

FCC RF Test Report

APPLICANT : Igluu LLC
EQUIPMENT : Digital Media Receiver
MODEL NAME : SK705DI
FCC ID : ZWJ-0823
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The testing completed on May 23, 2014. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

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



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



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

Report No. : FR273180-04B
Report Version : Rev. 01
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REVISION HISTORY

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SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 0.26 dB at 2389.920 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 20.10 dB at 0.174 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Igluu LLC

830 Bear Tavern Road Suite 305 West Trenton, NJ 08628

1.2 Feature of Equipment Under Test

Product Feature	
Equipment	Digital Media Receiver
Model Name	SK705DI
FCC ID	ZWJ-0823
EUT supports Radios application	WLAN 11a/b/g/n HT20/HT40 Bluetooth v2.0 EDR

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

1.3 Product Specification of Equipment Under Test

Product Specification subjective to this standard																
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.															
Maximum (Peak) Output Power to antenna	<p><Ant. 1> <2412 MHz ~ 2462 MHz > 802.11b : 20.41 dBm (0.1099 W) 802.11g : 22.25 dBm (0.1679 W) 802.11n HT20 : 22.53 dBm (0.1791 W) 802.11n HT40 : 15.64 dBm (0.0366 W)</p> <p><5745 MHz ~ 5825 MHz > 802.11a : 19.06 dBm (0.0805 W) 802.11n HT20 : 19.22 dBm (0.0836 W) 802.11n HT40 : 18.09 dBm (0.0644 W)</p> <p>MIMO <Ant. 1+2> <2412 MHz ~ 2462 MHz > 802.11n HT20 : 25.47 dBm (0.3524 W) 802.11n HT40 : 18.35 dBm (0.0684 W)</p> <p><5745 MHz ~ 5825 MHz > 802.11n HT20 : 22.38 dBm (0.1730 W) 802.11n HT40 : 21.32 dBm (0.1355 W)</p>															
Antenna Type	<p><Ant 1> 802.11b/g/n : Fixed Internal Antenna type with gain 5.42 dBi 802.11a/n : Fixed Internal Antenna type with gain 5.74 dBi</p> <p><Ant 2> 802.11b/g/n : Fixed Internal Antenna type with gain 3.45 dBi 802.11a/n : Fixed Internal Antenna type with gain 4.30 dBi</p>															
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)															
Antenna Function for Transmitter	<table border="1"> <thead> <tr> <th></th> <th>Ant. 1</th> <th>Ant. 2</th> </tr> </thead> <tbody> <tr> <td>802.11 b</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 g</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 a</td> <td>V</td> <td>-</td> </tr> <tr> <td>802.11 n MIMO</td> <td>V</td> <td>V</td> </tr> </tbody> </table>		Ant. 1	Ant. 2	802.11 b	V	-	802.11 g	V	-	802.11 a	V	-	802.11 n MIMO	V	V
	Ant. 1	Ant. 2														
802.11 b	V	-														
802.11 g	V	-														
802.11 a	V	-														
802.11 n MIMO	V	V														

1.4 Modification of EUT

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

1.5 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1022 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-327-3456 FAX: +886-3-328-4978		
Test Site No.	Sporton Site No.		
	TH02-HY	CO05-HY	03CH08-HY

1.6 Applicable 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 v02r01.
- ANSI C63.4-2003

Remark:

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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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

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

2.1 Carrier Frequency and Channel

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

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

2.2 Pre-Scanned RF Power

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

<Ant. 1>

802.11b								
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps	20.41	20.31	20.26	20.31
Peak Power (dBm)								
802.11g								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	22.25	22.17	22.05	22.03	22.24	22.11	22.02	22.18
2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.53	22.42	22.34	22.35	22.35	22.34	22.47	22.03
2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	15.64	15.58	15.16	15.58	15.31	15.62	15.42	14.79
802.11a								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	19.06	18.92	18.72	18.79	19.05	18.96	18.62	18.81
5GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	19.22	19.19	19.18	19.20	19.20	19.19	19.05	19.04
5GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	18.09	17.75	17.81	18.05	18.01	17.85	17.88	17.61

MIMO <Ant. 1+2>

2.4GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	25.47	25.42	25.45	25.44	25.46	25.46	25.42	24.93
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	25.19	25.23	25.26	25.35	25.09	25.24	25.34	25.11

2.4GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	18.35	18.30	18.28	18.27	17.86	18.29	18.08	18.04
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	18.34	18.29	18.08	17.88	18.26	18.34	18.33	18.26

5GHz 802.11n HT20								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.38	22.34	22.32	22.36	22.37	22.34	22.38	21.85
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	21.59	21.49	21.58	22.34	22.19	22.34	22.32	22.30

5GHz 802.11n HT40								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.32	21.06	21.08	21.23	21.13	21.30	21.12	20.86
Data Rate (MHz)	MCS8	MCS9	MCS10	MCS11	MCS12	MCS13	MCS14	MCS15
Peak Power (dBm)	21.01	21.05	20.96	21.12	21.12	20.70	20.94	20.83

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

2.3 Test Mode

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

<2.4GHz>

Test Cases					
	Test Items	Mode	Data Rate	N _{Tx}	Test Channel
Conducted TCs	6dB BW Power Spectral Density	802.11b	1 Mbps	1	1/6/11
		802.11g	6 Mbps	1	1/6/11
		802.11n HT20	MCS0	1 & 2	1/6/11
		802.11n HT40	MCS0	1 & 2	3/6/9
	Output Power	802.11b	1 Mbps	1	1/6/11
		802.11g	6 Mbps	1	1/2/3/6/10/11
		802.11n HT20	MCS0	1 & 2	1/2/3/4/6/10/11
		802.11n HT40	MCS0	1 & 2	3/4/5/6/8/9
Radiated TCs	Conducted Band Edge	802.11b	1 Mbps	1	1/11
		802.11g	6 Mbps	1	1/11
		802.11n HT20	MCS0	1 & 2	1/11
		802.11n HT40	MCS0	1 & 2	3/9
	Conducted Spurious Emission	802.11b	1 Mbps	1	1/6/11
		802.11g	6 Mbps	1	1/6/11
		802.11n HT20	MCS0	1 & 2	1/6/11
		802.11n HT40	MCS0	1 & 2	3/6/9
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1	1/11
		802.11g	6 Mbps	1	1/2/3/10/11
		802.11n HT20	MCS0	1 & 2	1/2/3/4/6/10/11
		802.11n HT40	MCS0	1 & 2	3/4/5/6/8/9
	Radiated Spurious Emission	802.11b	1 Mbps	1	1/6/11
		802.11g	6 Mbps	1	1/6/11
		802.11n HT20	MCS0	1 & 2	1/6/11
		802.11n HT40	MCS0	1 & 2	3/6/9

<5GHz>

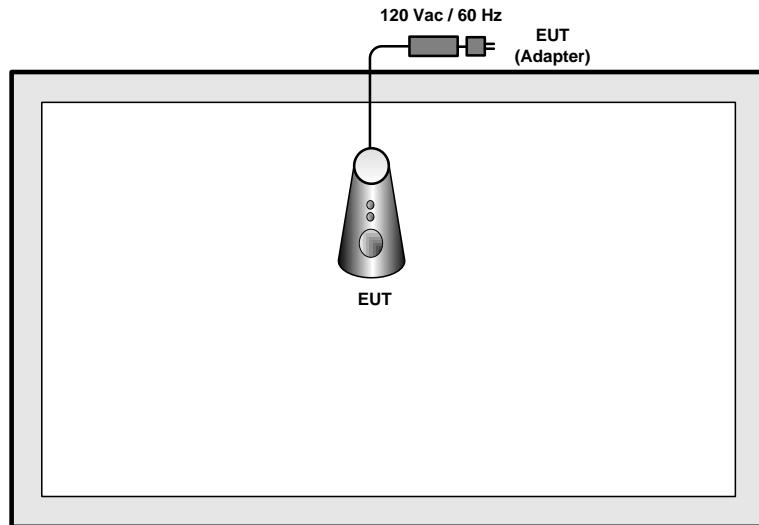
Test Cases					
	Test Items	Mode	Data Rate	N _{Tx}	Test Channel
Conducted TCs	6dB BW Power Spectral Density	802.11a	6 Mbps	1	149/157/165
		802.11n HT20	MCS0	1 & 2	149/157/165
		802.11n HT40	MCS0	1 & 2	151/159
	Output Power	802.11a	6 Mbps	1	149/157/165
		802.11n HT20	MCS0	1 & 2	149/157/165
		802.11n HT40	MCS0	1 & 2	151/159
	Conducted Band Edge	802.11a	6 Mbps	1	149/165
		802.11n HT20	MCS0	1 & 2	149/165
		802.11n HT40	MCS0	1 & 2	151/159
	Conducted Spurious Emission	802.11a	6 Mbps	1	149/157/165
		802.11n HT20	MCS0	1 & 2	149/157/165
		802.11n HT40	MCS0	1 & 2	151/159
Radiated TCs	Radiated Spurious Emission	802.11a	6 Mbps	1	149/157/165
		802.11n HT20	MCS0	1 & 2	149/157/165
		802.11n HT40	MCS0	1 & 2	151/159
AC Conducted Emission	Mode 1 : WLAN Link + Bluetooth Link + Adapter + MP3 Mode 2 : WLAN Link + Adapter + MP3				

Note:

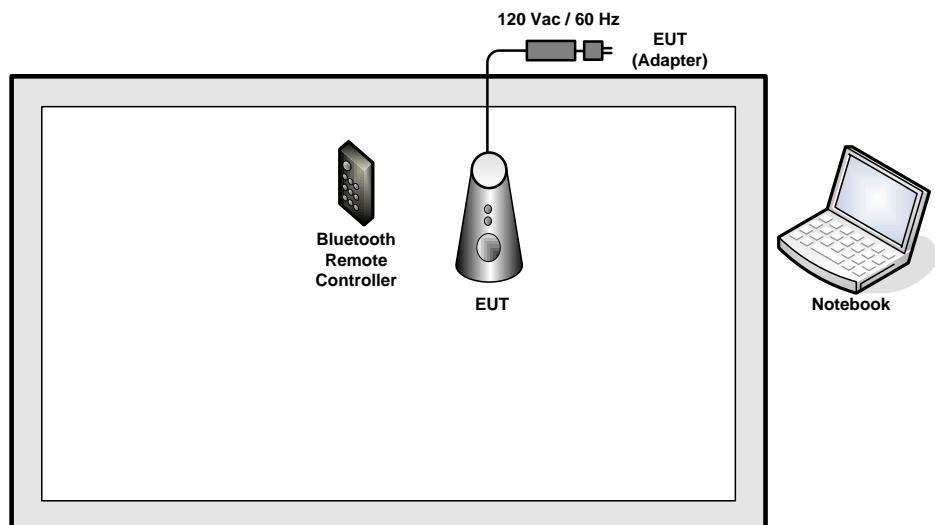
1. The N_{Tx} =2 means 2 antenna ports simultaneously transmit during test.
2. The worst case of conducted emission is mode 2; only the test data of it was reported.

2.4 Connection Diagram of Test System

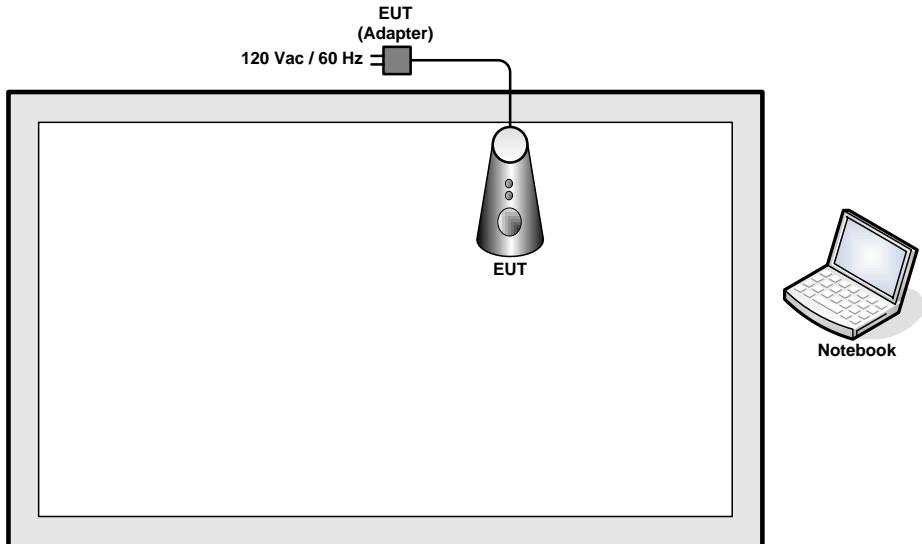
<WLAN Tx Mode>



< AC Conducted Emission with Bluetooth Remote Controller 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	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Bluetooth Remote Controller	N/A	PT346SK	2ACBD-0610	N/A	N/A

2.6 EUT Operation Test Setup

For WLAN function, programmed RF utility, “Putty” installed in the notebook make the EUT provide functions like channel selection and power level for continuous transmitting and receiving signals.

2.7 Measurement Results Explanation Example

For all conducted test items:

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

Example:

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

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

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

$$= 4.2 + 10 = 14.2 \text{ (dB)}$$

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.

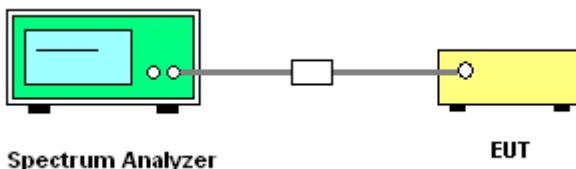
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



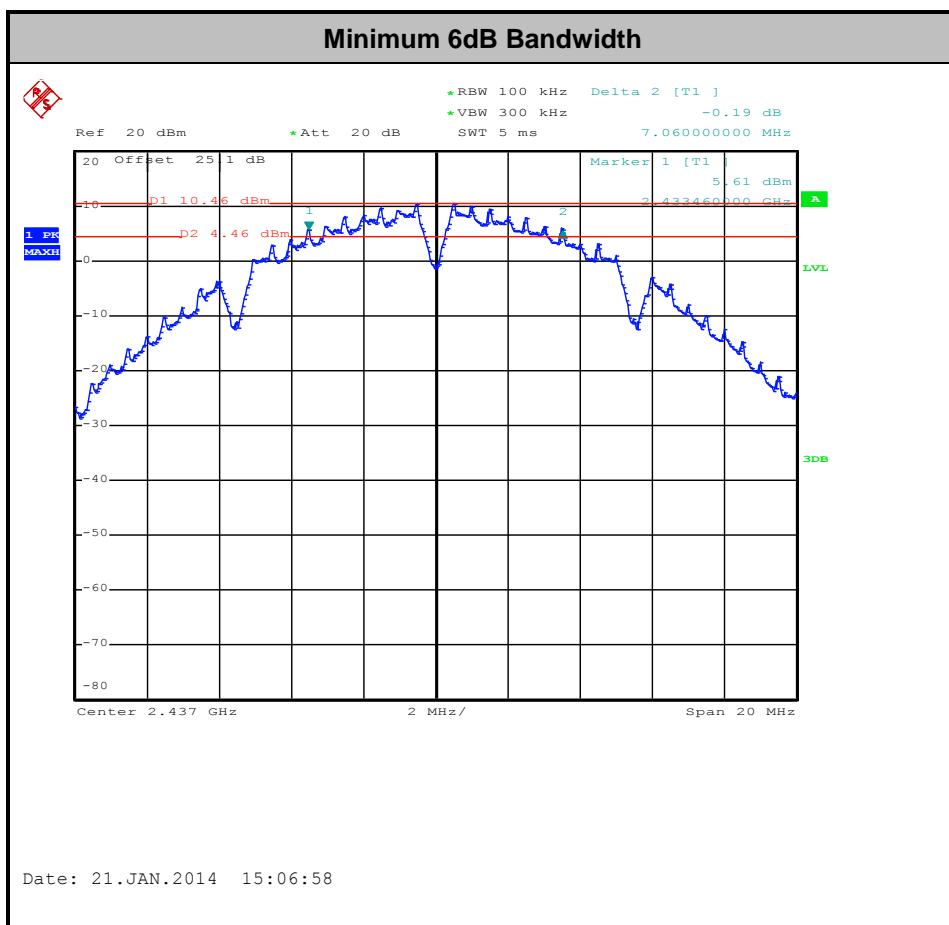
3.1.5 Test Result of 6dB Bandwidth

Test Band :	2.4GHz	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant. 1	Ant. 2		
11b	1Mbps	1	1	2412	7.10	-	0.5	Pass
11b	1Mbps	1	6	2437	7.06	-	0.5	Pass
11b	1Mbps	1	11	2462	7.08	-	0.5	Pass
11g	6Mbps	1	1	2412	16.30	-	0.5	Pass
11g	6Mbps	1	6	2437	16.28	-	0.5	Pass
11g	6Mbps	1	11	2462	16.32	-	0.5	Pass
HT20	MCS0	1	1	2412	17.56	-	0.5	Pass
HT20	MCS0	1	6	2437	17.22	-	0.5	Pass
HT20	MCS0	1	11	2462	17.54	-	0.5	Pass
HT40	MCS0	1	3	2422	35.04	-	0.5	Pass
HT40	MCS0	1	6	2437	35.04	-	0.5	Pass
HT40	MCS0	1	9	2452	35.04	-	0.5	Pass
HT20	MCS0	2	1	2412	16.80	17.56	0.5	Pass
HT20	MCS0	2	6	2437	16.80	17.22	0.5	Pass
HT20	MCS0	2	11	2462	16.80	17.52	0.5	Pass
HT40	MCS0	2	3	2422	35.04	35.04	0.5	Pass
HT40	MCS0	2	6	2437	35.04	35.04	0.5	Pass
HT40	MCS0	2	9	2452	35.08	35.08	0.5	Pass

Test Band :	5GHz	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)		6dB Bandwidth Min. Limit (MHz)	Pass/Fail
					Ant. 1	Ant. 2		
11a	6Mbps	1	149	5745	15.76	-	0.5	Pass
11a	6Mbps	1	157	5785	15.76	-	0.5	Pass
11a	6Mbps	1	165	5825	15.74	-	0.5	Pass
HT20	MCS0	1	149	5745	16.80	-	0.5	Pass
HT20	MCS0	1	157	5785	16.80	-	0.5	Pass
HT20	MCS0	1	165	5825	16.82	-	0.5	Pass
HT40	MCS0	1	151	5755	33.76	-	0.5	Pass
HT40	MCS0	1	159	5795	33.76	-	0.5	Pass
HT20	MCS0	2	149	5745	16.48	16.76	0.5	Pass
HT20	MCS0	2	157	5785	16.50	16.76	0.5	Pass
HT20	MCS0	2	165	5825	16.52	16.80	0.5	Pass
HT40	MCS0	2	151	5755	35.00	35.00	0.5	Pass
HT40	MCS0	2	159	5795	33.76	33.84	0.5	Pass



Note : The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

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.

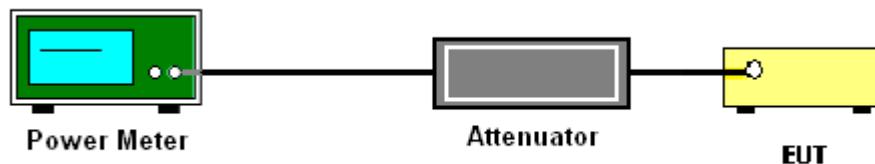
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v03r01.
2. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Measure the conducted output power and record the results in the test report.
5. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Band :	2.4GHz	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	SUM	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	18.68	-		30.00	30.00	5.42	3.45	Pass
11b	1Mbps	1	6	2437	20.41	-		30.00	30.00	5.42	3.45	Pass
11b	1Mbps	1	11	2462	20.23	-		30.00	30.00	5.42	3.45	Pass
11g	6Mbps	1	1	2412	14.18	-		30.00	30.00	5.42	3.45	Pass
11g	6Mbps	1	2	2417	17.46	-		30.00	30.00	5.42	3.45	Pass
11g	6Mbps	1	3	2422	19.81	-		30.00	30.00	5.42	3.45	Pass
11g	6Mbps	1	6	2437	22.25	-		30.00	30.00	5.42	3.45	Pass
11g	6Mbps	1	10	2457	20.12	-		30.00	30.00	5.42	3.45	Pass
11g	6Mbps	1	11	2462	16.86	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	1	2412	13.43	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	2	2417	18.14	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	3	2422	19.57	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	4	2427	20.34	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	6	2437	22.53	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	10	2457	20.22	-		30.00	30.00	5.42	3.45	Pass
HT20	MCS0	1	11	2462	16.21	-		30.00	30.00	5.42	3.45	Pass
HT40	MCS0	1	3	2422	9.74	-		30.00	30.00	5.42	3.45	Pass
HT40	MCS0	1	4	2427	11.51	-		30.00	30.00	5.42	3.45	Pass
HT40	MCS0	1	5	2432	13.34	-		30.00	30.00	5.42	3.45	Pass
HT40	MCS0	1	6	2437	15.64	-		30.00	30.00	5.42	3.45	Pass
HT40	MCS0	1	8	2447	13.91	-		30.00	30.00	5.42	3.45	Pass
HT40	MCS0	1	9	2452	11.98	-		30.00	30.00	5.42	3.45	Pass

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	SUM	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
HT20	MCS0	2	1	2412	13.14	11.72	15.50	28.50	28.50	7.50	7.50	Pass
HT20	MCS0	2	2	2417	17.83	16.74	20.33	28.50	28.50	7.50	7.50	Pass
HT20	MCS0	2	3	2422	19.07	19.01	22.05	28.50	28.50	7.50	7.50	Pass
HT20	MCS0	2	4	2427	21.44	20.75	24.12	28.50	28.50	7.50	7.50	Pass
HT20	MCS0	2	6	2437	22.49	22.43	25.47	28.50	28.50	7.50	7.50	Pass
HT20	MCS0	2	10	2457	21.58	22.01	24.81	28.50	28.50	7.50	7.50	Pass
HT20	MCS0	2	11	2462	14.40	14.07	17.25	28.50	28.50	7.50	7.50	Pass
HT40	MCS0	2	3	2422	8.71	8.05	11.40	28.50	28.50	7.50	7.50	Pass
HT40	MCS0	2	4	2427	11.41	10.65	14.06	28.50	28.50	7.50	7.50	Pass
HT40	MCS0	2	5	2432	13.41	12.12	15.82	28.50	28.50	7.50	7.50	Pass
HT40	MCS0	2	6	2437	15.34	15.33	18.35	28.50	28.50	7.50	7.50	Pass
HT40	MCS0	2	8	2447	12.21	11.89	15.06	28.50	28.50	7.50	7.50	Pass
HT40	MCS0	2	9	2452	9.94	9.84	12.90	28.50	28.50	7.50	7.50	Pass

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

Test Band :	5GHz	Temperature :			21~26°C			
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :			45~54%			

Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Max. Limit (dBm)		DG (dBi)		Pass/Fail
					Ant. 1	Ant. 2	SUM	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	149	5745	19.06	-	-	30.00	30.00	5.74	4.30	Pass
11a	6Mbps	1	157	5785	18.95	-		30.00	30.00	5.74	4.30	Pass
11a	6Mbps	1	165	5825	18.76	-		30.00	30.00	5.74	4.30	Pass
HT20	MCS0	1	149	5745	18.86	-		30.00	30.00	5.74	4.30	Pass
HT20	MCS0	1	157	5785	19.02	-		30.00	30.00	5.74	4.30	Pass
HT20	MCS0	1	165	5825	19.22	-		30.00	30.00	5.74	4.30	Pass
HT40	MCS0	1	151	5755	18.08	-		30.00	30.00	5.74	4.30	Pass
HT40	MCS0	1	159	5795	18.09	-		30.00	30.00	5.74	4.30	Pass
HT20	MCS0	2	149	5745	18.42	19.46	21.98	27.94		8.06		Pass
HT20	MCS0	2	157	5785	17.71	20.10	22.08	27.94		8.06		Pass
HT20	MCS0	2	165	5825	17.82	20.51	22.38	27.94		8.06		Pass
HT40	MCS0	2	151	5755	17.23	18.71	21.04	27.94		8.06		Pass
HT40	MCS0	2	159	5795	16.83	19.41	21.32	27.94		8.06		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	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			Sum Power
					Ant. 1	Ant. 2	Ant. 1	Ant. 2		
11b	1Mbps	1	1	2412	0.00	-	15.71	-		
11b	1Mbps	1	6	2437	0.00	-	17.44	-		
11b	1Mbps	1	11	2462	0.00	-	17.24	-		
11g	6Mbps	1	1	2412	0.12	-	8.29	-		
11g	6Mbps	1	2	2417	0.12	-	11.70	-		
11g	6Mbps	1	3	2422	0.12	-	13.94	-		
11g	6Mbps	1	6	2437	0.12	-	16.89	-		
11g	6Mbps	1	10	2457	0.12	-	14.17	-		
11g	6Mbps	1	11	2462	0.12	-	11.01	-		
HT20	MCS0	1	1	2412	0.12	-	7.17	-		
HT20	MCS0	1	2	2417	0.12	-	12.00	-		
HT20	MCS0	1	3	2422	0.12	-	13.46	-		
HT20	MCS0	1	4	2427	0.12	-	14.76	-		
HT20	MCS0	1	6	2437	0.12	-	17.03	-		
HT20	MCS0	1	10	2457	0.12	-	14.10	-		
HT20	MCS0	1	11	2462	0.12	-	9.96	-		
HT40	MCS0	1	3	2422	0.23	-	4.16	-		
HT40	MCS0	1	4	2427	0.23	-	6.60	-		
HT40	MCS0	1	5	2432	0.23	-	8.51	-		
HT40	MCS0	1	6	2437	0.23	-	10.50	-		
HT40	MCS0	1	8	2447	0.23	-	9.21	-		
HT40	MCS0	1	9	2452	0.23	-	7.02	-		

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant. 1	Ant. 2	Ant. 1	Ant. 2	Sum Power
HT20	MCS0	2	1	2412	0.15	0.13	6.76	5.18	9.05
HT20	MCS0	2	2	2417	0.15	0.13	11.79	10.59	14.24
HT20	MCS0	2	3	2422	0.15	0.13	12.93	12.75	15.85
HT20	MCS0	2	4	2427	0.15	0.13	15.68	14.67	18.21
HT20	MCS0	2	6	2437	0.15	0.13	17.12	16.87	20.00
HT20	MCS0	2	10	2457	0.15	0.13	15.93	16.14	19.04
HT20	MCS0	2	11	2462	0.15	0.13	8.00	7.60	10.81
HT40	MCS0	2	3	2422	0.24	0.27	3.36	2.60	6.00
HT40	MCS0	2	4	2427	0.24	0.27	6.43	5.80	9.13
HT40	MCS0	2	5	2432	0.24	0.27	8.32	7.24	10.82
HT40	MCS0	2	6	2437	0.24	0.27	10.60	10.22	13.42
HT40	MCS0	2	8	2447	0.24	0.27	7.52	7.34	10.44
HT40	MCS0	2	9	2452	0.24	0.27	4.41	4.40	7.41

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

Test Band :	5GHz	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)			Sum Power
					Ant. 1	Ant. 2	Ant. 1	Ant. 2		
11a	6Mbps	1	149	5745	0.08	-	14.06	-		
11a	6Mbps	1	157	5785	0.08	-	14.00	-		
11a	6Mbps	1	165	5825	0.08	-	13.93	-		
HT20	MCS0	1	149	5745	0.09	-	13.86	-		
HT20	MCS0	1	157	5785	0.09	-	14.01	-		
HT20	MCS0	1	165	5825	0.09	-	14.04	-		
HT40	MCS0	1	151	5755	0.18	-	13.89	-		
HT40	MCS0	1	159	5795	0.18	-	13.99	-		
HT20	MCS0	2	149	5745	0.09	0.09	12.93	14.03	16.52	
HT20	MCS0	2	157	5785	0.09	0.09	12.24	14.50	16.53	
HT20	MCS0	2	165	5825	0.09	0.09	12.20	15.07	16.88	
HT40	MCS0	2	151	5755	0.13	0.13	13.09	14.28	16.74	
HT40	MCS0	2	159	5795	0.13	0.13	12.34	15.15	16.98	

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

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

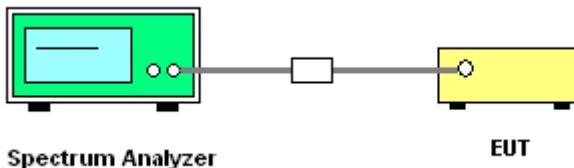
If measurements performed using method (2) plus $10 \log (N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

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

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

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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Band :	2.4GHz	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

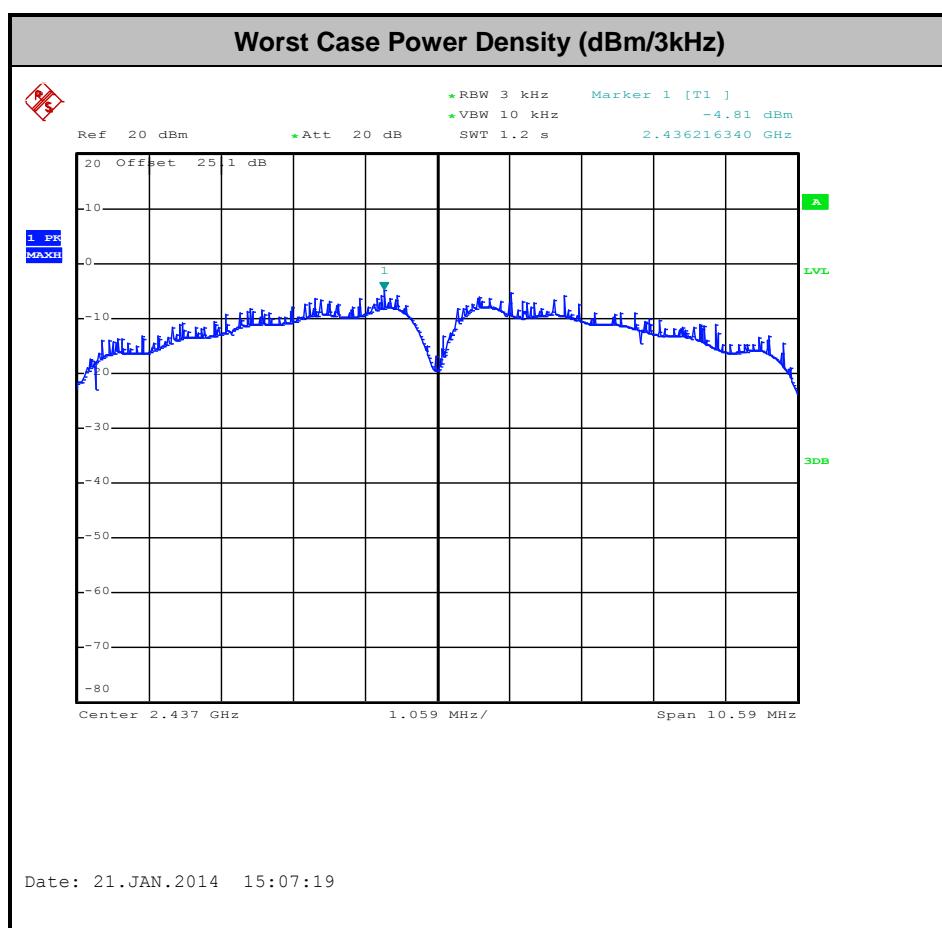
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Peak Power Density (dBm/3kHz)			DG (dBi)		Max. Limit (dBm/3kHz)		Pass/Fail
					Ant. 1	Ant. 2	Worst +10log(2)	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11b	1Mbps	1	1	2412	-8.28	-	-	5.42	3.45	8.00	8.00	Pass
11b	1Mbps		6	2437	-4.81	-		5.42	3.45	8.00	8.00	Pass
11b	1Mbps		11	2462	-5.77	-		5.42	3.45	8.00	8.00	Pass
11g	6Mbps		1	2412	-19.12	-		5.42	3.45	8.00	8.00	Pass
11g	6Mbps		6	2437	-11.42	-		5.42	3.45	8.00	8.00	Pass
11g	6Mbps		11	2462	-17.48	-		5.42	3.45	8.00	8.00	Pass
HT20	MCS0		1	2412	-18.61	-		5.42	3.45	8.00	8.00	Pass
HT20	MCS0		6	2437	-10.33	-		5.42	3.45	8.00	8.00	Pass
HT20	MCS0		11	2462	-16.00	-		5.42	3.45	8.00	8.00	Pass
HT40	MCS0		1	2422	-25.05	-		5.42	3.45	8.00	8.00	Pass
HT40	MCS0		6	2437	-19.08	-		5.42	3.45	8.00	8.00	Pass
HT40	MCS0		9	2452	-21.15	-		5.42	3.45	8.00	8.00	Pass
HT20	MCS0	2	1	2412	-20.55	-20.76	-17.54	7.50		6.50		Pass
HT20	MCS0	2	6	2437	-11.07	-10.82	-7.81	7.50		6.50		Pass
HT20	MCS0	2	11	2462	-18.11	-19.31	-15.10	7.50		6.50		Pass
HT40	MCS0	2	3	2422	-24.48	-26.64	-21.47	7.50		6.50		Pass
HT40	MCS0	2	6	2437	-18.54	-18.64	-15.53	7.50		6.50		Pass
HT40	MCS0	2	9	2452	-24.26	-23.94	-20.93	7.50		6.50		Pass

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

Test Band :	5GHz	Temperature :	21~26°C
Test Engineer :	Stuart Lin and Bill Kuo	Relative Humidity :	45~54%

Mod.	Data Rate	N_{TX}	CH.	Freq. (MHz)	Peak Power Density (dBm/3kHz)			DG (dBi)		Max. Limit (dBm/3kHz)		Pass/Fail
					Ant. 1	Ant. 2	Worst +10log(2)	Ant. 1	Ant. 2	Ant. 1	Ant. 2	
11a	6Mbps	1	149	5745	-12.51	-	-	5.74	4.30	8.00	8.00	Pass
11a	6Mbps	1	157	5785	-12.91	-		5.74	4.30	8.00	8.00	Pass
11a	6Mbps	1	165	5825	-13.03	-		5.74	4.30	8.00	8.00	Pass
HT20	MCS0	1	149	5745	-13.10	-		5.74	4.30	8.00	8.00	Pass
HT20	MCS0	1	157	5785	-11.57	-		5.74	4.30	8.00	8.00	Pass
HT20	MCS0	1	165	5825	-12.49	-		5.74	4.30	8.00	8.00	Pass
HT40	MCS0	1	151	5755	-15.30	-		5.74	4.30	8.00	8.00	Pass
HT40	MCS0	1	159	5795	-14.96	-		5.74	4.30	8.00	8.00	Pass
HT20	MCS0	2	149	5745	-12.29	-13.01	-9.28	8.06		5.94		Pass
HT20	MCS0	2	157	5785	-12.95	-11.77	-8.76	8.06		5.94		Pass
HT20	MCS0	2	165	5825	-12.23	-10.34	-7.33	8.06		5.94		Pass
HT40	MCS0	2	151	5755	-14.61	-13.98	-10.97	8.06		5.94		Pass
HT40	MCS0	2	159	5795	-15.48	-13.24	-10.23	8.06		5.94		Pass

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



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3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

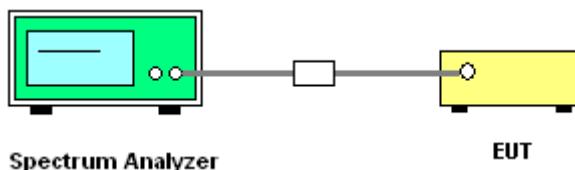
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

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

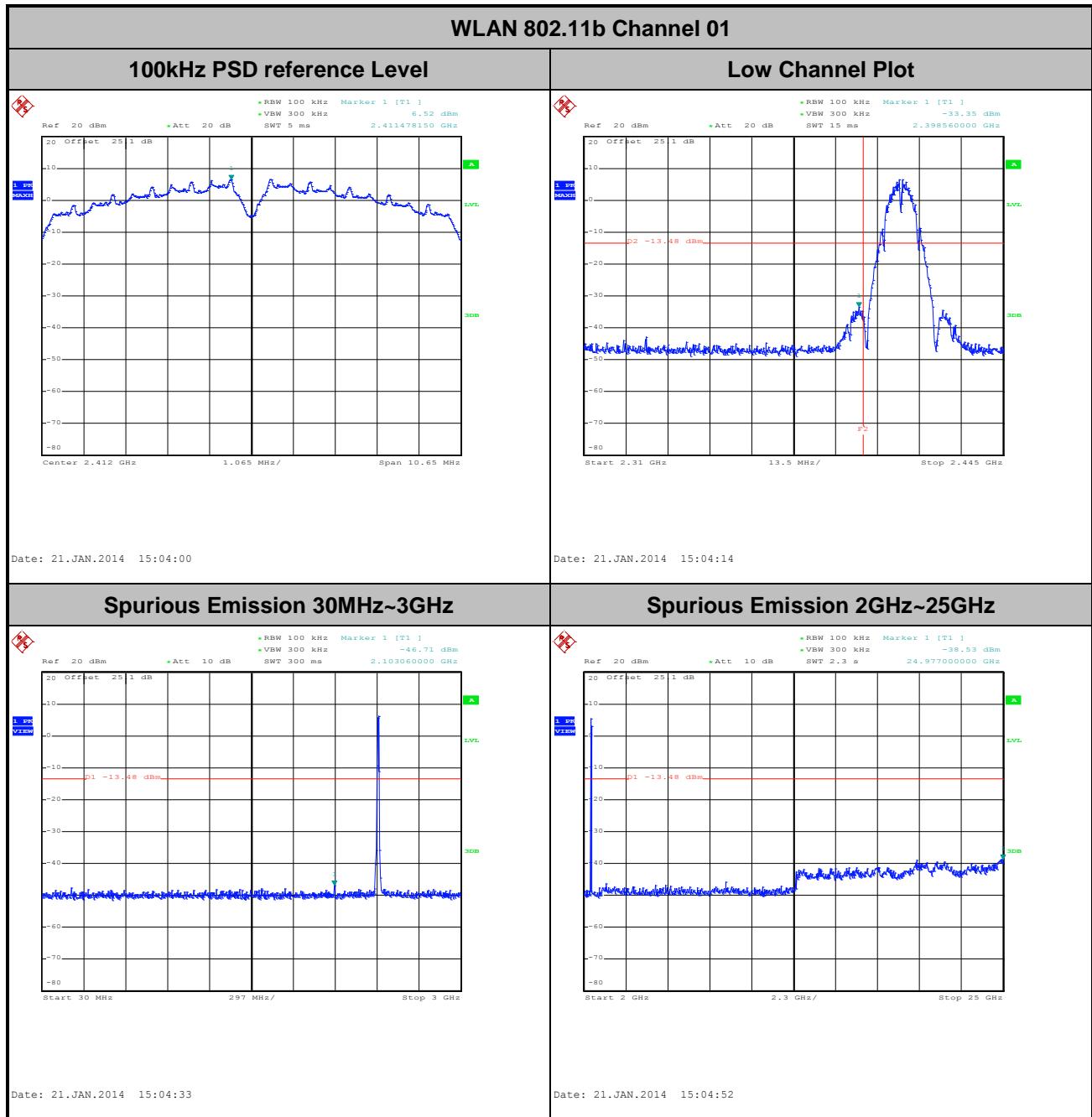
3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Number of TX = 1, Ant. 1 (Measured)

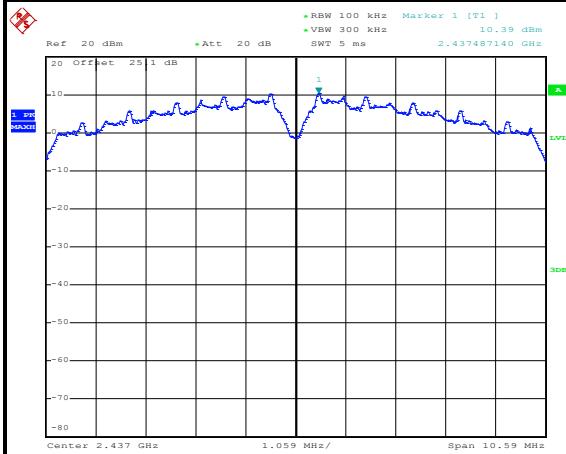
Number of TX	1	Ant. :	1
Test Mode :	802.11b	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	1	Ant. :	1
Test Mode :	802.11b	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo

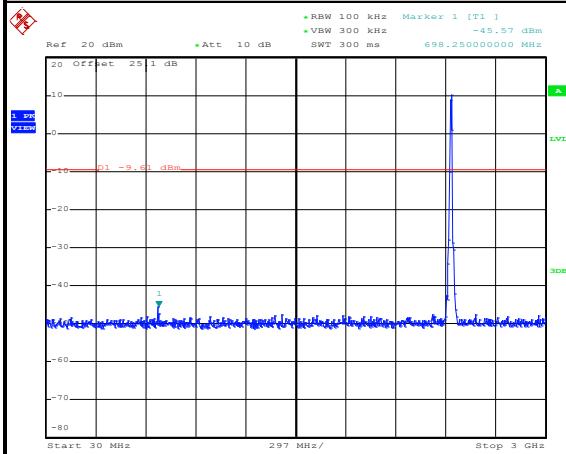
WLAN 802.11b Channel 06

100kHz PSD reference Level



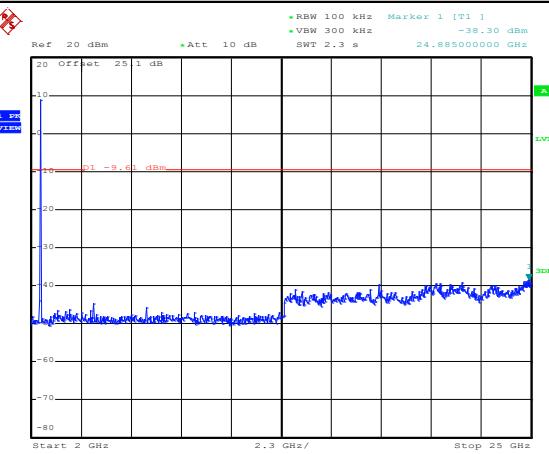
Date: 21.JAN.2014 15:07:28

Spurious Emission 30MHz~3GHz



Date: 21.JAN.2014 15:07:47

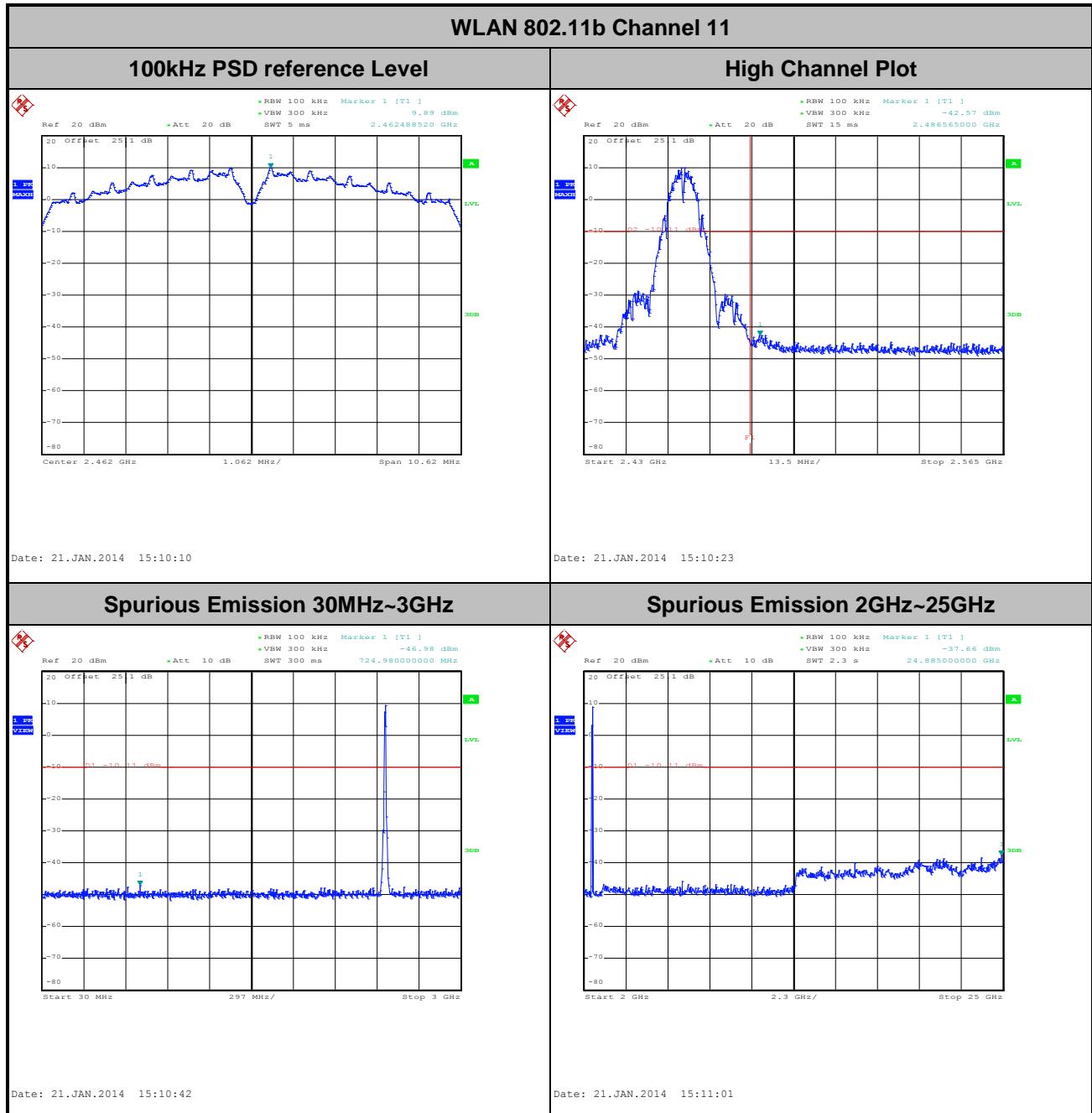
Spurious Emission 2GHz~25GHz



Date: 21.JAN.2014 15:08:06

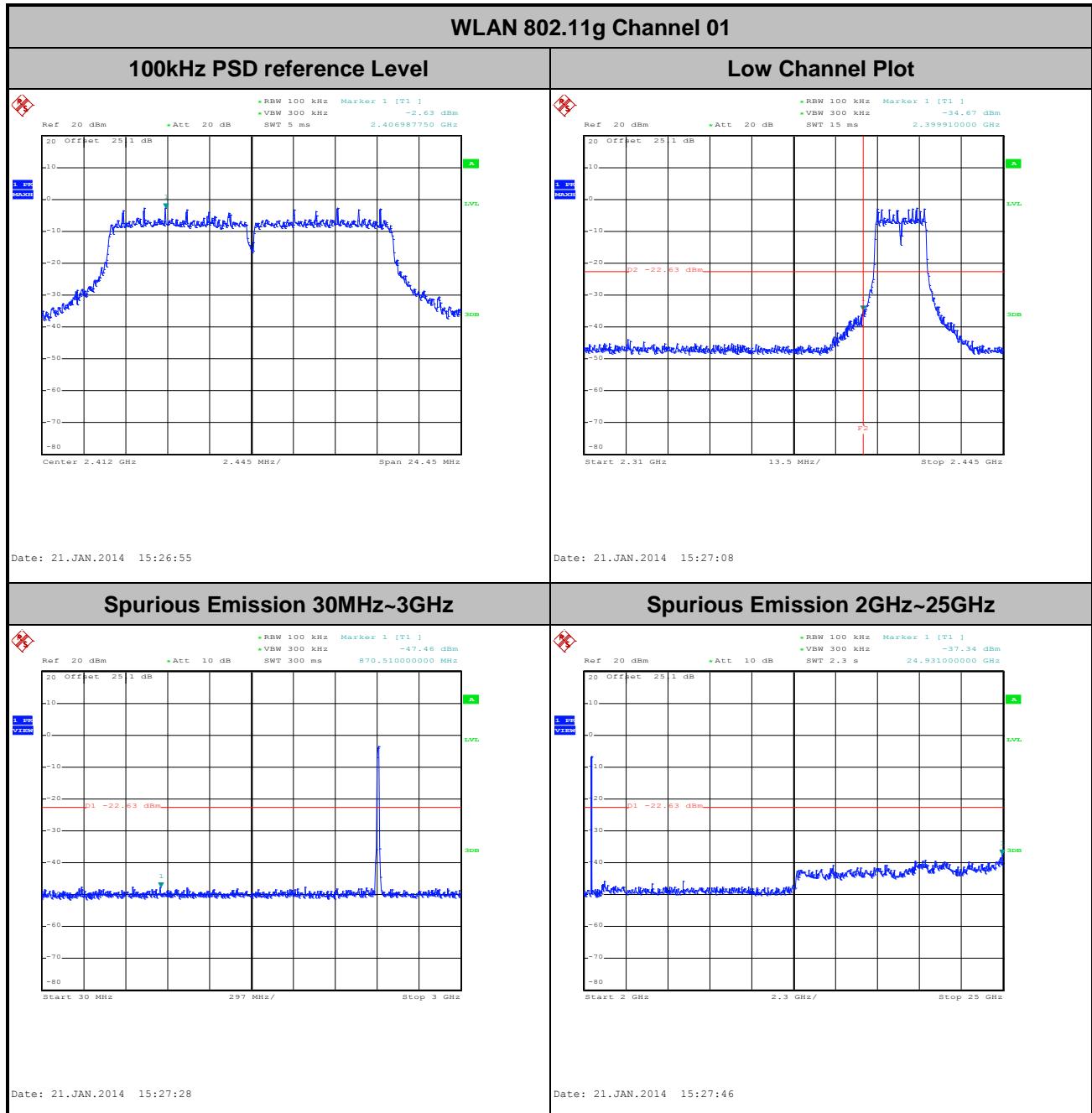
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Number of TX :	1	Ant. :	1
Test Mode :	802.11b	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin and Bill Kuo



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Number of TX :	1	Ant. :	1
Test Mode :	802.11g	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin and Bill Kuo

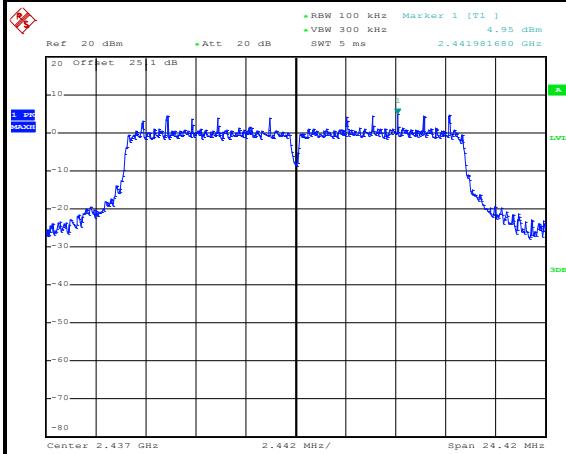


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Number of TX :	1	Ant. :	1
Test Mode :	802.11g	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo

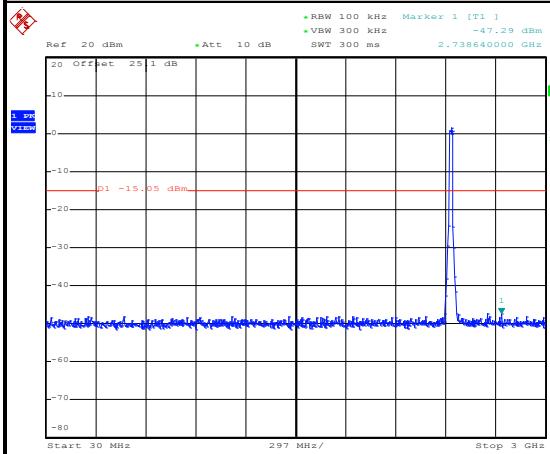
WLAN 802.11g Channel 06

100kHz PSD reference Level



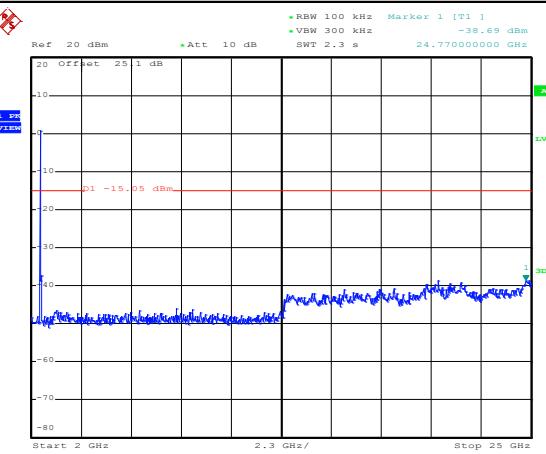
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Spurious Emission 30MHz~3GHz



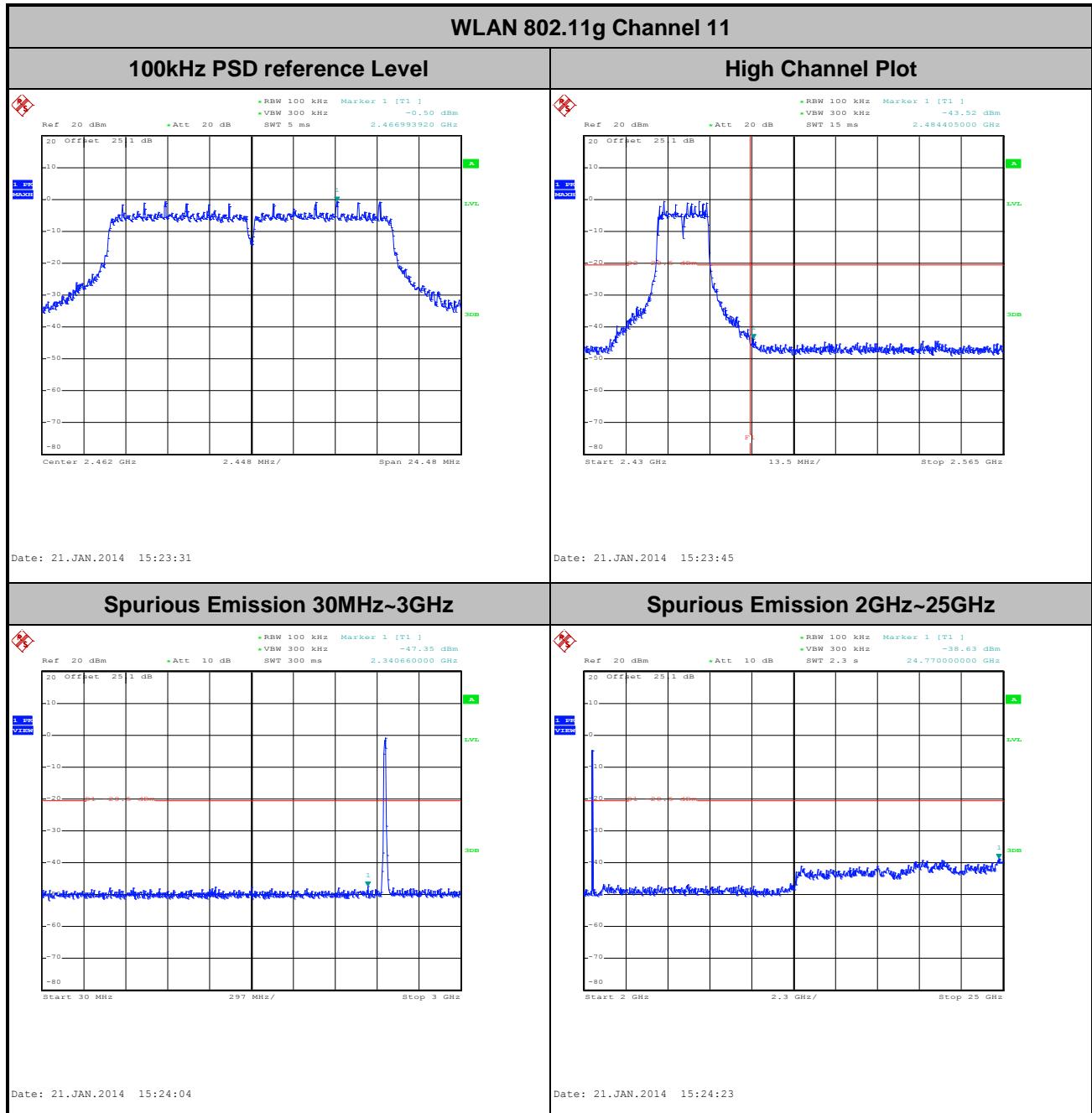
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Spurious Emission 2GHz~25GHz



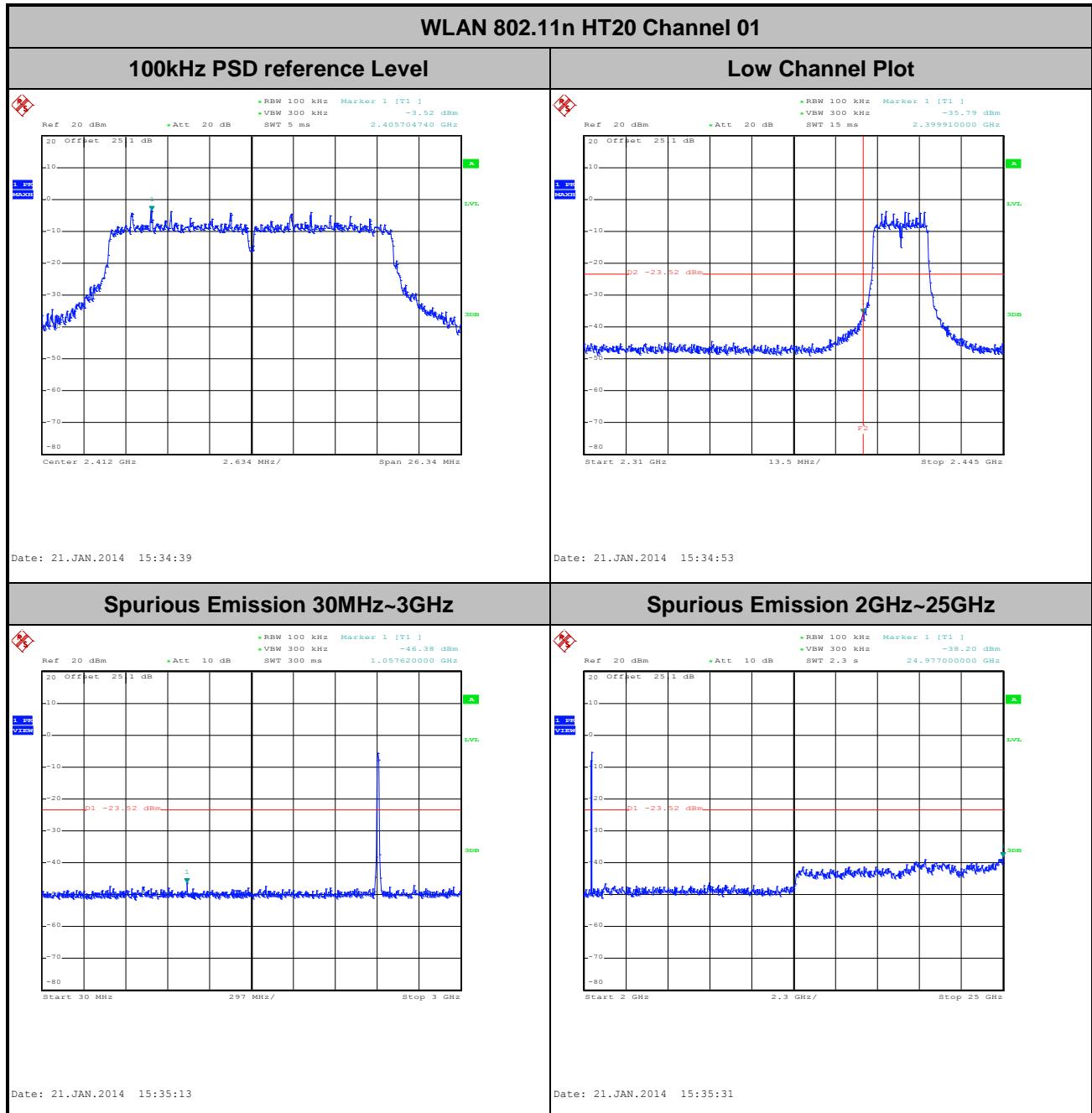
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Number of TX :	1	Ant. :	1
Test Mode :	802.11g	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin and Bill Kuo

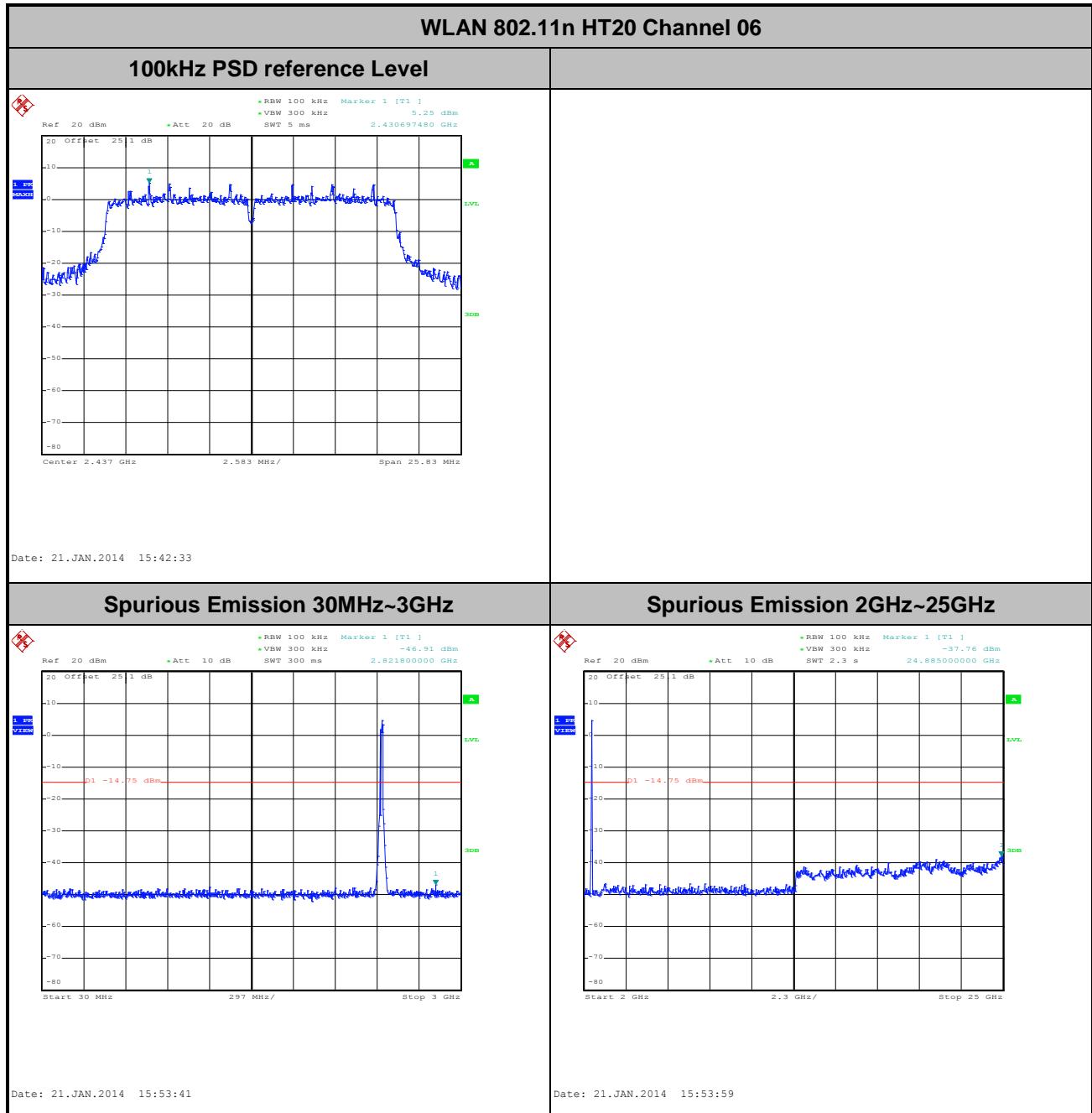


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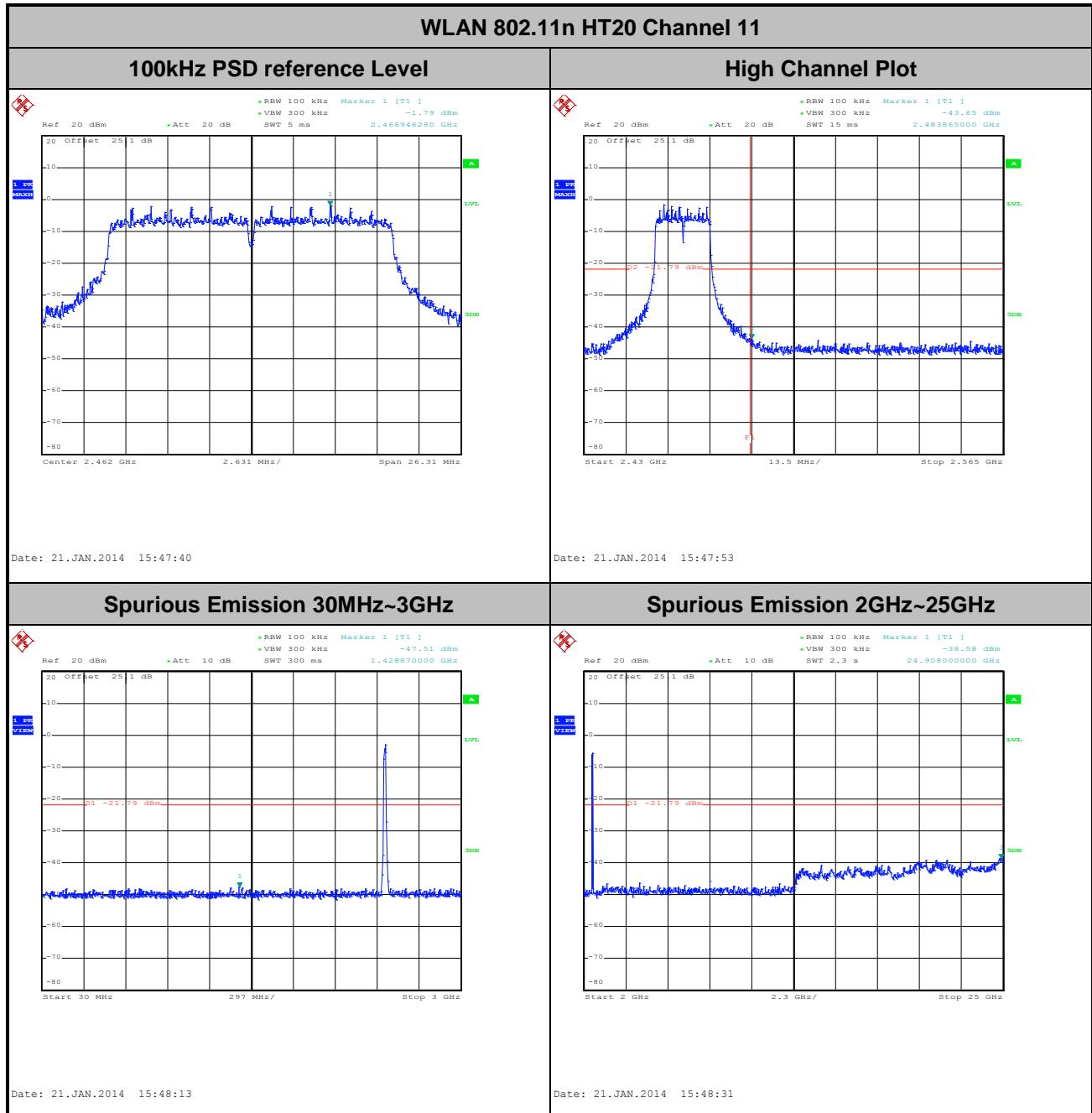
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin and Bill Kuo



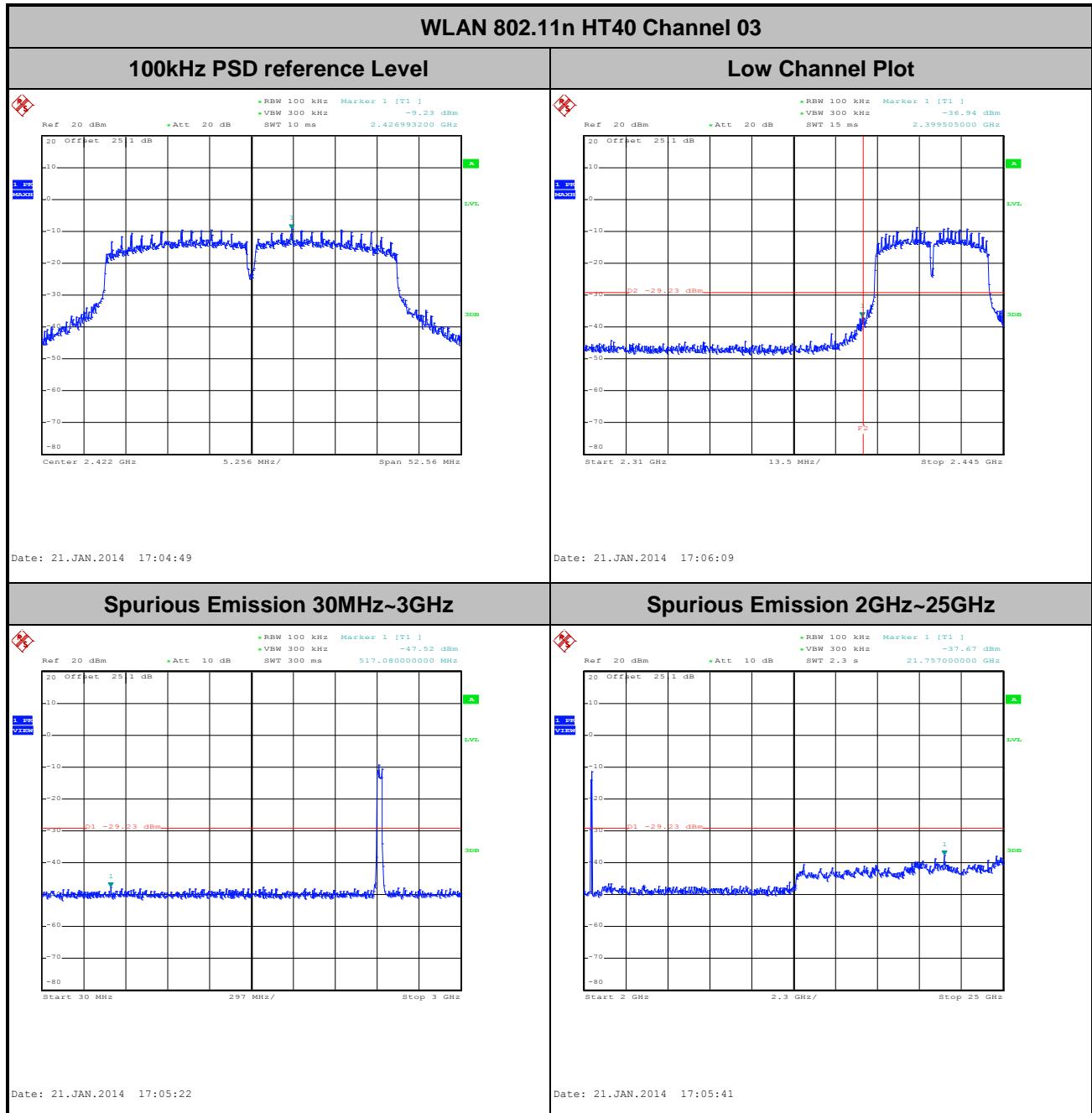
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo



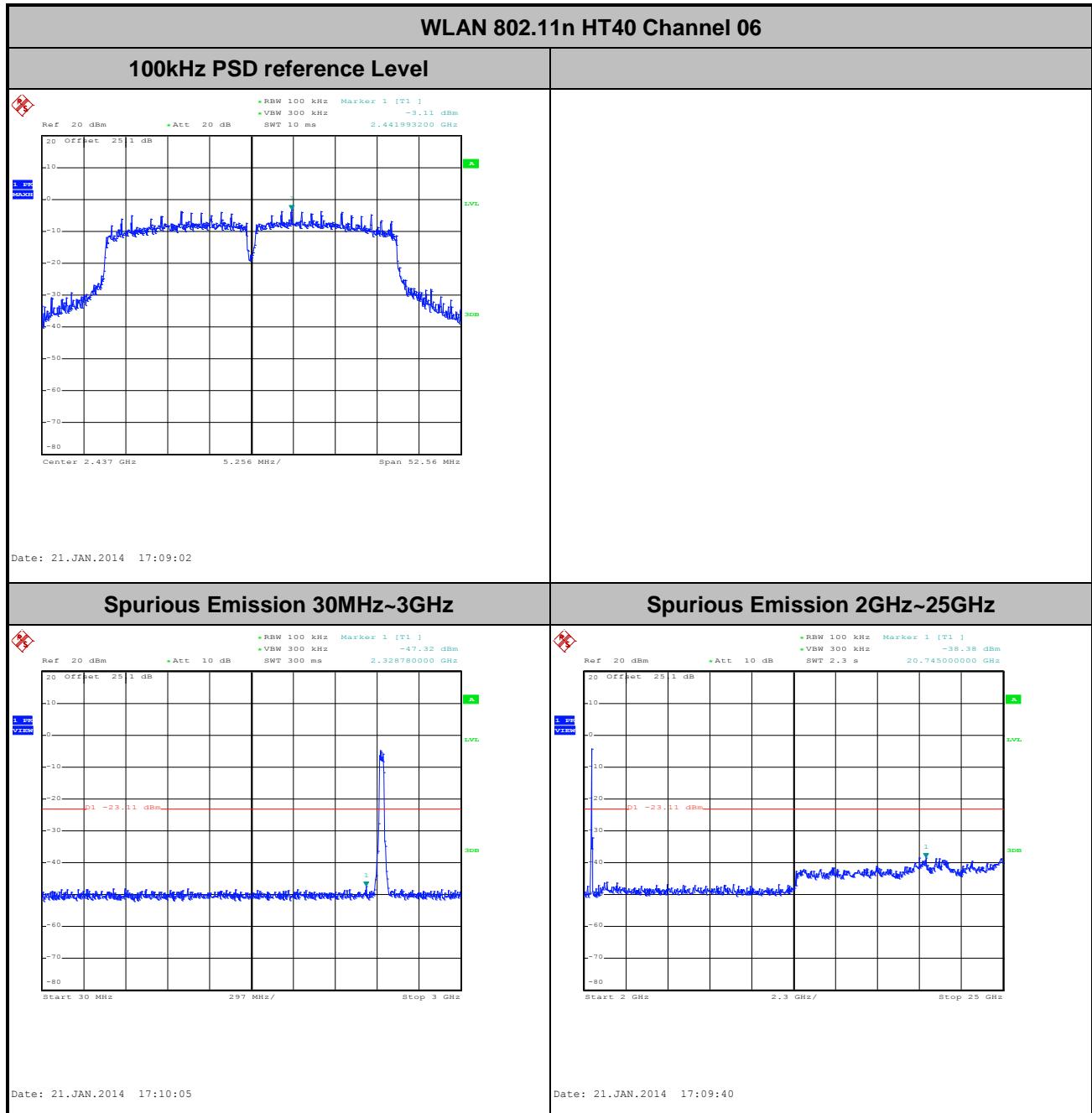
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	03	Test Engineer :	Stuart Lin and Bill Kuo

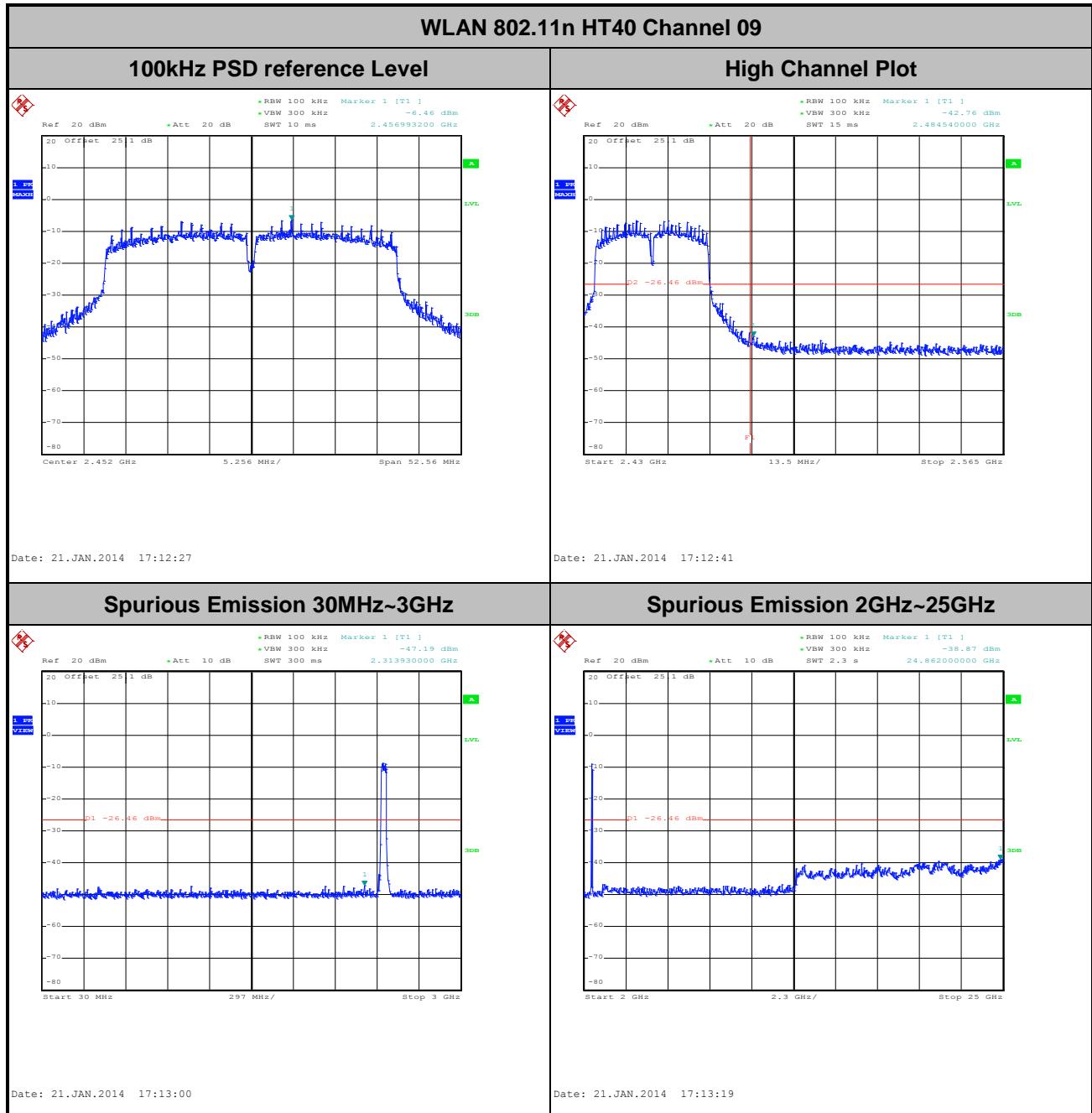


Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo

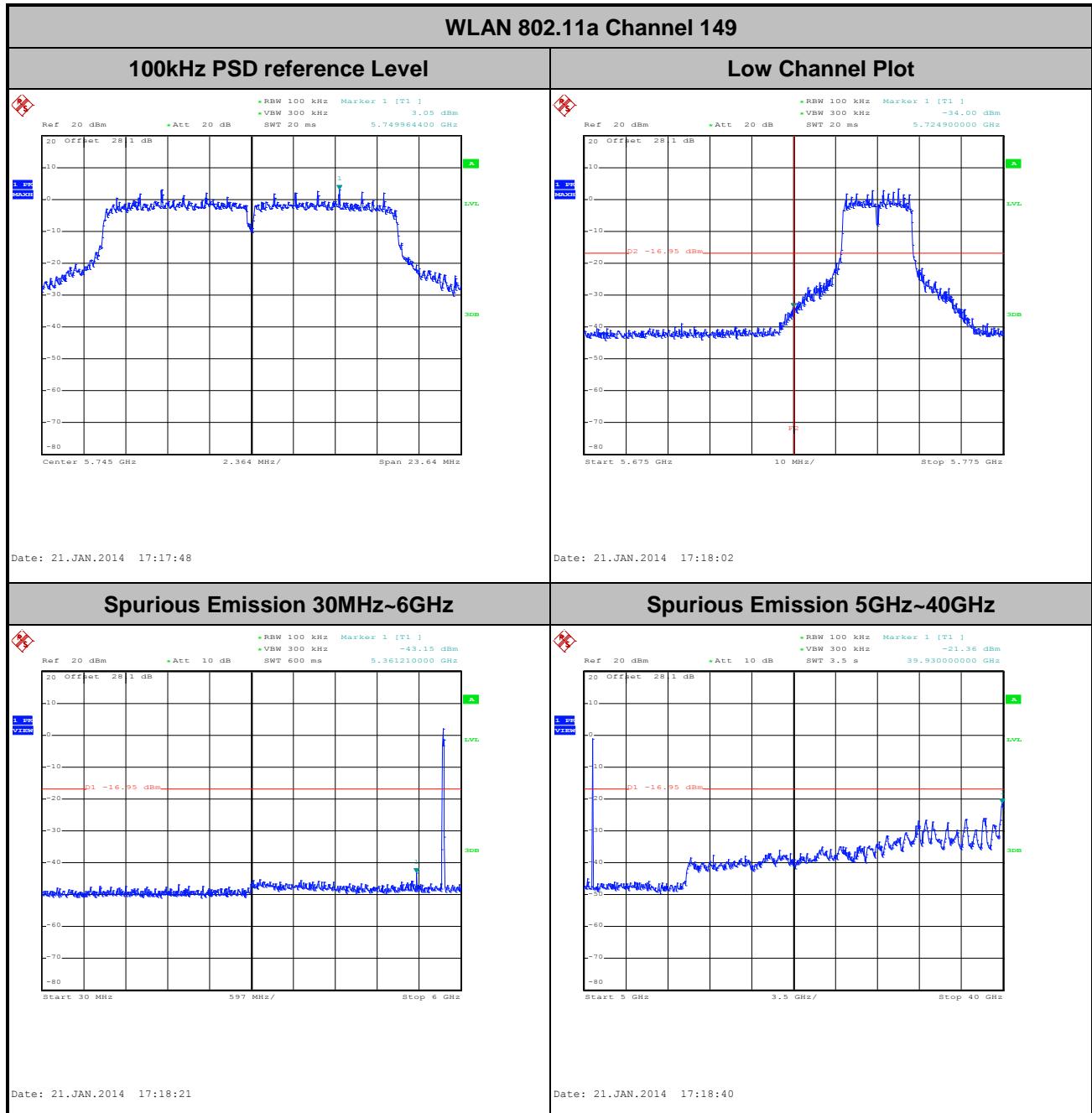


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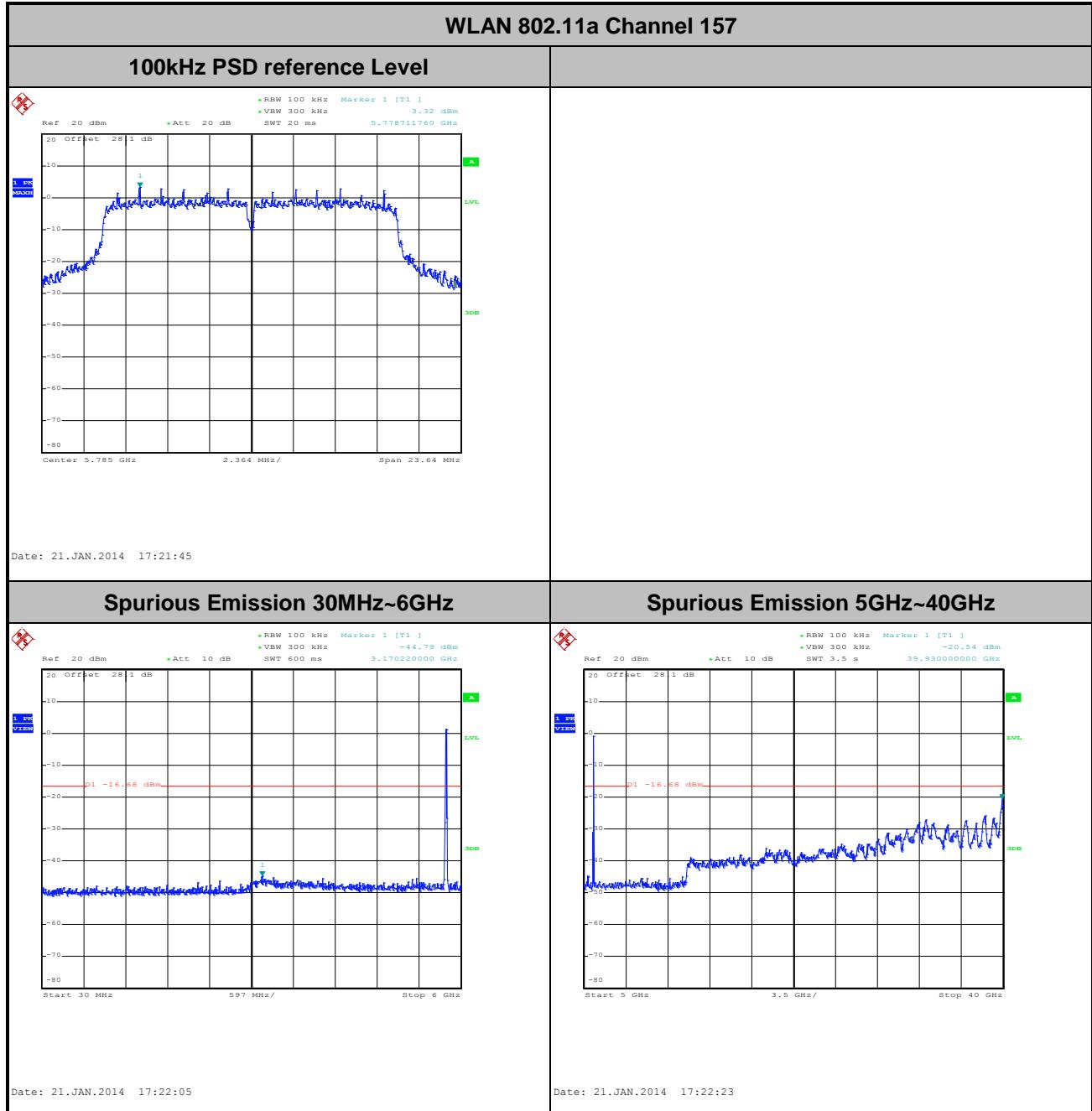
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	09	Test Engineer :	Stuart Lin and Bill Kuo



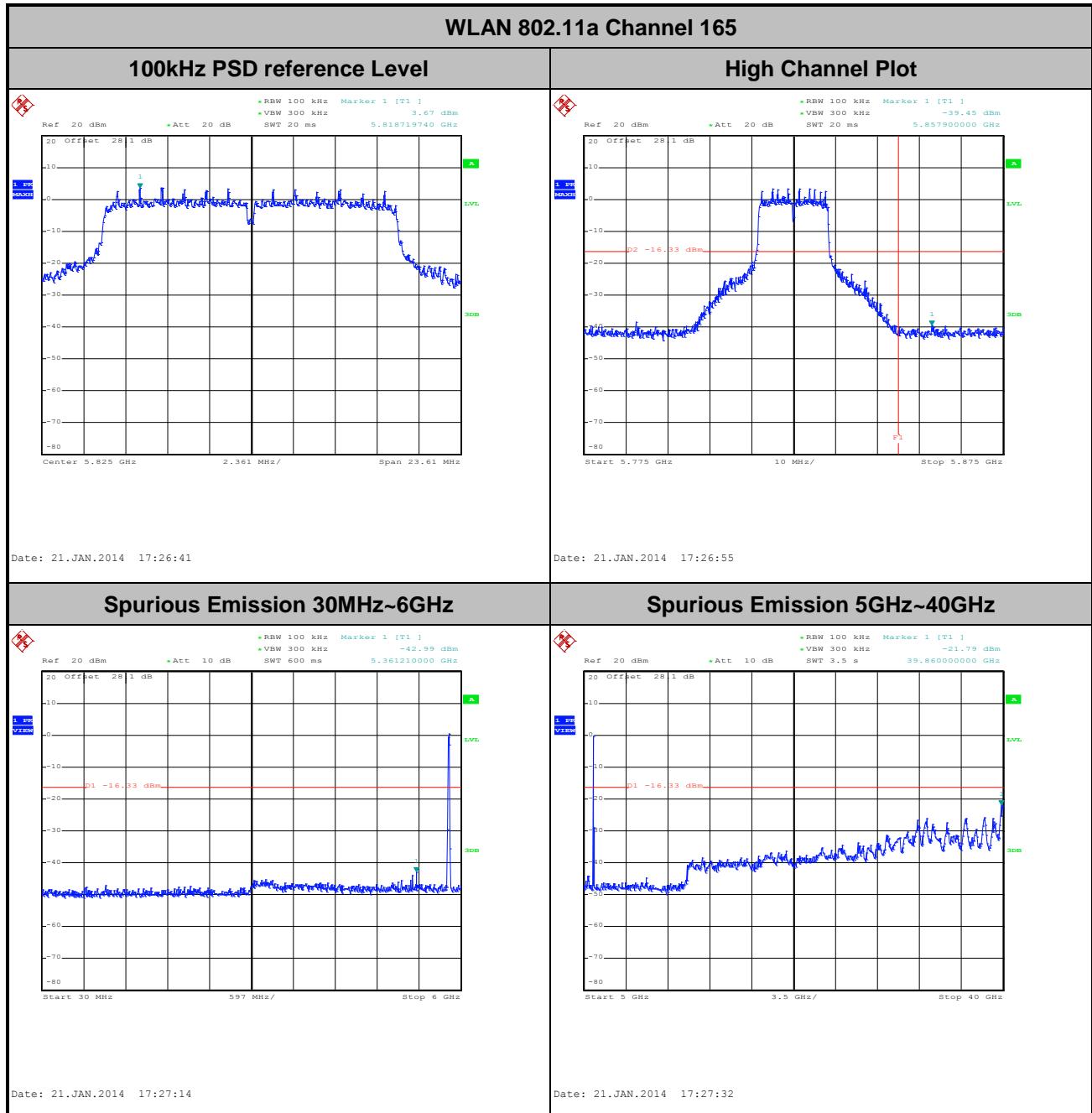
Number of TX :	1	Ant. :	1
Test Mode :	802.11a	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	149	Test Engineer :	Stuart Lin and Bill Kuo



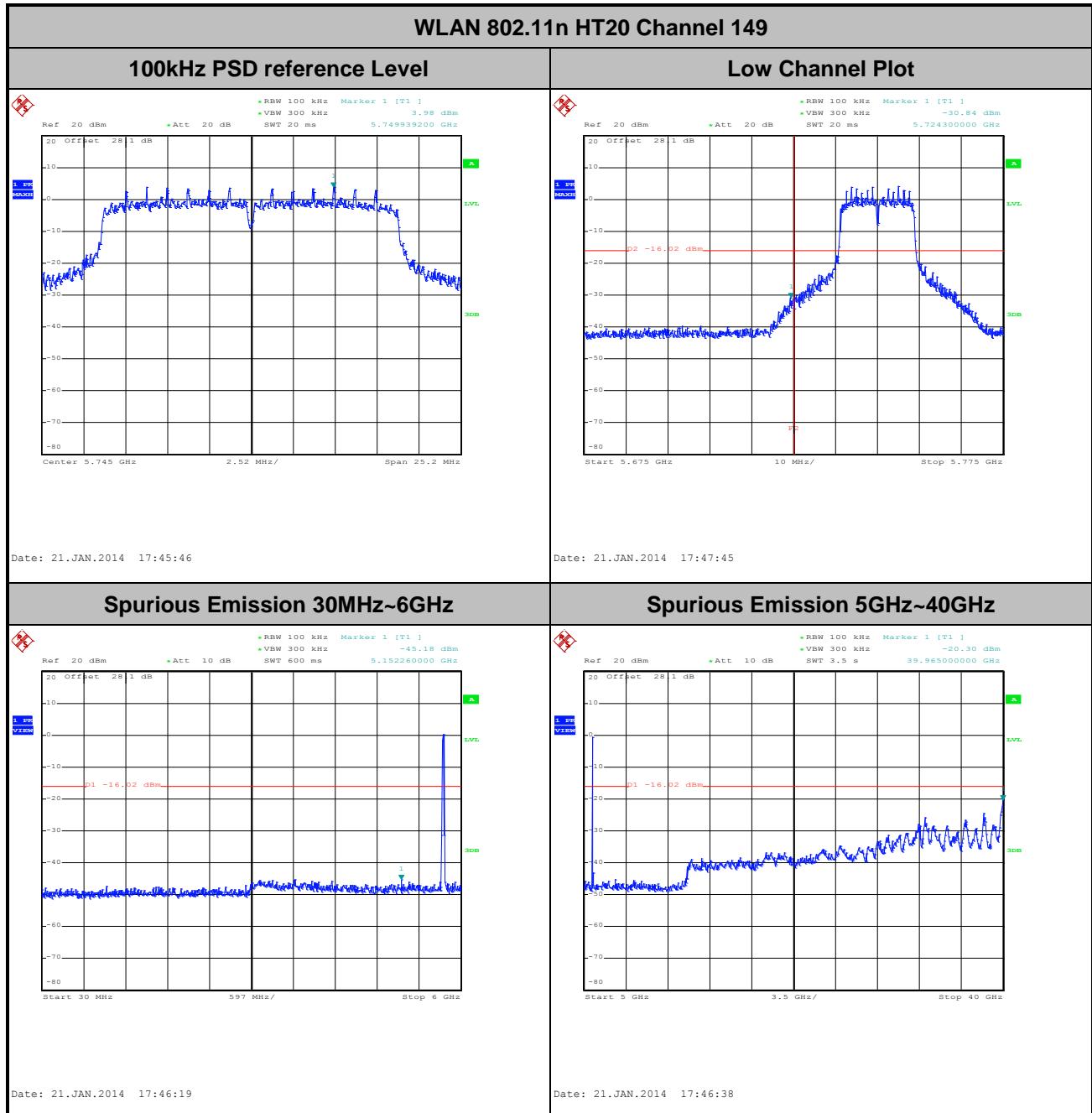
Number of TX :	1	Ant. :	1
Test Mode :	802.11a	Temperature :	21~26°C
Test Band :	5GHz Mid	Relative Humidity :	45~54%
Test Channel :	157	Test Engineer :	Stuart Lin and Bill Kuo



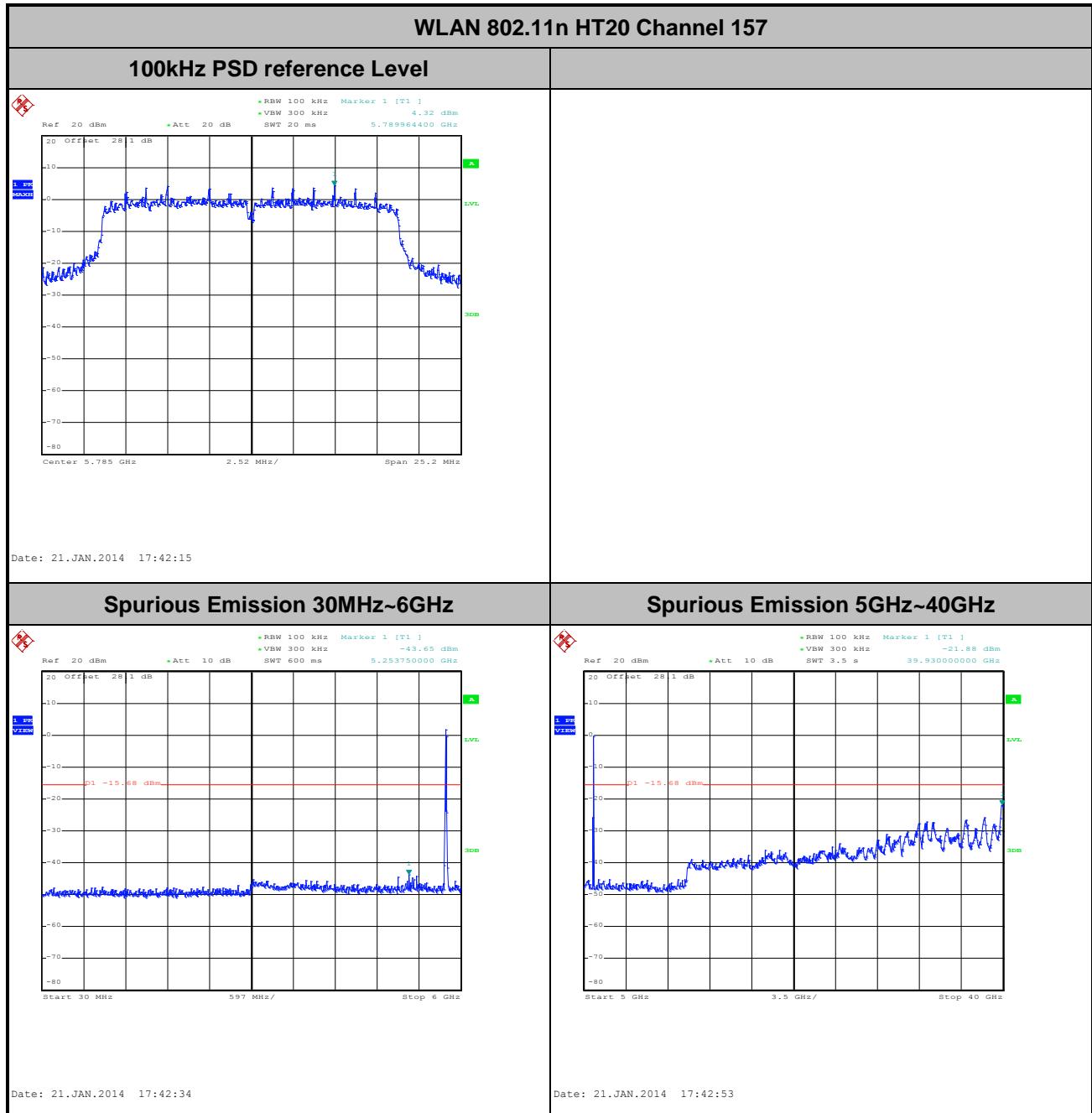
Number of TX :	1	Ant. :	1
Test Mode :	802.11a	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	165	Test Engineer :	Stuart Lin and Bill Kuo



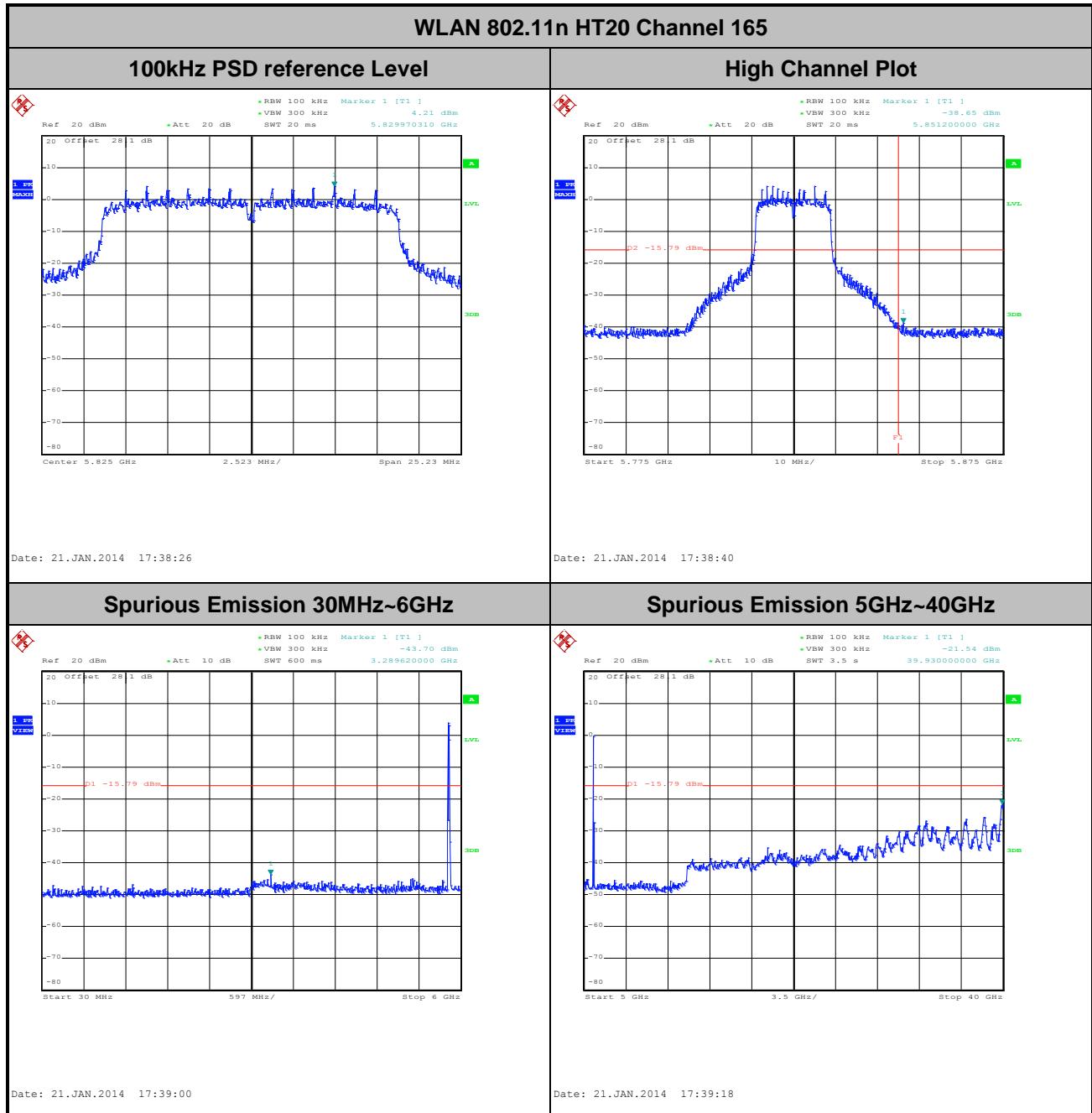
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	149	Test Engineer :	Stuart Lin and Bill Kuo



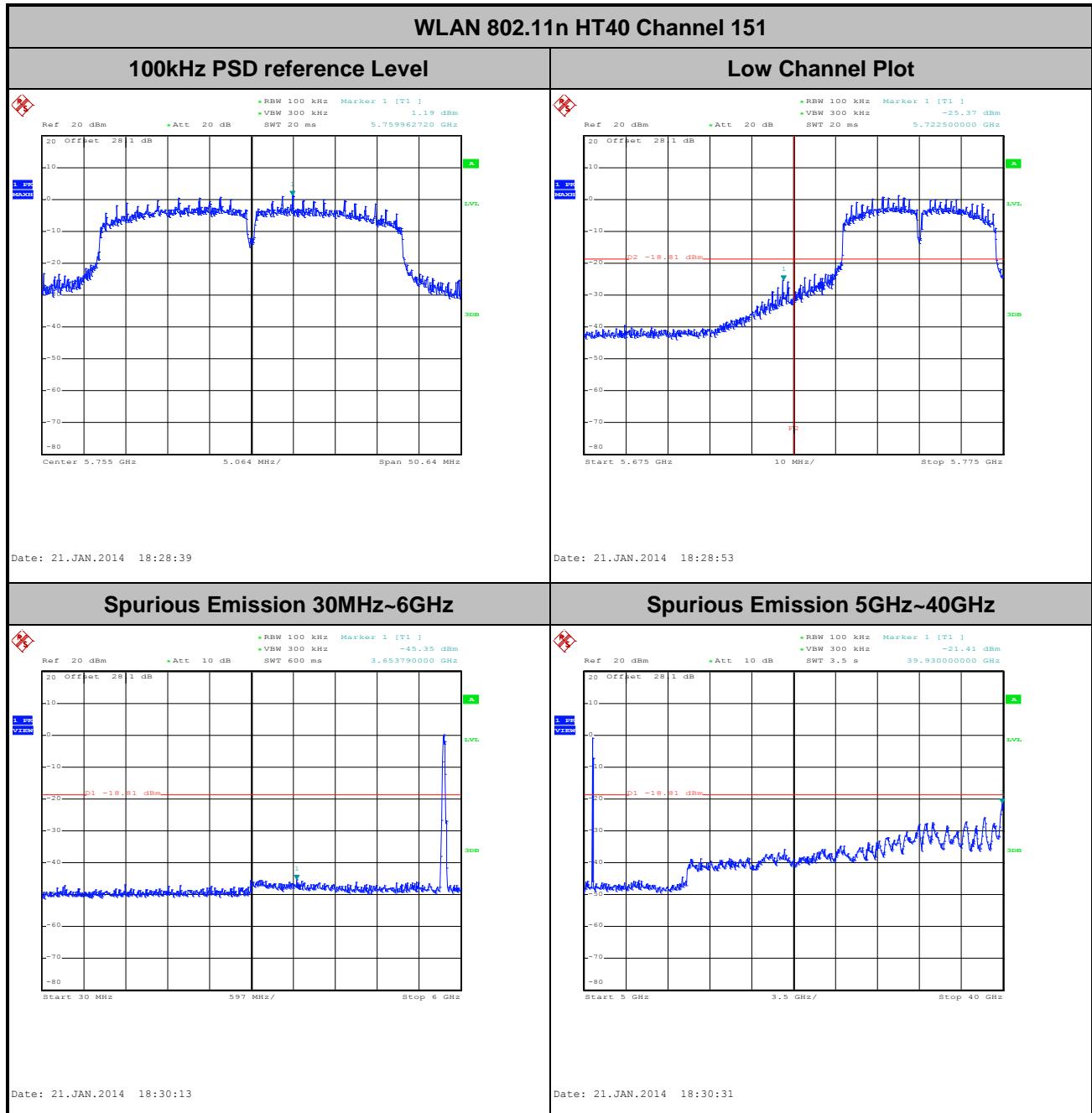
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz Mid	Relative Humidity :	45~54%
Test Channel :	157	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	165	Test Engineer :	Stuart Lin and Bill Kuo

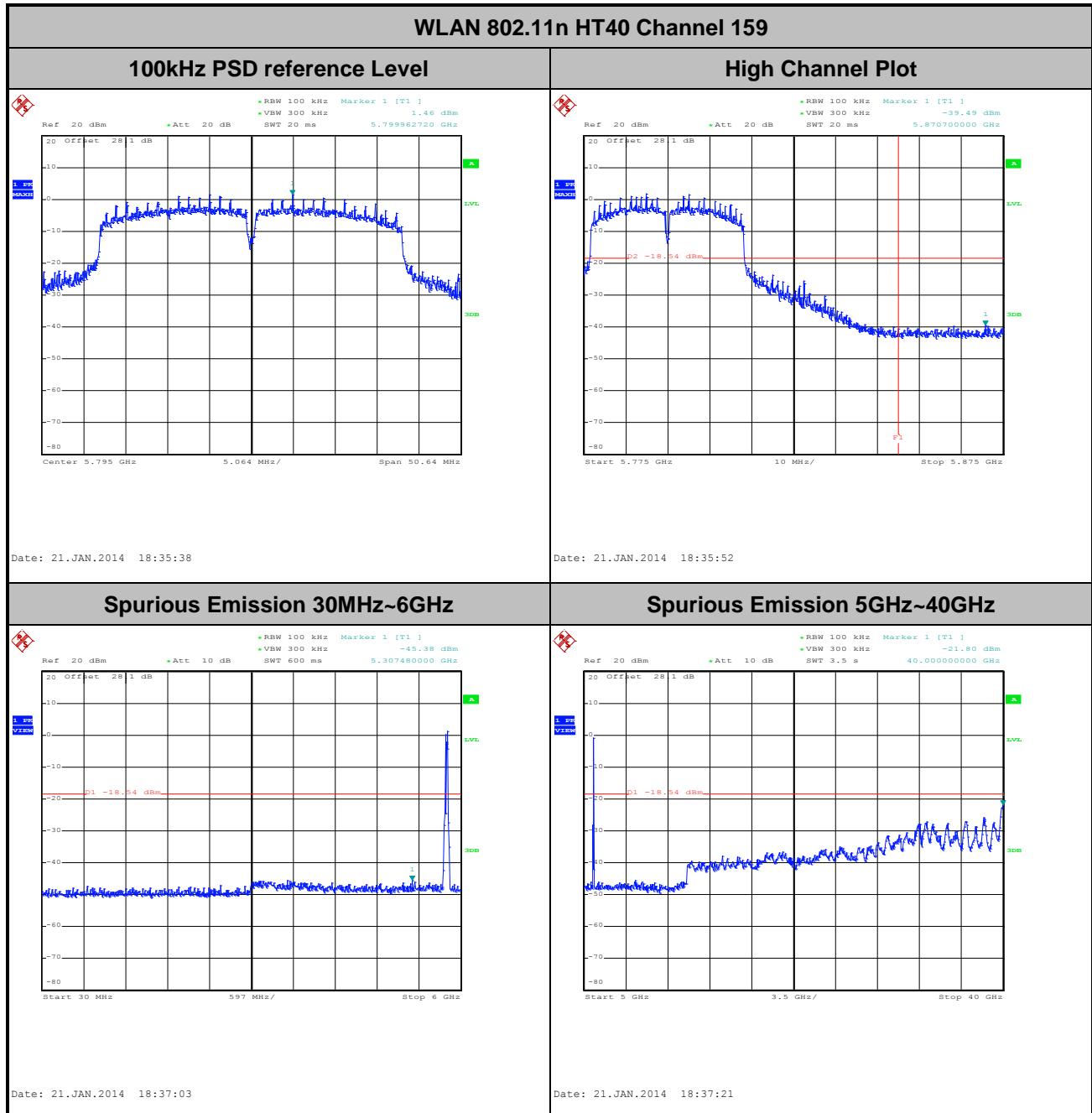


Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	151	Test Engineer :	Stuart Lin and Bill Kuo



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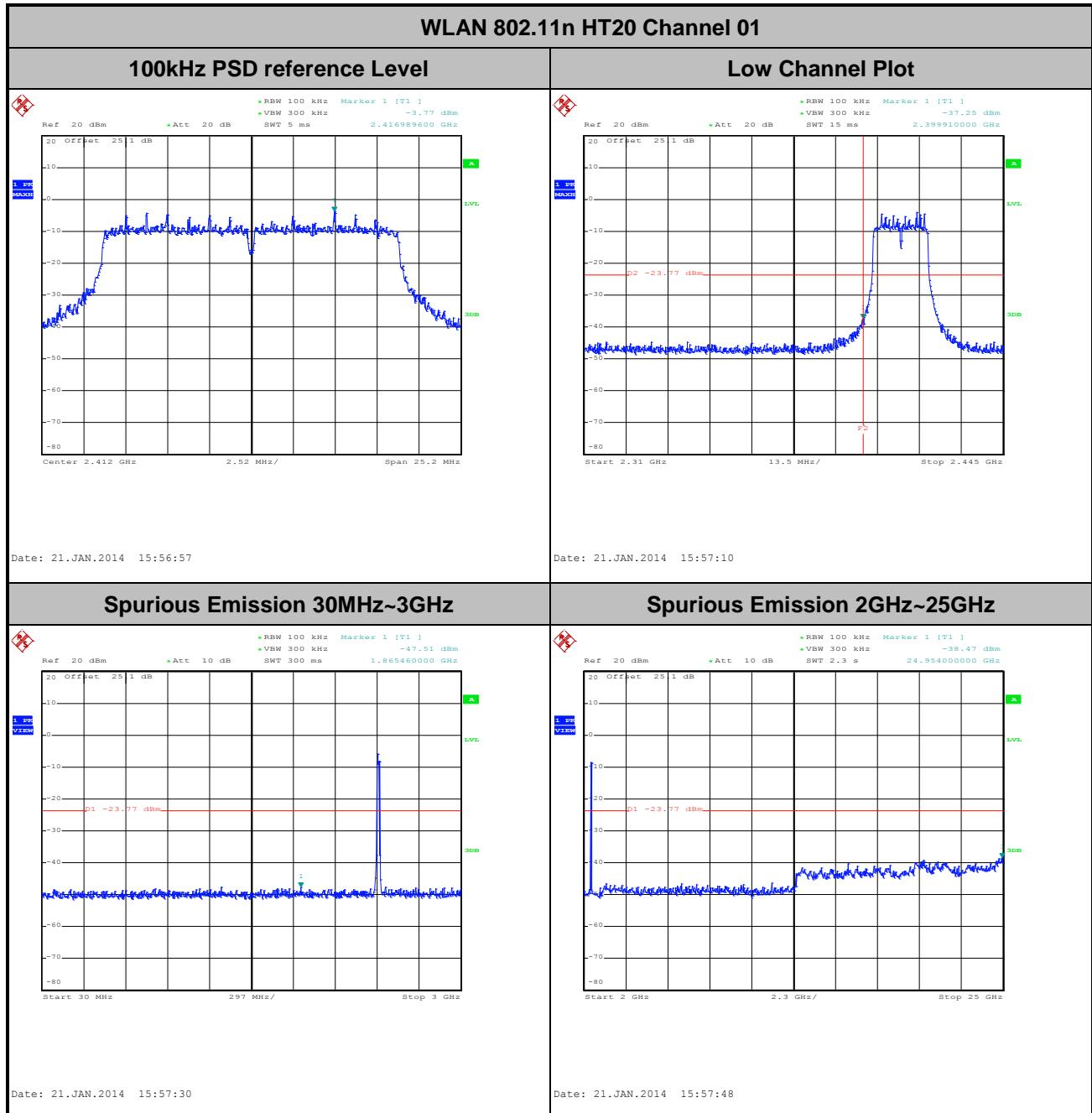
Number of TX :	1	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	159	Test Engineer :	Stuart Lin and Bill Kuo



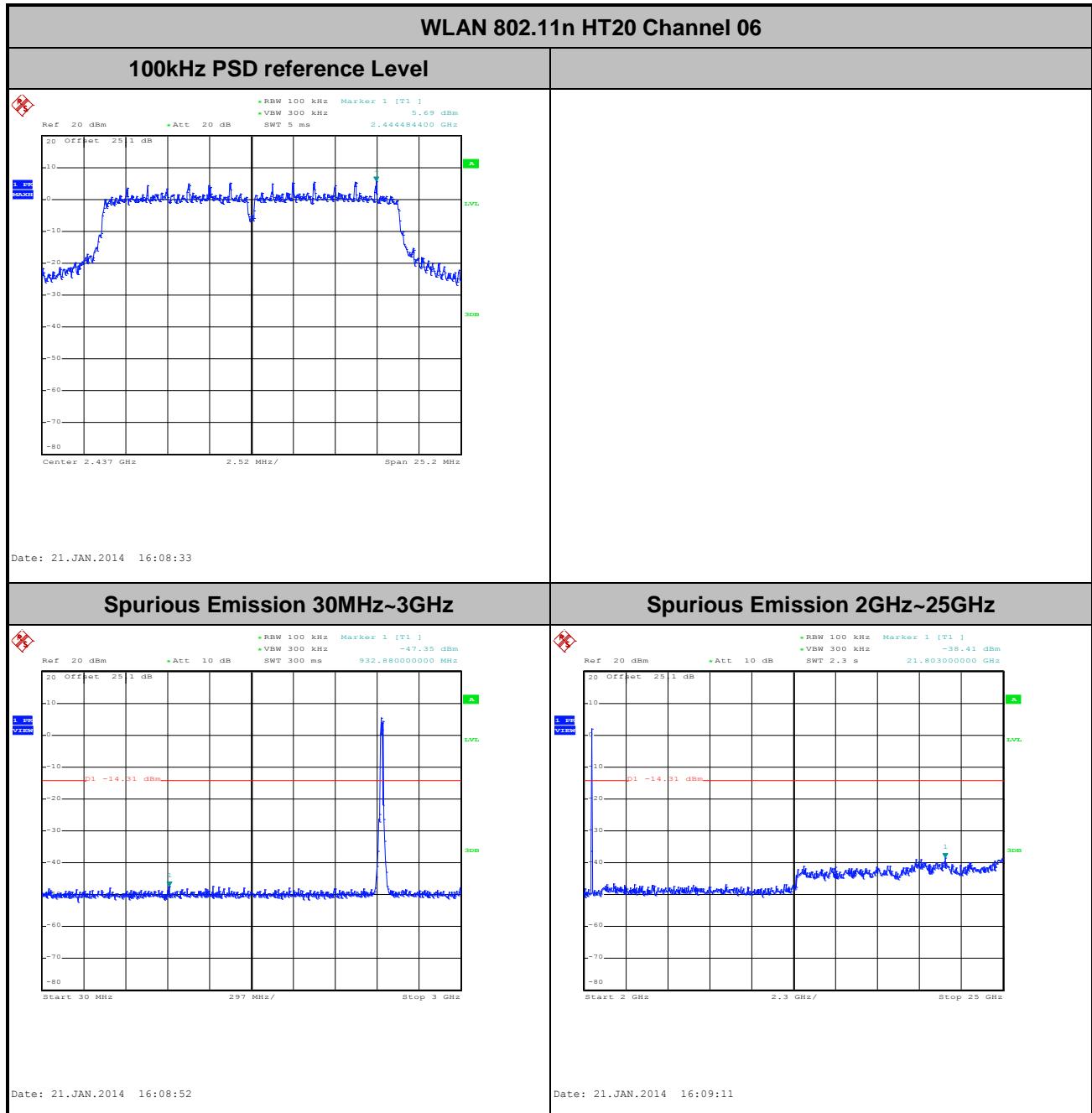
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Number of TX = 2, Ant. 1 (Measured)

Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin and Bill Kuo

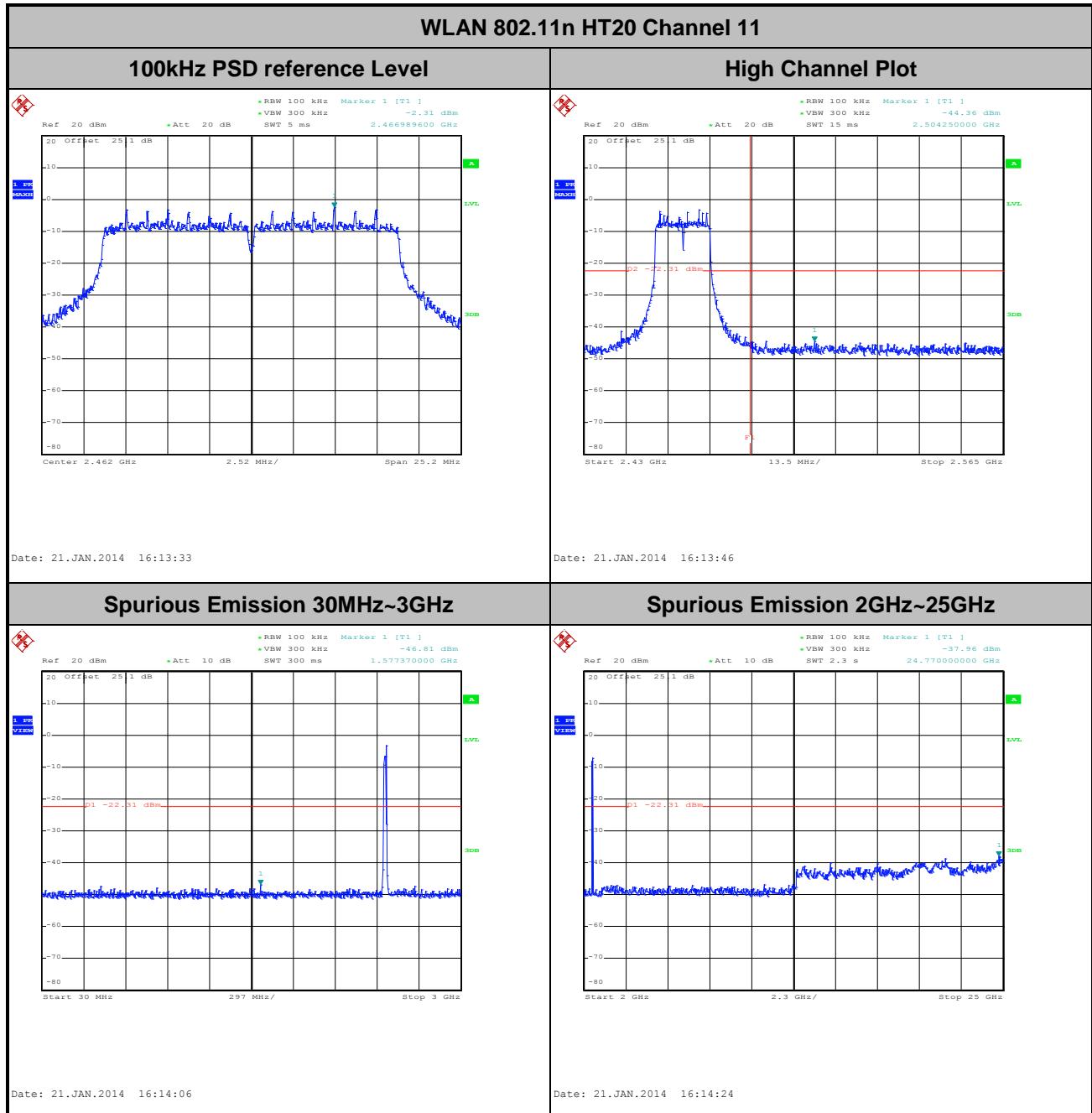


Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo

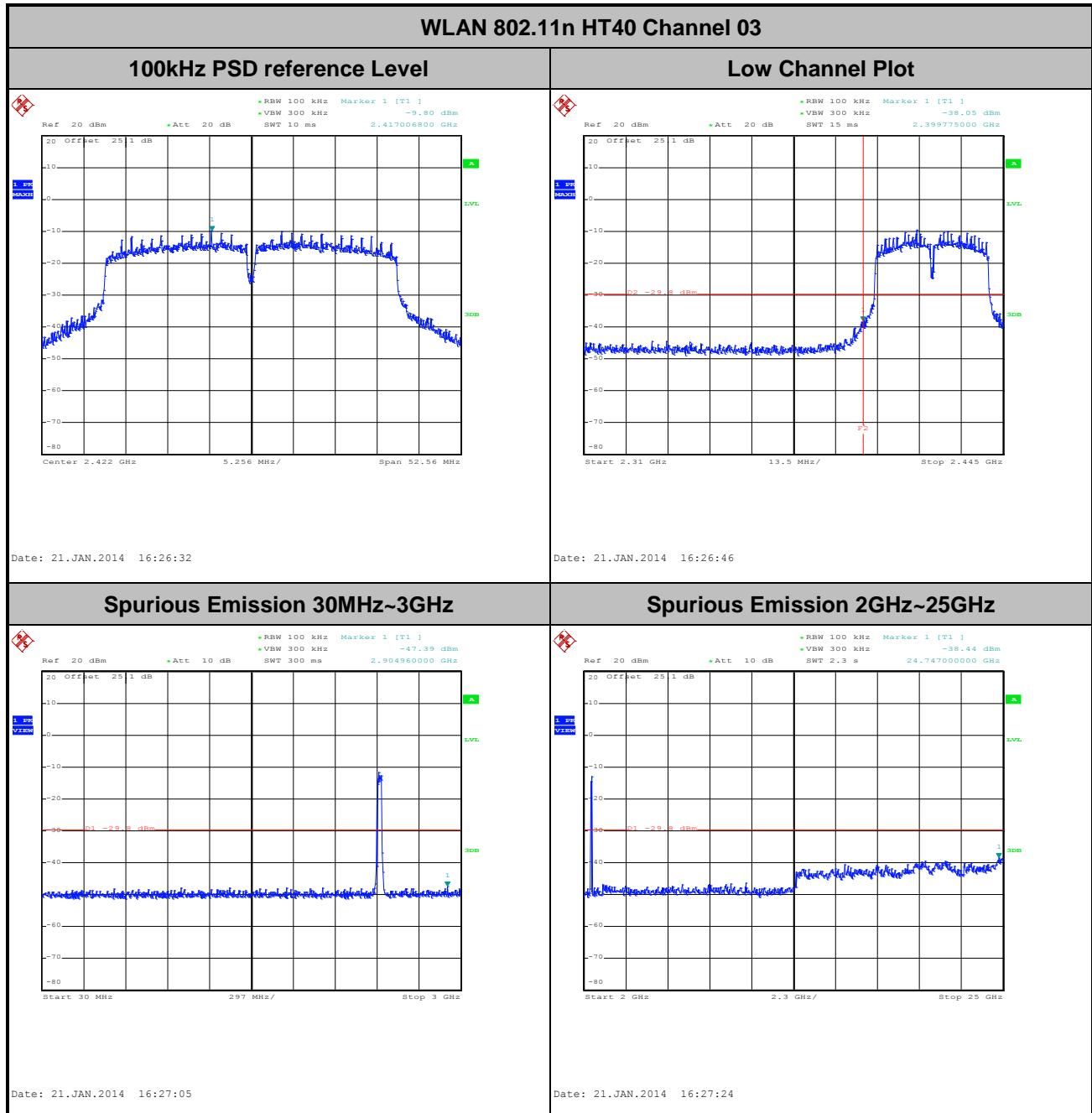


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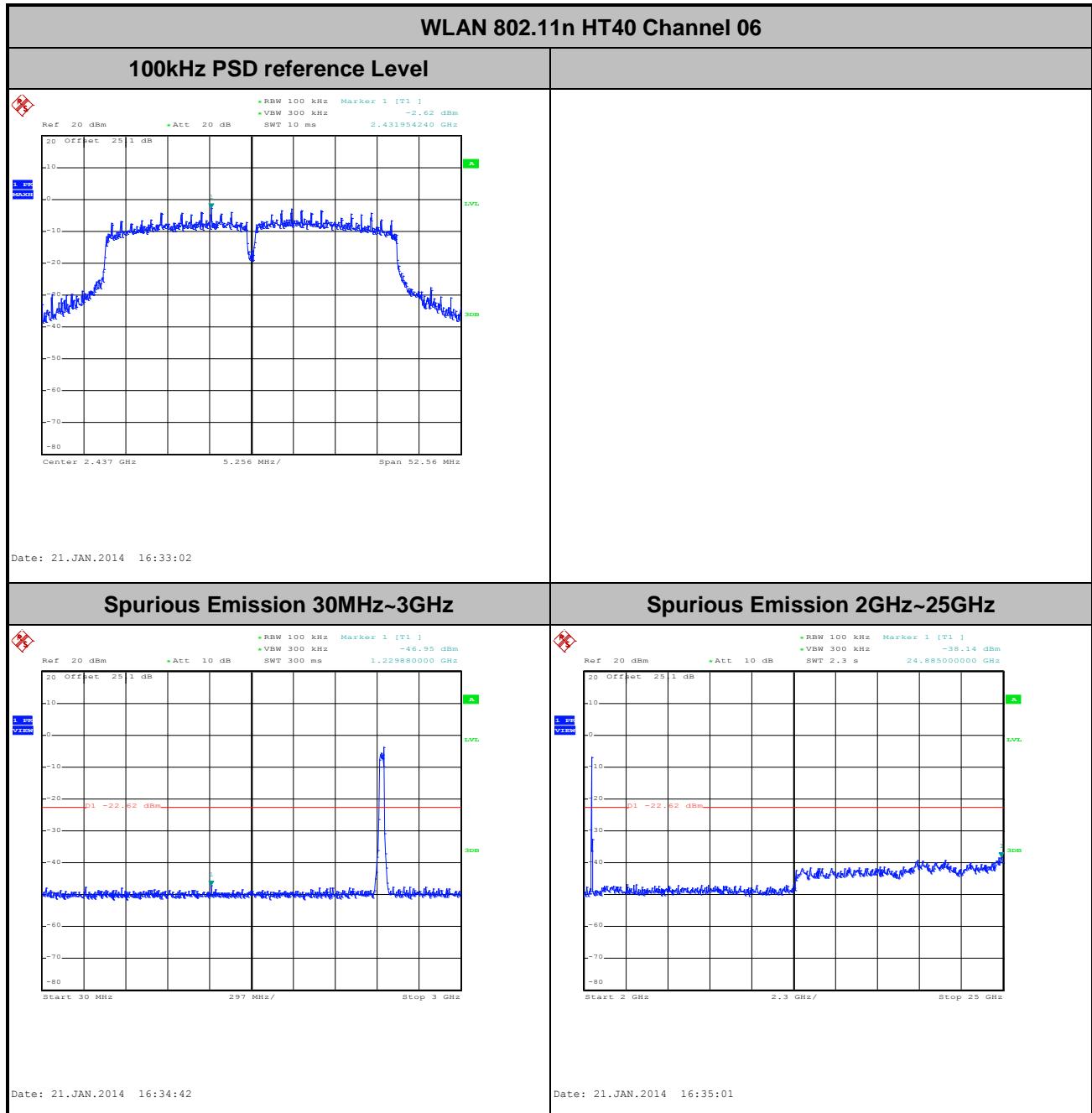
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin and Bill Kuo



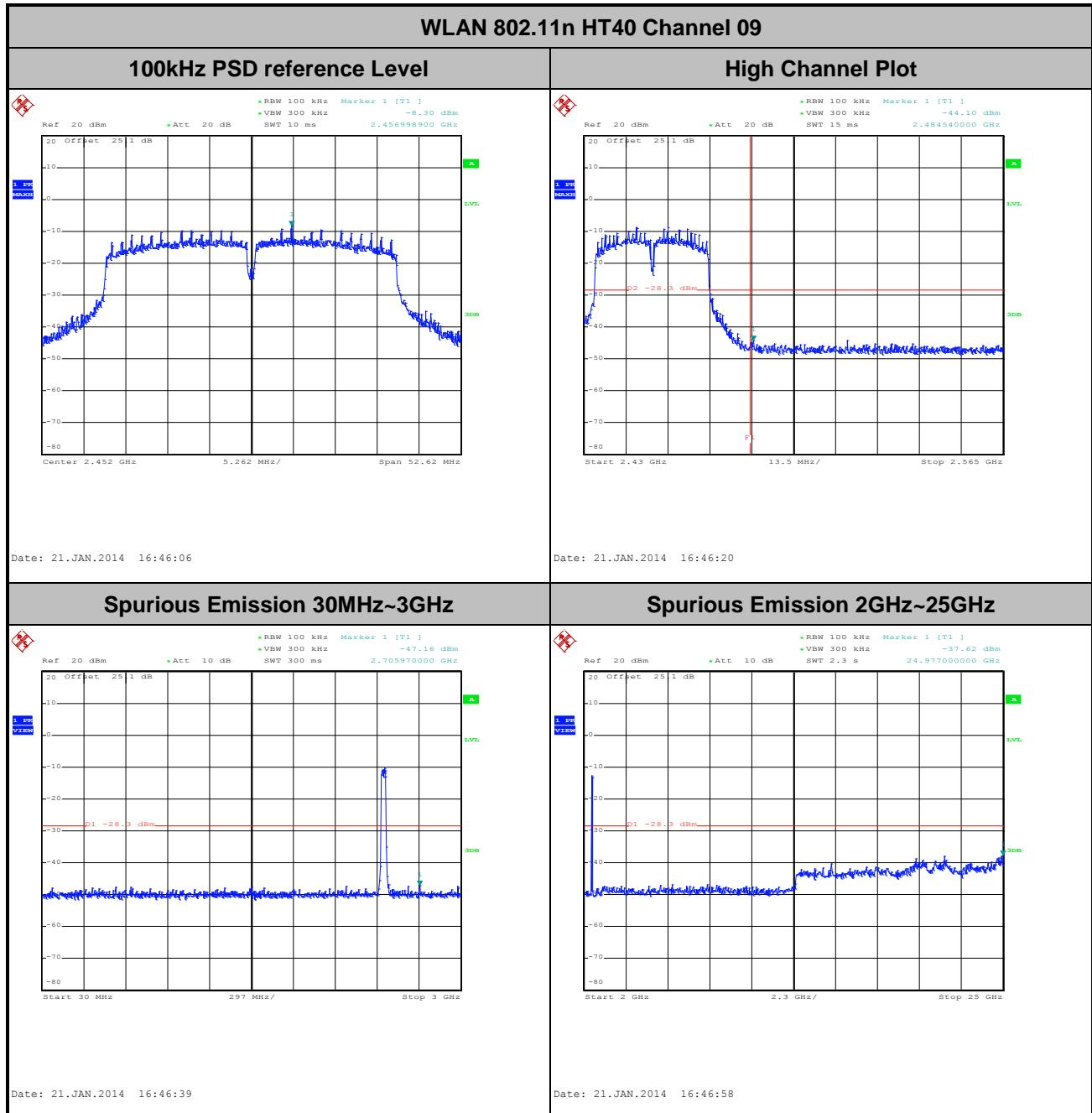
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	03	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo

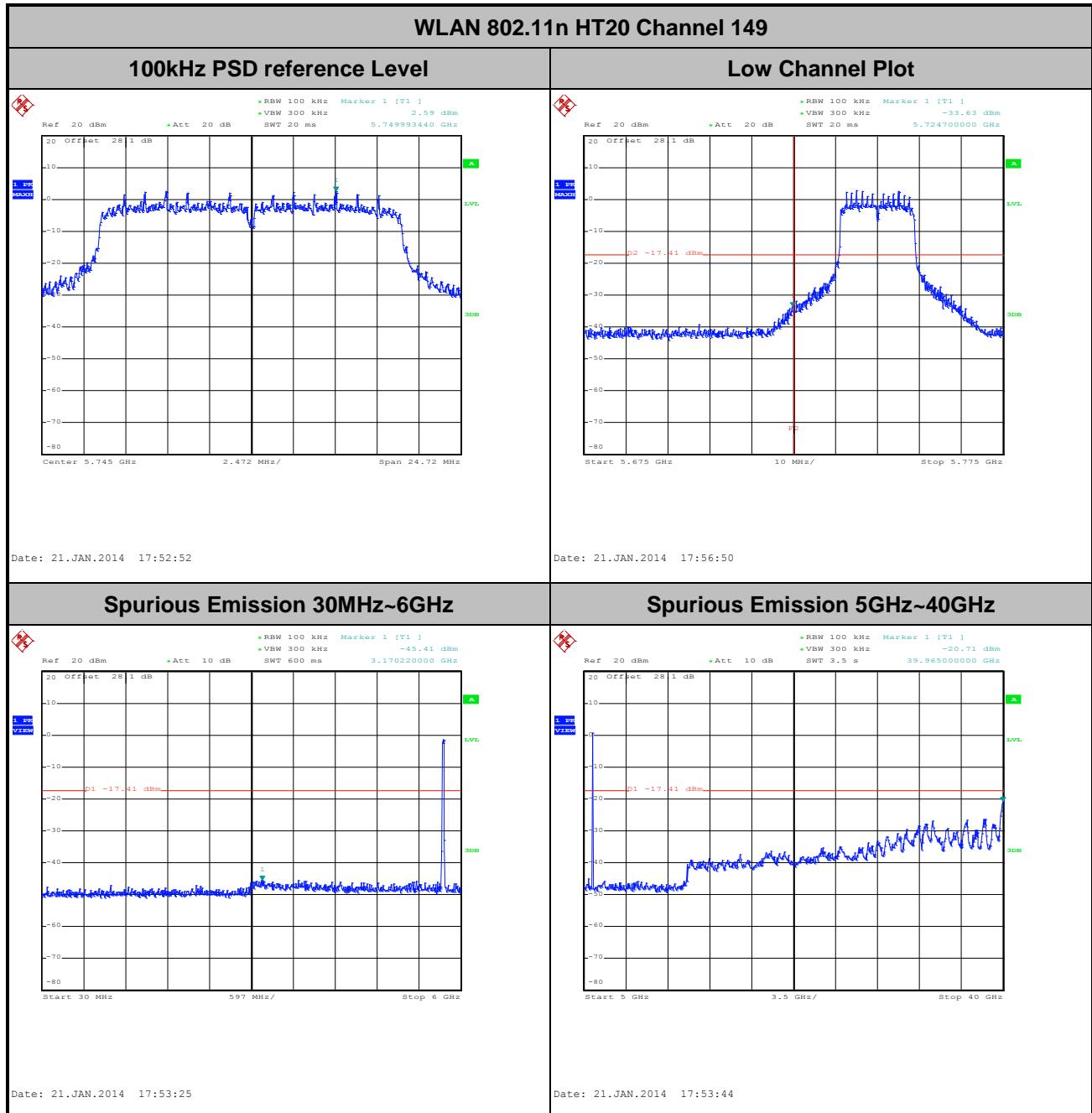


Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	09	Test Engineer :	Stuart Lin and Bill Kuo

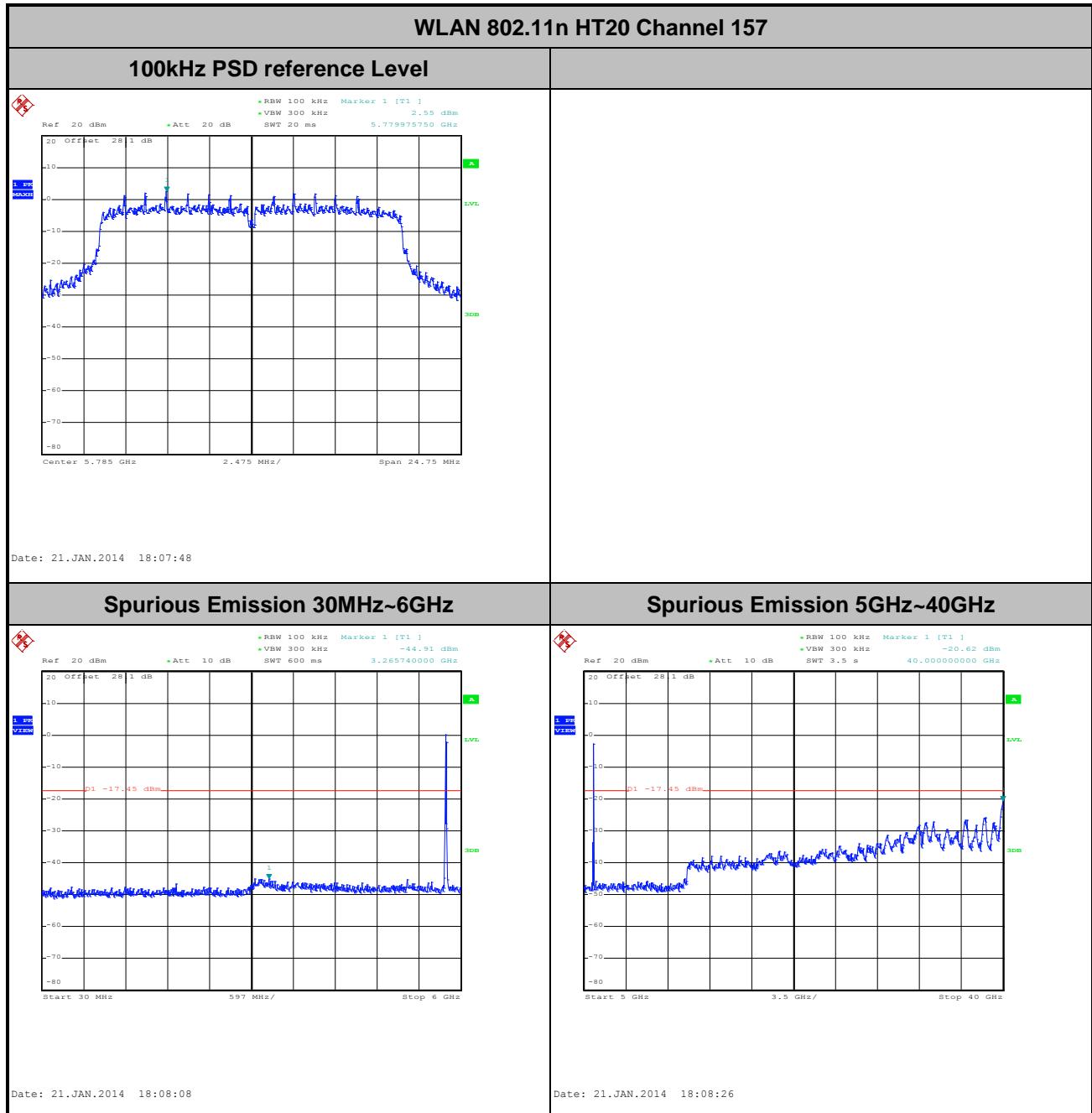


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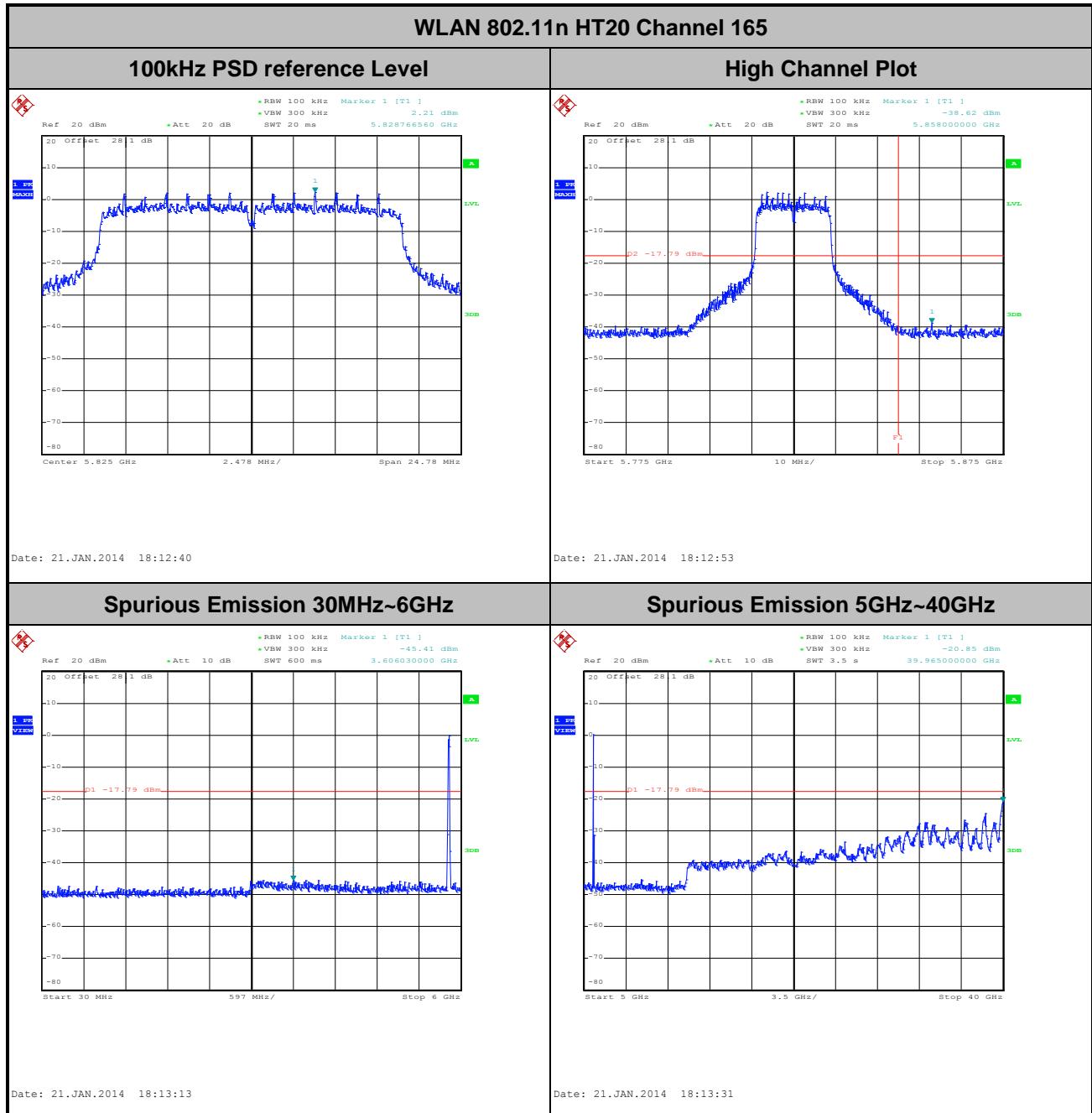
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	149	Test Engineer :	Stuart Lin and Bill Kuo



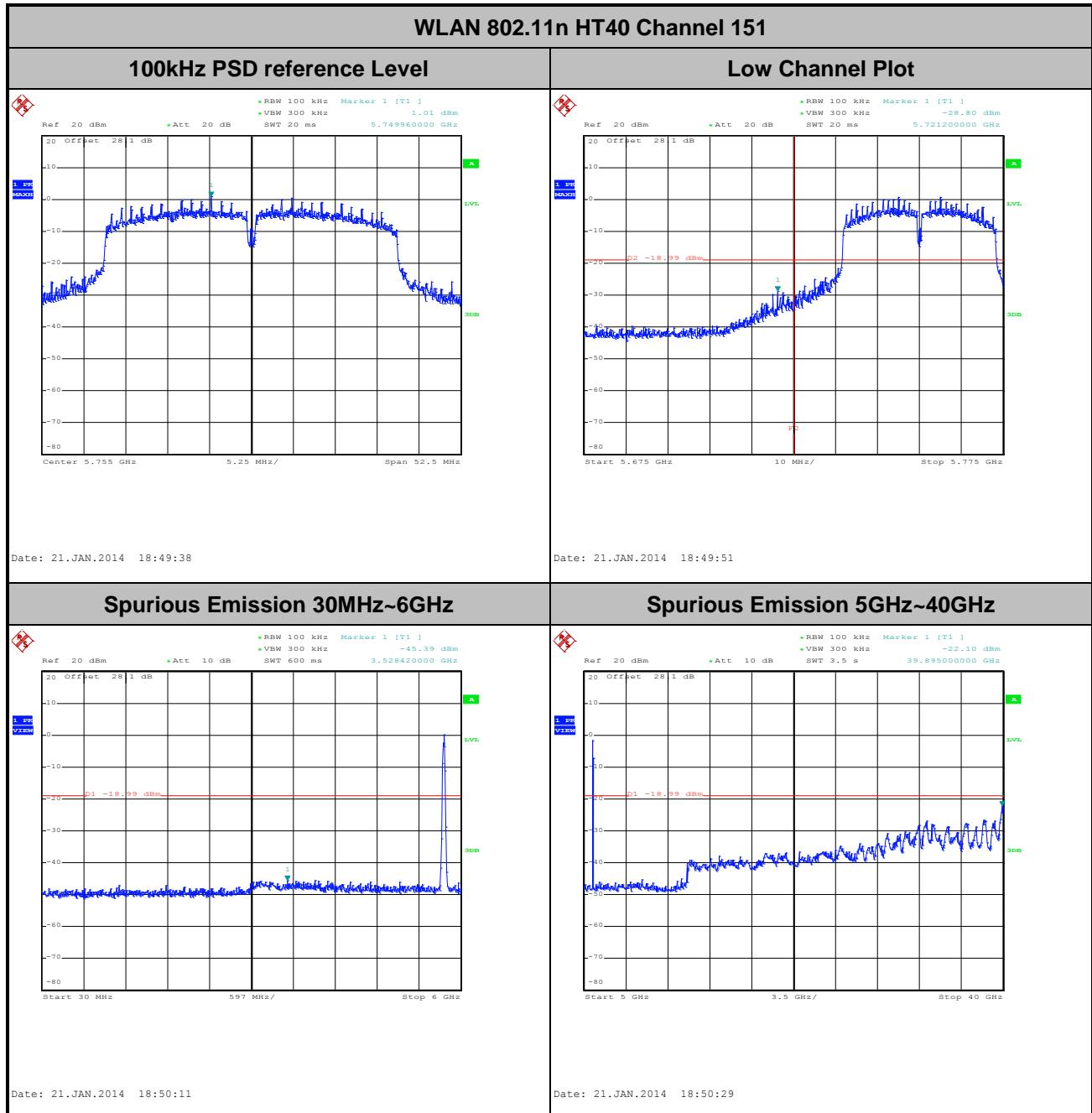
Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz Mid	Relative Humidity :	45~54%
Test Channel :	157	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	165	Test Engineer :	Stuart Lin and Bill Kuo

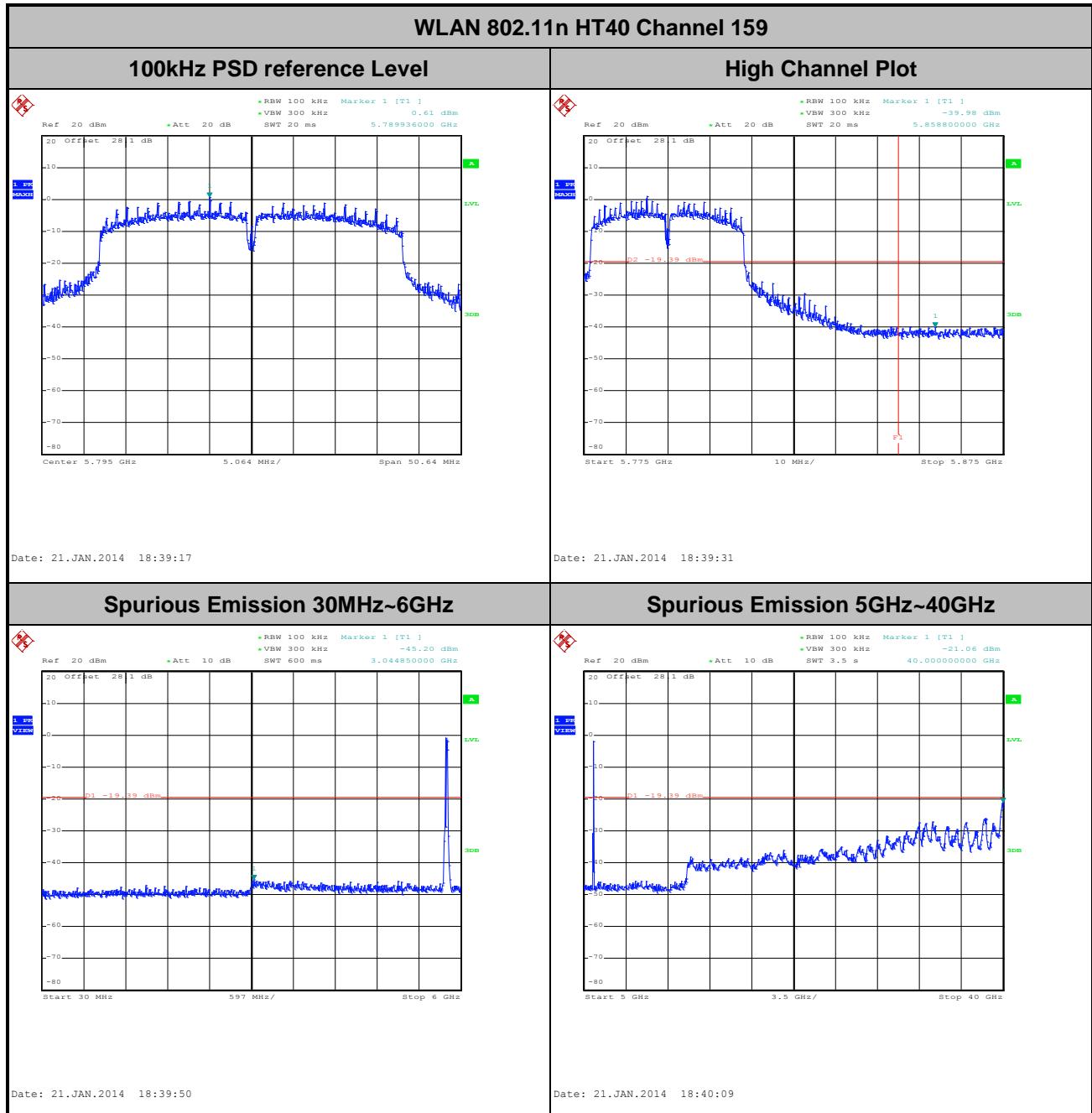


Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	151	Test Engineer :	Stuart Lin and Bill Kuo



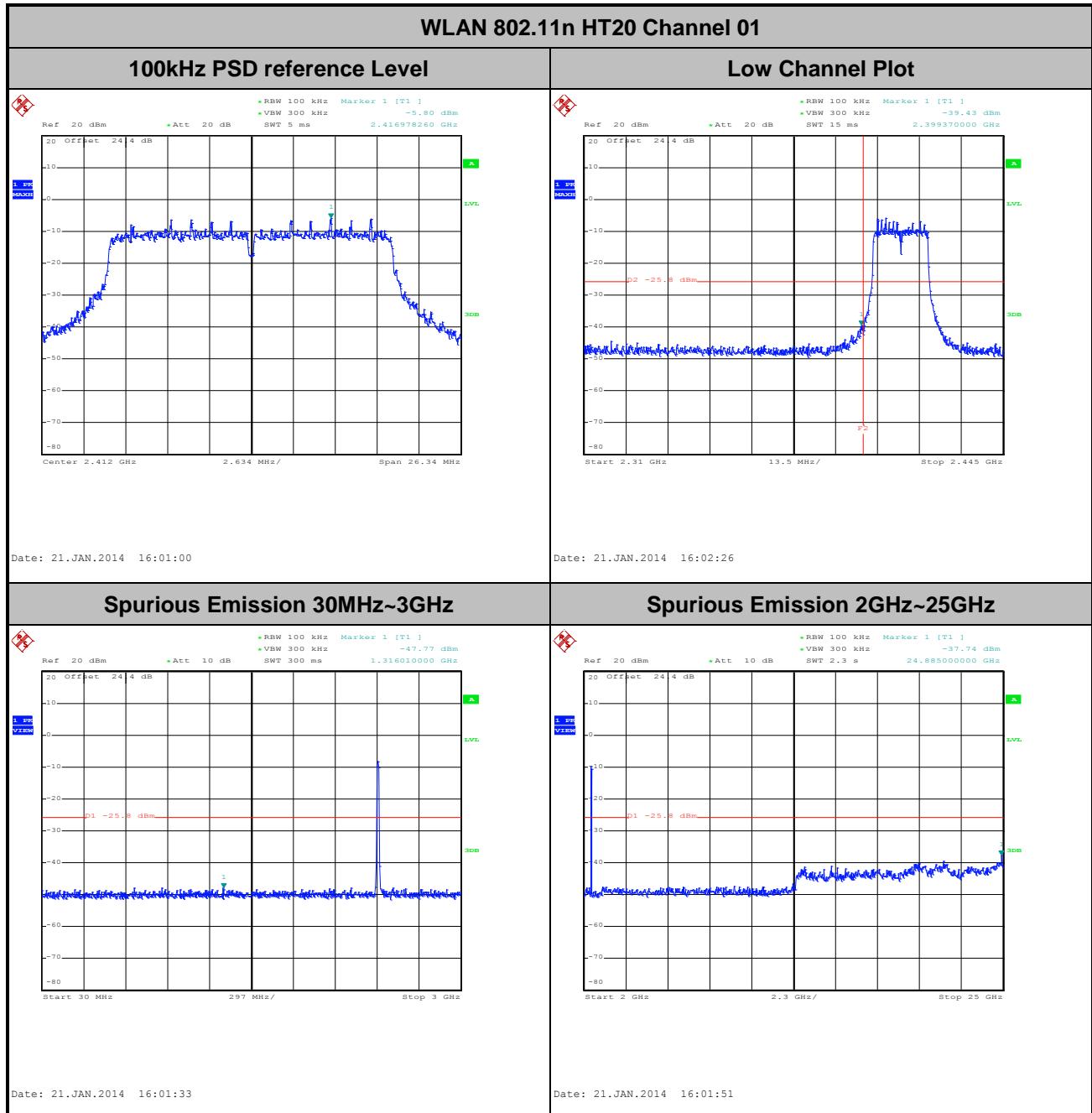
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Number of TX :	2	Ant. :	1
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	159	Test Engineer :	Stuart Lin and Bill Kuo



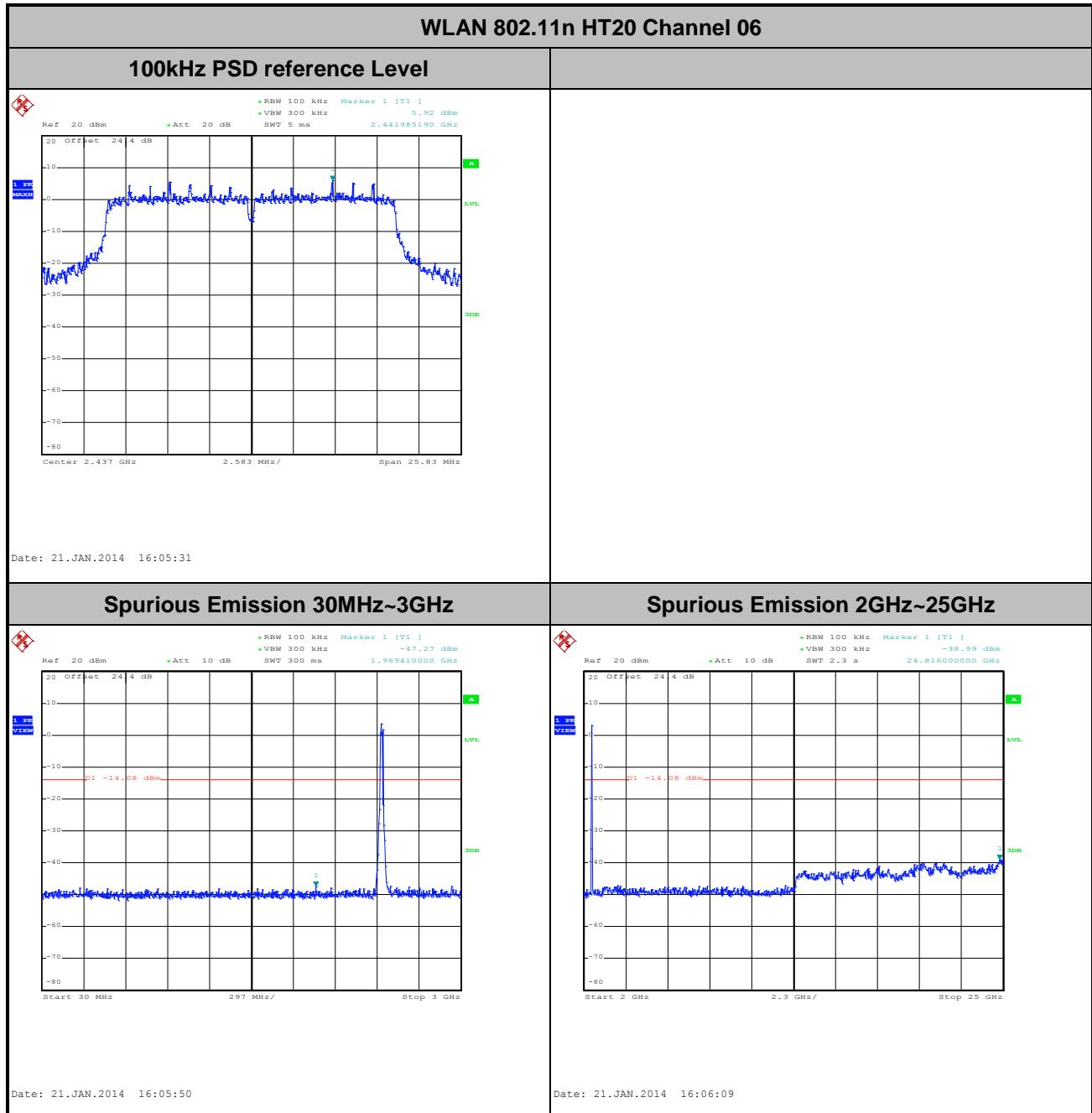
Number of TX = 2, Ant. 2 (Measured)

Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	01	Test Engineer :	Stuart Lin and Bill Kuo

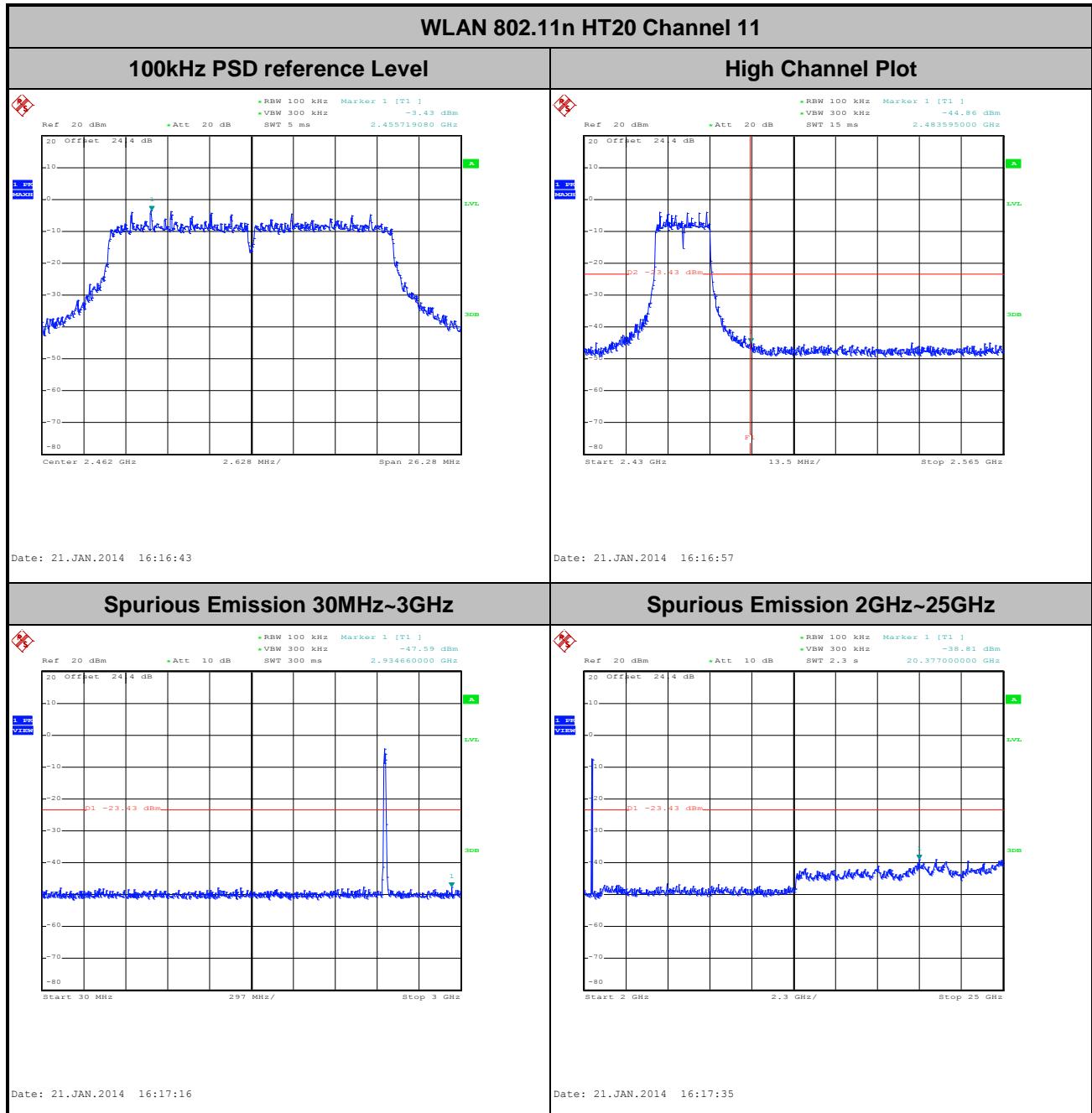


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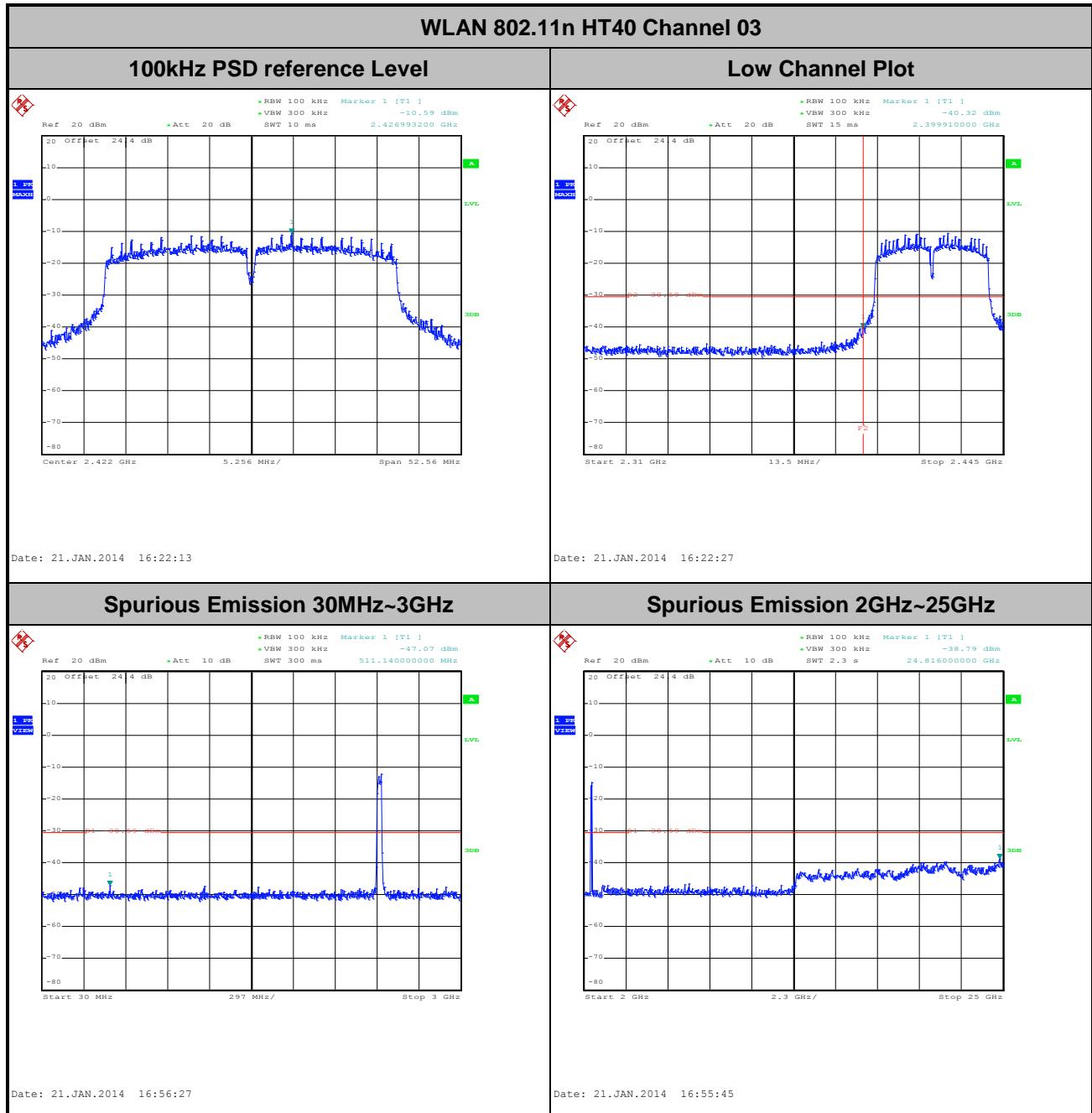
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo



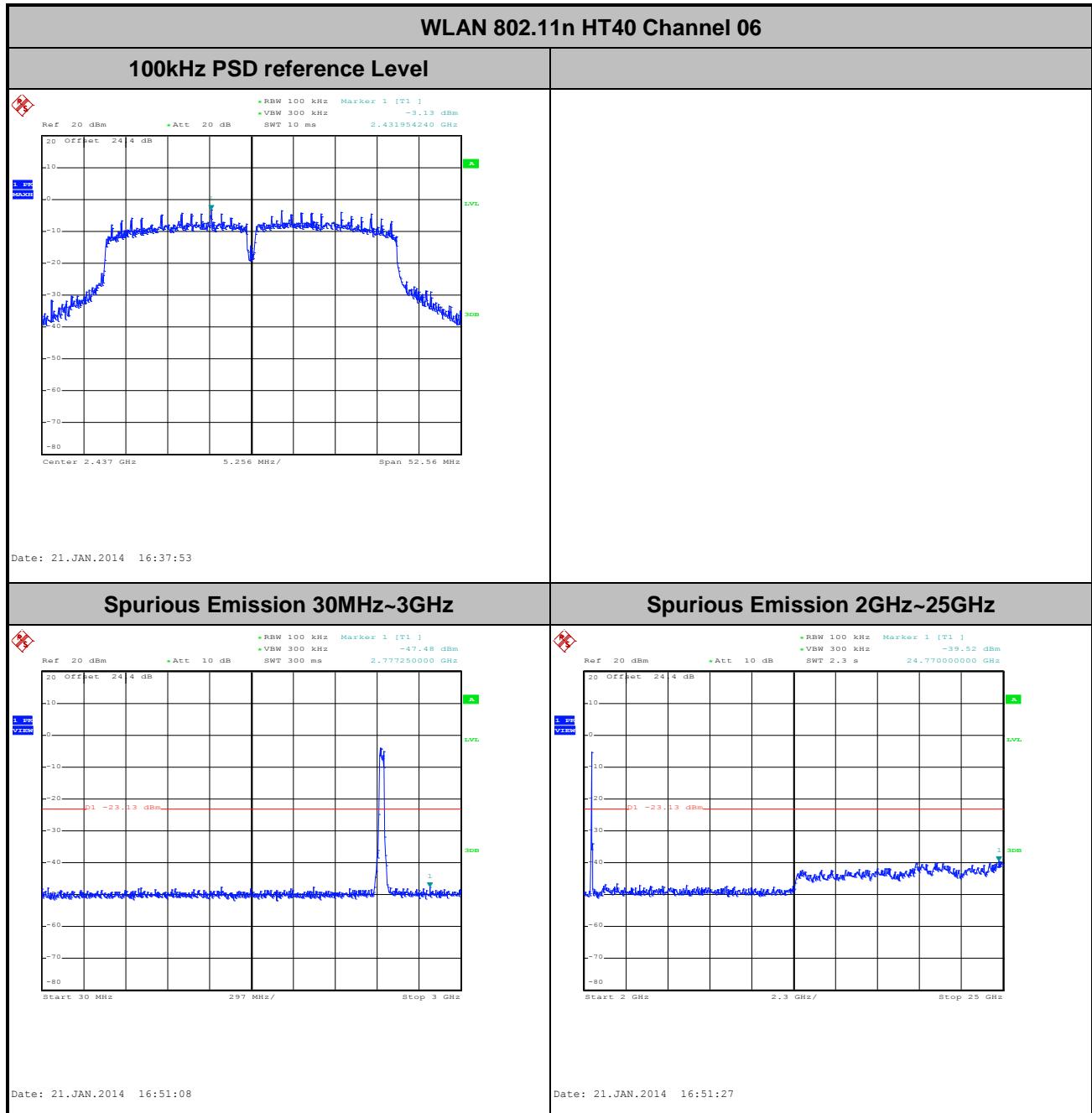
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	11	Test Engineer :	Stuart Lin and Bill Kuo



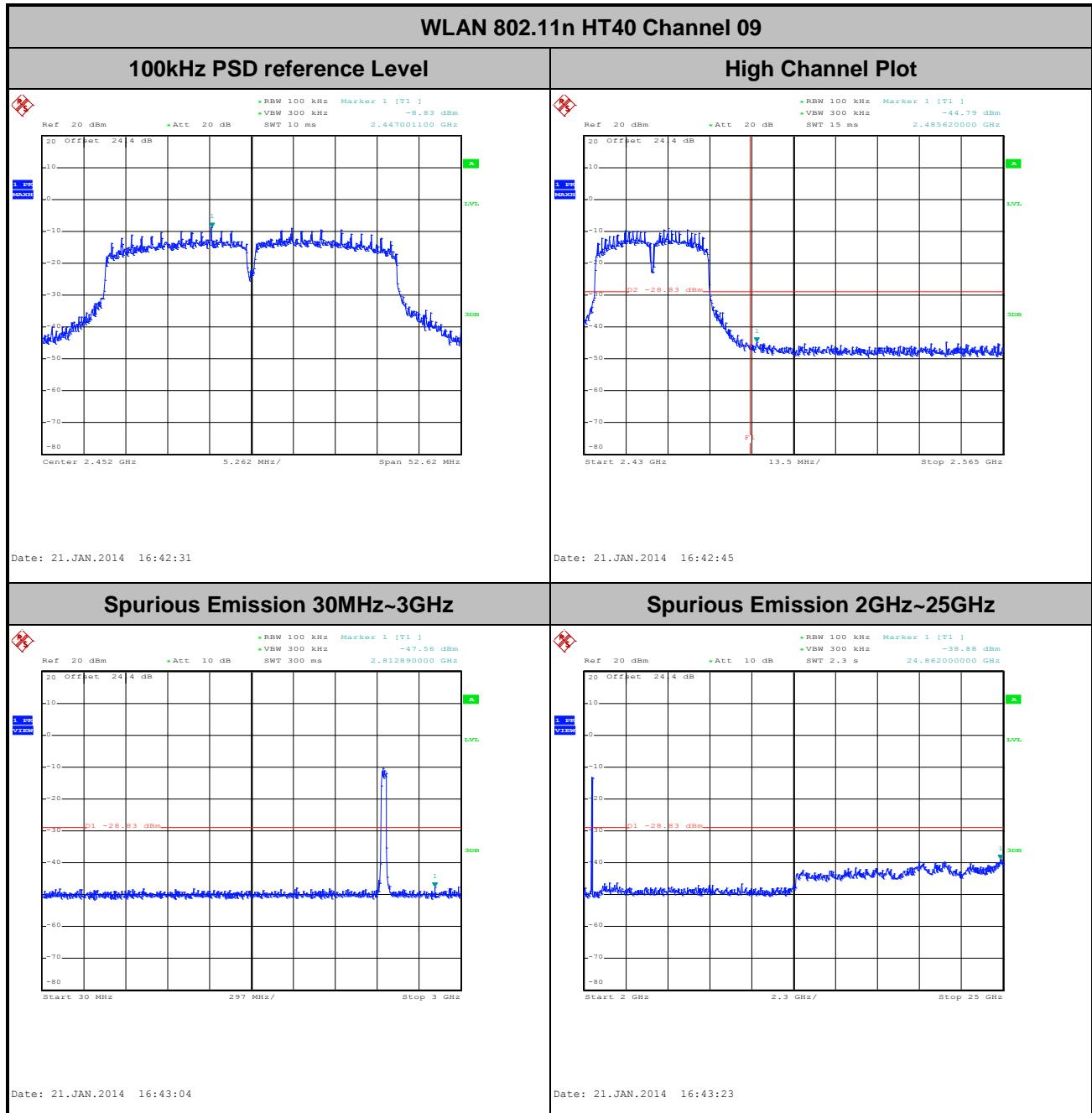
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz Low	Relative Humidity :	45~54%
Test Channel :	03	Test Engineer :	Stuart Lin and Bill Kuo



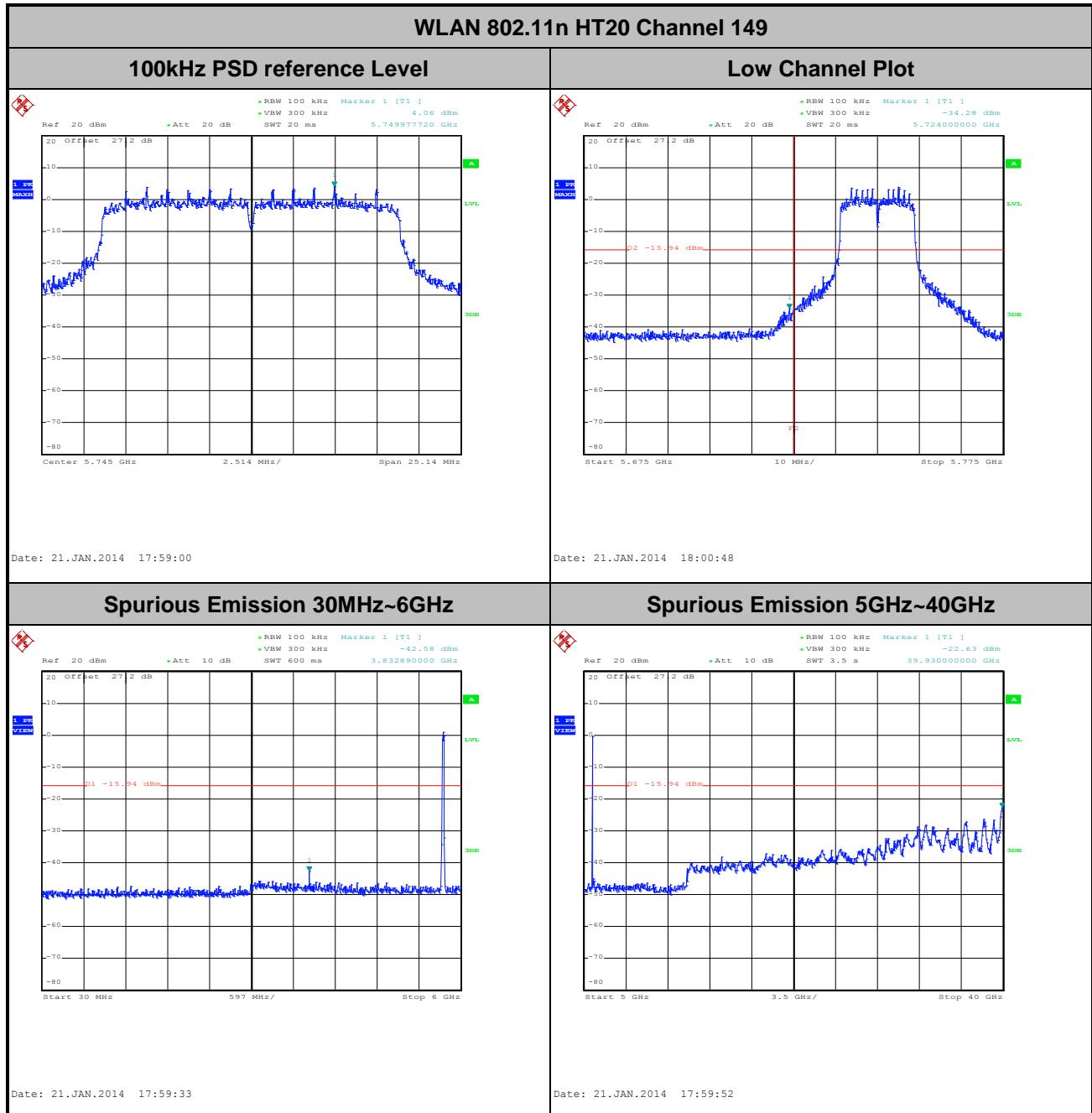
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	45~54%
Test Channel :	06	Test Engineer :	Stuart Lin and Bill Kuo



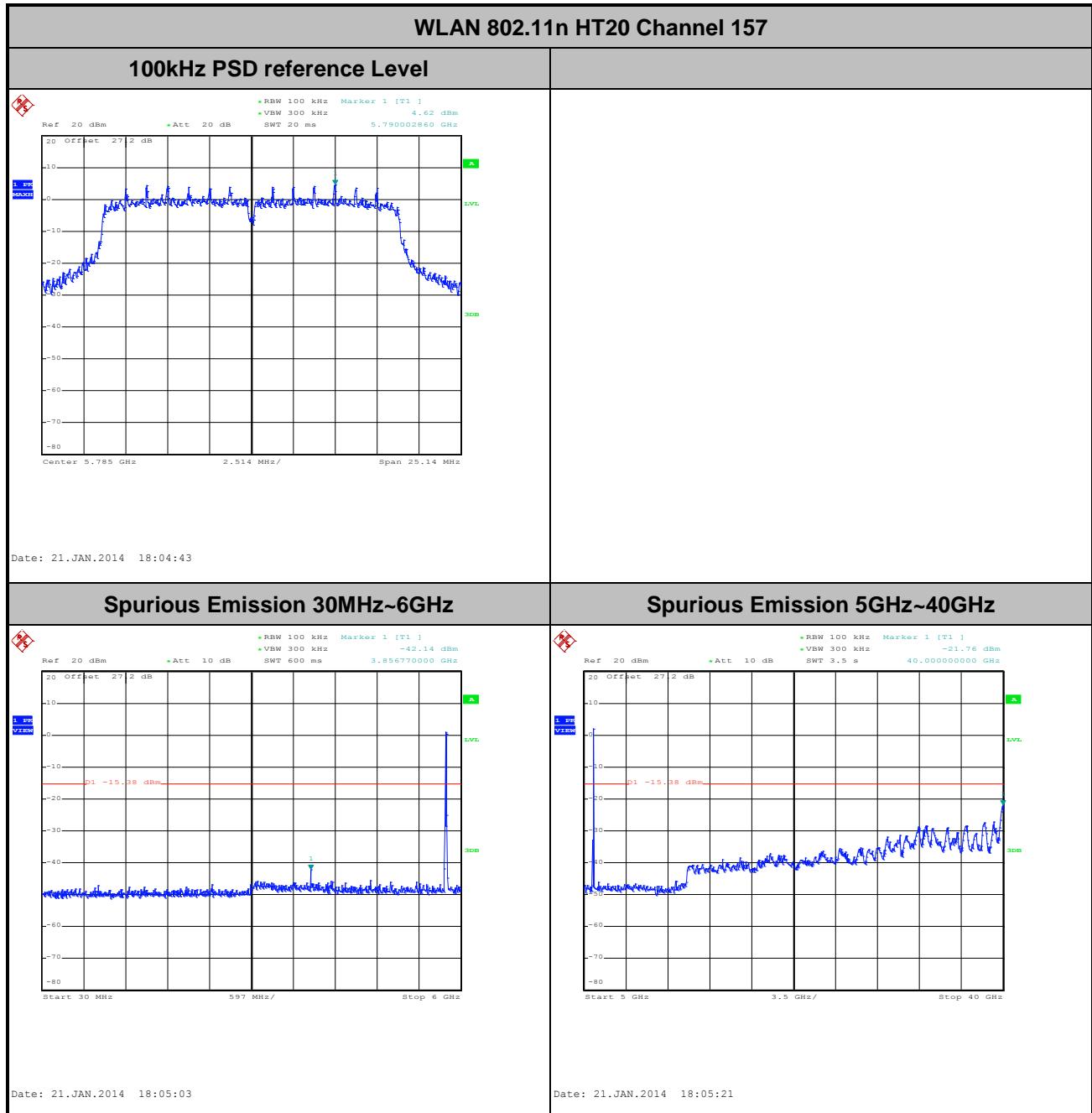
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	2.4GHz High	Relative Humidity :	45~54%
Test Channel :	09	Test Engineer :	Stuart Lin and Bill Kuo



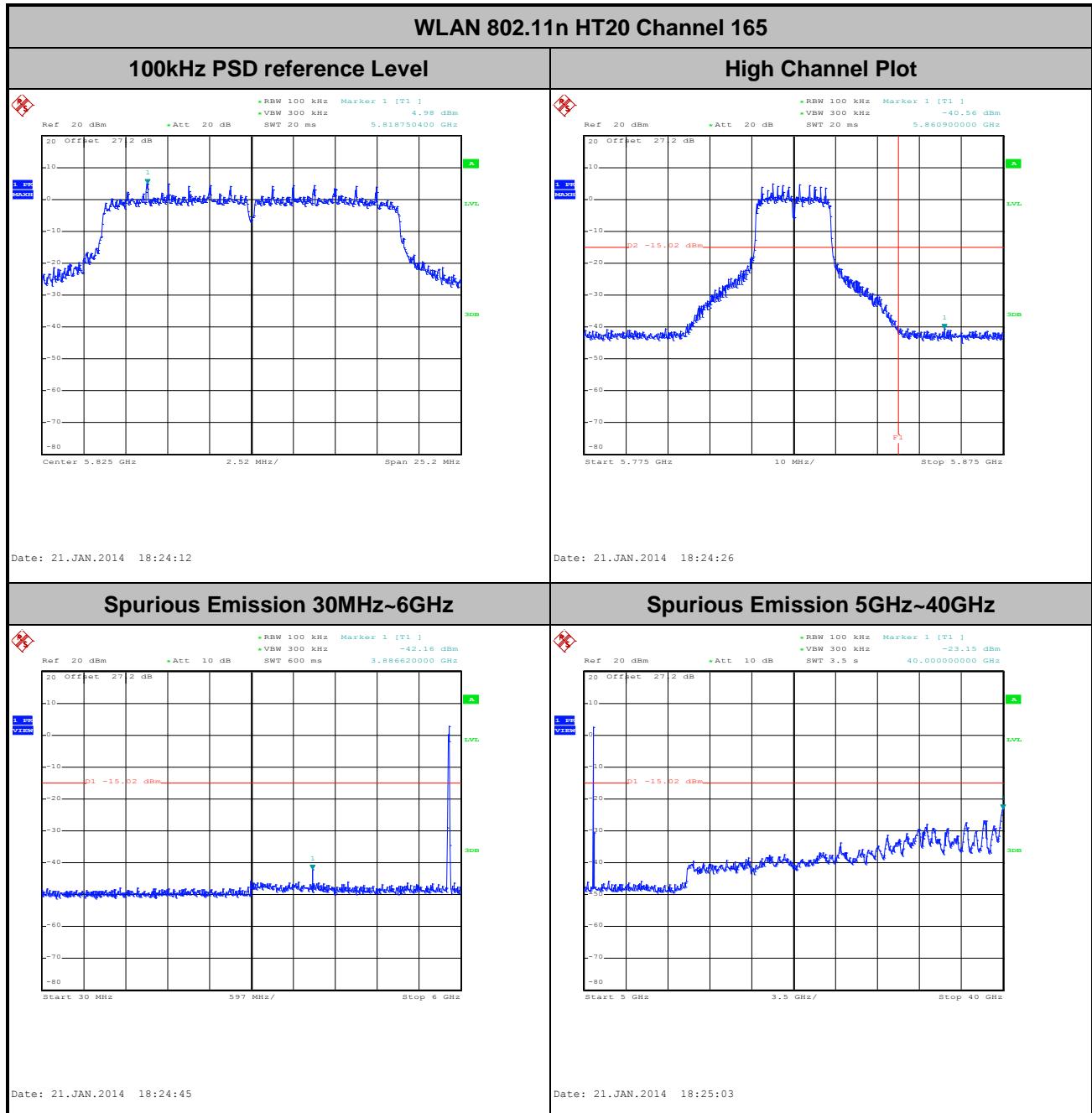
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	149	Test Engineer :	Stuart Lin and Bill Kuo



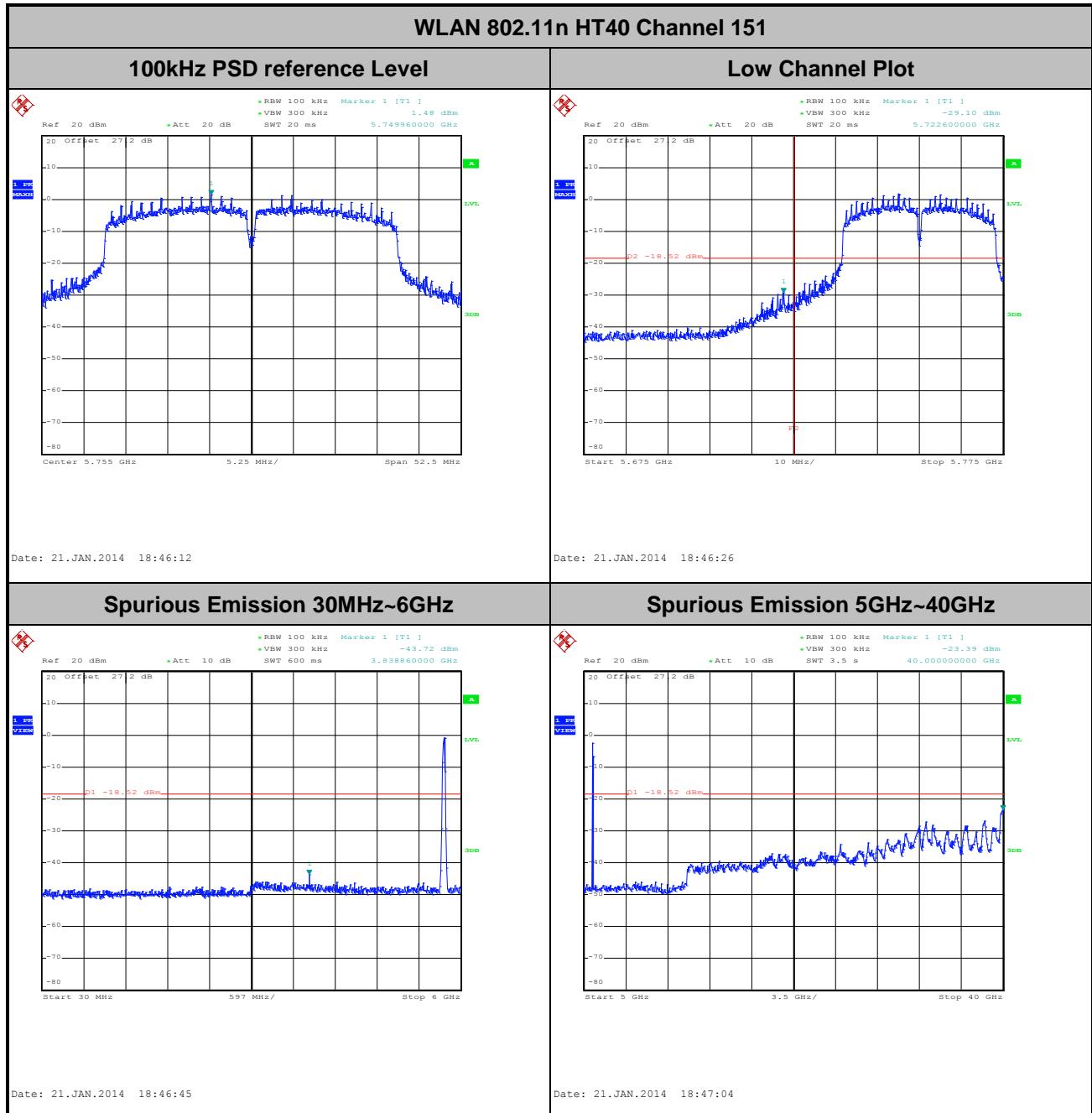
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz Mid	Relative Humidity :	45~54%
Test Channel :	157	Test Engineer :	Stuart Lin and Bill Kuo



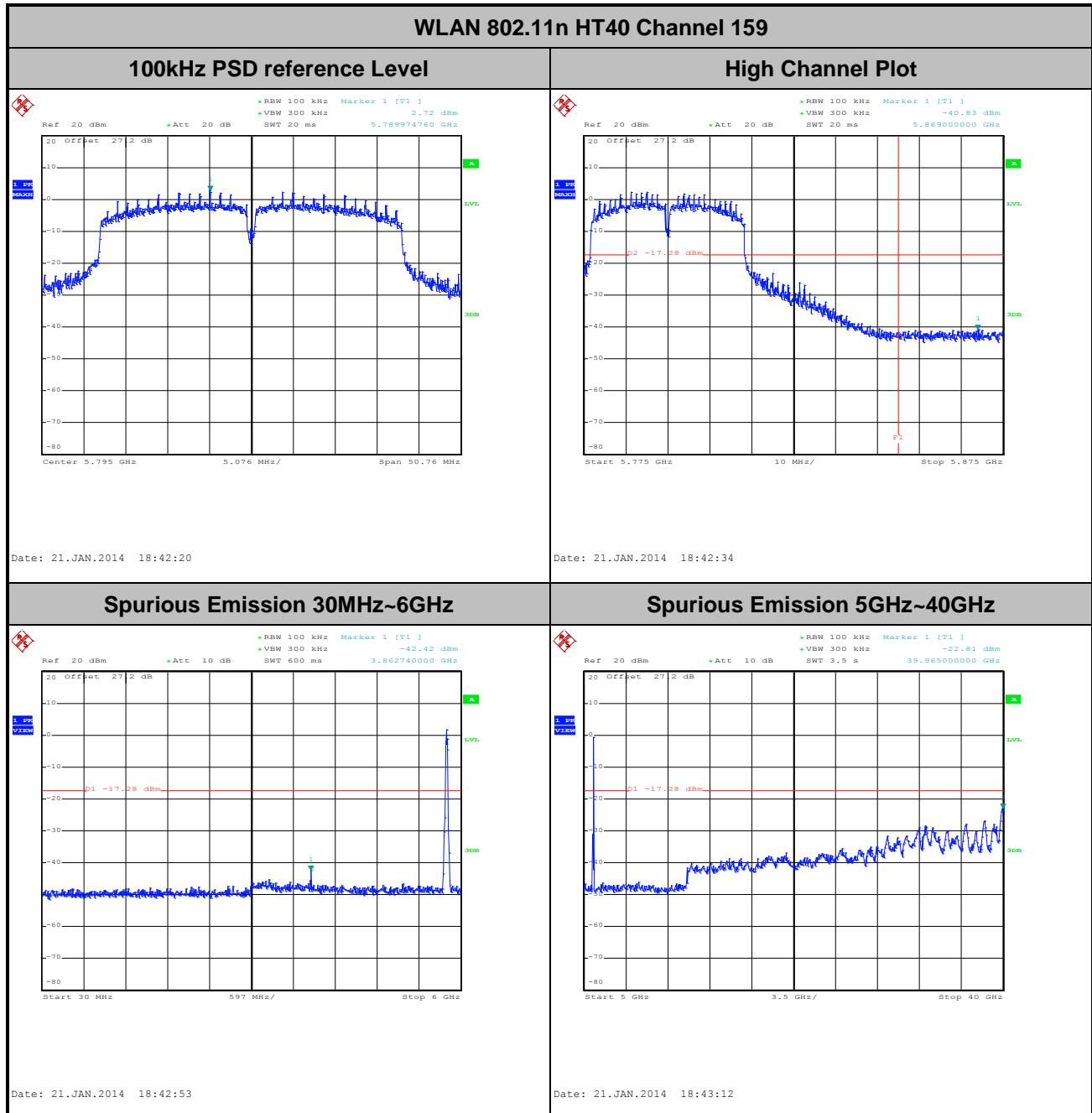
Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT20	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	165	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	5GHz Low	Relative Humidity :	45~54%
Test Channel :	151	Test Engineer :	Stuart Lin and Bill Kuo



Number of TX :	2	Ant. :	2
Test Mode :	802.11n HT40	Temperature :	21~26°C
Test Band :	5GHz High	Relative Humidity :	45~54%
Test Channel :	159	Test Engineer :	Stuart Lin and Bill Kuo



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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

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

3.5.3 Test Procedure

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

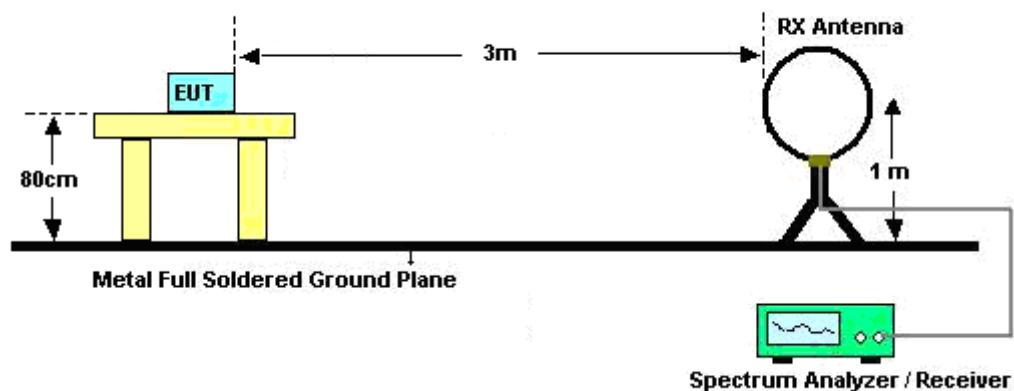
For average measurement:

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

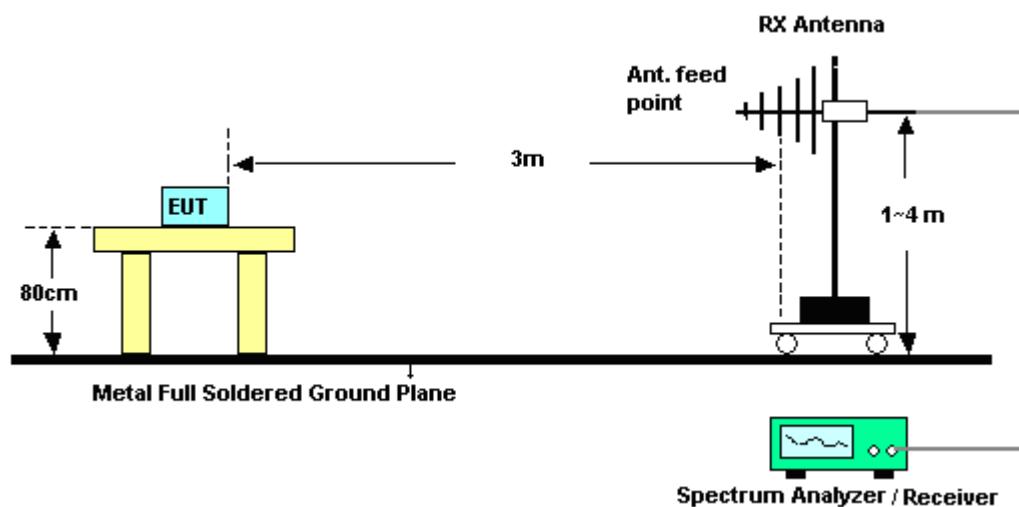
Antenna	Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
1	802.11b	100	-	-	10Hz
1	802.11g	97.36	2067.308	0.484	1kHz
1	2.4GHz 802.11n HT20	97.17	1923.077	0.520	1kHz
1	2.4GHz 802.11n HT40	94.74	951.923	1.050	3kHz
1	802.11a	98.1	-	-	10Hz
1	5GHz 802.11n HT20	97.96	1920.000	0.521	1kHz
1	5GHz 802.11n HT40	95.92	940.000	1.064	3kHz
1+2	2.4GHz 802.11n HT20	96.68	1915.064	0.522	1kHz
1+2	2.4GHz 802.11n HT40	94.08	948.077	1.055	3kHz
1+2	5GHz 802.11n HT20	97.96	1920.000	0.521	1kHz
1+2	5GHz 802.11n HT40	96.94	950.000	1.053	3kHz

3.5.4 Test Setup

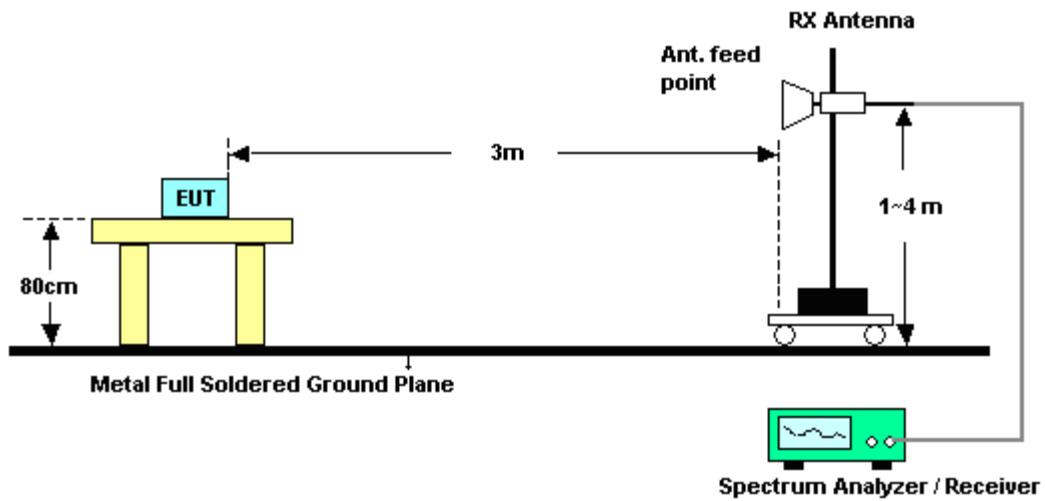
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.5.6 Test Result of Radiated Spurious at Band Edges

<Ant. 1>

Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	01	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.03	61.97	-12.03	74	59.4	32.27	6.22	35.92	100	184	Peak
2387.4	51.67	-2.33	54	49.1	32.27	6.22	35.92	100	184	Average

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	58.13	-15.87	74	55.77	32.06	6.22	35.92	105	292	Peak
2387.4	46.14	-7.86	54	43.78	32.06	6.22	35.92	105	292	Average

Test Mode :	802.11b	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	44~47%
Test Channel :	11	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2486.14	62.83	-11.17	74	59.58	32.63	6.45	35.83	120	195	Peak
2486.26	53.28	-0.72	54	50.03	32.63	6.45	35.83	120	195	Average

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2488.12	62.61	-11.39	74	59.29	32.7	6.45	35.83	129	303	Peak
2486.14	53.33	-0.67	54	50.12	32.59	6.45	35.83	129	306	Average

Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	01	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	69.48	-4.52	74	66.89	32.27	6.22	35.9	100	183	Peak
2390	53.06	-0.94	54	50.47	32.27	6.22	35.9	100	183	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	61.78	-12.22	74	59.4	32.06	6.22	35.9	134	303	Peak
2390	47.14	-6.86	54	44.76	32.06	6.22	35.9	134	303	Average

Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	02	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.47	69.49	-4.51	74	66.92	32.27	6.22	35.92	100	186	Peak
2389.92	53.04	-0.96	54	50.45	32.27	6.22	35.9	100	186	Average
2419	102.86	-	-	100.12	32.34	6.28	35.88	100	186	Average
2419	114.22	-	-	111.48	32.34	6.28	35.88	100	186	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.38	62.44	-11.56	74	60.08	32.06	6.22	35.92	133	300	Peak
2388.75	46.67	-7.33	54	44.31	32.06	6.22	35.92	133	300	Average
2419	95.92	-	-	93.36	32.16	6.28	35.88	133	300	Average
2419	106.54	-	-	103.98	32.16	6.28	35.88	133	300	Peak

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Test Mode :	802.11g	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	03	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	70.65	-3.35	74	68.08	32.27	6.22	35.92	100	182	Peak
2389.74	52.97	-1.03	54	50.4	32.27	6.22	35.92	100	182	Average
2420	104.55	-	-	101.74	32.41	6.28	35.88	100	182	Average
2420	115.13	-	-	112.32	32.41	6.28	35.88	100	182	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.38	62.54	-11.46	74	60.18	32.06	6.22	35.92	134	305	Peak
2389.65	47.32	-6.68	54	44.96	32.06	6.22	35.92	134	305	Average
2420	97.85	-	-	95.18	32.27	6.28	35.88	134	305	Average
2420	108.49	-	-	105.82	32.27	6.28	35.88	134	305	Peak

Test Mode :	802.11g	Temperature :		22~24°C		
Test Band :	High	Relative Humidity :		44~47%		
Test Channel :	10	Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2455	102.86	-	-	99.76	32.56	6.39	35.85	119	188	Average
2455	112.8	-	-	109.7	32.56	6.39	35.85	119	188	Peak
2484.04	67.13	-6.87	74	63.88	32.63	6.45	35.83	119	188	Peak
2483.53	51.24	-2.76	54	47.99	32.63	6.45	35.83	119	188	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2455	99.78	-	-	96.75	32.49	6.39	35.85	104	298	Average
2455	109.87	-	-	106.84	32.49	6.39	35.85	104	298	Peak
2484.07	68.38	-5.62	74	65.17	32.59	6.45	35.83	104	298	Peak
2483.5	52.97	-1.03	54	49.76	32.59	6.45	35.83	104	298	Average

Test Mode :	802.11g	Temperature :		22~24°C		
Test Band :	High	Relative Humidity :		44~47%		
Test Channel :	11	Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	65.92	-8.08	74	62.67	32.63	6.45	35.83	121	174	Peak
2483.5	50.38	-3.62	54	47.13	32.63	6.45	35.83	121	174	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.98	71.14	-2.86	74	67.93	32.59	6.45	35.83	102	286	Peak
2483.5	52.9	-1.1	54	49.69	32.59	6.45	35.83	102	286	Average

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Test Mode :	802.11n HT20			Temperature :		22~24°C		
Test Band :	Low			Relative Humidity :		44~47%		
Test Channel :	01			Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	68.84	-5.16	74	66.25	32.27	6.22	35.9	100	180	Peak
2390	53.21	-0.79	54	50.62	32.27	6.22	35.9	100	180	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	63.6	-10.4	74	61.24	32.06	6.22	35.92	105	291	Peak
2390	47.78	-6.22	54	45.4	32.06	6.22	35.9	105	291	Average

Test Mode :	802.11n HT20			Temperature :		22~24°C		
Test Band :	Low			Relative Humidity :		44~47%		
Test Channel :	02			Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	68.53	-5.47	74	65.96	32.27	6.22	35.92	100	177	Peak
2389.92	53.06	-0.94	54	50.47	32.27	6.22	35.9	100	177	Average
2415	102.73	-	-	100.01	32.34	6.28	35.9	100	177	Average
2415	113.47	-	-	110.75	32.34	6.28	35.9	100	177	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.65	61.97	-12.03	74	59.61	32.06	6.22	35.92	133	300	Peak
2390	47.01	-6.99	54	44.63	32.06	6.22	35.9	133	300	Average
2419	95.92	-	-	93.36	32.16	6.28	35.88	133	300	Average
2419	106.39	-	-	103.83	32.16	6.28	35.88	133	300	Peak

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Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	03	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.84	68.68	-5.32	74	66.11	32.27	6.22	35.92	100	172	Peak
2390	52.67	-1.33	54	50.08	32.27	6.22	35.9	100	172	Average
2420	104.23	-	-	101.42	32.41	6.28	35.88	100	172	Average
2420	114.74	-	-	111.93	32.41	6.28	35.88	100	172	Peak

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	63.97	-10.03	74	61.61	32.06	6.22	35.92	106	292	Peak
2390	48.7	-5.3	54	46.32	32.06	6.22	35.9	106	292	Average
2422	97.28	-	-	94.61	32.27	6.28	35.88	106	292	Average
2422	107.71	-	-	105.04	32.27	6.28	35.88	106	292	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	04	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.74	70.56	-3.44	74	67.99	32.27	6.22	35.92	100	192	Peak
2389.83	52.91	-1.09	54	50.32	32.27	6.22	35.9	100	192	Average
2426	106.39	-	-	103.58	32.41	6.28	35.88	100	192	Average
2426	116.29	-	-	113.48	32.41	6.28	35.88	100	192	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	65.79	-8.21	74	63.41	32.06	6.22	35.9	133	116	Peak
2389.83	49.04	-4.96	54	46.66	32.06	6.22	35.9	133	116	Average
2425	102.07	-	-	99.4	32.27	6.28	35.88	133	116	Average
2425	112.08	-	-	109.41	32.27	6.28	35.88	133	116	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Middle	Relative Humidity :	44~47%
Test Channel :	06	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.93	63.83	-10.17	74	61.26	32.27	6.22	35.92	100	185	Peak
2389.92	48.7	-5.3	54	46.11	32.27	6.22	35.9	100	185	Average
2484.13	59.43	-14.57	74	56.18	32.63	6.45	35.83	100	185	Peak
2483.53	45.38	-8.62	54	42.13	32.63	6.45	35.83	100	185	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.4	56.95	-17.05	74	54.59	32.06	6.22	35.92	103	285	Peak
2389.65	44.23	-9.77	54	41.87	32.06	6.22	35.92	103	285	Average
2485.09	61.05	-12.95	74	57.84	32.59	6.45	35.83	103	285	Peak
2483.77	46.34	-7.66	54	43.13	32.59	6.45	35.83	103	285	Average

Test Mode :	802.11n HT20			Temperature :		22~24°C		
Test Band :	High			Relative Humidity :		44~47%		
Test Channel :	10			Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.65	68.41	-5.59	74	65.16	32.63	6.45	35.83	118	199	Peak
2483.5	52.63	-1.37	54	49.38	32.63	6.45	35.83	118	199	Average
2455	102.21	-	-	99.11	32.56	6.39	35.85	118	199	Average
2455	112.89	-	-	109.79	32.56	6.39	35.85	118	199	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.5	68.7	-5.3	74	65.49	32.59	6.45	35.83	105	295	Peak
2483.5	53.25	-0.75	54	50.04	32.59	6.45	35.83	105	295	Average
2455	99.55	-	-	96.52	32.49	6.39	35.85	105	295	Average
2455	110.35	-	-	107.32	32.49	6.39	35.85	105	295	Peak

Test Mode :	802.11n HT20			Temperature :		22~24°C		
Test Band :	High			Relative Humidity :		44~47%		
Test Channel :	11			Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.86	67.22	-6.78	74	63.97	32.63	6.45	35.83	119	180	Peak
2483.5	52.21	-1.79	54	48.96	32.63	6.45	35.83	119	180	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.65	68.74	-5.26	74	65.53	32.59	6.45	35.83	130	290	Peak
2483.5	53.19	-0.81	54	49.98	32.59	6.45	35.83	130	290	Average

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Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	03	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.93	64.38	-9.62	74	61.81	32.27	6.22	35.92	100	174	Peak
2390	53.31	-0.69	54	50.72	32.27	6.22	35.9	100	174	Average
2486.08	57.73	-16.27	74	54.48	32.63	6.45	35.83	100	174	Peak
2494.57	44.9	-9.1	54	41.55	32.7	6.45	35.8	100	174	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2384.88	59.6	-14.4	74	57.35	31.95	6.22	35.92	105	291	Peak
2389.2	47.83	-6.17	54	45.47	32.06	6.22	35.92	105	291	Average
2490.25	58.24	-15.76	74	54.92	32.7	6.45	35.83	105	291	Peak
2492.47	45.12	-8.88	54	41.77	32.7	6.45	35.8	105	291	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	04	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.93	65.67	-8.33	74	63.1	32.27	6.22	35.92	100	181	Peak
2389.83	53.16	-0.84	54	50.57	32.27	6.22	35.9	100	181	Average
2429	95.59	-	-	92.72	32.41	6.34	35.88	100	181	Average
2429	106.19	-	-	103.32	32.41	6.34	35.88	100	181	Peak
2486.14	57.88	-16.12	74	54.63	32.63	6.45	35.83	100	181	Peak
2484.61	45.14	-8.86	54	41.89	32.63	6.45	35.83	100	181	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.58	59.24	-14.76	74	56.88	32.06	6.22	35.92	129	297	Peak
2389.83	46.51	-7.49	54	44.13	32.06	6.22	35.9	129	297	Average
2429	88.75	-	-	86.02	32.27	6.34	35.88	129	297	Average
2429	99.49	-	-	96.76	32.27	6.34	35.88	129	297	Peak
2483.68	58.32	-15.68	74	55.11	32.59	6.45	35.83	129	297	Peak
2490.61	45.56	-8.44	54	42.24	32.7	6.45	35.83	129	297	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	05	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	67.1	-6.9	74	64.51	32.27	6.22	35.9	102	182	Peak
2389.92	52.66	-1.34	54	50.07	32.27	6.22	35.9	102	182	Average
2430	96.5	-	-	93.63	32.41	6.34	35.88	102	182	Average
2430	106.95	-	-	104.08	32.41	6.34	35.88	102	182	Peak
2483.71	57.68	-16.32	74	54.43	32.63	6.45	35.83	102	182	Peak
2484.43	45.13	-8.87	54	41.88	32.63	6.45	35.83	102	182	Average

ANTENNA POLARITY : VERTICAL

Frequency (mz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.74	59.89	-14.11	74	57.53	32.06	6.22	35.92	130	285	Peak
2389.11	46.56	-7.44	54	44.2	32.06	6.22	35.92	130	285	Average
2434	91.32	-	-	88.59	32.27	6.34	35.88	130	285	Average
2434	102.1	-	-	99.37	32.27	6.34	35.88	130	285	Peak
2493.55	58.38	-15.62	74	55.03	32.7	6.45	35.8	130	285	Peak
2484.13	45.45	-8.55	54	42.24	32.59	6.45	35.83	130	285	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Middle	Relative Humidity :	44~47%
Test Channel :	06	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.29	66.01	-7.99	74	63.44	32.27	6.22	35.92	100	177	Peak
2390	53.21	-0.79	54	50.62	32.27	6.22	35.9	100	177	Average
2483.92	59.88	-14.12	74	56.63	32.63	6.45	35.83	100	177	Peak
2483.89	47.14	-6.86	54	43.89	32.63	6.45	35.83	100	177	Average

ANTENNA POLARITY : VERTICAL

Frequency (mz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.02	60.71	-13.29	74	58.35	32.06	6.22	35.92	104	293	Peak
2389.74	47.56	-6.44	54	45.2	32.06	6.22	35.92	104	293	Average
2483.65	64.3	-9.7	74	61.09	32.59	6.45	35.83	104	293	Peak
2483.5	49.89	-4.11	54	46.68	32.59	6.45	35.83	104	293	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	44~47%
Test Channel :	08	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2379.66	58.53	-15.47	74	56.04	32.2	6.21	35.92	100	198	Peak
2388.93	45.66	-8.34	54	43.09	32.27	6.22	35.92	100	198	Average
2449	92.61	-	-	89.74	32.38	6.34	35.85	104	293	Average
2449	103.47	-	-	100.6	32.38	6.34	35.85	104	293	Peak
2483.59	64.13	-9.87	74	60.88	32.63	6.45	35.83	100	198	Peak
2483.65	51.46	-2.54	54	48.21	32.63	6.45	35.83	100	198	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2321.97	56.73	-17.27	74	54.89	31.63	6.18	35.97	104	293	Peak
2385.6	44.52	-9.48	54	42.16	32.06	6.22	35.92	104	293	Average
2445	96.06	-	-	93.08	32.49	6.34	35.85	100	198	Average
2445	106.14	-	-	103.16	32.49	6.34	35.85	100	198	Peak
2483.53	66.24	-7.76	74	63.03	32.59	6.45	35.83	104	293	Peak
2483.8	53.35	-0.65	54	50.14	32.59	6.45	35.83	104	293	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	44~47%
Test Channel :	09	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.23	57.59	-16.41	74	55.02	32.27	6.22	35.92	118	201	Peak
2387.04	44.74	-9.26	54	42.17	32.27	6.22	35.92	118	201	Average
2484.19	64.27	-9.73	74	61.02	32.63	6.45	35.83	118	201	Peak
2483.56	52.79	-1.21	54	49.54	32.63	6.45	35.83	118	201	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2349.6	56.75	-17.25	74	54.77	31.74	6.19	35.95	106	294	Peak
2385.06	44.5	-9.5	54	42.25	31.95	6.22	35.92	106	294	Average
2487.85	65.88	-8.12	74	62.56	32.7	6.45	35.83	106	294	Peak
2483.59	52.93	-1.07	54	49.72	32.59	6.45	35.83	106	294	Average

<MIMO Ant. 1 + 2>

Test Mode :	802.11n HT20			Temperature :	22~24°C				
Test Band :	Low			Relative Humidity :	44~47%				
Test Channel :	01			Test Engineer :	Watt Tseng				

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	68.33	-5.67	74	65.74	32.27	6.22	35.9	100	166	Peak
2389.92	52.99	-1.01	54	50.4	32.27	6.22	35.9	100	166	Average

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	61.16	-12.84	74	58.8	32.06	6.22	35.92	127	50	Peak
2390	47.45	-6.55	54	45.07	32.06	6.22	35.9	127	50	Average

Test Mode :	802.11n HT20			Temperature :	22~24°C				
Test Band :	Low			Relative Humidity :	44~47%				
Test Channel :	02			Test Engineer :	Watt Tseng				

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.57	67.77	-6.23	74	65.2	32.27	6.22	35.92	100	160	Peak
2390	52.73	-1.27	54	50.14	32.27	6.22	35.9	100	160	Average
2419	104.62	-	-	101.88	32.34	6.28	35.88	100	160	Average
2419	114.69	-	-	111.95	32.34	6.28	35.88	100	160	Peak

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.02	60.91	-13.09	74	58.55	32.06	6.22	35.92	149	49	Peak
2390	47.1	-6.9	54	44.72	32.06	6.22	35.9	149	49	Average
2419	100.73	-	-	98.17	32.16	6.28	35.88	149	49	Average
2419	110.96	-	-	108.4	32.16	6.28	35.88	149	49	Peak

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Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	03	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.29	69.84	-4.16	74	67.27	32.27	6.22	35.92	100	164	Peak
2389.92	53.55	-0.45	54	50.96	32.27	6.22	35.9	100	164	Average
2420	105.76	-	-	102.95	32.41	6.28	35.88	100	164	Average
2420	116.6	-	-	113.79	32.41	6.28	35.88	100	164	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.04	62.93	-11.07	74	60.57	32.06	6.22	35.92	125	55	Peak
2389.92	48.47	-5.53	54	46.09	32.06	6.22	35.9	125	55	Average
2424	102.25	-	-	99.58	32.27	6.28	35.88	125	55	Average
2426	112.92	-	-	110.25	32.27	6.28	35.88	125	55	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	04	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	71.32	-2.68	74	68.75	32.27	6.22	35.92	102	165	Peak
2389.2	53.07	-0.93	54	50.5	32.27	6.22	35.92	102	165	Average
2426	107.87	-	-	105.06	32.41	6.28	35.88	102	165	Average
2426	118.71	-	-	115.9	32.41	6.28	35.88	102	165	Peak

ANTENNA POLARITY : VERTICAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	66.04	-7.96	74	63.66	32.06	6.22	35.9	125	54	Peak
2390.01	48.82	-5.18	54	46.44	32.06	6.22	35.9	125	54	Average
2429	104.45	-	-	101.72	32.27	6.34	35.88	125	54	Average
2429	114.7	-	-	111.97	32.27	6.34	35.88	125	54	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Band :	Middle	Relative Humidity :	44~47%
Test Channel :	06	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.94	65.51	-8.49	74	62.94	32.27	6.22	35.92	100	164	Peak
2390	48.99	-5.01	54	46.4	32.27	6.22	35.9	100	164	Average
2483.86	61.71	-12.29	74	58.46	32.63	6.45	35.83	100	164	Peak
2484.1	46.56	-7.44	54	43.31	32.63	6.45	35.83	100	164	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.74	61.92	-12.08	74	59.56	32.06	6.22	35.92	102	54	Peak
2390	46.57	-7.43	54	44.19	32.06	6.22	35.9	102	54	Average
2485.54	64.95	-9.05	74	61.74	32.59	6.45	35.83	102	54	Peak
2483.83	48.94	-5.06	54	45.73	32.59	6.45	35.83	102	54	Average

Test Mode :	802.11n HT20			Temperature :		22~24°C		
Test Band :	High			Relative Humidity :		44~47%		
Test Channel :	10			Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2445	106.92	-	-	103.94	32.49	6.34	35.85	103	161	Average
2445	117.21	-	-	114.23	32.49	6.34	35.85	103	161	Peak
2483.56	67.81	-6.19	74	64.56	32.63	6.45	35.83	103	161	Peak
2483.71	50.47	-3.53	54	47.22	32.63	6.45	35.83	103	161	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2449	106.11	-	-	103.24	32.38	6.34	35.85	100	50	Average
2449	116.61	-	-	113.74	32.38	6.34	35.85	100	50	Peak
2483.62	71.57	-2.43	74	68.36	32.59	6.45	35.83	100	50	Peak
2483.53	53.13	-0.87	54	49.92	32.59	6.45	35.83	100	50	Average

Test Mode :	802.11n HT20			Temperature :		22~24°C		
Test Band :	High			Relative Humidity :		44~47%		
Test Channel :	11			Test Engineer :		Watt Tseng		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.85	63.92	-10.08	74	60.67	32.63	6.45	35.83	100	155	Peak
2483.65	48.94	-5.06	54	45.69	32.63	6.45	35.83	100	155	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.13	68.63	-5.37	74	65.42	32.59	6.45	35.83	102	47	Peak
2483.59	52.85	-1.15	54	49.64	32.59	6.45	35.83	102	47	Average

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Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	03	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.3	64.39	-9.61	74	61.82	32.27	6.22	35.92	101	161	Peak
2389.92	53.17	-0.83	54	50.58	32.27	6.22	35.9	101	161	Average
2497.54	57.85	-16.15	74	54.5	32.7	6.45	35.8	101	161	Peak
2494.9	44.95	-9.05	54	41.6	32.7	6.45	35.8	101	161	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.47	62.16	-11.84	74	59.8	32.06	6.22	35.92	106	115	Peak
2389.83	50.43	-3.57	54	48.05	32.06	6.22	35.9	106	115	Average
2490.58	57.81	-16.19	74	54.49	32.7	6.45	35.83	106	115	Peak
2497.12	44.87	-9.13	54	41.52	32.7	6.45	35.8	106	115	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	04	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.57	65.44	-8.56	74	62.87	32.27	6.22	35.92	102	167	Peak
2388.39	52.79	-1.21	54	50.22	32.27	6.22	35.92	102	167	Average
2425	97.72	-	-	94.91	32.41	6.28	35.88	102	167	Average
2425	107.87	-	-	105.06	32.41	6.28	35.88	102	167	Peak
2490.34	58.03	-15.97	74	54.71	32.7	6.45	35.83	102	167	Peak
2494.81	44.89	-9.11	54	41.54	32.7	6.45	35.8	102	167	Average

ANTENNA POLARITY : VERTICAL										
Frequency (mz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	61.93	-12.07	74	59.57	32.06	6.22	35.92	124	55	Peak
2390	49.35	-4.65	54	46.97	32.06	6.22	35.9	124	55	Average
2429	94.07	-	-	91.34	32.27	6.34	35.88	124	55	Average
2429	104.75	-	-	102.02	32.27	6.34	35.88	124	55	Peak
2494.72	58.56	-15.44	74	55.21	32.7	6.45	35.8	124	55	Peak
2498.71	45.36	-8.64	54	42.01	32.7	6.45	35.8	124	55	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Low	Relative Humidity :	44~47%
Test Channel :	05	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.47	66.47	-7.53	74	63.9	32.27	6.22	35.92	100	161	Peak
2389.92	53.74	-0.26	54	51.15	32.27	6.22	35.9	100	161	Average
2430	98.67	-	-	95.8	32.41	6.34	35.88	100	161	Average
2430	108.75	-	-	105.88	32.41	6.34	35.88	100	161	Peak
2483.71	57.26	-16.74	74	54.01	32.63	6.45	35.83	100	161	Peak
2484.43	45.17	-8.83	54	41.92	32.63	6.45	35.83	100	161	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.04	60.23	-13.77	74	57.87	32.06	6.22	35.92	100	56	Peak
2389.47	48.66	-5.34	54	46.3	32.06	6.22	35.92	100	56	Average
2434	95.44	-	-	92.71	32.27	6.34	35.88	100	56	Average
2434	106.19	-	-	103.46	32.27	6.34	35.88	100	56	Peak
2493.55	58.26	-15.74	74	54.91	32.7	6.45	35.8	100	56	Peak
2484.13	45.41	-8.59	54	42.2	32.59	6.45	35.83	100	56	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	Middle	Relative Humidity :	44~47%
Test Channel :	06	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.38	68.69	-5.31	74	66.12	32.27	6.22	35.92	102	164	Peak
2389.47	53.34	-0.66	54	50.77	32.27	6.22	35.92	102	164	Average
2483.77	61.97	-12.03	74	58.72	32.63	6.45	35.83	102	164	Peak
2483.53	50.09	-3.91	54	46.84	32.63	6.45	35.83	102	164	Average

ANTENNA POLARITY : VERTICAL

Frequency (mz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.2	63.43	-10.57	74	61.07	32.06	6.22	35.92	101	55	Peak
2390	50.48	-3.52	54	48.1	32.06	6.22	35.9	101	55	Average
2483.68	67.43	-6.57	74	64.22	32.59	6.45	35.83	101	55	Peak
2483.5	53.33	-0.67	54	50.12	32.59	6.45	35.83	101	55	Average

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Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	44~47%
Test Channel :	08	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2361.66	57.66	-16.34	74	55.27	32.13	6.21	35.95	100	161	Peak
2368.23	45.2	-8.8	54	42.78	32.13	6.21	35.92	100	161	Average
2449	95.85	-	-	92.98	32.38	6.34	35.85	100	54	Average
2449	106.57	-	-	103.7	32.38	6.34	35.85	100	54	Peak
2484.25	61.92	-12.08	74	58.67	32.63	6.45	35.83	100	161	Peak
2483.5	49.92	-4.08	54	46.67	32.63	6.45	35.83	100	161	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2380.83	57.03	-16.97	74	54.78	31.95	6.22	35.92	100	54	Peak
2388.93	44.63	-9.37	54	42.27	32.06	6.22	35.92	100	54	Average
2445	97.16	-	-	94.18	32.49	6.34	35.85	100	161	Average
2445	107.65	-	-	104.67	32.49	6.34	35.85	100	161	Peak
2483.53	66.27	-7.73	74	63.06	32.59	6.45	35.83	100	54	Peak
2483.56	53.24	-0.76	54	50.03	32.59	6.45	35.83	100	54	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Band :	High	Relative Humidity :	44~47%
Test Channel :	09	Test Engineer :	Watt Tseng

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2387.58	57.09	-16.91	74	54.52	32.27	6.22	35.92	102	163	Peak
2385.6	44.64	-9.36	54	42.07	32.27	6.22	35.92	102	163	Average
2483.59	61.99	-12.01	74	58.74	32.63	6.45	35.83	102	163	Peak
2483.59	48.83	-5.17	54	45.58	32.63	6.45	35.83	102	163	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2366.07	56.8	-17.2	74	54.67	31.84	6.21	35.92	101	55	Peak
2371.02	44.29	-9.71	54	42.05	31.95	6.21	35.92	101	55	Average
2484.37	64.47	-9.53	74	61.26	32.59	6.45	35.83	101	55	Peak
2483.62	53.09	-0.91	54	49.88	32.59	6.45	35.83	101	55	Average

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

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

<Ant. 1>

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	111.66	-	-	108.94	32.34	6.28	35.9	100	184	Average
2412	116.57	-	-	113.85	32.34	6.28	35.9	100	184	Peak
4824	46.39	-7.61	54	62.85	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	103.82	-	-	101.28	32.16	6.28	35.9	105	292	Average
2412	109.59	-	-	107.05	32.16	6.28	35.9	105	292	Peak
4824	45.67	-8.33	54	62.13	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	111.65	-	-	105.85	32.36	7.63	34.19	176	180	Average
2436	116.71	-	-	110.91	32.36	7.63	34.19	176	180	Peak
4875	47.03	-6.97	54	62.36	34.93	8.61	58.87	100	0	Peak
7311	51.37	-2.63	54	60.25	36.64	12.94	58.46	102	335	Average
7311	60.28	-13.72	74	69.16	36.64	12.94	58.46	102	335	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2438 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	109.3	-	-	103.46	32.4	7.63	34.19	105	132	Average
2438	114.08	-	-	108.24	32.4	7.63	34.19	105	132	Peak
4875	48.67	-5.33	54	64	34.93	8.61	58.87	100	0	Peak
7311	49.34	-4.66	54	58.22	36.64	12.94	58.46	100	185	Average
7311	57.85	-16.15	74	66.73	36.64	12.94	58.46	100	185	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	110.46	-	-	105.46	32.37	7.02	34.39	119	170	Average
2462	114.97	-	-	109.97	32.37	7.02	34.39	119	170	Peak
4926	47.97	-6.03	54	63.87	33.93	8.9	58.73	112	211	Average
4926	55.48	-18.52	74	71.38	33.93	8.9	58.73	112	211	Peak
7386	50.48	-3.52	54	61.77	35.52	10.99	57.8	103	328	Average
7386	58.15	-15.85	74	69.44	35.52	10.99	57.8	103	328	Peak

Test Mode :	802.11b	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	107.05	-	-	102.05	32.37	7.02	34.39	129	60	Average
2462	111.68	-	-	106.68	32.37	7.02	34.39	129	60	Peak
4926	50.65	-3.35	54	66.55	33.93	8.9	58.73	119	48	Average
4926	58.36	-15.64	74	74.26	33.93	8.9	58.73	119	48	Peak
7386	47.26	-6.74	54	58.55	35.52	10.99	57.8	100	3	Average
7386	53.99	-20.01	74	65.28	35.52	10.99	57.8	100	3	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	99.67	-	-	96.95	32.34	6.28	35.9	100	183	Average
2414	110.28	-	-	107.56	32.34	6.28	35.9	100	183	Peak
4824	39.45	-14.55	54	55.91	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	92.37	-	-	89.83	32.16	6.28	35.9	134	303	Average
2414	103.17	-	-	100.63	32.16	6.28	35.9	134	303	Peak
4824	39.42	-14.58	54	55.88	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2435 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2435	105.99	-	-	103.12	32.41	6.34	35.88	100	182	Average
2435	116.42	-	-	113.55	32.41	6.34	35.88	100	182	Peak
4875	43.4	-10.6	54	59.76	34.4	8.11	58.87	100	0	Peak
7309	49.26	-4.74	54	61.63	35.62	10.47	58.46	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	100.93	-	-	98.09	32.38	6.34	35.88	103	293	Average
2439	111.88	-	-	109.04	32.38	6.34	35.88	103	293	Peak
4876	44.14	-9.86	54	60.46	34.4	8.15	58.87	100	0	Peak
7309	48.6	-5.4	54	61.03	35.56	10.47	58.46	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	99.09	-	-	95.99	32.56	6.39	35.85	121	174	Average
2460	109.31	-	-	106.21	32.56	6.39	35.85	121	174	Peak
4923	38.75	-15.25	54	55.01	34.36	8.18	58.8	100	0	Peak
7388	43.3	-10.7	54	55.8	35.66	10.45	58.61	100	0	Peak

Test Mode :	802.11g	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	96.26	-	-	93.23	32.49	6.39	35.85	102	286	Average
2464	106.6	-	-	103.57	32.49	6.39	35.85	102	286	Peak
4923	39.73	-14.27	54	55.99	34.36	8.18	58.8	100	0	Peak
7386	42.25	-11.75	54	54.92	35.49	10.45	58.61	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	98.37	-	-	95.65	32.34	6.28	35.9	100	180	Average
2410	109.21	-	-	106.49	32.34	6.28	35.9	100	180	Peak
4824	38.43	-15.57	54	54.89	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	90.65	-	-	88.11	32.16	6.28	35.9	105	291	Average
2414	101.11	-	-	98.57	32.16	6.28	35.9	105	291	Peak
4824	39.3	-14.7	54	55.76	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2434 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2434	105.74	-	-	102.87	32.41	6.34	35.88	100	185	Average
2434	116.21	-	-	113.34	32.41	6.34	35.88	100	185	Peak
4876	43.36	-10.64	54	59.68	34.4	8.15	58.87	100	0	Peak
7313	49.9	-4.1	54	62.27	35.62	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	99.95	-	-	97.11	32.38	6.34	35.88	103	285	Average
2437	110.24	-	-	107.37	32.38	6.34	35.85	103	285	Peak
4875	45.32	-8.68	54	61.68	34.4	8.11	58.87	100	0	Peak
7309	48.7	-5.3	54	61.13	35.56	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	98.04	-	-	94.94	32.56	6.39	35.85	119	180	Average
2460	108.94	-	-	105.84	32.56	6.39	35.85	119	180	Peak
4923	38.95	-15.05	54	55.21	34.36	8.18	58.8	100	0	Peak
7384	43.79	-10.21	54	56.29	35.66	10.45	58.61	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	95.43	-	-	92.4	32.49	6.39	35.85	130	290	Average
2464	105.83	-	-	102.8	32.49	6.39	35.85	130	290	Peak
4923	39.85	-14.15	54	56.11	34.36	8.18	58.8	100	0	Peak
7386	42.8	-11.2	54	55.47	35.49	10.45	58.61	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	03	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2424 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2424	93.34	-	-	90.53	32.41	6.28	35.88	100	174	Average
2424	104.31	-	-	101.5	32.41	6.28	35.88	100	174	Peak
4845	40.78	-13.22	54	57.2	34.43	8.07	58.92	100	0	Peak
7266	40.22	-13.78	54	52.53	35.61	10.48	58.4	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	03	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2424 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2424	86.64	-	-	83.97	32.27	6.28	35.88	105	291	Average
2424	97.27	-	-	94.6	32.27	6.28	35.88	105	291	Peak
4845	38.85	-15.15	54	55.27	34.43	8.07	58.92	100	0	Peak
7266	39.97	-14.03	54	52.3	35.59	10.48	58.4	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2435 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2435	98.36	-	-	95.49	32.41	6.34	35.88	100	177	Average
2435	108.56	-	-	105.69	32.41	6.34	35.88	100	177	Peak
4875	39.04	-14.96	54	55.4	34.4	8.11	58.87	100	0	Peak
7311	40.3	-13.7	54	52.67	35.62	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	92.94	-	-	90.1	32.38	6.34	35.88	104	293	Average
2439	104.18	-	-	101.34	32.38	6.34	35.88	104	293	Peak
4875	39.62	-14.38	54	55.98	34.4	8.11	58.87	100	0	Peak
7311	39.98	-14.02	54	52.41	35.56	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2454 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2454	93.43	-	-	90.33	32.56	6.39	35.85	118	201	Average
2454	104.07	-	-	100.97	32.56	6.39	35.85	118	201	Peak
4905	39.34	-14.66	54	55.61	34.37	8.18	58.82	100	0	Peak
7356	40.52	-13.48	54	52.97	35.64	10.46	58.55	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2454 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2454	91.38	-	-	88.35	32.49	6.39	35.85	106	294	Average
2454	101.8	-	-	98.77	32.49	6.39	35.85	106	294	Peak
4905	39.7	-14.3	54	55.97	34.37	8.18	58.82	100	0	Peak
7356	40.76	-13.24	54	53.34	35.51	10.46	58.55	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	96.52	-	-	87.62	34.7	9.1	34.9	104	194	Average
5743	108.15	-	-	99.25	34.7	9.1	34.9	104	194	Peak
11490	48.85	-5.15	54	54.65	38.59	12.92	57.31	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	100.27	-	-	91.37	34.7	9.1	34.9	100	349	Average
5743	111.55	-	-	102.65	34.7	9.1	34.9	100	349	Peak
11490	46.3	-7.7	54	52.91	37.78	12.92	57.31	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	96.7	-	-	87.72	34.77	9.13	34.92	113	196	Average
5783	108.26	-	-	99.28	34.77	9.13	34.92	113	196	Peak
11571	44.61	-9.39	54	50.28	38.63	13	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	98.35	-	-	89.41	34.73	9.13	34.92	100	343	Average
5783	109.82	-	-	100.88	34.73	9.13	34.92	100	343	Peak
11571	43.18	-10.82	54	49.62	37.86	13	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5826 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	97.16	-	-	87.97	34.87	9.25	34.93	104	323	Average
5826	108.83	-	-	99.64	34.87	9.25	34.93	104	323	Peak
11649	47.89	-6.11	54	53.44	38.66	13.09	57.3	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	97.71	-	-	88.62	34.77	9.25	34.93	175	339	Average
5823	109.18	-	-	100.09	34.77	9.25	34.93	175	339	Peak
11649	44.9	-9.1	54	51.2	37.91	13.09	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
91.02	28.5	-15	43.5	50.02	9.13	1.11	31.76	-	-	Peak
130.71	25.31	-18.19	43.5	44.06	11.67	1.33	31.75	-	-	Peak
269.49	36.35	-9.65	46	53.75	12.42	1.91	31.73	100	32	Peak
300.7	30.28	-15.72	46	46.98	13.02	2	31.72	-	-	Peak
602.4	22.7	-23.3	46	33.37	18.56	2.83	32.06	-	-	Peak
799.1	24.95	-21.05	46	33.7	19.94	3.26	31.95	-	-	Peak
5743	96.57	-	87.67	34.7	9.1	34.9	114	194	Average	
5743	107.53	-	98.63	34.7	9.1	34.9	114	194	Peak	
11490	37.72	-16.28	54	43.52	38.59	12.92	57.31	100	53	Average
11490	51.4	-22.6	74	57.2	38.59	12.92	57.31	100	53	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	34.86	-5.14	40	44.36	21.66	0.64	31.8	-	-	Peak
38.37	36.19	-3.81	40	54.01	13.24	0.73	31.79	100	246	Peak
38.37	32.78	-7.22	40	50.6	13.24	0.73	31.79	100	246	QP
73.47	31.09	-8.91	40	55.79	6.06	1.01	31.77	-	-	Peak
385.4	26.58	-19.42	46	40.91	15.21	2.27	31.81	-	-	Peak
561.1	28.46	-17.54	46	39.23	18.49	2.75	32.01	-	-	Peak
590.5	29.1	-16.9	46	39.59	18.75	2.81	32.05	-	-	Peak
5743	101.31	-	-	92.41	34.7	9.1	34.9	100	340	Average
5743	111.45	-	-	102.55	34.7	9.1	34.9	100	340	Peak
11490	44.82	-9.18	54	51.43	37.78	12.92	57.31	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	98.24	-	-	89.23	34.8	9.13	34.92	112	197	Average
5787	108.2	-	-	99.19	34.8	9.13	34.92	112	197	Peak
11568	49.91	-4.09	54	55.58	38.63	13	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5787	100.27	-	-	91.32	34.74	9.13	34.92	100	351	Average
5787	110.22	-	-	101.27	34.74	9.13	34.92	100	351	Peak
11568	46.1	-7.9	54	52.54	37.86	13	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5827 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5827	98.17	-	-	88.98	34.87	9.25	34.93	102	323	Average
5827	108.22	-	-	99.03	34.87	9.25	34.93	102	323	Peak
11652	48.15	-5.85	54	53.7	38.66	13.09	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	98.8	-	-	89.71	34.77	9.25	34.93	100	341	Average
5823	108.78	-	-	99.69	34.77	9.25	34.93	100	341	Peak
11652	46.77	-7.23	54	53.05	37.93	13.09	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	151	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5757 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5757	95.91	-	-	86.99	34.73	9.1	34.91	114	197	Average
5757	106.3	-	-	97.38	34.73	9.1	34.91	114	197	Peak
11512	41.83	-12.17	54	47.58	38.6	12.95	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	151	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5757 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5757	99.32	-	-	90.42	34.71	9.1	34.91	100	350	Average
5757	110.06	-	-	101.16	34.71	9.1	34.91	100	350	Peak
11508	40.72	-13.28	54	47.27	37.8	12.95	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	159	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5797 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	94.94	-	-	85.9	34.8	9.16	34.92	104	199	Average
5797	104.52	-	-	95.48	34.8	9.16	34.92	104	199	Peak
11592	43.17	-10.83	54	48.81	38.64	13.02	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	159	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5797 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5797	97.9	-	-	88.92	34.74	9.16	34.92	100	350	Average
5797	108.53	-	-	99.55	34.74	9.16	34.92	100	350	Peak
11592	41.77	-12.23	54	48.18	37.87	13.02	57.3	100	0	Peak

<MIMO Ant. 1+2>

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2414 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2414	99.36	-	-	96.64	32.34	6.28	35.9	100	166	Average
2414	109.75	-	-	107.03	32.34	6.28	35.9	100	166	Peak
4824	39.15	-14.85	54	55.61	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	01	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	95.9	-	-	93.36	32.16	6.28	35.9	127	50	Average
2410	106.8	-	-	104.26	32.16	6.28	35.9	127	50	Peak
4824	40.85	-13.15	54	57.31	34.44	8.04	58.94	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2436 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	108.73	-	-	105.86	32.41	6.34	35.88	100	164	Average
2436	119.47	-	-	116.6	32.41	6.34	35.88	100	164	Peak
4875	47.57	-6.43	54	63.93	34.4	8.11	58.87	100	0	Peak
7311	48.66	-5.34	54	61.03	35.62	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	105.9	-	-	103.06	32.38	6.34	35.88	102	54	Average
2439	116.48	-	-	113.64	32.38	6.34	35.88	102	54	Peak
4872	38.81	-15.19	54	55.17	34.4	8.11	58.87	100	317	Average
4872	52.25	-21.75	74	68.61	34.4	8.11	58.87	100	317	Peak
7311	49.11	-4.89	54	61.54	35.56	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	98.14	-	-	95.04	32.56	6.39	35.85	100	155	Average
2460	109.1	-	-	106	32.56	6.39	35.85	100	155	Peak
4923	40.94	-13.06	54	57.2	34.36	8.18	58.8	100	0	Peak
7386	41.05	-12.95	54	53.55	35.66	10.45	58.61	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	11	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	98.46	-	-	95.43	32.49	6.39	35.85	102	47	Average
2464	108.99	-	-	105.96	32.49	6.39	35.85	102	47	Peak
4923	40.73	-13.27	54	56.99	34.36	8.18	58.8	100	0	Peak
7386	40.73	-13.27	54	53.4	35.49	10.45	58.61	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	03	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2424 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2424	94.73	-	-	91.92	32.41	6.28	35.88	101	161	Average
2424	105.07	-	-	102.26	32.41	6.28	35.88	101	161	Peak
4845	38.81	-15.19	54	55.23	34.43	8.07	58.92	100	0	Peak
7266	40.69	-13.31	54	53	35.61	10.48	58.4	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	03	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2420 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2420	91.28	-	-	88.61	32.27	6.28	35.88	106	115	Average
2420	101.59	-	-	98.92	32.27	6.28	35.88	106	115	Peak
4845	38.77	-15.23	54	55.19	34.43	8.07	58.92	100	0	Peak
7266	41.06	-12.94	54	53.39	35.59	10.48	58.4	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2435 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
91.02	28.87	-14.63	43.5	50.39	9.13	1.11	31.76	-	-	Peak
131.25	25.33	-18.17	43.5	44.07	11.67	1.34	31.75	-	-	Peak
266.25	36.68	-9.32	46	53.86	12.66	1.89	31.73	100	34	Peak
300.7	30.32	-15.68	46	47.02	13.02	2	31.72	-	-	Peak
602.4	22.55	-23.45	46	33.22	18.56	2.83	32.06	-	-	Peak
804.7	24.72	-21.28	46	33.29	20.09	3.27	31.93	-	-	Peak
2435	101.09	-	-	98.22	32.41	6.34	35.88	102	164	Average
2435	111.46	-	-	108.59	32.41	6.34	35.88	102	164	Peak
4875	39.22	-14.78	54	55.58	34.4	8.11	58.87	100	0	Peak
7311	40.45	-13.55	54	52.82	35.62	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	06	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2439 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	35.06	-4.94	40	44.56	21.66	0.64	31.8	-	-	Peak
38.37	36.13	-3.87	40	53.95	13.24	0.73	31.79	100	255	Peak
38.37	32.68	-7.32	40	50.5	13.24	0.73	31.79	100	255	QP
130.98	30.8	-12.7	43.5	49.73	11.48	1.34	31.75	-	-	Peak
380.5	26.43	-19.57	46	40.92	15.06	2.25	31.8	-	-	Peak
563.9	28.93	-17.07	46	39.69	18.5	2.75	32.01	-	-	Peak
596.8	28.47	-17.53	46	38.84	18.87	2.82	32.06	-	-	Peak
2439	98.44	-	-	95.6	32.38	6.34	35.88	101	55	Average
2439	109.1	-	-	106.26	32.38	6.34	35.88	101	55	Peak
4875	39.54	-14.46	54	55.9	34.4	8.11	58.87	100	0	Peak
7311	39.97	-14.03	54	52.4	35.56	10.47	58.46	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 2450 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2450	94.1	-	-	91.12	32.49	6.34	35.85	102	163	Average
2450	104.23	-	-	101.25	32.49	6.34	35.85	102	163	Peak
4905	40.22	-13.78	54	56.49	34.37	8.18	58.82	100	0	Peak
7356	41.3	-12.7	54	53.75	35.64	10.46	58.55	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	09	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 2454 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2454	94.45	-	-	91.42	32.49	6.39	35.85	101	55	Average
2454	104.84	-	-	101.81	32.49	6.39	35.85	101	55	Peak
4905	38.96	-15.04	54	55.23	34.37	8.18	58.82	100	0	Peak
7356	41.13	-12.87	54	53.71	35.51	10.46	58.55	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	105.47	-	-	96.57	34.7	9.1	34.9	106	318	Average
5743	115.34	-	-	106.44	34.7	9.1	34.9	106	318	Peak
11488	45.34	-8.66	54	51.14	38.59	12.92	57.31	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	149	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5743 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5743	101.46	-	-	92.56	34.7	9.1	34.9	102	349	Average
5743	111.55	-	-	102.65	34.7	9.1	34.9	102	349	Peak
11488	42.75	-11.25	54	49.36	37.78	12.92	57.31	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	105.56	-	-	96.58	34.77	9.13	34.92	106	319	Average
5783	115.66	-	-	106.68	34.77	9.13	34.92	106	319	Peak
11568	45.11	-8.89	54	50.78	38.63	13	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	157	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5783	100.87	-	-	91.93	34.73	9.13	34.92	107	13	Average
5783	110.33	-	-	101.39	34.73	9.13	34.92	107	13	Peak
11568	44.15	-9.85	54	50.59	37.86	13	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
90.75	29.01	-14.49	43.5	50.53	9.13	1.11	31.76			Peak
132.06	24.54	-18.96	43.5	43.46	11.49	1.34	31.75			Peak
266.52	37.21	-8.79	46	54.38	12.66	1.9	31.73	100	35	Peak
300.7	30.2	-15.8	46	46.9	13.02	2	31.72			Peak
599.6	22.35	-23.65	46	32.99	18.59	2.83	32.06			Peak
799.1	25.62	-20.38	46	34.37	19.94	3.26	31.95			Peak
5823	102.28	-	-	93.09	34.87	9.25	34.93	102	204	Average
5823	112.5	-	-	103.31	34.87	9.25	34.93	102	204	Peak
11652	46.48	-7.52	54	52.03	38.66	13.09	57.3	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	165	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	35.15	-4.85	40	44.65	21.66	0.64	31.8			Peak
38.1	36.04	-3.96	40	53.87	13.24	0.72	31.79	100	254	Peak
38.1	32.97	-7.03	40	50.8	13.24	0.72	31.79	100	254	QP
75.09	30.72	-9.28	40	55.07	6.41	1.01	31.77			Peak
386.8	26.4	-19.6	46	40.65	15.29	2.27	31.81			Peak
569.5	28.07	-17.93	46	38.81	18.52	2.76	32.02			Peak
593.3	28.47	-17.53	46	38.91	18.79	2.82	32.05			Peak
5823	100.75	-	-	91.66	34.77	9.25	34.93	100	186	Average
5823	110.9	-	-	101.81	34.77	9.25	34.93	100	186	Peak
11652	44.57	-9.43	54	50.85	37.93	13.09	57.3	100	0	Peak

Test Mode :	802.11n HT40		Temperature :		22~24°C				
Test Channel :	151		Relative Humidity :		44~47%				
Test Engineer :	Watt Tseng		Polarization :		Horizontal				
Remark :	1. 5752 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.								

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5752	102.87	-	-	93.94	34.73	9.1	34.9	107	319	Average
5752	112.99	-	-	104.06	34.73	9.1	34.9	107	319	Peak
11512	42.49	-11.51	54	48.24	38.6	12.95	57.3	100	0	Peak

Test Mode :	802.11n HT20		Temperature :		22~24°C				
Test Channel :	151		Relative Humidity :		44~47%				
Test Engineer :	Watt Tseng		Polarization :		Vertical				
Remark :	1. 5758 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.								

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5758	99.94	-	-	91.04	34.71	9.1	34.91	100	349	Average
5758	109.79	-	-	100.89	34.71	9.1	34.91	100	349	Peak
11511	41.47	-12.53	54	48.02	37.8	12.95	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	159	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Horizontal
Remark :	1. 5792 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5792	100.69	-	-	91.65	34.8	9.16	34.92	110	208	Average
5792	110.73	-	-	101.69	34.8	9.16	34.92	110	208	Peak
11592	42.55	-11.45	54	48.19	38.64	13.02	57.3	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	159	Relative Humidity :	44~47%
Test Engineer :	Watt Tseng	Polarization :	Vertical
Remark :	1. 5786 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dB μ V/m)	Over Limit (dB)	Limit Line (dB μ V/m)	Read Level (dB μ V)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5786	100.03	-	-	91.08	34.74	9.13	34.92	130	353	Average
5786	109.7	-	-	100.75	34.74	9.13	34.92	130	353	Peak
11589	41.23	-12.77	54	47.64	37.87	13.02	57.3	100	0	Peak

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

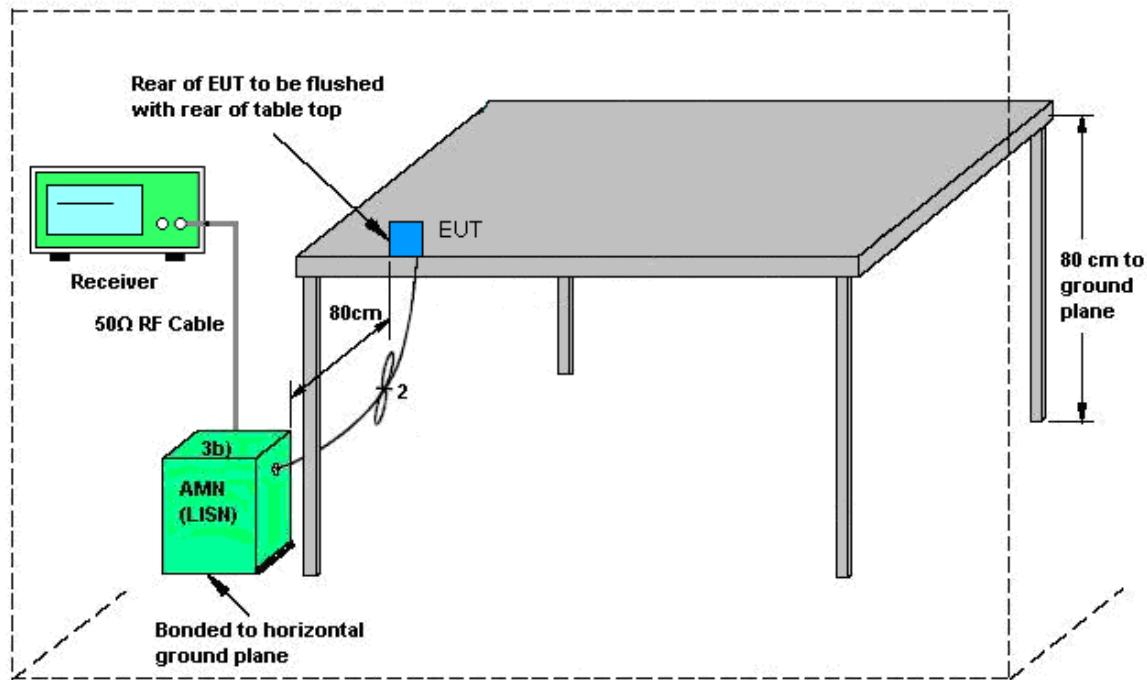
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

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

3.6.4 Test Setup



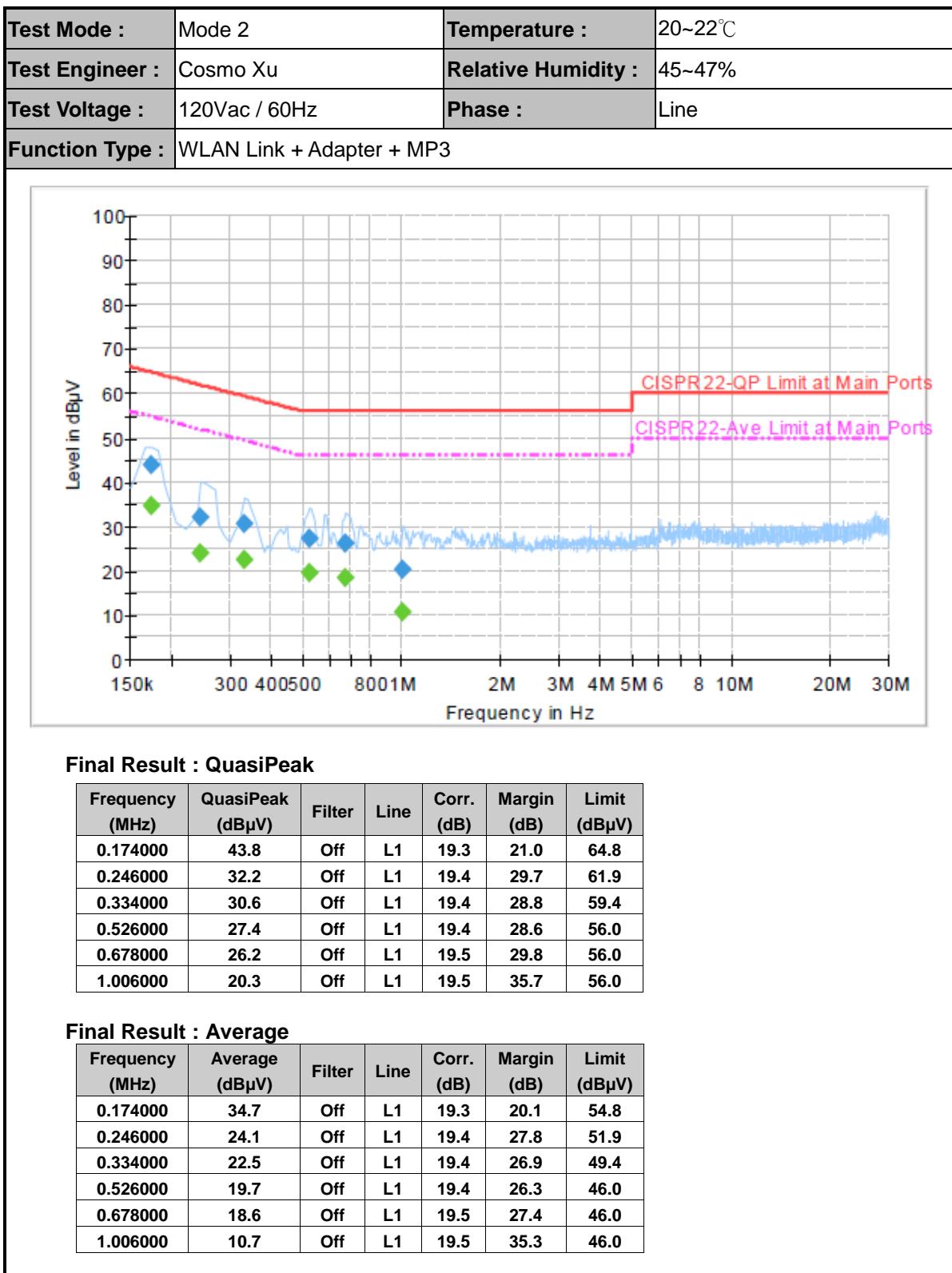
AMN = Artificial mains network (LISH)

AE = Associated equipment

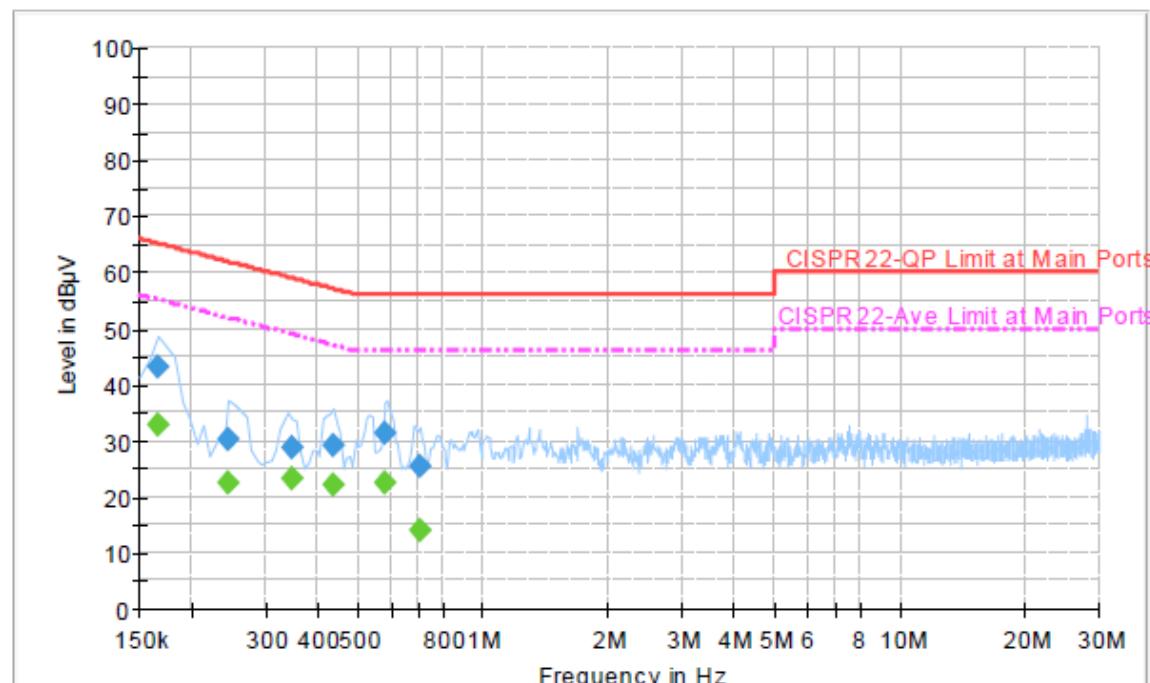
EUT = Equipment under test

ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission



Test Mode :	Mode 2	Temperature :	20~22°C
Test Engineer :	Cosmo Xu	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN Link + Adapter + MP3		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dB μ V)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.166000	43.0	Off	N	19.3	22.2	65.2
0.246000	30.2	Off	N	19.4	31.7	61.9
0.350000	29.0	Off	N	19.4	30.0	59.0
0.438000	29.0	Off	N	19.4	28.1	57.1
0.582000	31.5	Off	N	19.4	24.5	56.0
0.710000	25.4	Off	N	19.5	30.6	56.0

Final Result : Average

Frequency (MHz)	Average (dB μ V)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dB μ V)
0.166000	32.8	Off	N	19.3	22.4	55.2
0.246000	22.3	Off	N	19.4	29.6	51.9
0.350000	23.4	Off	N	19.4	25.6	49.0
0.438000	22.3	Off	N	19.4	24.8	47.1
0.582000	22.3	Off	N	19.4	23.7	46.0
0.710000	14.2	Off	N	19.5	31.8	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 Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

For CDD transmissions, directional gain is calculated as

$$\text{DirectionalGain} = 10 \cdot \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{k=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right]$$

where

Each antenna is driven by no more than one spatial stream;
 N_{SS} = the number of independent spatial streams of data;
 N_{ANT} = the total number of antennas

$g_{j,k} = 10^{G_k / 20}$ if the k th antenna is being fed by spatial stream j , or zero if it is not;
 G_k is the gain in dBi of the k th antenna.

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.

	Ant. 1 (dBi)	Ant. 2 (dBi)	DG for Power (dBi)	DG for PSD (dBi)	Power Limit (dB)	PSD Limit (dB)
2.4 GHz	5.42	3.45	7.50	7.50	1.50	1.50
5 GHz	5.74	4.30	8.06	8.06	2.06	2.06

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

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

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	Jan. 16, 2014 ~ May 23, 2014	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Jan. 16, 2014 ~ May 23, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Jan. 16, 2014 ~ May 23, 2014	Aug. 16, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz ~ 2.75GHz	Nov. 15, 2013	May 14, 2014	Nov. 14, 2014	Conduction (CO05-HY)
LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz ~ 30MHz	Dec. 12, 2013	May 14, 2014	Dec. 11, 2014	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz ~ 30MHz	Dec. 04, 2013	May 14, 2014	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	May 14, 2014	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESU26	100472	20Hz – 26.5GHz	Jan. 15, 2014	Jan. 17, 2014 ~ May 23, 2014	Jan. 14, 2015	Radiation (03CH08-HY)
Bilog Antenna	Teseq GmbH	CBL6112D	35379	30MHz~2GHz	Oct. 10, 2013	Jan. 17, 2014 ~ May 23, 2014	Oct. 09, 2014	Radiation (03CH08-HY)
Horn Antenna	ESCO	3117	000143261	1GHz~18GHz	Jan. 16, 2014	Jan. 17, 2014 ~ May 23, 2014	Jan. 15, 2015	Radiation (03CH08-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170 251	BBHA9170 251	15GHz~40GHz	Oct. 03, 2013	Jan. 17, 2014 ~ May 23, 2014	Oct. 02, 2014	Radiation (03CH08-HY)
Amplifier	SONOMA	310N	187231	9kHz~1GHz	May 15, 2013	Jan. 17, 2014 ~ May 11, 2014	May 14, 2014	Radiation (03CH08-HY)
Amplifier	SONOMA	310N	187231	9kHz~1GHz	May 12, 2014	May 12, 2014 ~ May 23, 2014	May 11, 2015	Radiation (03CH08-HY)
Preamplifier	MITEQ	AMF-7D-0010 1800-30-10P	1590074	1GHz~18GHz	Jul. 09, 2013	Jan. 17, 2014 ~ May 23, 2014	Jul. 08, 2014	Radiation (03CH08-HY)
Pre Amplifier	Agilent	8449B	3008A026 65	1GHz~26.5GHz	Sep. 04, 2013	Jan. 17, 2014 ~ May 23, 2014	Sep. 03, 2014	Radiation (03CH08-HY)
Amplifier	EM	EM18G40G	060604	18GHz ~ 40GHz	Oct. 17, 2013	Jan. 17, 2014 ~ May 23, 2014	Oct. 16, 2014	Radiation (03CH08-HY)
Turn Table	Chaintek	3000	N/A	0~360 Degree	N/A	Jan. 17, 2014 ~ May 23, 2014	N/A	Radiation (03CH08-HY)
Antenna Mast	MF	MFA520BS	N/A	1m~4m	N/A	Jan. 17, 2014 ~ May 23, 2014	N/A	Radiation (03CH08-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/00 01	9kHz ~ 30MHz	Jul. 03, 2012	Jan. 17, 2014 ~ May 23, 2014	Jul. 02, 2014	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 (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	4.30
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