

# FCC RF Test Report

**APPLICANT** : TP-LINK TECHNOLOGIES CO., LTD.  
**EQUIPMENT** : N600 Universal Dual Band WiFi  
Entertainment Adapter with 4 Ports  
**BRAND NAME** : TP-LINK  
**MODEL NAME** : TL-WA890EA  
**FCC ID** : TE7WA890EA  
**STANDARD** : FCC Part 15 Subpart C §15.247  
**CLASSIFICATION** : (DTS) Digital Transmission System

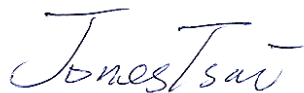
The product was received on Apr. 16, 2013 and completely tested on Aug. 01, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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



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Reviewed by: Joseph Lin / Supervisor



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Approved by: Jones Tsai / Manager



## **SPORTON INTERNATIONAL INC.**

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



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### REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR341603A	Rev. 01	Initial issue of report	Aug. 12, 2013



### 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 1.03 dB at 2483.500 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 9.0 dB at 0.454 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-



# 1 General Description

## 1.1 Applicant

**TP-LINK TECHNOLOGIES CO., LTD.**

Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

## 1.2 Manufacturer

**TP-LINK TECHNOLOGIES CO., LTD.**

Building 24 (floors 1,3,4,5) and 28 (floors1-4) Central Science and Technology Park, Shennan Rd, Nanshan, Shenzhen, China

## 1.3 Feature of Equipment Under Test

Product Feature	
<b>Equipment</b>	N600 Universal Dual Band WiFi Entertainment Adapter with 4 Ports
<b>Brand Name</b>	TP-LINK
<b>Model Name</b>	TL-WA890EA
<b>FCC ID</b>	TE7WA890EA
<b>EUT supports Radios application</b>	WLAN 11abgn
<b>EUT Stage</b>	Production Unit

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

### 1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard																			
<b>Tx/Rx Channel Frequency Range</b>	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.																		
<b>Maximum Output Power to Antenna</b>	<p><b>&lt;2412 MHz ~ 2462 MHz &gt;</b>            802.11b for Chain Port 0 : 20.33 dBm (0.1079 W)            802.11g for Chain Port 0 : 25.26 dBm (0.3357 W)            802.11n HT20 for Chain Port 0: 25.06 dBm / 0.3206 W            802.11n HT20 for Chain Port 0+1: 26.87 dBm / 0.4864 W            802.11n HT40 for Chain Port 0: 24.90 dBm / 0.3090 W            802.11n HT40 for Chain Port 0+1: 26.78 dBm / 0.4764 W</p> <p><b>&lt;5745 MHz ~ 5825 MHz &gt;</b>            802.11a for Chain Port 0 : 22.83 dBm (0.1919 W)            802.11n HT20 for Chain Port 0: 22.42 dBm / 0.1746 W            802.11n HT20 for Chain Port 0+1: 25.23 dBm / 0.3334 W            802.11n HT40 for Chain Port 0: 22.77 dBm / 0.1892 W            802.11n HT40 for Chain Port 0+1: 25.16 dBm / 0.3281 W</p>																		
<b>Antenna Type</b>	Chain Port 0: PCB Antenna Chain Port 1: PCB Antenna																		
<b>Antenna Gain</b>	2.4GHz Chain Port 0 : 2.70 dBi Chain Port 1: 3.50 dBi 5GHz Chain Port 0 : 5.00 dBi Chain Port 1: 4.20 dBi																		
<b>Type of Modulation</b>	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)																		
<b>Antenna Function for Transmitter</b>	<table border="1"> <thead> <tr> <th></th> <th>Chain Port 0</th> <th>Chain Port 1</th> </tr> </thead> <tbody> <tr> <td>802.11 b</td> <td>√</td> <td>-</td> </tr> <tr> <td>802.11 g</td> <td>√</td> <td>-</td> </tr> <tr> <td>802.11 a</td> <td>√</td> <td>-</td> </tr> <tr> <td>802.11 n SISO</td> <td>√</td> <td>-</td> </tr> <tr> <td>802.11 n MIMO</td> <td>√</td> <td>√</td> </tr> </tbody> </table>		Chain Port 0	Chain Port 1	802.11 b	√	-	802.11 g	√	-	802.11 a	√	-	802.11 n SISO	√	-	802.11 n MIMO	√	√
	Chain Port 0	Chain Port 1																	
802.11 b	√	-																	
802.11 g	√	-																	
802.11 a	√	-																	
802.11 n SISO	√	-																	
802.11 n MIMO	√	√																	

### 1.5 Modification of EUT

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

## 1.6 Testing Site

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

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

## 1.7 Applied Standards

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

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02.
- ♦ ANSI C63.10-2009

**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).

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
	157	5785	165	5825





## 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.

2.4GHz 802.11b Peak Power (dBm)				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Chain Port 0	20.33	20.31	20.30	20.31

2.4GHz 802.11g Peak Power (dBm)								
Data Rate (MHz)	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Chain Port 0	25.26	25.21	25.24	24.94	25.24	25.23	25.11	25.20

2.4GHz 802.11n HT20 Peak Power (dBm)								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Chain Port 0	25.06	24.99	24.15	24.91	25.00	24.66	24.86	23.87
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Chain Port 0+1(0)	23.49	23.45	23.44	23.41	23.39	23.36	23.32	23.31
Chain Port 0+1(1)	24.20	24.12	24.09	24.06	24.02	23.98	23.96	23.94
Chain Port 0+1	26.87	26.81	26.79	26.76	26.73	26.69	26.66	26.65

2.4GHz 802.11n HT40 Peak Power (dBm)								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Chain Port 0	24.90	24.82	24.80	24.88	24.88	24.85	24.79	24.71
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Chain Port 0+1(0)	23.93	23.86	23.78	23.71	23.67	23.70	23.68	23.62
Chain Port 0+1(1)	23.61	23.57	23.54	23.52	23.49	23.42	23.39	23.38
Chain Port 0+1	26.78	26.73	26.67	26.63	26.59	26.57	26.55	26.51



5GHz 802.11a Peak Power (dBm)								
Data Rate (MHz)	6Mbps	9Mbps	12Mbps	18Mbps	24Mbps	36Mbps	48Mbps	54Mbps
Chain Port 0	22.83	22.81	22.77	22.72	22.68	22.62	22.56	22.53

5GHz 802.11n HT20 Peak Power (dBm)								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Chain Port 0	22.42	22.40	22.37	22.35	22.32	22.29	22.33	22.25
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Chain Port 0+1(0)	21.25	21.22	21.19	21.17	21.18	21.14	21.11	21.13
Chain Port 0+1(1)	23.02	22.66	22.63	22.59	22.49	22.46	22.45	22.42
Chain Port 0+1	25.23	25.01	24.98	24.95	24.89	24.86	24.84	24.83

5GHz 802.11n HT40 Peak Power (dBm)								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Chain Port 0	22.77	22.70	22.69	22.65	22.61	22.55	22.47	22.53
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Chain Port 0+1(0)	21.50	21.46	21.41	21.40	21.35	21.33	21.28	21.21
Chain Port 0+1(1)	22.72	22.64	22.53	22.52	22.51	22.46	22.43	22.36
Chain Port 0+1	25.16	25.10	25.02	25.01	24.98	24.94	24.90	24.83

Note:

- Chain Port 0+1 is a calculated result from sum of the power Chain Port 0+1 (0) and Chain Port 0+1(1).
- The data rates of WLAN 802.11b/g/a/n were set in 1Mbps for 2.4GHz 802.11b (Chain Port 0), 6Mbps for 2.4GHz 802.11g (Chain Port 0), MCS0 for 2.4GHz 802.11n HT20 (Chain Port 0), MCS8 for 2.4GHz 802.11n HT20 (Chain Port 0+1), MCS0 for 2.4GHz 802.11n HT40 (Chain Port 0), MCS8 for 2.4GHz 802.11n HT40 (Chain Port 0+1), 6Mbps for 5GHz 802.11a (Chain Port 0), MCS0 for 5GHz 802.11n HT20 (Chain Port 0), MCS8 for 5GHz 802.11n HT20 (Chain Port 0+1), MCS0 for 5GHz 802.11n HT40 (Chain Port 0) and MCS8 for 5GHz 802.11n HT40 (Chain Port 0+1) due to the highest RF output power.



### 2.3 Test Mode

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

<2.4GHz>

Test Cases					
Conducted TCs	Test Items	Mode	Data Rate	Test Channel	Remark
		6dB BW Power Spectral Density	802.11b	1 Mbps	1/6/11
802.11g			6 Mbps	1/6/11	Chain Port 0
802.11n HT20			6.5 Mbps	1/6/11	Chain Port 0
802.11n HT20			13 Mbps	1/6/11	Chain Port 0+1 (0)
802.11n HT20			13 Mbps	1/6/11	Chain Port 0+1 (1)
802.11n HT40			13.5 Mbps	3/6/9	Chain Port 0
802.11n HT40			27 Mbps	3/6/9	Chain Port 0+1 (0)
802.11n HT40			27 Mbps	3/6/9	Chain Port 0+1 (1)
Output Power		802.11b	1 Mbps	1/6/11	Chain Port 0
		802.11g	6 Mbps	1/6/11	Chain Port 0
		802.11n HT20	6.5 Mbps	1/6/11	Chain Port 0
		802.11n HT20	13 Mbps	1/6/11	Chain Port 0+1 (0)
		802.11n HT20	13 Mbps	1/6/11	Chain Port 0+1 (1)
		802.11n HT40	13.5 Mbps	3/6/9	Chain Port 0
		802.11n HT40	27 Mbps	3/6/9	Chain Port 0+1 (0)
		802.11n HT40	27 Mbps	3/6/9	Chain Port 0+1 (1)
Conducted Band Edge		802.11b	1 Mbps	1/11	Chain Port 0
		802.11g	6 Mbps	1/11	Chain Port 0
		802.11n HT20	6.5 Mbps	1/11	Chain Port 0
		802.11n HT20	13 Mbps	1/11	Chain Port 0+1 (0)
		802.11n HT20	13 Mbps	1/11	Chain Port 0+1 (1)
		802.11n HT40	13.5 Mbps	3/9	Chain Port 0
		802.11n HT40	27 Mbps	3/9	Chain Port 0+1 (0)
		802.11n HT40	27 Mbps	3/9	Chain Port 0+1 (1)
Conducted Spurious Emission		802.11b	1 Mbps	1/6/11	Chain Port 0
		802.11g	6 Mbps	1/6/11	Chain Port 0
		802.11n HT20	6.5 Mbps	1/6/11	Chain Port 0
		802.11n HT20	13 Mbps	1/6/11	Chain Port 0+1 (0)
	802.11n HT20	13 Mbps	1/6/11	Chain Port 0+1 (1)	
	802.11n HT40	13.5 Mbps	3/6/9	Chain Port 0	
	802.11n HT40	27 Mbps	3/6/9	Chain Port 0+1 (0)	
	802.11n HT40	27 Mbps	3/6/9	Chain Port 0+1 (1)	



	Test Items	Mode	Data Rate	Test Channel	Remark
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11	Chain Port 0
		802.11g	6 Mbps	1/11	Chain Port 0
		802.11n HT20	6.5 Mbps	1/11	Chain Port 0
		802.11n HT20	13 Mbps	1/11	Chain Port 0+1
		802.11n HT40	13.5 Mbps	3/9	Chain Port 0
		802.11n HT40	27 Mbps	3/9	Chain Port 0+1
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11	Chain Port 0
		802.11g	6 Mbps	1/6/11	Chain Port 0
		802.11n HT20	6.5 Mbps	1/6/11	Chain Port 0
		802.11n HT20	13 Mbps	1/6/11	Chain Port 0+1
		802.11n HT40	13.5 Mbps	3/6/9	Chain Port 0
		802.11n HT40	27 Mbps	3/6/9	Chain Port 0+1



<5GHz>

Test Cases					
	Test Items	Mode	Data Rate	Test Channel	Remark
Conducted TCs	6dB BW Power Spectral Density	802.11a	6 Mbps	149/157/165	Chain Port 0
		802.11n HT20	6.5 Mbps	149/157/165	Chain Port 0
		802.11n HT20	13 Mbps	149/157/165	Chain Port 0+1 (0)
		802.11n HT20	13 Mbps	149/157/165	Chain Port 0+1 (1)
		802.11n HT40	13.5 Mbps	151/159	Chain Port 0
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1 (0)
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1 (1)
	Output Power	802.11a	6 Mbps	149/157/165	Chain Port 0
		802.11n HT20	6.5 Mbps	149/157/165	Chain Port 0
		802.11n HT20	13 Mbps	149/157/165	Chain Port 0+1 (0)
		802.11n HT20	13 Mbps	149/157/165	Chain Port 0+1 (1)
		802.11n HT40	13.5 Mbps	151/159	Chain Port 0
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1 (0)
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1 (1)
	Conducted Band Edge	802.11a	6 Mbps	149/165	Chain Port 0
		802.11n HT20	6.5 Mbps	149/165	Chain Port 0
		802.11n HT20	13 Mbps	149/165	Chain Port 0+1 (0)
		802.11n HT20	13 Mbps	149/165	Chain Port 0+1 (1)
		802.11n HT40	13.5 Mbps	151/159	Chain Port 0
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1 (0)
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1 (1)
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165	Chain Port 0
		802.11n HT20	6.5 Mbps	149/157/165	Chain Port 0
		802.11n HT20	13 Mbps	149/157/165	Chain Port 0+1 (0)
802.11n HT20		13 Mbps	149/157/165	Chain Port 0+1 (1)	
802.11n HT40		13.5 Mbps	151/159	Chain Port 0	
802.11n HT40		27 Mbps	151/159	Chain Port 0+1 (0)	
802.11n HT40		27 Mbps	151/159	Chain Port 0+1 (1)	

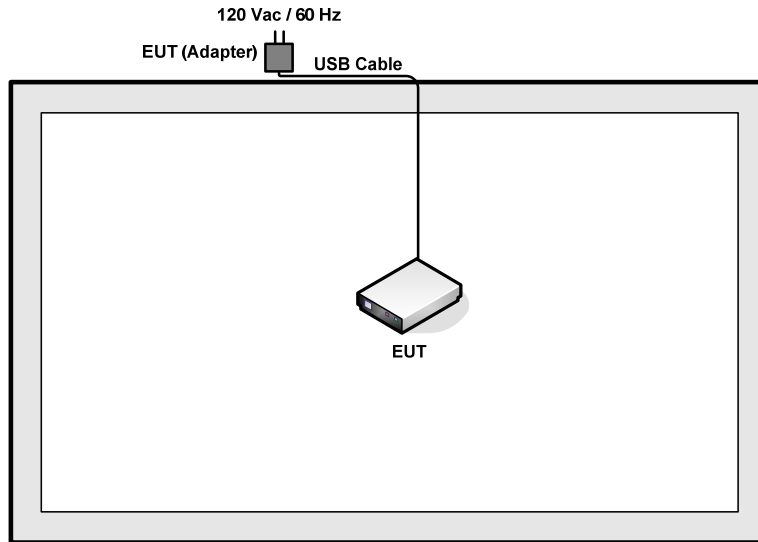


<b>Radiated TCs</b>	<b>Radiated Band Edge</b>	802.11a	6 Mbps	149/161	Chain Port 0
		802.11n HT20	6.5 Mbps	149/161	Chain Port 0
		802.11n HT20	13 Mbps	149/161	Chain Port 0+1
		802.11n HT40	13.5 Mbps	151/159	Chain Port 0
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1
	<b>Radiated Spurious Emission</b>	802.11a	6 Mbps	149/157/161	Chain Port 0
		802.11n HT20	6.5 Mbps	149/157/161	Chain Port 0
		802.11n HT20	13 Mbps	149/157/161	Chain Port 0+1
		802.11n HT40	13.5 Mbps	151/159	Chain Port 0
		802.11n HT40	27 Mbps	151/159	Chain Port 0+1

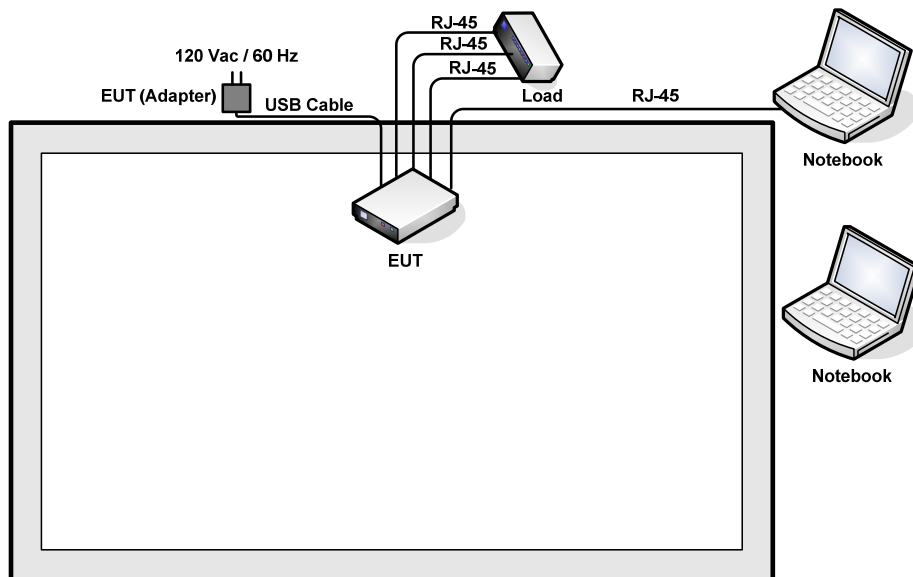
Test Cases	
<b>AC Conducted</b>	Mode 1 : WLAN Link (2.4GHz) + LAN Link + TC + USB Cable (Charging from Adapter)
<b>Emission</b>	Mode 2 : WLAN Link (5GHz) + LAN Link + TC + USB Cable (Charging from Adapter)
<b>Remark:</b>	
1. TC stands for Test Configuration.	
2. The worst case of conducted emission is mode 1; only the test data of it is reported.	

## 2.4 Connection Diagram of Test System

### <WLAN Tx Mode>



### <AC Conducted Emission Mode>



## 2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	P20G	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Load	N/A	N/A	N/A	N/A	N/A
4.	USB Cable	N/A	N/A	N/A	N/A	Shielded, 1.2 m

## 2.6 Description of RF Function Operation Test Setup

For WLAN function, turn on the software of Manual Tool to 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 8.7 dB and 20dB attenuator.

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

$$= 8.7 + 20 = 28.7 \text{ (dB)}$$



### 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.

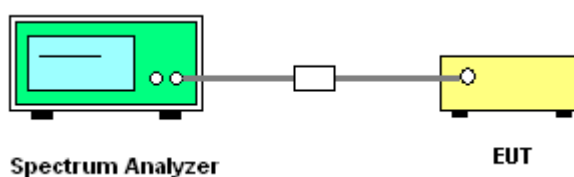
##### 3.1.2 Measuring Instruments

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





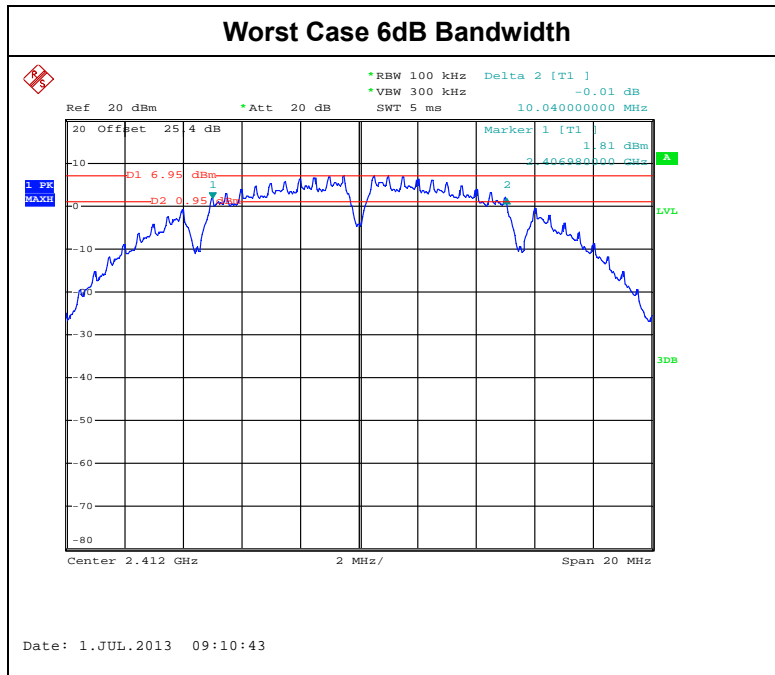
3.1.5 Test Result of 6dB Occupied Bandwidth

Test Band :	2.4GHz + 5GHz band 4	Temperature :	23~24°C
Test Engineer :	Reece Lee	Relative Humidity :	44~46%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Chain Port 0	Chain Port 1		
11b	1Mbps	1	1	2412	10.04	-	0.5	Pass
11b	1Mbps	1	6	2437	10.08	-	0.5	Pass
11b	1Mbps	1	11	2462	10.08	-	0.5	Pass
11g	6Mbps	1	1	2412	16.52	-	0.5	Pass
11g	6Mbps	1	6	2437	16.48	-	0.5	Pass
11g	6Mbps	1	11	2462	16.52	-	0.5	Pass
HT20	MCS0	1	1	2412	17.76	-	0.5	Pass
HT20	MCS0	1	6	2437	17.6	-	0.5	Pass
HT20	MCS0	1	11	2462	17.68	-	0.5	Pass
HT40	MCS0	1	3	2422	36.32	-	0.5	Pass
HT40	MCS0	1	6	2437	36.32	-	0.5	Pass
HT40	MCS0	1	9	2452	36.4	-	0.5	Pass
HT20	MCS8	2	1	2412	17.72	17.62	0.5	Pass
HT20	MCS8	2	6	2437	17.8	17.6	0.5	Pass
HT20	MCS8	2	11	2462	17.76	17.62	0.5	Pass
HT40	MCS8	2	3	2422	36.32	36.32	0.5	Pass
HT40	MCS8	2	6	2437	36.4	36.4	0.5	Pass
HT40	MCS8	2	9	2452	36.32	36.32	0.5	Pass



Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Chain Port 0	Chain Port 1		
11a	6Mbps	1	149	5745	16.48	-	0.5	Pass
11a	6Mbps	1	157	5785	16.5	-	0.5	Pass
11a	6Mbps	1	165	5825	16.48	-	0.5	Pass
HT20	MCS0	1	149	5745	17.8	-	0.5	Pass
HT20	MCS0	1	157	5785	17.8	-	0.5	Pass
HT20	MCS0	1	165	5825	17.8	-	0.5	Pass
HT40	MCS0	1	151	5755	36.4	-	0.5	Pass
HT40	MCS0	1	159	5795	36.32	-	0.5	Pass
HT20	MCS8	2	149	5745	17.62	17.76	0.5	Pass
HT20	MCS8	2	157	5785	17.64	17.76	0.5	Pass
HT20	MCS8	2	165	5825	17.64	17.76	0.5	Pass
HT40	MCS8	2	151	5755	36.32	36.4	0.5	Pass
HT40	MCS8	2	159	5795	36.32	36.4	0.5	Pass



## 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.

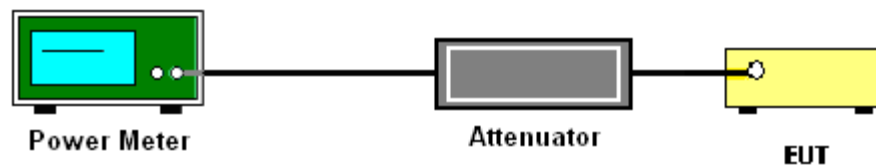
### 3.2.2 Measuring Instruments

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 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. 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 :	23~24°C
Test Engineer :	Reece Lee	Relative Humidity :	44~46%

Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	RF Output Power (dBm)			Power Limit (dBm)	DG (dBi)	Pass/Fail
					Chain Port 0	Chain Port 1	Sum Power			
11b	1Mbps	1	1	2412	19.81	-	-	30	3.50	Pass
11b	1Mbps	1	6	2437	19.98	-	-	30	3.50	Pass
11b	1Mbps	1	11	2462	20.33	-	-	30	3.50	Pass
11g	6Mbps	1	1	2412	25.04	-	-	30	3.50	Pass
11g	6Mbps	1	6	2437	25.11	-	-	30	3.50	Pass
11g	6Mbps	1	11	2462	25.26	-	-	30	3.50	Pass
HT20	MCS0	1	1	2412	24.86	-	-	30	3.50	Pass
HT20	MCS0	1	6	2437	25.06	-	-	30	3.50	Pass
HT20	MCS0	1	11	2462	25.02	-	-	30	3.50	Pass
HT40	MCS0	1	3	2422	24.87	-	-	30	3.50	Pass
HT40	MCS0	1	6	2437	24.90	-	-	30	3.50	Pass
HT40	MCS0	1	9	2452	24.84	-	-	30	3.50	Pass
HT20	MCS8	2	1	2412	23.21	23.71	26.48	30	3.12	Pass
HT20	MCS8	2	6	2437	23.57	23.98	26.79	30	3.12	Pass
HT20	MCS8	2	11	2462	23.49	24.20	26.87	30	3.12	Pass
HT40	MCS8	2	3	2422	23.37	23.27	26.33	30	3.12	Pass
HT40	MCS8	2	6	2437	23.56	23.45	26.52	30	3.12	Pass
HT40	MCS8	2	9	2452	23.93	23.61	26.78	30	3.12	Pass

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



Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	RF Output Power (dBm)			Power Limit (dBm)	DG (dBi)	Pass/Fail
					Chain Port 0	Chain Port 1	Sum Power			
11a	6Mbps	1	149	5745	22.83	-	-	30	5.00	Pass
11a	6Mbps	1	157	5785	22.32	-	-	30	5.00	Pass
11a	6Mbps	1	165	5825	22.46	-	-	30	5.00	Pass
HT20	MCS0	1	149	5745	22.33	-	-	30	5.00	Pass
HT20	MCS0	1	157	5785	22.21	-	-	30	5.00	Pass
HT20	MCS0	1	165	5825	22.42	-	-	30	5.00	Pass
HT40	MCS0	1	151	5755	22.77	-	-	30	5.00	Pass
HT40	MCS0	1	159	5795	22.32	-	-	30	5.00	Pass
HT20	MCS8	2	149	5745	21.09	22.86	25.07	30	4.62	Pass
HT20	MCS8	2	157	5785	21.25	23.02	25.23	30	4.62	Pass
HT20	MCS8	2	165	5825	21.11	22.93	25.12	30	4.62	Pass
HT40	MCS8	2	151	5755	21.50	22.72	25.16	30	4.62	Pass
HT40	MCS8	2	159	5795	20.86	22.63	24.84	30	4.62	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 :	23~24°C
Test Engineer :	Reece Lee	Relative Humidity :	44~46%

Mod.	Data Rate	N <sub>TX</sub>	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			
11b	1Mbps	1	1	2412	0.00	-	17.58	-	-	30	3.50	Pass
11b	1Mbps	1	6	2437	0.00	-	17.74	-	-	30	3.50	Pass
11b	1Mbps	1	11	2462	0.00	-	18.05	-	-	30	3.50	Pass
11g	6Mbps	1	1	2412	0.00	-	17.76	-	-	30	3.50	Pass
11g	6Mbps	1	6	2437	0.00	-	18.00	-	-	30	3.50	Pass
11g	6Mbps	1	11	2462	0.00	-	18.03	-	-	30	3.50	Pass
HT20	MCS0	1	1	2412	0.00	-	17.68	-	-	30	3.50	Pass
HT20	MCS0	1	6	2437	0.00	-	17.90	-	-	30	3.50	Pass
HT20	MCS0	1	11	2462	0.00	-	17.64	-	-	30	3.50	Pass
HT40	MCS0	1	3	2422	0.00	-	17.50	-	-	30	3.50	Pass
HT40	MCS0	1	6	2437	0.00	-	17.60	-	-	30	3.50	Pass
HT40	MCS0	1	9	2452	0.00	-	17.63	-	-	30	3.50	Pass
HT20	MCS8	2	1	2412	0.00	0.00	14.52	14.85	17.70	30	3.12	Pass
HT20	MCS8	2	6	2437	0.00	0.00	14.89	15.07	17.99	30	3.12	Pass
HT20	MCS8	2	11	2462	0.00	0.00	15.04	15.33	18.20	30	3.12	Pass
HT40	MCS8	2	3	2422	0.00	0.00	14.66	14.45	17.57	30	3.12	Pass
HT40	MCS8	2	6	2437	0.00	0.00	14.79	14.66	17.74	30	3.12	Pass
HT40	MCS8	2	9	2452	0.00	0.00	15.07	14.91	18.00	30	3.12	Pass

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



Mod.	Data Rate	N <sub>TX</sub>	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			
11a	6Mbps	1	149	5745	0.00	-	17.81	-	-	30	5.00	Pass
11a	6Mbps	1	157	5785	0.00	-	17.65	-	-	30	5.00	Pass
11a	6Mbps	1	165	5825	0.00	-	17.45	-	-	30	5.00	Pass
HT20	MCS0	1	149	5745	0.00	-	17.75	-	-	30	5.00	Pass
HT20	MCS0	1	157	5785	0.00	-	17.61	-	-	30	5.00	Pass
HT20	MCS0	1	165	5825	0.00	-	17.98	-	-	30	5.00	Pass
HT40	MCS0	1	151	5755	0.00	-	18.13	-	-	30	5.00	Pass
HT40	MCS0	1	159	5795	0.00	-	18.05	-	-	30	5.00	Pass
HT20	MCS8	2	149	5745	0.00	0.00	14.02	14.94	17.51	30	4.62	Pass
HT20	MCS8	2	157	5785	0.00	0.00	14.29	15.52	17.96	30	4.62	Pass
HT20	MCS8	2	165	5825	0.00	0.00	14.16	15.13	17.68	30	4.62	Pass
HT40	MCS8	2	151	5755	0.00	0.00	14.60	15.45	18.06	30	4.62	Pass
HT40	MCS8	2	159	5795	0.00	0.00	14.03	15.16	17.64	30	4.62	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.

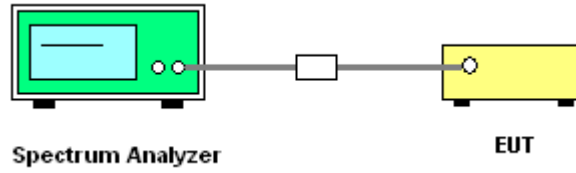
Method (1): Measure and sum the spectra across the outputs.

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)

8. The Measured power density (dBm)/ 100kHz is a reference level and used as 20dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

### 3.3.4 Test Setup





3.3.5 Test Result of Power Spectral Density

Test Band :	2.4GHz + 5GHz band 4	Temperature :	23~24°C
Test Engineer :	Reece Lee	Relative Humidity :	44~46%

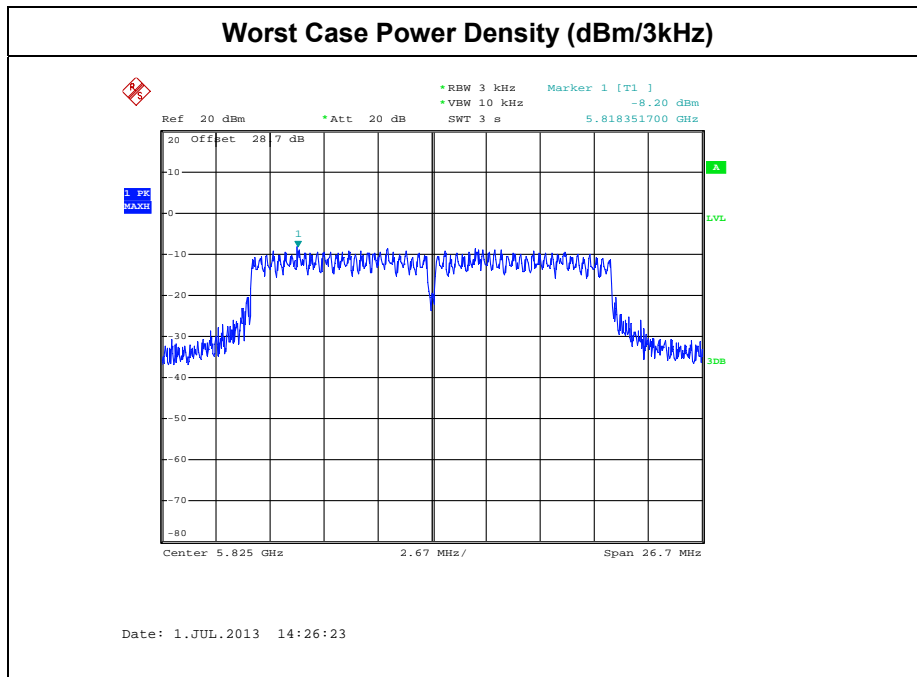
Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)			Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
					Chain	Chain	Worst			
					Port 0	Port 1	+10log(2)			
11b	1Mbps	1	1	2412	-12.78	-	-	8	3.50	Pass
11b	1Mbps	1	6	2437	-12.94	-	-	8	3.50	Pass
11b	1Mbps	1	11	2462	-12.88	-	-	8	3.50	Pass
11g	6Mbps	1	1	2412	-11.51	-	-	8	3.50	Pass
11g	6Mbps	1	6	2437	-11.4	-	-	8	3.50	Pass
11g	6Mbps	1	11	2462	-11.15	-	-	8	3.50	Pass
HT20	MCS0	1	1	2412	-11.14	-	-	8	3.50	Pass
HT20	MCS0	1	6	2437	-10.76	-	-	8	3.50	Pass
HT20	MCS0	1	11	2462	-11.01	-	-	8	3.50	Pass
HT40	MCS0	1	3	2422	-11.8	-	-	8	3.50	Pass
HT40	MCS0	1	6	2437	-12.34	-	-	8	3.50	Pass
HT40	MCS0	1	9	2452	-12.95	-	-	8	3.50	Pass
HT20	MCS8	2	1	2412	-12.17	-13.58	-9.16	7.87	6.13	Pass
HT20	MCS8	2	6	2437	-13.23	-13.04	-10.03	7.87	6.13	Pass
HT20	MCS8	2	11	2462	-12.94	-12.88	-9.87	7.87	6.13	Pass
HT40	MCS8	2	3	2422	-14.73	-17.19	-11.72	7.87	6.13	Pass
HT40	MCS8	2	6	2437	-14.58	-16.81	-11.57	7.87	6.13	Pass
HT40	MCS8	2	9	2452	-15.38	-16.59	-12.37	7.87	6.13	Pass

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



Mod.	Data Rate	N <sub>TX</sub>	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)			Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
					Chain Port 0	Chain Port 1	Worst +10log(2)			
11a	6Mbps	1	149	5745	-8.9	-	-	8	5.00	Pass
11a	6Mbps	1	157	5785	-9.18	-	-	8	5.00	Pass
11a	6Mbps	1	165	5825	-9.48	-	-	8	5.00	Pass
HT20	MCS0	1	149	5745	-8.62	-	-	8	5.00	Pass
HT20	MCS0	1	157	5785	-8.71	-	-	8	5.00	Pass
HT20	MCS0	1	165	5825	-8.2	-	-	8	5.00	Pass
HT40	MCS0	1	151	5755	-9.63	-	-	8	5.00	Pass
HT40	MCS0	1	159	5795	-10.88	-	-	8	5.00	Pass
HT20	MCS8	2	149	5745	-12.55	-11.08	-8.07	6.37	7.63	Pass
HT20	MCS8	2	157	5785	-11.76	-10.51	-7.50	6.37	7.63	Pass
HT20	MCS8	2	165	5825	-12.39	-10.77	-7.76	6.37	7.63	Pass
HT40	MCS8	2	151	5755	-15.86	-12.93	-9.92	6.37	7.63	Pass
HT40	MCS8	2	159	5795	-16.22	-13.72	-10.71	6.37	7.63	Pass

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



## 3.4 Conducted Band Edges and Spurious Emission Measurement

### 3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

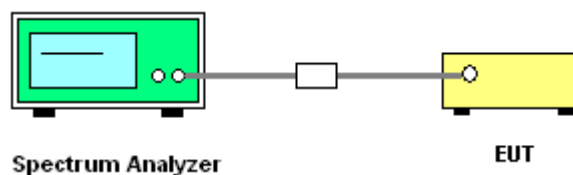
### 3.4.2 Measuring Instruments

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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval.
5. 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).
6. Measure and record the results in the test report.
7. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

### 3.4.4 Test Setup

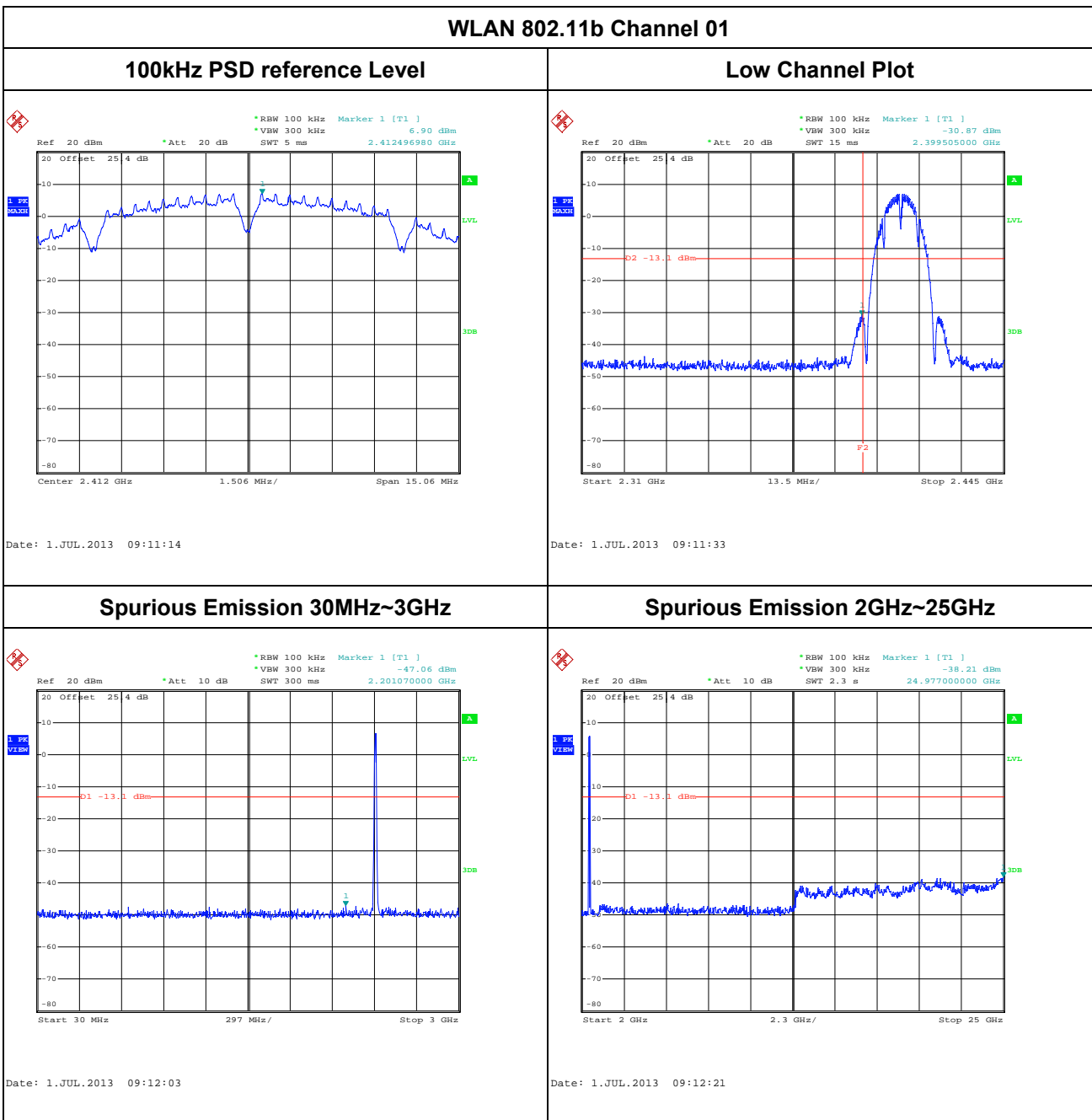




### 3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Chain Port = 0

Number of TX	1	Chain Port	0
Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	01	Test Engineer :	Reece Lee

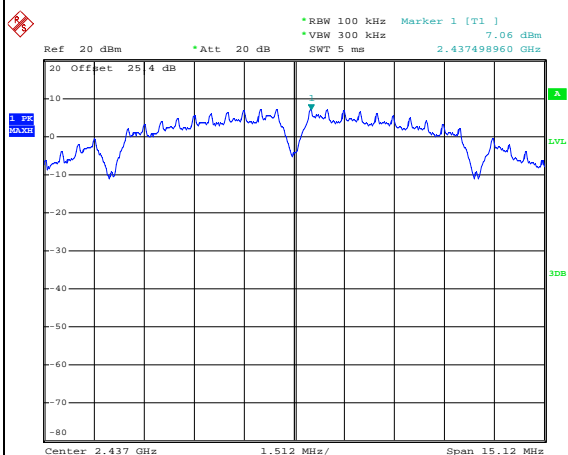




Number of TX	1	Chain Port	0
Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee

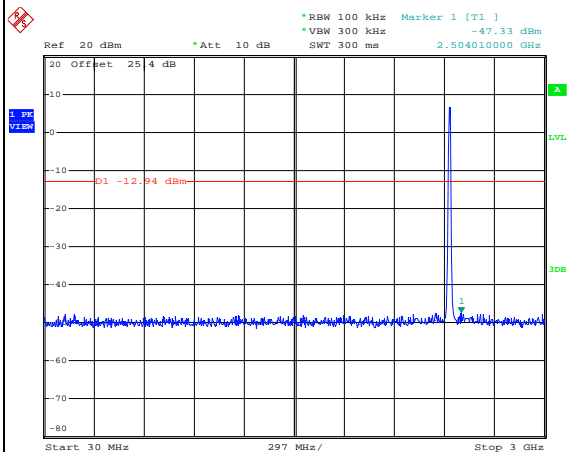
WLAN 802.11b Channel 06

100kHz PSD reference Level



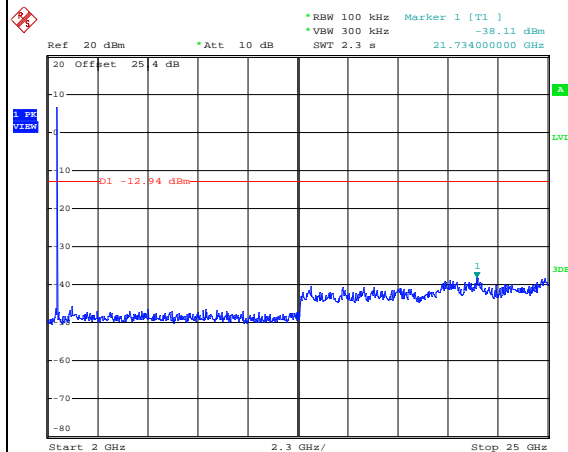
Date: 1.JUL.2013 09:14:21

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 09:14:41

Spurious Emission 2GHz~25GHz



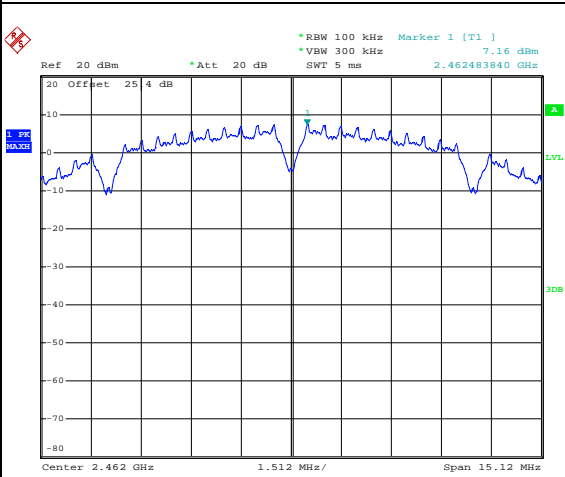
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Number of TX	1	Chain Port	0
Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	11	Test Engineer :	Reece Lee

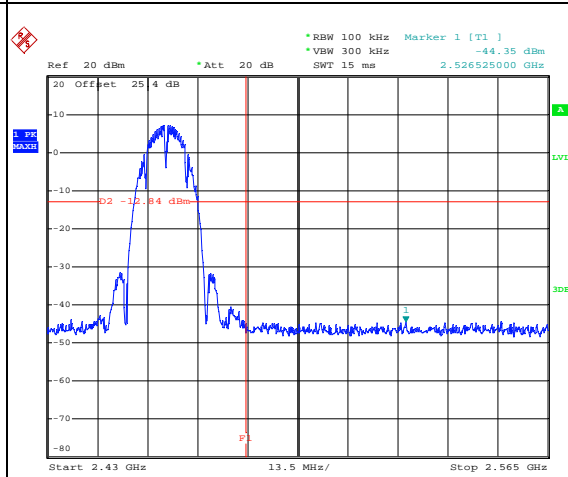
WLAN 802.11b Channel 11

100kHz PSD reference Level



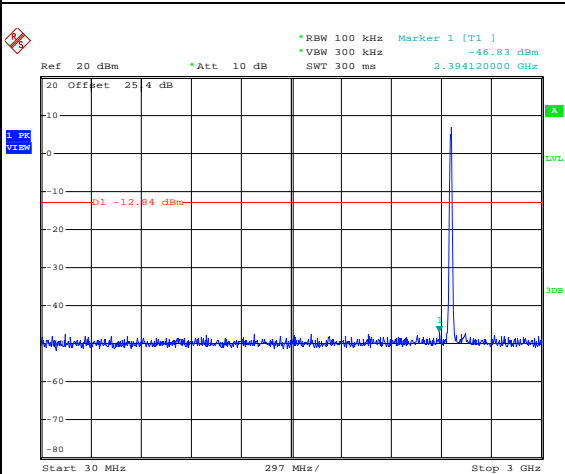
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High Channel Plot



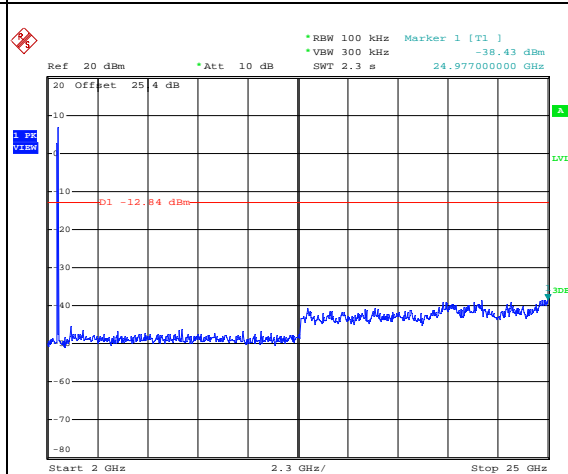
Date: 1.JUL.2013 09:17:47

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 09:18:09

Spurious Emission 2GHz~25GHz



Date: 1.JUL.2013 09:18:27

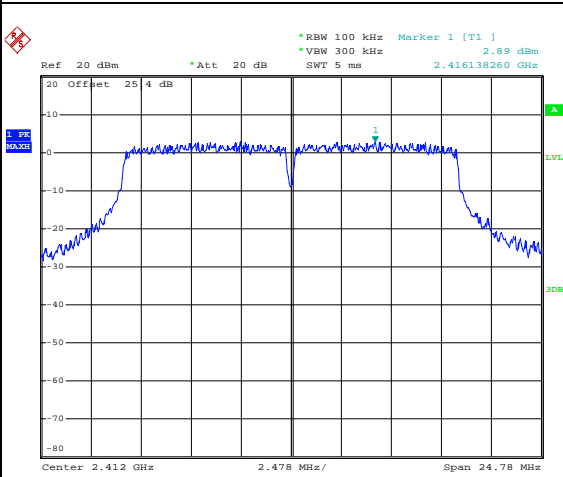




Number of TX	1	Chain Port	0
Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	01	Test Engineer :	Reece Lee

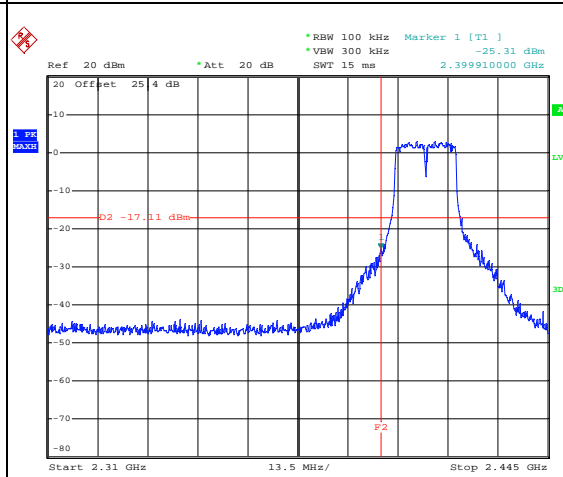
WLAN 802.11g Channel 01

100kHz PSD reference Level



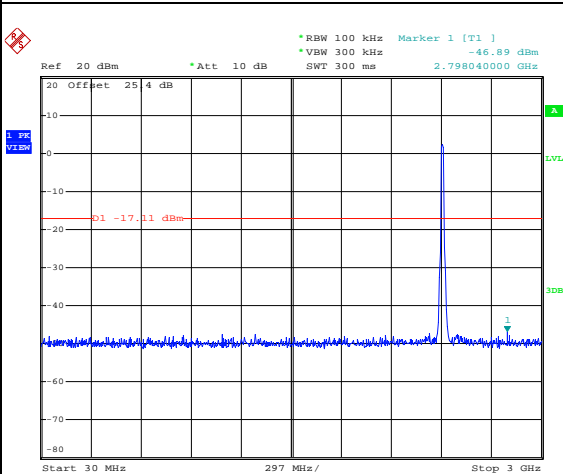
Date: 1.JUL.2013 09:29:29

Low Channel Plot



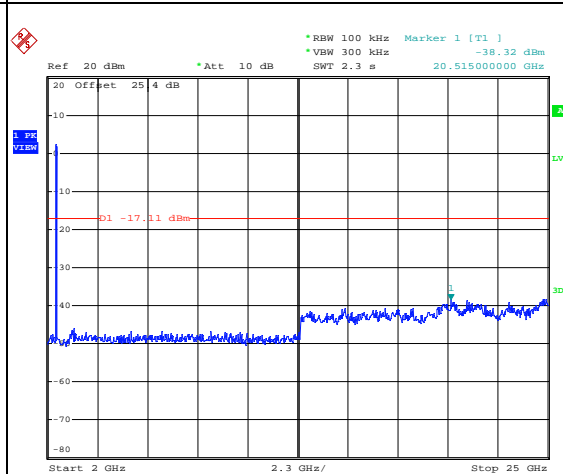
Date: 1.JUL.2013 09:29:45

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 09:30:06

Spurious Emission 2GHz~25GHz



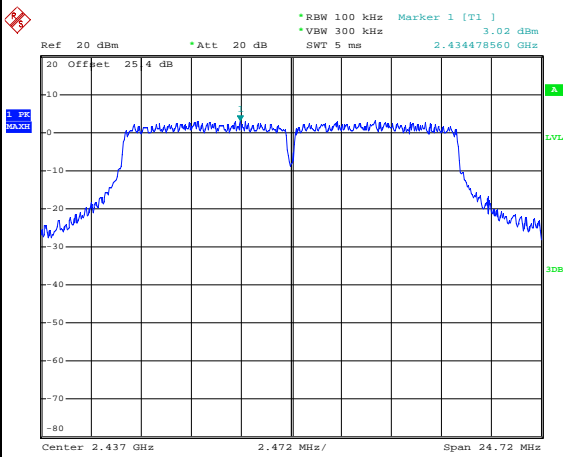
Date: 1.JUL.2013 09:30:24



Number of TX	1	Chain Port	0
Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee

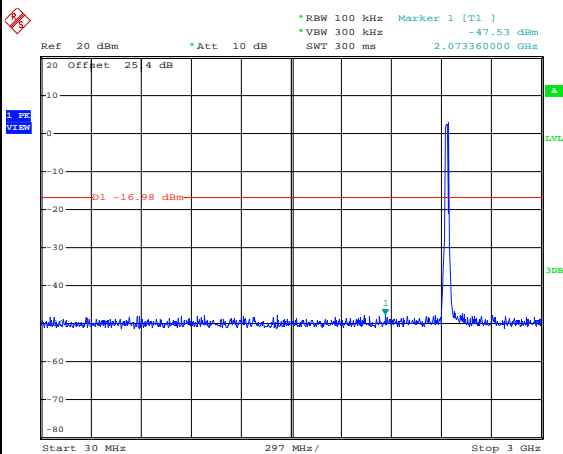
WLAN 802.11g Channel 06

100kHz PSD reference Level



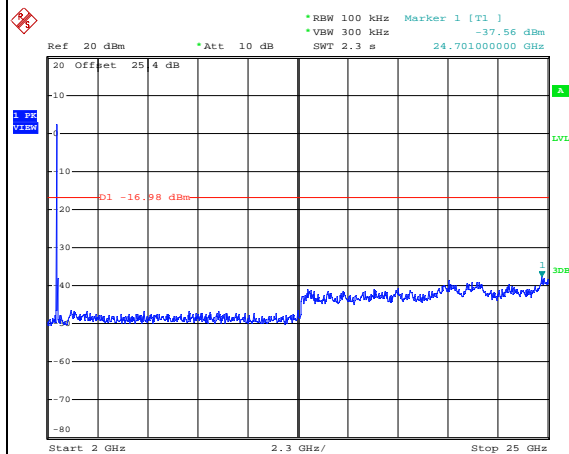
Date: 1.JUL.2013 09:26:31

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 09:27:01

Spurious Emission 2GHz~25GHz



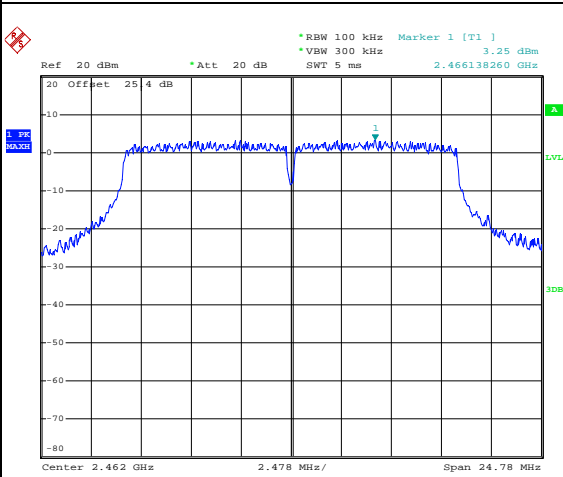
Date: 1.JUL.2013 09:27:20



Number of TX	1	Chain Port	0
Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	11	Test Engineer :	Reece Lee

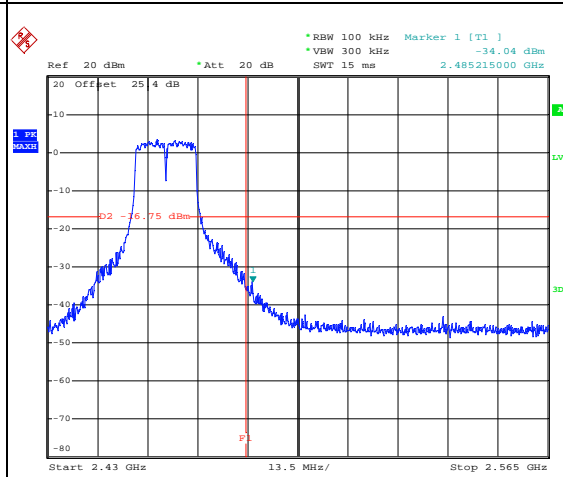
WLAN 802.11g Channel 11

100kHz PSD reference Level



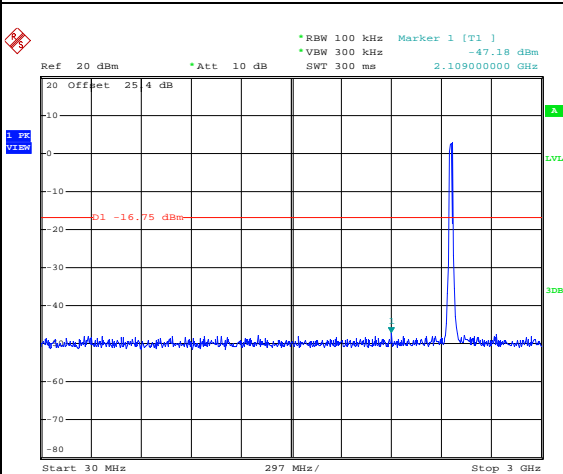
Date: 1.JUL.2013 09:23:20

High Channel Plot



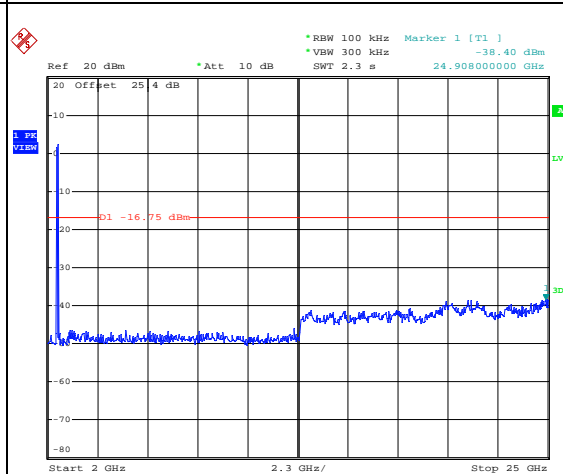
Date: 1.JUL.2013 09:23:39

Spurious Emission 30MHz~3GHz



Date: 1.JUL.2013 09:24:08

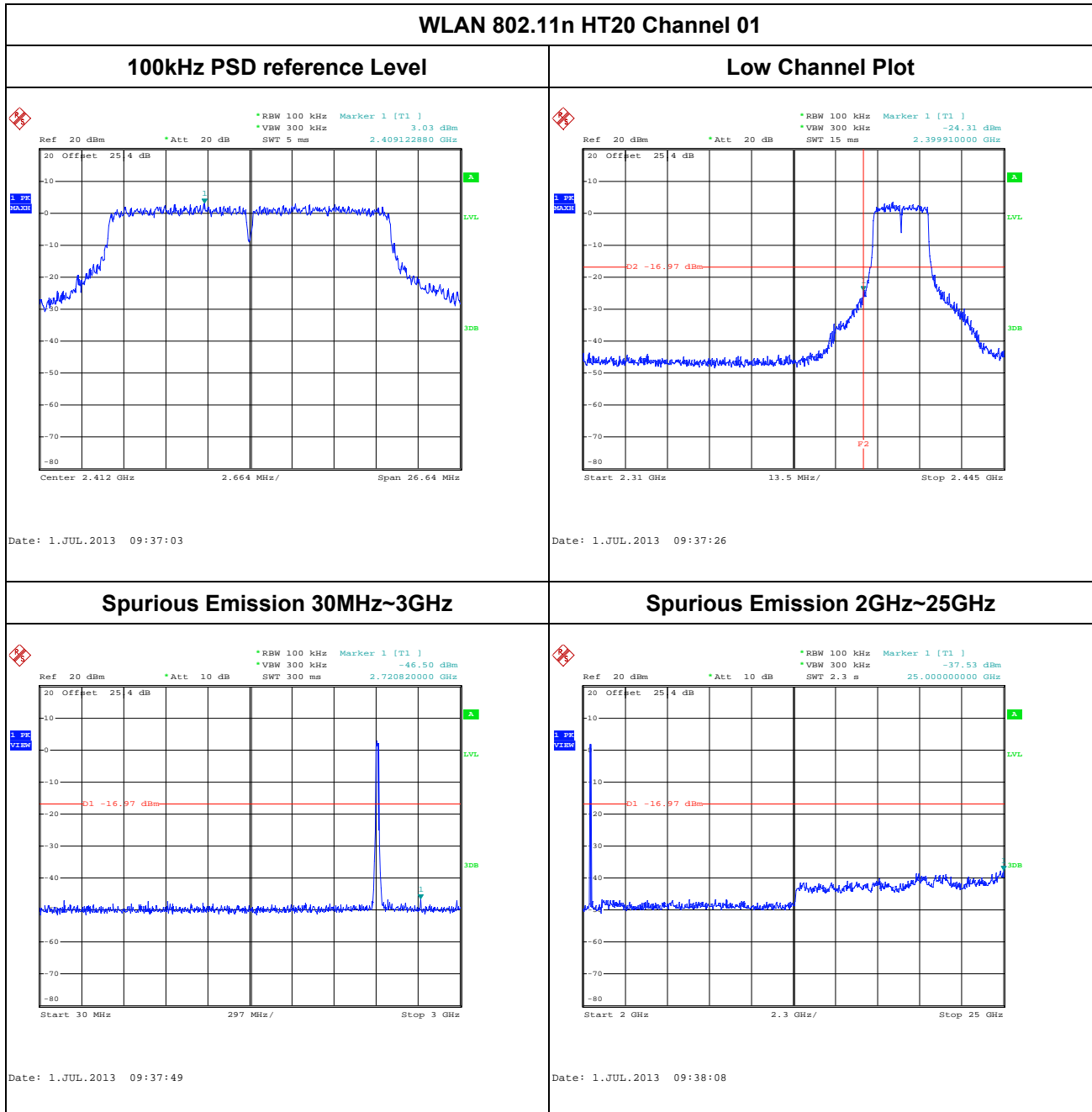
Spurious Emission 2GHz~25GHz



Date: 1.JUL.2013 09:24:27

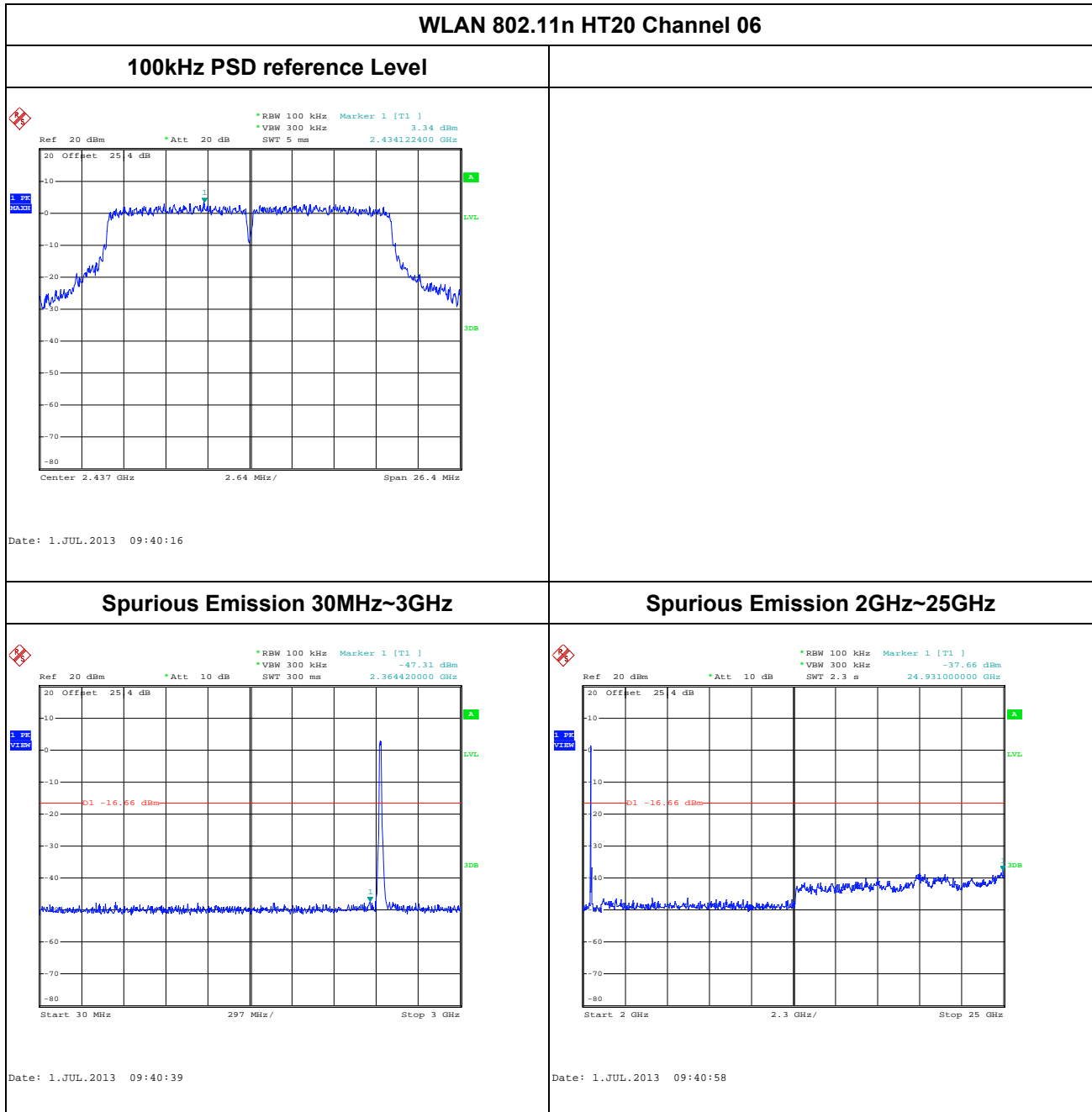


Number of TX	1	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	01	Test Engineer :	Reece Lee



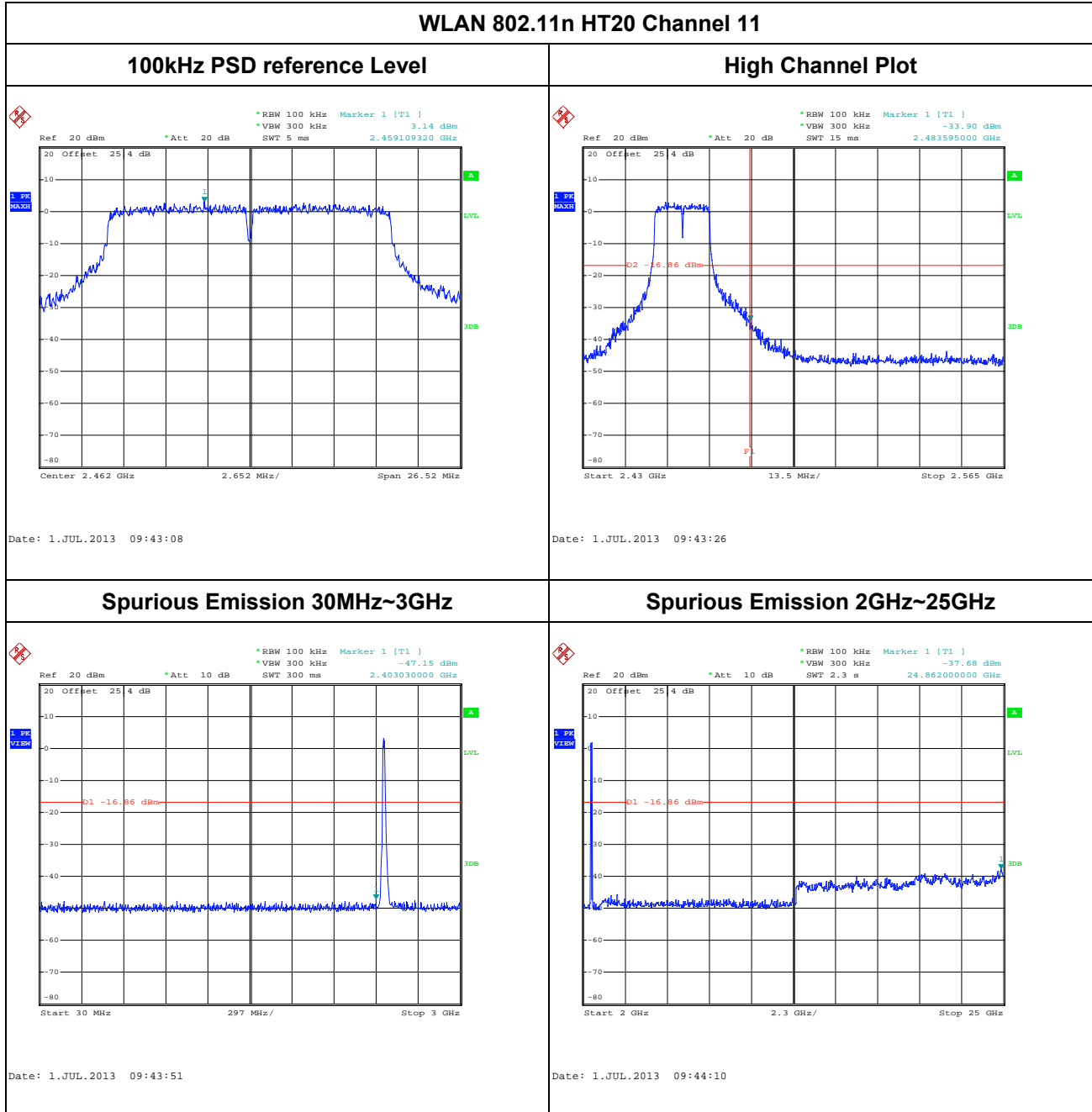


Number of TX	1	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee



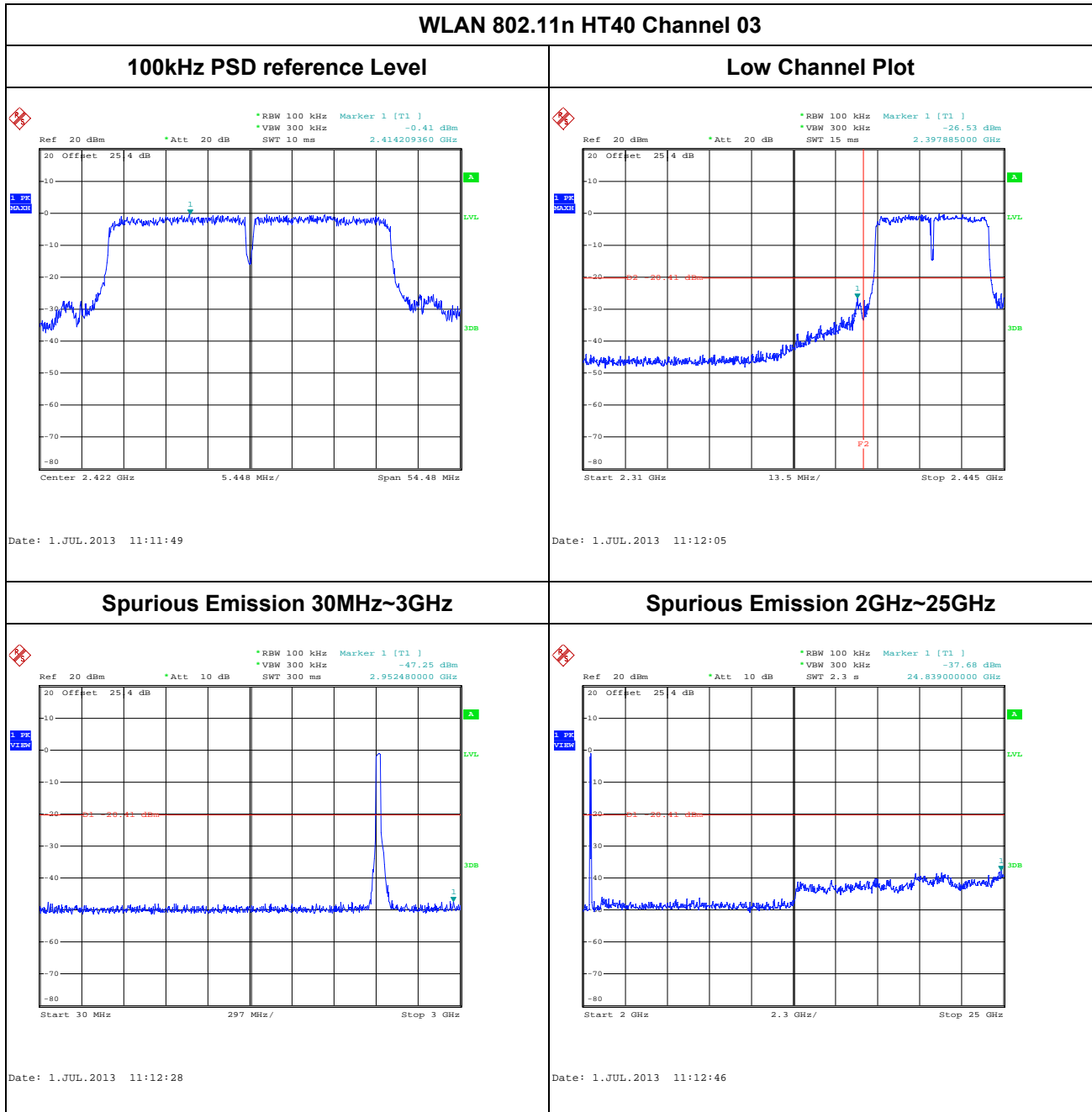


Number of TX	1	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	11	Test Engineer :	Reece Lee



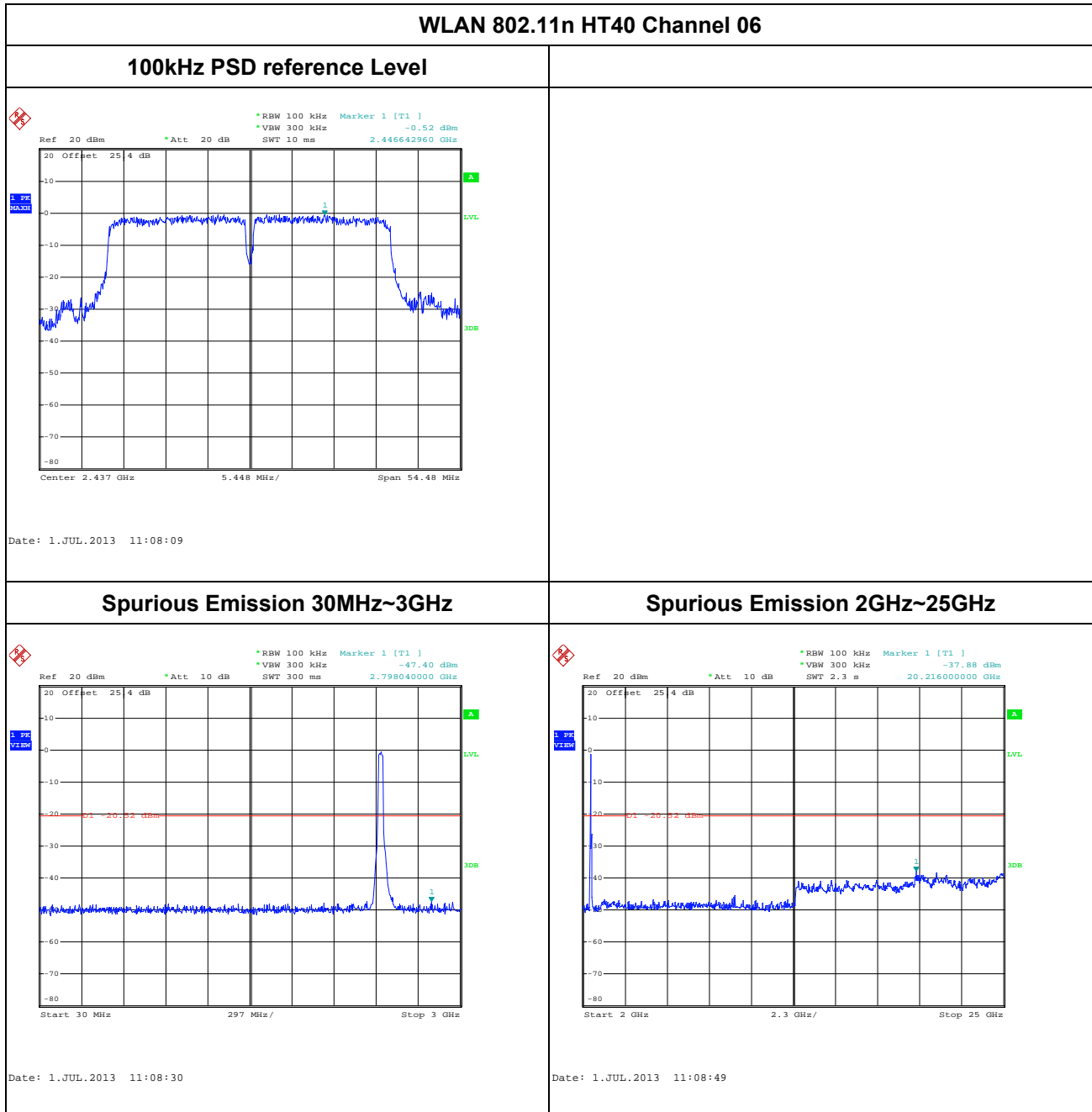


Number of TX	1	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	03	Test Engineer :	Reece Lee





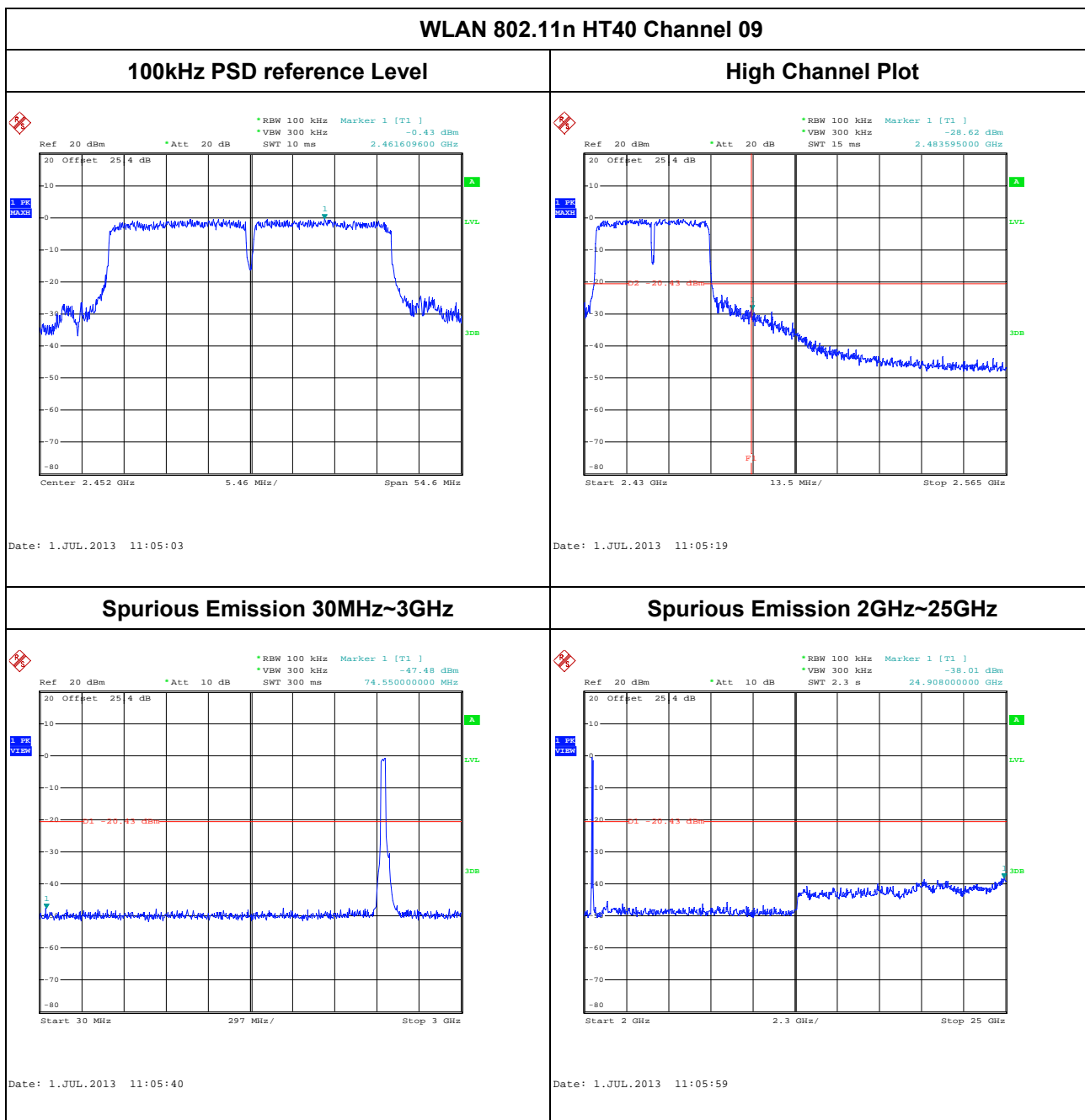
Number of TX	1	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee







Number of TX	1	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	09	Test Engineer :	Reece Lee

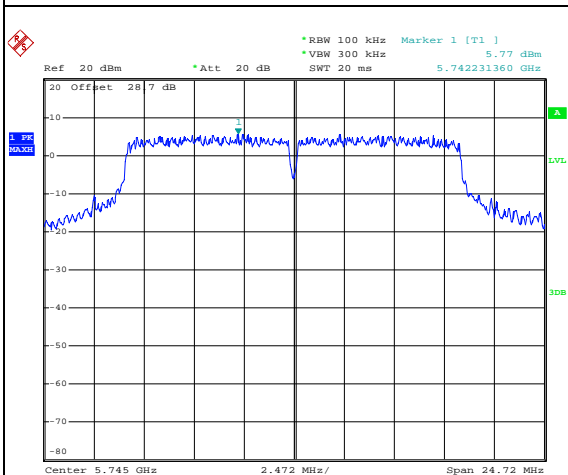




Number of TX	1	Chain Port	0
Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	149	Test Engineer :	Reece Lee

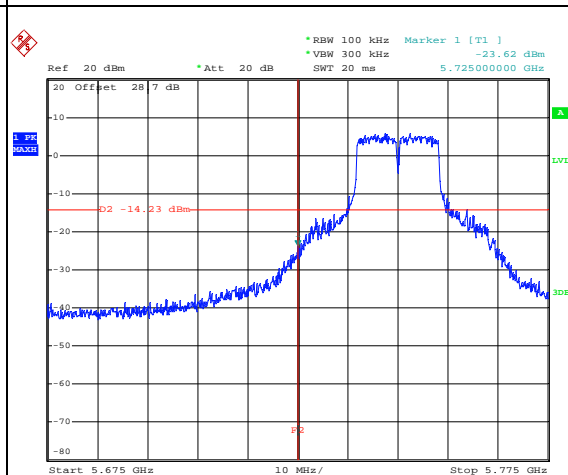
WLAN 802.11a Channel 149

100kHz PSD reference Level



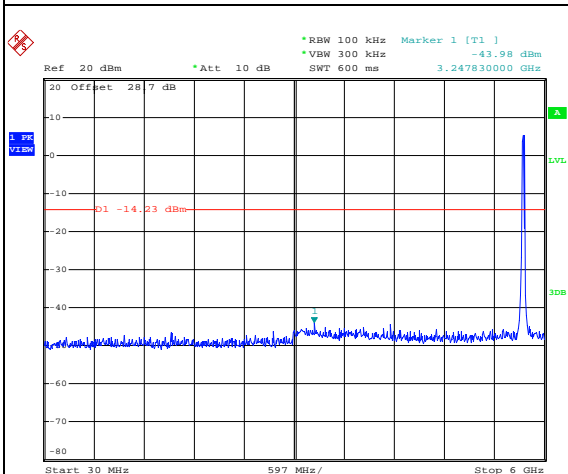
Date: 1.JUL.2013 13:47:00

Low Channel Plot



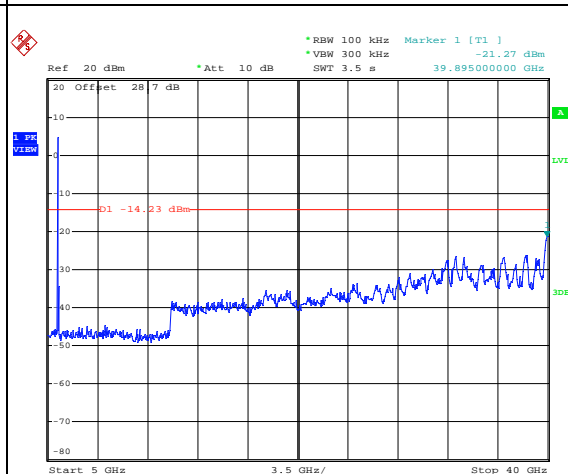
Date: 1.JUL.2013 13:47:20

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 13:48:28

Spurious Emission 5GHz~40GHz



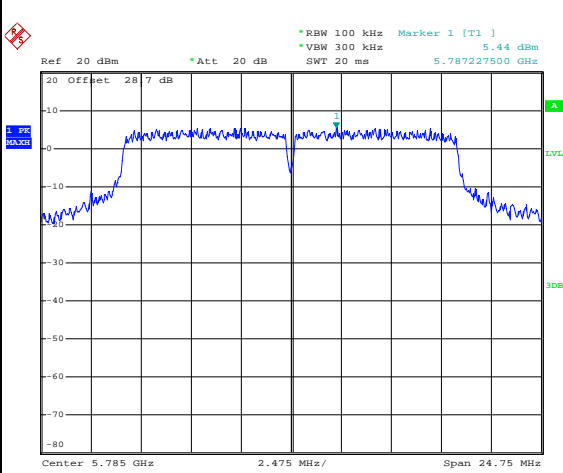
Date: 1.JUL.2013 13:48:47



Number of TX	1	Chain Port	0
Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	5GHz Mid	Relative Humidity :	44~46%
Test Channel :	157	Test Engineer :	Reece Lee

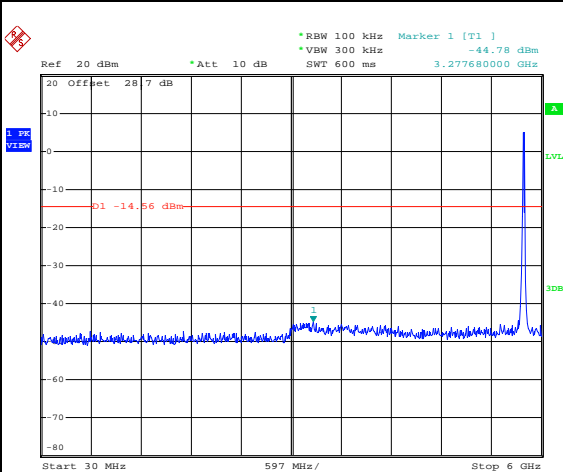
WLAN 802.11a Channel 157

100kHz PSD reference Level



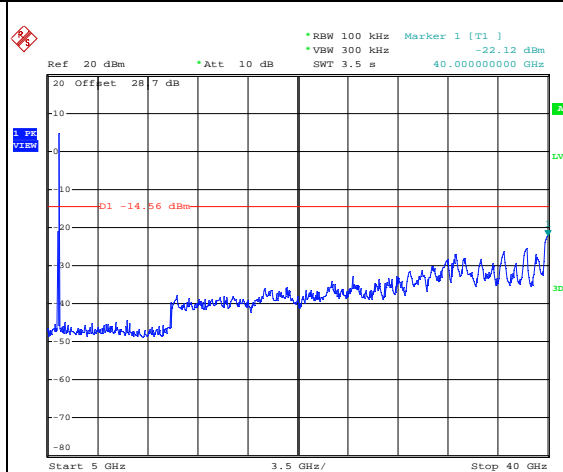
Date: 1.JUL.2013 14:07:09

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:07:36

Spurious Emission 5GHz~40GHz



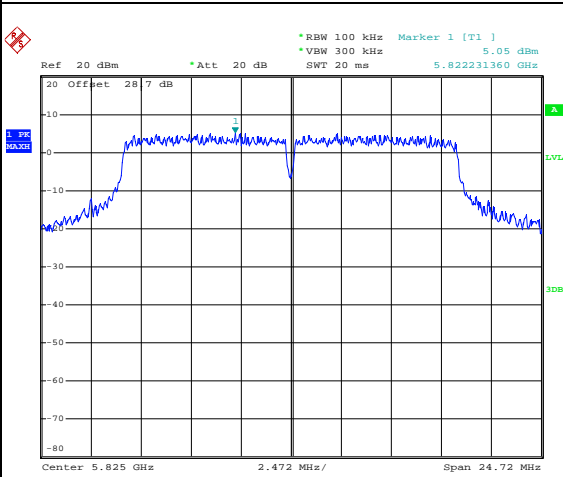
Date: 1.JUL.2013 14:07:54



Number of TX	1	Chain Port	0
Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	165	Test Engineer :	Reece Lee

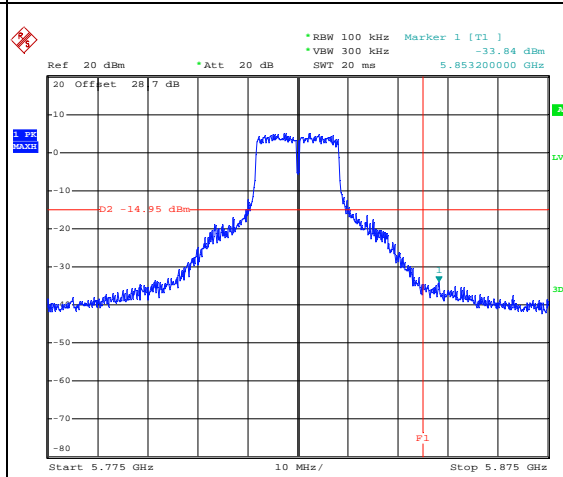
WLAN 802.11a Channel 165

100kHz PSD reference Level



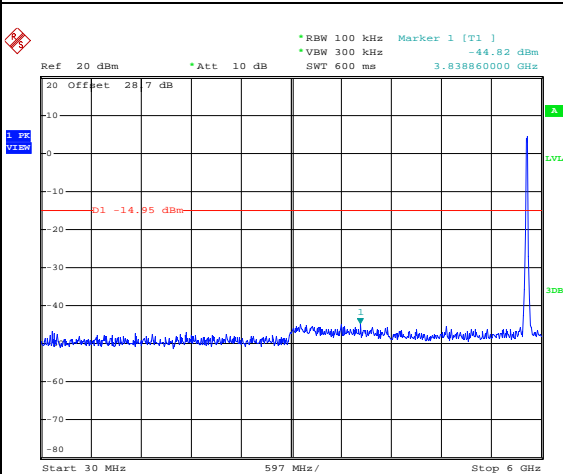
Date: 1.JUL.2013 14:11:23

High Channel Plot



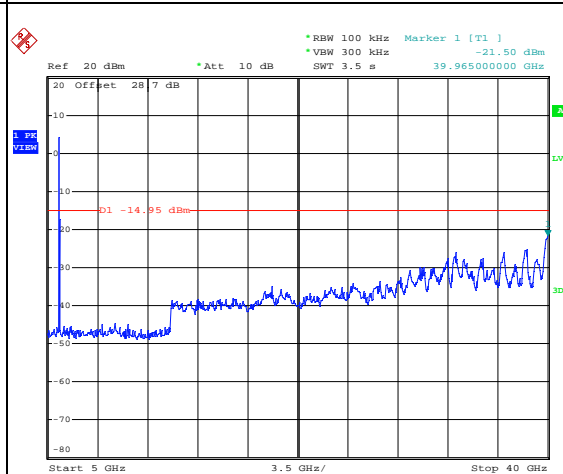
Date: 1.JUL.2013 14:12:18

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:13:16

Spurious Emission 5GHz~40GHz



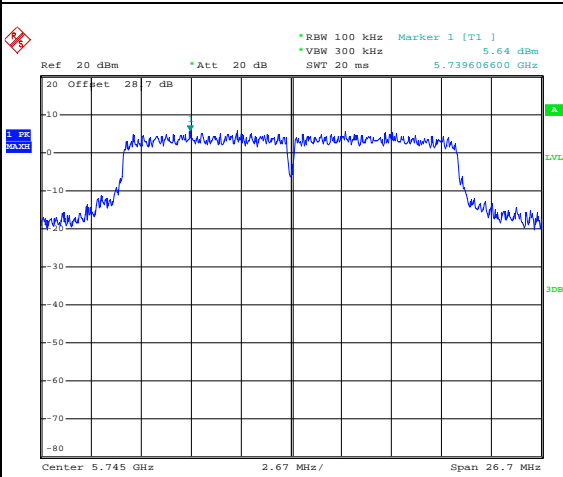
Date: 1.JUL.2013 14:13:35



Number of TX	1	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	149	Test Engineer :	Reece Lee

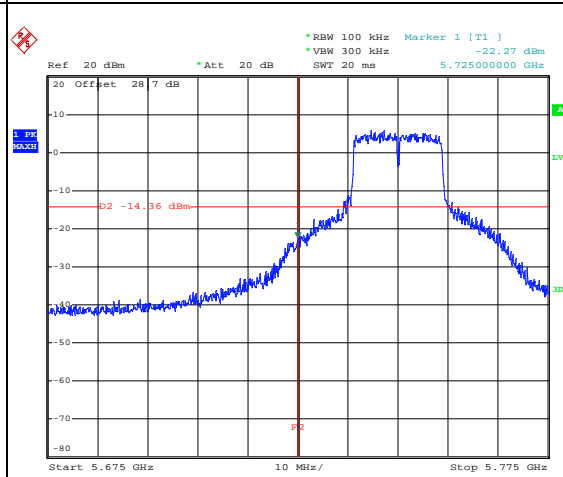
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



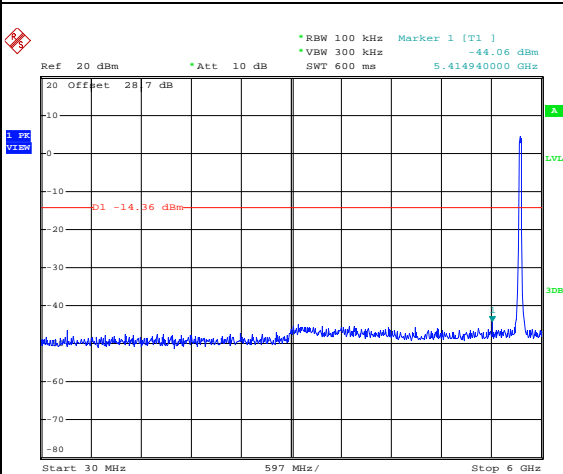
Date: 1.JUL.2013 14:20:40

Low Channel Plot



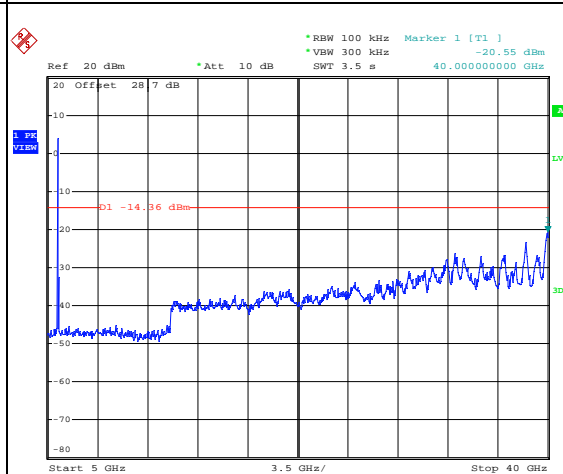
Date: 1.JUL.2013 14:20:56

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:21:16

Spurious Emission 5GHz~40GHz



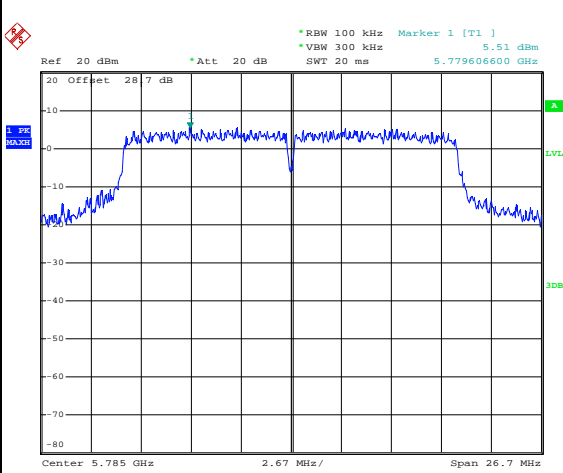
Date: 1.JUL.2013 14:21:35



Number of TX	1	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Mid	Relative Humidity :	44~46%
Test Channel :	157	Test Engineer :	Reece Lee

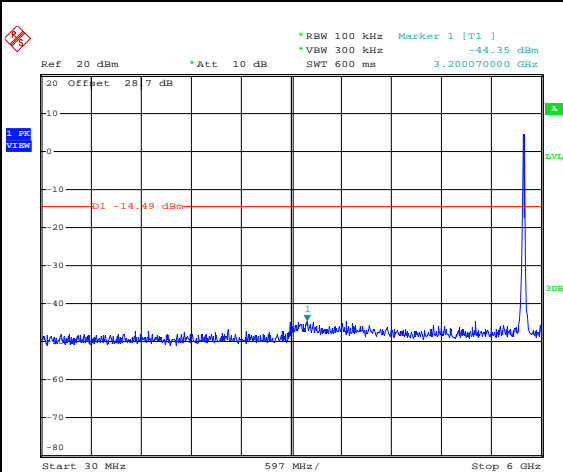
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



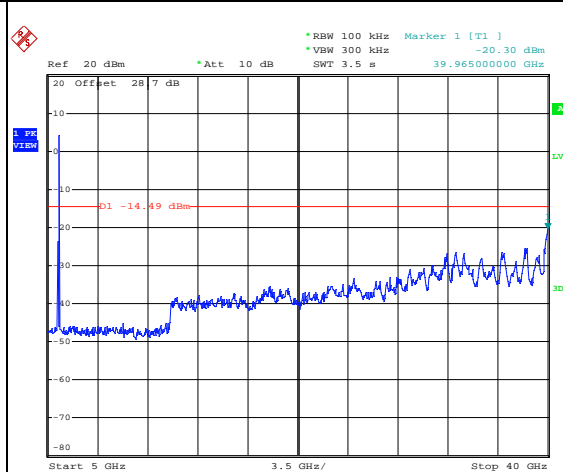
Date: 1.JUL.2013 14:23:46

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:24:14

Spurious Emission 5GHz~40GHz



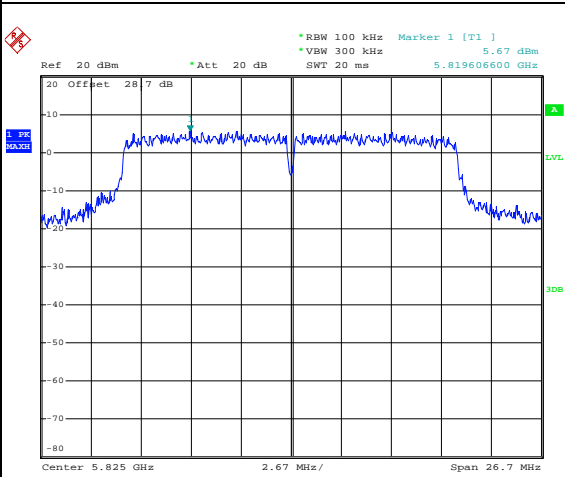
Date: 1.JUL.2013 14:24:33



Number of TX	1	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	165	Test Engineer :	Reece Lee

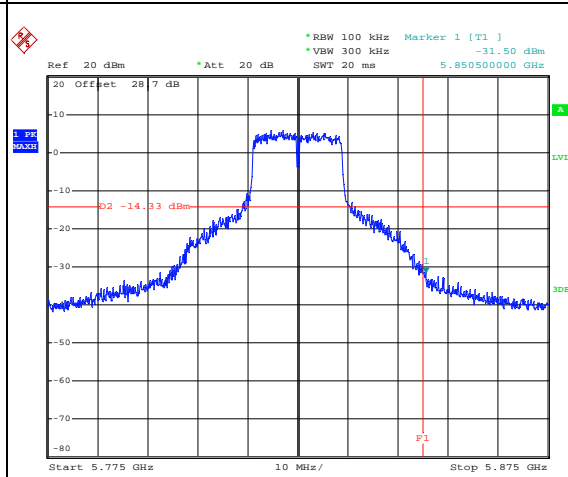
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



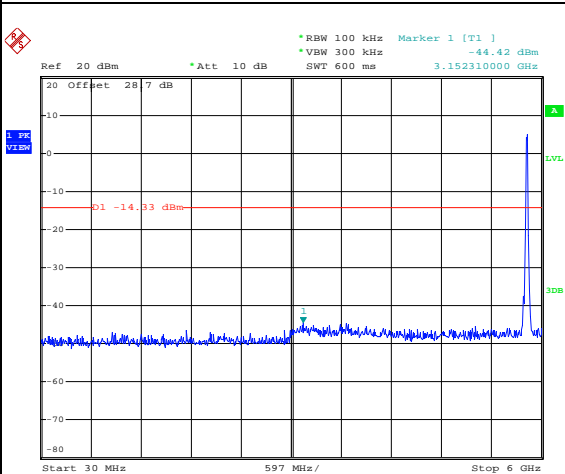
Date: 1.JUL.2013 14:26:34

High Channel Plot



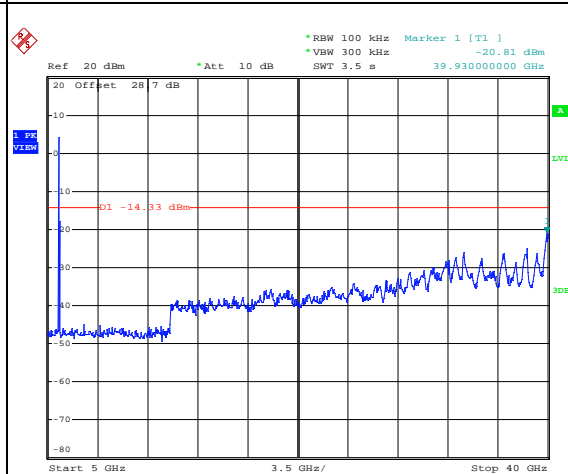
Date: 1.JUL.2013 14:26:50

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:27:15

Spurious Emission 5GHz~40GHz



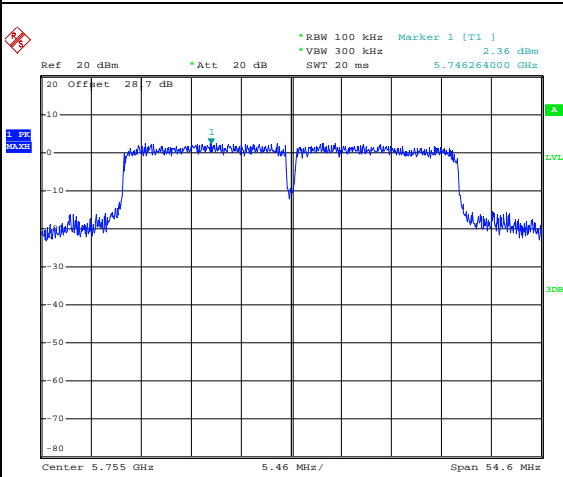
Date: 1.JUL.2013 14:27:33



Number of TX	1	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	151	Test Engineer :	Reece Lee

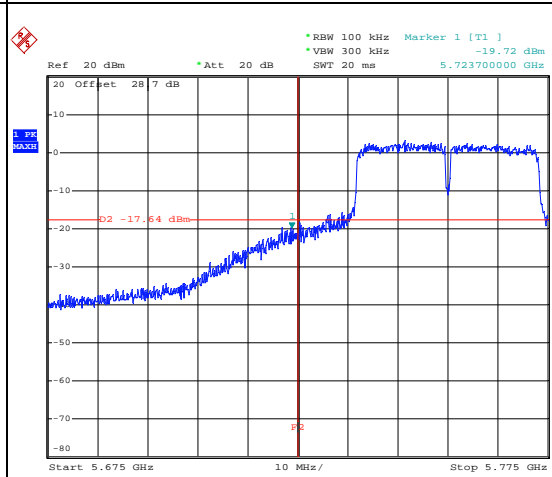
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



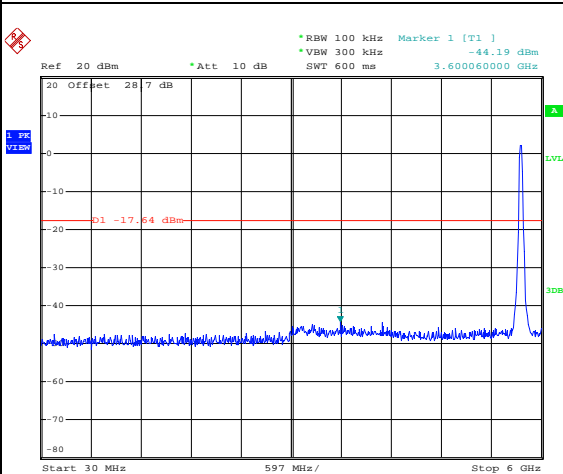
Date: 1.JUL.2013 15:31:30

Low Channel Plot



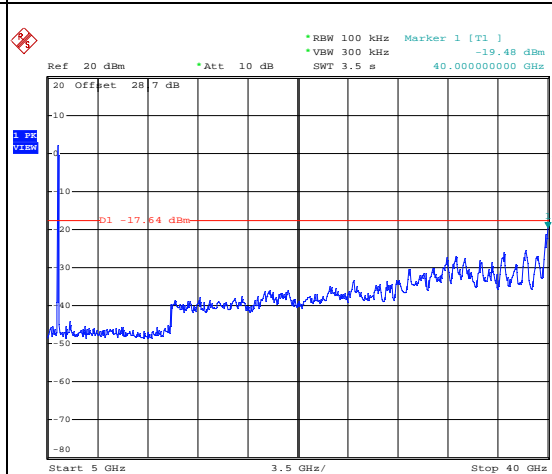
Date: 1.JUL.2013 15:32:12

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 15:32:43

Spurious Emission 5GHz~40GHz



Date: 1.JUL.2013 15:33:02

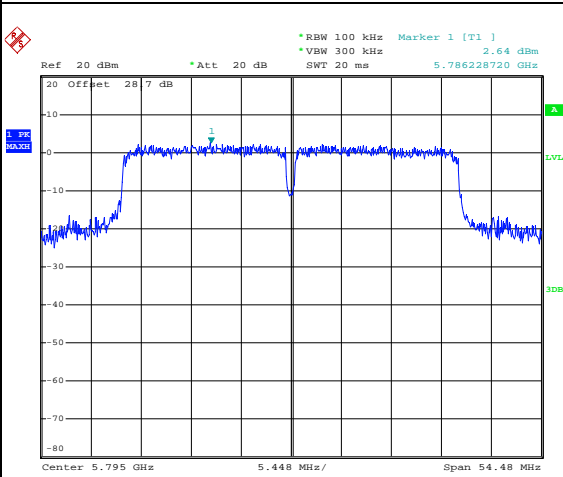




Number of TX	1	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	159	Test Engineer :	Reece Lee

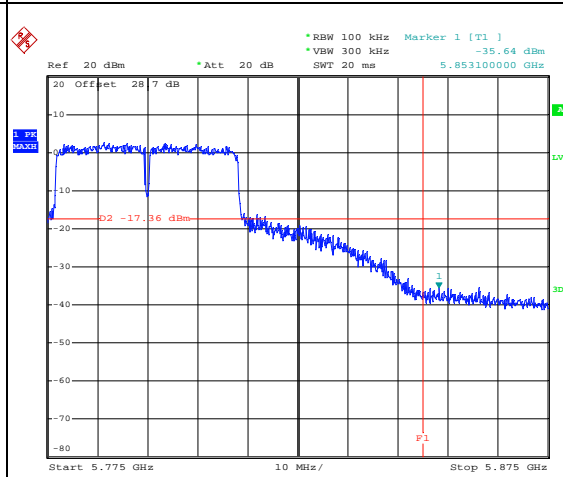
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



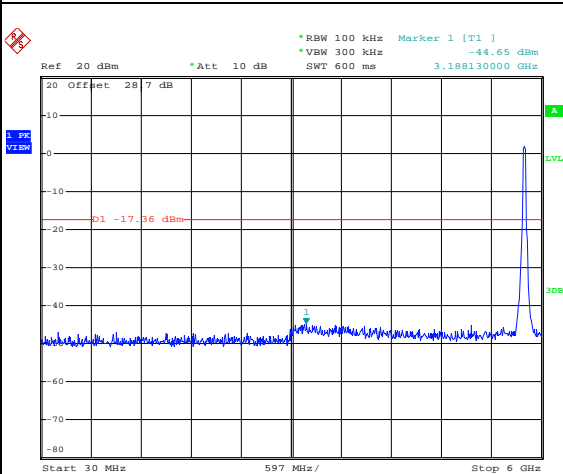
Date: 1.JUL.2013 15:27:19

High Channel Plot



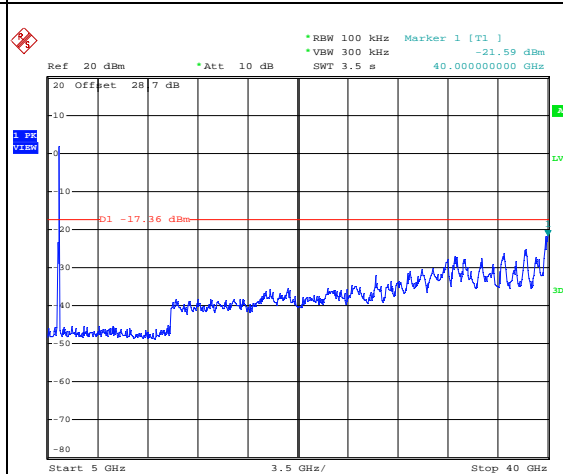
Date: 1.JUL.2013 15:27:39

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 15:27:59

Spurious Emission 5GHz~40GHz

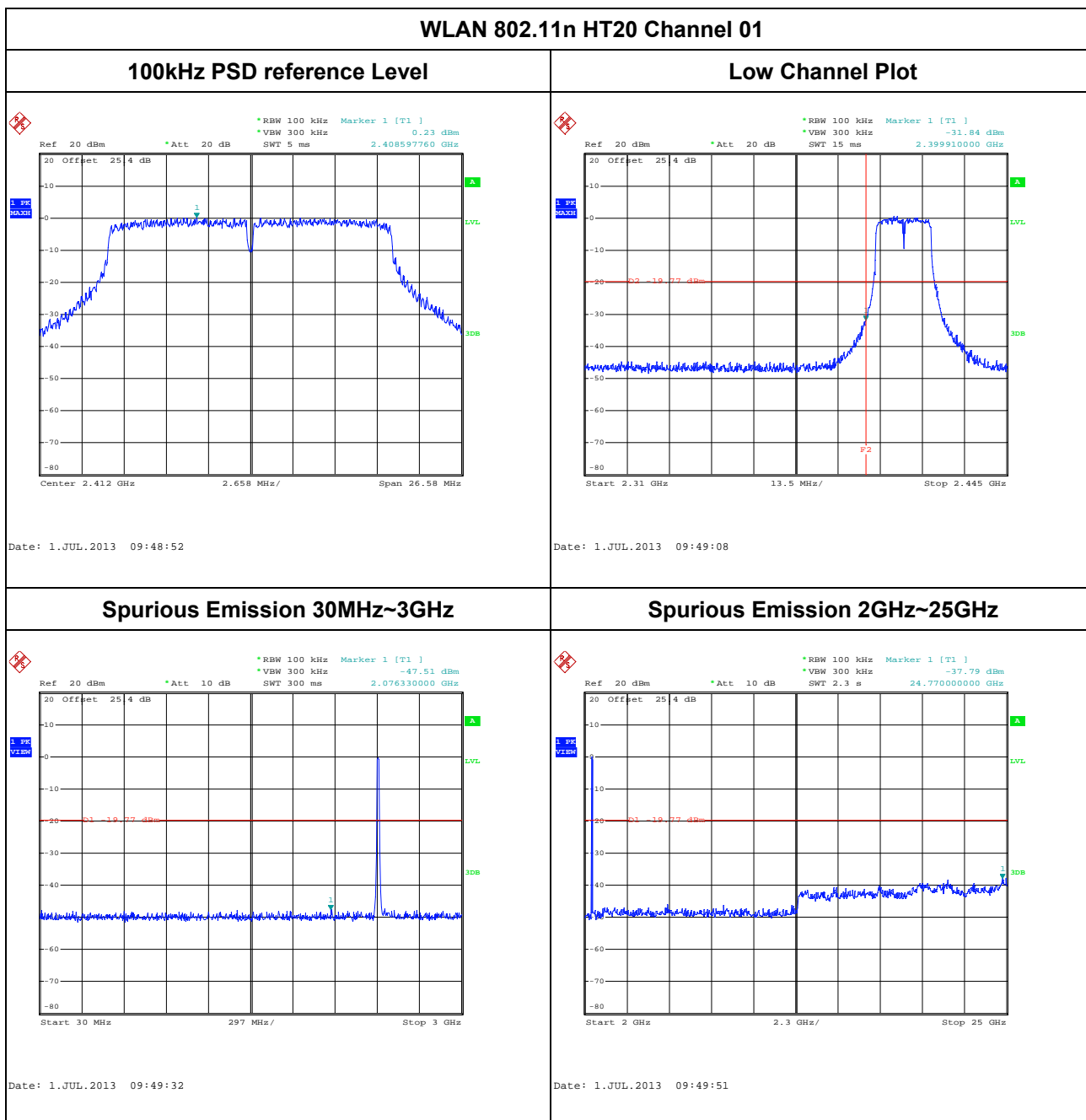


Date: 1.JUL.2013 15:28:18



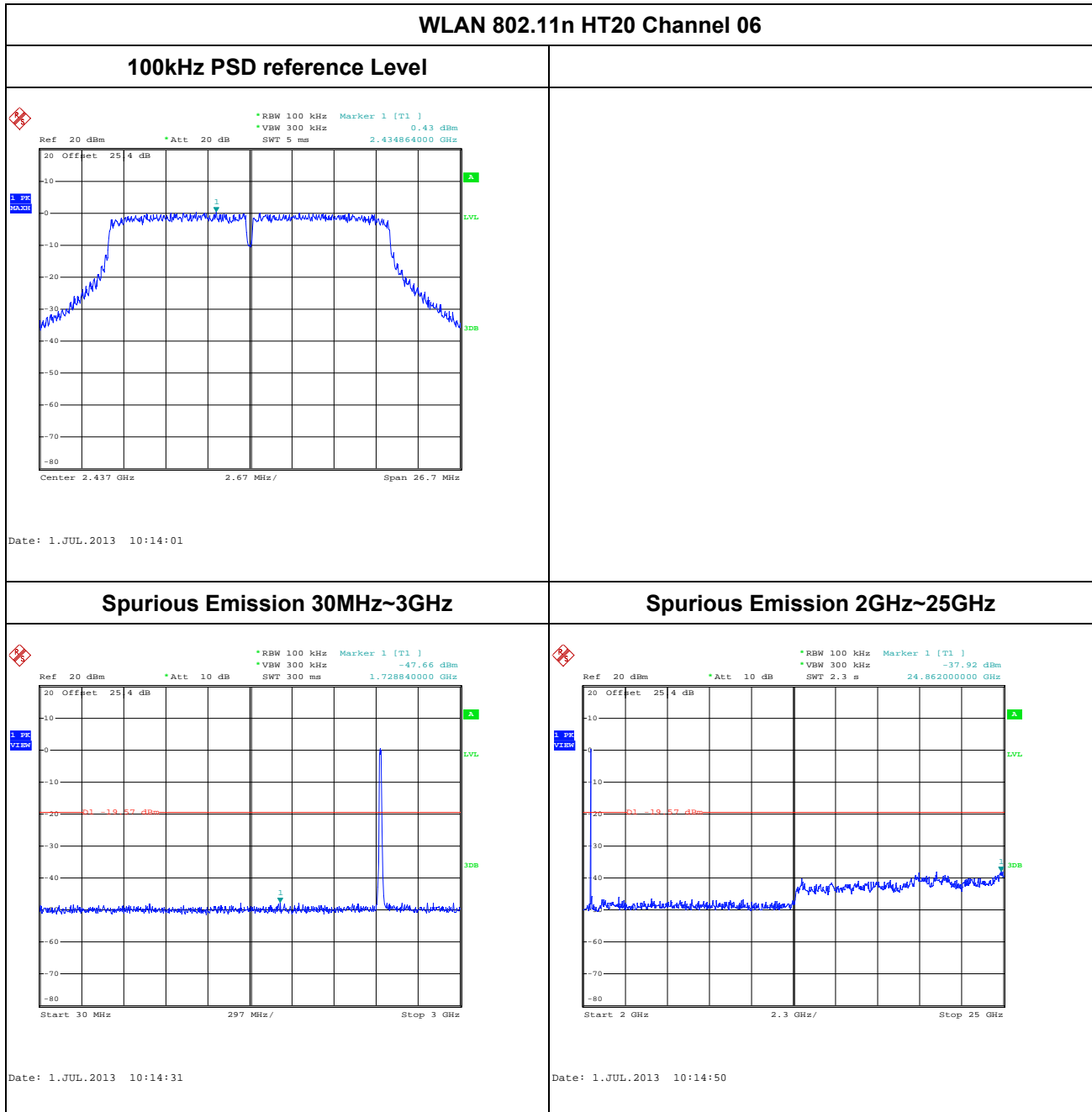
Number of TX = 2, Chain Port = 0

Number of TX	2	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	01	Test Engineer :	Reece Lee



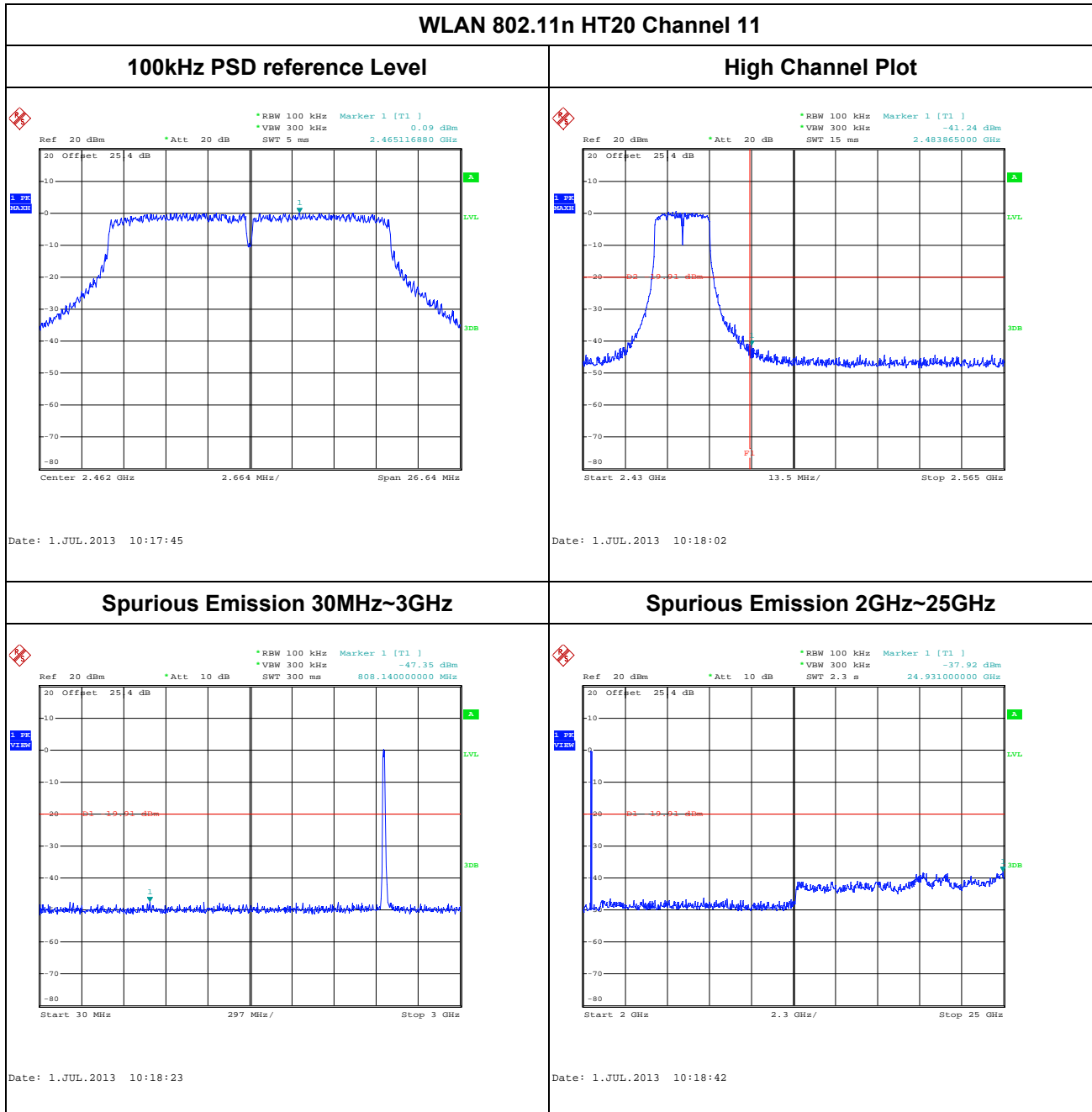


Number of TX	2	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee



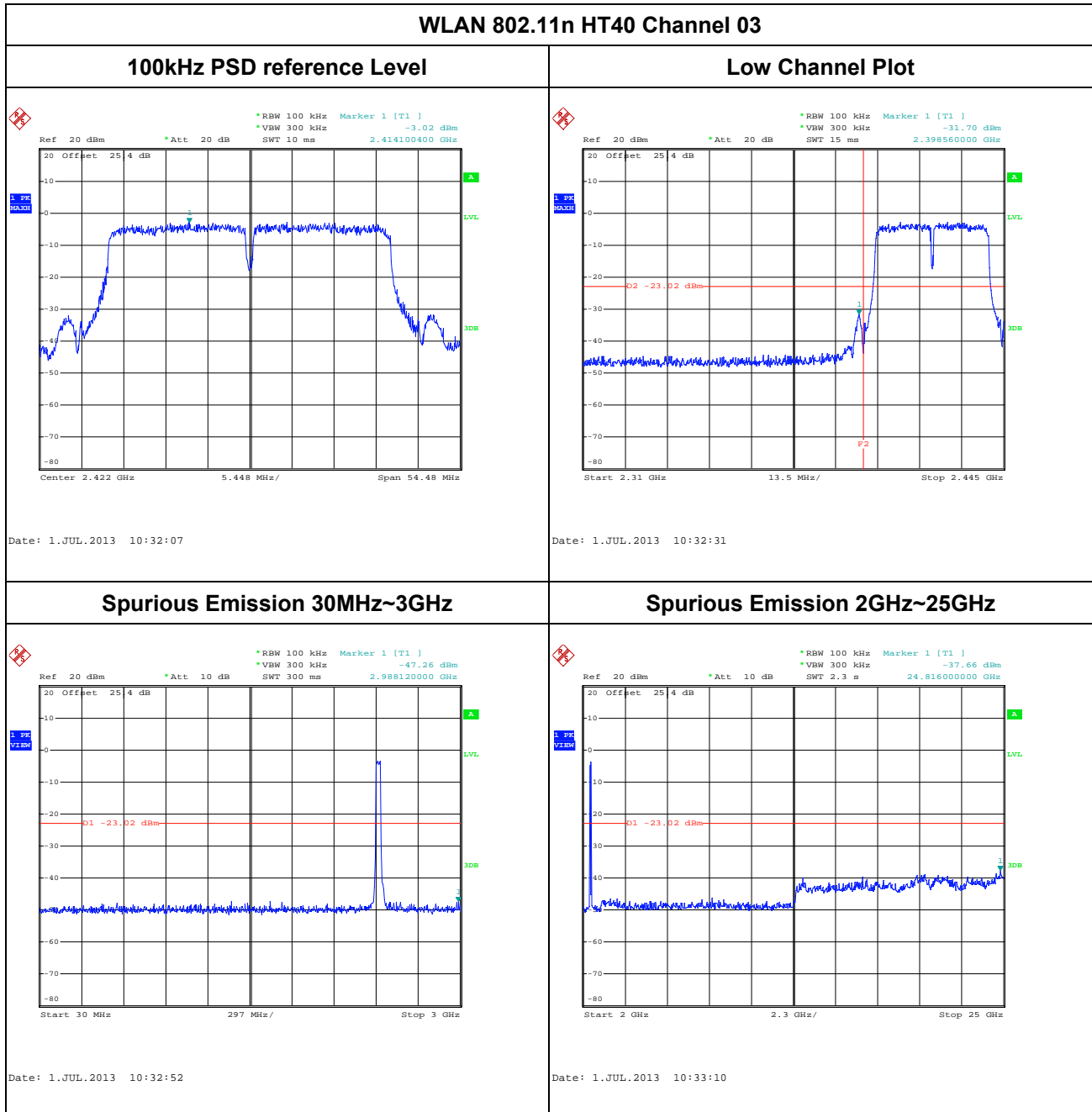


Number of TX	2	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	11	Test Engineer :	Reece Lee



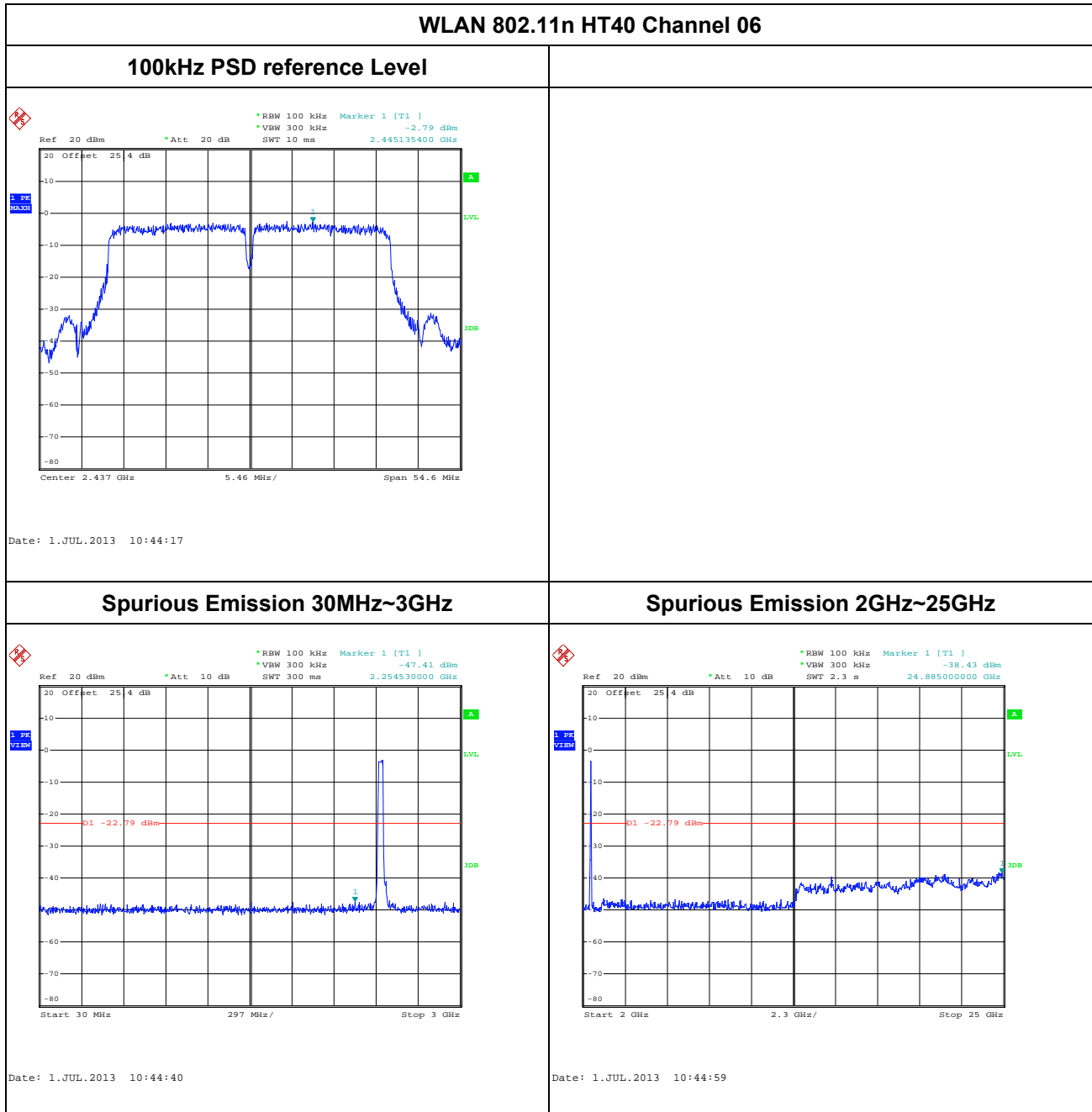


Number of TX	2	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	03	Test Engineer :	Reece Lee



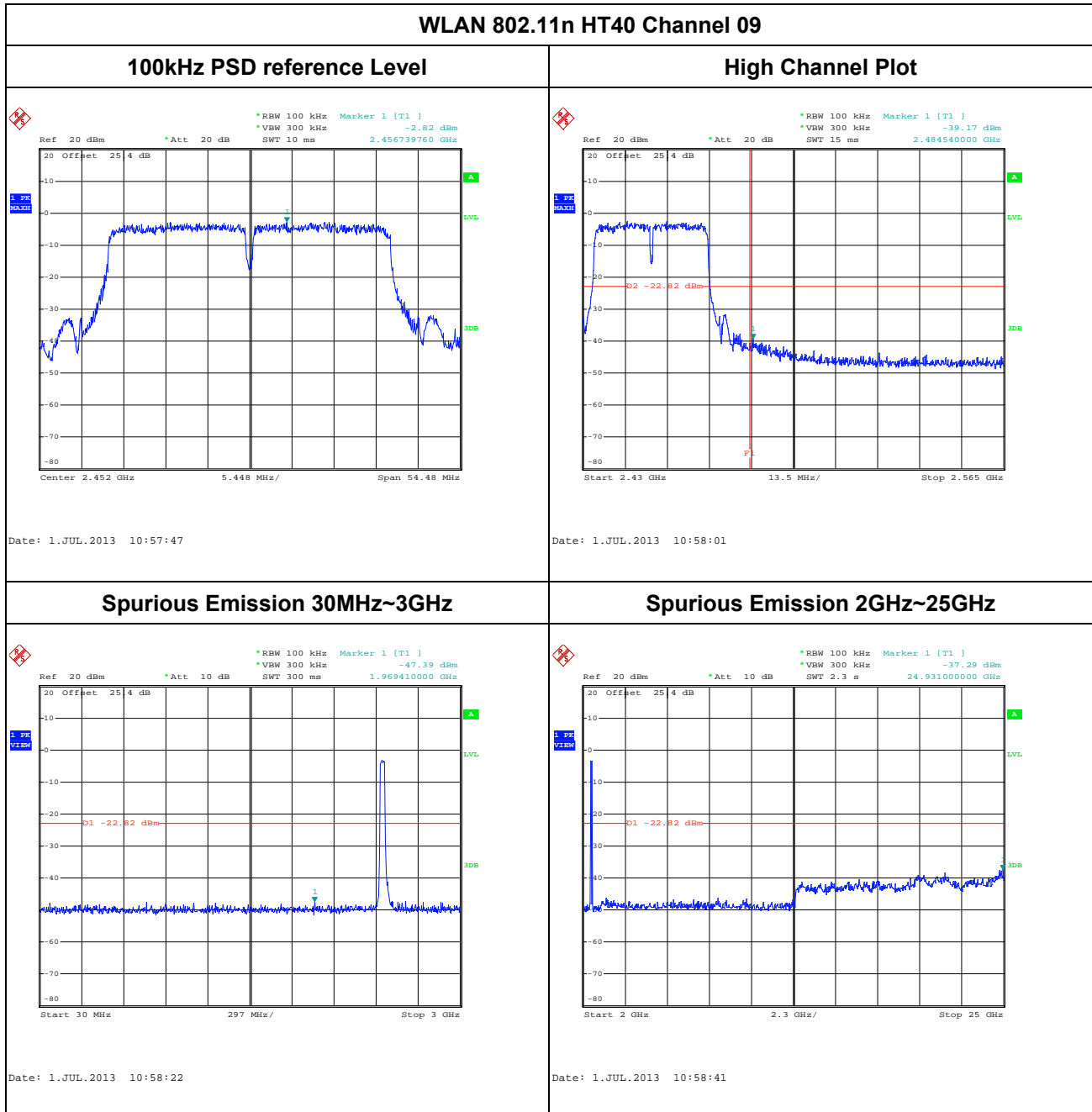


Number of TX	2	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee





Number of TX	2	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	09	Test Engineer :	Reece Lee

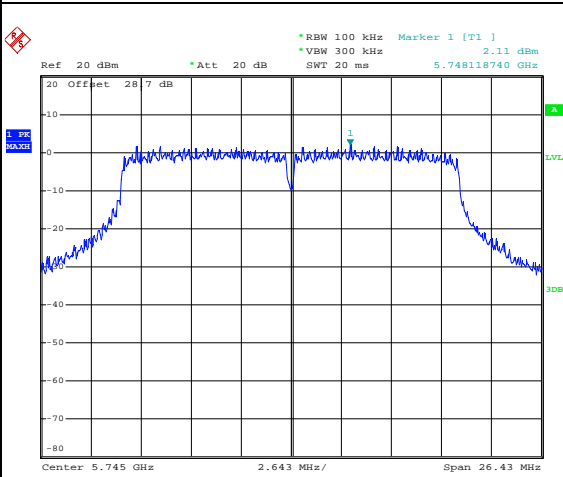




Number of TX	2	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	149	Test Engineer :	Reece Lee

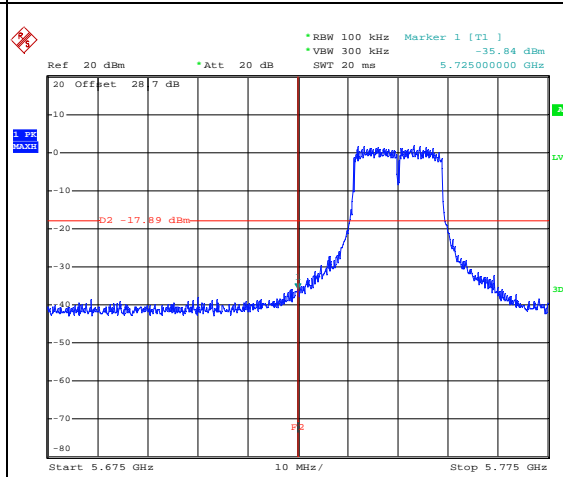
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



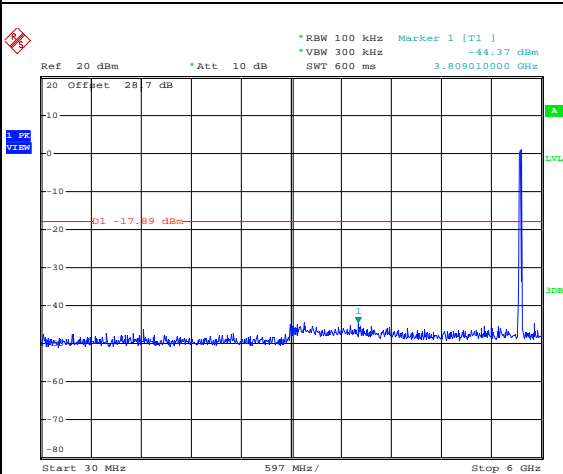
Date: 1.JUL.2013 14:53:18

Low Channel Plot



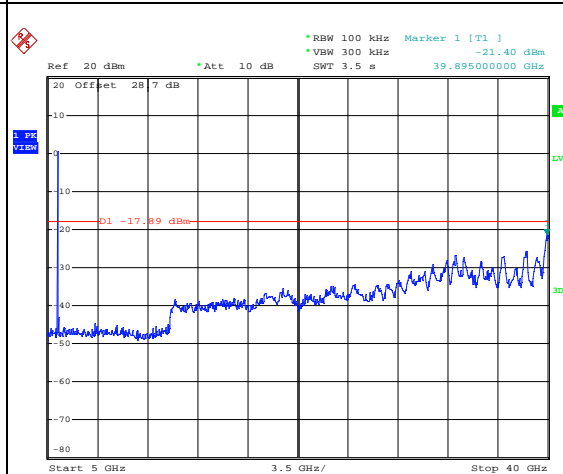
Date: 1.JUL.2013 14:53:53

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:54:16

Spurious Emission 5GHz~40GHz



Date: 1.JUL.2013 14:54:34

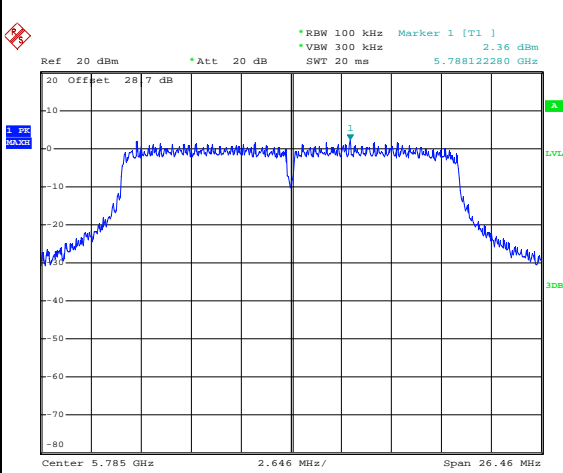




Number of TX	2	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Mid	Relative Humidity :	44~46%
Test Channel :	157	Test Engineer :	Reece Lee

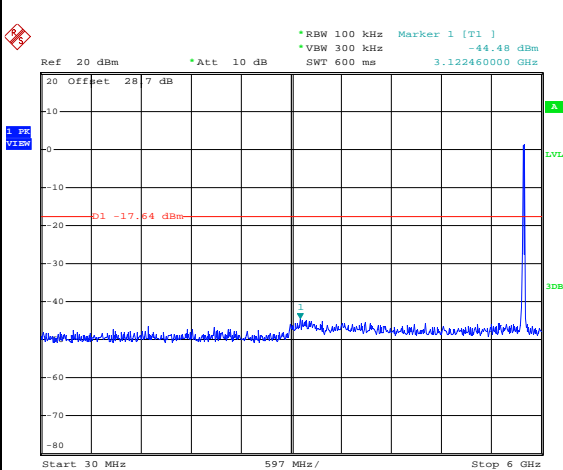
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



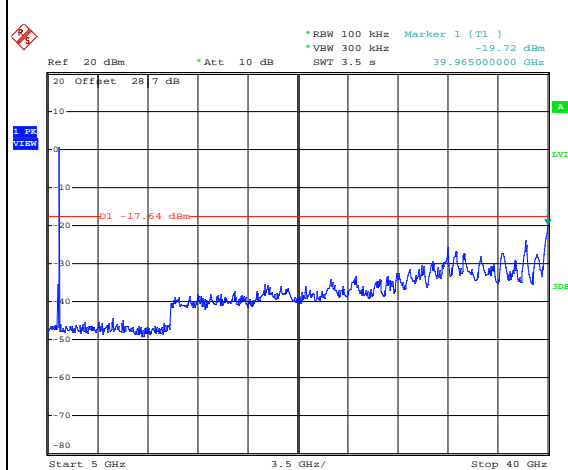
Date: 1.JUL.2013 14:49:30

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:50:05

Spurious Emission 5GHz~40GHz



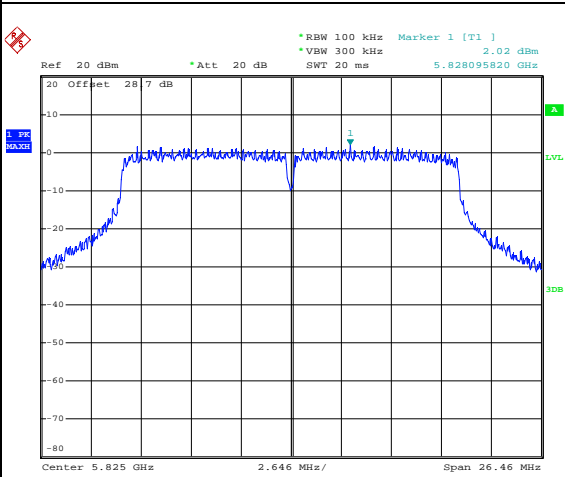
Date: 1.JUL.2013 14:50:24



Number of TX	2	Chain Port	0
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	165	Test Engineer :	Reece Lee

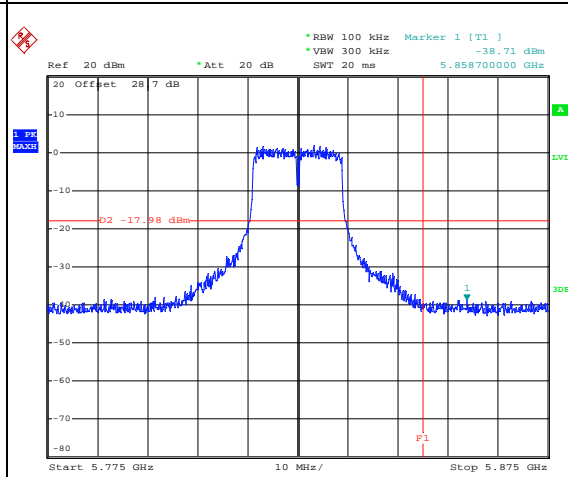
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



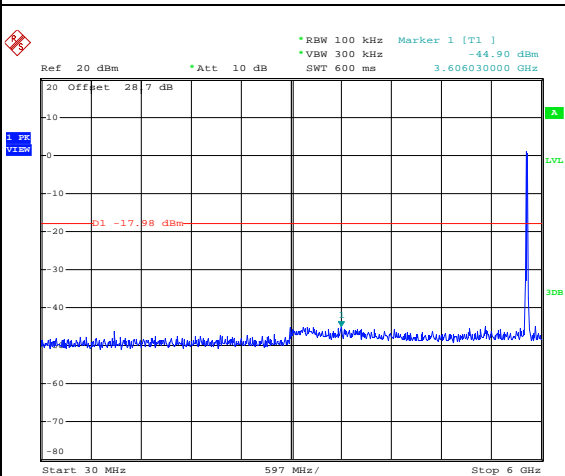
Date: 1.JUL.2013 14:40:10

High Channel Plot



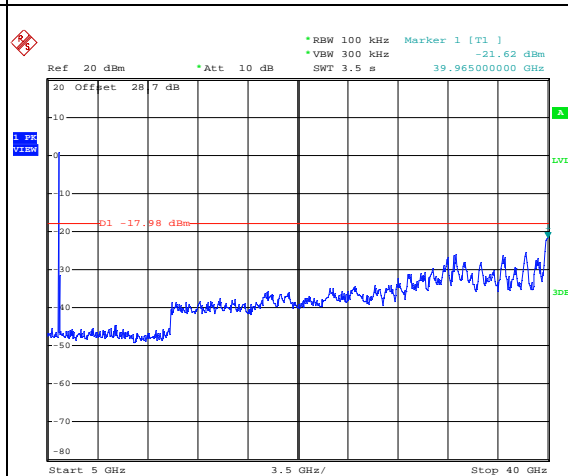
Date: 1.JUL.2013 14:40:29

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:40:49

Spurious Emission 5GHz~40GHz



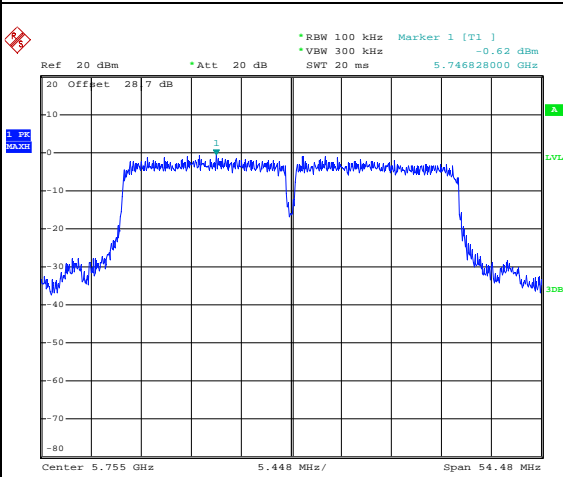
Date: 1.JUL.2013 14:41:08



Number of TX	2	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	151	Test Engineer :	Reece Lee

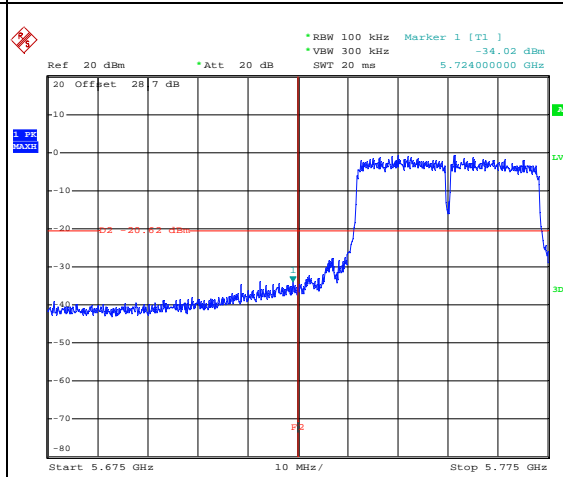
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



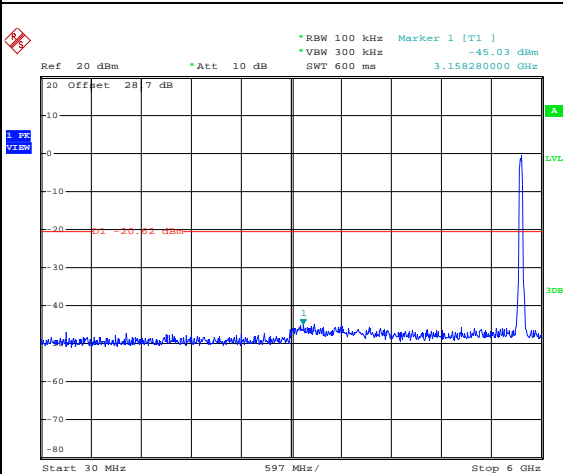
Date: 1.JUL.2013 15:02:21

Low Channel Plot



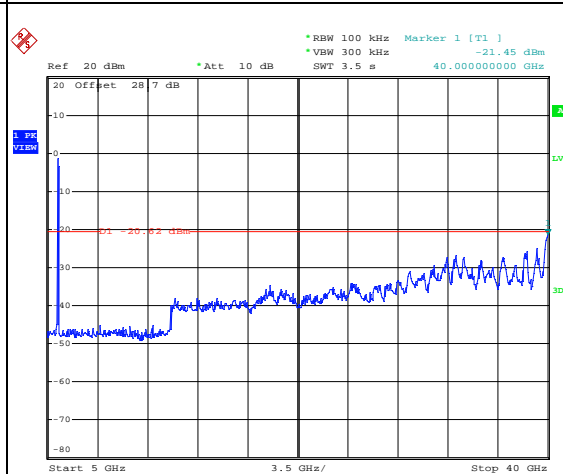
Date: 1.JUL.2013 15:03:44

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 16:06:34

Spurious Emission 5GHz~40GHz



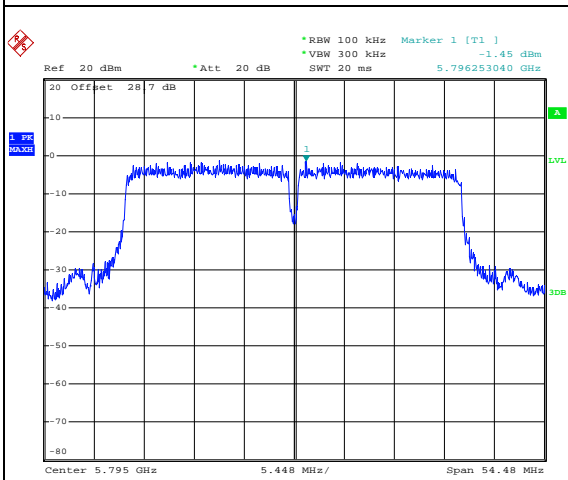
Date: 1.JUL.2013 16:06:53



Number of TX	2	Chain Port	0
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	159	Test Engineer :	Reece Lee

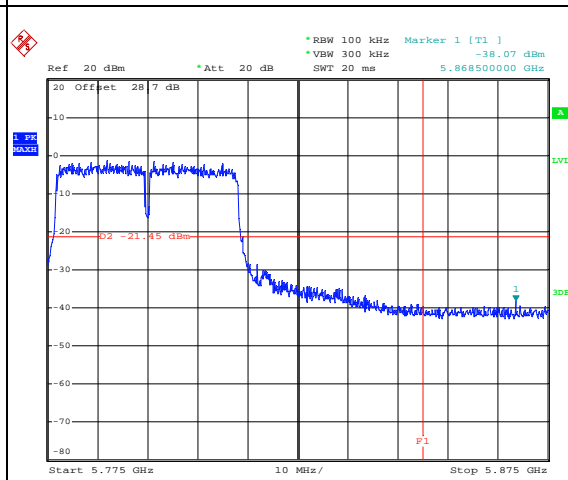
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



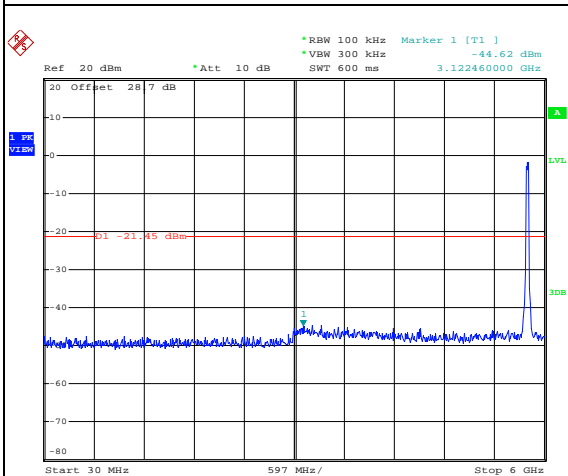
Date: 1.JUL.2013 15:18:06

High Channel Plot



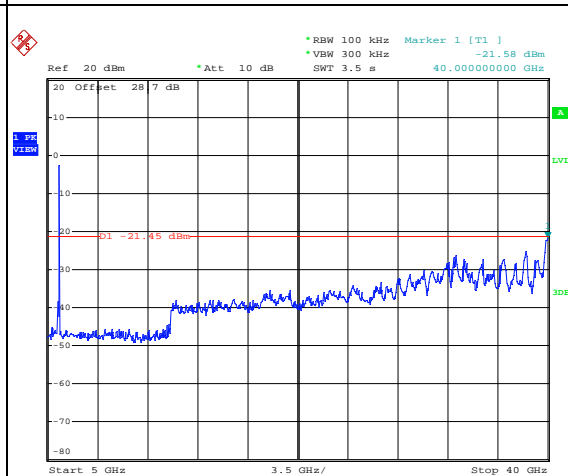
Date: 1.JUL.2013 15:18:22

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 15:18:58

Spurious Emission 5GHz~40GHz

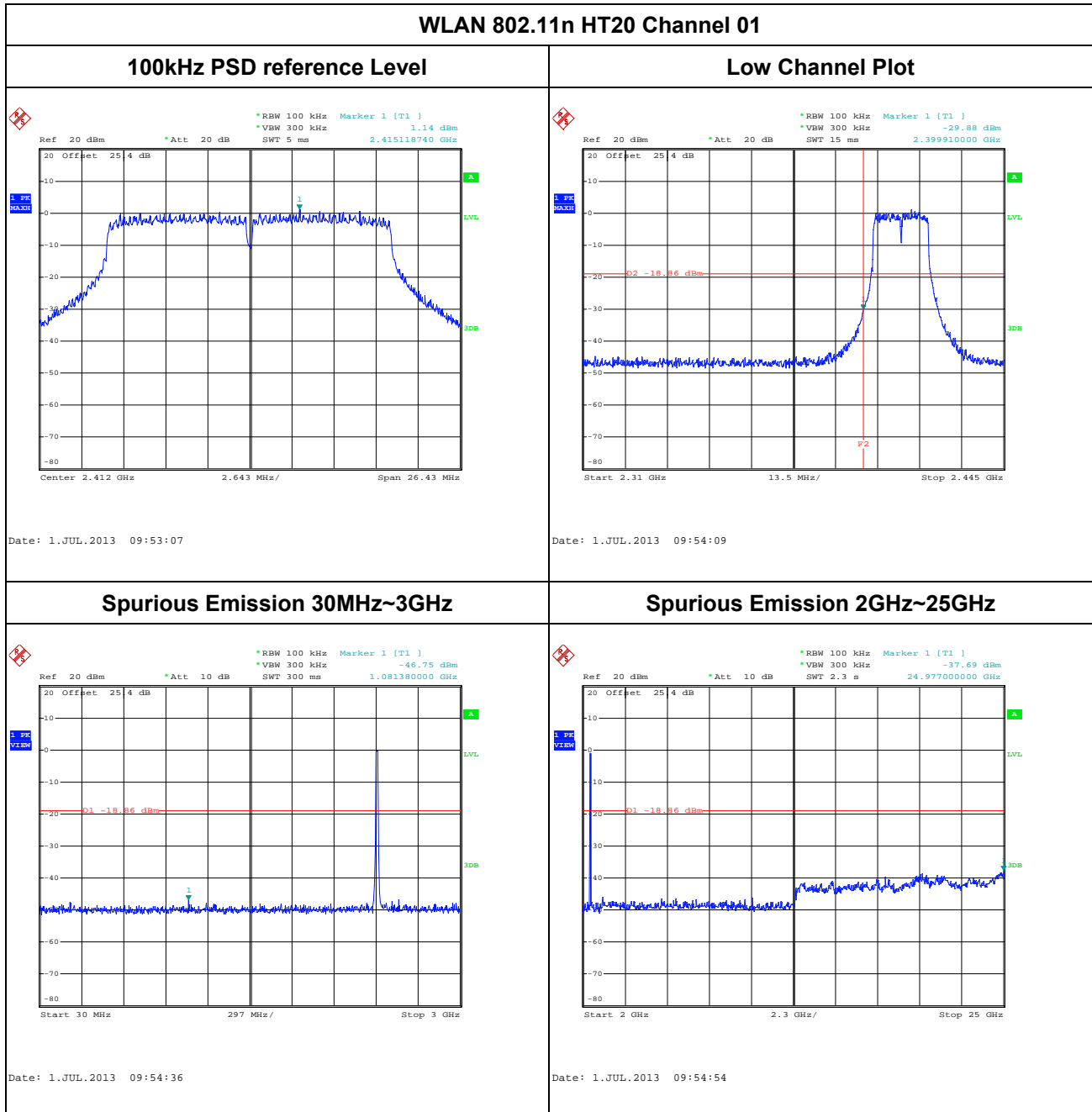


Date: 1.JUL.2013 15:19:17



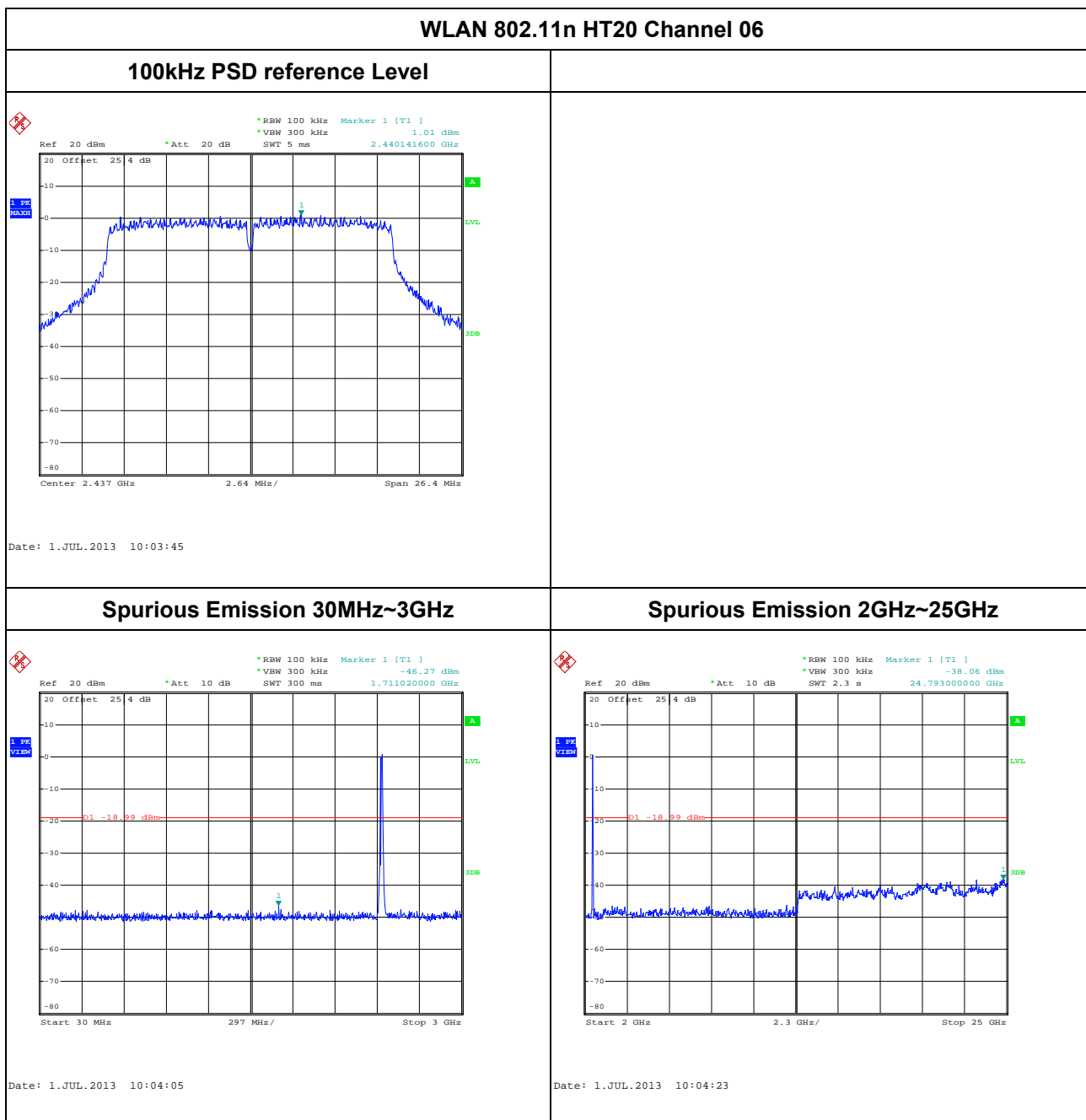
Number of TX = 2, Chain Port = 1

Number of TX	2	Chain Port	1
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	01	Test Engineer :	Reece Lee



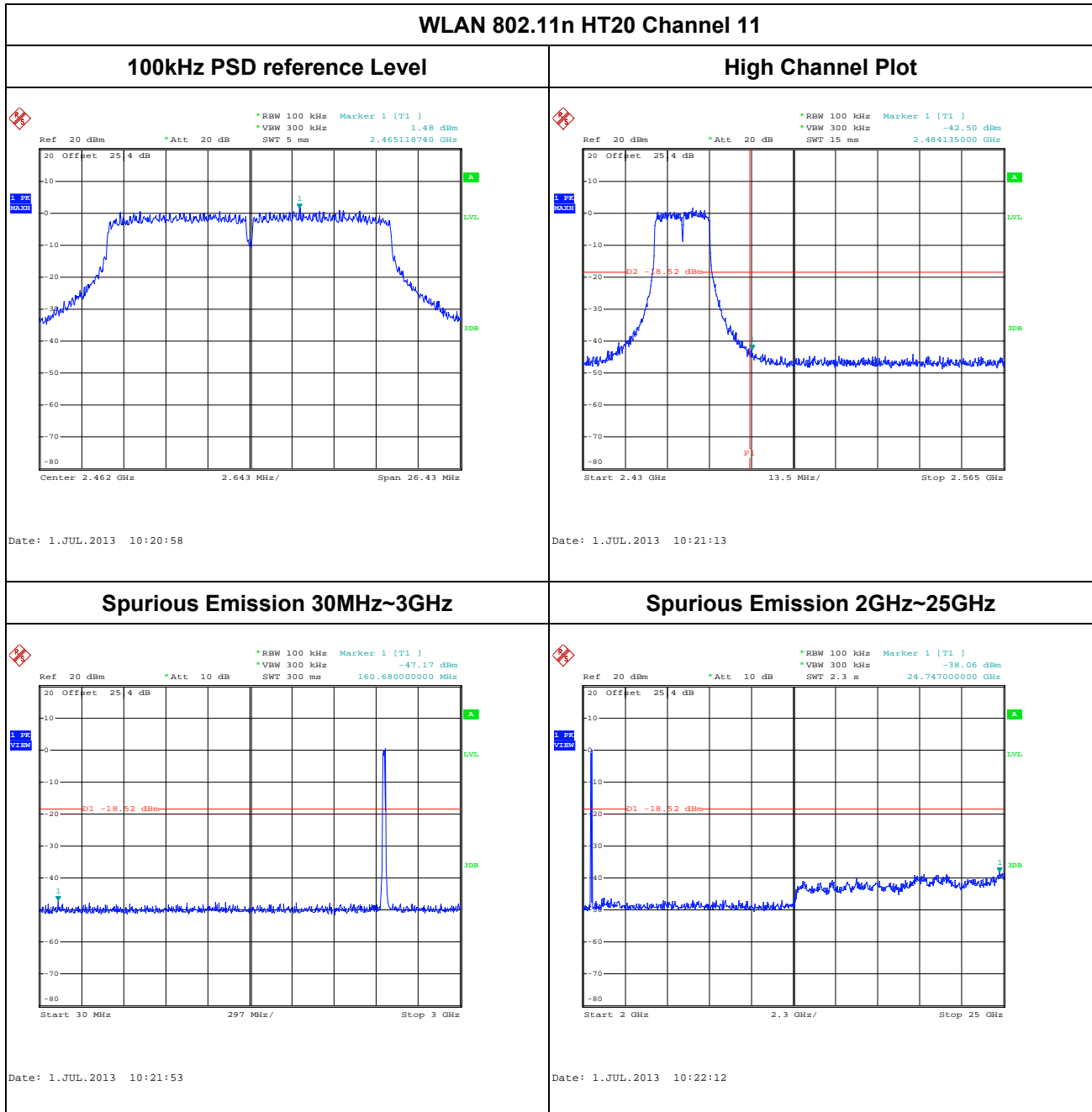


Number of TX	2	Chain Port	1
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee



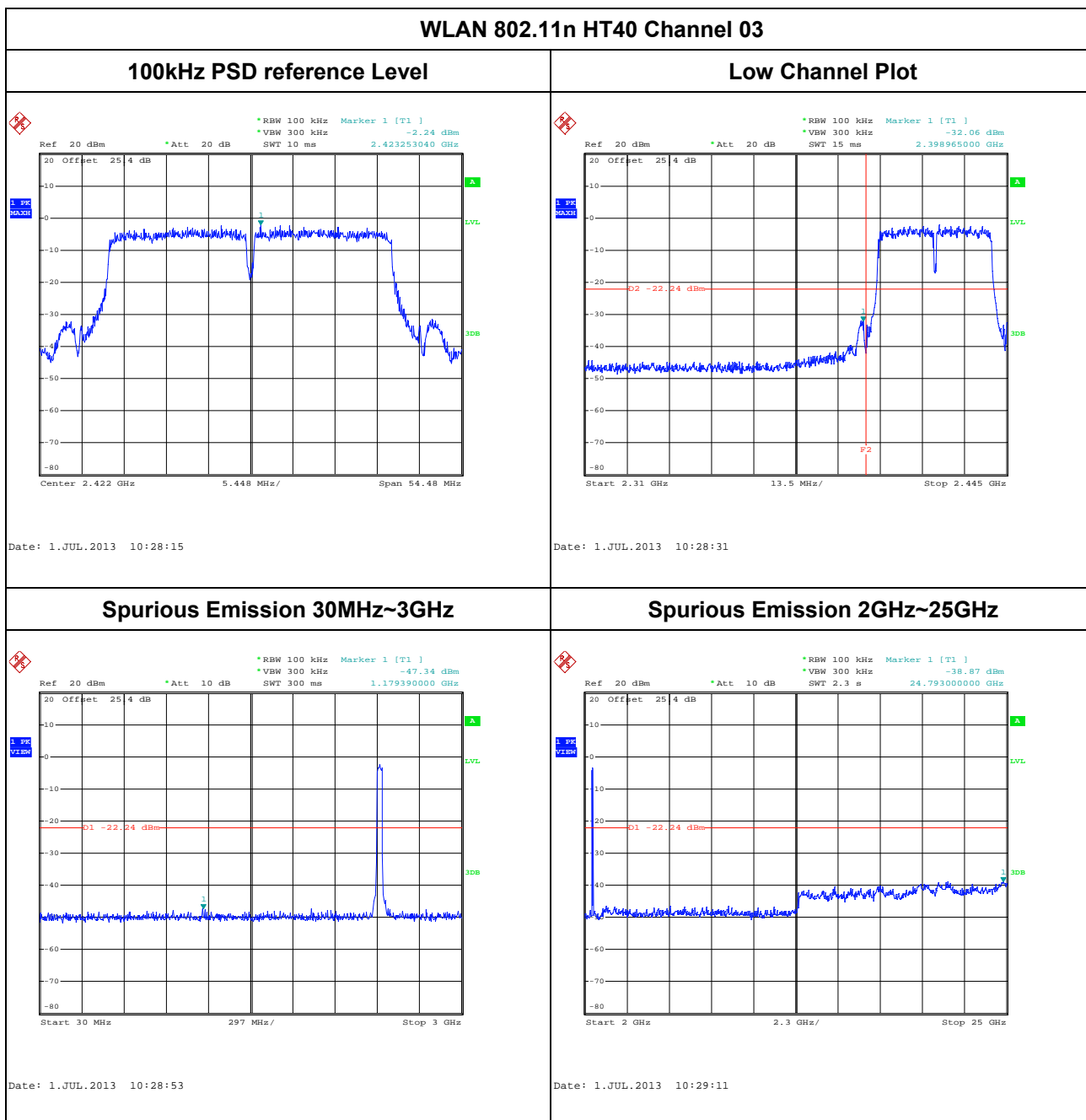


Number of TX	2	Chain Port	1
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	11	Test Engineer :	Reece Lee





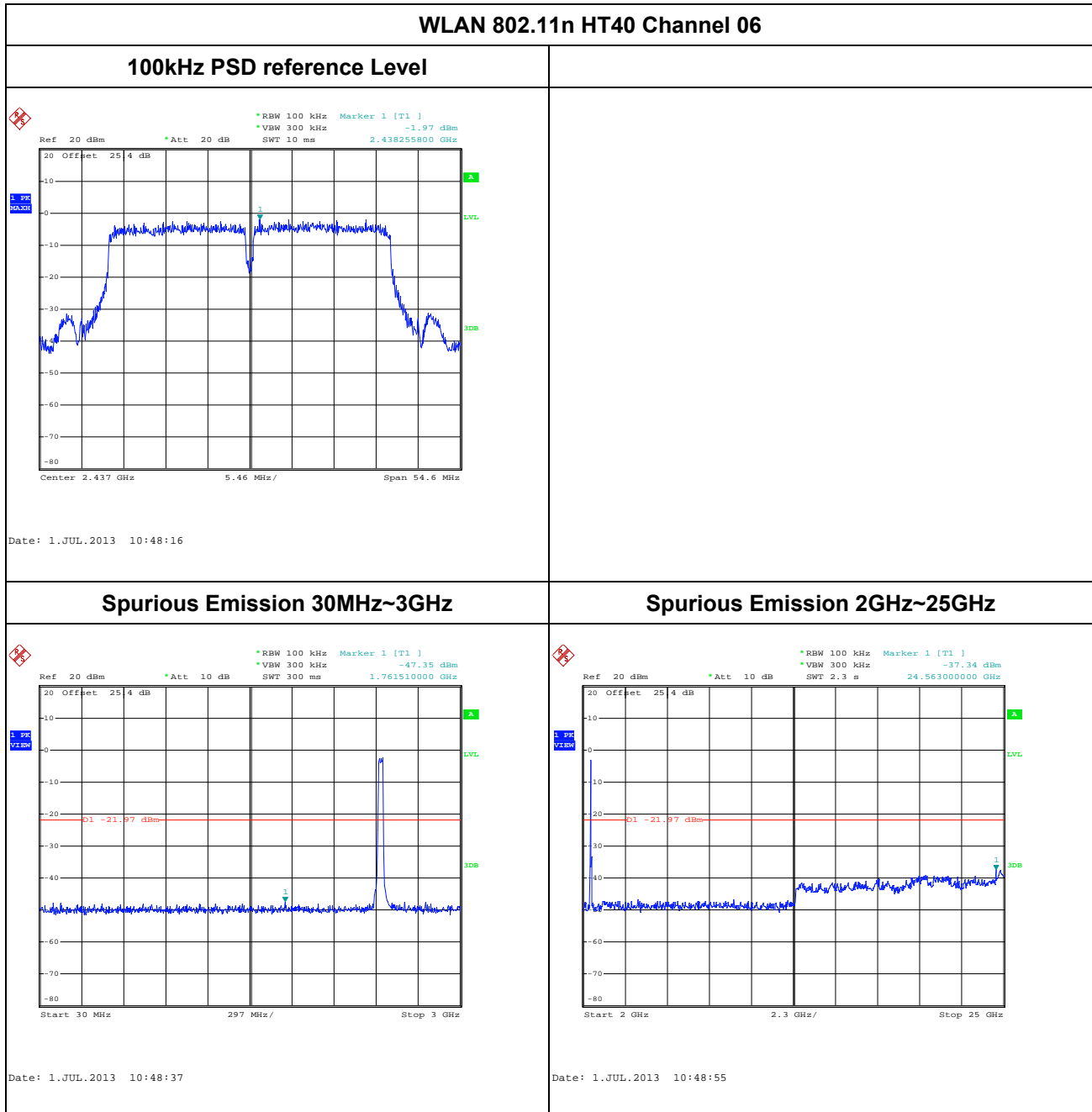
Number of TX	2	Chain Port	1
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Low	Relative Humidity :	44~46%
Test Channel :	03	Test Engineer :	Reece Lee





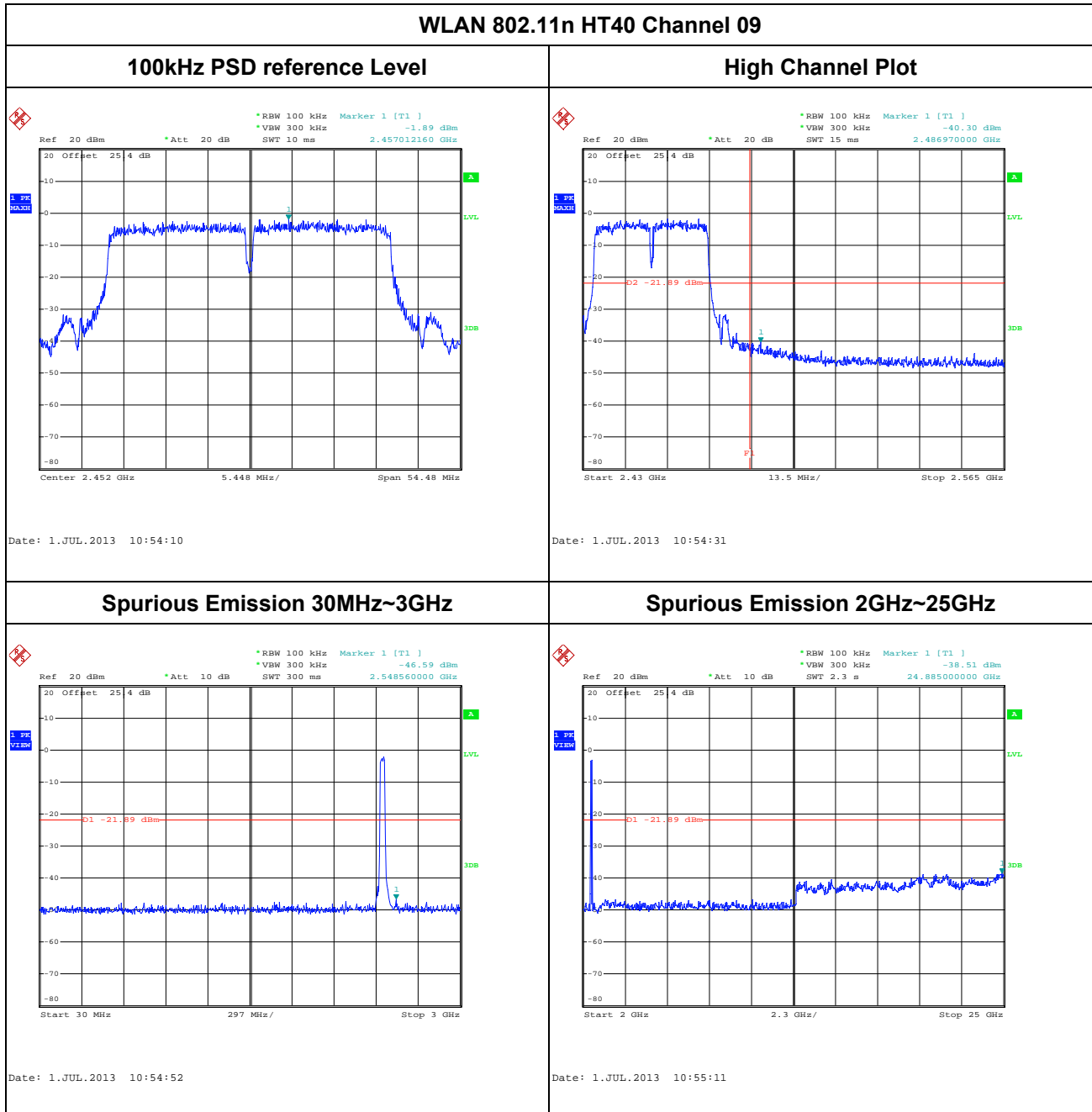


Number of TX	2	Chain Port	1
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz Mid	Relative Humidity :	44~46%
Test Channel :	06	Test Engineer :	Reece Lee





Number of TX	2	Chain Port	1
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	2.4GHz High	Relative Humidity :	44~46%
Test Channel :	09	Test Engineer :	Reece Lee

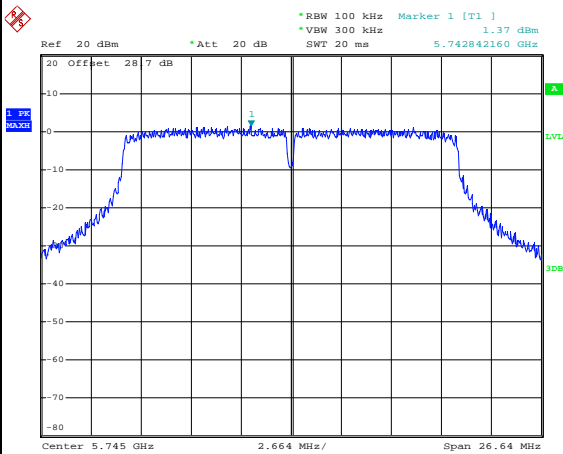




Number of TX	2	Chain Port	1
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	149	Test Engineer :	Reece Lee

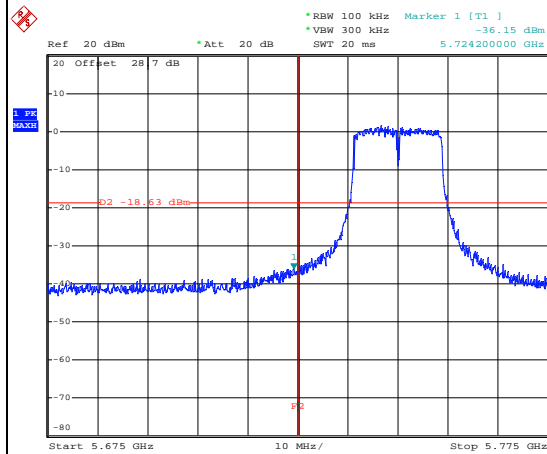
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



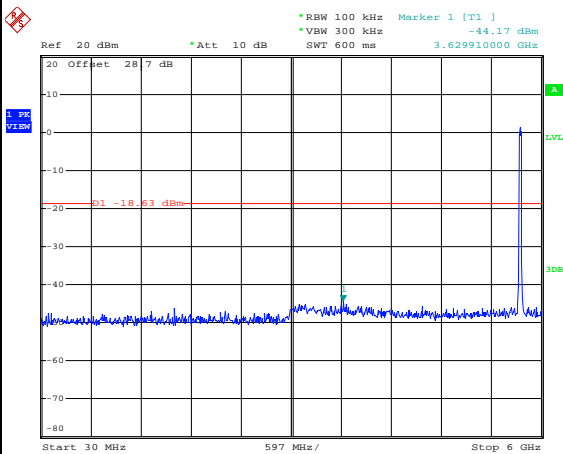
Date: 1.JUL.2013 14:56:26

Low Channel Plot



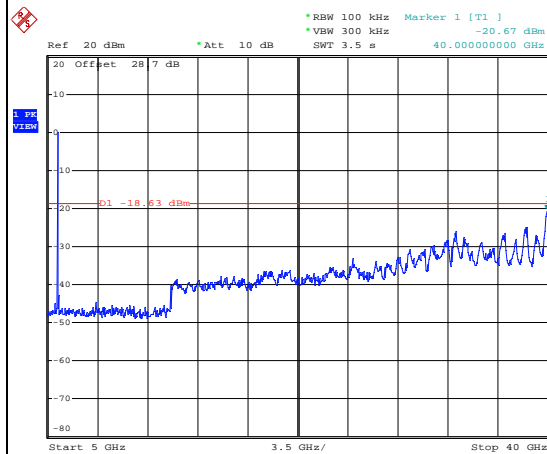
Date: 1.JUL.2013 14:56:42

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:57:04

Spurious Emission 5GHz~40GHz



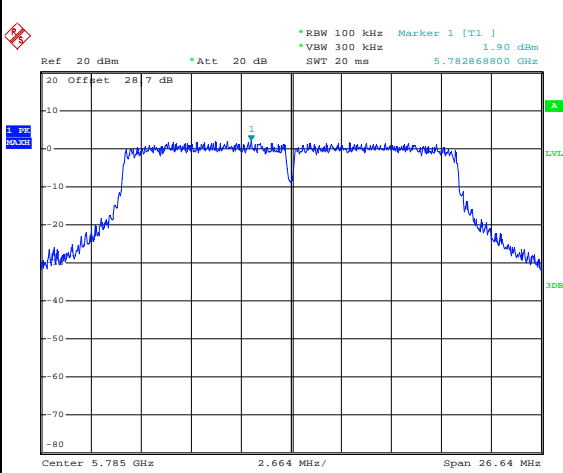
Date: 1.JUL.2013 14:57:22



Number of TX	2	Chain Port	1
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz Mid	Relative Humidity :	44~46%
Test Channel :	157	Test Engineer :	Reece Lee

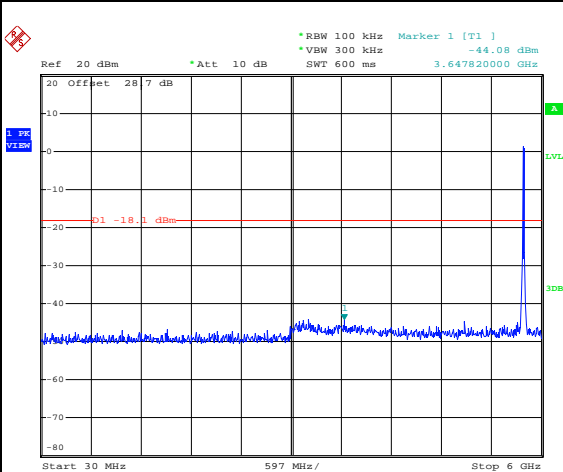
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



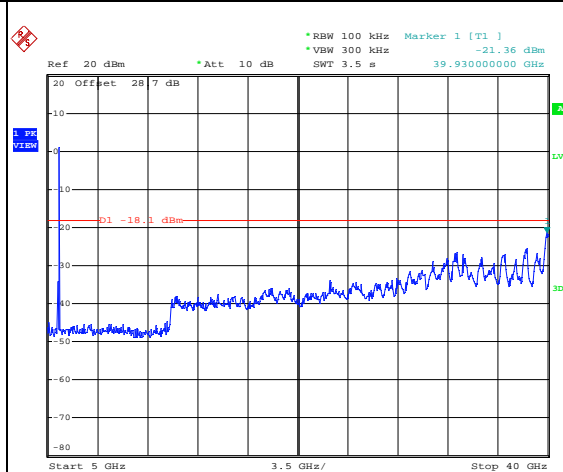
Date: 1.JUL.2013 14:46:20

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:46:44

Spurious Emission 5GHz~40GHz



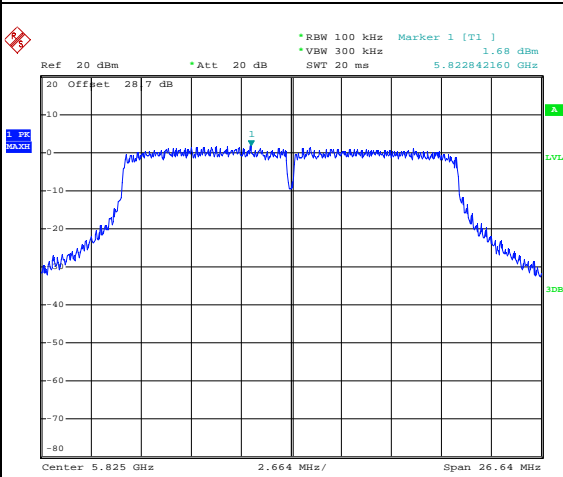
Date: 1.JUL.2013 14:47:03



Number of TX	2	Chain Port	1
Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	165	Test Engineer :	Reece Lee

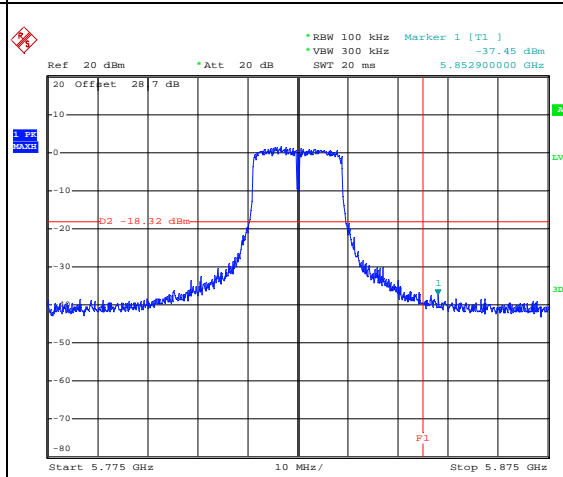
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



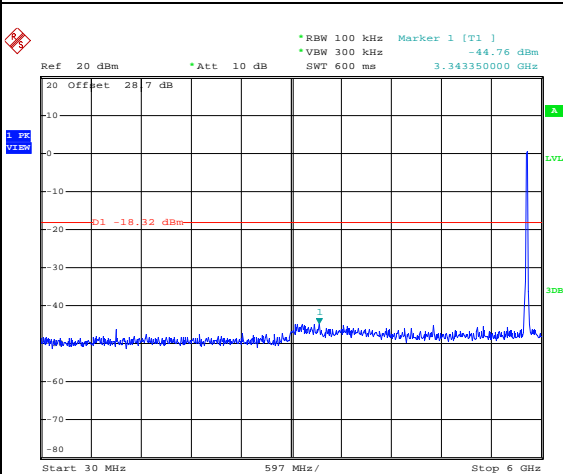
Date: 1.JUL.2013 14:34:53

High Channel Plot



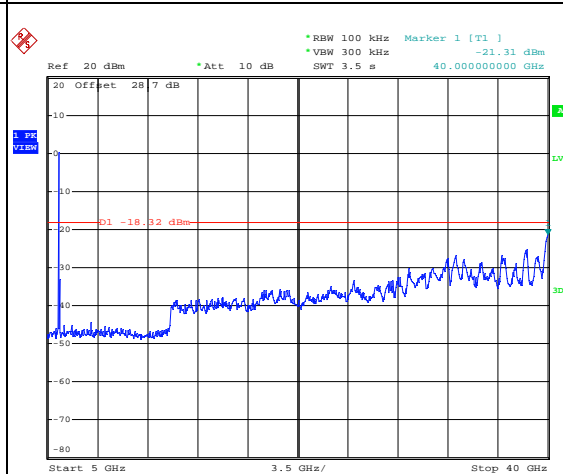
Date: 1.JUL.2013 14:35:08

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 14:35:29

Spurious Emission 5GHz~40GHz



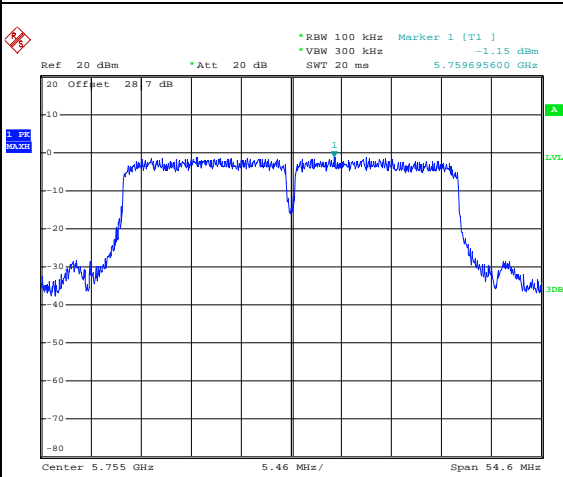
Date: 1.JUL.2013 14:35:47



Number of TX	2	Chain Port	1
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz Low	Relative Humidity :	44~46%
Test Channel :	151	Test Engineer :	Reece Lee

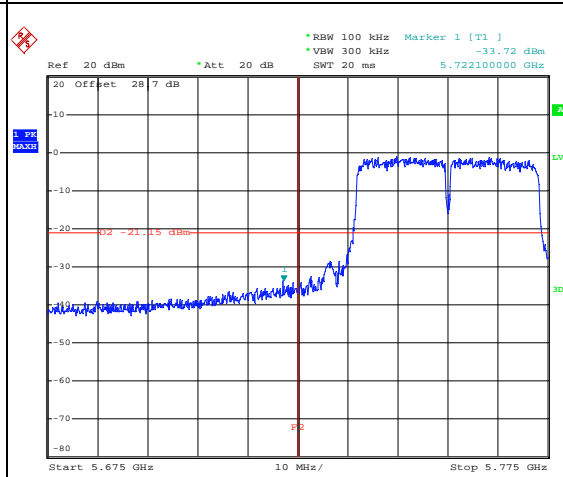
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



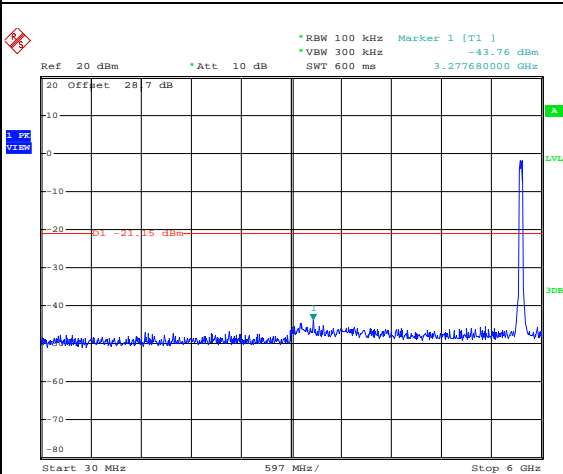
Date: 1.JUL.2013 15:06:49

Low Channel Plot



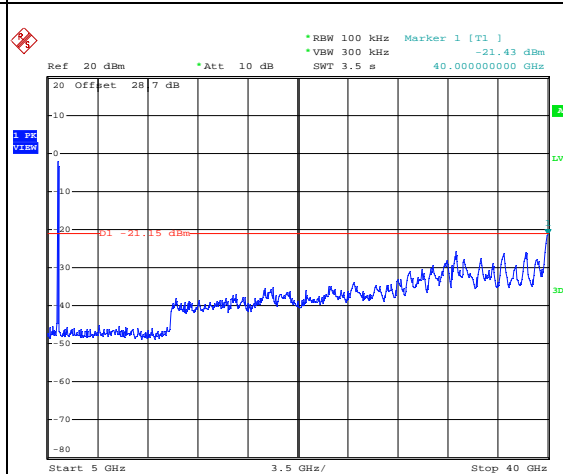
Date: 1.JUL.2013 15:07:08

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 15:07:42

Spurious Emission 5GHz~40GHz



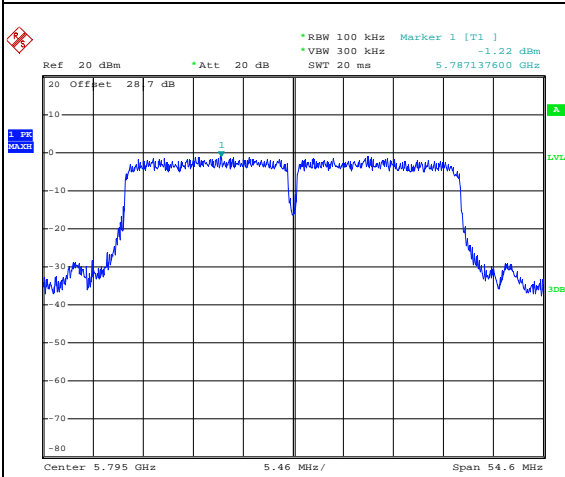
Date: 1.JUL.2013 15:08:00



Number of TX	2	Chain Port	1
Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	5GHz High	Relative Humidity :	44~46%
Test Channel :	159	Test Engineer :	Reece Lee

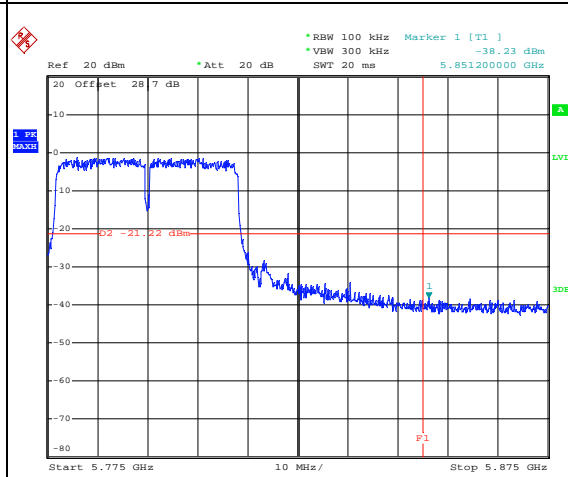
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



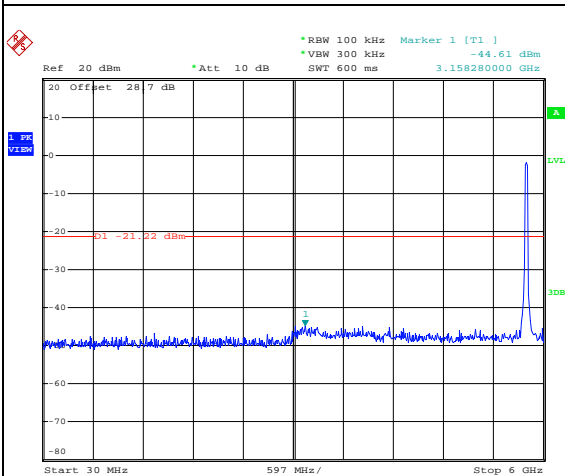
Date: 1.JUL.2013 15:12:15

High Channel Plot



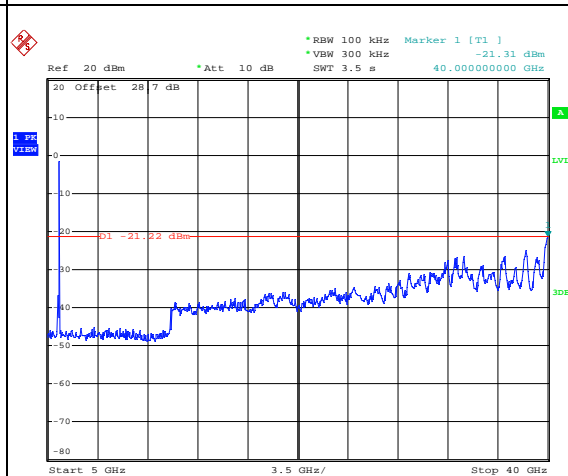
Date: 1.JUL.2013 15:12:32

Spurious Emission 30MHz~6GHz



Date: 1.JUL.2013 15:14:36

Spurious Emission 5GHz~40GHz



Date: 1.JUL.2013 15:14:55



### 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 the guidelines in ANSI C63.10-2009.
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.

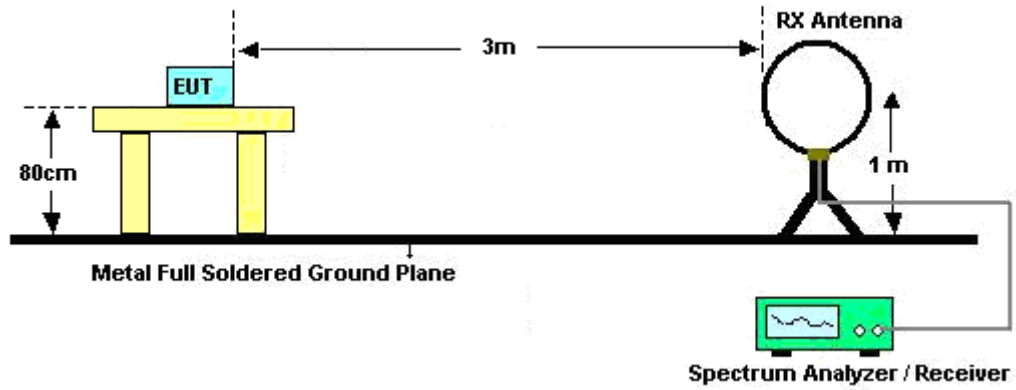


Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
0	802.11b	100.00	-	-	10Hz
0	802.11g	100.00	-	-	
0	2.4G 802.11n HT20	100.00	-	-	
0+1	2.4G 802.11n HT20	100.00	-	-	
0	2.4G 802.11n HT40	100.00	-	-	
0+1	2.4G 802.11n HT40	100.00	-	-	
0	802.11a	100.00	-	-	10Hz
0	5G 802.11n HT20	100.00	-	-	
0+1	5G 802.11n HT20	100.00	-	-	
0	5G 802.11n HT40	100.00	-	-	
0+1	5G 802.11n HT40	100.00	-	-	

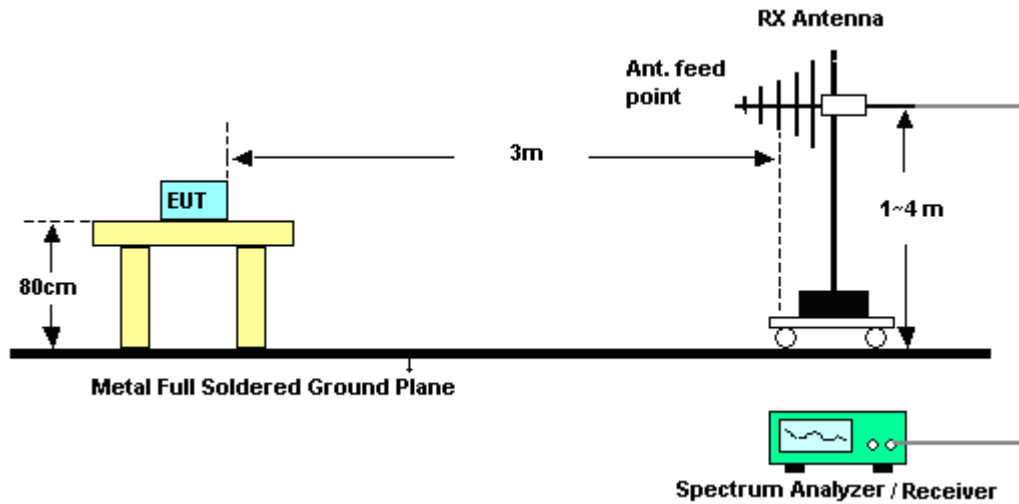
**Note:** For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

### 3.5.4 Test Setup

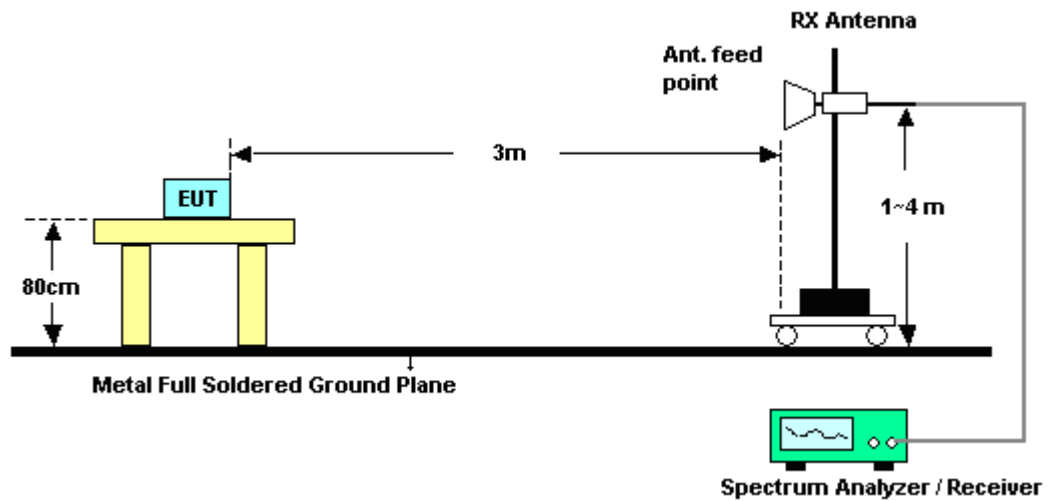
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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



3.5.6 Test Result of Radiated Spurious at Band Edges

Test Mode :	802.11b - Chain Port 0	Temperature :	25°C
Test Band :	Low	Relative Humidity :	65%
Test Channel :	01	Test Engineer :	Haru Yang

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	50.41	-23.59	74	53.31	26.91	4.7	34.51	150	118	Peak
2390	39.73	-14.27	54	42.63	26.91	4.7	34.51	150	118	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	52.2	-21.8	74	55.1	26.91	4.7	34.51	100	329	Peak
2390	41.14	-12.86	54	44.04	26.91	4.7	34.51	100	329	Average

Test Mode :	802.11b - Chain Port 0	Temperature :	25°C
Test Band :	High	Relative Humidity :	65%
Test Channel :	11	Test Engineer :	Haru Yang

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	52.49	-21.51	74	54.91	27.16	4.85	34.43	145	121	Peak
2483.5	43.35	-10.65	54	45.77	27.16	4.85	34.43	145	121	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	50.65	-23.35	74	53.07	27.16	4.85	34.43	146	334	Peak
2483.5	41.41	-12.59	54	43.83	27.16	4.85	34.43	146	334	Average



Test Mode :	802.11g - Chain Port 0	Temperature :	25°C
Test Band :	Low	Relative Humidity :	65%
Test Channel :	01	Test Engineer :	Haru Yang

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	64.49	-9.51	74	67.39	26.91	4.7	34.51	149	117	Peak
2390	44.85	-9.15	54	47.75	26.91	4.7	34.51	149	117	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390	66.17	-7.83	74	69.07	26.91	4.7	34.51	100	334	Peak
2390	47.35	-6.65	54	50.25	26.91	4.7	34.51	100	334	Average

Test Mode :	802.11g - Chain Port 0	Temperature :	25°C
Test Band :	High	Relative Humidity :	65%
Test Channel :	11	Test Engineer :	Haru Yang

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	70.98	-3.02	74	73.4	27.16	4.85	34.43	120	119	Peak
2483.5	51.61	-2.39	54	54.03	27.16	4.85	34.43	120	119	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	70.73	-3.27	74	73.15	27.16	4.85	34.43	109	291	Peak
2483.5	50.72	-3.28	54	53.14	27.16	4.85	34.43	109	291	Average



Test Mode :	2.4GHz 802.11n HT20 – Chain Port 0	Temperature :	25°C
Test Band :	Low	Relative Humidity :	65%
Test Channel :	01	Test Engineer :	Haru Yang

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	62.49	-11.51	74	65.39	26.91	4.7	34.51	189	238	Peak
2390	45.23	-8.77	54	48.13	26.91	4.7	34.51	189	238	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	65.23	-8.77	74	68.13	26.91	4.7	34.51	100	333	Peak
2390	47.38	-6.62	54	50.28	26.91	4.7	34.51	100	333	Average

Test Mode :	2.4GHz 802.11n HT20 – Chain Port 0	Temperature :	25°C
Test Band :	High	Relative Humidity :	65%
Test Channel :	11	Test Engineer :	Haru Yang

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	70	-4	74	72.42	27.16	4.85	34.43	143	115	Peak
2483.5	51.09	-2.91	54	53.51	27.16	4.85	34.43	143	115	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	70.09	-3.91	74	72.51	27.16	4.85	34.43	108	82	Peak
2483.5	50.66	-3.34	54	53.08	27.16	4.85	34.43	108	82	Average



Test Mode :	2.4GHz 802.11n HT20 – Chain Port 0+1	Temperature :	25°C
Test Band :	Low	Relative Humidity :	65%
Test Channel :	01	Test Engineer :	Haru Yang

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	56.62	-17.38	74	59.52	26.91	4.7	34.51	186	129	Peak
2390	42.94	-11.06	54	45.84	26.91	4.7	34.51	186	129	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	61.54	-12.46	74	64.44	26.91	4.7	34.51	120	358	Peak
2390	46.8	-7.2	54	49.7	26.91	4.7	34.51	120	358	Average

Test Mode :	2.4GHz 802.11n HT20 – Chain Port 0+1	Temperature :	25°C
Test Band :	High	Relative Humidity :	65%
Test Channel :	11	Test Engineer :	Haru Yang

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	63.37	-10.63	74	65.79	27.16	4.85	34.43	100	307	Peak
2483.5	46.1	-7.9	54	48.52	27.16	4.85	34.43	100	307	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	64.14	-9.86	74	66.56	27.16	4.85	34.43	117	0	Peak
2483.5	48.63	-5.37	54	51.05	27.16	4.85	34.43	117	0	Average





Test Mode :	2.4GHz 802.11n HT40 – Chain Port 0	Temperature :	25°C
Test Band :	Low	Relative Humidity :	65%
Test Channel :	03	Test Engineer :	Haru Yang

ANTENNA POLARITY : HORIZONTAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2390	61.51	-12.49	74	64.41	26.91	4.7	34.51	127	126	Peak
2390	46.23	-7.77	54	49.13	26.91	4.7	34.51	127	126	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	67.65	-6.35	74	70.55	26.91	4.7	34.51	114	90	Peak
2390	48.74	-5.26	54	51.64	26.91	4.7	34.51	114	90	Average

Test Mode :	2.4GHz 802.11n HT40 – Chain Port 0	Temperature :	25°C
Test Band :	High	Relative Humidity :	65%
Test Channel :	09	Test Engineer :	Haru Yang

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	69.19	-4.81	74	71.61	27.16	4.85	34.43	118	120	Peak
2483.5	51.31	-2.69	54	53.73	27.16	4.85	34.43	118	120	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	69.86	-4.14	74	72.28	27.16	4.85	34.43	108	83	Peak
2483.5	52.97	-1.03	54	55.39	27.16	4.85	34.43	108	83	Average



Test Mode :	2.4GHz 802.11n HT40 – Chain Port 0+1	Temperature :	25°C
Test Band :	Low	Relative Humidity :	65%
Test Channel :	03	Test Engineer :	Haru Yang

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	59.64	-14.36	74	62.54	26.91	4.7	34.51	144	113	Peak
2390	46.82	-7.18	54	49.72	26.91	4.7	34.51	144	113	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	65.17	-8.83	74	68.07	26.91	4.7	34.51	117	0	Peak
2390	50.92	-3.08	54	53.82	26.91	4.7	34.51	117	0	Average

Test Mode :	2.4GHz 802.11n HT40 – Chain Port 0+1	Temperature :	25°C
Test Band :	High	Relative Humidity :	65%
Test Channel :	09	Test Engineer :	Haru Yang

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	63.08	-10.92	74	65.5	27.16	4.85	34.43	144	123	Peak
2483.5	49.4	-4.6	54	51.82	27.16	4.85	34.43	144	123	Average

ANTENNA POLARITY : VERTICAL										
Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level ( dBμV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2483.5	65.09	-8.91	74	67.51	27.16	4.85	34.43	117	2	Peak
2483.5	52.14	-1.86	54	54.56	27.16	4.85	34.43	117	2	Average

**3.5.7 Test Result of Radiated Spurious Emission (30MHz ~ 10<sup>th</sup> 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.

<b>Test Mode :</b>	802.11b-Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	34.98	-19.02	54	38.78	26.45	4.43	34.68	108	119	Average
2210	46.65	-27.35	74	50.45	26.45	4.43	34.68	108	119	Peak
2412	101.83	-	-	104.61	26.97	4.74	34.49	151	118	Average
2412	104.56	-	-	107.34	26.97	4.74	34.49	151	118	Peak
4824	38.6	-15.4	54	33.91	31.09	6.64	33.04	100	319	Average
4824	46.19	-27.81	74	41.5	31.09	6.64	33.04	100	319	Peak

<b>Test Mode :</b>	802.11b-Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is Fundamental signal which can be ignored.		

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
2210	36.21	-17.79	54	40.01	26.45	4.43	34.68	132	270	Average
2210	47.98	-26.02	74	51.78	26.45	4.43	34.68	132	270	Peak
2412	102.55	-	-	105.33	26.97	4.74	34.49	100	332	Average
2412	105.4	-	-	108.18	26.97	4.74	34.49	100	332	Peak
4824	34.49	-19.51	54	29.8	31.09	6.64	33.04	100	202	Average
4824	45.09	-28.91	74	40.4	31.09	6.64	33.04	100	202	Peak



<b>Test Mode :</b>	802.11b - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	102.89	-	-	105.54	27.04	4.78	34.47	149	121	Average
2437	105.71	-	-	108.36	27.04	4.78	34.47	149	121	Peak
4874	38.73	-15.27	54	33.96	31.15	6.64	33.02	100	315	Average
4874	47.55	-26.45	74	42.78	31.15	6.64	33.02	100	315	Peak
7311	40.53	-13.47	54	30.96	35.65	8.22	34.3	108	6	Average
7311	52.8	-21.2	74	43.23	35.65	8.22	34.3	108	6	Peak

<b>Test Mode :</b>	802.11b - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	102.8	-	-	105.45	27.04	4.78	34.47	100	333	Average
2437	105.67	-	-	108.32	27.04	4.78	34.47	100	333	Peak
4874	35.09	-18.91	54	30.32	31.15	6.64	33.02	100	170	Average
4874	46.61	-27.39	74	41.84	31.15	6.64	33.02	100	170	Peak
7311	39.11	-14.89	54	29.54	35.65	8.22	34.3	102	138	Average
7311	51.76	-22.24	74	42.19	35.65	8.22	34.3	102	138	Peak



<b>Test Mode :</b>	802.11b - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	102.88	-	-	105.42	27.1	4.81	34.45	180	121	Average
2462	105.79	-	-	108.33	27.1	4.81	34.45	180	121	Peak
4924	39.32	-14.68	54	34.46	31.21	6.65	33	130	67	Average
4924	47.6	-26.4	74	42.74	31.21	6.65	33	130	67	Peak
7386	41.28	-12.72	54	31.6	35.83	8.25	34.4	130	67	Average
7386	52.73	-21.27	74	43.05	35.83	8.25	34.4	130	67	Peak

<b>Test Mode :</b>	802.11b - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	102.7	-	-	105.24	27.1	4.81	34.45	100	332	Average
2462	105.5	-	-	108.04	27.1	4.81	34.45	100	332	Peak
4924	36.17	-17.83	54	31.31	31.21	6.65	33	100	201	Average
4924	47.11	-26.89	74	42.25	31.21	6.65	33	100	201	Peak
7386	39.15	-14.85	54	29.47	35.83	8.25	34.4	104	99	Average
7386	51.92	-22.08	74	42.24	35.83	8.25	34.4	104	99	Peak



<b>Test Mode :</b>	802.11g - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	32	-22	54	35.8	26.45	4.43	34.68	108	119	Average
2210	43.7	-30.3	74	47.5	26.45	4.43	34.68	108	119	Peak
2412	97.49	-	-	100.27	26.97	4.74	34.49	183	120	Average
2412	106.59	-	-	109.37	26.97	4.74	34.49	183	120	Peak
4824	32.74	-21.26	54	28.05	31.09	6.64	33.04	100	0	Average
4824	45.78	-28.22	74	41.09	31.09	6.64	33.04	100	0	Peak

<b>Test Mode :</b>	802.11g - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	32.43	-21.57	54	36.23	26.45	4.43	34.68	102	333	Average
2210	44.83	-29.17	74	48.63	26.45	4.43	34.68	102	333	Peak
2412	97.68	-	-	100.46	26.97	4.74	34.49	100	333	Average
2412	107.37	-	-	110.15	26.97	4.74	34.49	100	333	Peak
4824	31.74	-22.26	54	27.05	31.09	6.64	33.04	107	287	Average
4824	44.59	-29.41	74	39.9	31.09	6.64	33.04	107	287	Peak



<b>Test Mode :</b>	802.11g - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	97.62	-	-	100.27	27.04	4.78	34.47	148	115	Average
2437	107.25	-	-	109.9	27.04	4.78	34.47	148	115	Peak
4874	33.66	-20.34	54	28.89	31.15	6.64	33.02	135	295	Average
4874	50.01	-23.99	74	45.24	31.15	6.64	33.02	135	295	Peak
7311	38.4	-15.6	54	28.83	35.65	8.22	34.3	107	5	Average
7311	52.45	-21.55	74	42.88	35.65	8.22	34.3	107	5	Peak

<b>Test Mode :</b>	802.11g - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	97.7	-	-	100.35	27.04	4.78	34.47	100	331	Average
2437	106.96	-	-	109.61	27.04	4.78	34.47	100	331	Peak
4874	31.72	-22.28	54	26.95	31.15	6.64	33.02	103	169	Average
4874	44.94	-29.06	74	40.17	31.15	6.64	33.02	103	169	Peak
7311	37.97	-16.03	54	28.4	35.65	8.22	34.3	115	133	Average
7311	52	-22	74	42.43	35.65	8.22	34.3	115	133	Peak



<b>Test Mode :</b>	802.11g - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	97.84	-	-	100.38	27.1	4.81	34.45	181	122	Average
2462	107.43	-	-	109.97	27.1	4.81	34.45	181	122	Peak
4924	34.34	-19.66	54	29.48	31.21	6.65	33	132	304	Average
4924	50.78	-23.22	74	45.92	31.21	6.65	33	132	304	Peak
7386	38.35	-15.65	54	28.67	35.83	8.25	34.4	114	21	Average
7386	52.36	-21.64	74	42.68	35.83	8.25	34.4	114	21	Peak

<b>Test Mode :</b>	802.11g - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	98.7	-	-	101.24	27.1	4.81	34.45	113	279	Average
2462	108.24	-	-	110.78	27.1	4.81	34.45	113	279	Peak
4924	31.96	-22.04	54	27.1	31.21	6.65	33	106	141	Average
4924	45.27	-28.73	74	40.41	31.21	6.65	33	106	141	Peak
7386	38.36	-15.64	54	28.68	35.83	8.25	34.4	113	102	Average
7386	53.03	-20.97	74	43.35	35.83	8.25	34.4	113	102	Peak





<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	31.23	-22.77	54	35.03	26.45	4.43	34.68	109	112	Average
2210	43.88	-30.12	74	47.68	26.45	4.43	34.68	109	112	Peak
2412	96.62	-	-	99.4	26.97	4.74	34.49	184	121	Average
2412	106.98	-	-	109.76	26.97	4.74	34.49	184	121	Peak
4824	32.53	-21.47	54	27.84	31.09	6.64	33.04	101	12	Average
4824	45.87	-28.13	74	41.18	31.09	6.64	33.04	101	12	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	32.1	-21.9	54	35.9	26.45	4.43	34.68	103	337	Average
2210	44.55	-29.45	74	48.35	26.45	4.43	34.68	103	337	Peak
2412	96.9	-	-	99.68	26.97	4.74	34.49	100	335	Average
2412	107.59	-	-	110.37	26.97	4.74	34.49	100	335	Peak
4824	31.85	-22.15	54	27.16	31.09	6.64	33.04	102	294	Average
4824	44.94	-29.06	74	40.25	31.09	6.64	33.04	102	294	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	97.06	-	-	99.71	27.04	4.78	34.47	147	117	Average
2437	107.56	-	-	110.21	27.04	4.78	34.47	147	117	Peak
4874	33.33	-20.67	54	28.56	31.15	6.64	33.02	124	303	Average
4874	47.15	-26.85	74	42.38	31.15	6.64	33.02	124	303	Peak
7311	38.01	-15.99	54	28.44	35.65	8.22	34.3	102	16	Average
7311	52.3	-21.7	74	42.73	35.65	8.22	34.3	102	16	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	96.83	-	-	99.48	27.04	4.78	34.47	100	332	Average
2437	107.19	-	-	109.84	27.04	4.78	34.47	100	332	Peak
4874	31.95	-22.05	54	27.18	31.15	6.64	33.02	104	155	Average
4874	45.35	-28.65	74	40.58	31.15	6.64	33.02	104	155	Peak
7311	37.82	-16.18	54	28.25	35.65	8.22	34.3	112	141	Average
7311	51.93	-22.07	74	42.36	35.65	8.22	34.3	112	141	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	96.3	-	-	98.84	27.1	4.81	34.45	145	116	Average
2462	106.85	-	-	109.39	27.1	4.81	34.45	145	116	Peak
4924	34.16	-19.84	54	29.3	31.21	6.65	33	135	298	Average
4924	50.42	-23.58	74	45.56	31.21	6.65	33	135	298	Peak
7386	38.11	-15.89	54	28.43	35.83	8.25	34.4	115	14	Average
7386	52.02	-21.98	74	42.34	35.83	8.25	34.4	115	14	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	97.24	-	-	99.78	27.1	4.81	34.45	110	292	Average
2462	107.98	-	-	110.52	27.1	4.81	34.45	110	292	Peak
4924	31.91	-22.09	54	27.05	31.21	6.65	33	105	158	Average
4924	45.47	-28.53	74	40.61	31.21	6.65	33	105	158	Peak
7386	38.22	-15.78	54	28.54	35.83	8.25	34.4	111	97	Average
7386	52.62	-21.38	74	42.94	35.83	8.25	34.4	111	97	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	30.28	-23.72	54	34.08	26.45	4.43	34.68	108	108	Average
2210	43.12	-30.88	74	46.92	26.45	4.43	34.68	108	108	Peak
2412	93.36	-	-	96.14	26.97	4.74	34.49	122	116	Average
2412	104.19	-	-	106.97	26.97	4.74	34.49	122	116	Peak
4824	32.24	-21.76	54	27.55	31.09	6.64	33.04	100	28	Average
4824	45.95	-28.05	74	41.26	31.09	6.64	33.04	100	28	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	01	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2412 MHz is fundamental signal which can be ignored.		

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
2210	32.33	-21.67	54	36.13	26.45	4.43	34.68	102	5	Average
2210	45.37	-28.63	74	49.17	26.45	4.43	34.68	102	5	Peak
2412	96.93	-	-	99.71	26.97	4.74	34.49	118	1	Average
2412	108.52	-	-	111.3	26.97	4.74	34.49	118	1	Peak
4824	32.22	-21.78	54	27.53	31.09	6.64	33.04	104	297	Average
4824	45.54	-28.46	74	40.85	31.09	6.64	33.04	104	297	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	94.49	-	-	97.14	27.04	4.78	34.47	148	114	Average
2437	105.87	-	-	108.52	27.04	4.78	34.47	148	114	Peak
4874	33.18	-20.82	54	28.41	31.15	6.64	33.02	122	316	Average
4874	46.94	-27.06	74	42.17	31.15	6.64	33.02	122	316	Peak
7311	37.64	-16.36	54	28.07	35.65	8.22	34.3	100	27	Average
7311	52.11	-21.89	74	42.54	35.65	8.22	34.3	100	27	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	97.03	-	-	99.68	27.04	4.78	34.47	116	0	Average
2437	108.86	-	-	111.51	27.04	4.78	34.47	116	0	Peak
4874	32.1	-21.9	54	27.33	31.15	6.64	33.02	102	168	Average
4874	45.63	-28.37	74	40.86	31.15	6.64	33.02	102	168	Peak
7311	37.62	-16.38	54	28.05	35.65	8.22	34.3	110	137	Average
7311	51.73	-22.27	74	42.16	35.65	8.22	34.3	110	137	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	93.66	-	-	96.2	27.1	4.81	34.45	145	113	Average
2462	105.56	-	-	108.1	27.1	4.81	34.45	145	113	Peak
4924	33.61	-20.39	54	28.75	31.21	6.65	33	134	283	Average
4924	48.52	-25.48	74	43.66	31.21	6.65	33	134	283	Peak
7386	37.82	-16.18	54	28.14	35.83	8.25	34.4	114	20	Average
7386	51.76	-22.24	74	42.08	35.83	8.25	34.4	114	20	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	11	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2462 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2462	96.9	-	-	99.44	27.1	4.81	34.45	114	359	Average
2462	108.57	-	-	111.11	27.1	4.81	34.45	114	359	Peak
4924	32.13	-21.87	54	27.27	31.21	6.65	33	104	166	Average
4924	45.82	-28.18	74	40.96	31.21	6.65	33	104	166	Peak
7386	38.09	-15.91	54	28.41	35.83	8.25	34.4	107	100	Average
7386	52.33	-21.67	74	42.65	35.83	8.25	34.4	107	100	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2422 MHz is fundamental signal which can be ignored.		

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
2231	32.61	-21.39	54	36.31	26.5	4.46	34.66	108	124	Average
2231	44.96	-29.04	74	48.66	26.5	4.46	34.66	108	124	Peak
2422	92.65	-	-	95.38	27	4.75	34.48	185	124	Average
2422	103.08	-	-	105.81	27	4.75	34.48	185	124	Peak
4844	31.3	-22.7	54	26.59	31.11	6.64	33.04	112	14	Average
4844	44.85	-29.15	74	40.14	31.11	6.64	33.04	112	14	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2422 MHz is fundamental signal which can be ignored.		

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
2231	32.34	-21.66	54	36.04	26.5	4.46	34.66	116	79	Average
2231	44.79	-29.21	74	48.49	26.5	4.46	34.66	116	79	Peak
2422	95.15	-	-	97.88	27	4.75	34.48	115	89	Average
2422	105.55	-	-	108.28	27	4.75	34.48	115	89	Peak
4844	32.04	-21.96	54	27.33	31.11	6.64	33.04	100	51	Average
4844	45.25	-28.75	74	40.54	31.11	6.64	33.04	100	51	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	93.18	-	-	95.83	27.04	4.78	34.47	148	117	Average
2437	103.67	-	-	106.32	27.04	4.78	34.47	148	117	Peak
4874	32.08	-21.92	54	27.31	31.15	6.64	33.02	108	24	Average
4874	45.61	-28.39	74	40.84	31.15	6.64	33.02	108	24	Peak
7311	37.51	-16.49	54	27.94	35.65	8.22	34.3	100	32	Average
7311	50.8	-23.2	74	41.23	35.65	8.22	34.3	100	32	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBμV/m )	Over Limit ( dB )	Limit Line ( dBμV/m )	Read Level (dBμV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	94.13	-	-	96.78	27.04	4.78	34.47	112	93	Average
2437	104.43	-	-	107.08	27.04	4.78	34.47	112	93	Peak
4874	32.5	-21.5	54	27.73	31.15	6.64	33.02	100	62	Average
4874	46.69	-27.31	74	41.92	31.15	6.64	33.02	100	62	Peak
7311	37.24	-16.76	54	27.67	35.65	8.22	34.3	102	16	Average
7311	51.29	-22.71	74	41.72	35.65	8.22	34.3	102	16	Peak





<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2452 MHz is fundamental signal which can be ignored.		

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
134.76	37.58	-5.92	43.5	54.88	12.92	1.39	31.61	-	-	Peak
165.8	37.88	-5.62	43.5	54.47	13.47	1.51	31.57	-	-	Peak
235.64	40.31	-5.69	46	58.05	12.04	1.67	31.45	-	-	Peak
269.59	43.28	-2.72	46	59.78	13.18	1.69	31.37	130	23	Peak
411.21	30.06	-15.94	46	42.82	16.65	1.96	31.37	-	-	Peak
580.96	30.79	-15.21	46	40.19	19.64	2.28	31.32	-	-	Peak
2452	93.26	-	-	95.84	27.08	4.8	34.46	180	121	Average
2452	103.33	-	-	105.91	27.08	4.8	34.46	180	121	Peak
4904	31.08	-22.92	54	26.26	31.18	6.65	33.01	111	0	Average
4904	44.48	-29.52	74	39.66	31.18	6.65	33.01	111	0	Peak
7356	37.31	-16.69	54	27.68	35.75	8.24	34.36	109	24	Average
7356	50.36	-23.64	74	40.73	35.75	8.24	34.36	109	24	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2452 MHz is fundamental signal which can be ignored.		

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
49.4	33.47	-6.53	40	49.43	14.59	1.24	31.79	-	-	Peak
65.89	33.62	-6.38	40	51.47	12.72	1.22	31.79	105	74	Peak
100.81	33.88	-9.62	43.5	55.04	9.23	1.25	31.64	-	-	Peak
125.06	34.54	-8.96	43.5	52.79	11.96	1.4	31.61	-	-	Peak
269.59	34.21	-11.79	46	50.71	13.18	1.69	31.37	-	-	Peak
580.96	31.97	-14.03	46	41.37	19.64	2.28	31.32	-	-	Peak
2452	94.39	-	-	96.97	27.08	4.8	34.46	112	89	Average
2452	105.47	-	-	108.05	27.08	4.8	34.46	112	89	Peak
4904	31.8	-22.2	54	26.98	31.18	6.65	33.01	100	47	Average
4904	45.03	-28.97	74	40.21	31.18	6.65	33.01	100	47	Peak
7356	36.81	-17.19	54	27.18	35.75	8.24	34.36	104	24	Average
7356	50.74	-23.26	74	41.11	35.75	8.24	34.36	104	24	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2422 MHz is fundamental signal which can be ignored.		

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
2231	35.75	-18.25	54	39.45	26.5	4.46	34.66	149	113	Average
2231	49.91	-24.09	74	53.61	26.5	4.46	34.66	149	113	Peak
2422	91.63	-	-	94.36	27	4.75	34.48	149	113	Average
2422	102.54	-	-	105.27	27	4.75	34.48	149	113	Peak
4844	31.85	-22.15	54	27.14	31.11	6.64	33.04	115	289	Average
4844	46.27	-27.73	74	41.56	31.11	6.64	33.04	115	289	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	03	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2422 MHz is fundamental signal which can be ignored.		

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
2231	36.28	-17.72	54	39.98	26.5	4.46	34.66	117	14	Average
2231	49.27	-24.73	74	52.97	26.5	4.46	34.66	117	14	Peak
2422	94.43	-	-	97.16	27	4.75	34.48	117	13	Average
2422	106.15	-	-	108.88	27	4.75	34.48	117	13	Peak
4844	31.8	-22.2	54	27.09	31.11	6.64	33.04	105	122	Average
4844	45.06	-28.94	74	40.35	31.11	6.64	33.04	105	122	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	91.47	-	-	94.12	27.04	4.78	34.47	148	113	Average
2437	102.61	-	-	105.26	27.04	4.78	34.47	148	113	Peak
4874	32.25	-21.75	54	27.48	31.15	6.64	33.02	114	297	Average
4874	46.6	-27.4	74	41.83	31.15	6.64	33.02	114	297	Peak
7311	37.12	-16.88	54	27.55	35.65	8.22	34.3	100	62	Average
7311	50.81	-23.19	74	41.24	35.65	8.22	34.3	100	62	Peak

<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	06	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2437 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
2437	94.27	-	-	96.92	27.04	4.78	34.47	117	13	Average
2437	105.6	-	-	108.25	27.04	4.78	34.47	117	13	Peak
4874	31.78	-22.22	54	27.01	31.15	6.64	33.02	106	129	Average
4874	44.9	-29.1	74	40.13	31.15	6.64	33.02	106	129	Peak
7311	37.54	-16.46	54	27.97	35.65	8.22	34.3	113	149	Average
7311	51.24	-22.76	74	41.67	35.65	8.22	34.3	113	149	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	2452 MHz is fundamental signal which can be ignored.		

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
134.99	37.68	-5.82	43.5	54.95	12.95	1.39	31.61	-	-	Peak
165.92	37.93	-5.57	43.5	54.53	13.46	1.51	31.57	-	-	Peak
235.61	40.49	-5.51	46	58.23	12.04	1.67	31.45	-	-	Peak
269.48	43.33	-2.67	46	59.84	13.17	1.69	31.37	128	21	Peak
411.26	30.21	-15.79	46	42.97	16.65	1.96	31.37	-	-	Peak
580.98	30.84	-15.16	46	40.24	19.64	2.28	31.32	-	-	Peak
2452	91.81	-	-	94.39	27.08	4.8	34.46	150	126	Average
2452	102.39	-	-	104.97	27.08	4.8	34.46	150	126	Peak
4904	32.51	-21.49	54	27.69	31.18	6.65	33.01	112	301	Average
4904	46.74	-27.26	74	41.92	31.18	6.65	33.01	112	301	Peak
7356	37.11	-16.89	54	27.48	35.75	8.24	34.36	100	57	Average
7356	51.25	-22.75	74	41.62	35.75	8.24	34.36	100	57	Peak



<b>Test Mode :</b>	2.4GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	09	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	2452 MHz is fundamental signal which can be ignored.		

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
49.53	33.58	-6.42	40	49.54	14.59	1.24	31.79	-	-	Peak
65.773	33.81	-6.19	40	51.63	12.75	1.22	31.79	101	152	Peak
100.835	33.93	-9.57	43.5	55.09	9.23	1.25	31.64	-	-	Peak
125.12	34.63	-8.87	43.5	52.88	11.96	1.4	31.61	-	-	Peak
269.69	34.38	-11.62	46	50.88	13.18	1.69	31.37	-	-	Peak
580.91	32.21	-13.79	46	41.61	19.64	2.28	31.32	-	-	Peak
2452	94.43	-	-	97.01	27.08	4.8	34.46	114	11	Average
2452	106.25	-	-	108.83	27.08	4.8	34.46	114	11	Peak
4904	32.07	-21.93	54	27.25	31.18	6.65	33.01	111	135	Average
4904	45.44	-28.56	74	40.62	31.18	6.65	33.01	111	135	Peak
7356	37.31	-16.69	54	27.68	35.75	8.24	34.36	115	158	Average
7356	51.47	-22.53	74	41.84	35.75	8.24	34.36	115	158	Peak



Test Mode :	802.11a - Chain Port 0	Temperature :	25°C
Test Channel :	149	Relative Humidity :	65%
Test Engineer :	Haru Yang	Polarization :	Horizontal
Remark :	5745 MHz is fundamental signal which can be ignored.		

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
133.79	37.95	-5.55	43.5	55.35	12.82	1.39	31.61	-	-	Peak
164.83	39.25	-4.25	43.5	55.81	13.51	1.51	31.58	-	-	Peak
205.57	39.06	-4.44	43.5	58.04	10.87	1.68	31.53	-	-	Peak
236.61	41.03	-4.97	46	58.71	12.1	1.67	31.45	-	-	Peak
272.5	43.13	-2.87	46	59.51	13.3	1.69	31.37	111	229	Peak
294.81	36.99	-9.01	46	52.69	13.9	1.71	31.31	-	-	Peak
5400	54.84	-19.16	74	49.42	31.46	6.9	32.94	100	258	Peak
5400	42.12	-11.88	54	36.7	31.46	6.9	32.94	100	258	Average
5745	96.27	-	-	90.16	31.89	7.25	33.03	120	115	Average
5745	105.86	-	-	99.75	31.89	7.25	33.03	120	115	Peak
7660	49.52	-4.48	54	39.59	36.26	8.35	34.68	127	102	Average
7660	55.56	-18.44	74	45.63	36.26	8.35	34.68	127	102	Peak
11490	44.34	-9.66	54	29.52	40.01	10.04	35.23	112	322	Average
11490	59.41	-14.59	74	44.59	40.01	10.04	35.23	112	322	Peak



<b>Test Mode :</b>	802.11a - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5745 MHz is fundamental signal which can be ignored.		

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
48.43	33.73	-6.27	40	49.7	14.57	1.25	31.79	-	-	Peak
62.98	34.88	-5.12	40	52.16	13.3	1.21	31.79	103	55	Peak
124.09	34.4	-9.1	43.5	52.75	11.87	1.4	31.62	-	-	Peak
184.23	33.14	-10.36	43.5	51.67	11.52	1.51	31.56	-	-	Peak
281.23	35.15	-10.85	46	51.18	13.62	1.7	31.35	-	-	Peak
386.96	31.33	-14.67	46	44.72	16.06	1.92	31.37	-	-	Peak
5400	55.1	-18.9	74	49.68	31.46	6.9	32.94	114	163	Peak
5400	42.57	-11.43	54	37.15	31.46	6.9	32.94	114	163	Average
5745	95.3	-	-	89.19	31.89	7.25	33.03	123	15	Average
5745	105.18	-	-	99.07	31.89	7.25	33.03	123	15	Peak
7660	47.79	-6.21	54	37.86	36.26	8.35	34.68	127	131	Average
7660	54.48	-19.52	74	44.55	36.26	8.35	34.68	127	131	Peak
11490	41.67	-12.33	54	26.85	40.01	10.04	35.23	100	274	Average
11490	55.65	-18.35	74	40.83	40.01	10.04	35.23	100	274	Peak





<b>Test Mode :</b>	802.11a - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5785 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5785	96.93	-	-	90.78	31.96	7.23	33.04	119	115	Average
5785	106.45	-	-	100.3	31.96	7.23	33.04	119	115	Peak
7713	48.39	-5.61	54	38.46	36.31	8.33	34.71	124	98	Average
7713	54.91	-19.09	74	44.98	36.31	8.33	34.71	124	98	Peak
11570	46.17	-7.83	54	31.47	39.83	10.08	35.21	113	319	Average
11570	59.44	-14.56	74	44.74	39.83	10.08	35.21	113	319	Peak

<b>Test Mode :</b>	802.11a - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5785 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5785	95.78	-	-	89.63	31.96	7.23	33.04	112	1	Average
5785	105.32	-	-	99.17	31.96	7.23	33.04	112	1	Peak
7713	47.05	-6.95	54	37.12	36.31	8.33	34.71	124	122	Average
7713	53.7	-20.3	74	43.77	36.31	8.33	34.71	124	122	Peak
11570	42.04	-11.96	54	27.34	39.83	10.08	35.21	100	296	Average
11570	55.49	-18.51	74	40.79	39.83	10.08	35.21	100	296	Peak



<b>Test Mode :</b>	802.11a - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. 7766MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 106.34dBμV/m - 20dB = 86.34 dBμV/m.		

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
5400	55.08	-18.92	74	49.66	31.46	6.9	32.94	103	217	Peak
5400	41.97	-12.03	54	36.55	31.46	6.9	32.94	103	217	Average
5825	96.54	-	-	90.35	32.02	7.23	33.06	118	117	Average
5825	106.34	-	-	100.15	32.02	7.23	33.06	118	117	Peak
7766	54	-32.34	86.34	44.07	36.37	8.31	34.75	126	98	Peak
11650	45.93	-8.07	54	31.36	39.64	10.12	35.19	100	316	Average
11650	58.83	-15.17	74	44.26	39.64	10.12	35.19	100	316	Peak

<b>Test Mode :</b>	802.11a - Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. 7766MHz is not 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
5400	55.26	-18.74	74	49.84	31.46	6.9	32.94	115	170	Peak
5400	42.85	-11.15	54	37.43	31.46	6.9	32.94	115	170	Average
5825	95.23	-	-	89.04	32.02	7.23	33.06	172	28	Average
5825	104.93	-	-	98.74	32.02	7.23	33.06	172	28	Peak
7766	54.04	-30.89	84.93	44.11	36.37	8.31	34.75	126	134	Peak
11650	42.36	-11.64	54	27.79	39.64	10.12	35.19	100	263	Average
11650	55.71	-18.29	74	41.14	39.64	10.12	35.19	100	263	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5745 MHz is fundamental signal which can be ignored.		

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
5400	42.23	-11.77	54	36.81	31.46	6.9	32.94	102	254	Average
5400	54.8	-19.2	74	49.38	31.46	6.9	32.94	102	254	Peak
5745	95.54	-	-	89.43	31.89	7.25	33.03	122	115	Average
5745	105.75	-	-	99.64	31.89	7.25	33.03	122	115	Peak
7660	49.35	-4.65	54	39.42	36.26	8.35	34.68	125	99	Average
7660	55.75	-18.25	74	45.82	36.26	8.35	34.68	125	99	Peak
11490	44.56	-9.44	54	29.74	40.01	10.04	35.23	110	318	Average
11490	59.48	-14.52	74	44.66	40.01	10.04	35.23	110	318	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5745 MHz is fundamental signal which can be ignored.		

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
5400	54.85	-19.15	74	49.43	31.46	6.9	32.94	115	159	Peak
5400	42.68	-11.32	54	37.26	31.46	6.9	32.94	115	159	Average
5745	94.8	-	-	88.69	31.89	7.25	33.03	124	10	Average
5745	104.99	-	-	98.88	31.89	7.25	33.03	124	10	Peak
7660	48.05	-5.95	54	38.12	36.26	8.35	34.68	122	135	Average
7660	54.78	-19.22	74	44.85	36.26	8.35	34.68	122	135	Peak
11490	41.85	-12.15	54	27.03	40.01	10.04	35.23	100	271	Average
11490	55.78	-18.22	74	40.96	40.01	10.04	35.23	100	271	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5785 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5785	96.38	-	-	90.23	31.96	7.23	33.04	121	113	Average
5785	106.27	-	-	100.12	31.96	7.23	33.04	121	113	Peak
7713	48.5	-5.5	54	38.57	36.31	8.33	34.71	125	103	Average
7713	55.29	-18.71	74	45.36	36.31	8.33	34.71	125	103	Peak
11570	46.38	-7.62	54	31.68	39.83	10.08	35.21	114	327	Average
11570	60.04	-13.96	74	45.34	39.83	10.08	35.21	114	327	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5785 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level (dBµV)	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5785	95.45	-	-	89.3	31.96	7.23	33.04	108	12	Average
5785	105.17	-	-	99.02	31.96	7.23	33.04	108	12	Peak
7713	47.27	-6.73	54	37.34	36.31	8.33	34.71	122	138	Average
7713	53.87	-20.13	74	43.94	36.31	8.33	34.71	122	138	Peak
11570	42.21	-11.79	54	27.51	39.83	10.08	35.21	100	312	Average
11570	55.66	-18.34	74	40.96	39.83	10.08	35.21	100	312	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. 7766MHz is not 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
5400	55.6	-18.4	74	50.18	31.46	6.9	32.94	100	215	Peak
5400	42.29	-11.71	54	36.87	31.46	6.9	32.94	100	215	Average
5825	96.35	-	-	90.16	32.02	7.23	33.06	115	120	Average
5825	106.08	-	-	99.89	32.02	7.23	33.06	115	120	Peak
7766	54.45	-31.63	86.08	44.52	36.37	8.31	34.75	127	103	Peak
11650	46.15	-7.85	54	31.58	39.64	10.12	35.19	100	322	Average
11650	58.91	-15.09	74	44.34	39.64	10.12	35.19	100	322	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. 7766MHz is not 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
5400	55.38	-18.62	74	49.96	31.46	6.9	32.94	110	165	Peak
5400	42.71	-11.29	54	37.29	31.46	6.9	32.94	110	165	Average
5825	95.05	-	-	88.86	32.02	7.23	33.06	153	19	Average
5825	105	-	-	98.81	32.02	7.23	33.06	153	19	Peak
7766	54.3	-30.7	85	44.37	36.37	8.31	34.75	122	135	Peak
11650	42.15	-11.85	54	27.58	39.64	10.12	35.19	102	271	Average
11650	56.11	-17.89	74	41.54	39.64	10.12	35.19	102	271	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5745 MHz is fundamental signal which can be ignored.		

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
133.82	38.14	-5.36	43.5	55.54	12.82	1.39	31.61	-	-	Peak
164.88	39.33	-4.17	43.5	55.9	13.5	1.51	31.58	-	-	Peak
205.63	39.21	-4.29	43.5	58.19	10.87	1.68	31.53	-	-	Peak
236.58	41.12	-4.88	46	58.81	12.09	1.67	31.45	-	-	Peak
272.52	43.26	-2.74	46	59.64	13.3	1.69	31.37	105	301	Peak
294.78	37.18	-8.82	46	52.88	13.9	1.71	31.31	-	-	Peak
5400	55.98	-18.02	74	50.56	31.46	6.9	32.94	100	254	Peak
5400	43.55	-10.45	54	38.13	31.46	6.9	32.94	100	254	Average
5745	92.82	-	-	86.71	31.89	7.25	33.03	136	116	Average
5745	104.02	-	-	97.91	31.89	7.25	33.03	136	116	Peak
7660	46.78	-7.22	54	36.85	36.26	8.35	34.68	127	95	Average
7660	55.04	-18.96	74	45.11	36.26	8.35	34.68	127	95	Peak
11490	41.36	-12.64	54	26.54	40.01	10.04	35.23	110	310	Average
11490	54.97	-19.03	74	40.15	40.01	10.04	35.23	110	310	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	149	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5745 MHz is fundamental signal which can be ignored.		

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
48.46	33.82	-6.18	40	49.79	14.57	1.25	31.79	-	-	Peak
62.99	34.92	-5.08	40	52.2	13.3	1.21	31.79	105	68	Peak
124.16	34.49	-9.01	43.5	52.84	11.87	1.4	31.62	-	-	Peak
184.26	33.28	-10.22	43.5	51.81	11.52	1.51	31.56	-	-	Peak
281.32	35.28	-10.72	46	51.29	13.63	1.7	31.34	-	-	Peak
387.12	31.46	-14.54	46	44.84	16.07	1.92	31.37	-	-	Peak
5400	55.51	-18.49	74	50.09	31.46	6.9	32.94	110	163	Peak
5400	43.78	-10.22	54	38.36	31.46	6.9	32.94	110	163	Average
5745	96.52	-	-	90.41	31.89	7.25	33.03	105	181	Average
5745	108.52	-	-	102.41	31.89	7.25	33.03	105	181	Peak
7660	48.54	-5.46	54	38.61	36.26	8.35	34.68	118	127	Average
7660	56.08	-17.92	74	46.15	36.26	8.35	34.68	118	127	Peak
11490	41.42	-12.58	54	26.6	40.01	10.04	35.23	104	251	Average
11490	55.56	-18.44	74	40.74	40.01	10.04	35.23	104	251	Peak



<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5785 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5785	93.94	-	-	87.79	31.96	7.23	33.04	135	109	Average
5785	105.24	-	-	99.09	31.96	7.23	33.04	135	109	Peak
7713	46.5	-7.5	54	36.57	36.31	8.33	34.71	127	95	Average
7713	54.14	-19.86	74	44.21	36.31	8.33	34.71	127	95	Peak
11570	42.41	-11.59	54	27.71	39.83	10.08	35.21	126	317	Average
11570	56.39	-17.61	74	41.69	39.83	10.08	35.21	126	317	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	157	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5785 MHz is fundamental signal which can be ignored.		

Frequency ( MHz )	Level ( dBµV/m )	Over Limit ( dB )	Limit Line ( dBµV/m )	Read Level ( dBµV )	Antenna Factor ( dB )	Cable Loss ( dB )	Preamp Factor ( dB )	Ant Pos ( cm )	Table Pos ( deg )	Remark
5785	96.84	-	-	90.69	31.96	7.23	33.04	106	181	Average
5785	108.75	-	-	102.6	31.96	7.23	33.04	106	181	Peak
7713	47.18	-6.82	54	37.25	36.31	8.33	34.71	125	130	Average
7713	54.2	-19.8	74	44.27	36.31	8.33	34.71	125	130	Peak
11570	42.43	-11.57	54	27.73	39.83	10.08	35.21	121	251	Average
11570	56.28	-17.72	74	41.58	39.83	10.08	35.21	121	251	Peak





<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. 7766MHz is not 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
5400	56	-18	74	50.58	31.46	6.9	32.94	100	255	Peak
5400	43.63	-10.37	54	38.21	31.46	6.9	32.94	100	255	Average
5825	93.49	-	-	87.3	32.02	7.23	33.06	135	110	Average
5825	104.14	-	-	97.95	32.02	7.23	33.06	135	110	Peak
7766	54.63	-29.51	84.14	44.7	36.37	8.31	34.75	125	95	Peak
11650	43.23	-10.77	54	28.66	39.64	10.12	35.19	105	320	Average
11650	57.63	-16.37	74	43.06	39.64	10.12	35.19	105	320	Peak

<b>Test Mode :</b>	5GHz 802.11n HT20 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	165	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	1. 5825 MHz is fundamental signal which can be ignored. 2. 7766MHz is not 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
5400	55.58	-18.42	74	50.16	31.46	6.9	32.94	115	160	Peak
5400	43.63	-10.37	54	38.21	31.46	6.9	32.94	115	167	Average
5825	96.69	-	-	90.5	32.02	7.23	33.06	104	182	Average
5825	108.29	-	-	102.1	32.02	7.23	33.06	104	182	Peak
7766	55.39	-32.9	88.29	45.46	36.37	8.31	34.75	124	276	Peak
11650	42.12	-11.88	54	27.55	39.64	10.12	35.19	108	55	Average
11650	56.15	-17.85	74	41.58	39.64	10.12	35.19	108	55	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5755 MHz is fundamental signal which can be ignored.		

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
5400	55.13	-18.87	74	49.71	31.46	6.9	32.94	100	255	Peak
5400	42.51	-11.49	54	37.09	31.46	6.9	32.94	100	255	Average
5755	94.42	-	-	88.29	31.91	7.25	33.03	115	109	Average
5755	104.36	-	-	98.23	31.91	7.25	33.03	115	109	Peak
7673	46.84	-7.16	54	36.9	36.27	8.35	34.68	123	96	Average
7673	53.59	-20.41	74	43.65	36.27	8.35	34.68	123	96	Peak
11510	44.23	-9.77	54	29.43	39.98	10.05	35.23	108	321	Average
11510	59.17	-14.83	74	44.37	39.98	10.05	35.23	108	321	Peak

<b>Test Mode :</b>	5GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	151	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5755 MHz is fundamental signal which can be ignored.		

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
5400	55.17	-18.83	74	49.75	31.46	6.9	32.94	113	156	Peak
5400	42.97	-11.03	54	37.55	31.46	6.9	32.94	113	156	Average
5755	94.62	-	-	88.49	31.91	7.25	33.03	106	191	Average
5755	104.72	-	-	98.59	31.91	7.25	33.03	106	191	Peak
7673	48.11	-5.89	54	38.17	36.27	8.35	34.68	135	125	Average
7673	54.55	-19.45	74	44.61	36.27	8.35	34.68	135	125	Peak
11510	41.55	-12.45	54	26.75	39.98	10.05	35.23	100	263	Average
11510	55.43	-18.57	74	40.63	39.98	10.05	35.23	100	263	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5795 MHz is fundamental signal which can be ignored.		

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
5400	55.2	-18.8	74	49.78	31.46	6.9	32.94	100	250	Peak
5400	42.66	-11.34	54	37.24	31.46	6.9	32.94	100	250	Average
5795	94.65	-	-	88.51	31.97	7.22	33.05	118	108	Average
5795	104.7	-	-	98.56	31.97	7.22	33.05	118	108	Peak
7726	46.93	-7.07	54	37	36.33	8.32	34.72	124	93	Average
7726	53.83	-20.17	74	43.9	36.33	8.32	34.72	124	93	Peak
11590	44.43	-9.57	54	29.77	39.78	10.09	35.21	105	318	Average
11590	59.24	-14.76	74	44.58	39.78	10.09	35.21	105	318	Peak

<b>Test Mode :</b>	5GHz 802.11n HT40 – Chain Port 0	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5795 MHz is fundamental signal which can be ignored.		

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
5400	55.23	-18.77	74	49.81	31.46	6.9	32.94	110	159	Peak
5400	43.12	-10.88	54	37.7	31.46	6.9	32.94	110	159	Average
5795	94.75	-	-	88.61	31.97	7.22	33.05	105	190	Average
5795	104.85	-	-	98.71	31.97	7.22	33.05	105	190	Peak
7726	48.23	-5.77	54	38.3	36.33	8.32	34.72	131	123	Average
7726	54.73	-19.27	74	44.8	36.33	8.32	34.72	131	123	Peak
11590	41.69	-12.31	54	27.03	39.78	10.09	35.21	100	260	Average
11590	55.63	-18.37	74	40.97	39.78	10.09	35.21	100	260	Peak



Test Mode :	5GHz 802.11n HT40 – Chain Port 0+1	Temperature :	25°C
Test Channel :	151	Relative Humidity :	65%
Test Engineer :	Haru Yang	Polarization :	Horizontal
Remark :	5755 MHz is fundamental signal which can be ignored.		

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
5400	55.73	-18.27	74	50.31	31.46	6.9	32.94	100	260	Peak
5400	43.34	-10.66	54	37.92	31.46	6.9	32.94	100	260	Average
5755	90.12	-	-	83.99	31.91	7.25	33.03	119	120	Average
5755	100.52	-	-	94.39	31.91	7.25	33.03	119	120	Peak
7673	47.49	-6.51	54	37.55	36.27	8.35	34.68	123	95	Average
7673	54.49	-19.51	74	44.55	36.27	8.35	34.68	123	95	Peak
11510	41.74	-12.26	54	26.94	39.98	10.05	35.23	101	318	Average
11510	55.42	-18.58	74	40.62	39.98	10.05	35.23	101	318	Peak

Test Mode :	5GHz 802.11n HT40 – Chain Port 0+1	Temperature :	25°C
Test Channel :	151	Relative Humidity :	65%
Test Engineer :	Haru Yang	Polarization :	Vertical
Remark :	5755 MHz is fundamental signal which can be ignored.		

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
5400	55.16	-18.84	74	49.74	31.46	6.9	32.94	118	164	Peak
5400	43.27	-10.73	54	37.85	31.46	6.9	32.94	118	164	Average
5755	93.42	-	-	87.29	31.91	7.25	33.03	104	182	Average
5755	104.47	-	-	98.34	31.91	7.25	33.03	104	182	Peak
7673	47.28	-6.72	54	37.34	36.27	8.35	34.68	128	120	Average
7673	54.26	-19.74	74	44.32	36.27	8.35	34.68	128	120	Peak
11510	41.21	-12.79	54	26.41	39.98	10.05	35.23	116	31	Average
11510	54.94	-19.06	74	40.14	39.98	10.05	35.23	116	31	Peak



<b>Test Mode :</b>	5GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Horizontal
<b>Remark :</b>	5795 MHz is fundamental signal which can be ignored.		

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
5400	56.1	-17.9	74	50.68	31.46	6.9	32.94	100	254	Peak
5400	43.55	-10.45	54	38.13	31.46	6.9	32.94	100	254	Average
5795	90.58	-	-	84.44	31.97	7.22	33.05	136	109	Average
5795	100.7	-	-	94.56	31.97	7.22	33.05	136	109	Peak
7726	47.31	-6.69	54	37.38	36.33	8.32	34.72	101	66	Average
7726	54.15	-19.85	74	44.22	36.33	8.32	34.72	101	66	Peak
11590	42.36	-11.64	54	27.7	39.78	10.09	35.21	108	147	Average
11590	56.36	-17.64	74	41.7	39.78	10.09	35.21	108	147	Peak

<b>Test Mode :</b>	5GHz 802.11n HT40 – Chain Port 0+1	<b>Temperature :</b>	25°C
<b>Test Channel :</b>	159	<b>Relative Humidity :</b>	65%
<b>Test Engineer :</b>	Haru Yang	<b>Polarization :</b>	Vertical
<b>Remark :</b>	5795 MHz is fundamental signal which can be ignored.		

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
5400	55.28	-18.72	74	49.86	31.46	6.9	32.94	120	160	Peak
5400	43.33	-10.67	54	37.91	31.46	6.9	32.94	120	160	Average
5795	93.75	-	-	87.61	31.97	7.22	33.05	105	181	Average
5795	104.25	-	-	98.11	31.97	7.22	33.05	105	181	Peak
7726	48.21	-5.79	54	38.28	36.33	8.32	34.72	106	33	Average
7726	55.41	-18.59	74	45.48	36.33	8.32	34.72	106	33	Peak
11590	41.2	-12.8	54	26.54	39.78	10.09	35.21	122	91	Average
11590	55.13	-18.87	74	40.47	39.78	10.09	35.21	122	91	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 $\mu$ 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.

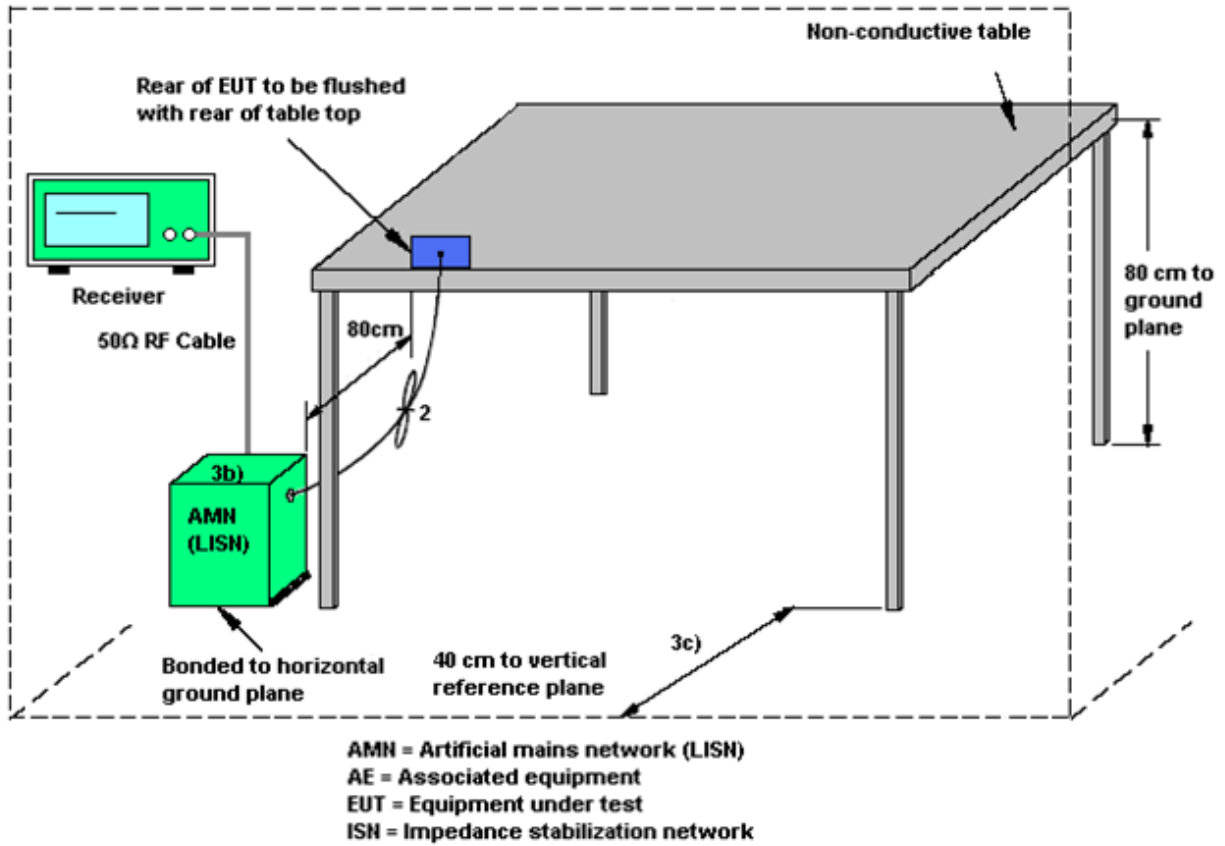
### 3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

### 3.6.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009.
2. 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.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

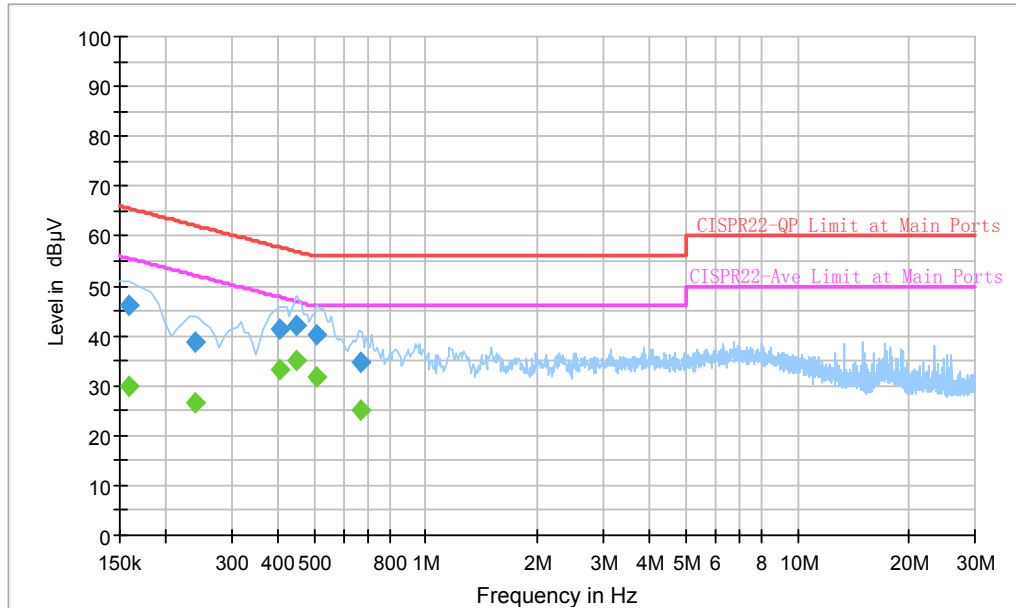
### 3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN Link (2.4GHz) + LAN Link + TC + USB Cable (Charging from Adapter)		

ENV216 Auto Test



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	46.0	Off	L1	19.3	19.6	65.6
0.238000	38.6	Off	L1	19.5	23.6	62.2
0.406000	41.2	Off	L1	19.4	16.5	57.7
0.446000	42.2	Off	L1	19.3	14.7	56.9
0.510000	40.2	Off	L1	19.4	15.8	56.0
0.670000	34.6	Off	L1	19.5	21.4	56.0

Final Result : Average

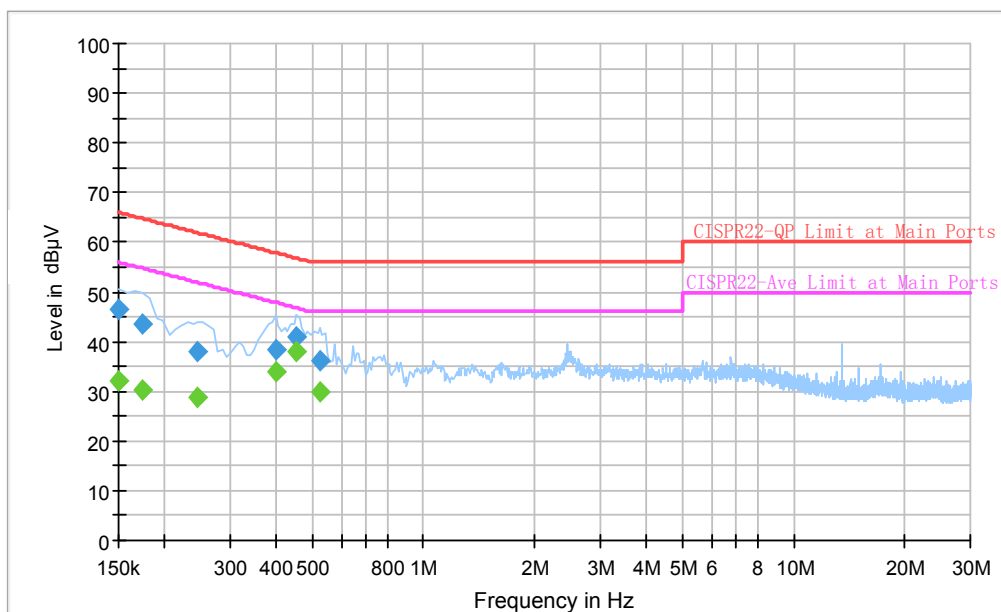
Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.158000	30.1	Off	L1	19.3	25.5	55.6
0.238000	26.6	Off	L1	19.5	25.6	52.2
0.406000	33.2	Off	L1	19.4	14.5	47.7
0.446000	34.9	Off	L1	19.3	12.0	46.9
0.510000	31.6	Off	L1	19.4	14.4	46.0
0.670000	25.0	Off	L1	19.5	21.0	46.0





Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link (2.4GHz) + LAN Link + TC + USB Cable (Charging from Adapter)		

ENV216 Auto Test



**Final Result : QuasiPeak**

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	46.4	Off	N	19.4	19.6	66.0
0.174000	43.7	Off	N	19.4	21.1	64.8
0.246000	38.0	Off	N	19.4	23.9	61.9
0.398000	38.5	Off	N	19.5	19.4	57.9
0.454000	41.1	Off	N	19.3	15.7	56.8
0.526000	36.3	Off	N	19.4	19.7	56.0

**Final Result : Average**

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.150000	32.1	Off	N	19.4	23.9	56.0
0.174000	30.3	Off	N	19.4	24.5	54.8
0.246000	28.9	Off	N	19.4	23.0	51.9
0.398000	33.8	Off	N	19.5	14.1	47.9
0.454000	37.8	Off	N	19.3	9.0	46.8
0.526000	29.8	Off	N	19.4	16.2	46.0

### 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	2.70	3.50	3.12	6.13	0.00	0.13
5 GHz	5.00	4.20	4.62	7.63	0.00	1.63

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

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



## 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. 21, 2013~ Jul. 01, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Jun. 21, 2013~ Jul. 01, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Jun. 21, 2013~ Jul. 01, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz~2.75GHz	Nov. 13, 2012	Aug. 01, 2013	Nov. 12, 2013	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 12, 2012	Aug. 01, 2013	Dec. 11, 2013	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 06, 2012	Aug. 01, 2013	Dec. 05, 2013	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Aug. 01, 2013	N/A	Conduction (CO05-HY)
Spectrum Analyzer	R&S	ESU26	100390	20Hz~26.5GHz	Dec. 14, 2012	Jul. 23, 2013	Dec. 13, 2013	Radiation (03CH08-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 MHz	Jul. 03, 2012	Jul. 23, 2013	Jul. 03, 2014	Radiation (03CH08-HY)
Bilog Antenna	Schaffner	CBL6111C	2725	30MHz~2GHz	Oct. 06, 2012	Jul. 23, 2013	Oct. 05, 2013	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	66584	1GHz~18GHz	Aug. 10, 2012	Jul. 23, 2013	Aug. 09, 2013	Radiation (03CH08-HY)
Pre Amplifier	Agilent	8449B	3008A02665	1GHz~26.5GHz	Aug. 28, 2012	Jul. 23, 2013	Aug. 27, 2013	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Jul. 23, 2013	Sep. 27, 2013	Radiation (03CH08-HY)
Pre Amplifier	COM-POWER	PA-103	161075	10-1000MHz.32 dB.GAIN	Feb. 26, 2013	Jul. 23, 2013	Feb. 25, 2014	Radiation (03CH08-HY)
Turn Table	HD	Deis HD 2000	420/611	0 ~ 360 degree	N/A	Jul. 23, 2013	N/A	Radiation (03CH08-HY)
Antenna Mast	HD	MA 240	240/666	1 m ~ 4 m	N/A	Jul. 23, 2013	N/A	Radiation (03CH08-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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