

FCC RF Test Report

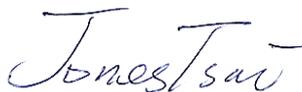
APPLICANT : ASUSTeK COMPUTER INC.
EQUIPMENT : ASUS Tablet
BRAND NAME : ASUS
MODEL NAME : K00E
FCC ID : MSQK00E
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Jul. 11, 2013 and completely tested on Aug. 20, 2013. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown to be compliant with the applicable technical standards.

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



Reviewed by: Joseph Lin / Supervisor



Approved by: Jones Tsai / Manager



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FCC ID : MSQK00E

Page Number : 1 of 87

Report Issued Date : Sep. 09, 2013

Report Version : Rev. 01



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APPENDIX A. SETUP PHOTOGRAPHS

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	RSS-210 A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.1	-	RSS-Gen 4.6.1	99% Bandwidth	-	Pass	-
3.2	15.247(b)	RSS-210 A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	RSS-210 A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	RSS-210 A8.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
3.5	15.247(d)	RSS-210 A8.5	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.14 dB at 2483.650 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 10.92 dB at 0.479 MHz
3.7	15.203 & 15.247(b)	RSS-210 A8.4	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

ASUSTeK COMPUTER INC.

4F, No. 150, LI-TE RD., PEITOU, TAIPEI, TAIWAN

1.2 Manufacturer

WISTRON INFOCOMM (KUNSHAN) CO., LTD.

168# First Avenue, Kunshan Integrated Free Trade Zone, Kunshan, Jiangsu, China

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	ASUS Tablet
Brand Name	ASUS
Model Name	K00E
FCC ID	MSQK00E
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA WLAN 11a/b/g/n HT20/HT40 Bluetooth v3.0
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.
Maximum Output Power to Antenna	<2412 MHz ~ 2462 MHz> 802.11b : 16.76 dBm (0.0474 W) 802.11g : 23.03 dBm (0.2009 W) 802.11n HT20 : 22.54 dBm (0.1795 W) 802.11n HT40 : 22.57 dBm (0.1807 W) <5745 MHz ~ 5825 MHz> 802.11a : 21.07 dBm (0.1279 W) 802.11n HT20 : 21.01 dBm (0.1262 W) 802.11n HT40 : 21.24 dBm (0.1330 W)
99% Occupied Bandwidth	<2412 MHz ~ 2462 MHz> 802.11b : 12.20MHz 802.11g : 17.05MHz 802.11n HT20 : 18.00MHz 802.11n HT40 : 36.30MHz <5745 MHz ~ 5825 MHz> 802.11a : 17.05MHz 802.11n HT20 : 18.00MHz 802.11n HT40 : 36.20MHz
Antenna Type	802.11b/g/n : PIFA Antenna type with gain -0.02 dBi 802.11a/n : PIFA Antenna type with gain -0.23 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Modification of EUT

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

1.6 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH02-HY	CO05-HY	03CH07-HY	722060/4086B-1

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

1.7 Applied Standards

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

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

Remark: All test items were verified and recorded according to the standards and without any deviation during the test.

2 Test Configuration of Equipment Under Test

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

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

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

2.1 Carrier Frequency Channel

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

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



2.2 Pre-Scanned RF Power

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

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	16.76	16.74	16.72	16.75

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	23.03	22.93	22.89	22.79	22.99	22.95	22.71	22.81

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.54	22.31	22.48	22.51	22.21	22.35	22.42	22.35

2.4GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.57	22.44	22.37	22.51	22.39	22.27	22.10	22.43

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	21.07	21.04	20.96	20.93	21.02	21.06	20.64	20.83

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.01	20.93	20.96	20.91	20.93	20.99	20.88	20.91

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.24	21.11	21.18	21.12	21.09	21.13	21.19	21.16



2.3 Test Mode

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

<2.4GHz>

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



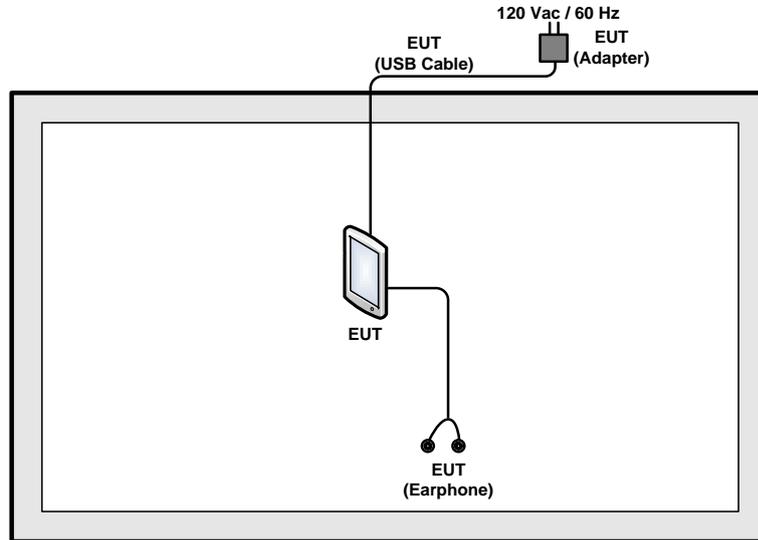
<5GHz>

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

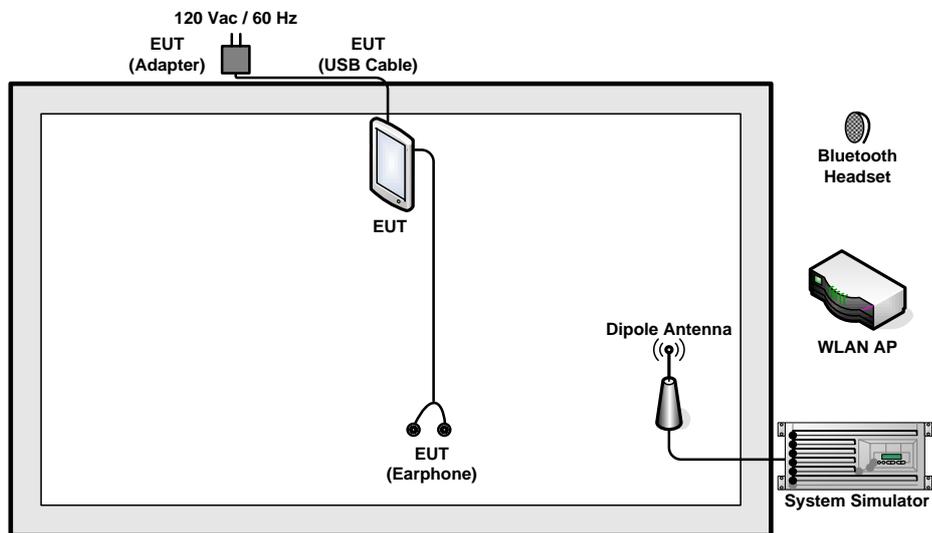
Test Cases	
AC Conducted Emission	Mode 1 : WCDMA Band II Link + Bluetooth Link + WLAN Link + Earphone + H-pattern + MP3 + USB Cable (Charging from Adapter 2)
Remark:	For Radiated Test Cases, The tests were performed with Adapter 1, USB Cable, Earphone.

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DNS-G120	FCC Doc	N/A	Unshielded, 1.8 m
3.	Bluetooth Headset	SONY	Z354	FCC Doc	N/A	N/A
4.	MicroSD Card	Transcend	8GB	FCC DoC	N/A	N/A

2.6 EUT Operation Test Setup

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

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.

$$\begin{aligned}
 \text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)}. \\
 &= 4.2 + 10 = 14.2 \text{ (dB)}
 \end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

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

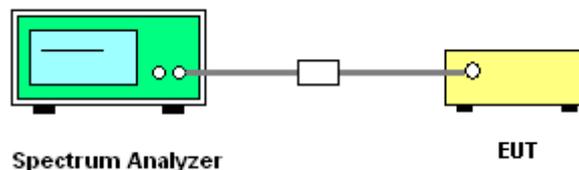
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

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

3.1.4 Test Setup



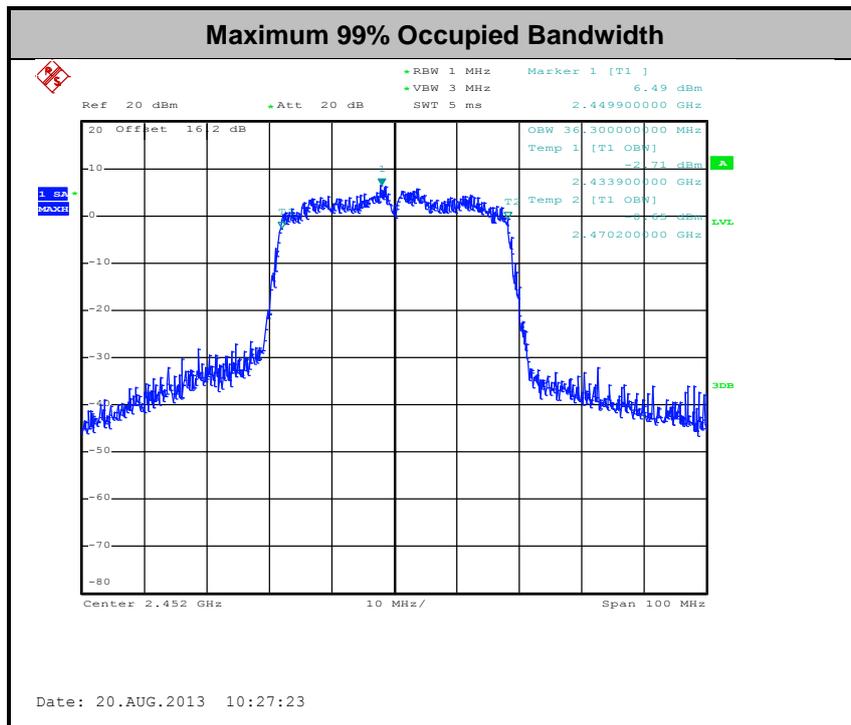
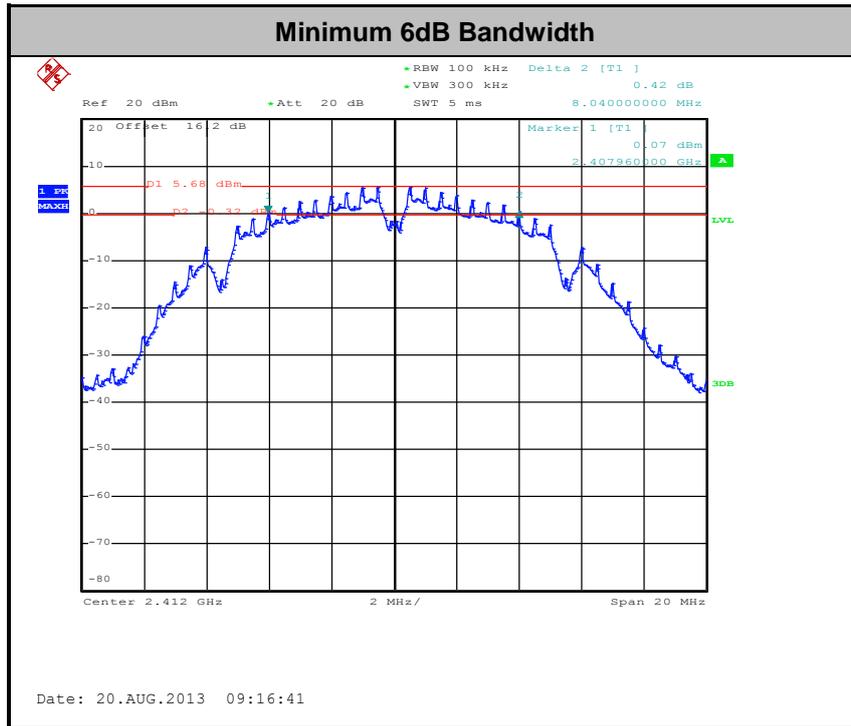


3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Test Band :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Rover Lee	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	12.20	8.04	0.5	Pass
11b	1Mbps	1	6	2437	12.15	8.06	0.5	Pass
11b	1Mbps	1	11	2462	12.20	8.04	0.5	Pass
11g	6Mbps	1	1	2412	17.00	15.08	0.5	Pass
11g	6Mbps	1	6	2437	17.05	15.08	0.5	Pass
11g	6Mbps	1	11	2462	17.05	15.12	0.5	Pass
HT20	MCS0	1	1	2412	17.95	15.08	0.5	Pass
HT20	MCS0	1	6	2437	17.95	15.08	0.5	Pass
HT20	MCS0	1	11	2462	18.00	15.12	0.5	Pass
HT40	MCS0	1	3	2422	36.20	35.04	0.5	Pass
HT40	MCS0	1	6	2437	36.20	35.04	0.5	Pass
HT40	MCS0	1	9	2452	36.30	35.04	0.5	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	99% Bandwidth (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11a	6Mbps	1	149	5745	17.00	15.44	0.5	Pass
11a	6Mbps	1	157	5785	17.05	15.12	0.5	Pass
11a	6Mbps	1	165	5825	17.00	15.10	0.5	Pass
HT20	MCS0	1	149	5745	18.00	15.92	0.5	Pass
HT20	MCS0	1	157	5785	18.00	15.08	0.5	Pass
HT20	MCS0	1	165	5825	17.95	16.08	0.5	Pass
HT40	MCS0	1	151	5755	36.20	35.12	0.5	Pass
HT40	MCS0	1	159	5795	36.20	35.12	0.5	Pass



3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850MHz, the limit for peak output power is 30dBm. If transmitting Antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the Antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the Antenna exceeds 6dBi.

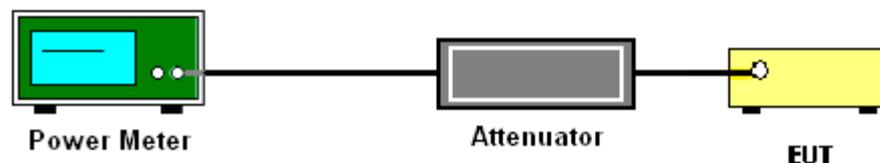
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

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

3.2.4 Test Setup





3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Rover Lee	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	16.34	30	-0.02	Pass
11b	1Mbps	1	6	2437	16.71	30	-0.02	Pass
11b	1Mbps	1	11	2462	16.76	30	-0.02	Pass
11g	6Mbps	1	1	2412	22.81	30	-0.02	Pass
11g	6Mbps	1	6	2437	22.86	30	-0.02	Pass
11g	6Mbps	1	11	2462	23.03	30	-0.02	Pass
HT20	MCS0	1	1	2412	22.27	30	-0.02	Pass
HT20	MCS0	1	6	2437	22.37	30	-0.02	Pass
HT20	MCS0	1	11	2462	22.54	30	-0.02	Pass
HT40	MCS0	1	3	2422	22.22	30	-0.02	Pass
HT40	MCS0	1	6	2437	22.52	30	-0.02	Pass
HT40	MCS0	1	9	2452	22.57	30	-0.02	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	21.07	30	-0.23	Pass
11a	6Mbps	1	157	5785	21.04	30	-0.23	Pass
11a	6Mbps	1	165	5825	21.03	30	-0.23	Pass
HT20	MCS0	1	149	5745	21.01	30	-0.23	Pass
HT20	MCS0	1	157	5785	20.74	30	-0.23	Pass
HT20	MCS0	1	165	5825	20.92	30	-0.23	Pass
HT40	MCS0	1	151	5755	21.24	30	-0.23	Pass
HT40	MCS0	1	159	5795	20.94	30	-0.23	Pass

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



3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Rover Lee	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	0.14	13.17	30	-0.02	Pass
11b	1Mbps	1	6	2437	0.14	13.58	30	-0.02	Pass
11b	1Mbps	1	11	2462	0.14	13.66	30	-0.02	Pass
11g	6Mbps	1	1	2412	0.84	11.79	30	-0.02	Pass
11g	6Mbps	1	6	2437	0.84	11.88	30	-0.02	Pass
11g	6Mbps	1	11	2462	0.84	12.17	30	-0.02	Pass
HT20	MCS0	1	1	2412	0.90	10.64	30	-0.02	Pass
HT20	MCS0	1	6	2437	0.90	10.71	30	-0.02	Pass
HT20	MCS0	1	11	2462	0.90	11.06	30	-0.02	Pass
HT40	MCS0	1	3	2422	1.65	11.21	30	-0.02	Pass
HT40	MCS0	1	6	2437	1.65	11.34	30	-0.02	Pass
HT40	MCS0	1	9	2452	1.65	11.56	30	-0.02	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Duty Factor (dB)	Average Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	0.84	10.25	30	-0.23	Pass
11a	6Mbps	1	157	5785	0.84	10.20	30	-0.23	Pass
11a	6Mbps	1	165	5825	0.84	9.98	30	-0.23	Pass
HT20	MCS0	1	149	5745	0.90	10.11	30	-0.23	Pass
HT20	MCS0	1	157	5785	0.90	9.82	30	-0.23	Pass
HT20	MCS0	1	165	5825	0.90	9.92	30	-0.23	Pass
HT40	MCS0	1	151	5755	1.64	10.45	30	-0.23	Pass
HT40	MCS0	1	159	5795	1.64	10.30	30	-0.23	Pass

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

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

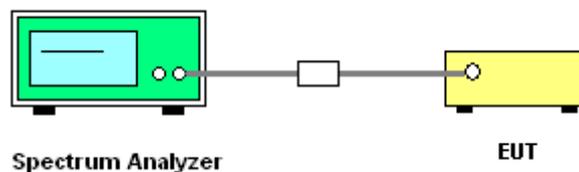
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

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

3.3.4 Test Setup





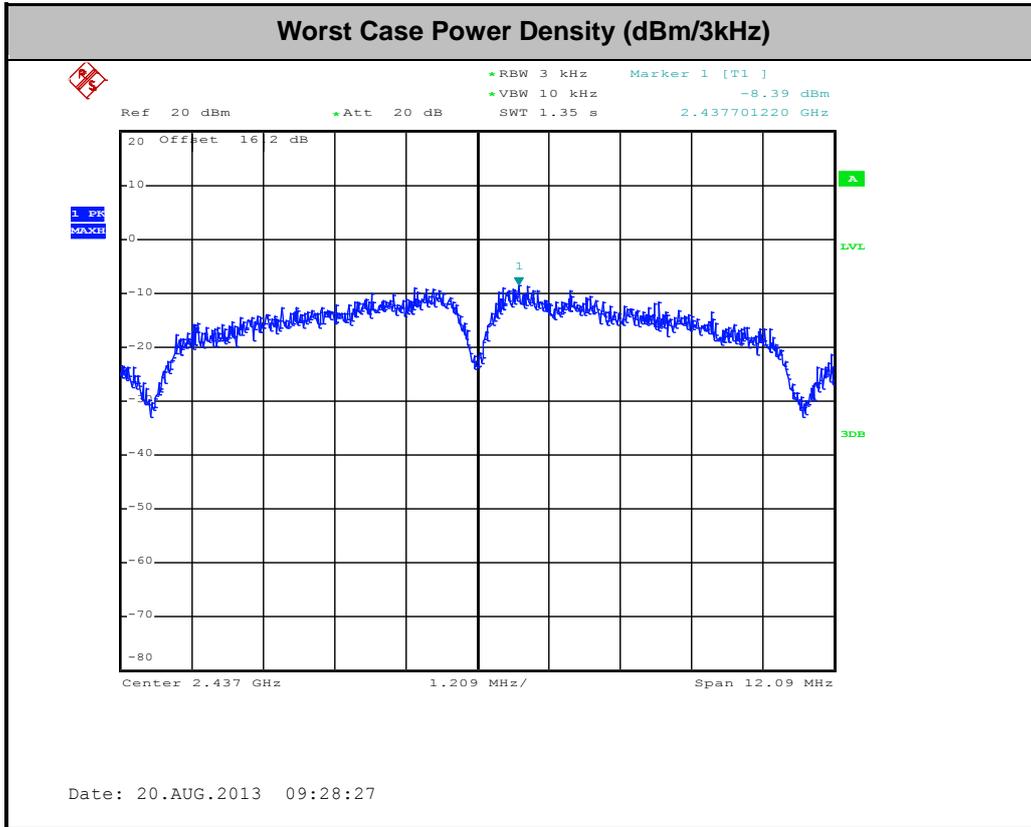
3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	24~26°C
Test Engineer :	Rover Lee	Relative Humidity :	50~53%

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11b	1Mbps	1	1	2412	-9.02	8	-0.02	Pass
11b	1Mbps	1	6	2437	-8.39	8	-0.02	Pass
11b	1Mbps	1	11	2462	-8.45	8	-0.02	Pass
11g	6Mbps	1	1	2412	-13.15	8	-0.02	Pass
11g	6Mbps	1	6	2437	-12.91	8	-0.02	Pass
11g	6Mbps	1	11	2462	-12.47	8	-0.02	Pass
HT20	MCS0	1	1	2412	-14.45	8	-0.02	Pass
HT20	MCS0	1	6	2437	-13.18	8	-0.02	Pass
HT20	MCS0	1	11	2462	-13.60	8	-0.02	Pass
HT40	MCS0	1	3	2422	-16.03	8	-0.02	Pass
HT40	MCS0	1	6	2437	-16.32	8	-0.02	Pass
HT40	MCS0	1	9	2452	-15.27	8	-0.02	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	-14.61	8	-0.23	Pass
11a	6Mbps	1	157	5785	-14.69	8	-0.23	Pass
11a	6Mbps	1	165	5825	-14.51	8	-0.23	Pass
HT20	MCS0	1	149	5745	-14.50	8	-0.23	Pass
HT20	MCS0	1	157	5785	-14.80	8	-0.23	Pass
HT20	MCS0	1	165	5825	-15.15	8	-0.23	Pass
HT40	MCS0	1	151	5755	-17.43	8	-0.23	Pass
HT40	MCS0	1	159	5795	-17.49	8	-0.23	Pass

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



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

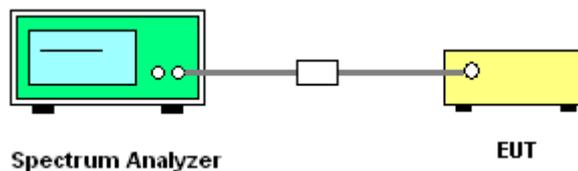
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

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

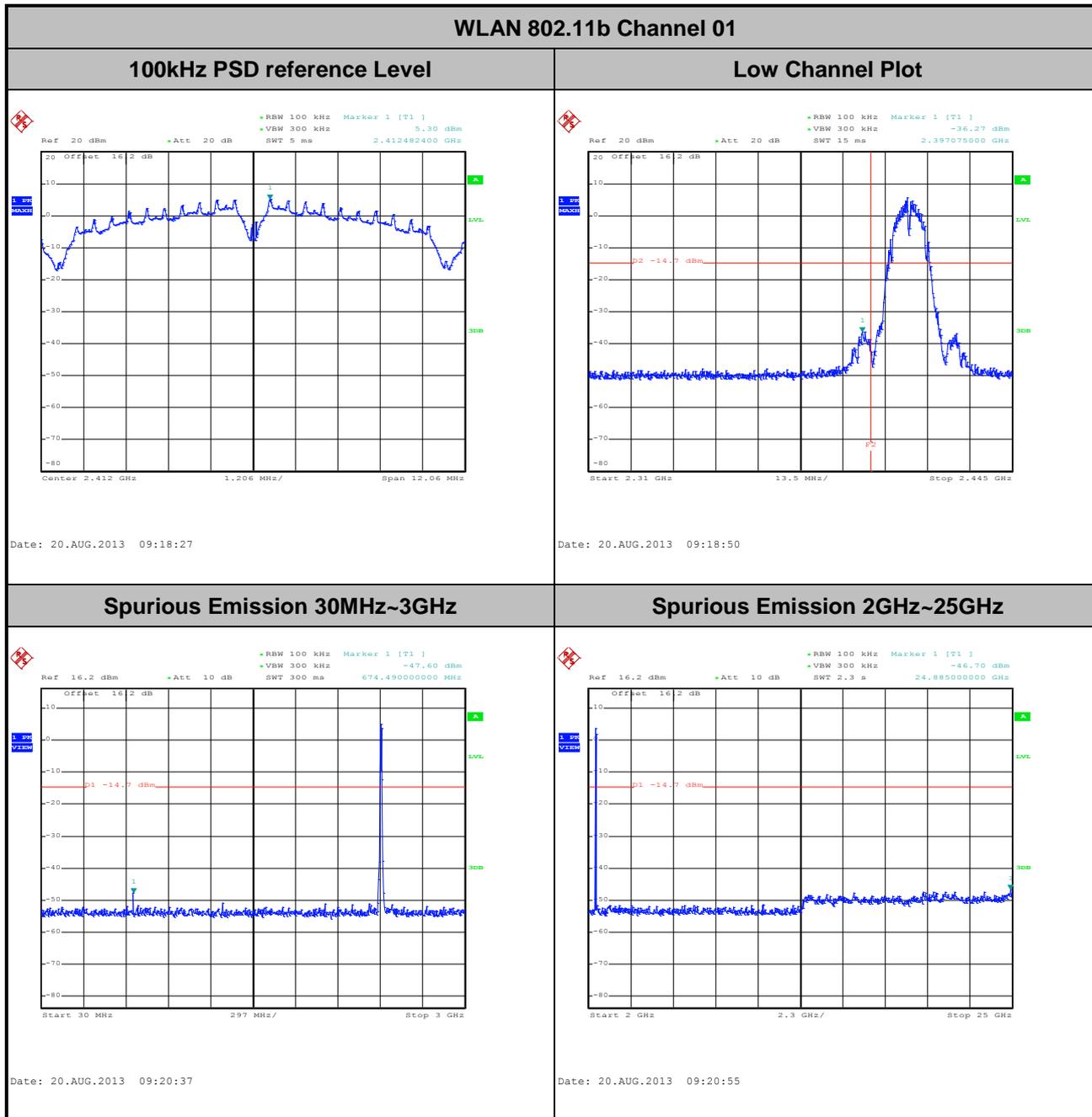
3.4.4 Test Setup





3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Rover Lee

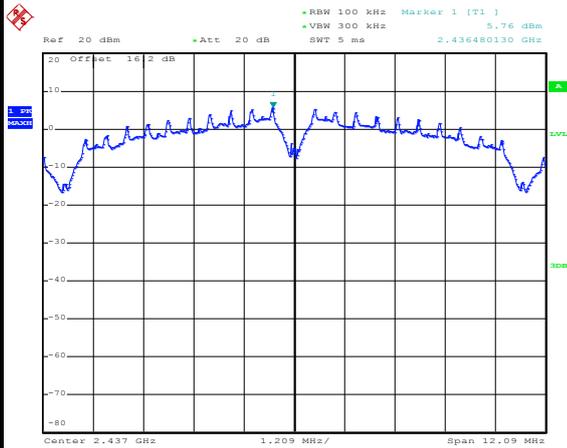




Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Rover Lee

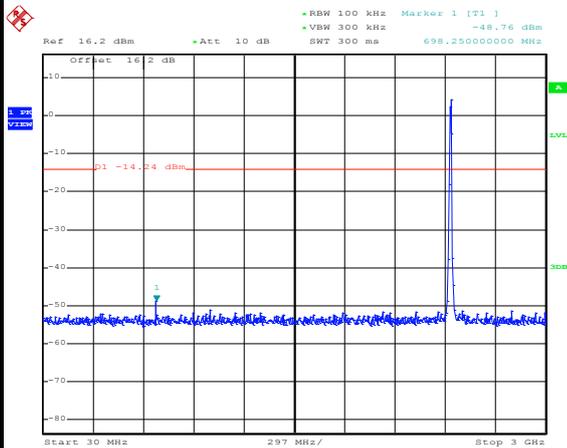
WLAN 802.11b Channel 06

100kHz PSD reference Level



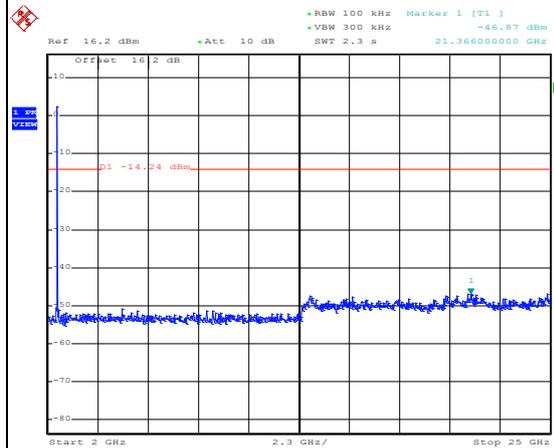
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Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 09:29:06

Spurious Emission 2GHz~25GHz



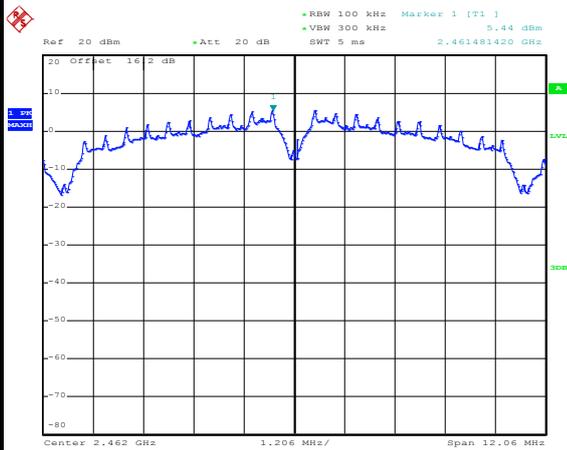
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Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Rover Lee

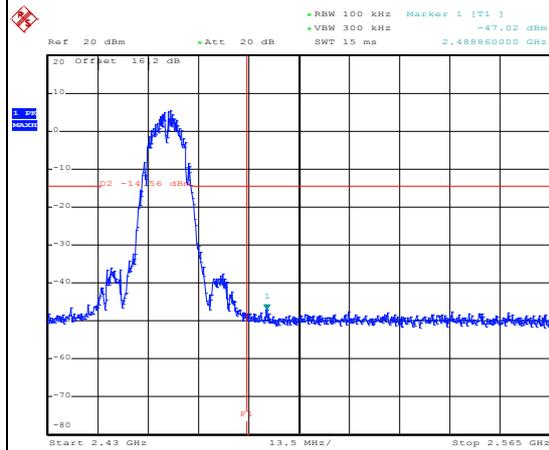
WLAN 802.11b Channel 11

100kHz PSD reference Level



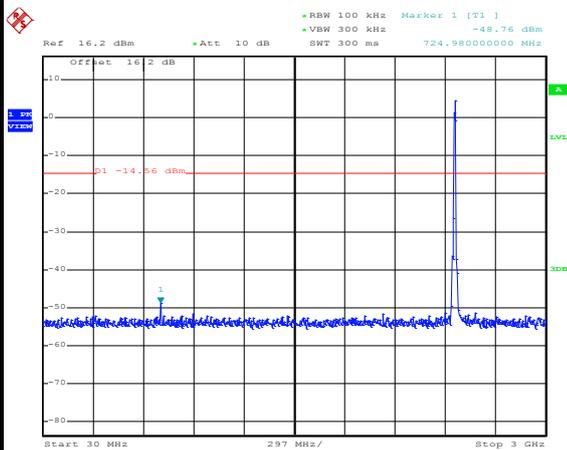
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High Channel Plot



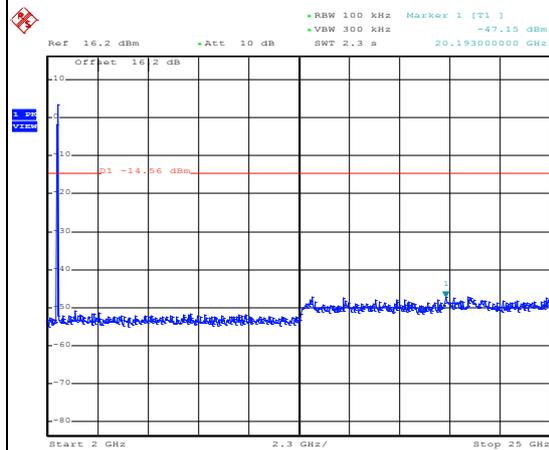
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Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 09:33:08

Spurious Emission 2GHz~25GHz



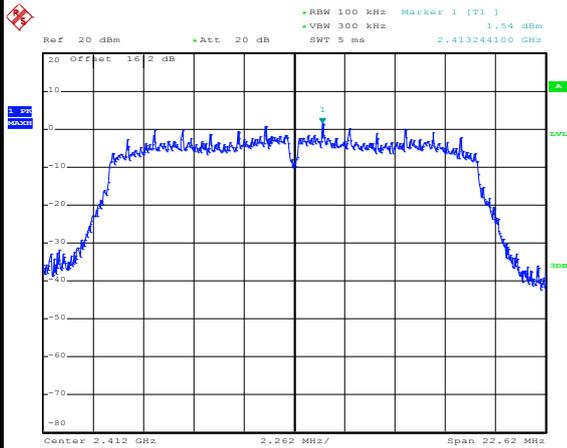
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Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Rover Lee

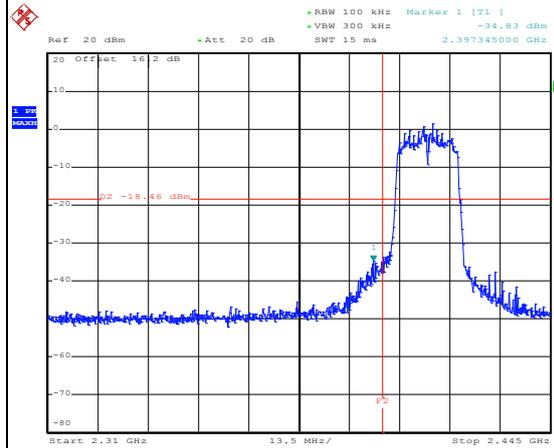
WLAN 802.11g Channel 01

100kHz PSD reference Level



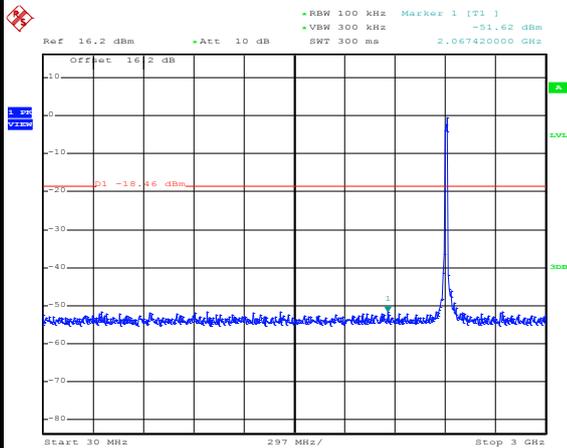
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Low Channel Plot



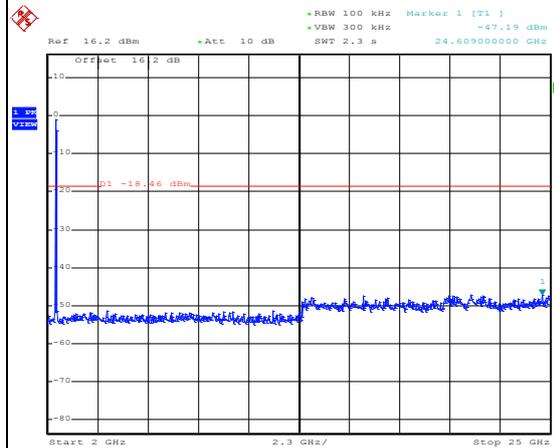
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Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 09:41:37

Spurious Emission 2GHz~25GHz



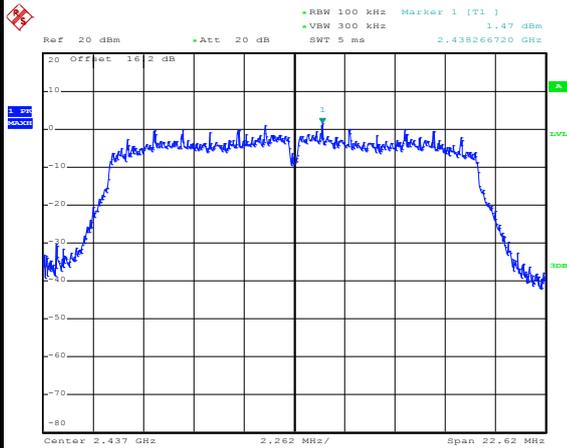
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Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Rover Lee

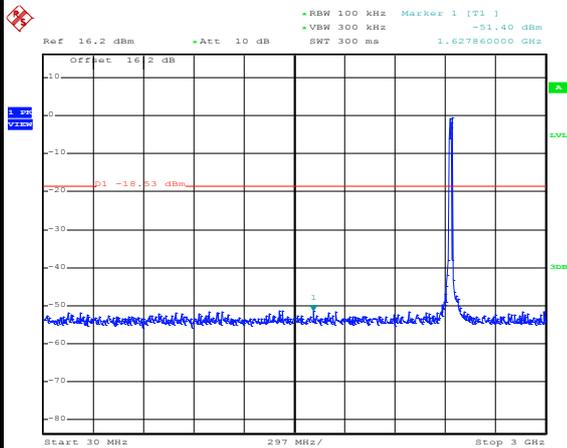
WLAN 802.11g Channel 06

100kHz PSD reference Level



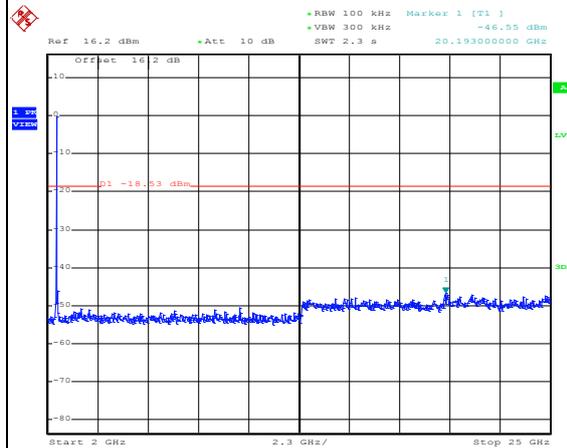
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Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 09:45:31

Spurious Emission 2GHz~25GHz



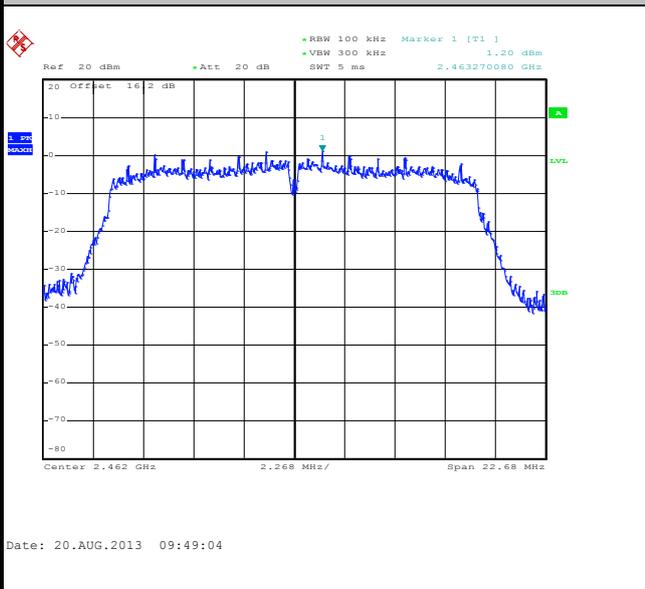
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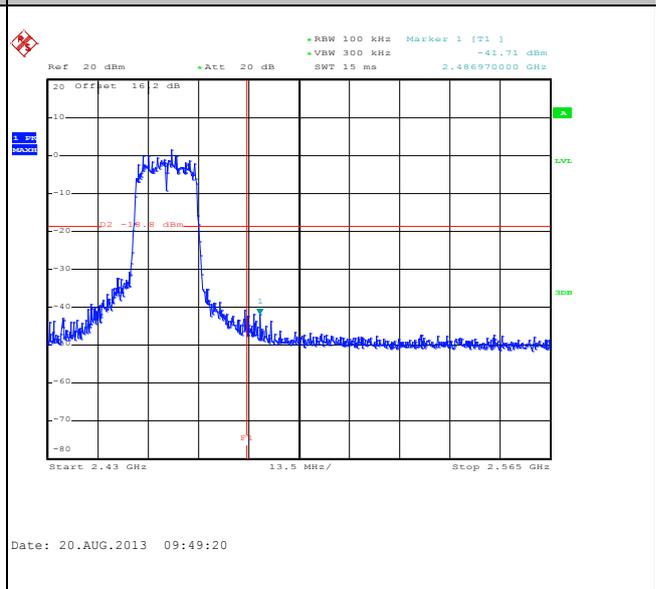
Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Rover Lee

WLAN 802.11g Channel 11

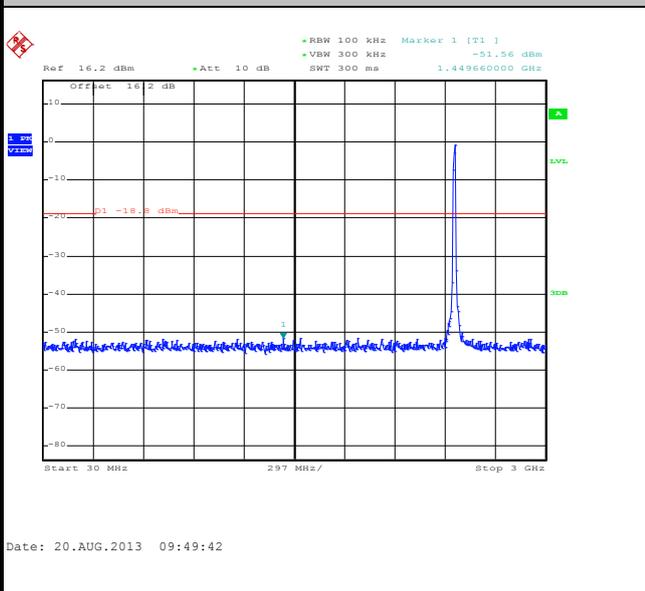
100kHz PSD reference Level



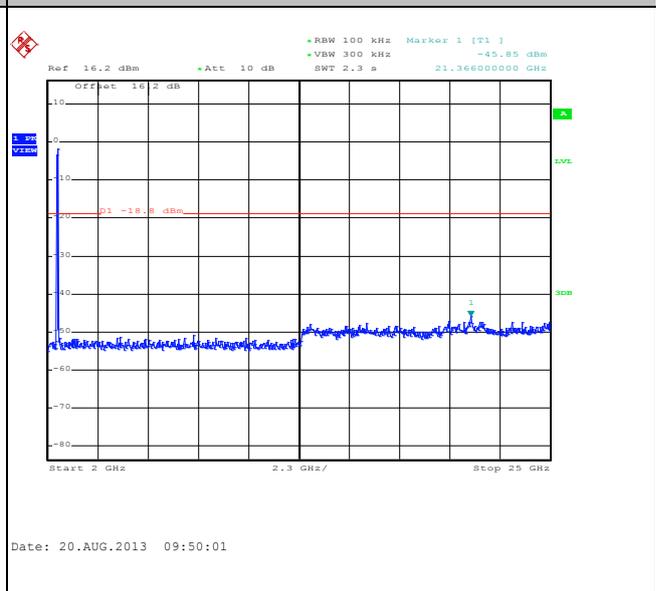
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

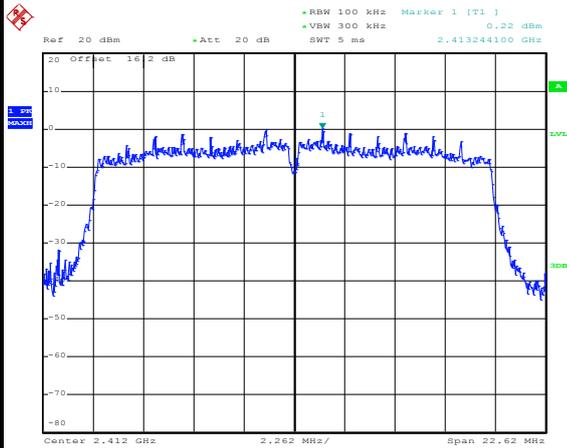




Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	01	Test Engineer :	Rover Lee

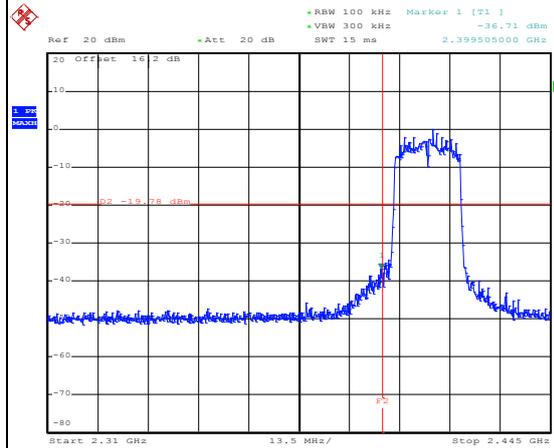
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



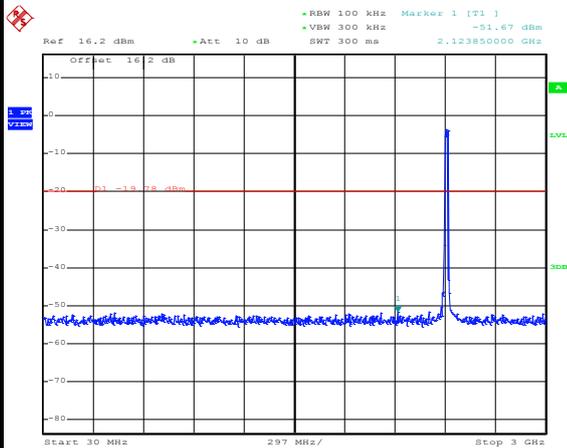
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Low Channel Plot



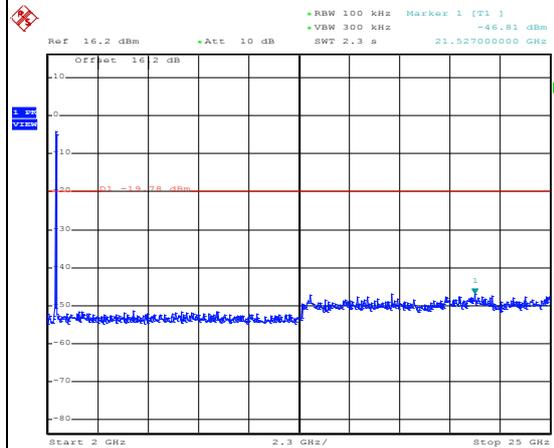
Date: 20.AUG.2013 09:57:34

Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 09:56:52

Spurious Emission 2GHz~25GHz



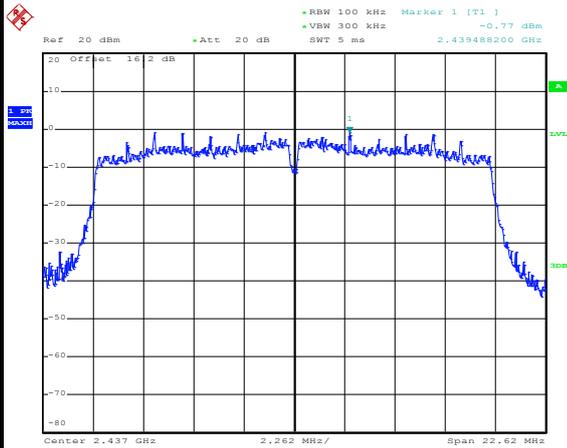
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Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Rover Lee

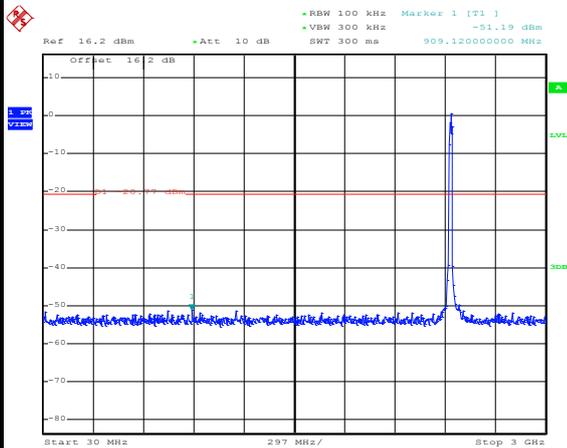
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



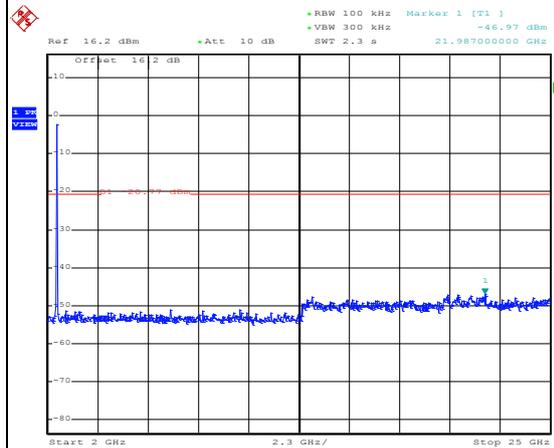
Date: 20.AUG.2013 10:05:19

Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 10:05:42

Spurious Emission 2GHz~25GHz



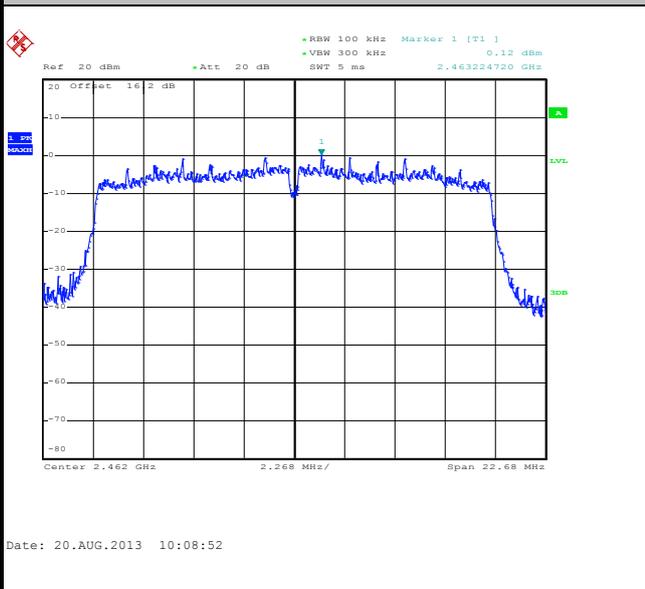
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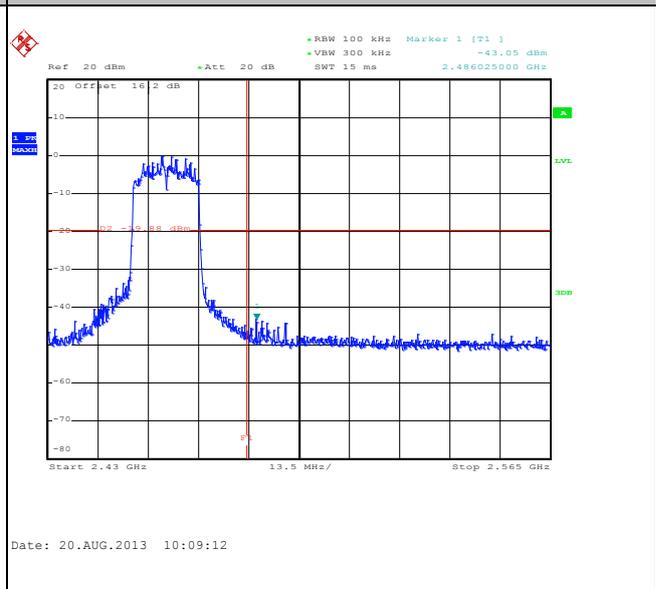
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	11	Test Engineer :	Rover Lee

WLAN 802.11n HT20 Channel 11

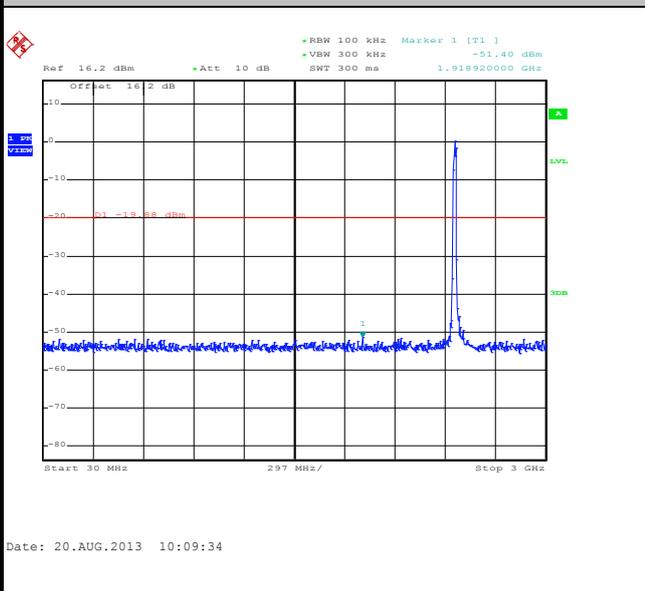
100kHz PSD reference Level



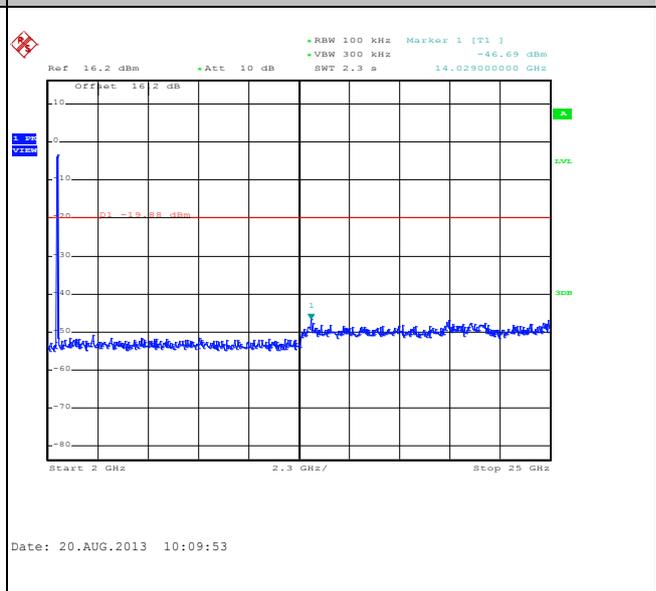
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

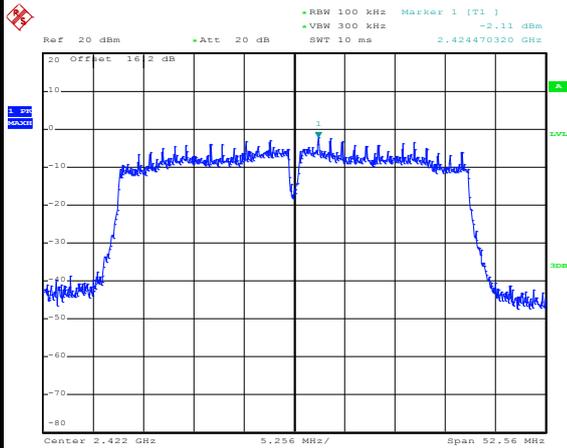




Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	2.4GHz Low	Relative Humidity :	50~53%
Test Channel :	03	Test Engineer :	Rover Lee

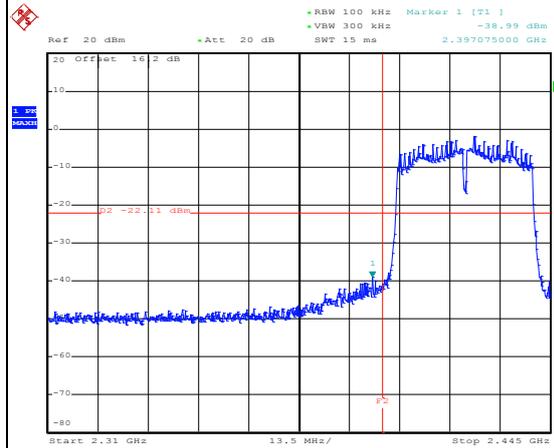
WLAN 802.11n HT40 Channel 03

100kHz PSD reference Level



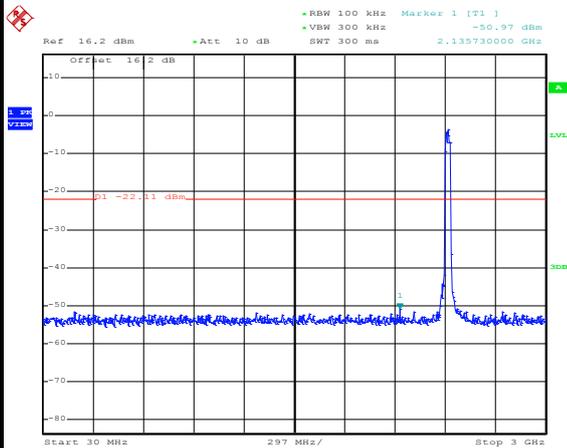
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Low Channel Plot



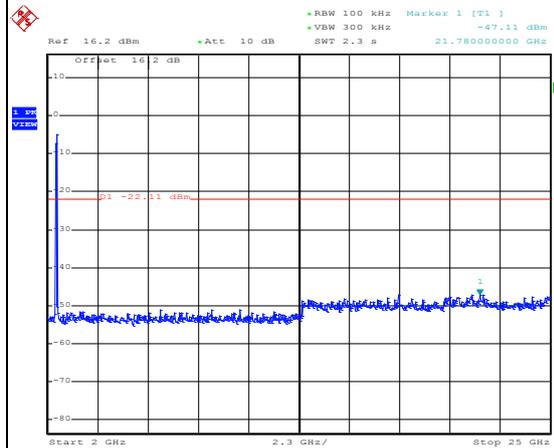
Date: 20.AUG.2013 10:16:07

Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 10:17:21

Spurious Emission 2GHz~25GHz



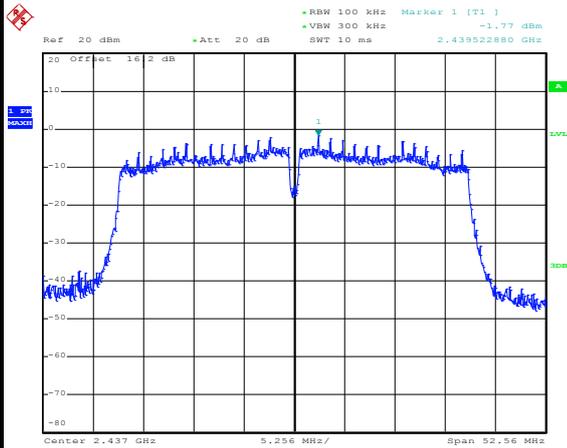
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Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Rover Lee

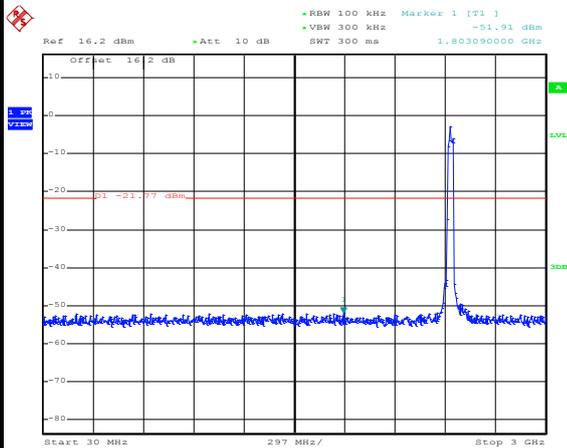
WLAN 802.11n HT40 Channel 06

100kHz PSD reference Level



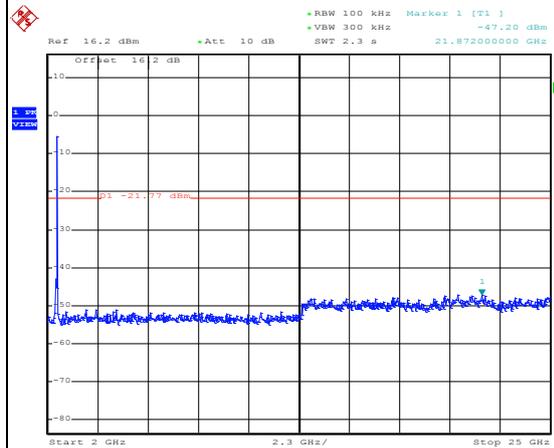
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Spurious Emission 30MHz~3GHz



Date: 20.AUG.2013 10:23:07

Spurious Emission 2GHz~25GHz



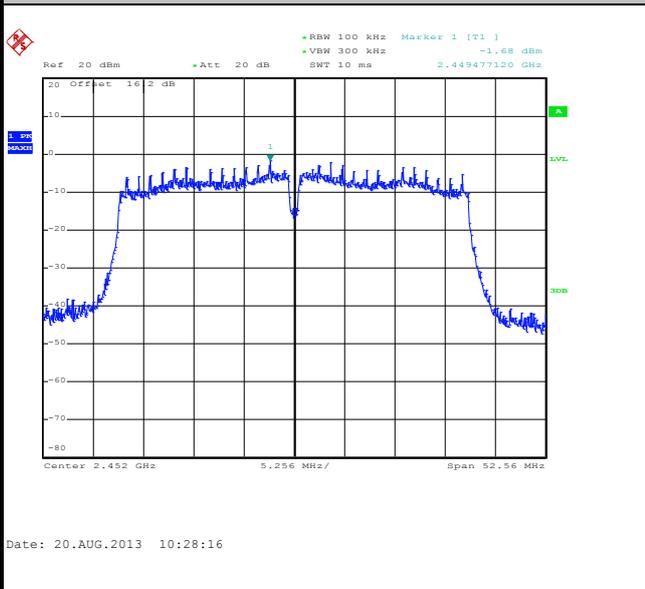
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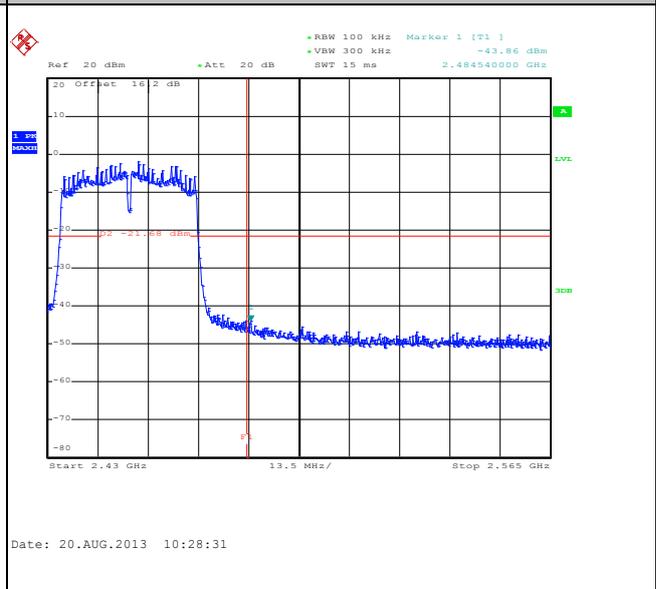
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	2.4GHz High	Relative Humidity :	50~53%
Test Channel :	09	Test Engineer :	Rover Lee

WLAN 802.11n HT40 Channel 09

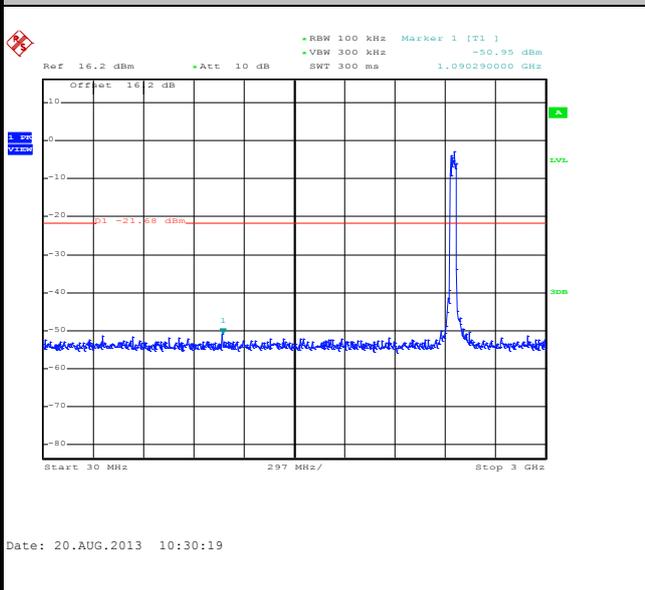
100kHz PSD reference Level



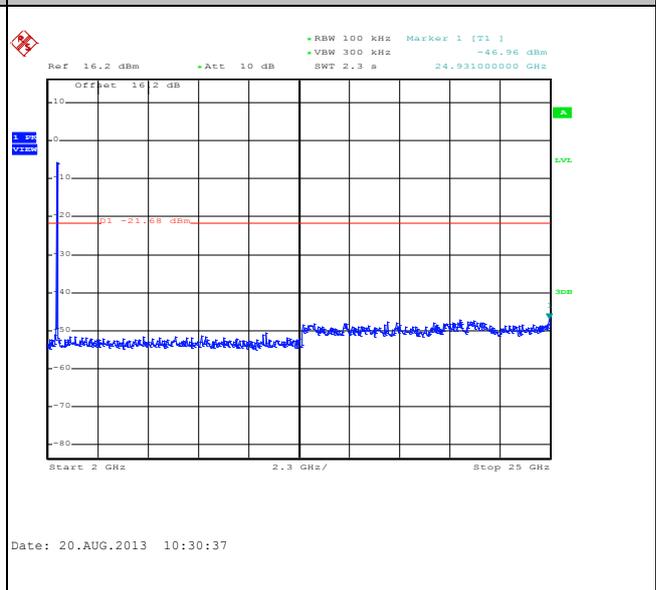
High Channel Plot



Spurious Emission 30MHz~3GHz



Spurious Emission 2GHz~25GHz

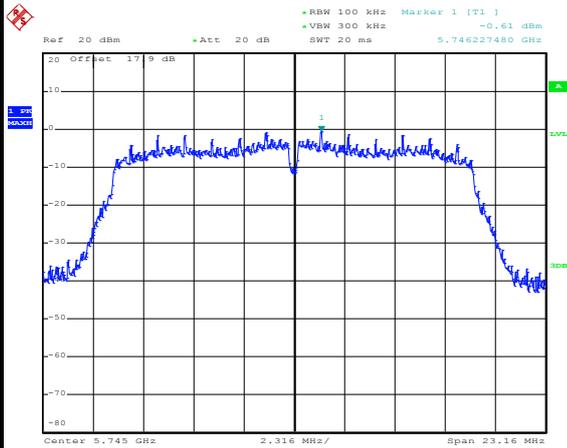




Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	50~53%
Test Channel :	149	Test Engineer :	Rover Lee

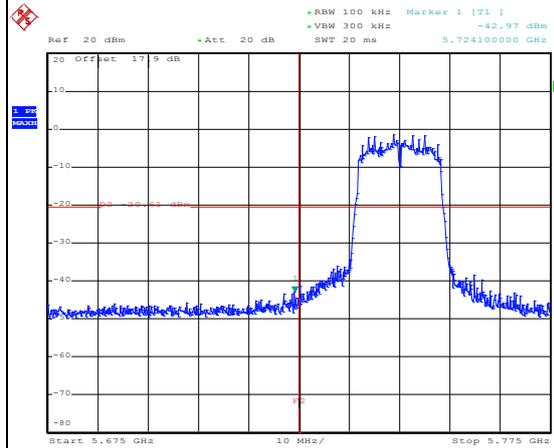
WLAN 802.11a Channel 149

100kHz PSD reference Level



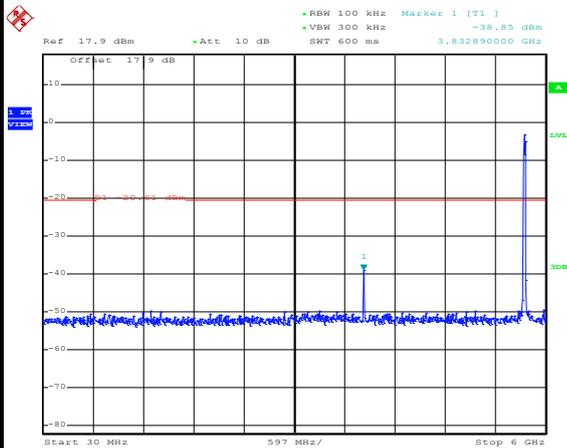
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Low Channel Plot



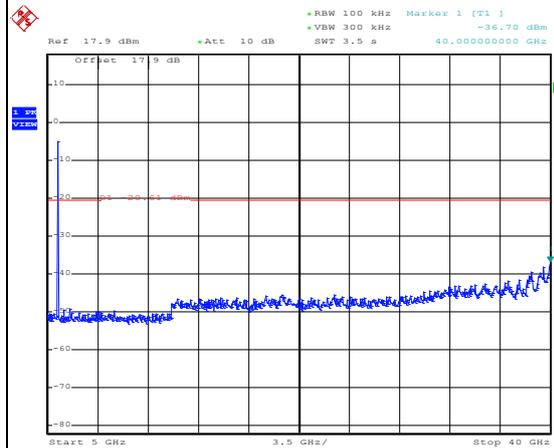
Date: 20.AUG.2013 10:45:21

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 10:46:48

Spurious Emission 5GHz~40GHz



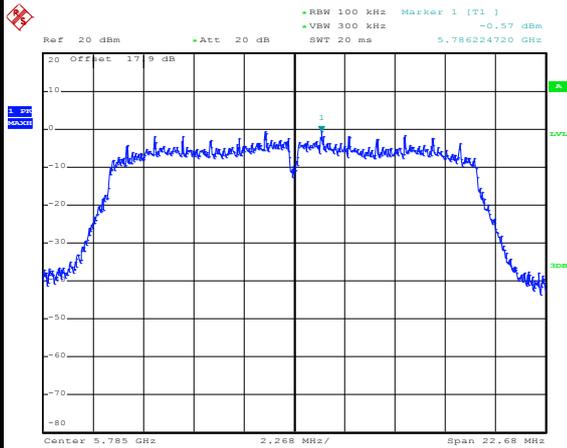
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Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Rover Lee

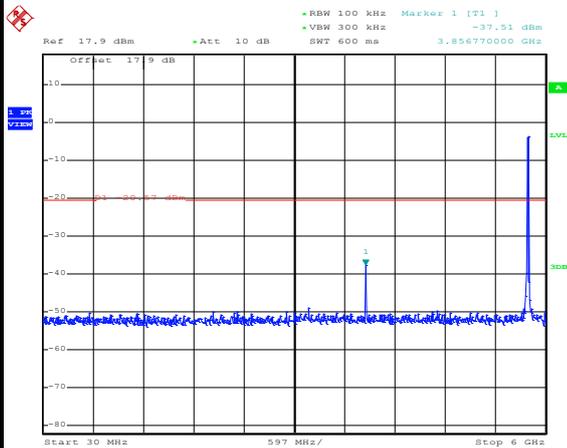
WLAN 802.11a Channel 157

100kHz PSD reference Level



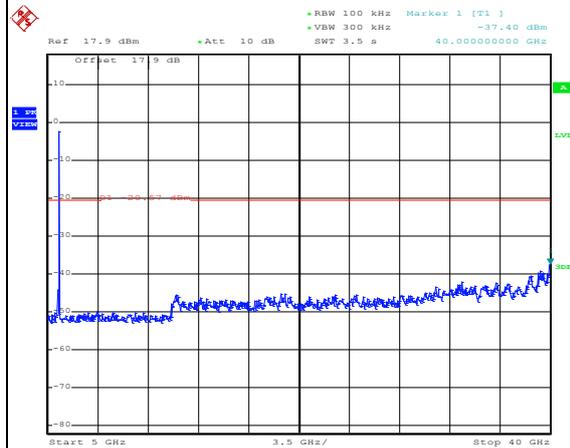
Date: 20.AUG.2013 10:52:57

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 10:53:19

Spurious Emission 5GHz~40GHz



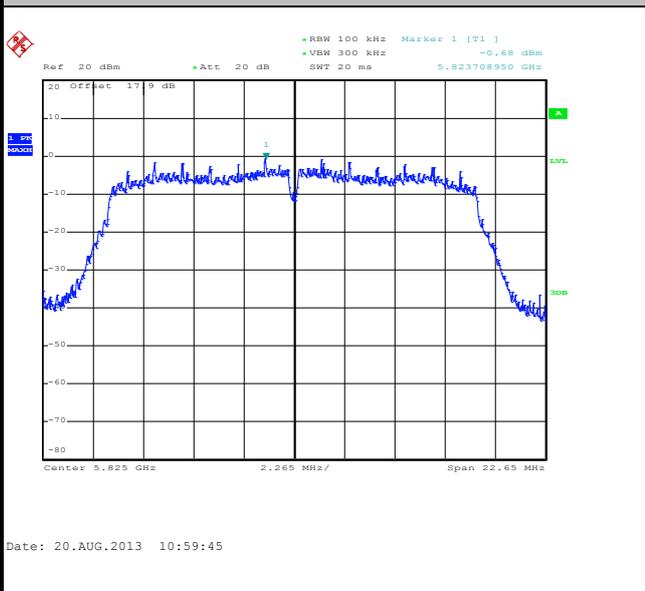
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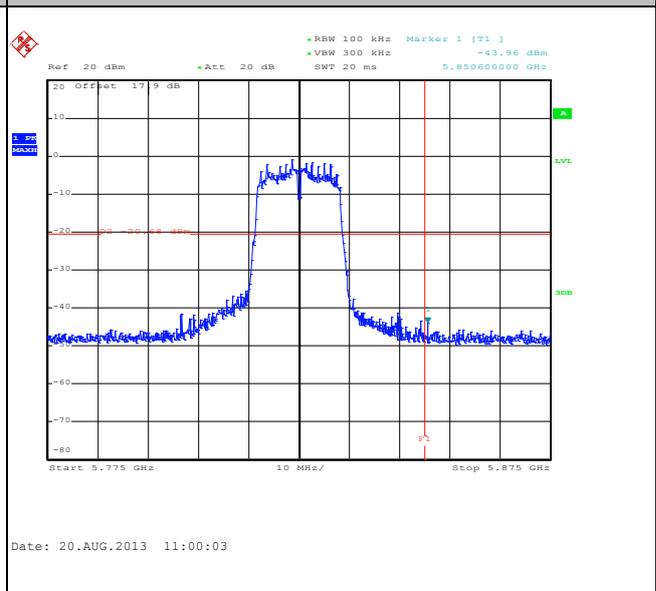
Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	50~53%
Test Channel :	165	Test Engineer :	Rover Lee

WLAN 802.11a Channel 165

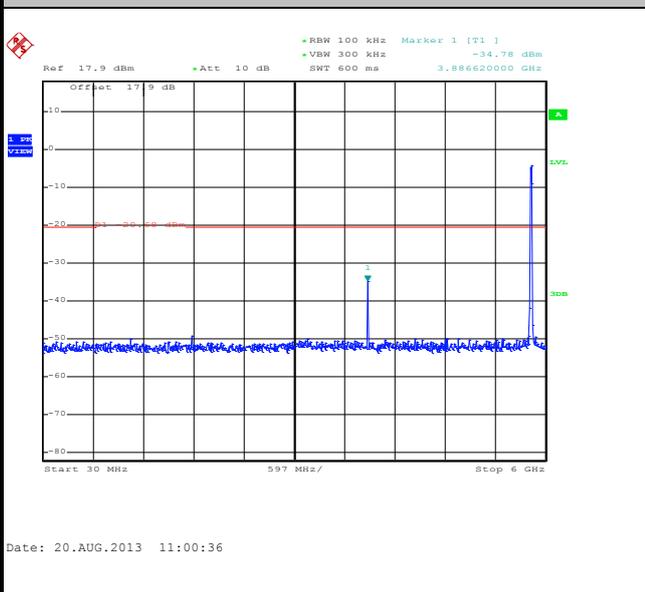
100kHz PSD reference Level



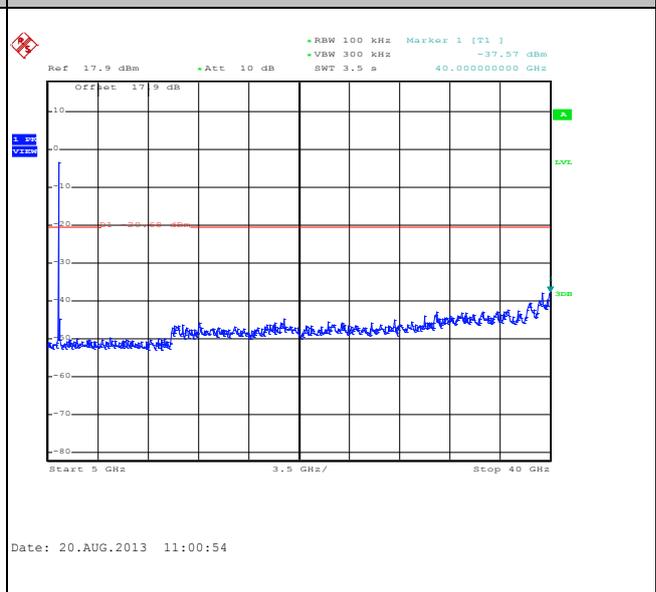
High Channel Plot



Spurious Emission 30MHz~6GHz



Spurious Emission 5GHz~40GHz

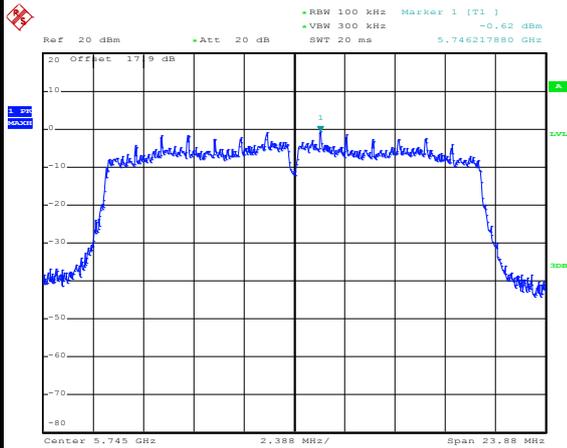




Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	50~53%
Test Channel :	149	Test Engineer :	Rover Lee

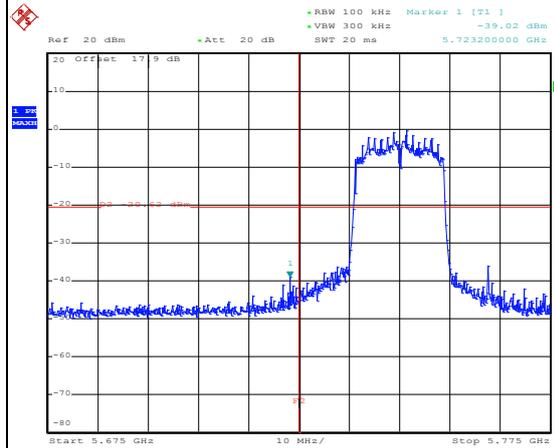
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



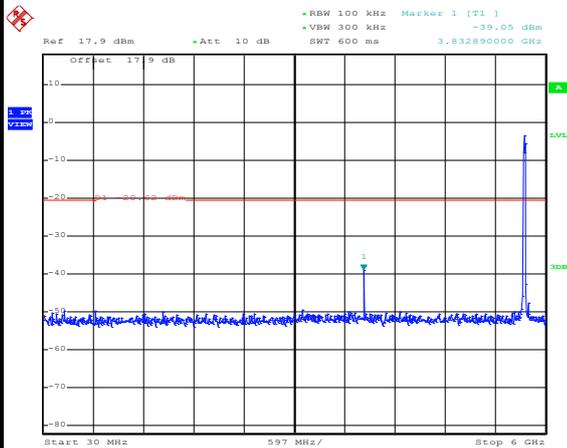
Date: 20.AUG.2013 11:09:54

Low Channel Plot



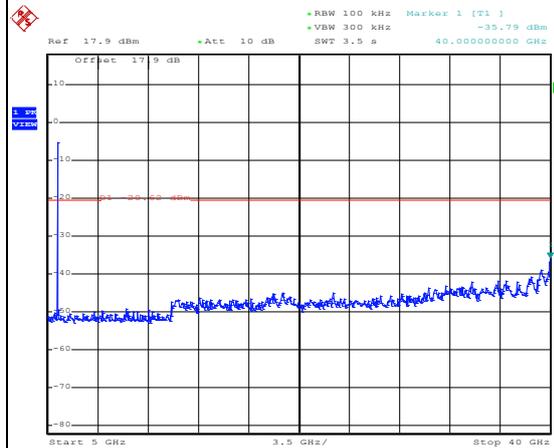
Date: 20.AUG.2013 11:10:15

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 11:10:54

Spurious Emission 5GHz~40GHz



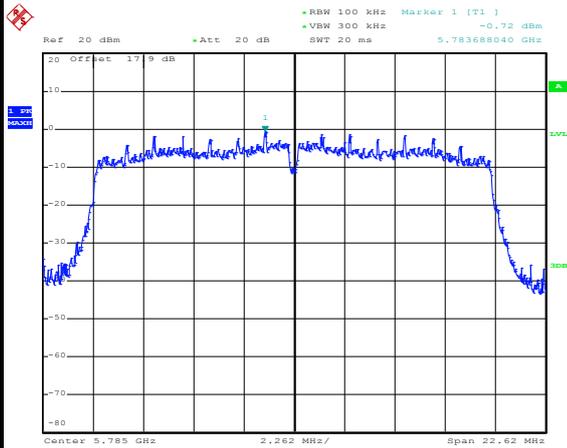
Date: 20.AUG.2013 11:11:13



Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Rover Lee

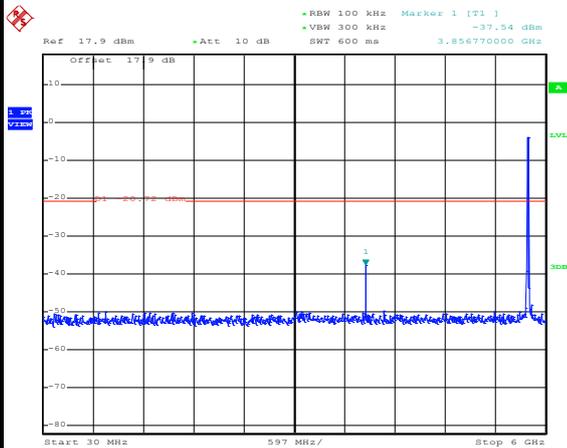
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



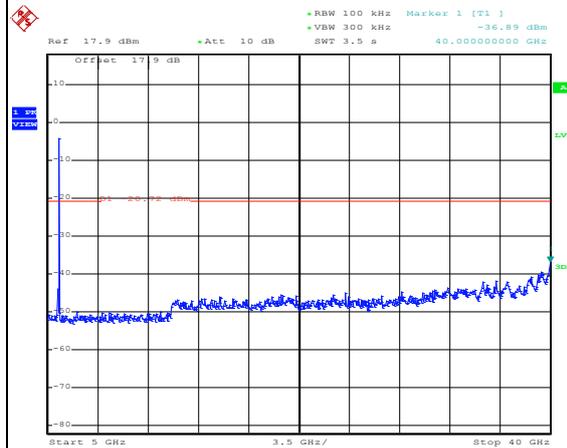
Date: 20.AUG.2013 11:15:38

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 11:16:03

Spurious Emission 5GHz~40GHz



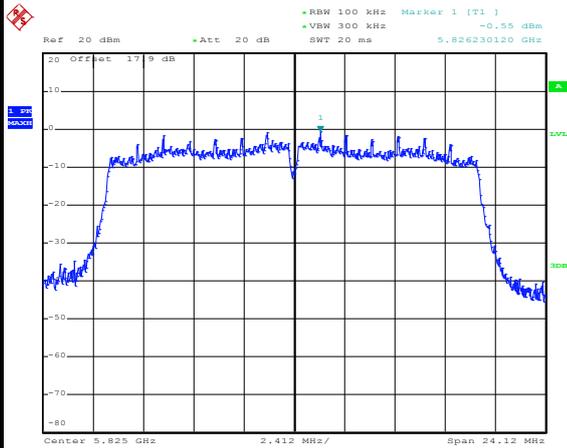
Date: 20.AUG.2013 11:16:22



Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	50~53%
Test Channel :	165	Test Engineer :	Rover Lee

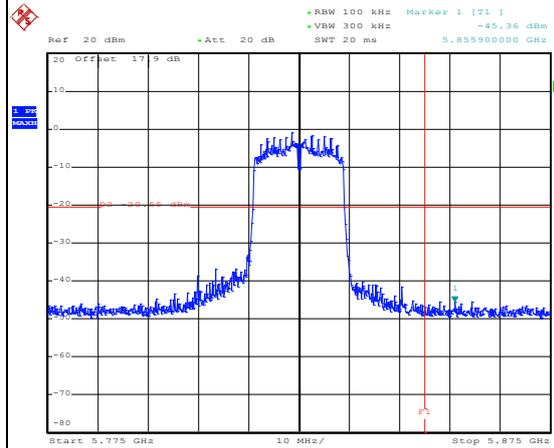
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



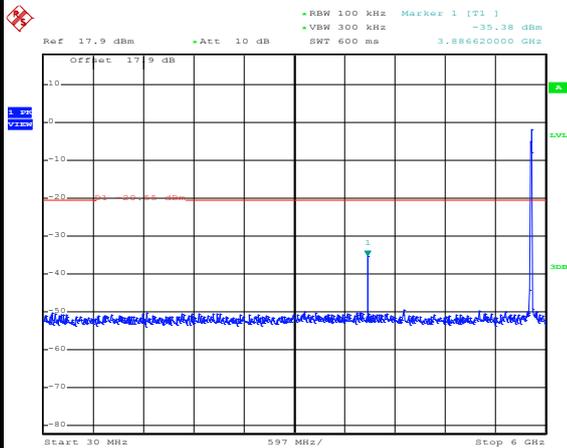
Date: 20.AUG.2013 11:20:12

High Channel Plot



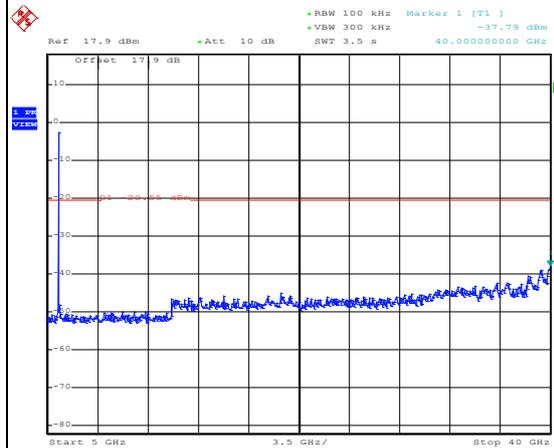
Date: 20.AUG.2013 11:20:45

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 11:21:08

Spurious Emission 5GHz~40GHz



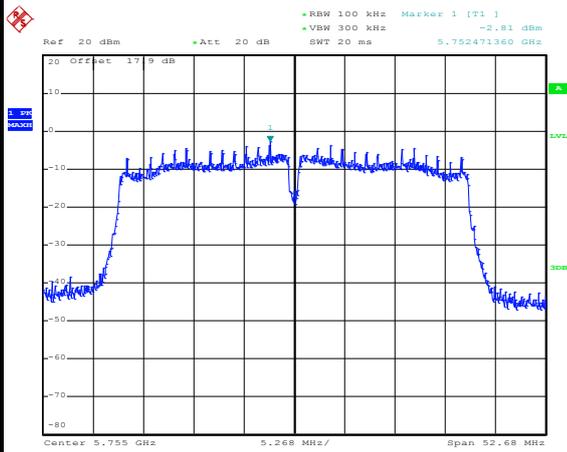
Date: 20.AUG.2013 11:21:26



Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz Low	Relative Humidity :	50~53%
Test Channel :	151	Test Engineer :	Rover Lee

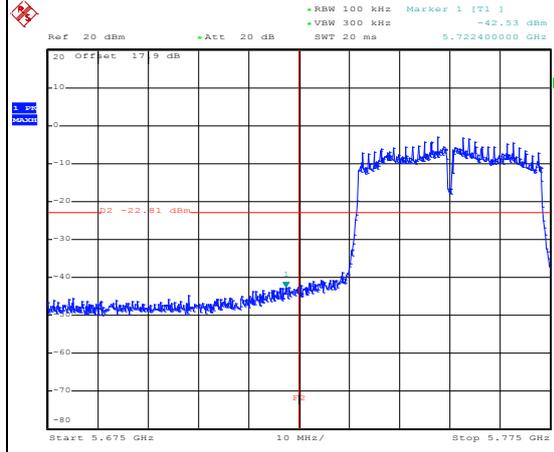
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



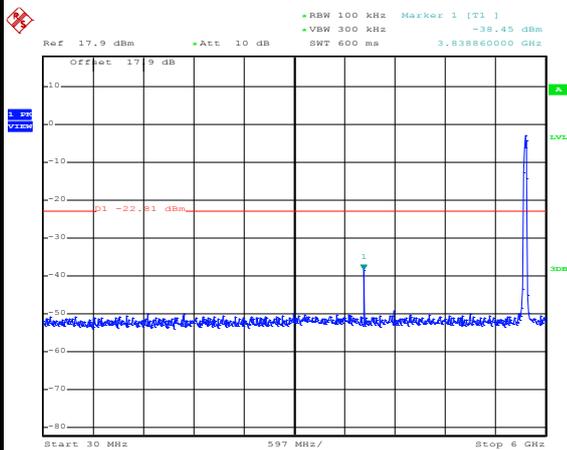
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Low Channel Plot



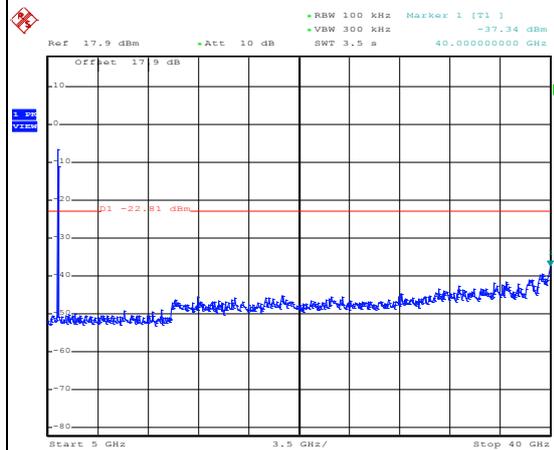
Date: 20.AUG.2013 11:27:10

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 11:27:33

Spurious Emission 5GHz~40GHz



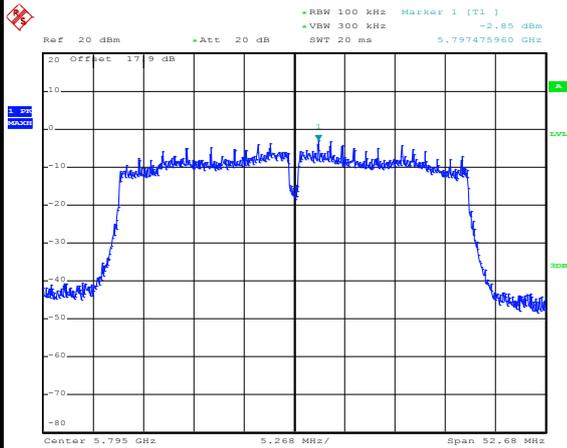
Date: 20.AUG.2013 11:27:51



Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	5GHz High	Relative Humidity :	50~53%
Test Channel :	159	Test Engineer :	Rover Lee

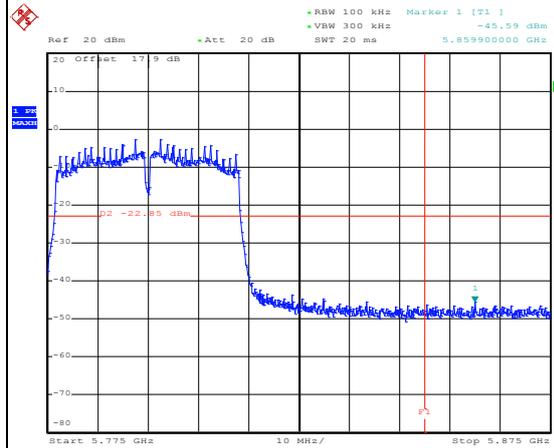
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



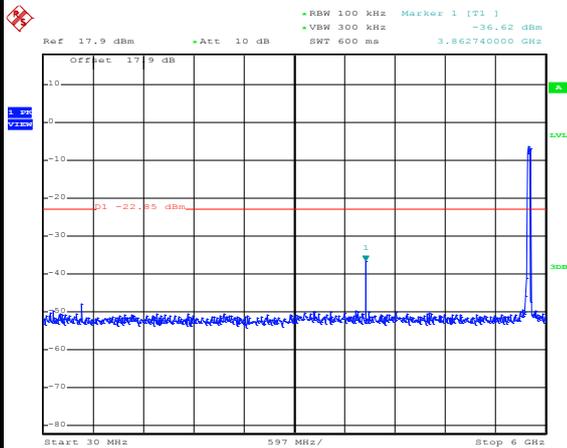
Date: 20.AUG.2013 11:32:00

High Channel Plot



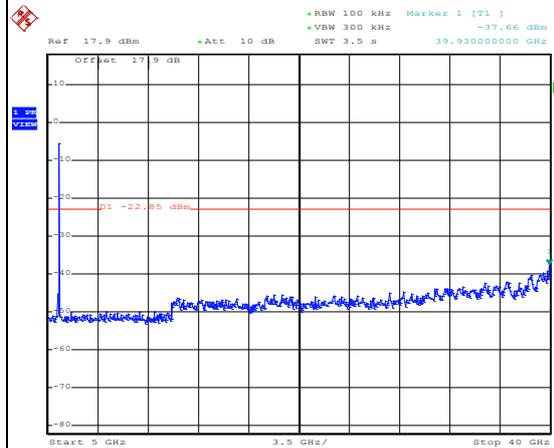
Date: 20.AUG.2013 11:32:18

Spurious Emission 30MHz~6GHz



Date: 20.AUG.2013 11:32:40

Spurious Emission 5GHz~40GHz



Date: 20.AUG.2013 11:32:59

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

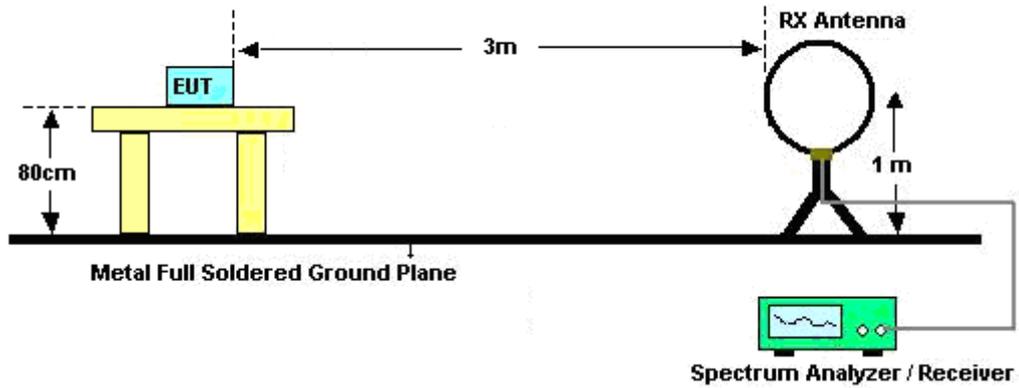
3.5.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - 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.

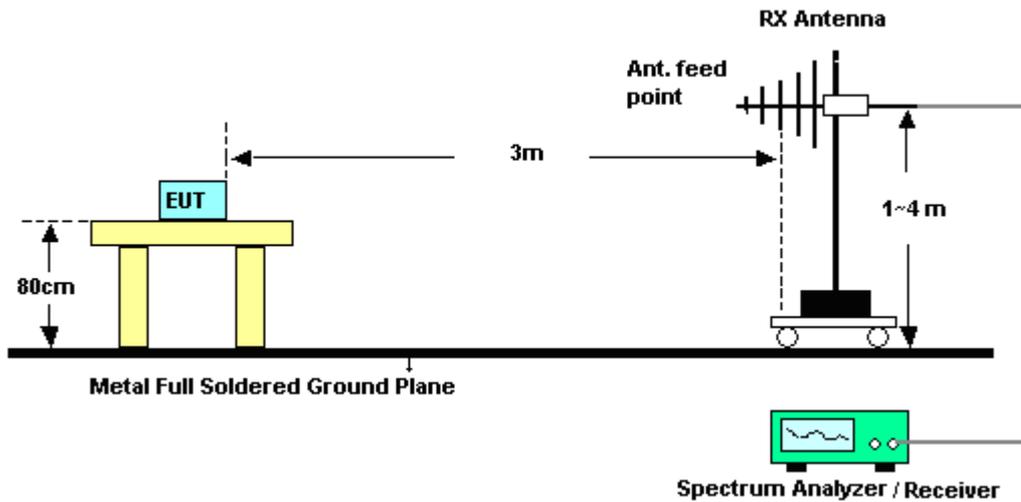
Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	96.79	8440	0.118	300Hz
802.11g	82.35	1400	0.714	1kHz
2.4GHz 802.11n HT20	81.37	1310	0.763	1kHz
2.4GHz 802.11n HT40	68.42	650	1.538	3kHz
802.11a	82.35	1400	0.714	1kHz
5GHz 802.11n HT20	81.19	1312	0.762	1kHz
5GHz 802.11n HT40	68.55	654	1.529	3kHz

3.5.4 Test Setup

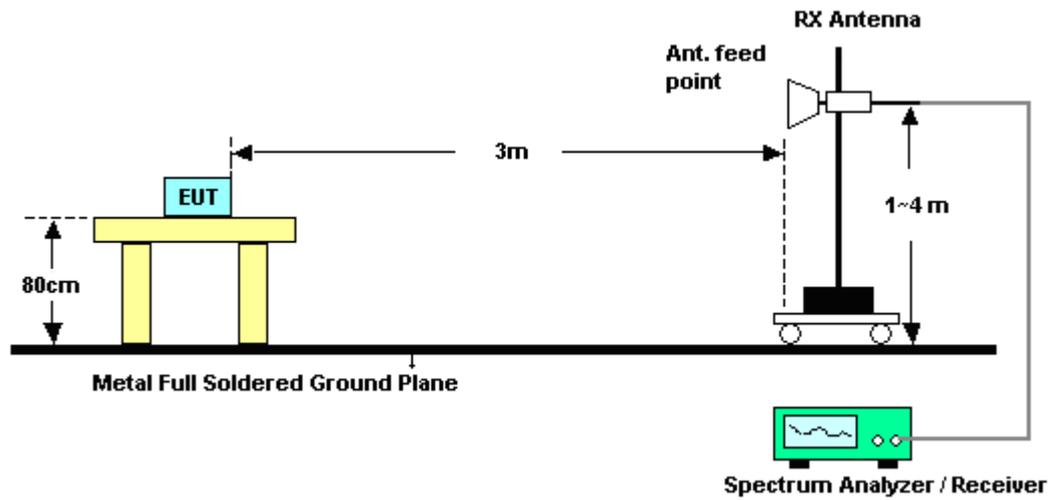
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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



3.5.6 Test Result of Radiated Spurious at Band Edges

Test Mode :	802.11b	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2328.9	57.56	-16.44	74	52.75	32.23	6.8	34.22	143	127	Peak
2389.65	44.75	-9.25	54	39.81	32.3	6.91	34.27	143	127	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.5	56.98	-17.02	74	52.04	32.3	6.91	34.27	100	258	Peak
2389.83	44.46	-9.54	54	39.55	32.3	6.91	34.3	100	258	Average

Test Mode :	802.11b	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.92	57.85	-16.15	74	52.84	32.38	7.06	34.43	136	128	Peak
2483.59	44.68	-9.32	54	39.67	32.38	7.06	34.43	136	128	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.4	58.6	-15.4	74	53.59	32.38	7.06	34.43	100	303	Peak
2483.56	44.84	-9.16	54	39.83	32.38	7.06	34.43	100	303	Average



Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	64.92	-9.08	74	60.01	32.3	6.91	34.3	146	325	Peak
2389.74	44.91	-9.09	54	39.97	32.3	6.91	34.27	146	325	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.56	69.09	-4.91	74	64.15	32.3	6.91	34.27	103	297	Peak
2389.92	45.97	-8.03	54	41.06	32.3	6.91	34.3	103	297	Average

Test Mode :	802.11g	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.77	64.03	-9.97	74	59.02	32.38	7.06	34.43	190	70	Peak
2483.5	45.31	-8.69	54	40.3	32.38	7.06	34.43	190	70	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.65	70.86	-3.14	74	65.85	32.38	7.06	34.43	102	296	Peak
2483.53	47.42	-6.58	54	42.41	32.38	7.06	34.43	102	296	Average



Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	01	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	64.1	-9.9	74	59.19	32.3	6.91	34.3	146	323	Peak
2390	45.11	-8.89	54	40.2	32.3	6.91	34.3	146	323	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.38	67.35	-6.65	74	62.41	32.3	6.91	34.27	103	298	Peak
2389.56	45.82	-8.18	54	40.88	32.3	6.91	34.27	103	298	Average

Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	11	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.1	66.96	-7.04	74	61.95	32.38	7.06	34.43	116	321	Peak
2483.65	45.25	-8.75	54	40.24	32.38	7.06	34.43	116	321	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2485.15	69.4	-4.6	74	64.39	32.38	7.06	34.43	101	304	Peak
2483.5	45.89	-8.11	54	40.88	32.38	7.06	34.43	101	304	Average



Test Mode :	802.11n HT40	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	03	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.83	69.87	-4.13	74	64.96	32.3	6.91	34.3	119	143	Peak
2389.74	50.74	-3.26	54	45.8	32.3	6.91	34.27	119	143	Average
2493.85	56.23	-17.77	74	51.25	32.4	7.06	34.48	119	143	Peak
2494.75	44.61	-9.39	54	39.63	32.4	7.06	34.48	119	143	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2388.66	64.91	-9.09	74	59.97	32.3	6.91	34.27	102	304	Peak
2390	49.41	-4.59	54	44.5	32.3	6.91	34.3	102	304	Average
2484.46	58.53	-15.47	74	53.52	32.38	7.06	34.43	102	304	Peak
2484.64	44.45	-9.55	54	39.44	32.38	7.06	34.43	102	304	Average



Test Mode :	802.11n HT40	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	09	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.68	57.88	-16.12	74	52.94	32.3	6.91	34.27	115	126	Peak
2390	45.56	-8.44	54	40.65	32.3	6.91	34.3	115	126	Average
2483.62	67.65	-6.35	74	62.64	32.38	7.06	34.43	115	126	Peak
2483.59	48.82	-5.18	54	43.81	32.38	7.06	34.43	115	126	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2369.49	56.86	-17.14	74	51.97	32.28	6.88	34.27	100	305	Peak
2386.32	45.36	-8.64	54	40.42	32.3	6.91	34.27	100	305	Average
2483.59	66.5	-7.5	74	61.49	32.38	7.06	34.43	100	305	Peak
2483.68	48.73	-5.27	54	43.72	32.38	7.06	34.43	100	305	Average



Test Mode :	802.11a	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	149	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.12	72.67	-11.58	84.25	61.45	35.33	10.04	34.15	100	218	Peak
5747	93.52	-	-	82.29	35.34	10.06	34.17	100	218	Average
5747	104.25	-	-	93.02	35.34	10.06	34.17	100	218	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.76	70.05	-10.21	80.26	58.83	35.33	10.04	34.15	105	164	Peak
5744	89.95	-	-	78.72	35.34	10.06	34.17	105	164	Average
5744	100.26	-	-	89.03	35.34	10.06	34.17	105	164	Peak

Remark: 5724.12 MHz and 5724.76 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 104.25dBμV/m - 20dB =84.25dBμV/m.



Test Mode :	802.11a	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	165	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	91.58	-	-	80.34	35.4	10.11	34.27	100	216	Average
5826	102.74	-	-	91.5	35.4	10.11	34.27	100	216	Peak
5852	64.81	-17.93	82.74	53.58	35.41	10.13	34.31	100	216	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	90.26	-	-	79.02	35.4	10.11	34.27	164	177	Average
5826	101.23	-	-	89.99	35.4	10.11	34.27	164	177	Peak
5851.12	63.54	-17.69	81.23	52.31	35.41	10.13	34.31	164	177	Peak

Remark: 5852 MHz and 5851.12 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	149	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.84	72.2	-11.84	84.04	60.98	35.33	10.04	34.15	101	218	Peak
5744	92.99	-	-	81.76	35.34	10.06	34.17	101	218	Average
5744	104.04	-	-	92.81	35.34	10.06	34.17	101	218	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.04	69.79	-10.91	80.7	58.57	35.33	10.04	34.15	168	175	Peak
5744	90.36	-	-	79.13	35.34	10.06	34.17	168	175	Average
5744	100.7	-	-	89.47	35.34	10.06	34.17	168	175	Peak

Remark: 5724.84 MHz and 5724.04 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT20	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	165	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	92.45	-	-	81.21	35.4	10.11	34.27	100	215	Average
5826	102.89	-	-	91.65	35.4	10.11	34.27	100	215	Peak
5850.96	64.2	-18.69	82.89	52.97	35.41	10.13	34.31	100	215	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	90.18	-	-	78.94	35.4	10.11	34.27	165	176	Average
5824	101.82	-	-	90.58	35.4	10.11	34.27	165	176	Peak
5852.32	63.64	-18.18	81.82	52.41	35.41	10.13	34.31	165	176	Peak

Remark: 5850.96 MHz and 5852.32 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT40	Temperature :	21~24°C
Test Band :	Low	Relative Humidity :	51~53%
Test Channel :	151	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5723.64	71.34	-9.06	80.4	60.38	35.07	10.04	34.15	108	220	Peak
5758	90.35	-	-	79.38	35.11	10.06	34.2	108	220	Average
5758	100.4	-	-	89.43	35.11	10.06	34.2	108	220	Peak
5852.4	54.92	-25.48	80.4	43.89	35.21	10.13	34.31	108	220	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5724.68	63.19	-14.82	78.01	52.23	35.07	10.04	34.15	176	180	Peak
5754	88.11	-	-	77.11	35.11	10.06	34.17	176	180	Average
5754	98.01	-	-	87.01	35.11	10.06	34.17	176	180	Peak
5867.6	53.51	-24.5	78.01	42.48	35.23	10.15	34.35	176	180	Peak

Remark: 5723.64 MHz, 5852.4 MHz, 5724.68 MHz and 5867.6 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT40	Temperature :	21~24°C
Test Band :	High	Relative Humidity :	51~53%
Test Channel :	159	Test Engineer :	Eric Shih

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5721.48	55.31	-24.11	79.42	44.35	35.07	10.04	34.15	108	222	Peak
5794	89.3	-	-	78.29	35.15	10.09	34.23	108	222	Average
5794	99.42	-	-	88.41	35.15	10.09	34.23	108	222	Peak
5852.56	56.05	-23.37	79.42	45.02	35.21	10.13	34.31	108	222	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5694.04	54.25	-23.3	77.55	43.32	35.03	10.02	34.12	188	178	Peak
5794	87.32	-	-	76.31	35.15	10.09	34.23	188	178	Average
5794	97.55	-	-	86.54	35.15	10.09	34.23	188	178	Peak
5855.28	55.58	-21.97	77.55	44.53	35.23	10.13	34.31	188	178	Peak

Remark: 5721.48 MHz, 5852.56 MHz, 5694.04 MHz and 5855.28 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

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

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

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2410 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 103.26dBμV/m - 20dB = 83.26dBμV/m. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2410	99.03	-	-	94.07	32.31	6.95	34.3	143	127	Average
2410	103.26	-	-	98.3	32.31	6.95	34.3	143	127	Peak
4824	46.34	-27.66	74	62.23	34.27	8.77	58.93	100	0	Peak
7236	40.26	-43	83.26	51.04	36.05	10.83	57.66	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2412 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	98.1	-	-	93.14	32.31	6.95	34.3	100	258	Average
2412	102.29	-	-	97.33	32.31	6.95	34.3	100	258	Peak
4824	48.13	-25.87	74	64.02	34.27	8.77	58.93	100	0	Peak
7236	43.67	-38.62	82.29	54.45	36.05	10.83	57.66	100	0	Peak



Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	99.69	-	-	94.72	32.33	6.99	34.35	118	143	Average
2436	103.82	-	-	98.85	32.33	6.99	34.35	118	143	Peak
4875	43.87	-30.13	74	59.6	34.28	8.82	58.83	100	0	Peak
7311	43.61	-30.39	74	54.39	36.04	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	99.49	-	-	94.5	32.35	6.99	34.35	100	304	Average
2438	103.72	-	-	98.73	32.35	6.99	34.35	100	304	Peak
4875	45.86	-28.14	74	61.59	34.28	8.82	58.83	100	0	Peak
7311	43.61	-30.39	74	54.39	36.04	10.91	57.73	100	0	Peak



Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	100.64	-	-	95.64	32.37	7.02	34.39	136	128	Average
2462	104.81	-	-	99.81	32.37	7.02	34.39	136	128	Peak
4926	47.14	-26.86	74	62.68	34.29	8.9	58.73	100	0	Peak
7386	43.08	-30.92	74	53.87	36.02	10.99	57.8	100	0	Peak

Test Mode :	802.11b	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	99.97	-	-	94.97	32.37	7.02	34.39	100	303	Average
2462	104	-	-	99	32.37	7.02	34.39	100	303	Peak
4923	50.06	-23.94	74	65.63	34.29	8.87	58.73	100	0	Peak
7386	43.46	-30.54	74	54.25	36.02	10.99	57.8	100	0	Peak



Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2412 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	92.78	-	-	87.82	32.31	6.95	34.3	146	325	Average
2412	103.41	-	-	98.45	32.31	6.95	34.3	146	325	Peak
4824	42.01	-31.99	74	57.9	34.27	8.77	58.93	100	0	Peak
7236	42.8	-40.61	83.41	53.58	36.05	10.83	57.66	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2412 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	93.4	-	-	88.44	32.31	6.95	34.3	103	297	Average
2412	103.88	-	-	98.92	32.31	6.95	34.3	103	297	Peak
4824	43.39	-30.61	74	59.28	34.27	8.77	58.93	100	0	Peak
7236	43.68	-40.2	83.88	54.46	36.05	10.83	57.66	100	0	Peak



Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	94.82	-	-	89.85	32.33	6.99	34.35	116	321	Average
2436	105.39	-	-	100.42	32.33	6.99	34.35	116	321	Peak
4875	40.83	-33.17	74	56.56	34.28	8.82	58.83	100	0	Peak
7311	42.43	-31.57	74	53.21	36.04	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2439	94.58	-	-	89.59	32.35	6.99	34.35	100	300	Average
2439	104.8	-	-	99.81	32.35	6.99	34.35	100	300	Peak
4875	42.78	-31.22	74	58.51	34.28	8.82	58.83	100	0	Peak
7311	43.58	-30.42	74	54.36	36.04	10.91	57.73	100	0	Peak



Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.96	27.32	-12.68	40	46.18	11.7	0.64	31.2	-	-	Peak
160.95	32.49	-11.01	43.5	52.05	10.41	1.22	31.19	100	15	Peak
187.95	30.6	-12.9	43.5	51.41	8.98	1.27	31.06	-	-	Peak
316.8	24.31	-21.69	46	39.74	13.77	1.8	31	-	-	Peak
633.9	29.51	-16.49	46	37.18	20.07	2.79	30.53	-	-	Peak
845.3	26.77	-19.23	46	31.34	22.56	3.26	30.39	-	-	Peak
2462	91.9	-	-	86.9	32.37	7.02	34.39	190	70	Average
2462	102.35	-	-	97.35	32.37	7.02	34.39	190	70	Peak
4923	43.38	-30.62	74	58.95	34.29	8.87	58.73	100	0	Peak
7386	42.94	-31.06	74	53.73	36.02	10.99	57.8	100	0	Peak



Test Mode :	802.11g	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.13	28.97	-11.03	40	43.29	16.4	0.58	31.3	100	157	Peak
75.63	24.41	-15.59	40	47.69	7.06	0.86	31.2	-	-	Peak
159.87	29.73	-13.77	43.5	49.21	10.5	1.22	31.2	-	-	Peak
528.2	23.87	-22.13	46	33.49	18.58	2.51	30.71	-	-	Peak
633.9	34.18	-11.82	46	41.85	20.07	2.79	30.53	-	-	Peak
845.3	26.39	-19.61	46	30.96	22.56	3.26	30.39	-	-	Peak
2460	94.37	-	-	89.37	32.37	7.02	34.39	102	296	Average
2460	104.45	-	-	99.45	32.37	7.02	34.39	102	296	Peak
4924	47.42	-26.58	74	62.96	34.29	8.9	58.73	100	0	Peak
7386	43.32	-30.68	74	54.11	36.02	10.99	57.8	100	0	Peak



Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 2412 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	91.84	-	-	86.88	32.31	6.95	34.3	146	323	Average
2412	102.21	-	-	97.25	32.31	6.95	34.3	146	323	Peak
4824	42.35	-31.65	74	58.24	34.27	8.77	58.93	100	0	Peak
7236	43.76	-38.45	82.21	54.54	36.05	10.83	57.66	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 2412 MHz is fundamental signal which can be ignored. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	92.93	-	-	87.97	32.31	6.95	34.3	103	298	Average
2412	103.1	-	-	98.14	32.31	6.95	34.3	103	298	Peak
4824	42.72	-31.28	74	58.61	34.27	8.77	58.93	100	0	Peak
7236	42.97	-40.13	83.1	53.75	36.05	10.83	57.66	100	0	Peak



Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2438	91.2	-	-	86.21	32.35	6.99	34.35	100	319	Average
2438	102.05	-	-	97.06	32.35	6.99	34.35	100	319	Peak
4923	41.8	-32.2	74	57.37	34.29	8.87	58.73	100	0	Peak
7386	43.09	-30.91	74	53.88	36.02	10.99	57.8	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	92.35	-	-	87.38	32.33	6.99	34.35	100	301	Average
2436	103.57	-	-	98.6	32.33	6.99	34.35	100	301	Peak
4923	40.65	-33.35	74	56.22	34.29	8.87	58.73	100	0	Peak
7386	42.76	-31.24	74	53.55	36.02	10.99	57.8	100	0	Peak



Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2464 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2464	92.52	-	-	87.52	32.37	7.02	34.39	116	321	Average
2464	102.22	-	-	97.22	32.37	7.02	34.39	116	321	Peak
4923	42.54	-31.46	74	58.11	34.29	8.87	58.73	100	0	Peak
7386	43.34	-30.66	74	54.13	36.02	10.99	57.8	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	11	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2460 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2460	93.1	-	-	88.1	32.37	7.02	34.39	101	304	Average
2460	103.25	-	-	98.25	32.37	7.02	34.39	101	304	Peak
4926	45.92	-28.08	74	61.46	34.29	8.9	58.73	100	0	Peak
7386	43.91	-30.09	74	54.7	36.02	10.99	57.8	100	0	Peak



Test Mode :	2.4GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	03	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2424	90.31	-	-	85.38	32.33	6.95	34.35	119	143	Average
2424	100.97	-	-	96.04	32.33	6.95	34.35	119	143	Peak
4845	40.9	-33.1	74	56.72	34.27	8.8	58.89	100	0	Peak
7266	44.14	-29.86	74	54.93	36.04	10.86	57.69	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	03	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2424	89.66	-	-	84.73	32.33	6.95	34.35	102	304	Average
2424	99.29	-	-	94.36	32.33	6.95	34.35	102	304	Peak
4845	40.88	-33.12	74	56.7	34.27	8.8	58.89	100	0	Peak
7266	44.29	-29.71	74	55.08	36.04	10.86	57.69	100	0	Peak



Test Mode :	2.4GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	91.28	-	-	86.29	32.35	6.99	34.35	115	144	Average
2437	101.54	-	-	96.55	32.35	6.99	34.35	115	144	Peak
4875	40.8	-33.2	74	56.53	34.28	8.82	58.83	100	0	Peak
7311	43.36	-30.64	74	54.14	36.04	10.91	57.73	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2436	91.07	-	-	86.1	32.33	6.99	34.35	100	305	Average
2436	100.77	-	-	95.8	32.33	6.99	34.35	100	305	Peak
4875	42.27	-31.73	74	58	34.28	8.82	58.83	100	0	Peak
7311	43.61	-30.39	74	54.39	36.04	10.91	57.73	100	0	Peak



Test Mode :	2.4GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	09	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2452 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2452	93.79	-	-	88.84	32.35	6.99	34.39	115	126	Average
2452	101.93	-	-	96.98	32.35	6.99	34.39	115	126	Peak
4905	41.4	-32.6	74	57.01	34.28	8.87	58.76	100	0	Peak
7356	43.64	-30.36	74	54.42	36.03	10.96	57.77	100	0	Peak

Test Mode :	2.4GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	09	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	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 (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2454	91.4	-	-	86.4	32.37	7.02	34.39	100	305	Average
2454	101.16	-	-	96.16	32.37	7.02	34.39	100	305	Peak
4905	42.62	-31.38	74	58.23	34.28	8.87	58.76	100	0	Peak
7356	44.19	-29.81	74	54.97	36.03	10.96	57.77	100	0	Peak



Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 5747 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5747	93.52	-	-	82.29	35.34	10.06	34.17	100	218	Average
5747	104.25	-	-	93.02	35.34	10.06	34.17	100	218	Peak
11492	41.82	-12.18	54	45.98	38.48	14.33	56.97	100	343	Average
11492	52.6	-21.4	74	56.76	38.48	14.33	56.97	100	343	Peak
17235	50.02	-34.23	84.25	48.19	41.42	16.6	56.19	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5744 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5744	89.95	-	-	78.72	35.34	10.06	34.17	105	164	Average
5744	100.26	-	-	89.03	35.34	10.06	34.17	105	164	Peak
11492	50.38	-23.62	74	54.54	38.48	14.33	56.97	100	0	Peak
17235	49.63	-30.63	80.26	47.8	41.42	16.6	56.19	100	0	Peak



Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 5784 MHz is fundamental signal which can be ignored. 2. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5784	93.08	-	-	81.87	35.37	10.07	34.23	100	216	Average
5784	103.7	-	-	92.49	35.37	10.07	34.23	100	216	Peak
11571	42.57	-11.43	54	46.38	38.56	14.41	56.78	100	321	Average
11571	53.27	-20.73	74	57.08	38.56	14.41	56.78	100	321	Peak
17355	49.61	-34.09	83.7	47.8	41.28	16.75	56.22	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5786 MHz is fundamental signal which can be ignored. 2. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5786	90.73	-	-	79.51	35.38	10.07	34.23	177	174	Average
5786	101.35	-	-	90.13	35.38	10.07	34.23	177	174	Peak
11571	49.17	-24.83	74	52.98	38.56	14.41	56.78	100	0	Peak
17355	50.28	-31.07	81.35	48.47	41.28	16.75	56.22	100	0	Peak



Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 5826 MHz is fundamental signal which can be ignored. 2. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	91.58	-	-	80.34	35.4	10.11	34.27	100	216	Average
5826	102.74	-	-	91.5	35.4	10.11	34.27	100	216	Peak
11652	42.14	-11.86	54	45.57	38.62	14.52	56.57	100	289	Average
11652	52.72	-21.28	74	56.15	38.62	14.52	56.57	100	289	Peak
17475	49.56	-33.18	82.74	47.78	41.14	16.89	56.25	100	0	Peak

Test Mode :	802.11a	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5826 MHz is fundamental signal which can be ignored. 2. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	90.26	-	-	79.02	35.4	10.11	34.27	164	177	Average
5826	101.23	-	-	89.99	35.4	10.11	34.27	164	177	Peak
11652	50.79	-23.21	74	54.22	38.62	14.52	56.57	100	0	Peak
17475	49.27	-31.96	81.23	47.49	41.14	16.89	56.25	100	0	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 5744 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5744	92.99	-	-	81.76	35.34	10.06	34.17	101	218	Average
5744	104.04	-	-	92.81	35.34	10.06	34.17	101	218	Peak
11490	40.89	-13.11	54	45.05	38.48	14.33	56.97	100	333	Average
11490	52.15	-21.85	74	56.31	38.48	14.33	56.97	100	333	Peak
17235	48.65	-35.39	84.04	46.82	41.42	16.6	56.19	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5744 MHz is fundamental signal which can be ignored. 2. 17235 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5744	90.36	-	-	79.13	35.34	10.06	34.17	168	175	Average
5744	100.7	-	-	89.47	35.34	10.06	34.17	168	175	Peak
11490	49.41	-24.59	74	53.57	38.48	14.33	56.97	100	0	Peak
17235	48.88	-31.82	80.7	47.05	41.42	16.6	56.19	100	0	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5784 MHz is fundamental signal which can be ignored. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5784	92.64	-	-	81.43	35.37	10.07	34.23	100	217	Average
5784	103.34	-	-	92.13	35.37	10.07	34.23	100	217	Peak
11568	50.98	-23.02	74	54.79	38.56	14.41	56.78	100	0	Peak
17355	49.42	-33.92	83.34	47.61	41.28	16.75	56.22	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5786 MHz is fundamental signal which can be ignored. 17355 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5786	90.42	-	-	79.2	35.38	10.07	34.23	178	177	Average
5786	100.63	-	-	89.41	35.38	10.07	34.23	178	177	Peak
11572	49.43	-24.57	74	53.24	38.56	14.41	56.78	100	0	Peak
17355	48.57	-32.06	80.63	46.76	41.28	16.75	56.22	100	0	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5826 MHz is fundamental signal which can be ignored. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5826	92.45	-	-	81.21	35.4	10.11	34.27	100	215	Average
5826	102.89	-	-	91.65	35.4	10.11	34.27	100	215	Peak
11648	50.9	-23.1	74	54.38	38.61	14.52	56.61	100	0	Peak
17475	48.44	-34.45	82.89	46.66	41.14	16.89	56.25	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~24°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5824 MHz is fundamental signal which can be ignored. 17475 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5824	90.18	-	-	78.94	35.4	10.11	34.27	165	176	Average
5824	101.82	-	-	90.58	35.4	10.11	34.27	165	176	Peak
11652	49.17	-24.83	74	52.6	38.62	14.52	56.57	100	0	Peak
17475	48.58	-33.24	81.82	46.8	41.14	16.89	56.25	100	0	Peak



Test Mode :	5GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	151	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 5758 MHz is fundamental signal which can be ignored. 2. 17265 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.96	26.02	-13.98	40	44.88	11.7	0.64	31.2	-	-	Peak
188.49	30.31	-13.19	43.5	51.14	8.98	1.27	31.08	100	168	Peak
290.28	26.08	-19.92	46	42.33	13.16	1.69	31.1	-	-	Peak
422.5	23.35	-22.65	46	35.44	16.48	2.22	30.79	-	-	Peak
633.9	28.67	-17.33	46	36.34	20.07	2.79	30.53	-	-	Peak
845.3	27.63	-18.37	46	32.2	22.56	3.26	30.39	-	-	Peak
5758	90.35	-	-	79.38	35.11	10.06	34.2	108	220	Average
5758	100.4	-	-	89.43	35.11	10.06	34.2	108	220	Peak
11511	41.02	-12.98	54	45.12	38.5	14.35	56.95	100	311	Average
11511	51.16	-22.84	74	55.26	38.5	14.35	56.95	100	311	Peak
17265	48.07	-32.33	80.4	46.23	41.38	16.66	56.2	100	0	Peak



Test Mode :	5GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	151	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5754 MHz is fundamental signal which can be ignored. 17265 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.62	29.17	-10.83	40	41.48	18.56	0.55	31.42	100	223	Peak
76.71	25.32	-14.68	40	48.47	7.19	0.86	31.2	-	-	Peak
159.06	30.39	-13.11	43.5	49.79	10.57	1.22	31.19	-	-	Peak
476.4	23.51	-22.49	46	34.34	17.6	2.37	30.8	-	-	Peak
580.7	26.23	-19.77	46	34.8	19.47	2.64	30.68	-	-	Peak
633.9	34.17	-11.83	46	41.84	20.07	2.79	30.53	-	-	Peak
5754	88.11	-	-	77.11	35.11	10.06	34.17	176	180	Average
5754	98.01	-	-	87.01	35.11	10.06	34.17	176	180	Peak
11511	47.93	-26.07	74	52.03	38.5	14.35	56.95	100	0	Peak
17265	48.08	-29.93	78.01	46.24	41.38	16.66	56.2	100	0	Peak



Test Mode :	5GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	159	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	<ol style="list-style-type: none"> 5794 MHz is fundamental signal which can be ignored. 17385 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5794	89.3	-	-	78.29	35.15	10.09	34.23	108	222	Average
5794	99.42	-	-	88.41	35.15	10.09	34.23	108	222	Peak
11592	49.22	-24.78	74	52.95	38.57	14.44	56.74	100	0	Peak
17385	49.85	-29.57	79.42	48.04	41.24	16.8	56.23	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	21~24°C
Test Channel :	159	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	<ol style="list-style-type: none"> 5794 MHz is fundamental signal which can be ignored. 17385 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. Average measurement was not performed if peak level went lower than the average limit. 		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5794	87.32	-	-	76.31	35.15	10.09	34.23	188	178	Average
5794	97.55	-	-	86.54	35.15	10.09	34.23	188	178	Peak
11589	48.15	-25.85	74	51.88	38.57	14.44	56.74	100	0	Peak
17385	49.57	-27.98	77.55	47.76	41.24	16.8	56.23	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.

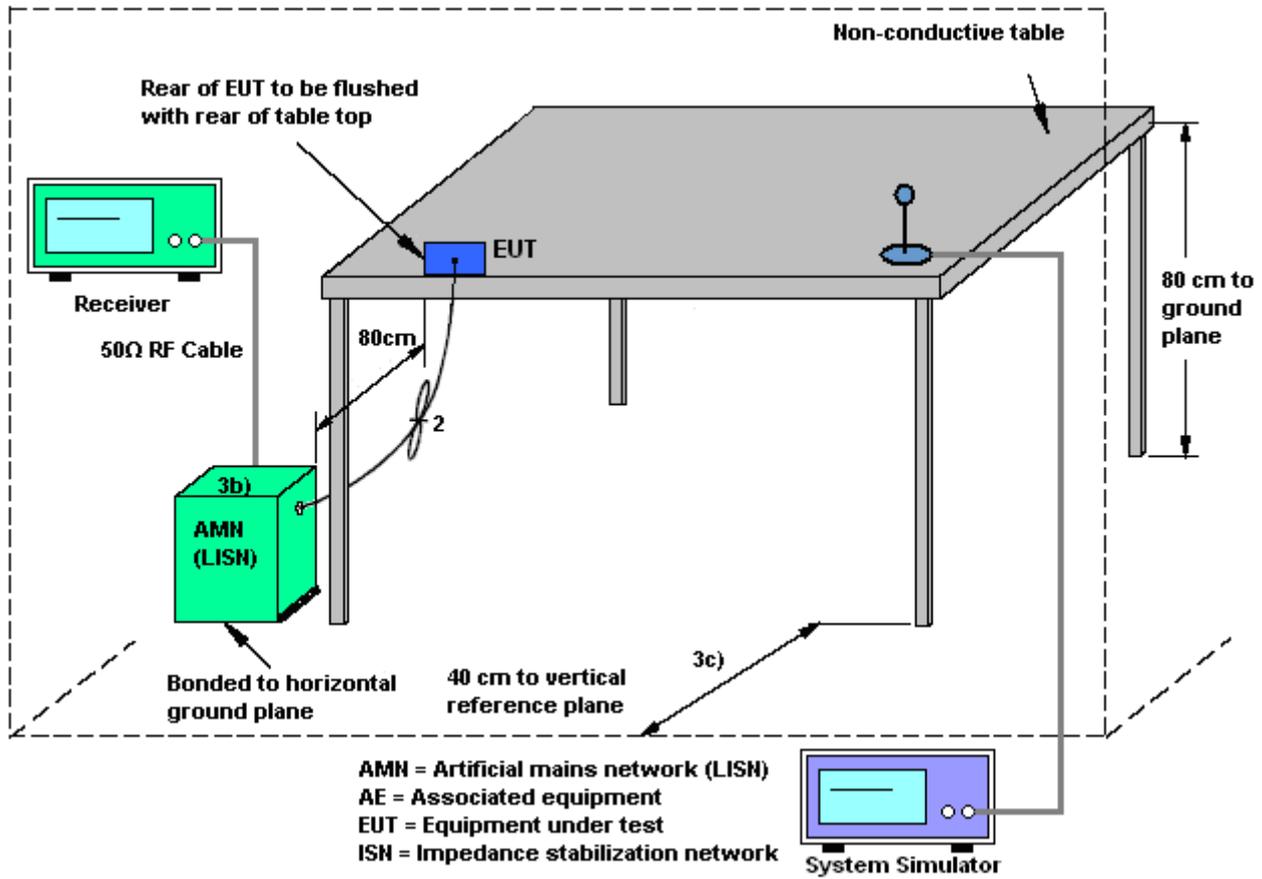
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

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

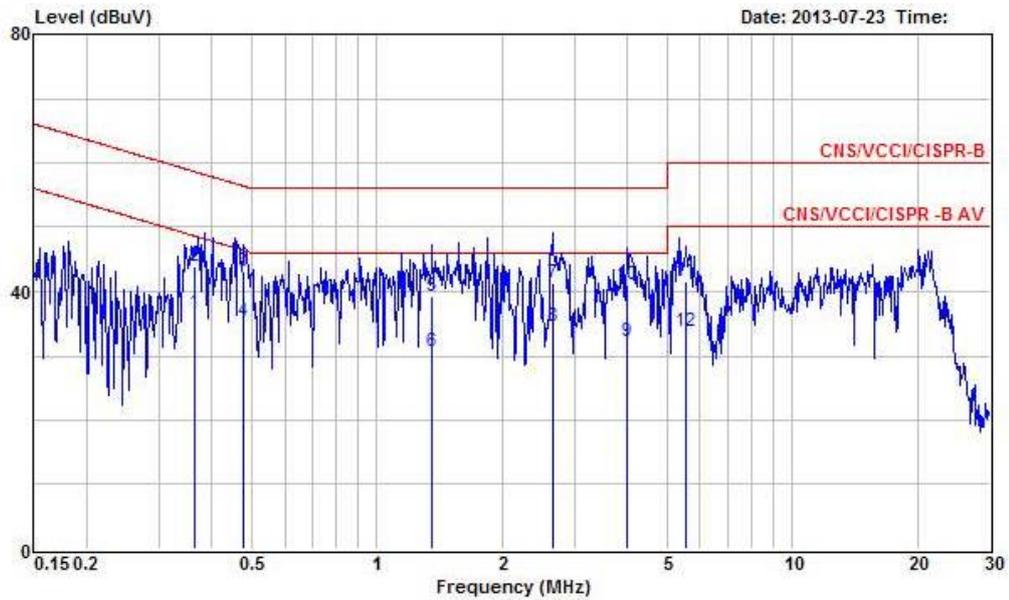
3.6.4 Test Setup





3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	David Du	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WCDMA Band II Link + Bluetooth Link + WLAN Link + Earphone + H-pattern + MP3 + USB Cable (Charging from Adapter 2)		

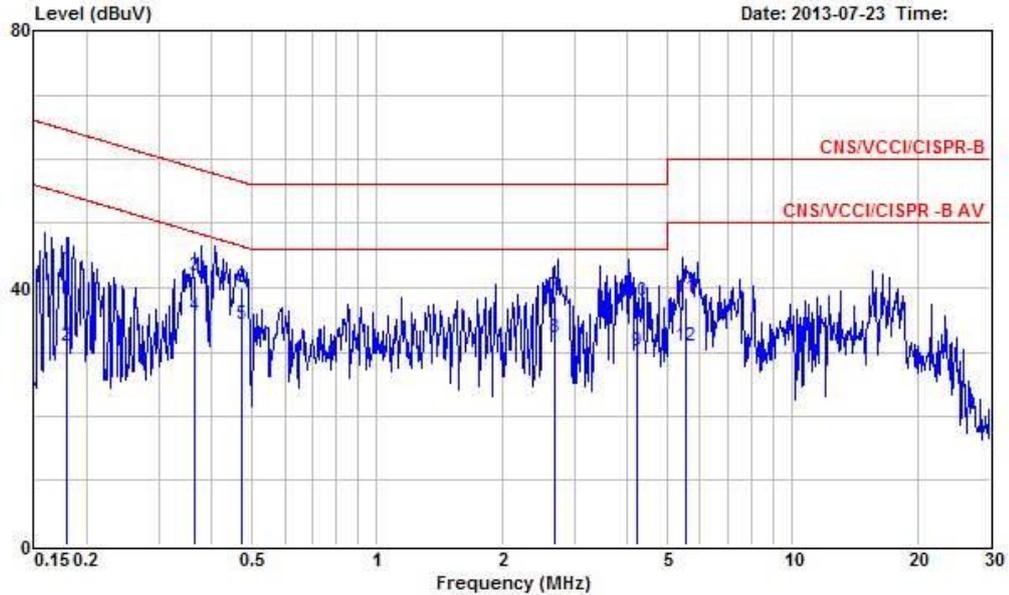


Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 LINE
 Power : 120V/60Hz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.363	36.56	-12.10	48.66	36.05	0.15	0.36	Average
2	0.363	44.02	-14.64	58.66	43.51	0.15	0.36	QP
3	0.479	43.00	-13.36	56.36	42.51	0.15	0.34	QP
4	0.479	35.44	-10.92	46.36	34.95	0.15	0.34	Average
5	1.360	39.25	-16.75	56.00	38.97	0.18	0.10	QP
6	1.360	30.71	-15.29	46.00	30.43	0.18	0.10	Average
7	2.650	41.42	-14.58	56.00	41.11	0.21	0.10	QP
8	2.650	34.66	-11.34	46.00	34.35	0.21	0.10	Average
9	3.990	32.17	-13.83	46.00	31.84	0.23	0.10	Average
10	3.990	40.95	-15.05	56.00	40.62	0.23	0.10	QP
11	5.560	41.50	-18.50	60.00	41.14	0.26	0.10	QP
12	5.560	33.85	-16.15	50.00	33.49	0.26	0.10	Average



Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	David Du	Relative Humidity :	40~42%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WCDMA Band II Link + Bluetooth Link + WLAN Link + Earphone + H-pattern + MP3 + USB Cable (Charging from Adapter 2)		



Site : CO01-HY
 Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 NEUTRAL
 Power : 120V/60Hz

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.179	42.85	-21.68	64.53	42.65	0.10	0.10	QP
2	0.179	30.97	-23.56	54.53	30.77	0.10	0.10	Average
3	0.365	41.85	-16.76	58.61	41.37	0.12	0.36	QP
4	0.365	35.64	-12.97	48.61	35.16	0.12	0.36	Average
5	0.474	34.30	-12.14	46.44	33.84	0.12	0.34	Average
6	0.474	39.97	-16.47	56.44	39.51	0.12	0.34	QP
7	2.680	38.70	-17.30	56.00	38.41	0.19	0.10	QP
8	2.680	32.21	-13.79	46.00	31.92	0.19	0.10	Average
9	4.235	30.07	-15.93	46.00	29.75	0.22	0.10	Average
10	4.235	37.82	-18.18	56.00	37.50	0.22	0.10	QP
11	5.565	38.54	-21.46	60.00	38.19	0.25	0.10	QP
12	5.565	31.00	-19.00	50.00	30.65	0.25	0.10	Average



3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Connected Construction

Embedded in Antenna.

3.7.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Jul. 24, 2013~ Aug. 20, 2013	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Jul. 24, 2013~ Aug. 20, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Jul. 24, 2013~ Aug. 20, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Sep. 03, 2012	Aug. 14, 2013~ Aug. 18, 2013	Sep. 02, 2013	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9kHz~30GHz	Nov. 30, 2012	Aug. 14, 2013~ Aug. 18, 2013	Nov. 29, 2013	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 MHz	Jul. 03, 2012	Aug. 14, 2013~ Aug. 18, 2013	Jul. 03, 2014	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz~1GHz	Oct. 06, 2012	Aug. 14, 2013~ Aug. 18, 2013	Oct. 05, 2013	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1GHz~18GHz	Aug. 22, 2012	Aug. 14, 2013~ Aug. 18, 2013	Aug. 21, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz~40GHz	Sep. 28, 2012	Aug. 14, 2013~ Aug. 18, 2013	Sep. 27, 2013	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	30MHz~1GHz	Feb. 26, 2013	Aug. 14, 2013~ Aug. 18, 2013	Feb. 25, 2014	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~26.5GHz	Dec. 01, 2012	Aug. 14, 2013~ Aug. 18, 2013	Nov. 30, 2013	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Aug. 14, 2013~ Aug. 18, 2013	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Aug. 14, 2013~ Aug. 18, 2013	N/A	Radiation (03CH07-HY)
EMC Receiver	R&S	ESCS 30	100132	9kHz ~ 2.75GHz	Nov. 14, 2012	Jul. 23, 2013	Nov. 13, 2013	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz ~ 30MHz	Dec. 28, 2012	Jul. 23, 2013	Dec. 27, 2013	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	Jul. 23, 2013	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0~60Hz	N/A	Jul. 23, 2013	N/A	Conduction (CO01-HY)
RF Cable-CON	HUBER+SUHNER	RG213/U	07611832010001	9kHz ~ 30MHz	Mar. 01, 2013	Jul. 23, 2013	Feb. 28, 2014	Conduction (CO01-HY)



5 Uncertainty of Evaluation

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

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

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

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