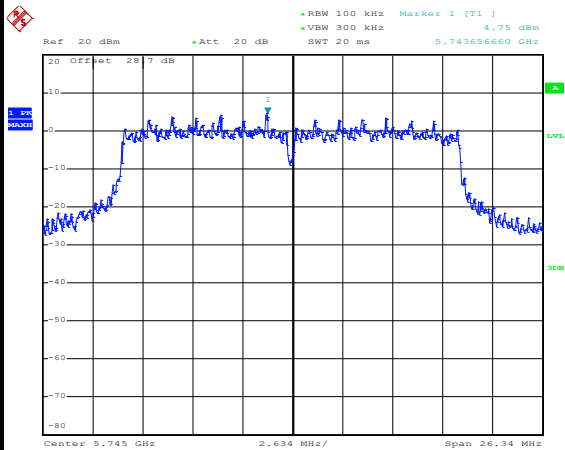


Date: 1.JUL.2013 17:54:48

Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	149	Test Engineer :	Reece Li

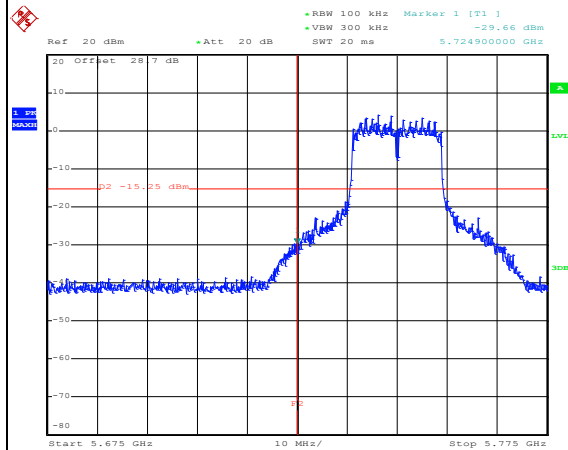
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



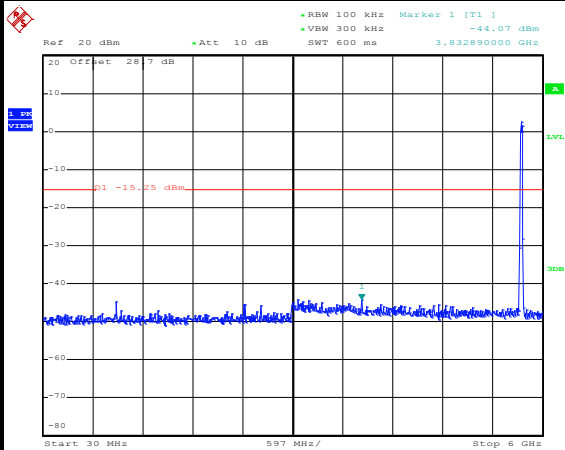
Date: 1.JUL.2013 22:12:01

Low Channel Plot



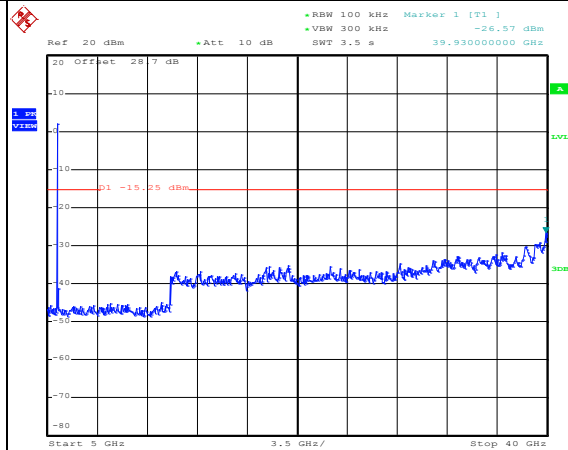
Date: 1.JUL.2013 22:12:17

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 22:12:41

Spurious Emission 5GHz~40GHz

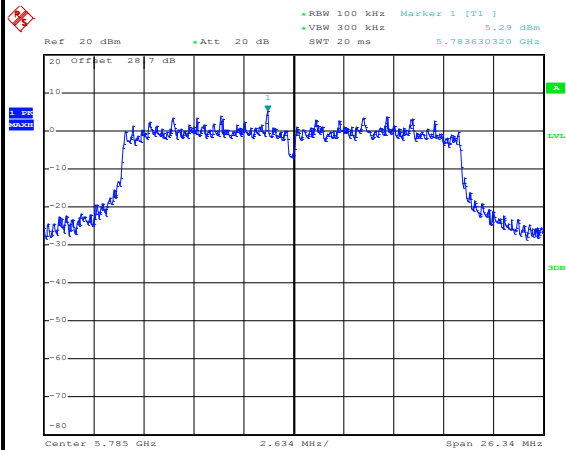


Date: 1.JUL.2013 22:12:59

Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	55~58%
Test Channel :	157	Test Engineer :	Reece Li

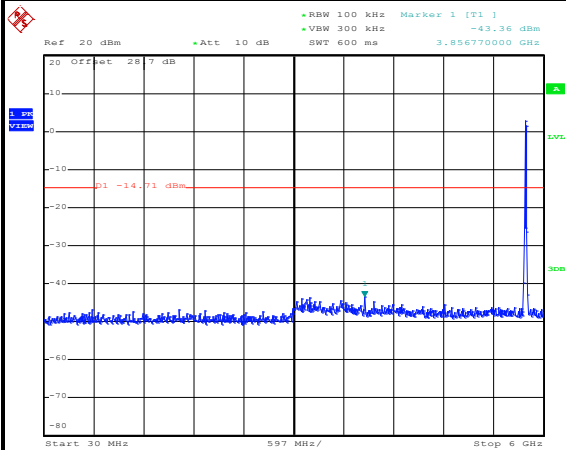
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



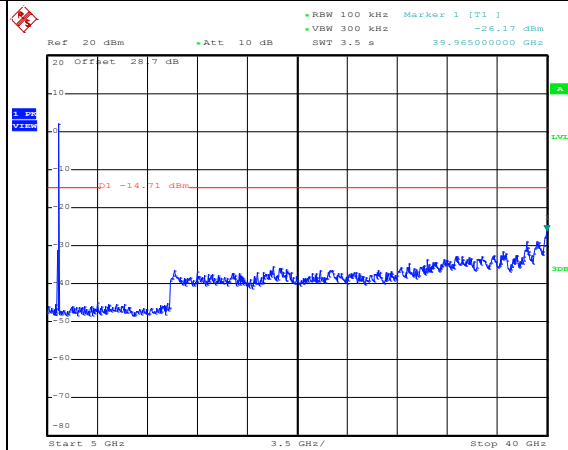
Date: 1.JUL.2013 23:39:19

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 23:39:45

Spurious Emission 5GHz~40GHz

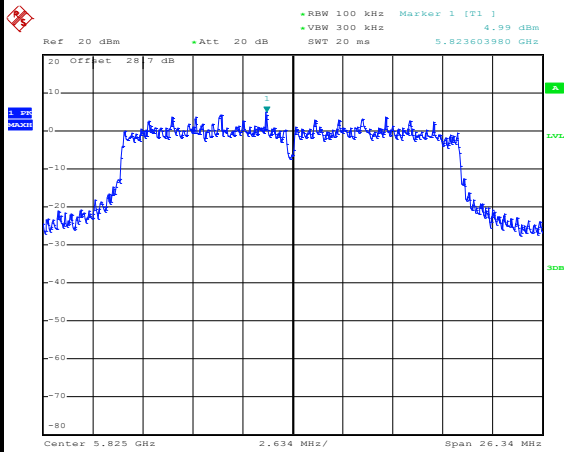


Date: 1.JUL.2013 23:40:04

Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	165	Test Engineer :	Reece Li

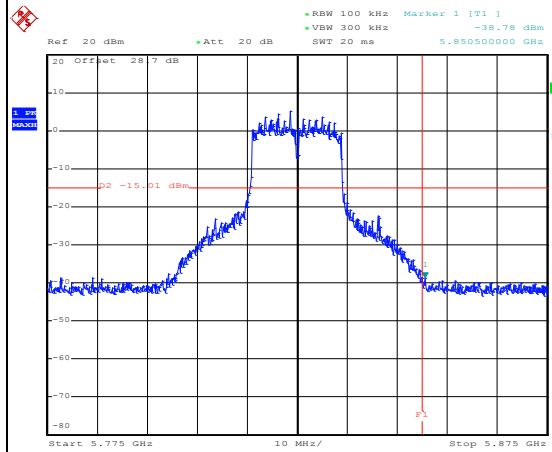
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



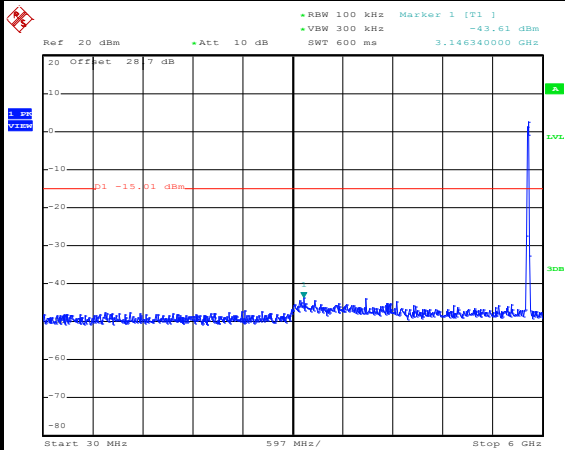
Date: 1.JUL.2013 23:50:11

High Channel Plot



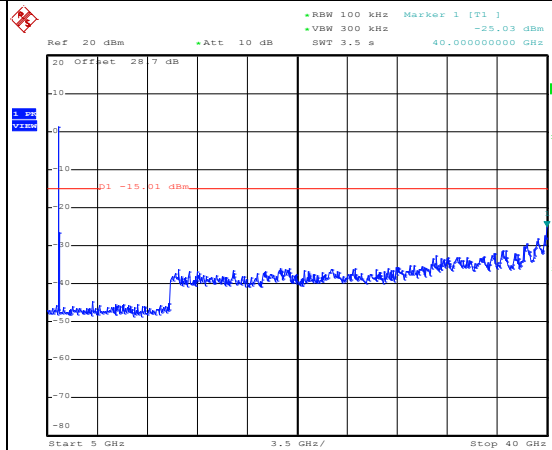
Date: 1.JUL.2013 23:50:26

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 23:50:48

Spurious Emission 5GHz~40GHz

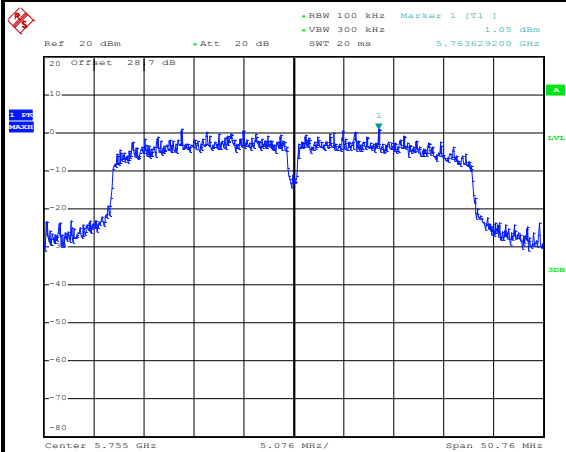


Date: 1.JUL.2013 23:51:06

Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	151	Test Engineer :	Reece Li

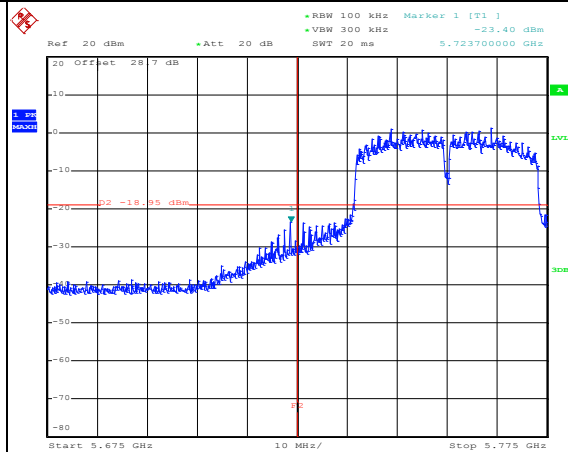
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



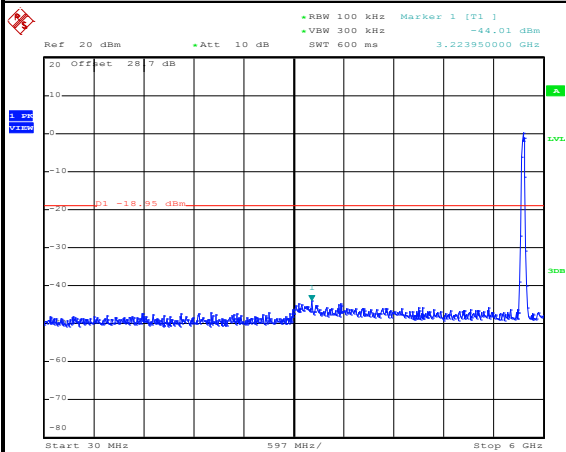
Date: 2.JUL.2013 00:09:52

Low Channel Plot



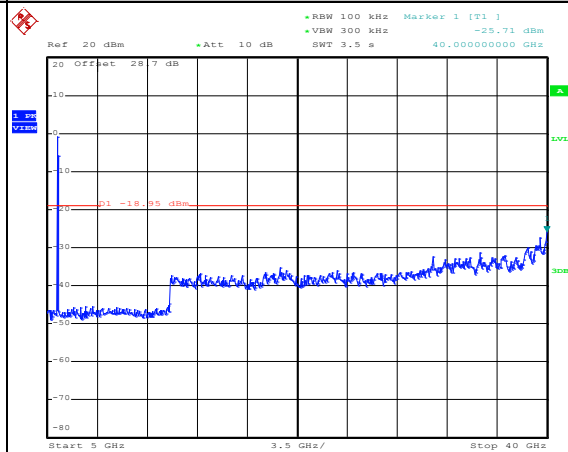
Date: 2.JUL.2013 00:10:07

Spurious Emission 30MHz~6GHz



Date: 2.JUL.2013 00:10:44

Spurious Emission 5GHz~40GHz

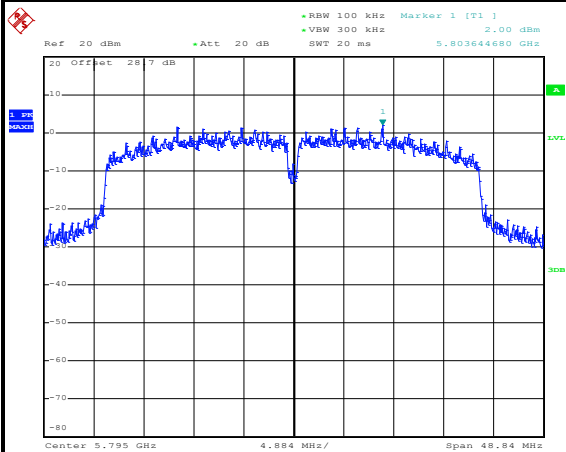


Date: 2.JUL.2013 00:11:03

Number of TX :	2	Chain Port :	0
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	159	Test Engineer :	Reece Li

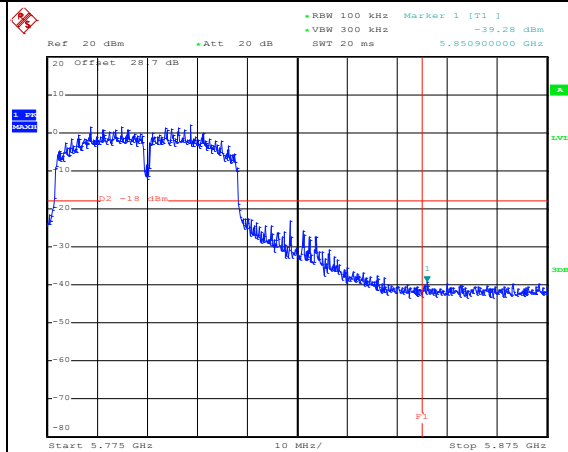
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



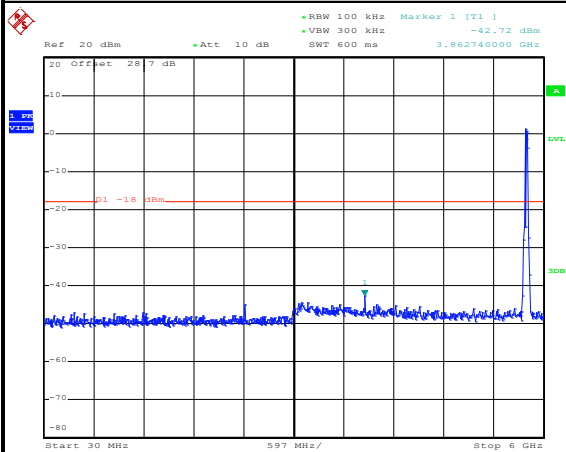
Date: 2.JUL.2013 00:17:00

High Channel Plot



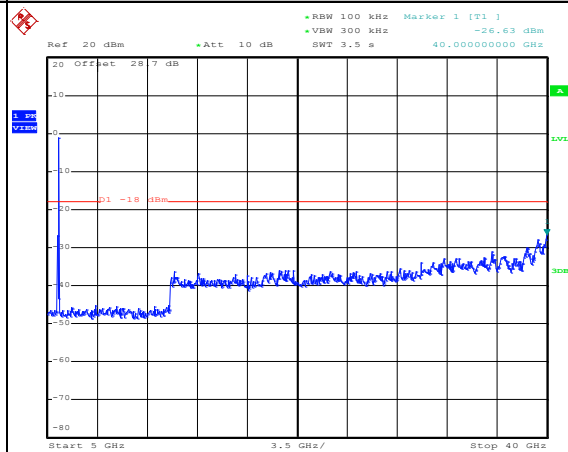
Date: 2.JUL.2013 00:17:15

Spurious Emission 30MHz~6GHz



Date: 2.JUL.2013 00:17:36

Spurious Emission 5GHz~40GHz



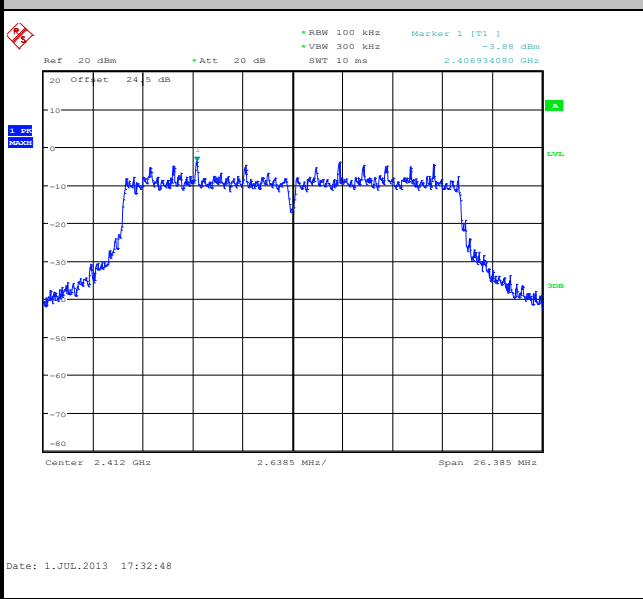
Date: 2.JUL.2013 00:17:54

Number of TX = 2, Chain Port = 1

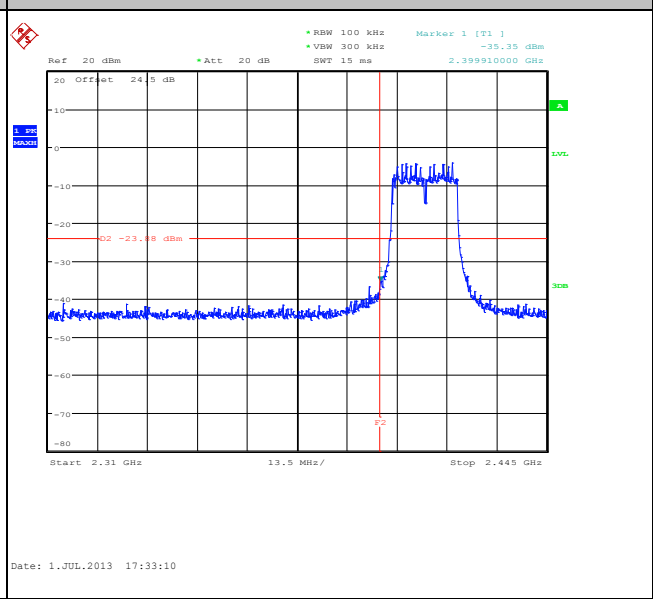
Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	55~58%
Test Channel :	01	Test Engineer :	Reece Li

WLAN 802.11n HT20 Channel 01

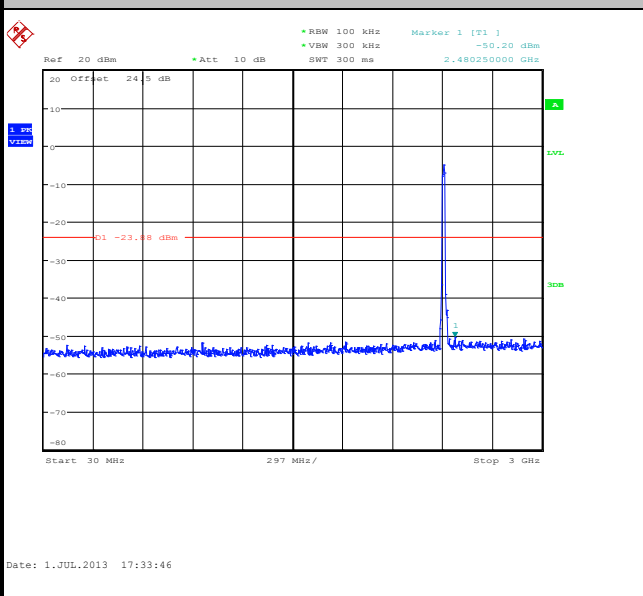
100kHz PSD reference Level



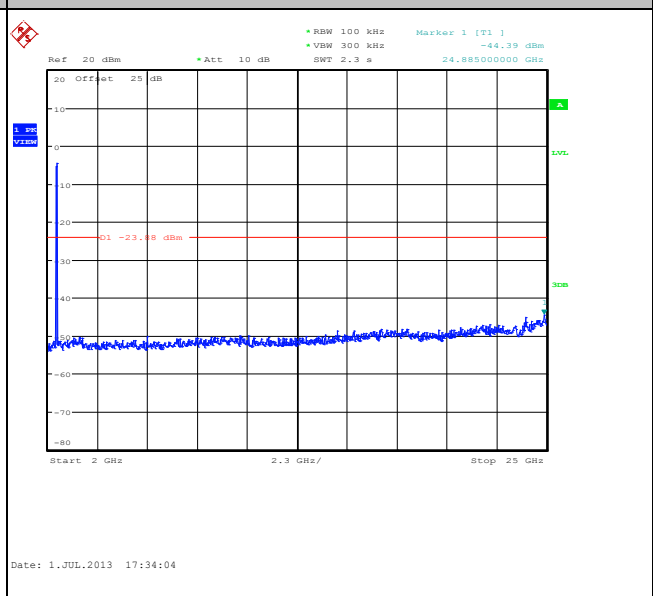
Low Channel Plot



Spurious Emission 30MHz~3GHz



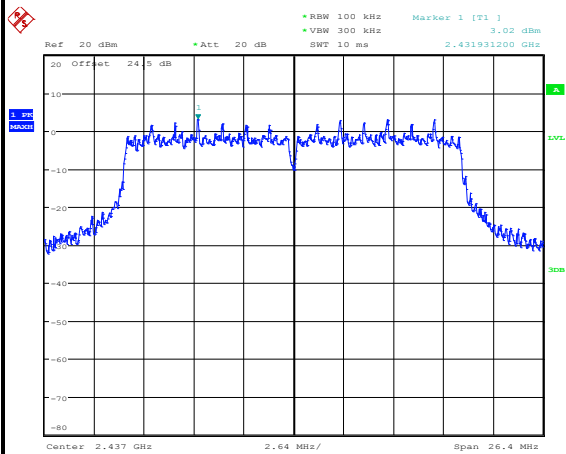
Spurious Emission 2GHz~25GHz



Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	55~58%
Test Channel :	06	Test Engineer :	Reece Li

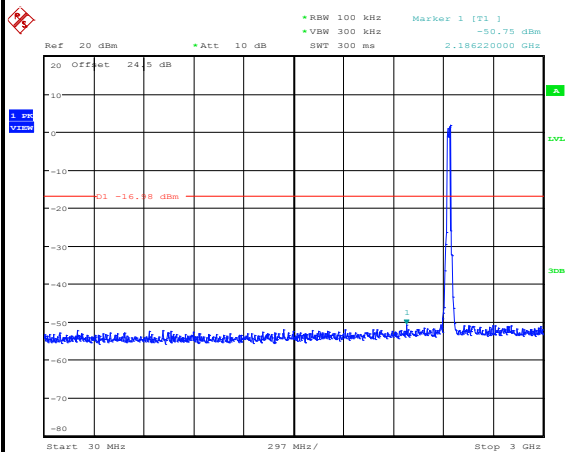
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



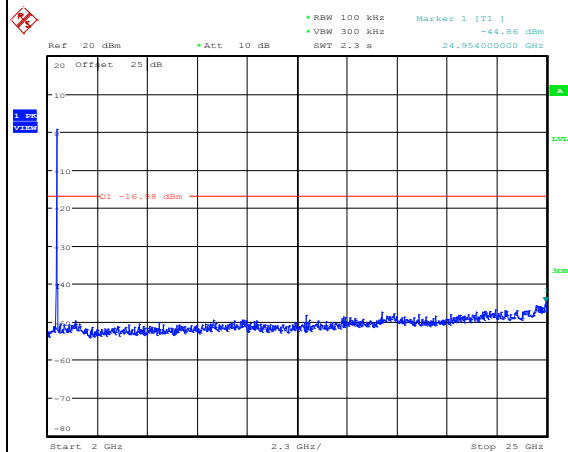
Date: 1.JUL.2013 17:38:14

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 17:39:07

Spurious Emission 2GHz~25GHz

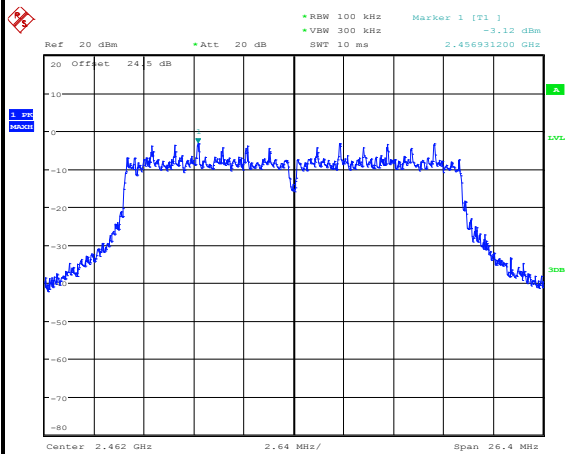


Date: 1.JUL.2013 17:39:25

Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	55~58%
Test Channel :	11	Test Engineer :	Reece Li

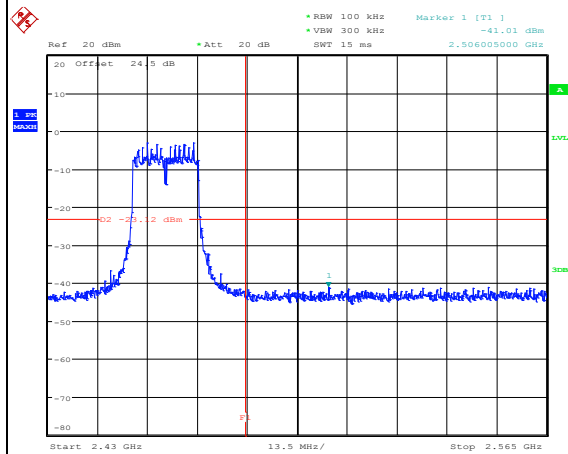
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



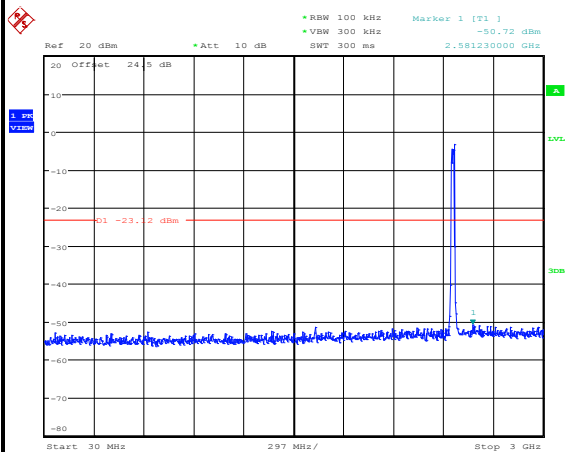
Date: 1.JUL.2013 17:57:46

High Channel Plot



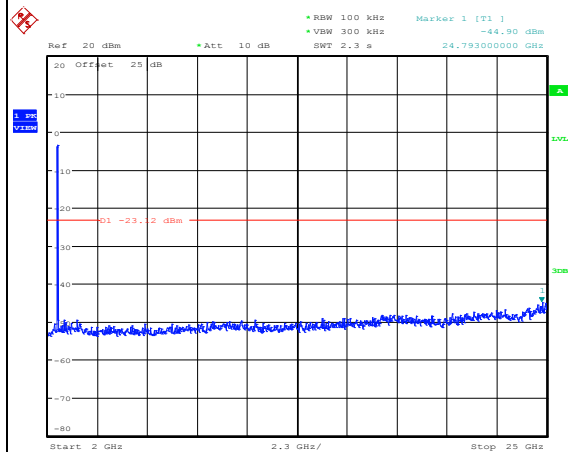
Date: 1.JUL.2013 17:58:05

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 17:59:32

Spurious Emission 2GHz~25GHz

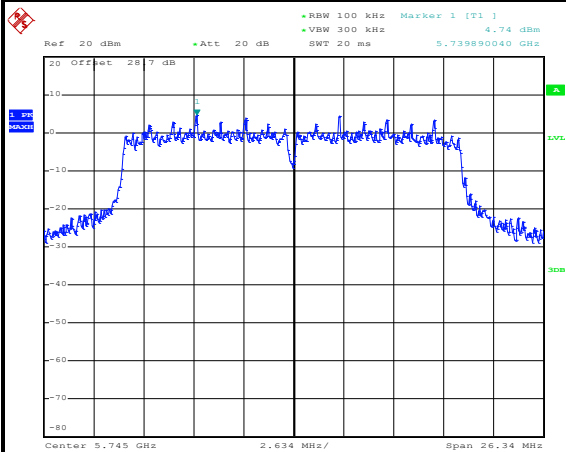


Date: 1.JUL.2013 17:58:59

Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	149	Test Engineer :	Reece Li

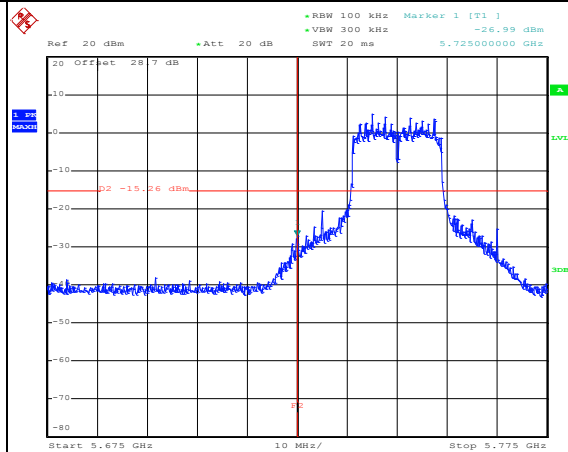
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



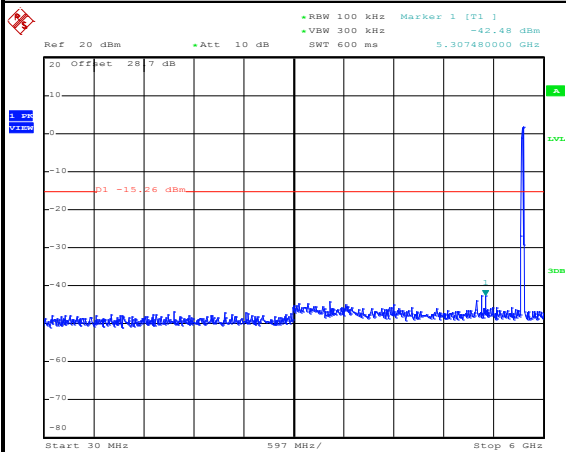
Date: 1.JUL.2013 23:32:36

Low Channel Plot



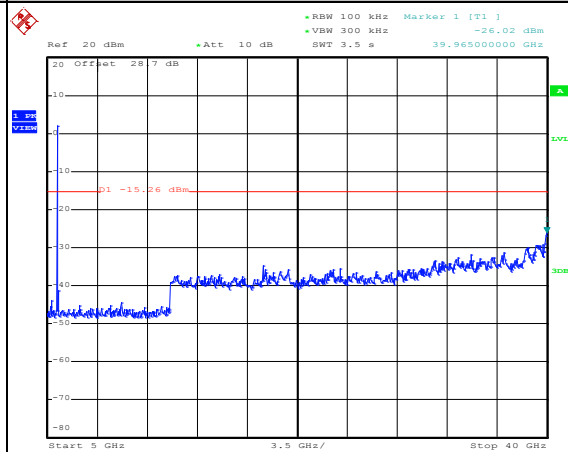
Date: 1.JUL.2013 23:32:53

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 23:33:16

Spurious Emission 5GHz~40GHz

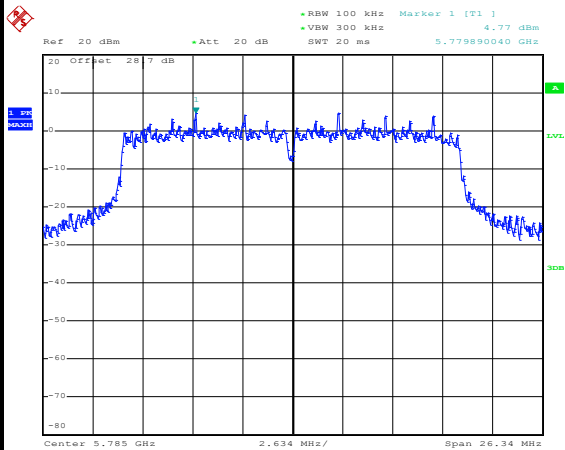


Date: 1.JUL.2013 23:33:34

Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	55~58%
Test Channel :	157	Test Engineer :	Reece Li

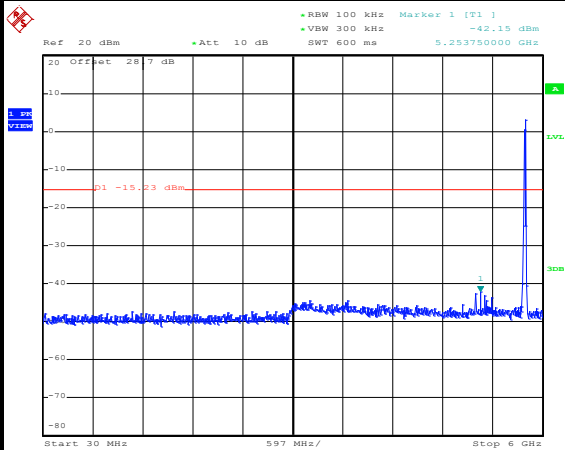
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



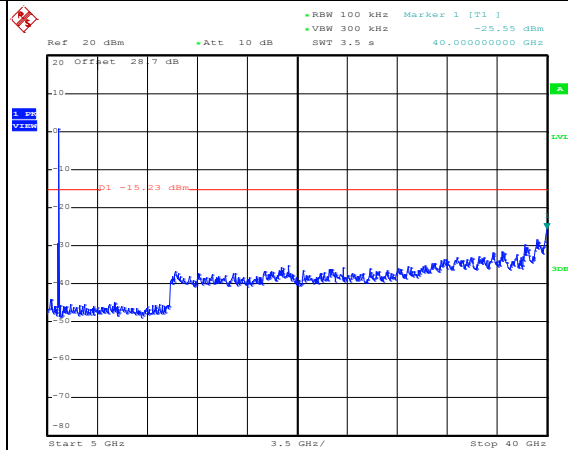
Date: 1.JUL.2013 23:43:14

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 23:44:06

Spurious Emission 5GHz~40GHz

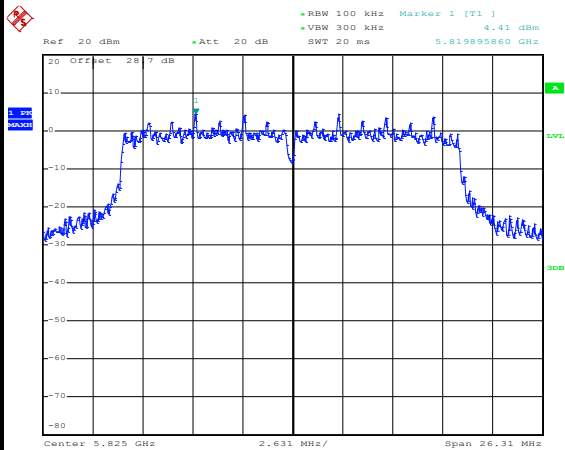


Date: 1.JUL.2013 23:44:25

Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	165	Test Engineer :	Reece Li

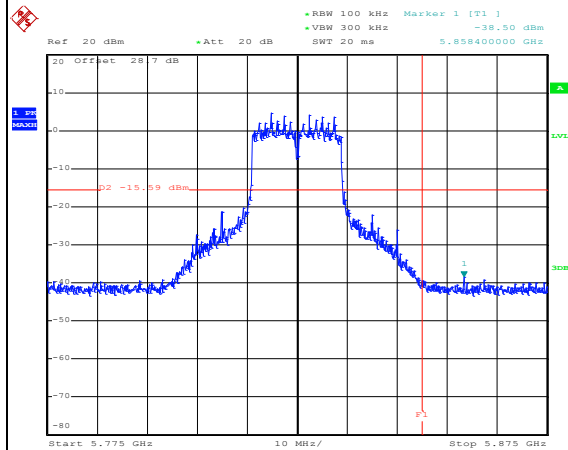
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



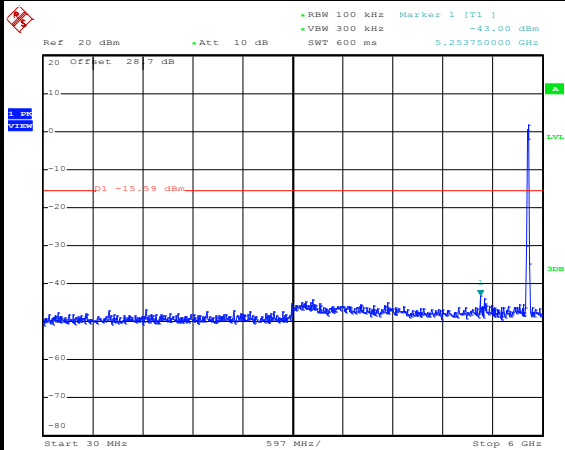
Date: 1.JUL.2013 23:56:17

High Channel Plot



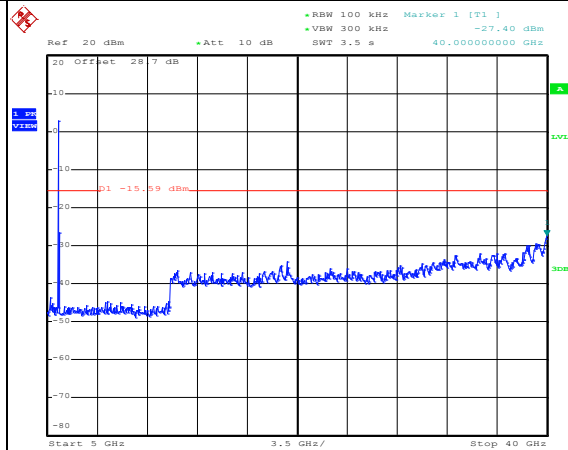
Date: 1.JUL.2013 23:56:50

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 23:57:10

Spurious Emission 5GHz~40GHz

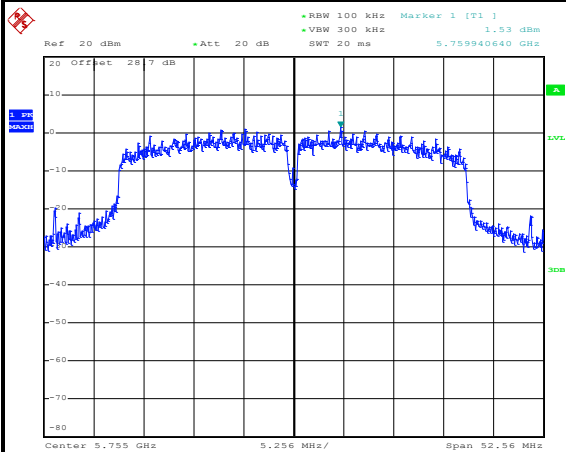


Date: 1.JUL.2013 23:57:29

Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	55~58%
Test Channel :	151	Test Engineer :	Reece Li

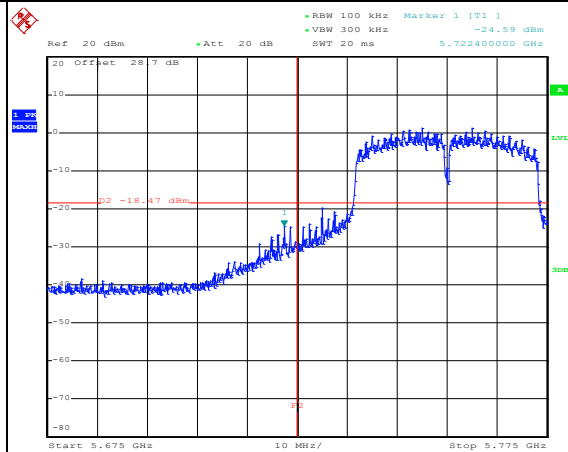
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



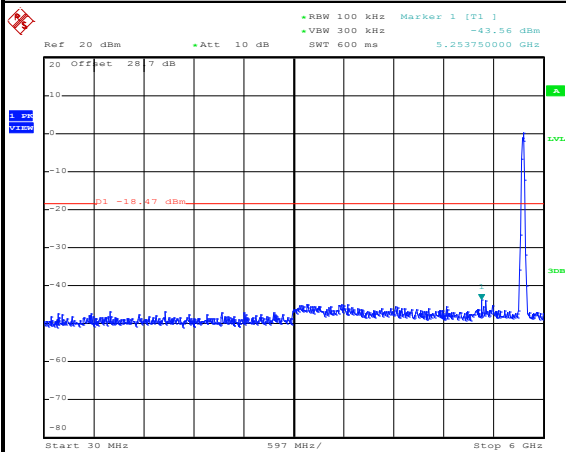
Date: 2.JUL.2013 00:03:00

Low Channel Plot



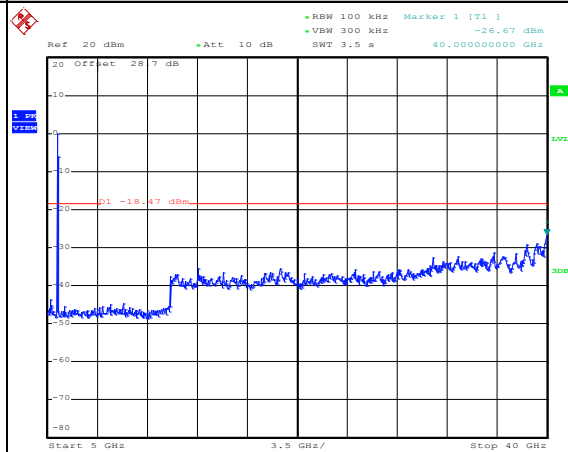
Date: 2.JUL.2013 00:03:15

Spurious Emission 30MHz~6GHz



Date: 2.JUL.2013 00:03:36

Spurious Emission 5GHz~40GHz

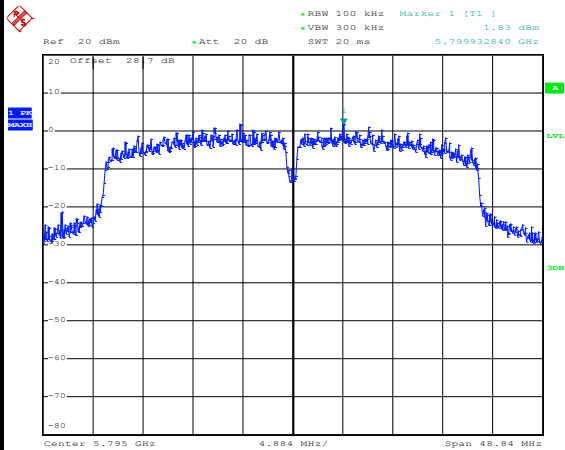


Date: 2.JUL.2013 00:03:55

Number of TX :	2	Chain Port :	1
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	55~58%
Test Channel :	159	Test Engineer :	Reece Li

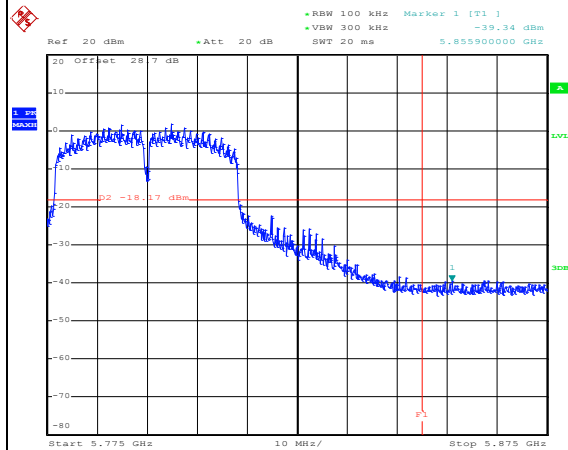
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



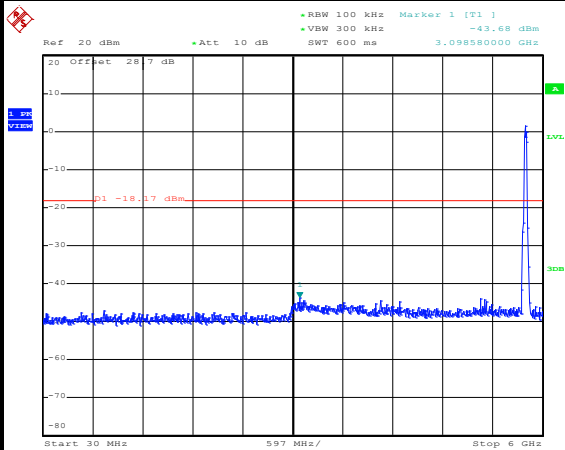
Date: 2.JUL.2013 00:21:37

High Channel Plot



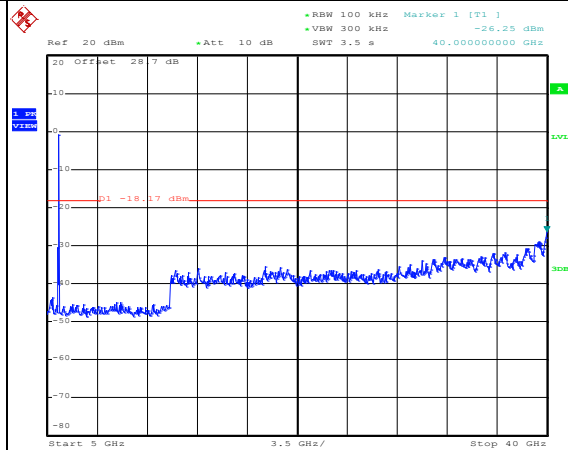
Date: 2.JUL.2013 00:21:57

Spurious Emission 30MHz~6GHz



Date: 2.JUL.2013 00:22:18

Spurious Emission 5GHz~40GHz



Date: 2.JUL.2013 00:22:37

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

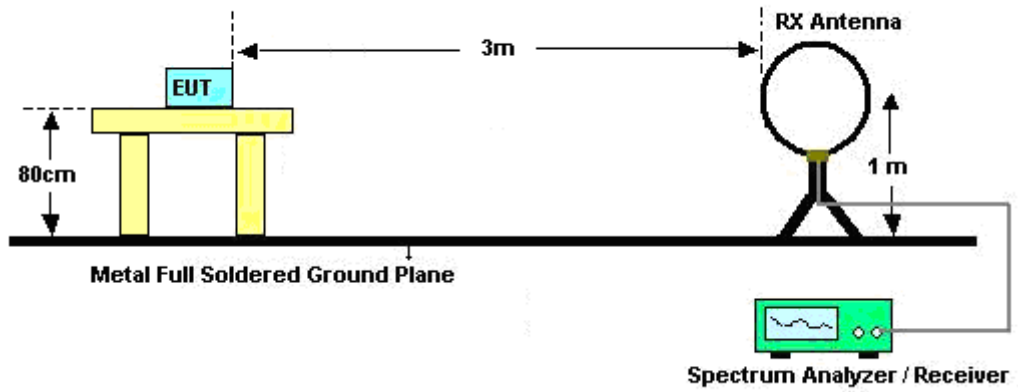
3.5.3 Test Procedure

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 - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; $VBW \geq RBW$; 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.

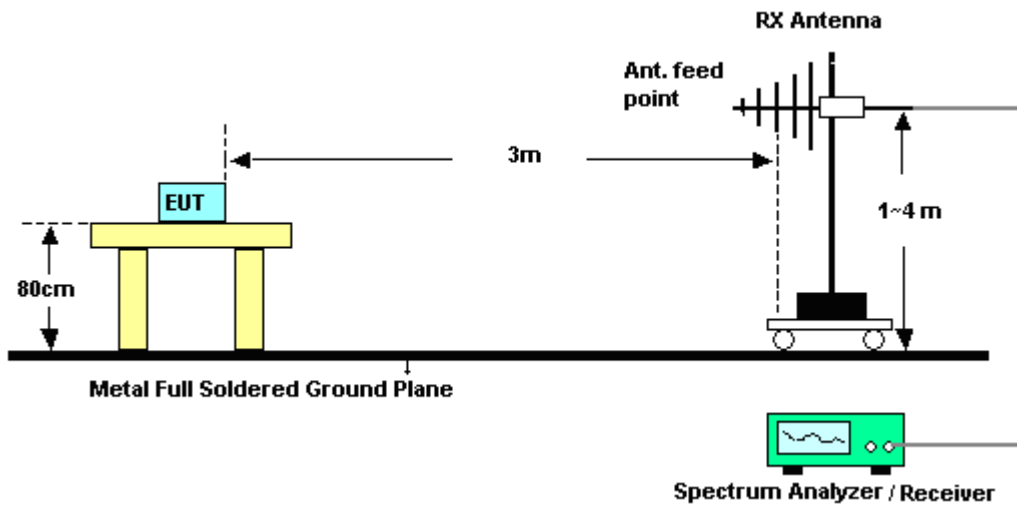
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	100.00	-	-	10Hz
1	802.11g	97.18	2070.00	0.48	1kHz
1	2.4G 802.11n HT20	96.97	1920.00	0.52	
1+2	2.4G 802.11n HT20 for Ant1	94.23	980.00	1.02	3kHz
1+2	2.4G 802.11n HT20) for Ant2	93.33	980.00	1.02	
1	802.11a	98.10	-	-	10Hz
1	5G 802.11n HT20	97.97	1930.00	0.52	1kHz
1	5G 802.11n HT40	96.94	950.00	1.05	3kHz
1+2	5G 802.11n HT20 for Ant1	96.08	980.00	1.02	
1+2	5G 802.11n HT20 for Ant2	96.12	990.00	1.01	
1+2	5G 802.11n HT40 for Ant1	94.32	498.00	2.01	
1+2	5G 802.11n HT40 for Ant2	93.26	498.00	2.01	

3.5.4 Test Setup

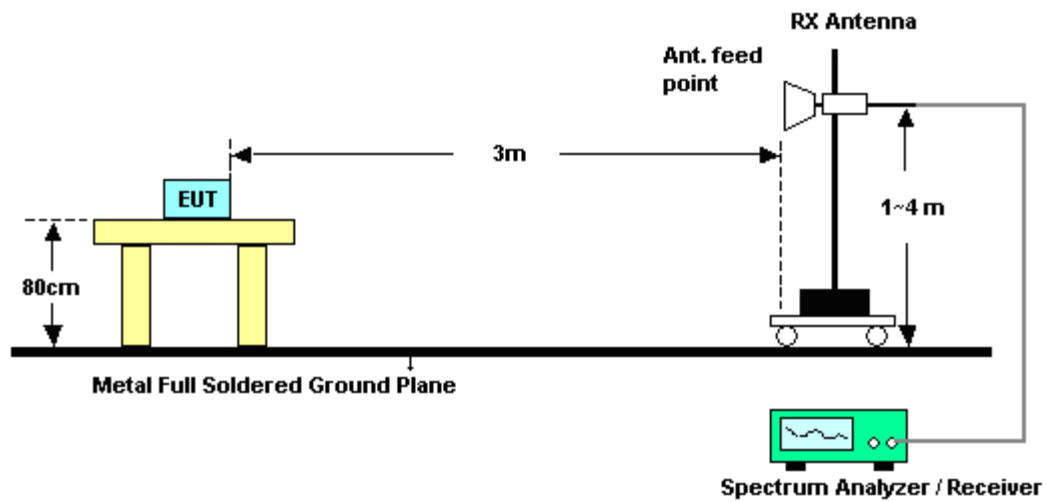
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

<Ant. 1>

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	01	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.67	65.66	-8.34	74	63.09	32.27	6.22	35.92	112	211	Peak
2387.22	52.82	-1.18	54	50.25	32.27	6.22	35.92	112	211	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	63.7	-10.3	74	61.34	32.06	6.22	35.92	101	283	Peak
2387.31	51.23	-2.77	54	48.87	32.06	6.22	35.92	101	283	Average

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	11	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2489.02	62.4	-11.6	74	59.08	32.7	6.45	35.83	165	301	Peak
2486.92	50.68	-3.32	54	47.43	32.63	6.45	35.83	165	301	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2485.9	62.34	-11.66	74	59.13	32.59	6.45	35.83	100	242	Peak
2485.93	50.51	-3.49	54	47.3	32.59	6.45	35.83	100	242	Average

Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	01	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	69.6	-4.4	74	67.01	32.27	6.22	35.9	111	204	Peak
2390	53.22	-0.78	54	50.63	32.27	6.22	35.9	111	204	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	68.16	-5.84	74	65.78	32.06	6.22	35.9	100	240	Peak
2390	52.23	-1.77	54	49.85	32.06	6.22	35.9	100	240	Average

Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	02	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	68.19	-5.81	74	65.62	32.27	6.22	35.92	106	323	Peak
2389.92	51.97	-2.03	54	49.38	32.27	6.22	35.9	106	323	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
2389.2	66.14	-7.86	74	63.78	32.06	6.22	35.92	124	264	Peak
2389.92	50.01	-3.99	54	47.63	32.06	6.22	35.9	124	264	Average

Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	10	Test Engineer :	Jet Lui

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
2484.67	69.48	-4.52	74	66.23	32.63	6.45	35.83	107	316	Peak
2483.59	53.34	-0.66	54	50.09	32.63	6.45	35.83	107	316	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
2483.83	66.22	-7.78	74	63.01	32.59	6.45	35.83	100	271	Peak
2483.74	50.8	-3.2	54	47.59	32.59	6.45	35.83	100	271	Average

Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	11	Test Engineer :	Jet Lui

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	68.88	-5.12	74	65.63	32.63	6.45	35.83	106	308	Peak
2483.59	52.81	-1.19	54	49.56	32.63	6.45	35.83	106	308	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
2483.68	67.43	-6.57	74	64.22	32.59	6.45	35.83	100	245	Peak
2483.5	52.75	-1.25	54	49.54	32.59	6.45	35.83	100	245	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	01	Test Engineer :	Jet Lui

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	68.64	-5.36	74	66.05	32.27	6.22	35.9	112	205	Peak
2389.92	53.21	-0.79	54	50.62	32.27	6.22	35.9	112	205	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	67.03	-6.97	74	64.65	32.06	6.22	35.9	100	242	Peak
2390	51.92	-2.08	54	49.54	32.06	6.22	35.9	100	242	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	02	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.65	67.17	-6.83	74	64.6	32.27	6.22	35.92	105	311	Peak
2390	53.18	-0.82	54	50.59	32.27	6.22	35.9	105	311	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
2388.93	66.12	-7.88	74	63.76	32.06	6.22	35.92	124	245	Peak
2390	51.32	-2.68	54	48.94	32.06	6.22	35.9	124	245	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	10	Test Engineer :	Jet Lui

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	69.05	-4.95	74	65.8	32.63	6.45	35.83	108	312	Peak
2484.01	53.08	-0.92	54	49.83	32.63	6.45	35.83	108	312	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	68.04	-5.96	74	64.83	32.59	6.45	35.83	119	244	Peak
2483.59	52.15	-1.85	54	48.94	32.59	6.45	35.83	119	244	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	11	Test Engineer :	Jet Lui

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
2483.86	67.73	-6.27	74	64.48	32.63	6.45	35.83	109	203	Peak
2483.71	52.64	-1.36	54	49.39	32.63	6.45	35.83	109	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
2484.16	64.84	-9.16	74	61.63	32.59	6.45	35.83	100	245	Peak
2483.53	49.73	-4.27	54	46.52	32.59	6.45	35.83	100	245	Average

Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	149	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	80.47	-10.99	91.46	71.6	34.69	9.07	34.89	100	150	Peak
5743	100.2	-	-	91.3	34.7	9.1	34.9	100	150	Average
5743	111.46	-	-	102.56	34.7	9.1	34.9	100	150	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	79.01	-11.33	90.34	70.14	34.69	9.07	34.89	101	102	Peak
5743	98.84	-	-	89.94	34.7	9.1	34.9	101	102	Average
5743	110.34	-	-	101.44	34.7	9.1	34.9	101	102	Peak

Remark: 5725 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.
For example, 111.46dBµV/m - 20dB = 91.46dBµV/m.

Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	165	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	99.39	-	-	90.2	34.87	9.25	34.93	146	212	Average
5827	110.96	-	-	101.77	34.87	9.25	34.93	146	212	Peak
5850	65.17	-25.79	90.96	55.87	34.9	9.34	34.94	146	212	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	99.24	-	-	90.15	34.77	9.25	34.93	100	114	Average
5823	110.44	-	-	101.35	34.77	9.25	34.93	100	114	Peak
5850	64.88	-25.56	90.44	55.7	34.78	9.34	34.94	100	114	Peak

Remark: 5850 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	149	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	79.49	-11.71	91.2	70.62	34.69	9.07	34.89	100	150	Peak
5743	101	-	-	92.1	34.7	9.1	34.9	100	150	Average
5743	111.2	-	-	102.3	34.7	9.1	34.9	100	150	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	76.66	-13.3	89.96	67.79	34.69	9.07	34.89	137	117	Peak
5743	99.38	-	-	90.48	34.7	9.1	34.9	137	117	Average
5743	109.96	-	-	101.06	34.7	9.1	34.9	137	117	Peak

Remark: 5725 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	165	Test Engineer :	Jet Lui

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
5823	99.69	-	-	90.5	34.87	9.25	34.93	145	214	Average
5823	110.14	-	-	100.95	34.87	9.25	34.93	145	214	Peak
5850	69.66	-20.48	90.14	60.36	34.9	9.34	34.94	145	214	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	99.87	-	-	90.78	34.77	9.25	34.93	163	104	Average
5823	109.95	-	-	100.86	34.77	9.25	34.93	163	104	Peak
5850	68.27	-21.68	89.95	59.09	34.78	9.34	34.94	163	104	Peak

Remark: 5850 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	151	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	79.12	-9.11	88.23	70.25	34.69	9.07	34.89	100	154	Peak
5757	97.91	-	-	88.99	34.73	9.1	34.91	100	154	Average
5757	108.23	-	-	99.31	34.73	9.1	34.91	100	154	Peak
5850	59.34	-28.89	88.23	50.04	34.9	9.34	34.94	100	154	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	77.2	-10.22	87.42	68.33	34.69	9.07	34.89	151	104	Peak
5752	97.52	-	-	88.61	34.71	9.1	34.9	151	104	Average
5752	107.42	-	-	98.51	34.71	9.1	34.9	151	104	Peak
5850	58.39	-29.03	87.42	49.21	34.78	9.34	34.94	151	104	Peak

Remark: 5725 MHz and 5850 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	159	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	58.24	-30.45	88.69	49.37	34.69	9.07	34.89	146	214	Peak
5797	98.41	-	-	89.37	34.8	9.16	34.92	146	214	Average
5797	108.69	-	-	99.65	34.8	9.16	34.92	146	214	Peak
5850	59.15	-29.54	88.69	49.85	34.9	9.34	34.94	146	214	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	58.42	-30.01	88.43	49.55	34.69	9.07	34.89	113	102	Peak
5797	97.66	-	-	88.68	34.74	9.16	34.92	113	102	Average
5797	108.43	-	-	99.45	34.74	9.16	34.92	113	102	Peak
5850	58.61	-29.82	88.43	49.43	34.78	9.34	34.94	113	102	Peak

Remark: 5725 MHz and 5850 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

<MIMO Ant. 1 + 2>

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	01	Test Engineer :	Jet Lui

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	66.53	-7.47	74	63.94	32.27	6.22	35.9	186	218	Peak
2390	52.61	-1.39	54	50.02	32.27	6.22	35.9	186	218	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
2389.2	62.05	-11.95	74	59.69	32.06	6.22	35.92	110	94	Peak
2390	49.59	-4.41	54	47.21	32.06	6.22	35.9	110	94	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	02	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.65	66.21	-7.79	74	63.64	32.27	6.22	35.92	109	40	Peak
2389.47	51.96	-2.04	54	49.39	32.27	6.22	35.92	109	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	64.71	-9.29	74	62.33	32.06	6.22	35.9	120	270	Peak
2390	50.32	-3.68	54	47.94	32.06	6.22	35.9	120	270	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	10	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.55	66.68	-7.32	74	63.43	32.63	6.45	35.83	106	159	Peak
2483.5	53.33	-0.67	54	50.08	32.63	6.45	35.83	106	159	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.53	65.66	-8.34	74	62.45	32.59	6.45	35.83	119	294	Peak
2483.56	52.29	-1.71	54	49.08	32.59	6.45	35.83	119	294	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	11	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.71	66.09	-7.91	74	62.84	32.63	6.45	35.83	100	213	Peak
2483.5	52.91	-1.09	54	49.66	32.63	6.45	35.83	100	213	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.53	66.5	-7.5	74	63.29	32.59	6.45	35.83	108	126	Peak
2483.5	52.57	-1.43	54	49.36	32.59	6.45	35.83	108	126	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	149	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	81.64	-13.19	94.83	72.77	34.69	9.07	34.89	100	124	Peak
5743	103.13	-	-	94.23	34.7	9.1	34.9	100	124	Average
5743	114.83	-	-	105.93	34.7	9.1	34.9	100	124	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	78.05	-11.9	89.95	69.18	34.69	9.07	34.89	100	74	Peak
5743	99.79	-	-	90.89	34.7	9.1	34.9	100	74	Average
5743	109.95	-	-	101.05	34.7	9.1	34.9	100	74	Peak

Remark: 5725 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	165	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	102.83	-	-	93.64	34.87	9.25	34.93	110	120	Average
5827	114.07	-	-	104.88	34.87	9.25	34.93	110	120	Peak
5850	74.84	-19.23	94.07	65.54	34.9	9.34	34.94	110	120	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	100.72	-	-	91.63	34.77	9.25	34.93	100	61	Average
5823	110.63	-	-	101.54	34.77	9.25	34.93	100	61	Peak
5850	73.62	-17.01	90.63	64.44	34.78	9.34	34.94	100	61	Peak

Remark: 5850 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	51~52%
Test Channel :	151	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	85.48	-6.15	91.63	76.61	34.69	9.07	34.89	100	124	Peak
5755	101.24	-	-	92.31	34.73	9.1	34.9	100	124	Average
5755	111.63	-	-	102.7	34.73	9.1	34.9	100	124	Peak
5850	59.57	-32.06	91.63	50.27	34.9	9.34	34.94	100	124	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	79.69	-7.71	87.4	70.82	34.69	9.07	34.89	100	76	Peak
5757	97.14	-	-	88.24	34.71	9.1	34.91	100	76	Average
5757	107.4	-	-	98.5	34.71	9.1	34.91	100	76	Peak
5850	57.99	-29.41	87.4	48.81	34.78	9.34	34.94	100	76	Peak

Remark: 5725 MHz and 5850 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	51~52%
Test Channel :	159	Test Engineer :	Jet Lui

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	59.62	-31.44	91.06	50.75	34.69	9.07	34.89	100	121	Peak
5797	100.68	-	-	91.64	34.8	9.16	34.92	100	121	Average
5797	111.06	-	-	102.02	34.8	9.16	34.92	100	121	Peak
5850	62.03	-29.03	91.06	52.73	34.9	9.34	34.94	100	121	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	58.63	-29.79	88.42	49.76	34.69	9.07	34.89	164	74	Peak
5797	97.48	-	-	88.5	34.74	9.16	34.92	164	74	Average
5797	108.42	-	-	99.44	34.74	9.16	34.92	164	74	Peak
5850	60.2	-28.22	88.42	51.02	34.78	9.34	34.94	164	74	Peak

Remark: 5725 MHz and 5850 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

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.

<Ant. 1>

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 3216 MHz, 7236 MHz, and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 115.5dB μ V/m - 20dB = 95.5dB μ V/m.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	110.75	-	-	108.03	32.34	6.28	35.9	112	211	Average
2414	115.5	-	-	112.78	32.34	6.28	35.9	112	211	Peak
3216	49.42	-46.08	95.5	63.26	33	7.2	54.04	100	0	Peak
4824	52.02	-1.98	54	65.13	34.44	8.04	55.59	103	234	Average
4824	52.57	-21.43	74	65.68	34.44	8.04	55.59	103	234	Peak
7236	56.73	-38.77	95.5	67.06	35.61	10.48	56.42	100	0	Peak
9648	55.37	-40.13	95.5	62.91	36.92	11.55	56.01	100	0	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. 7236 MHz and 9648 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	109.13	-	-	106.59	32.16	6.28	35.9	101	283	Average
2414	113.92	-	-	111.38	32.16	6.28	35.9	101	283	Peak
4824	48.35	-5.65	54	61.46	34.44	8.04	55.59	100	255	Average
4824	51.02	-22.98	74	64.13	34.44	8.04	55.59	100	255	Peak
7236	55.53	-38.39	93.92	65.87	35.6	10.48	56.42	100	0	Peak
9648	52.73	-41.19	93.92	60.69	36.5	11.55	56.01	100	0	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. 3249 MHz and 9747 MHz are within a restricted band, and its limit line is 20dB below the highest emission level.		

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
2438	110.4	-	-	107.45	32.49	6.34	35.88	106	320	Average
2438	115	-	-	112.05	32.49	6.34	35.88	106	320	Peak
3249	48.67	-46.33	95	62.26	33	7.46	54.05	100	0	Peak
4875	51.3	-2.7	54	64.47	34.4	8.11	55.68	162	226	Average
4875	52.44	-21.56	74	65.61	34.4	8.11	55.68	162	226	Peak
7311	48.21	-5.79	54	58.4	35.62	10.47	56.28	134	59	Average
7311	54.39	-19.61	74	64.58	35.62	10.47	56.28	134	59	Peak
9747	52.84	-42.16	95	60.22	37	11.56	55.94	100	0	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. 9747 MHz is within a restricted band, and its limit line is 20dB below the highest emission level.		

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
2438	110.16	-	-	107.32	32.38	6.34	35.88	100	242	Average
2438	114.71	-	-	111.87	32.38	6.34	35.88	100	242	Peak
4875	46.47	-7.53	54	59.64	34.4	8.11	55.68	140	234	Average
4875	50.19	-23.81	74	63.36	34.4	8.11	55.68	140	234	Peak
7308	47.32	-6.68	54	57.57	35.56	10.47	56.28	147	23	Average
7308	52.73	-21.27	74	62.98	35.56	10.47	56.28	147	23	Peak
9747	50.23	-44.48	94.71	58.11	36.5	11.56	55.94	100	0	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	110.48	-	-	107.38	32.56	6.39	35.85	165	301	Average
2462	115.4	-	-	112.3	32.56	6.39	35.85	165	301	Peak
4926	52.39	-1.61	54	65.59	34.36	8.22	55.78	103	148	Average
4926	53.66	-20.34	74	66.86	34.36	8.22	55.78	103	148	Peak
7386	43.96	-10.04	54	53.96	35.66	10.45	56.11	101	6	Average
7386	51.65	-22.35	74	61.65	35.66	10.45	56.11	101	6	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	2464 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	111.58	-	-	108.55	32.49	6.39	35.85	100	242	Average
2464	116.24	-	-	113.21	32.49	6.39	35.85	100	242	Peak
4926	48.68	-25.32	74	61.88	34.36	8.22	55.78	100	0	Peak
7386	49.39	-24.61	74	59.56	35.49	10.45	56.11	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2414 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
151.23	24.51	-18.99	43.5	45.02	9.85	1.44	31.8	-	-	Peak
153.12	24.62	-18.88	43.5	45.12	9.85	1.45	31.8	-	-	Peak
283.26	24.08	-21.92	46	41.19	12.62	1.95	31.68	-	-	Peak
813.8	21.42	-24.58	46	28.78	20.26	3.29	30.91	-	-	Peak
846	21.69	-24.31	46	28.9	20.22	3.36	30.79	-	-	Peak
913.2	28.9	-17.1	46	35.22	20.76	3.51	30.59	124	245	Peak
2414	98.11	-	-	95.39	32.34	6.28	35.9	111	204	Average
2414	108.85	-	-	106.13	32.34	6.28	35.9	111	204	Peak
4824	44.79	-29.21	74	57.9	34.44	8.04	55.59	100	0	Peak
7236	46.64	-42.21	88.85	56.97	35.61	10.48	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2414 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	30.45	-9.55	40	40.21	21.66	0.64	32.06	-	-	Peak
40.8	31.86	-8.14	40	50.98	12.13	0.75	32	122	223	Peak
66.72	26.9	-13.1	40	52.6	5.27	0.97	31.94	-	-	Peak
673.1	23.21	-22.79	46	32.34	18.87	2.99	30.99	-	-	Peak
830.6	22.39	-23.61	46	29.6	20.31	3.33	30.85	-	-	Peak
1000	30.65	-23.35	54	35.84	21.63	3.68	30.5	-	-	Peak
2414	96.1	-	-	93.56	32.16	6.28	35.9	100	240	Average
2414	106.82	-	-	104.28	32.16	6.28	35.9	100	240	Peak
4824	44.27	-29.73	74	57.38	34.44	8.04	55.59	100	0	Peak
7236	47.21	-39.61	86.82	57.55	35.6	10.48	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2439 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 (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	104	-	-	101.05	32.49	6.34	35.88	109	214	Average
2439	114.85	-	-	111.9	32.49	6.34	35.88	109	214	Peak
4875	46.34	-27.66	74	59.51	34.4	8.11	55.68	100	0	Peak
7311	48.41	-25.59	74	58.6	35.62	10.47	56.28	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	1. 2439 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 (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	102.64	-	-	99.8	32.38	6.34	35.88	125	271	Average
2439	113.44	-	-	110.6	32.38	6.34	35.88	125	271	Peak
4875	46.03	-27.97	74	59.2	34.4	8.11	55.68	100	0	Peak
7311	49.01	-24.99	74	59.26	35.56	10.47	56.28	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2464 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
2464	98.6	-	-	95.5	32.56	6.39	35.85	106	308	Average
2464	109.51	-	-	106.41	32.56	6.39	35.85	106	308	Peak
4923	44.94	-29.06	74	58.18	34.36	8.18	55.78	100	0	Peak
7386	47	-27	74	57	35.66	10.45	56.11	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	1. 2464 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
2464	99.34	-	-	96.31	32.49	6.39	35.85	100	245	Average
2464	110.02	-	-	106.99	32.49	6.39	35.85	100	245	Peak
4923	45.24	-28.76	74	58.48	34.36	8.18	55.78	100	0	Peak
7386	46.88	-27.12	74	57.05	35.49	10.45	56.11	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2414 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	96.5	-	-	93.78	32.34	6.28	35.9	112	205	Average
2414	106.93	-	-	104.21	32.34	6.28	35.9	112	205	Peak
4824	44.23	-29.77	74	57.34	34.44	8.04	55.59	100	0	Peak
7236	46.81	-40.12	86.93	57.14	35.61	10.48	56.42	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2410 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	94.37	-	-	91.83	32.16	6.28	35.9	100	242	Average
2410	104.96	-	-	102.42	32.16	6.28	35.9	100	242	Peak
4824	44.25	-29.75	74	57.36	34.44	8.04	55.59	100	0	Peak
7236	47.86	-37.1	84.96	58.2	35.6	10.48	56.42	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2439 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 (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	103.84	-	-	100.89	32.49	6.34	35.88	109	214	Average
2439	114.06	-	-	111.11	32.49	6.34	35.88	109	214	Peak
4875	46.7	-27.3	74	59.87	34.4	8.11	55.68	100	0	Peak
7311	49.61	-24.39	74	59.8	35.62	10.47	56.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	1. 2439 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 (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	101.63	-	-	98.79	32.38	6.34	35.88	100	272	Average
2439	112.14	-	-	109.3	32.38	6.34	35.88	100	272	Peak
4875	46.47	-27.53	74	59.64	34.4	8.11	55.68	100	0	Peak
7311	48.71	-25.29	74	58.96	35.56	10.47	56.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2464 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 (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	97.88	-	-	94.78	32.56	6.39	35.85	109	203	Average
2464	108.15	-	-	105.05	32.56	6.39	35.85	109	203	Peak
4923	45.31	-28.69	74	58.55	34.36	8.18	55.78	100	0	Peak
7386	46.63	-27.37	74	56.63	35.66	10.45	56.11	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	1. 2460 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 (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	95.18	-	-	92.15	32.49	6.39	35.85	100	245	Average
2460	105.75	-	-	102.72	32.49	6.39	35.85	100	245	Peak
4923	45.07	-28.93	74	58.31	34.36	8.18	55.78	100	0	Peak
7386	46.55	-27.45	74	56.72	35.49	10.45	56.11	100	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1600	41.54	-12.46	54	44.25	29.04	4.94	36.69	100	161	Average
1600	57.03	-16.97	74	59.74	29.04	4.94	36.69	100	161	Peak
5743	100.2	-	-	91.3	34.7	9.1	34.9	100	150	Average
5743	111.46	-	-	102.56	34.7	9.1	34.9	100	150	Peak
11490	38.88	-15.12	54	41.2	38.59	12.92	53.83	100	35	Average
11490	50.94	-23.06	74	53.26	38.59	12.92	53.83	100	35	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	98.84	-	-	89.94	34.7	9.1	34.9	101	102	Average
5743	110.34	-	-	101.44	34.7	9.1	34.9	101	102	Peak
11490	39.04	-14.96	54	42.17	37.78	12.92	53.83	100	114	Average
11490	51.44	-22.56	74	54.57	37.78	12.92	53.83	100	114	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5783 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	100.47	-	-	91.49	34.77	9.13	34.92	110	151	Average
5783	111.82	-	-	102.84	34.77	9.13	34.92	110	151	Peak
11571	40.22	-13.78	54	42.35	38.63	13	53.76	103	24	Average
11571	52.47	-21.53	74	54.6	38.63	13	53.76	103	24	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5783 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	99.2	-	-	90.26	34.73	9.13	34.92	125	103	Average
5783	110.57	-	-	101.63	34.73	9.13	34.92	125	103	Peak
11571	39.32	-14.68	54	42.22	37.86	13	53.76	109	16	Average
11571	51.43	-22.57	74	54.33	37.86	13	53.76	109	16	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5827 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1530	40.68	-13.32	54	44.26	28.35	4.84	36.77	100	58	Average
1530	56.79	-17.21	74	60.37	28.35	4.84	36.77	100	58	Peak
5827	99.39	-	-	90.2	34.87	9.25	34.93	146	212	Average
5827	110.96	-	-	101.77	34.87	9.25	34.93	146	212	Peak
11649	39.95	-14.05	54	41.92	38.66	13.09	53.72	100	159	Average
11649	51.15	-22.85	74	53.12	38.66	13.09	53.72	100	159	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5823 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	99.24	-	-	90.15	34.77	9.25	34.93	100	114	Average
5823	110.44	-	-	101.35	34.77	9.25	34.93	100	114	Peak
11649	38.86	-15.14	54	41.58	37.91	13.09	53.72	100	108	Average
11649	51.6	-22.4	74	54.32	37.91	13.09	53.72	100	108	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	101	-	-	92.1	34.7	9.1	34.9	100	150	Average
5743	111.2	-	-	102.3	34.7	9.1	34.9	100	150	Peak
11490	39.96	-14.04	54	42.28	38.59	12.92	53.83	100	25	Average
11490	50.63	-23.37	74	52.95	38.59	12.92	53.83	100	25	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	99.38	-	-	90.48	34.7	9.1	34.9	137	117	Average
5743	109.96	-	-	101.06	34.7	9.1	34.9	137	117	Peak
11490	39.82	-14.18	54	42.95	37.78	12.92	53.83	100	147	Average
11490	50.23	-23.77	74	53.36	37.78	12.92	53.83	100	147	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5787 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	100.24	-	-	91.23	34.8	9.13	34.92	147	215	Average
5787	111.36	-	-	102.35	34.8	9.13	34.92	147	215	Peak
11571	39.92	-14.08	54	42.05	38.63	13	53.76	102	283	Average
11571	51.37	-22.63	74	53.5	38.63	13	53.76	102	283	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5787 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	100.17	-	-	91.22	34.74	9.13	34.92	101	101	Average
5787	110.12	-	-	101.17	34.74	9.13	34.92	101	101	Peak
11571	38.95	-15.05	54	41.85	37.86	13	53.76	100	203	Average
11571	50.85	-23.15	74	53.75	37.86	13	53.76	100	203	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5823 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	99.69	-	-	90.5	34.87	9.25	34.93	145	214	Average
5823	110.14	-	-	100.95	34.87	9.25	34.93	145	214	Peak
11652	40.43	-13.57	54	42.39	38.66	13.09	53.71	100	227	Average
11652	53.08	-20.92	74	55.04	38.66	13.09	53.71	100	227	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5823 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	99.87	-	-	90.78	34.77	9.25	34.93	163	104	Average
5823	109.95	-	-	100.86	34.77	9.25	34.93	163	104	Peak
11649	39.1	-14.9	54	41.82	37.91	13.09	53.72	100	192	Average
11649	51.23	-22.77	74	53.95	37.91	13.09	53.72	100	192	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	151	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5757 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5757	97.91	-	-	88.99	34.73	9.1	34.91	100	154	Average
5757	108.23	-	-	99.31	34.73	9.1	34.91	100	154	Peak
11511	41.33	-12.67	54	43.58	38.6	12.95	53.8	110	41	Average
11511	51.76	-22.24	74	54.01	38.6	12.95	53.8	110	41	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	151	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5752 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5752	97.52	-	-	88.61	34.71	9.1	34.9	151	104	Average
5752	107.42	-	-	98.51	34.71	9.1	34.9	151	104	Peak
11511	40.28	-13.72	54	43.33	37.8	12.95	53.8	100	13	Average
11511	52.27	-21.73	74	55.32	37.8	12.95	53.8	100	13	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	159	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5797 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	98.41	-	-	89.37	34.8	9.16	34.92	146	214	Average
5797	108.69	-	-	99.65	34.8	9.16	34.92	146	214	Peak
11589	40.25	-13.75	54	42.34	38.64	13.02	53.75	100	80	Average
11589	51.11	-22.89	74	53.2	38.64	13.02	53.75	100	80	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	159	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5797 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	97.66	-	-	88.68	34.74	9.16	34.92	113	102	Average
5797	108.43	-	-	99.45	34.74	9.16	34.92	113	102	Peak
11589	39.57	-14.43	54	42.43	37.87	13.02	53.75	100	138	Average
11589	50.97	-23.03	74	53.83	37.87	13.02	53.75	100	138	Peak

<MIMO Ant. 1 + 2>

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2410 MHz is fundamental signal which can be ignored. 3282 MHz and 7236 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	98.23	-	-	95.51	32.34	6.28	35.9	186	218	Average
2410	109.46	-	-	106.74	32.34	6.28	35.9	186	218	Peak
3282	48.29	-41.17	89.46	61.79	32.97	7.59	54.06	100	0	Peak
4824	44.11	-29.89	74	57.22	34.44	8.04	55.59	100	0	Peak
7236	46.85	-42.61	89.46	57.18	35.61	10.48	56.42	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2412 MHz is fundamental signal which can be ignored. 3282 MHz and 7236 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	94.98	-	-	92.44	32.16	6.28	35.9	110	94	Average
2412	106.06	-	-	103.52	32.16	6.28	35.9	110	94	Peak
3282	48.3	-37.76	86.06	61.54	33.23	7.59	54.06	100	0	Peak
4824	44.02	-29.98	74	57.13	34.44	8.04	55.59	100	0	Peak
7236	46.4	-39.66	86.06	56.74	35.6	10.48	56.42	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. 3249 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	105.12	-	-	102.17	32.49	6.34	35.88	125	205	Average
2439	116.16	-	-	113.21	32.49	6.34	35.88	125	205	Peak
3249	49.14	-47.02	96.16	62.73	33	7.46	54.05	100	0	Peak
4875	49.73	-24.27	74	62.9	34.4	8.11	55.68	100	0	Peak
7311	49.01	-24.99	74	59.2	35.62	10.47	56.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	2439 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	102.23	-	-	99.39	32.38	6.34	35.88	166	123	Average
2439	113.29	-	-	110.45	32.38	6.34	35.88	166	123	Peak
4875	40.45	-13.55	54	53.62	34.4	8.11	55.68	100	147	Average
4875	51.18	-22.82	74	64.35	34.4	8.11	55.68	100	147	Peak
7313	41.25	-12.75	54	51.5	35.56	10.47	56.28	100	360	Average
7313	54.25	-19.75	74	64.5	35.56	10.47	56.28	100	360	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2464 MHz is fundamental signal which can be ignored. 3282 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	99.57	-	-	96.47	32.56	6.39	35.85	100	213	Average
2464	111.13	-	-	108.03	32.56	6.39	35.85	100	213	Peak
3282	49.24	-41.89	91.13	62.74	32.97	7.59	54.06	100	0	Peak
4923	45.26	-28.74	74	58.5	34.36	8.18	55.78	100	0	Peak
7386	46.89	-27.11	74	56.89	35.66	10.45	56.11	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2464 MHz is fundamental signal which can be ignored. 3282 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	97.5	-	-	94.47	32.49	6.39	35.85	108	126	Average
2464	109.11	-	-	106.08	32.49	6.39	35.85	108	126	Peak
3282	48.69	-40.42	89.11	61.93	33.23	7.59	54.06	100	0	Peak
4923	45.14	-28.86	74	58.38	34.36	8.18	55.78	100	0	Peak
7386	46.72	-27.28	74	56.89	35.49	10.45	56.11	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1600	41.8	-12.2	54	44.51	29.04	4.94	36.69	100	3	Average
1600	56.47	-17.53	74	59.18	29.04	4.94	36.69	100	3	Peak
5743	103.13	-	-	94.23	34.7	9.1	34.9	100	124	Average
5743	114.83	-	-	105.93	34.7	9.1	34.9	100	124	Peak
11487	45.65	-8.35	54	47.97	38.59	12.92	53.83	128	85	Average
11487	53.77	-20.23	74	56.09	38.59	12.92	53.83	128	85	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	99.79	-	-	90.89	34.7	9.1	34.9	100	74	Average
5743	109.95	-	-	101.05	34.7	9.1	34.9	100	74	Peak
11490	40.68	-13.32	54	43.81	37.78	12.92	53.83	100	55	Average
11490	52.28	-21.72	74	55.41	37.78	12.92	53.83	100	55	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5783 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
1600	42.39	-11.61	54	45.1	29.04	4.94	36.69	100	6	Average
1600	57.19	-16.81	74	59.9	29.04	4.94	36.69	100	6	Peak
5783	103.29	-	-	94.31	34.77	9.13	34.92	100	122	Average
5783	114.04	-	-	105.06	34.77	9.13	34.92	100	122	Peak
11571	46.49	-7.51	54	48.62	38.63	13	53.76	141	83	Average
11571	53.15	-20.85	74	55.28	38.63	13	53.76	141	83	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5783 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	99.95	-	-	91.01	34.73	9.13	34.92	100	61	Average
5783	109.66	-	-	100.72	34.73	9.13	34.92	100	61	Peak
11571	43.19	-10.81	54	46.09	37.86	13	53.76	165	301	Average
11571	52.17	-21.83	74	55.07	37.86	13	53.76	165	301	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5827 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	102.83	-	-	93.64	34.87	9.25	34.93	110	120	Average
5827	114.07	-	-	104.88	34.87	9.25	34.93	110	120	Peak
11649	44.3	-9.7	54	46.27	38.66	13.09	53.72	140	108	Average
11649	53.03	-20.97	74	55	38.66	13.09	53.72	140	108	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5823 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	100.72	-	-	91.63	34.77	9.25	34.93	100	61	Average
5823	110.63	-	-	101.54	34.77	9.25	34.93	100	61	Peak
11653	42.33	-11.67	54	45.02	37.93	13.09	53.71	171	19	Average
11653	53.93	-20.07	74	56.62	37.93	13.09	53.71	171	19	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	151	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5755 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
145.83	24.83	-18.67	43.5	44.91	10.3	1.42	31.8	100	129	Peak
155.82	24.2	-19.3	43.5	44.87	9.66	1.46	31.79	-	-	Peak
230.07	24.43	-21.57	46	44.59	9.8	1.77	31.73	-	-	Peak
328	22.02	-23.98	46	37.91	13.74	2.09	31.72	-	-	Peak
388.2	22.76	-23.24	46	36.69	15.34	2.28	31.55	-	-	Peak
798.4	21.11	-24.89	46	28.87	19.94	3.26	30.96	-	-	Peak
1538	37.97	-16.03	54	41.38	28.52	4.84	36.77	100	355	Average
1538	52.61	-21.39	74	56.02	28.52	4.84	36.77	100	355	Peak
5755	101.24	-	-	92.31	34.73	9.1	34.9	100	124	Average
5755	111.63	-	-	102.7	34.73	9.1	34.9	100	124	Peak
11511	45.38	-8.62	54	47.63	38.6	12.95	53.8	138	85	Average
11511	52.46	-21.54	74	54.71	38.6	12.95	53.8	138	85	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	151	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5757 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
41.07	35.09	-4.91	40	55.24	11.1	0.75	32	105	216	Peak
66.72	26.85	-13.15	40	52.55	5.27	0.97	31.94	-	-	Peak
71.85	24.96	-15.04	40	50.16	5.75	1	31.95	-	-	Peak
458.2	19.99	-26.01	46	32.7	16.06	2.47	31.24	-	-	Peak
529.6	21.3	-24.7	46	32.19	17.68	2.67	31.24	-	-	Peak
673.1	23.37	-22.63	46	32.5	18.87	2.99	30.99	-	-	Peak
5757	97.14	-	-	88.24	34.71	9.1	34.91	100	76	Average
5757	107.4	-	-	98.5	34.71	9.1	34.91	100	76	Peak
11511	41.19	-12.81	54	44.24	37.8	12.95	53.8	175	316	Average
11511	51.15	-22.85	74	54.2	37.8	12.95	53.8	175	316	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	159	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Horizontal
Remark :	5797 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	100.68	-	-	91.64	34.8	9.16	34.92	100	121	Average
5797	111.06	-	-	102.02	34.8	9.16	34.92	100	121	Peak
11589	43.63	-10.37	54	45.72	38.64	13.02	53.75	143	84	Average
11589	51.41	-22.59	74	53.5	38.64	13.02	53.75	143	84	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Channel :	159	Relative Humidity :	51~52%
Test Engineer :	Jet Lui	Polarization :	Vertical
Remark :	5797 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	97.48	-	-	88.5	34.74	9.16	34.92	164	74	Average
5797	108.42	-	-	99.44	34.74	9.16	34.92	164	74	Peak
11589	41.16	-12.84	54	44.02	37.87	13.02	53.75	172	301	Average
11589	51.03	-22.97	74	53.89	37.87	13.02	53.75	172	301	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.

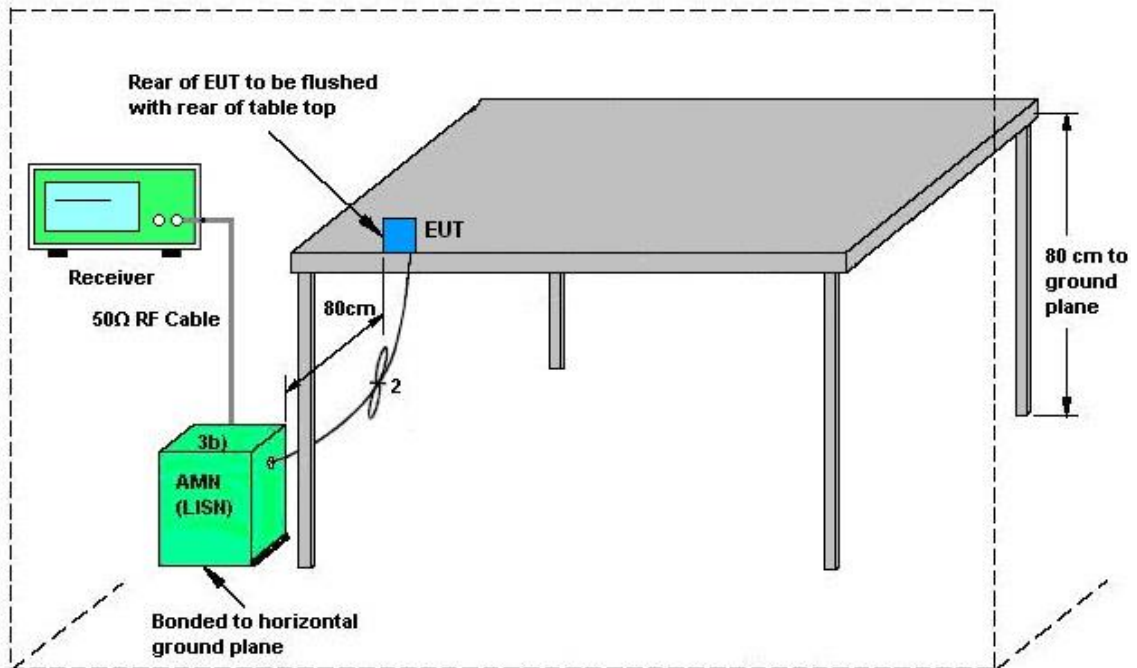
3.6.2 Measuring Instruments

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.

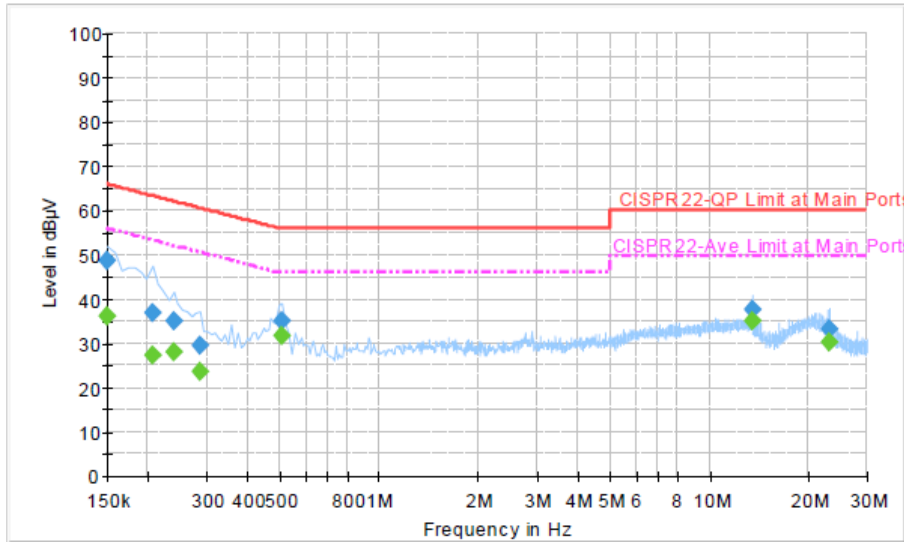
3.6.4 Test Setup



AMN = Artificial mains network (LISH)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN (2.4G) Link + Bluetooth Link + HDMI Cable + RJ-45 Load + Audio Converter Load + Mouse + MPEG4 + Adapter		



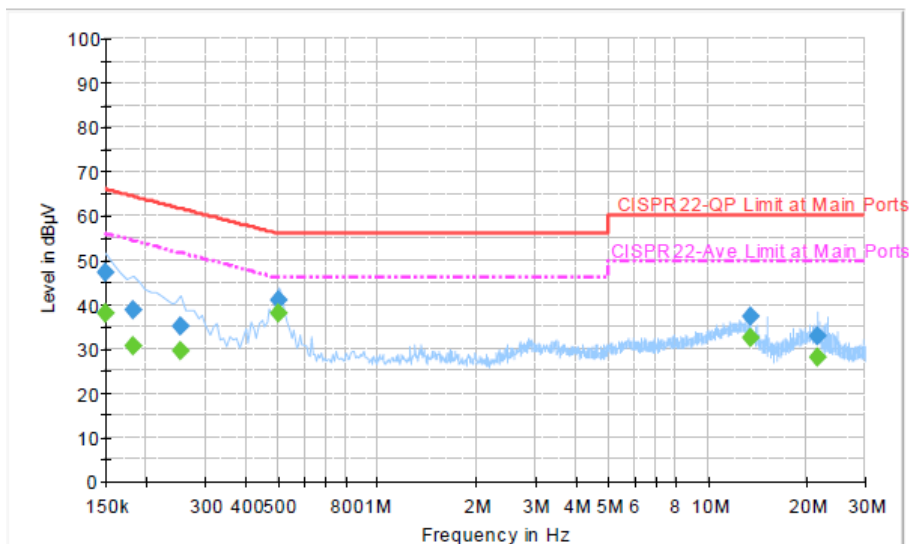
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	48.6	Off	L1	19.4	17.4	66.0
0.206000	37.0	Off	L1	19.4	26.4	63.4
0.238000	35.2	Off	L1	19.5	27.0	62.2
0.286000	29.6	Off	L1	19.4	31.0	60.6
0.510000	35.1	Off	L1	19.4	20.9	56.0
13.558000	37.5	Off	L1	19.8	22.5	60.0
23.126000	33.3	Off	L1	20.0	26.7	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	36.3	Off	L1	19.4	19.7	56.0
0.206000	27.3	Off	L1	19.4	26.1	53.4
0.238000	28.2	Off	L1	19.5	24.0	52.2
0.286000	23.7	Off	L1	19.4	26.9	50.6
0.510000	31.7	Off	L1	19.4	14.3	46.0
13.558000	34.9	Off	L1	19.8	15.1	50.0
23.126000	30.2	Off	L1	20.0	19.8	50.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Kai-Chun Chu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN (2.4G) Link + Bluetooth Link + HDMI Cable + RJ-45 Load + Audio Converter Load + Mouse + MPEG4 + Adapter		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	47.3	Off	N	19.4	18.7	66.0
0.182000	38.8	Off	N	19.4	25.6	64.4
0.254000	35.0	Off	N	19.5	26.6	61.6
0.502000	41.0	Off	N	19.4	15.0	56.0
13.558000	37.2	Off	N	19.9	22.8	60.0
21.662000	33.0	Off	N	20.0	27.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	38.2	Off	N	19.4	17.8	56.0
0.182000	30.4	Off	N	19.4	24.0	54.4
0.254000	29.6	Off	N	19.5	22.0	51.6
0.502000	37.9	Off	N	19.4	8.1	46.0
13.558000	32.3	Off	N	19.9	17.7	50.0
21.662000	28.2	Off	N	20.0	21.8	50.0

3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Connected Construction

Non-standard connector is used.

3.7.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02

For CDD transmissions, directional gain is calculated as

Directional gain = $G_{ANT} + \text{Array Gain}$, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

The EUT supports CDD mode.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

	Chain Port 0 Ant 1 (dBi)	Chain Port 1 Ant 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
2.4 GHz	3.00	1.80	2.44	5.45	0.00	0.00
5 GHz	3.60	1.00	2.49	5.50	0.00	0.00

$Power\ Limit\ Reduction = DG(Power) - 6dBi, (min = 0)$

$PSD\ Limit\ Reduction = DG(PSD) - 6dBi, (min = 0)$

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Jun. 25, 2013~ Aug. 30, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Jun. 25, 2013~ Aug. 30, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Jun. 25, 2013~ Aug. 30, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Spectrum Analyzer	R&S	ESU26	100390	20Hz~26.5GHz	Dec. 14, 2012	Jun. 26, 2013~ Aug. 30, 2013	Dec. 13, 2013	Radiation (03CH08-HY)
Bilog Antenna	Schaffner	CBL6111C	2725	30MHz~2GHz	Oct. 06, 2012	Jun. 26, 2013~ Aug. 30, 2013	Oct. 05, 2013	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	66584	1GHz~18GHz	Aug. 10, 2012	Jun. 26, 2013~ Aug. 07, 2013	Aug. 09, 2013	Radiation (03CH05-HY)
Horn Antenna	ESCO	3117	66584	1GHz~18GHz	Aug. 07, 2013	Aug. 07, 2013~ Aug. 30, 2013	Aug. 06, 2014	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170 251	15GHz ~ 40GHz	Sep. 28, 2012	Jun. 26, 2013~ Aug. 30, 2013	Sep. 27, 2013	Radiation (03CH08-HY)
Preamplifier	COM-POWER	PA-103	161075	10Hz~1000MHz Gain:32dB	Feb. 26, 2013	Jun. 26, 2013~ Aug. 30, 2013	Feb. 25, 2014	Radiation (03CH08-HY)
Pre Amplifier	Agilent	8449B	3008A026 65	1GHz~26.5GHz	Dec. 01, 2012	Jun. 26, 2013~ Aug. 30, 2013	Nov. 30, 2013	Radiation (03CH08-HY)
Turn Table	HD	Deis HD 2000	420/611	0 ~ 360 degree	N/A	Jun. 26, 2013~ Aug. 30, 2013	N/A	Radiation (03CH08-HY)
Antenna Mast	HD	MA 240	240/666	1 m ~ 4 m	N/A	Jun. 26, 2013~ Aug. 30, 2013	N/A	Radiation (03CH08-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/00 01	9 kHz~30 MHz	Jul. 03, 2012	Jun. 26, 2013~ Aug. 30, 2013	Jul. 03, 2014	Radiation (03CH08-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 13, 2012	Jun. 27, 2013~ Jul. 25, 2013	Nov. 12, 2013	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2012	Jun. 27, 2013~ Jul. 25, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 06, 2012	Jun. 27, 2013~ Jul. 25, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Jun. 27, 2013~ Jul. 25, 2013	N/A	Conduction (CO05-HY)

5 Uncertainty of Evaluation

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

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

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

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