

FCC RF Test Report

APPLICANT : Motorola Solutions, Inc.
EQUIPMENT : Touch Computer
BRAND NAME : Motorola
MODEL NAME : TC55CH
FCC ID : UZ7TC55CH
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Jan. 08, 2014 and testing was completed on Jan. 27, 2014. 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.

Louis Wu

Reviewed by: Louis Wu / Manager

Jones Tsai

Approved by: Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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

SPORTON INTERNATIONAL INC.

TEL : 886-3-327-3456

FAX : 886-3-328-4978

FCC ID : UZ7TC55CH

Page Number : 1 of 123

Report Issued Date : Feb. 10, 2014

Report Version : Rev. 01



TABLE OF CONTENTS

REVISION HISTORY	3
SUMMARY OF TEST RESULT	4
1 GENERAL DESCRIPTION	5
1.1 Applicant	5
1.2 Manufacturer	5
1.3 Feature of Equipment Under Test	5
1.4 Product Specification of Equipment Under Test	6
1.5 Modification of EUT	6
1.6 Testing Site	6
1.7 Applied Standards	7
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	8
2.1 Carrier Frequency Channel	8
2.2 RF Power	9
2.3 Average Conducted Output Power	11
2.4 Test Mode	13
2.5 Connection Diagram of Test System	15
2.6 Support Unit used in test configuration and system	16
2.7 EUT Operation Test Setup	16
2.8 Measurement Results Explanation Example	17
3 TEST RESULT	18
3.1 6dB Bandwidth Measurement	18
3.2 Output Power Measurement	26
3.3 Power Spectral Density Measurement	31
3.4 Conducted Band Edges and Spurious Emission Measurement	39
3.5 Radiated Band Edges and Spurious Emission Measurement	57
3.6 AC Conducted Emission Measurement	117
3.7 Antenna Requirements	121
4 LIST OF MEASURING EQUIPMENT	122
5 UNCERTAINTY OF EVALUATION	123
APPENDIX A. SETUP PHOTOGRAPHS	



REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR3O1108-01C	Rev. 01	Initial issue of report	Feb. 10, 2014

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
		Conducted Spurious Emission		Pass	-
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 1.19 dB at 5724.760 MHz
3.6	15.207	AC Conducted Emission	15.207(a)	Pass	Under limit 7.00 dB at 13.558 MHz
3.7	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-



1 General Description

1.1 Applicant

Motorola Solutions, Inc.

One Motorola Plaza, Holtsville, NY 11742-1300 USA

1.2 Manufacturer

Motorola Solutions, Inc.

One Motorola Plaza, Holtsville, NY 11742-1300 USA

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Touch Computer
Brand Name	Motorola
Model Name	TC55CH
FCC ID	UZ7TC55CH
Sample 1	EUT with Scanner
Sample 2	EUT without Scanner
EUT supports Radios application	CDMA/EV-DO/LTE WLAN 11abgn / Bluetooth 2.1 / 3.0 / 4.0 / NFC
HW Version	DV2.2
SW Version	Android 4.1.2
FW Version	BSP 1.7
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2472 MHz 802.11a/n: 5745~5825MHz.
Maximum (Peak) Output Power to Antenna	<2412 MHz ~ 2472 MHz> 802.11b : 22.19 dBm (0.1656 W) 802.11g : 23.57 dBm (0.2275 W) 802.11n HT20 : 23.26 dBm (0.2118 W) <5745 MHz ~ 5825 MHz> 802.11a : 20.70 dBm (0.1175 W) 802.11n HT20 : 20.53 dBm (0.1130 W) 802.11n HT40 : 20.07 dBm (0.1016 W)
Antenna Type	802.11b/g/n : PIFA Antenna type with gain 0.37 dBi (Battery 1) PIFA Antenna type with gain 0.24 dBi (Battery 2) 802.11a/n : PIFA Antenna type with gain 0.81 dBi (Battery 1) PIFA Antenna type with gain 1.30 dBi (Battery 2)
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

The wifi antenna is not changed while using battery cover 1 or 2. The antenna gain difference is due to antenna gain measurement result by using different battery covers.

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 Registration No.
	TH02-HY	CO05-HY	03CH07-HY	722060

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:

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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 kHz to 30 MHz) and radiated emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) 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	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432	12	2467
	6	2437	13	2472
	7	2442	-	-

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 RF Power

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

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412MHz	21.47	21.44	21.46	21.45
CH 02	2417MHz	21.46	21.42	21.43	21.45
CH 06	2437MHz	21.85	21.83	21.84	21.81
CH 07	2442MHz	22.19	22.17	22.15	22.18
CH 11	2462MHz	20.41	20.37	20.38	20.40
CH 12	2467MHz	16.72	16.69	16.71	16.66
CH 13	2472MHz	11.79	11.76	11.74	11.78

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412MHz	22.23	22.21	22.04	22.12	22.01	22.03	22.05	22.15
CH 02	2417MHz	22.89	22.85	22.88	22.84	22.79	22.87	22.82	22.88
CH 06	2437MHz	23.57	23.53	23.48	23.53	23.45	23.52	23.55	23.52
CH 07	2442MHz	23.55	23.47	23.51	23.48	23.48	23.53	23.51	23.45
CH 11	2462MHz	20.77	20.72	20.67	20.68	20.69	20.63	20.71	20.76
CH 12	2467MHz	19.46	19.43	19.45	19.44	19.28	19.42	19.41	19.42
CH 13	2472MHz	11.08	10.11	10.64	10.33	10.63	10.54	10.60	10.70

Channel	Frequency	2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412MHz	22.15	22.03	22.08	22.14	22.08	22.13	22.04	22.01
CH 02	2417MHz	22.99	22.83	22.91	22.93	22.92	22.85	22.93	22.94
CH 06	2437MHz	23.18	23.14	23.15	23.13	23.15	23.13	23.15	23.13
CH 07	2442MHz	23.26	23.23	23.19	23.13	23.22	23.24	23.22	23.18
CH 11	2462MHz	20.35	21.01	21.29	20.92	21.16	21.14	21.15	21.05
CH 12	2467MHz	19.98	19.82	19.92	19.82	19.97	19.81	19.96	19.89
CH 13	2472MHz	10.68	10.66	10.63	10.64	10.66	10.67	10.64	10.62

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745MHz	20.48	20.39	20.47	20.46	20.47	20.41	20.43	20.42
CH157	5785MHz	20.70	20.65	20.66	20.69	20.68	20.66	20.68	20.65
CH165	5825MHz	20.31	20.25	20.27	20.33	20.35	20.40	20.36	20.31

Channel	Frequency	5GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745MHz	20.42	20.39	20.40	20.41	20.37	20.39	20.40	20.35
CH157	5785MHz	20.53	20.52	20.51	20.49	20.52	20.47	20.52	20.49
CH165	5825MHz	20.34	20.33	20.29	20.28	20.30	20.33	20.26	20.31

Channel	Frequency	5GHz 802.11n HT40 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 151	5755MHz	20.07	19.88	19.78	19.89	19.91	19.90	20.06	19.76
CH 159	5795MHz	19.96	19.83	19.82	19.81	19.81	19.84	19.91	19.84

Remark: The EUT is programmed to transmit signals continuously for all testing.

2.3 Average Conducted Output Power

The conducted power tables are as follow.

Channel	Frequency	2.4GHz 802.11b RF Power (dBm)			
		DSSS Data Rate			
		1 Mbps	2 Mbps	5.5 Mbps	11 Mbps
CH 01	2412MHz	19.21	19.08	19.18	18.91
CH 02	2417MHz	19.25	19.07	19.15	19.19
CH 06	2437MHz	19.65	19.48	19.59	19.35
CH 07	2442MHz	19.80	19.79	19.78	19.79
CH 11	2462MHz	17.89	17.63	17.61	17.50
CH 12	2467MHz	14.26	14.23	14.23	14.18
CH 13	2472MHz	9.03	8.82	8.69	8.48

Channel	Frequency	2.4GHz 802.11g RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 01	2412MHz	13.21	12.86	12.81	12.79	12.88	13.03	12.95	13.03
CH 02	2417MHz	15.63	15.55	15.62	15.57	15.59	15.60	15.62	15.60
CH 06	2437MHz	17.90	17.88	17.87	17.82	17.54	17.85	17.74	17.89
CH 07	2442MHz	17.77	17.59	17.69	17.62	17.43	17.60	17.48	17.67
CH 11	2462MHz	10.98	10.85	10.94	10.77	10.84	10.87	10.71	10.71
CH 12	2467MHz	9.72	9.57	9.64	9.63	9.70	9.67	9.70	9.68
CH 13	2472MHz	1.10	0.09	0.22	0.35	0.44	0.51	0.43	0.61

Channel	Frequency	2.4GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 01	2412MHz	13.20	13.16	13.16	13.24	13.12	13.04	13.06	13.14
CH 02	2417MHz	15.88	15.76	15.66	15.60	15.68	15.56	15.73	15.64
CH 06	2437MHz	16.70	16.74	16.46	16.57	16.64	16.44	16.49	16.67
CH 07	2442MHz	16.85	16.84	16.79	16.80	16.58	16.62	16.66	16.57
CH 11	2462MHz	10.94	10.77	10.60	10.52	10.54	10.58	10.78	10.70
CH 12	2467MHz	9.69	9.42	9.51	9.53	9.46	9.60	9.67	9.62
CH 13	2472MHz	0.12	0.10	0.10	0.11	0.07	0.10	0.08	0.09

Channel	Frequency	5GHz 802.11a RF Power (dBm)							
		OFDM Data Rate							
		6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH149	5745MHz	15.13	15.01	14.91	15.10	15.09	15.12	15.03	15.11
CH157	5785MHz	16.71	16.67	16.65	16.68	16.69	16.70	16.66	16.70
CH165	5825MHz	15.02	15.11	15.04	15.19	15.11	15.22	15.14	15.30

Channel	Frequency	5GHz 802.11n HT20 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH149	5745MHz	15.46	15.42	15.44	15.43	15.43	15.43	15.44	15.32
CH157	5785MHz	15.63	15.58	15.54	15.58	15.60	15.62	15.60	15.61
CH165	5825MHz	15.18	15.14	15.08	15.16	15.08	15.18	15.17	15.15

Channel	Frequency	5GHz 802.11n HT40 RF Power (dBm)							
		OFDM Data Rate							
		MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
CH 151	5755MHz	13.89	13.80	13.85	13.82	13.87	13.88	13.87	13.81
CH 159	5795MHz	13.98	13.97	13.97	13.92	13.97	13.97	13.96	13.97

2.4 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	Note	Test Plane
Conducted TCs	6dB BW and Power Spectral Density	802.11b	1 Mbps	1/6/11	-	-
		802.11g	6 Mbps	1/6/11	-	-
		802.11n HT20	MCS0	1/6/11	-	-
	Output Power	802.11b	1 Mbps	1/2/6/7/11/12/13	-	-
		802.11g	6 Mbps	1/2/6/7/11/12/13	-	-
		802.11n HT20	MCS0	1/2/6/7/11/12/13	-	-
	Conducted Band Edge	802.11b	1 Mbps	1/11	-	-
		802.11g	6 Mbps	1/11	-	-
		802.11n HT20	MCS0	1/11	-	-
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11	-	-
		802.11g	6 Mbps	1/6/11	-	-
		802.11n HT20	MCS0	1/6/11	-	-
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/2/11/12/13	Sample 1 with Battery 2	Y
		802.11g	6 Mbps	1/2/11/12/13	Sample 1 with Battery 2	Y
		802.11n HT20	MCS0	1/2/11/12/13	Sample 1 with Battery 2	Y
				13	Sample 1 with Battery 1	Y
				13	Sample 2 with Battery 2	Y
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11	Sample 1 with Battery 2	Y
		802.11g	6 Mbps	1/6/11	Sample 1 with Battery 2	Y
		802.11n HT20	MCS0	1/6/11	Sample 1 with Battery 2	Y

Note: After pre-scanned the EUT by rotating three orthogonal orientations and configuring with possible used accessories, the radiated spurious emissions were mainly tested by sample 1 + Battery 2, and verified Radiated Band edge(s) on worst channels listed above.

<5GHz>

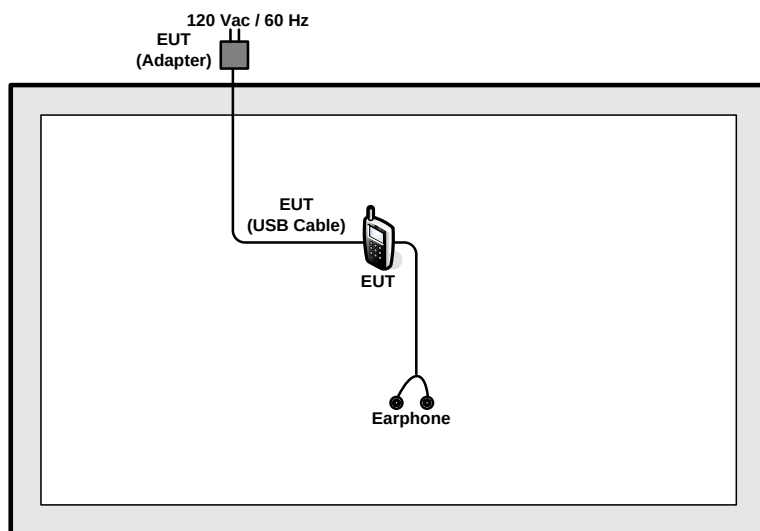
Test Cases						
	Test Items	Mode	Data Rate	Test Channel	Note	Test Plane
Conducted TCs	6dB BW and Power Spectral Density	802.11a	6 Mbps	149/157/165	-	-
		802.11n HT20	MCS0	149/157/165	-	-
		802.11n HT40	MCS0	151/159	-	-
	Output Power	802.11a	6 Mbps	149/157/165	-	-
		802.11n HT20	MCS0	149/157/165	-	-
		802.11n HT40	MCS0	151/159	-	-
	Conducted Band Edge	802.11a	6 Mbps	149/165	-	-
		802.11n HT20	MCS0	149/165	-	-
		802.11n HT40	MCS0	151/159	-	-
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165	-	-
		802.11n HT20	MCS0	149/157/165	-	-
		802.11n HT40	MCS0	151/159	-	-
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	149/165	Sample 1 with Battery 2	Y
		802.11n HT20	MCS0	149/165	Sample 1 with Battery 2	Y
				149	Sample 1 with Battery 1	Y
				149	Sample 2 with Battery 2	Y
				151/159	Sample 1 with Battery 2	Y
	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165	Sample 1 with Battery 2	Y
		802.11n HT20	MCS0	149/157/165	Sample 1 with Battery 2	Y
				149	Sample 1 with Battery 1	Y
				149	Sample 2 with Battery 2	Y
				151/159	Sample 1 with Battery 2	Y

Note: After pre-scanned the EUT by rotating three orthogonal orientations and configuring with possible used accessories, the radiated spurious emissions were mainly tested by Sample 1 with Battery 2, and verified Radiated Band edge(s) on worst channels listed above.

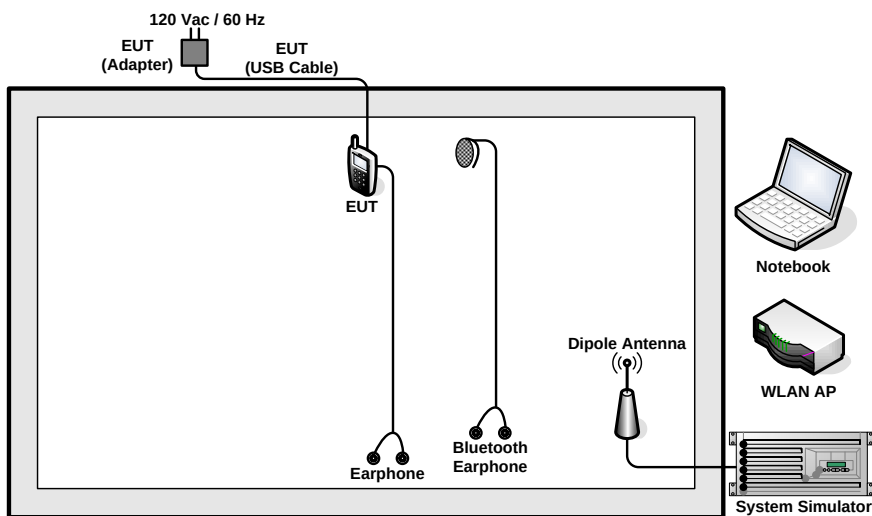
Test Cases	
AC Conducted Emission	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4GHz) Link + Earphone + NFC active + Scanner + USB Cable (Charging from Adapter) + Battery 2 for Sample 1
Remark: 1. "Bluetooth Link" means EUT linked with Bluetooth headset. 2. "WLAN Link" means EUT associated with AP at 2.4GHz band. 3. "Scanner" stands for scanning and decoding a barcode by scanner. 4. "NFC active" means turning on NFC function of EUT.	

2.5 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.6 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	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
5.	Earphone	Cotron	MAX-300	N/A	Unshielded, 1.2 m	N/A
6.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A

2.7 EUT Operation Test Setup

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



2.8 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 Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

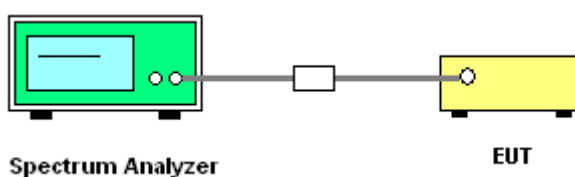
3.1.2 Measuring Instruments

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

3.1.3 Test Procedures

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

3.1.4 Test Setup



3.1.5 Test Result of 6dB Occupied Bandwidth

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

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11b	1Mbps	1	1	2412	9.00	0.5	Pass
11b	1Mbps	1	6	2437	9.00	0.5	Pass
11b	1Mbps	1	11	2462	8.04	0.5	Pass
11g	6Mbps	1	1	2412	16.36	0.5	Pass
11g	6Mbps	1	6	2437	16.36	0.5	Pass
11g	6Mbps	1	11	2462	16.34	0.5	Pass
HT20	MCS0	1	1	2412	17.56	0.5	Pass
HT20	MCS0	1	6	2437	17.56	0.5	Pass
HT20	MCS0	1	11	2462	17.56	0.5	Pass

Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
11a	6Mbps	1	149	5745	16.36	0.5	Pass
11a	6Mbps	1	157	5785	16.36	0.5	Pass
11a	6Mbps	1	165	5825	16.38	0.5	Pass
HT20	MCS0	1	149	5745	17.56	0.5	Pass
HT20	MCS0	1	157	5785	17.56	0.5	Pass
HT20	MCS0	1	165	5825	17.56	0.5	Pass
HT40	MCS0	1	151	5755	35.76	0.5	Pass
HT40	MCS0	1	159	5795	35.76	0.5	Pass



802.11b CH01 2412MHz

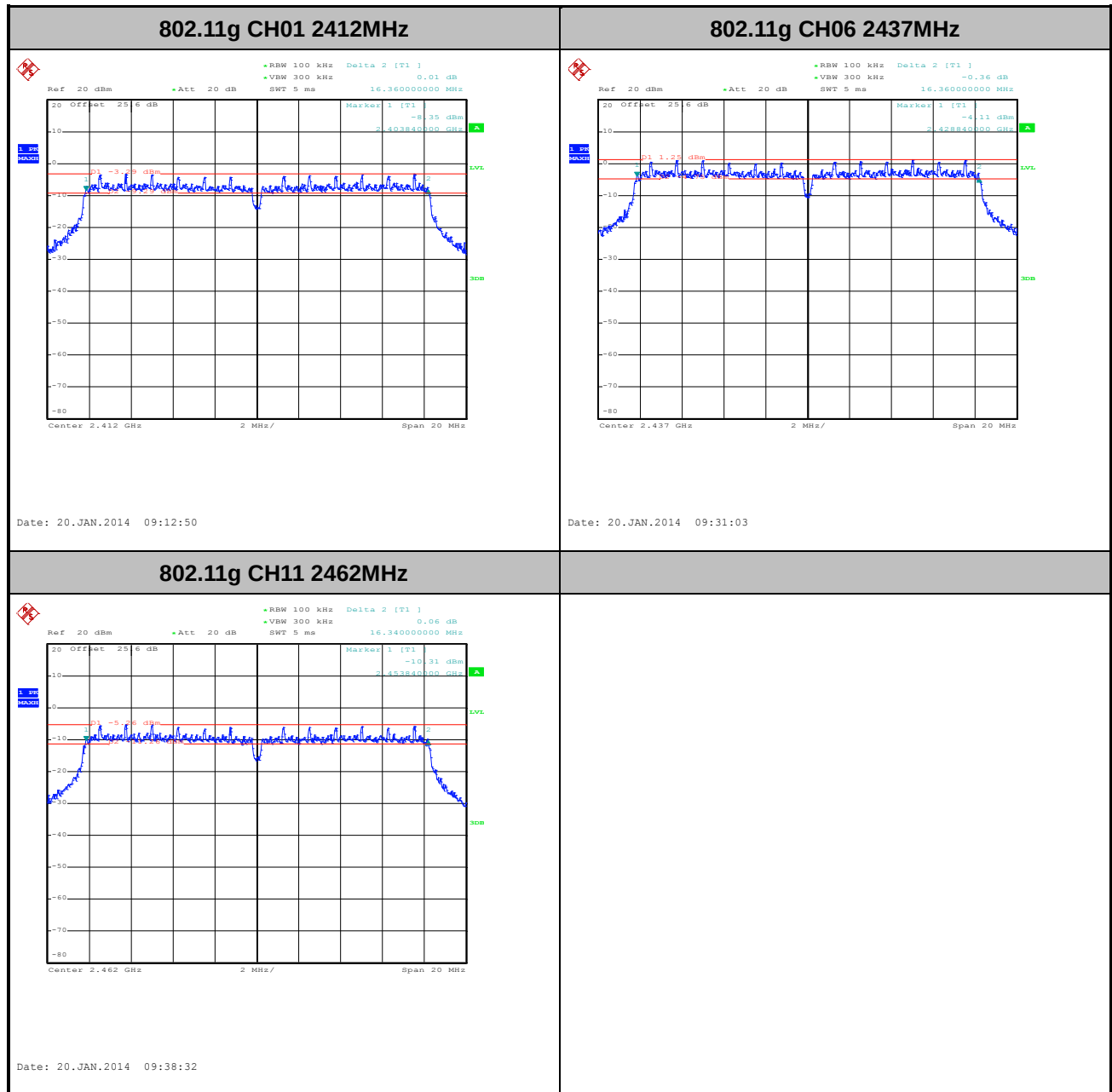


Date: 17.JAN.2014 16:57:34

Date: 17.JAN.2014 17:09:54

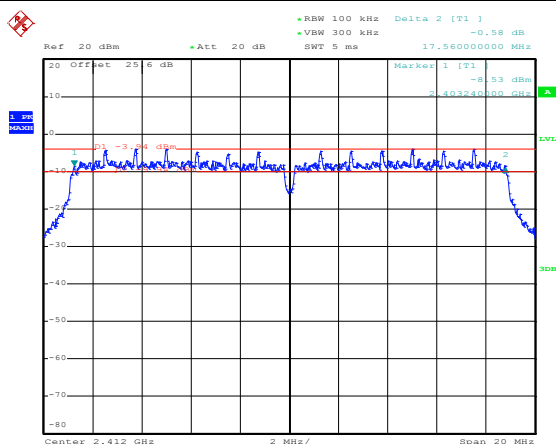
802.11b CH11 2462MHz

Date: 17.JAN.2014 17:16:55



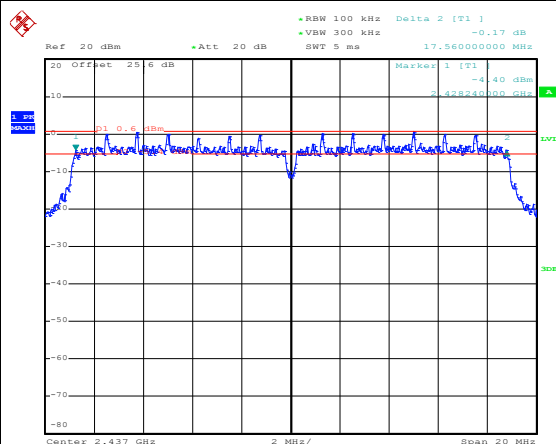


802.11n HT20 CH01 2412MHz



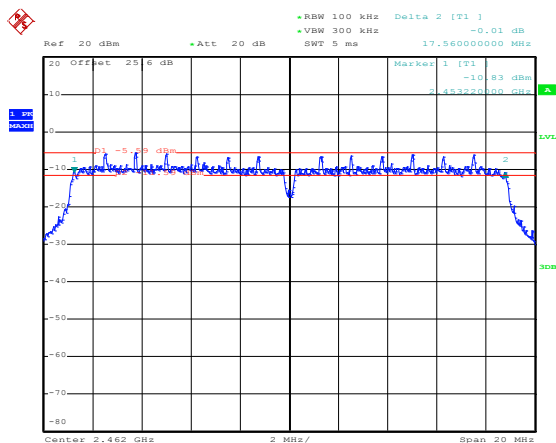
Date: 20.JAN.2014 11:22:54

802.11n HT20 CH06 2437MHz



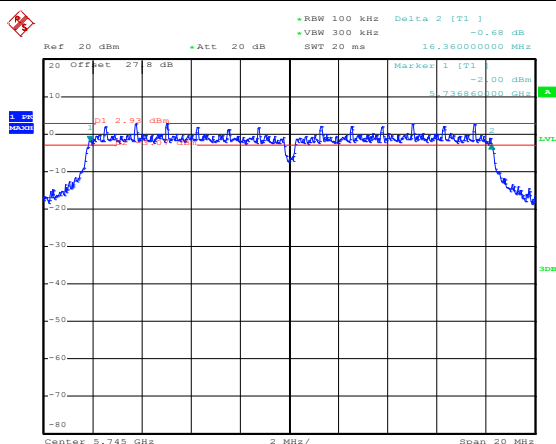
Date: 20.JAN.2014 11:28:18

802.11n HT20 CH11 2462MHz



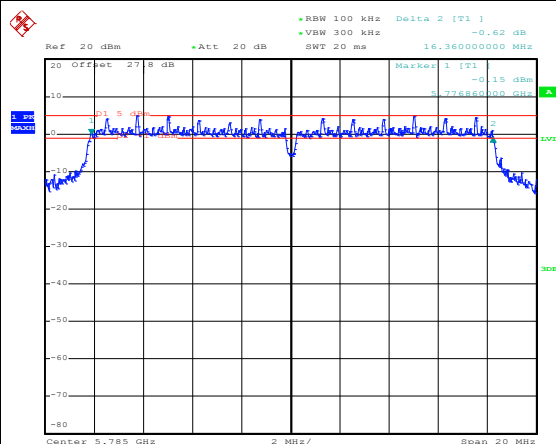
Date: 20.JAN.2014 11:33:19

802.11a CH149 5745MHz



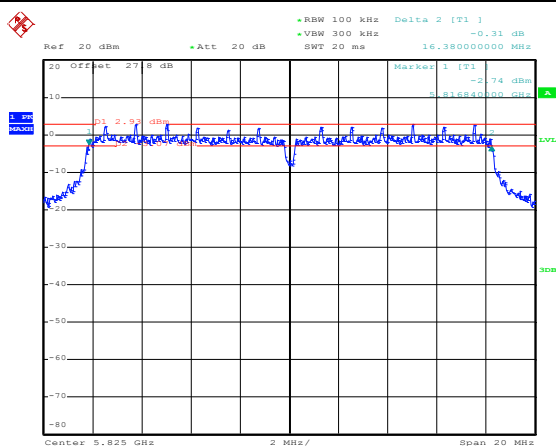
Date: 20.JAN.2014 10:04:28

802.11a CH157 5785MHz



Date: 20.JAN.2014 10:11:28

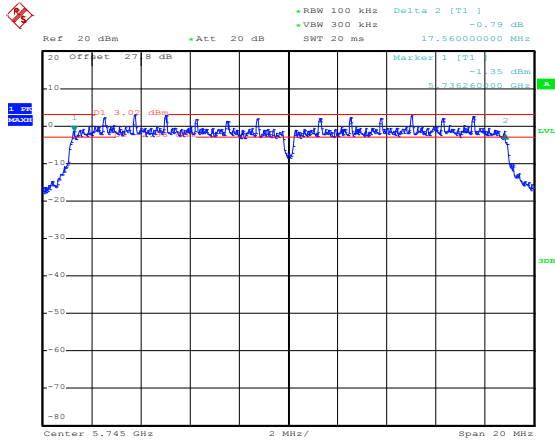
802.11a CH165 5825MHz



Date: 20.JAN.2014 10:18:29

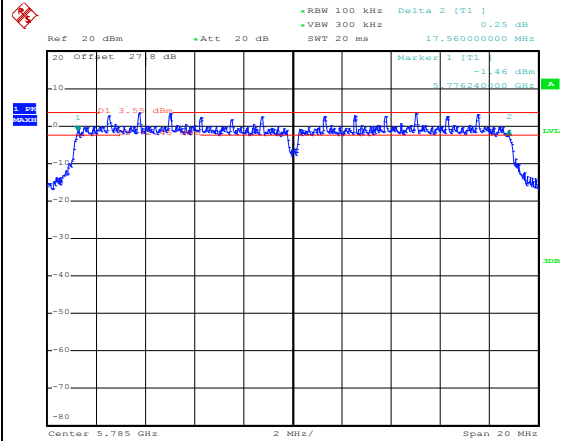


802.11a/n HT20 CH149 5745MHz



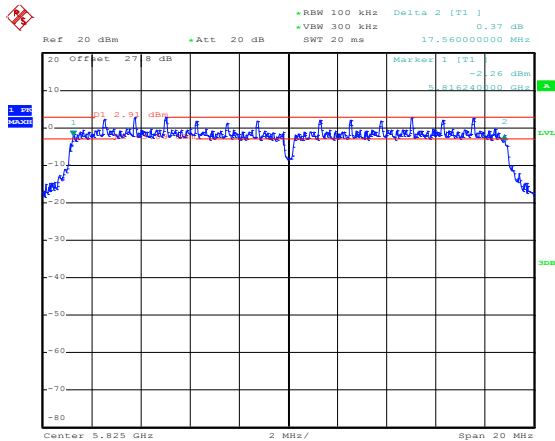
Date: 20.JAN.2014 10:35:54

802.11a/n HT20 CH157 5785MHz

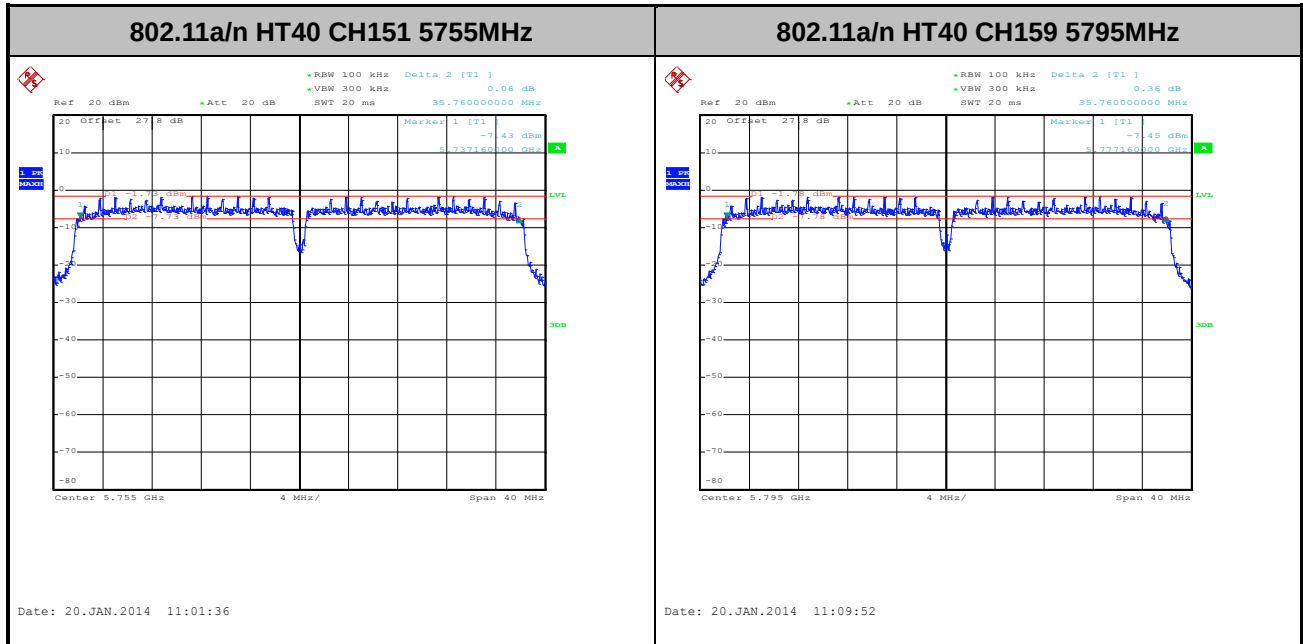


Date: 20.JAN.2014 10:31:40

802.11a/n HT20 CH165 5825MHz



Date: 20.JAN.2014 10:24:42



3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

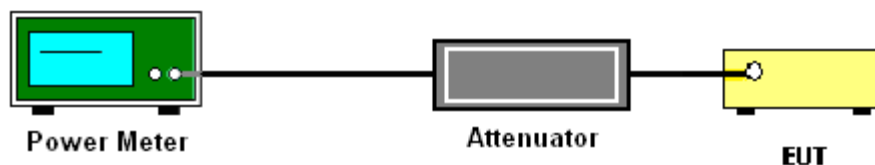
3.2.2 Measuring Instruments

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

3.2.3 Test Procedures

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

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	24~26℃
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	21.47	30	0.37	Pass
11b	1Mbps	1	2	2417	21.46	30	0.37	Pass
11b	1Mbps	1	6	2437	21.85	30	0.37	Pass
11b	1Mbps	1	7	2442	22.19	30	0.37	Pass
11b	1Mbps	1	11	2462	20.41	30	0.37	Pass
11b	1Mbps	1	12	2467	16.72	30	0.37	Pass
11b	1Mbps	1	13	2472	11.79	30	0.37	Pass
11g	6Mbps	1	1	2412	22.23	30	0.37	Pass
11g	6Mbps	1	2	2417	22.89	30	0.37	Pass
11g	6Mbps	1	6	2437	23.57	30	0.37	Pass
11g	6Mbps	1	7	2442	23.55	30	0.37	Pass
11g	6Mbps	1	11	2462	20.77	30	0.37	Pass
11g	6Mbps	1	12	2467	19.46	30	0.37	Pass
11g	6Mbps	1	13	2472	11.08	30	0.37	Pass
HT20	MCS0	1	1	2412	22.15	30	0.37	Pass
HT20	MCS0	1	2	2417	22.99	30	0.37	Pass
HT20	MCS0	1	6	2437	23.18	30	0.37	Pass
HT20	MCS0	1	7	2442	23.26	30	0.37	Pass
HT20	MCS0	1	11	2462	20.35	30	0.37	Pass
HT20	MCS0	1	12	2467	19.98	30	0.37	Pass
HT20	MCS0	1	13	2472	10.68	30	0.37	Pass

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



Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	RF Output Power (dBm)	Power Limit (dBm)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	20.48	30	1.30	Pass
11a	6Mbps	1	157	5785	20.70	30	1.30	Pass
11a	6Mbps	1	165	5825	20.31	30	1.30	Pass
HT20	MCS0	1	149	5745	20.42	30	1.30	Pass
HT20	MCS0	1	157	5785	20.53	30	1.30	Pass
HT20	MCS0	1	165	5825	20.34	30	1.30	Pass
HT40	MCS0	1	151	5755	20.07	30	1.30	Pass
HT40	MCS0	1	159	5795	19.96	30	1.30	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	0.13	19.21	30	0.37	Pass
11b	1Mbps	1	2	2417	0.13	19.25	30	0.37	Pass
11b	1Mbps	1	6	2437	0.13	19.65	30	0.37	Pass
11b	1Mbps	1	7	2442	0.13	19.80	30	0.37	Pass
11b	1Mbps	1	11	2462	0.13	17.89	30	0.37	Pass
11b	1Mbps	1	12	2467	0.13	14.26	30	0.37	Pass
11b	1Mbps	1	13	2472	0.13	9.03	30	0.37	Pass
11g	6Mbps	1	1	2412	0.59	13.21	30	0.37	Pass
11g	6Mbps	1	2	2417	0.59	15.63	30	0.37	Pass
11g	6Mbps	1	6	2437	0.59	17.90	30	0.37	Pass
11g	6Mbps	1	7	2442	0.59	17.77	30	0.37	Pass
11g	6Mbps	1	11	2462	0.59	10.98	30	0.37	Pass
11g	6Mbps	1	12	2467	0.59	9.72	30	0.37	Pass
11g	6Mbps	1	13	2472	0.59	1.10	30	0.37	Pass
HT20	MCS0	1	1	2412	0.63	13.20	30	0.37	Pass
HT20	MCS0	1	2	2417	0.63	15.88	30	0.37	Pass
HT20	MCS0	1	6	2437	0.63	16.70	30	0.37	Pass
HT20	MCS0	1	7	2442	0.63	16.85	30	0.37	Pass
HT20	MCS0	1	11	2462	0.63	10.94	30	0.37	Pass
HT20	MCS0	1	12	2467	0.63	9.69	30	0.37	Pass
HT20	MCS0	1	13	2472	0.63	0.12	30	0.37	Pass

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

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	0.59	15.13	30	1.30	Pass
11a	6Mbps	1	157	5785	0.59	16.71	30	1.30	Pass
11a	6Mbps	1	165	5825	0.59	15.02	30	1.30	Pass
HT20	MCS0	1	149	5745	0.63	15.46	30	1.30	Pass
HT20	MCS0	1	157	5785	0.63	15.63	30	1.30	Pass
HT20	MCS0	1	165	5825	0.63	15.18	30	1.30	Pass
HT40	MCS0	1	151	5755	0.63	13.89	30	1.30	Pass
HT40	MCS0	1	159	5795	0.63	13.98	30	1.30	Pass

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

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

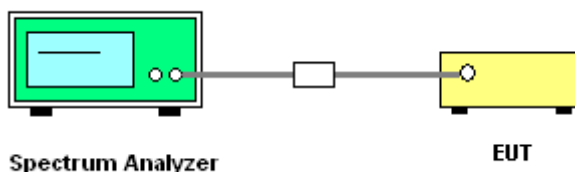
3.3.2 Measuring Instruments

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

3.3.3 Test Procedures

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

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Mode :	2.4GHz + 5GHz band 4	Temperature :	24~26℃
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	-3.51	8	0.37	Pass
11b	1Mbps	1	6	2437	-2.21	8	0.37	Pass
11b	1Mbps	1	11	2462	-5.56	8	0.37	Pass
11g	6Mbps	1	1	2412	-18.24	8	0.37	Pass
11g	6Mbps	1	6	2437	-12.93	8	0.37	Pass
11g	6Mbps	1	11	2462	-20.41	8	0.37	Pass
HT20	MCS0	1	1	2412	-19.20	8	0.37	Pass
HT20	MCS0	1	6	2437	-14.19	8	0.37	Pass
HT20	MCS0	1	11	2462	-21.13	8	0.37	Pass

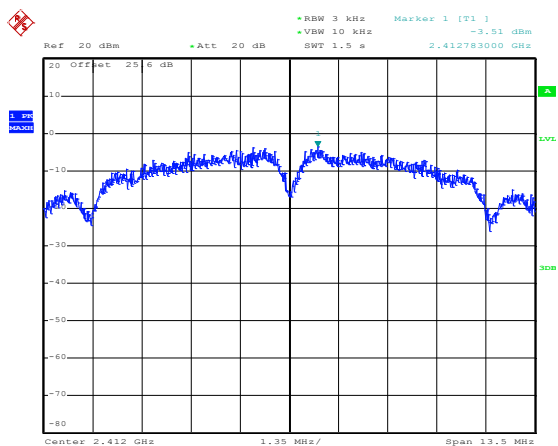
Mod.	Data Rate	N _{TX}	Channel	Freq. (MHz)	Peak Power Density (dBm/3kHz)	Max. Limits (dBm/3kHz)	DG (dBi)	Pass/Fail
11a	6Mbps	1	149	5745	-11.77	8	1.30	Pass
11a	6Mbps	1	157	5785	-9.66	8	1.30	Pass
11a	6Mbps	1	165	5825	-11.96	8	1.30	Pass
HT20	MCS0	1	149	5745	-11.34	8	1.30	Pass
HT20	MCS0	1	157	5785	-11.50	8	1.30	Pass
HT20	MCS0	1	165	5825	-12.10	8	1.30	Pass
HT40	MCS0	1	151	5755	-16.06	8	1.30	Pass
HT40	MCS0	1	159	5795	-16.42	8	1.30	Pass

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



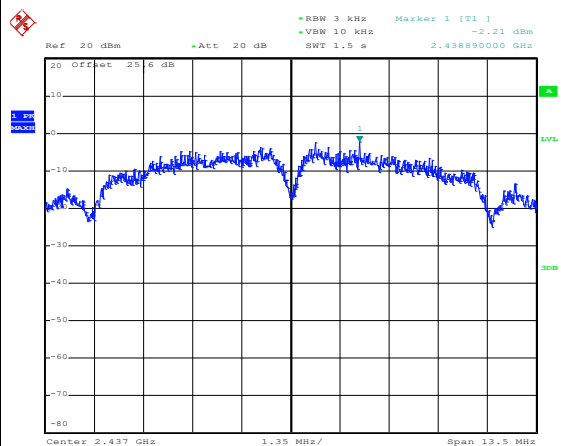
Power Density (dBm/3kHz)

802.11b CH01 2412MHz



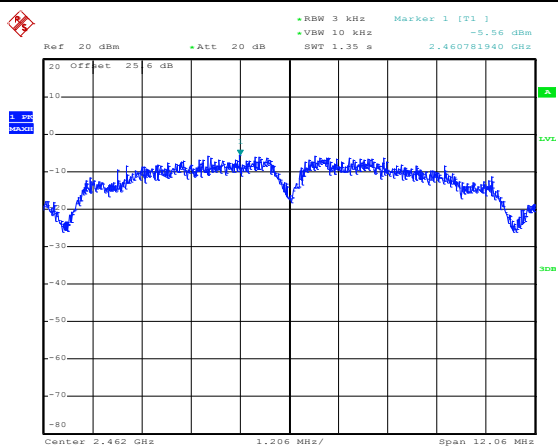
Date: 17.JAN.2014 16:58:01

802.11b CH06 2437MHz



Date: 17.JAN.2014 17:10:17

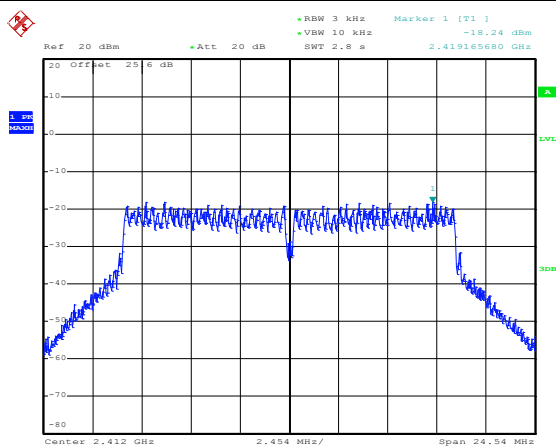
802.11b CH11 2462MHz



Date: 17.JAN.2014 17:17:34

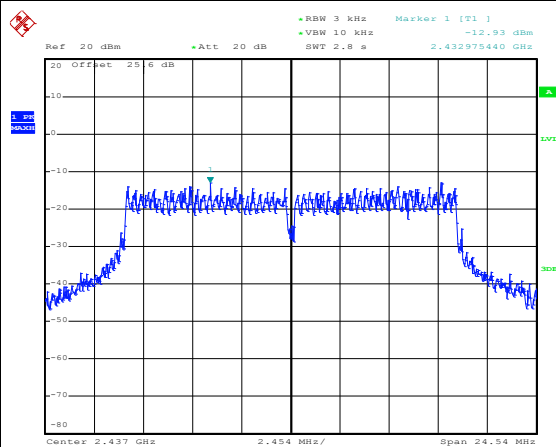


802.11g CH01 2412MHz



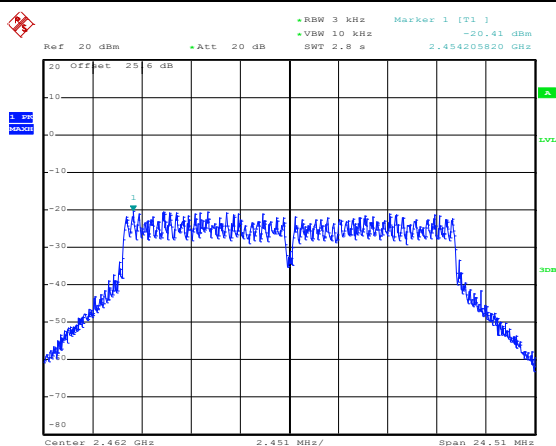
Date: 20.JAN.2014 09:13:38

802.11g CH06 2437MHz



Date: 20.JAN.2014 09:31:26

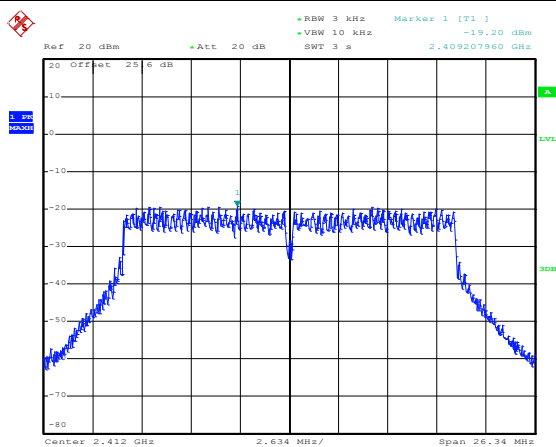
802.11g CH11 2462MHz



Date: 20.JAN.2014 09:39:10

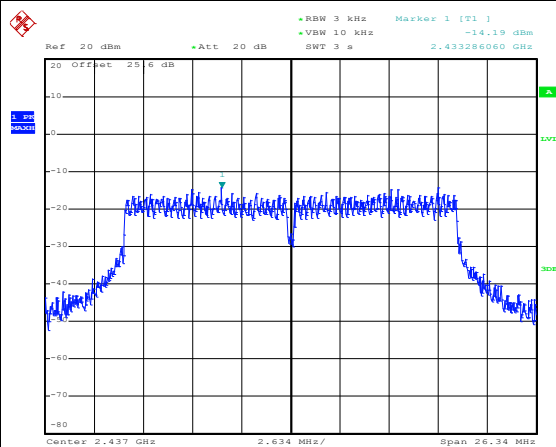


802.11n HT20 CH01 2412MHz



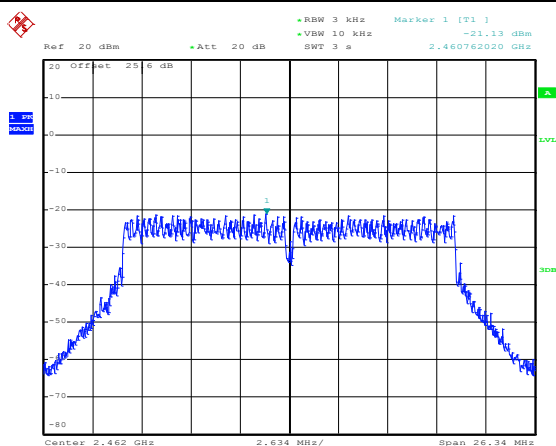
Date: 20.JAN.2014 11:23:39

802.11n HT20 CH06 2437MHz



Date: 20.JAN.2014 11:29:18

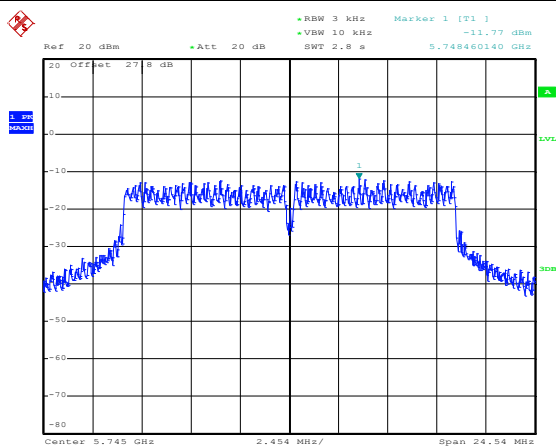
802.11n HT20 CH11 2462MHz



Date: 20.JAN.2014 11:34:06

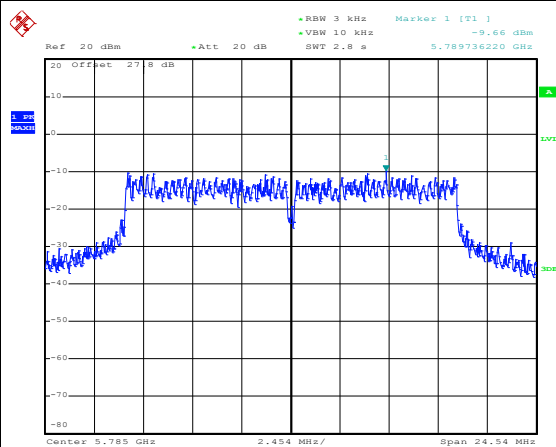


802.11a CH149 5745MHz



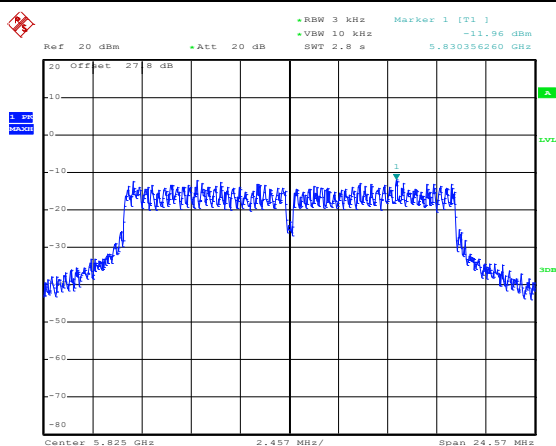
Date: 20.JAN.2014 10:04:52

802.11a CH157 5785MHz



Date: 20.JAN.2014 10:12:03

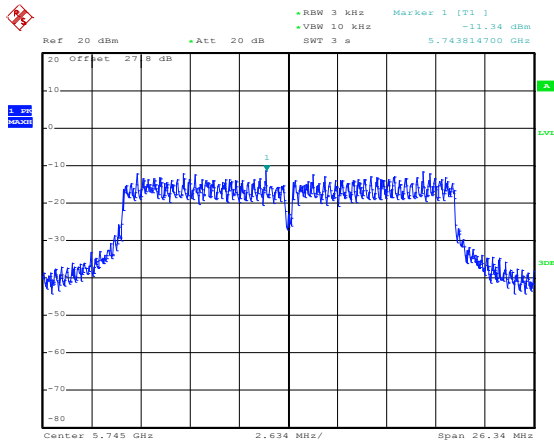
802.11a CH165 5825MHz



Date: 20.JAN.2014 10:19:55

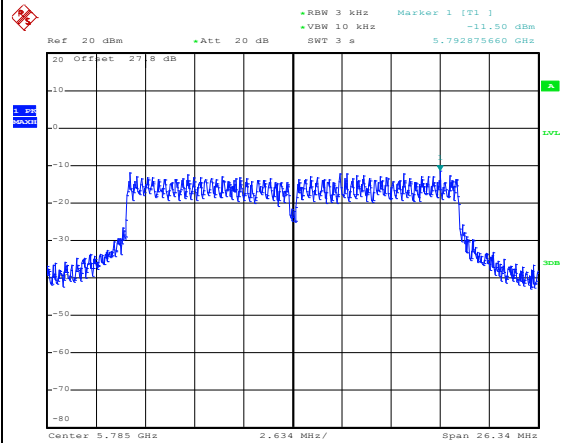


802.11a/n HT20 CH149 5745MHz



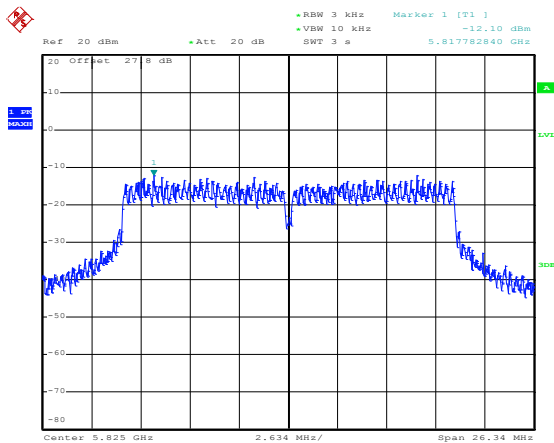
Date: 20.JAN.2014 10:36:21

802.11a/n HT20 CH157 5785MHz

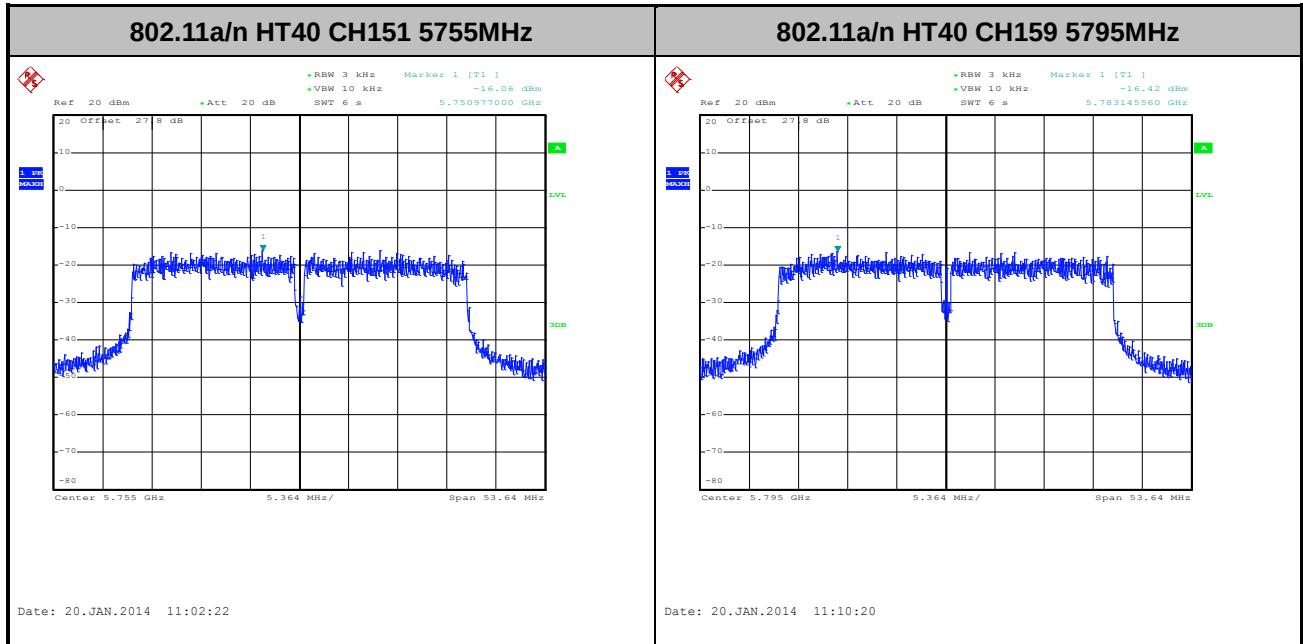


Date: 20.JAN.2014 10:32:06

802.11a/n HT20 CH165 5825MHz



Date: 20.JAN.2014 10:25:22



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

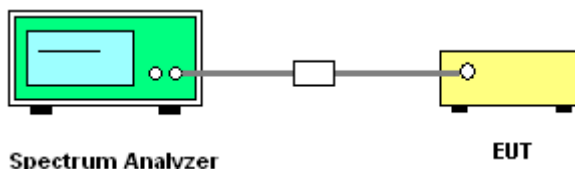
3.4.2 Measuring Instruments

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

3.4.3 Test Procedures

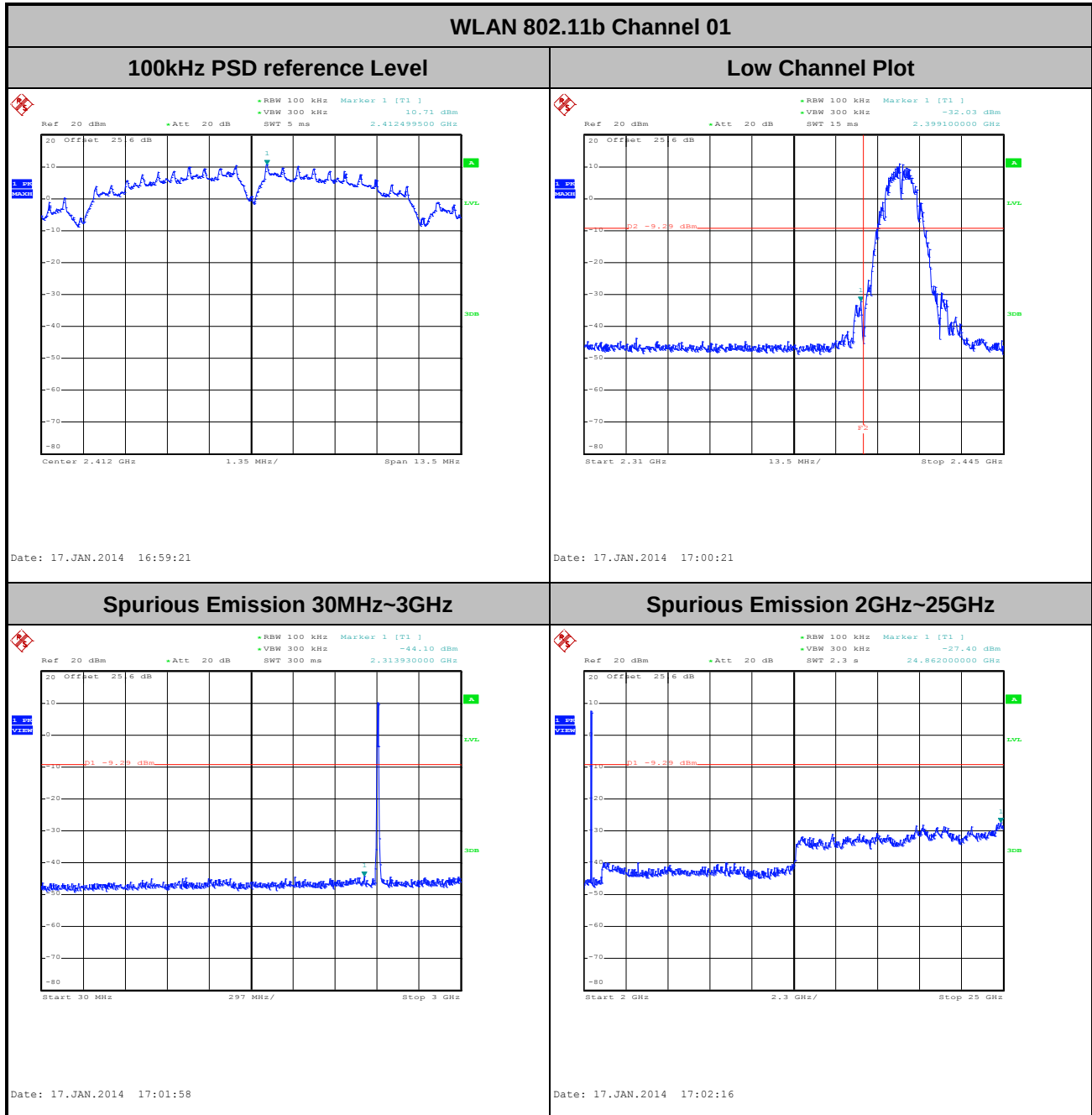
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v03r01.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit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

3.4.4 Test Setup



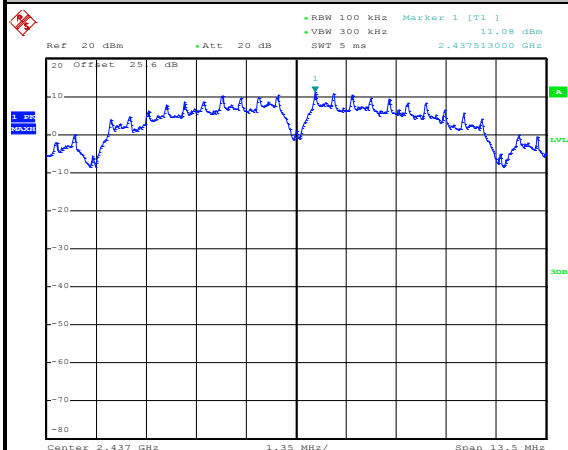
3.4.5 Test Result of Conducted Band Edges and Spurious Emission

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

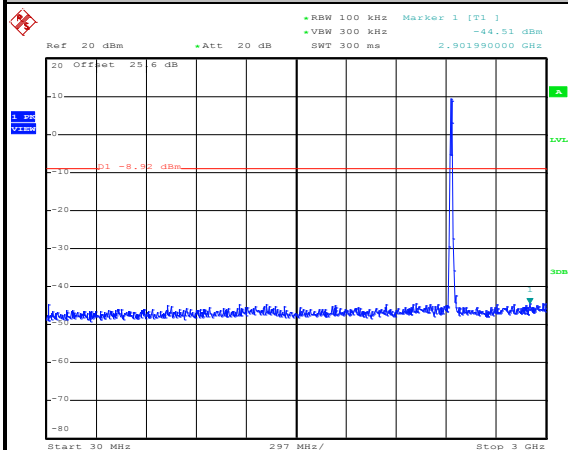




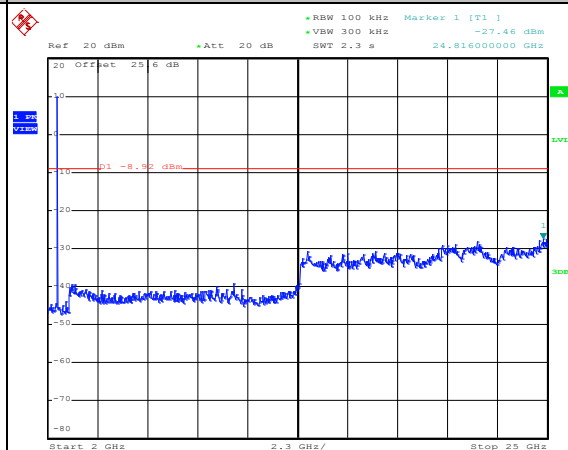
Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	2.4GHz Mid	Relative Humidity :	50~53%
Test Channel :	06	Test Engineer :	Rover Lee

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

Date: 17.JAN.2014 17:10:30

Spurious Emission 30MHz~3GHz

Date: 17.JAN.2014 17:10:50

Spurious Emission 2GHz~25GHz

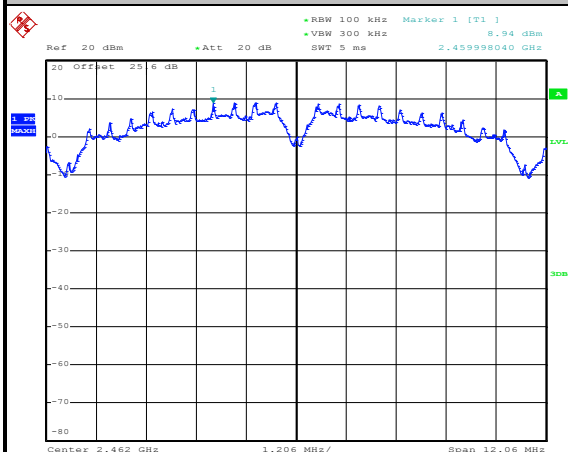
Date: 17.JAN.2014 17:11:09



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

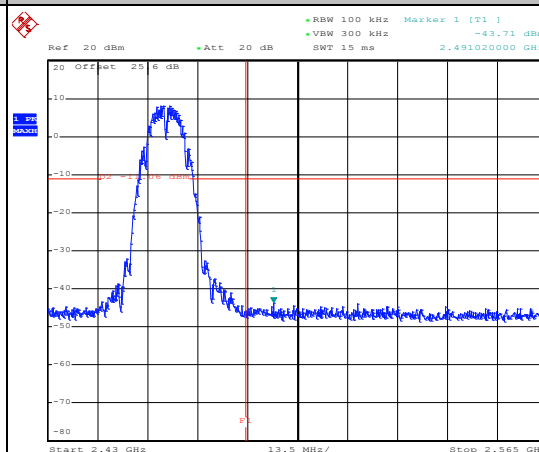
WLAN 802.11b Channel 11

100kHz PSD reference Level



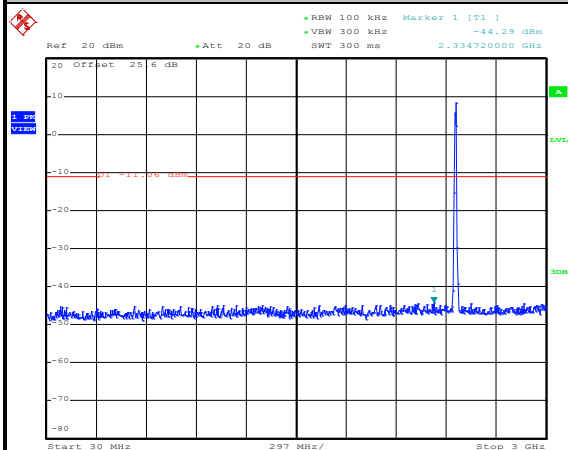
Date: 17.JAN.2014 17:18:05

High Channel Plot



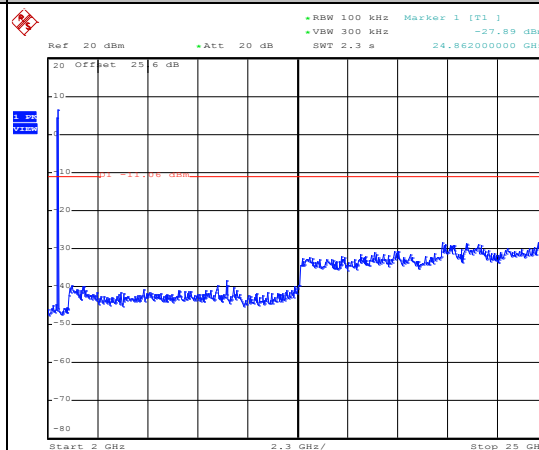
Date: 17.JAN.2014 17:18:22

Spurious Emission 30MHz~3GHz



Date: 17.JAN.2014 17:18:43

Spurious Emission 2GHz~25GHz



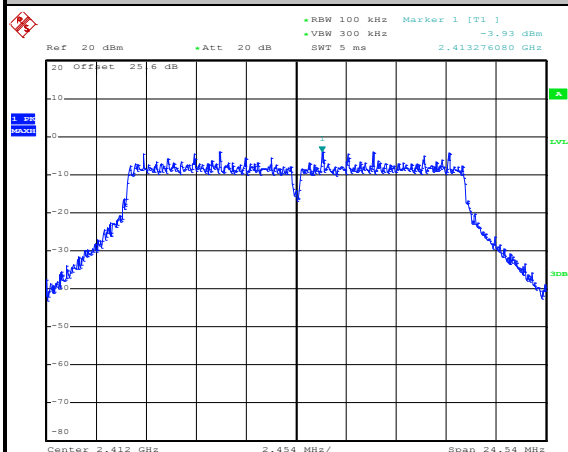
Date: 17.JAN.2014 17:19:02



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

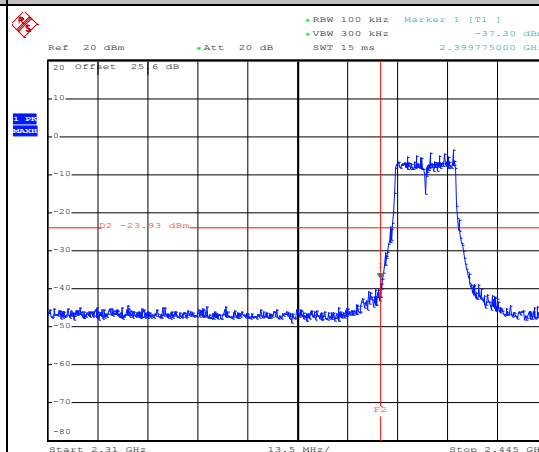
WLAN 802.11g Channel 01

100kHz PSD reference Level



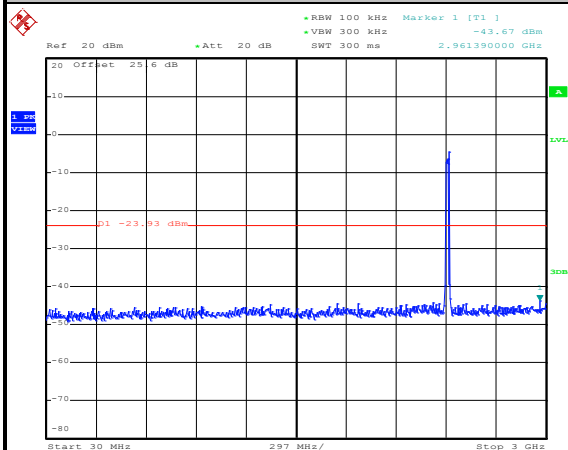
Date: 20.JAN.2014 09:13:52

Low Channel Plot



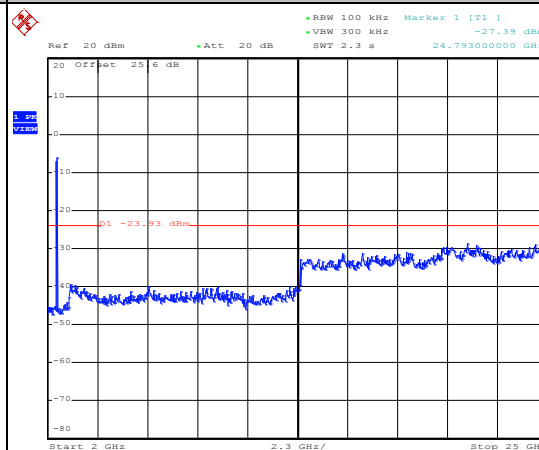
Date: 20.JAN.2014 09:14:08

Spurious Emission 30MHz~3GHz



Date: 20.JAN.2014 09:14:30

Spurious Emission 2GHz~25GHz



Date: 20.JAN.2014 09:14:48

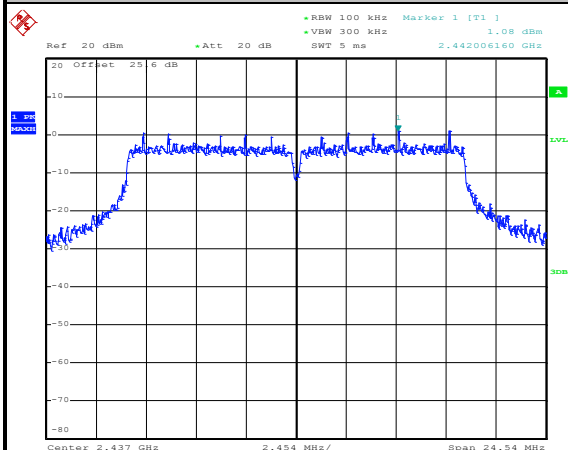
Remark: The signal above 24GHz is background noise of spectrum analyzer.



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

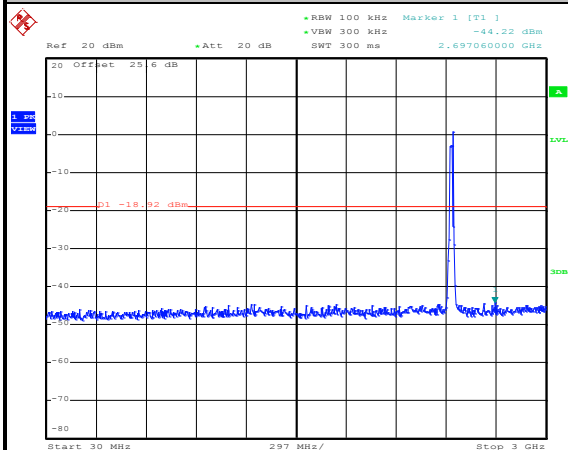
WLAN 802.11g Channel 06

100kHz PSD reference Level



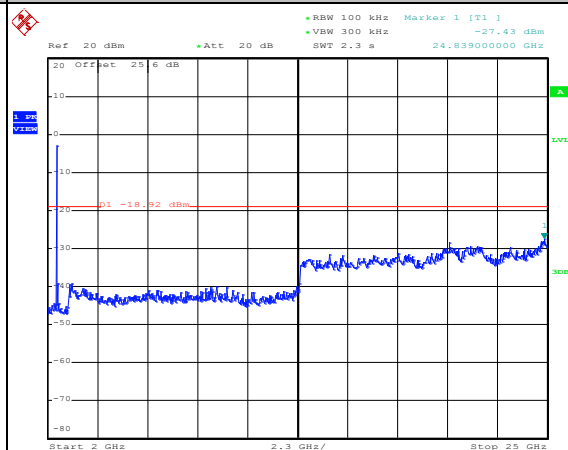
Date: 20.JAN.2014 09:31:48

Spurious Emission 30MHz~3GHz



Date: 20.JAN.2014 09:32:22

Spurious Emission 2GHz~25GHz



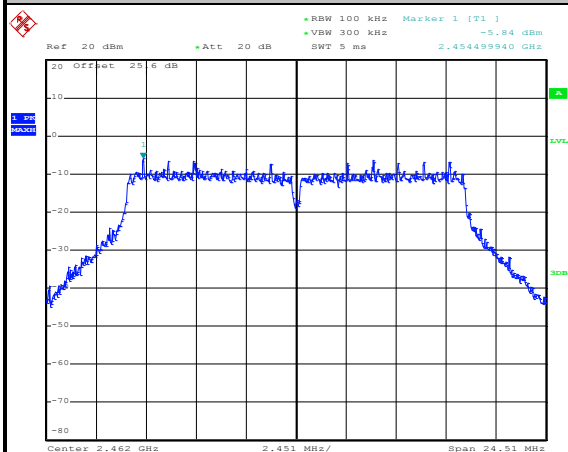
Date: 20.JAN.2014 09:32:41



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

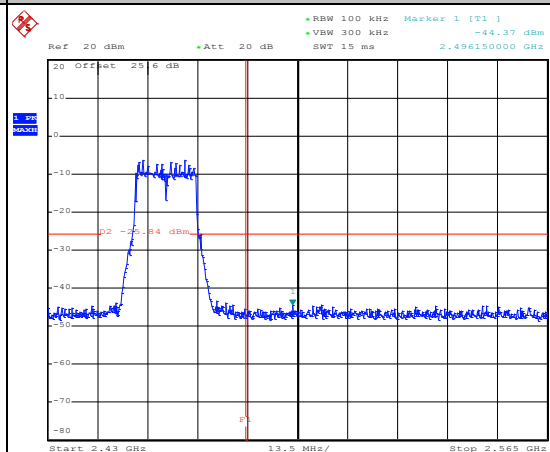
WLAN 802.11g Channel 11

100kHz PSD reference Level



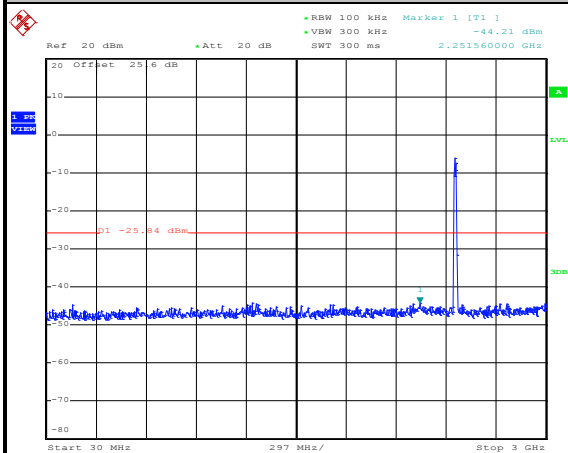
Date: 20.JAN.2014 09:39:25

High Channel Plot



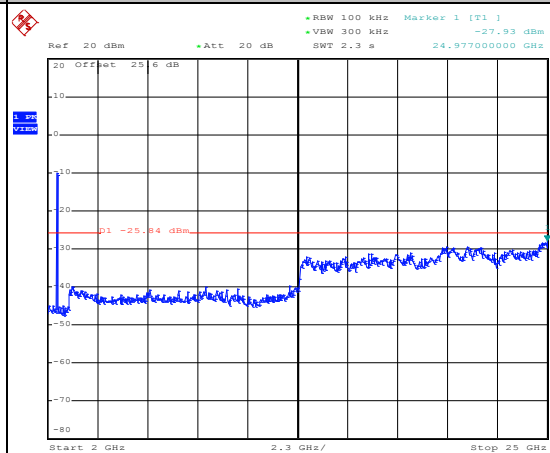
Date: 20.JAN.2014 09:39:44

Spurious Emission 30MHz~3GHz



Date: 20.JAN.2014 09:40:09

Spurious Emission 2GHz~25GHz



Date: 20.JAN.2014 09:40:27

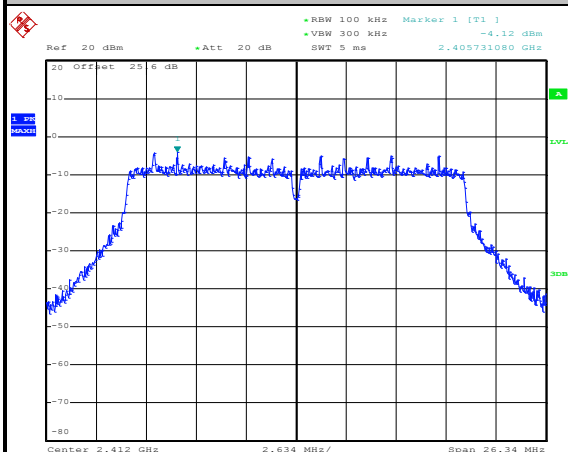
Remark: The signal above 24GHz is background noise
of spectrum analyzer.



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

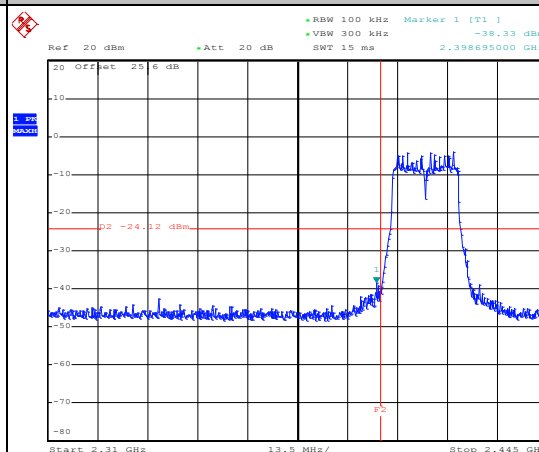
WLAN 802.11n HT20 Channel 01

100kHz PSD reference Level



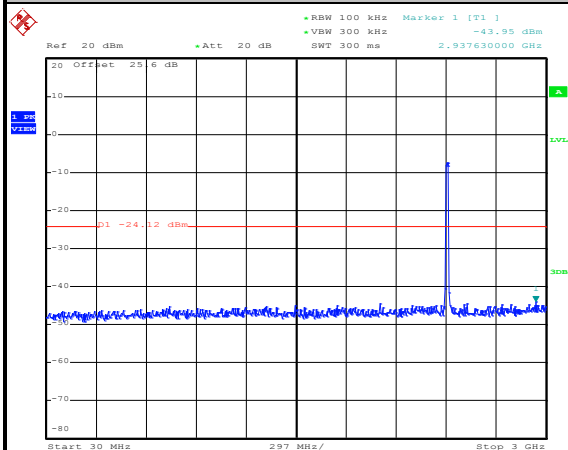
Date: 20.JAN.2014 11:24:12

Low Channel Plot



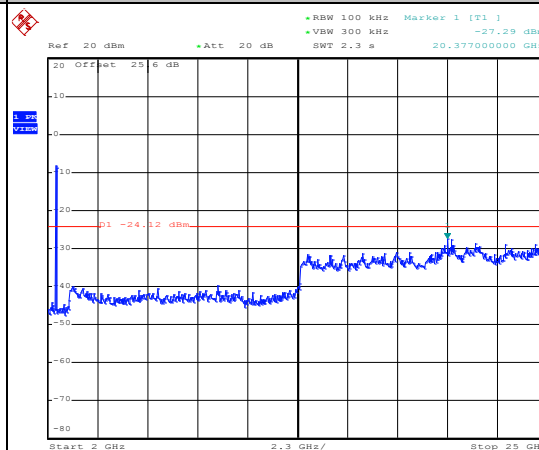
Date: 20.JAN.2014 11:24:30

Spurious Emission 30MHz~3GHz



Date: 20.JAN.2014 11:24:56

Spurious Emission 2GHz~25GHz



Date: 20.JAN.2014 11:25:14

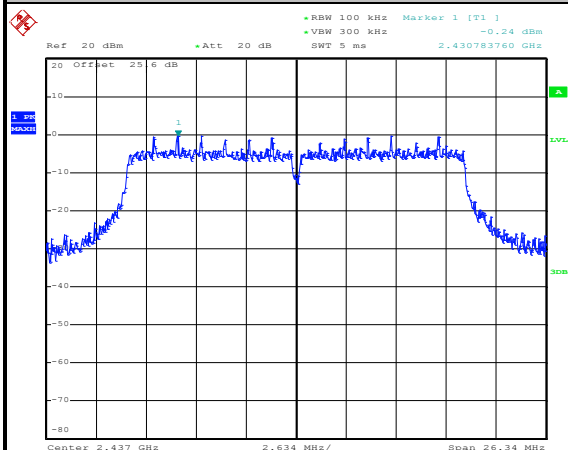
Remark: The signal above 20GHz is background noise of spectrum analyzer.



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

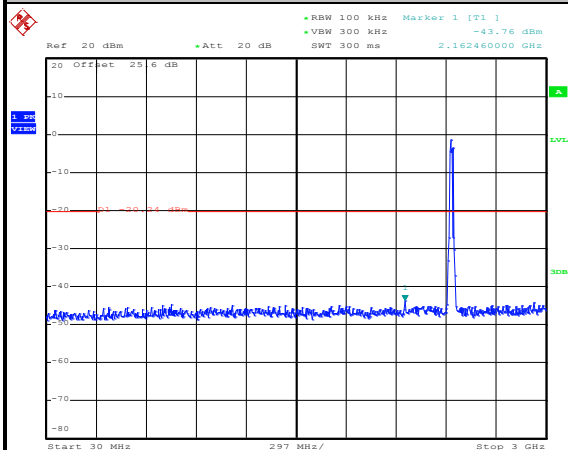
WLAN 802.11n HT20 Channel 06

100kHz PSD reference Level



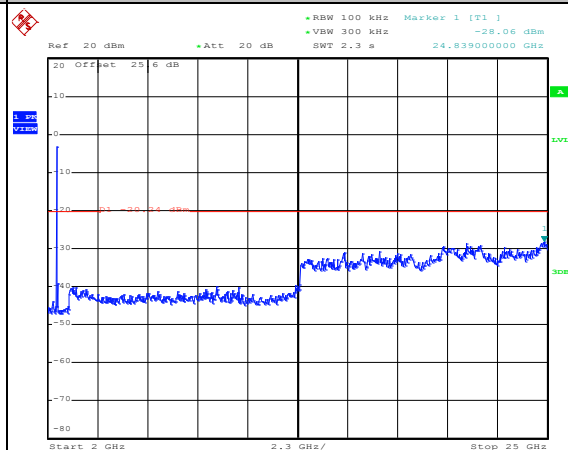
Date: 20.JAN.2014 11:29:33

Spurious Emission 30MHz~3GHz



Date: 20.JAN.2014 11:30:00

Spurious Emission 2GHz~25GHz



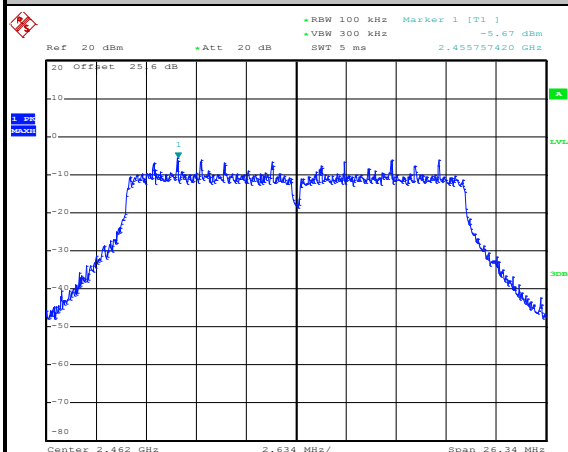
Date: 20.JAN.2014 11:30:18



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

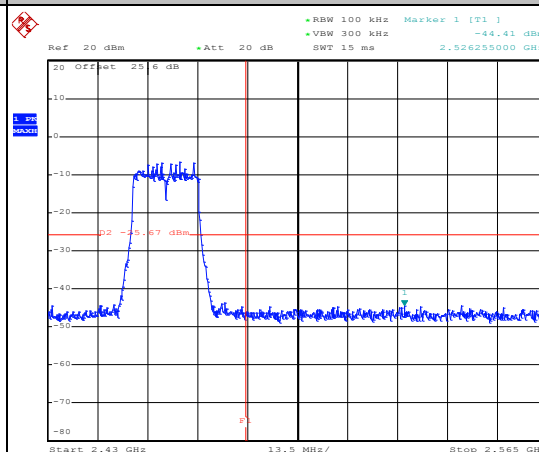
WLAN 802.11n HT20 Channel 11

100kHz PSD reference Level



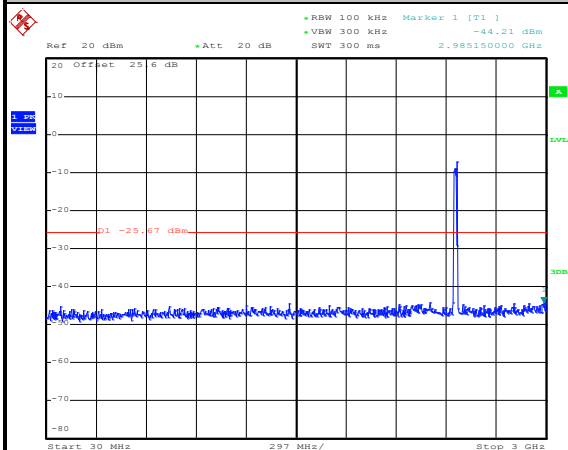
Date: 20.JAN.2014 11:34:41

High Channel Plot



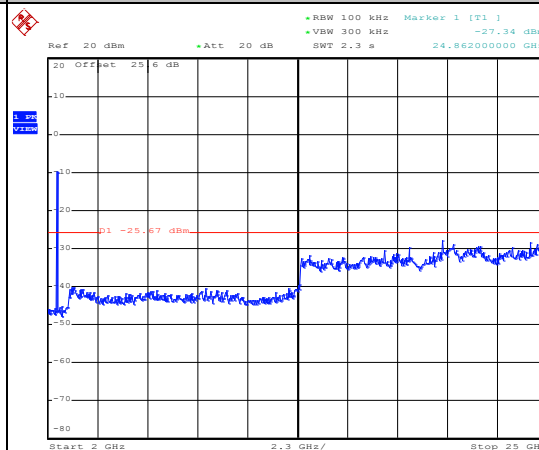
Date: 20.JAN.2014 11:34:57

Spurious Emission 30MHz~3GHz



Date: 20.JAN.2014 11:35:20

Spurious Emission 2GHz~25GHz



Date: 20.JAN.2014 11:35:39

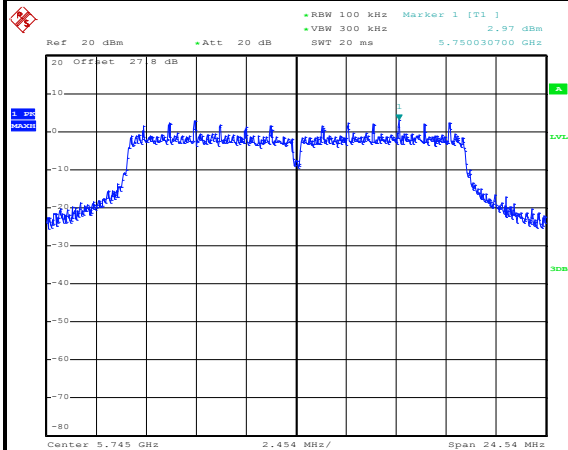
Remark: The signal above 24GHz is background noise
of spectrum analyzer.



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

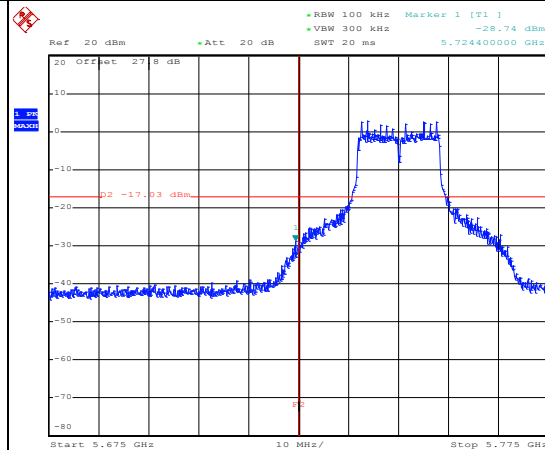
WLAN 802.11a Channel 149

100kHz PSD reference Level



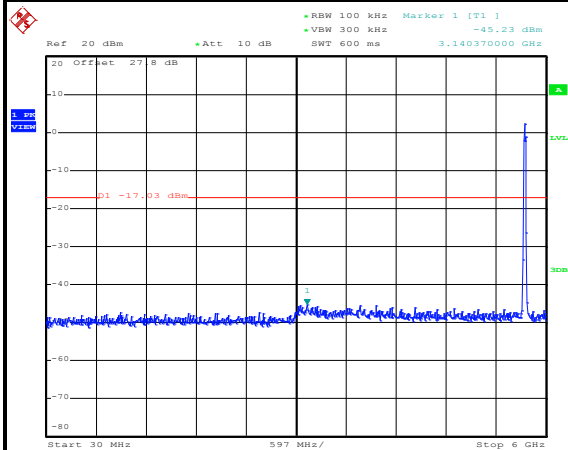
Date: 20.JAN.2014 10:05:06

Low Channel Plot



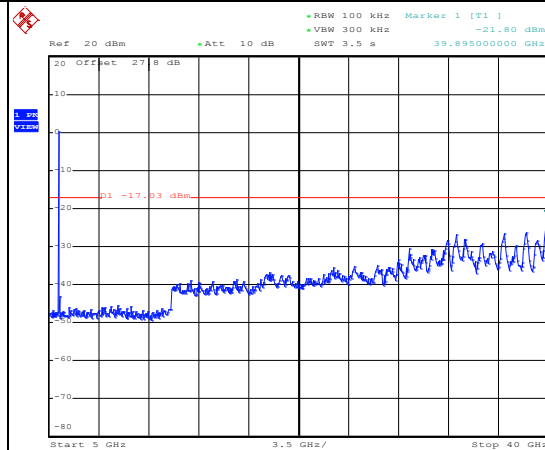
Date: 20.JAN.2014 10:05:53

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 10:07:08

Spurious Emission 5GHz~40GHz

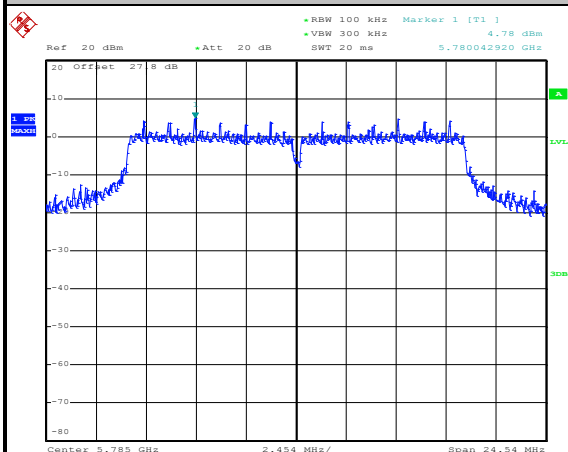


Date: 20.JAN.2014 10:07:27

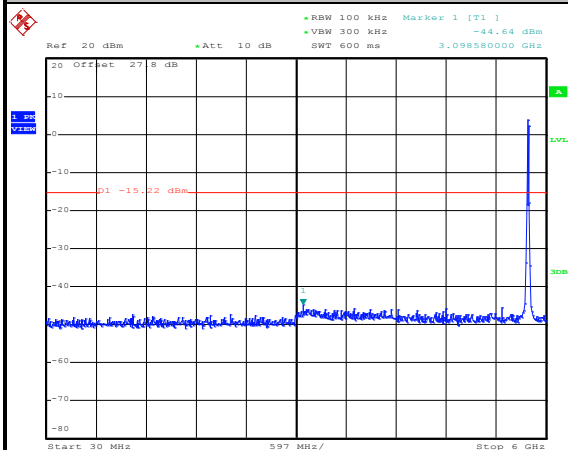
Remark: The signal above 33GHz is background noise
of spectrum analyzer.



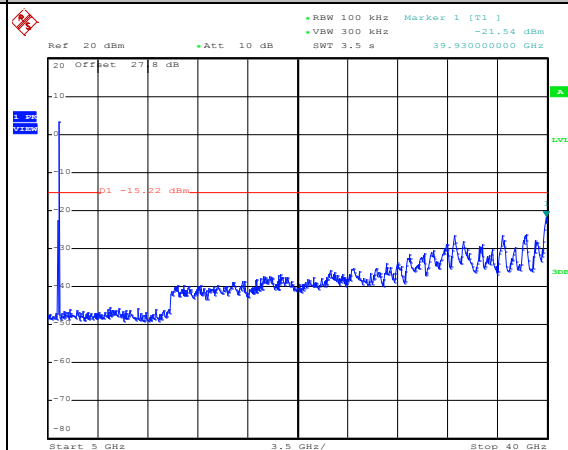
Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	5GHz Mid	Relative Humidity :	50~53%
Test Channel :	157	Test Engineer :	Rover Lee

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

Date: 20.JAN.2014 10:12:38

Spurious Emission 30MHz~6GHz

Date: 20.JAN.2014 10:13:16

Spurious Emission 5GHz~40GHz

Date: 20.JAN.2014 10:13:34

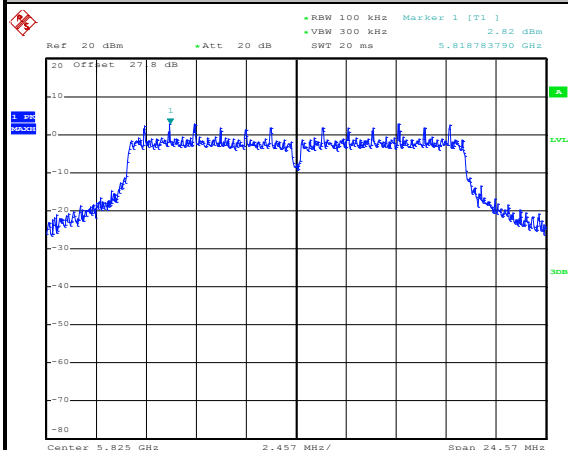
Remark: The signal above 33GHz is background noise of spectrum analyzer.



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

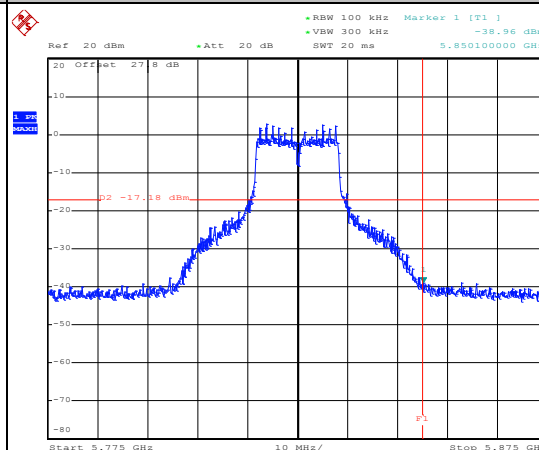
WLAN 802.11a Channel 165

100kHz PSD reference Level



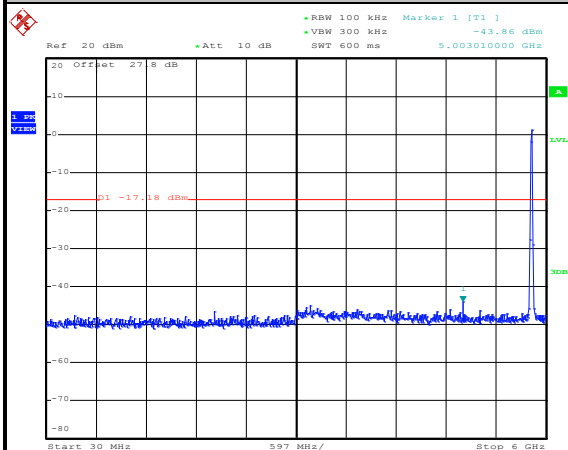
Date: 20.JAN.2014 10:20:28

High Channel Plot



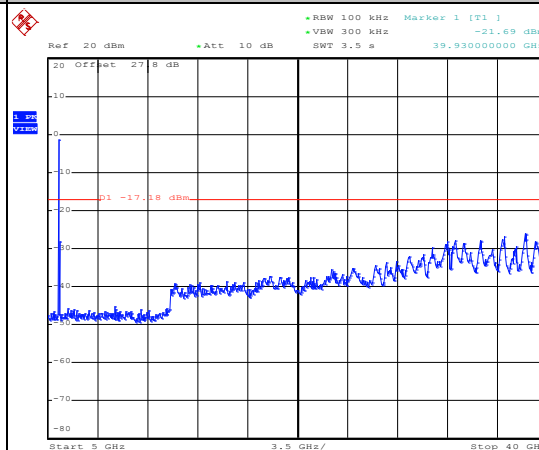
Date: 20.JAN.2014 10:20:55

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 10:21:33

Spurious Emission 5GHz~40GHz



Date: 20.JAN.2014 10:21:52

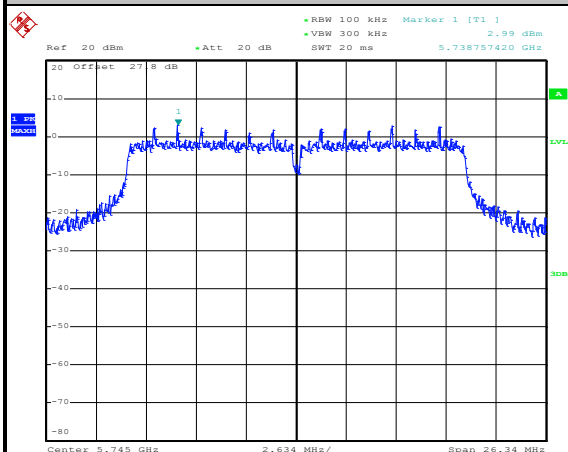
Remark: The signal above 33GHz is background noise
of spectrum analyzer.



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

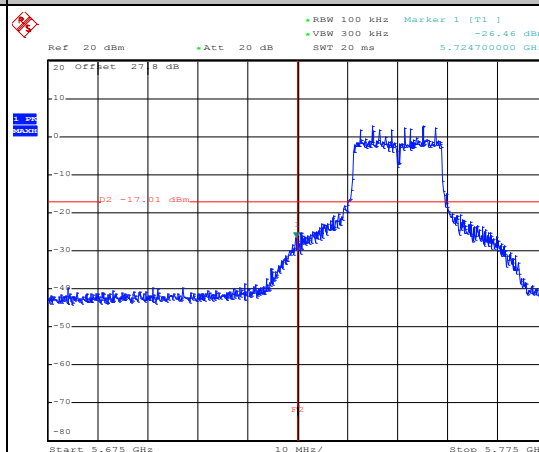
WLAN 802.11n HT20 Channel 149

100kHz PSD reference Level



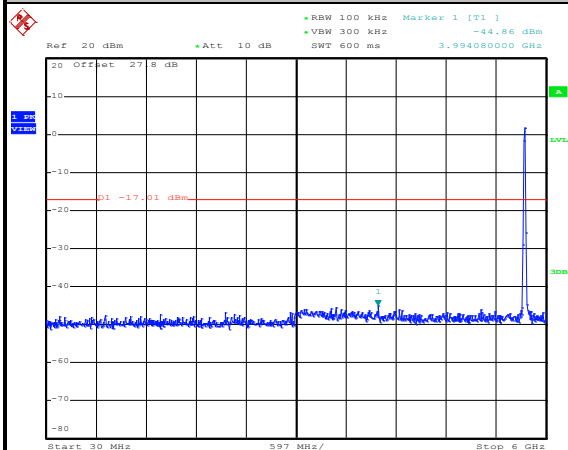
Date: 20.JAN.2014 10:36:37

Low Channel Plot



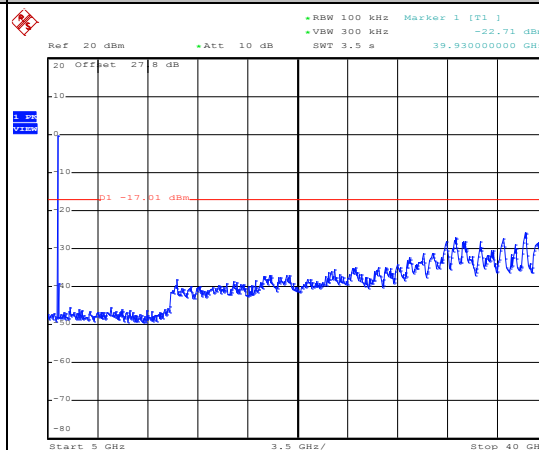
Date: 20.JAN.2014 10:36:55

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 10:37:28

Spurious Emission 5GHz~40GHz



Date: 20.JAN.2014 10:37:47

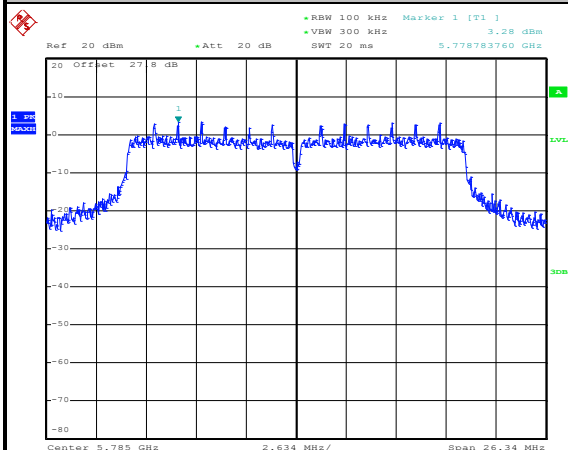
Remark: The signal above 33GHz is background noise of spectrum analyzer.



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

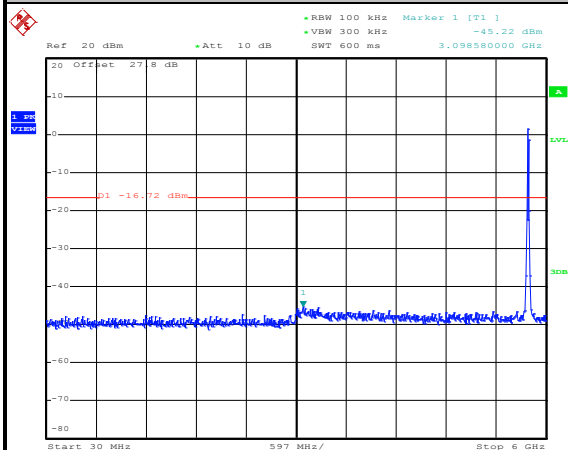
WLAN 802.11n HT20 Channel 157

100kHz PSD reference Level



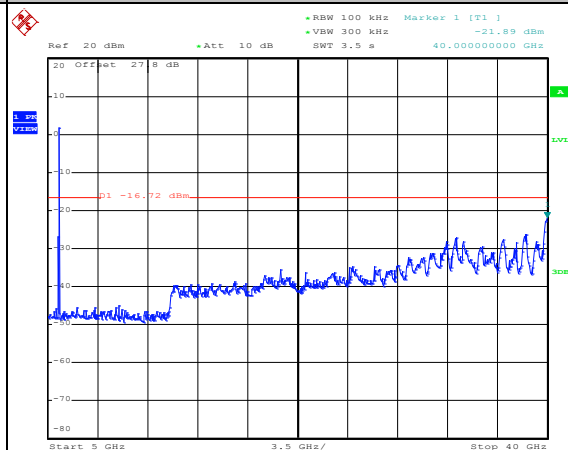
Date: 20.JAN.2014 10:32:18

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 10:32:40

Spurious Emission 5GHz~40GHz



Date: 20.JAN.2014 10:32:58

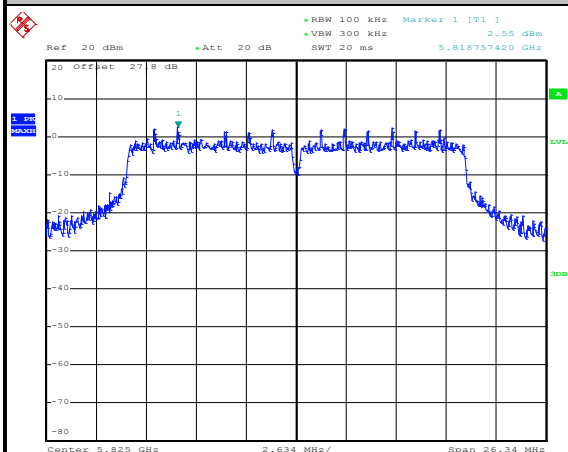
Remark: The signal above 33GHz is background noise
of spectrum analyzer.



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

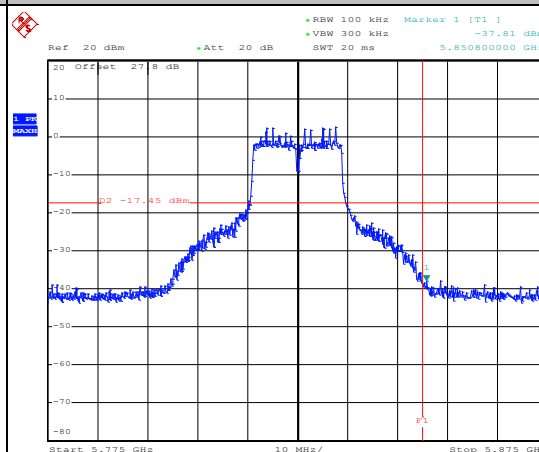
WLAN 802.11n HT20 Channel 165

100kHz PSD reference Level



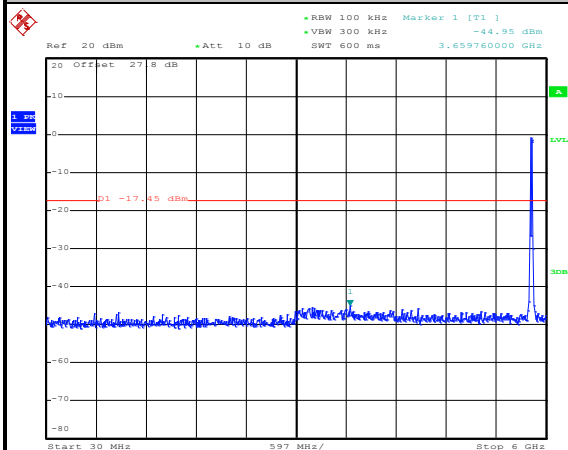
Date: 20.JAN.2014 10:25:47

High Channel Plot



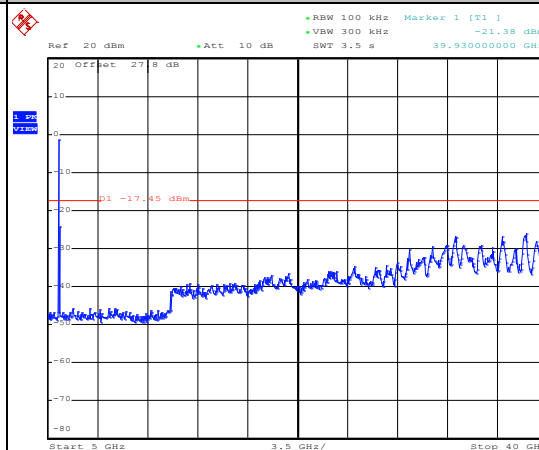
Date: 20.JAN.2014 10:27:57

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 10:29:19

Spurious Emission 5GHz~40GHz



Date: 20.JAN.2014 10:29:38

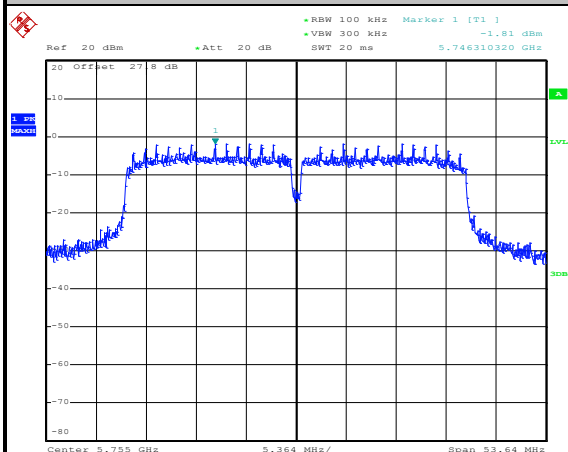
Remark: The signal above 33GHz is background noise of spectrum analyzer.



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

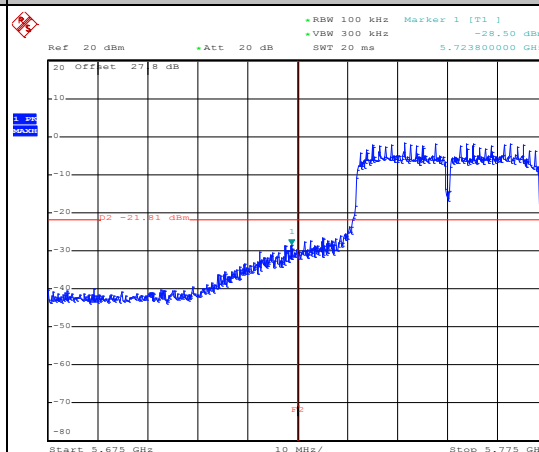
WLAN 802.11n HT40 Channel 151

100kHz PSD reference Level



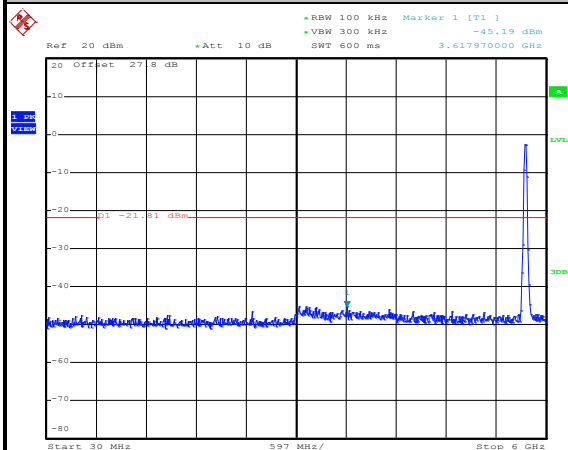
Date: 20.JAN.2014 11:03:12

Low Channel Plot



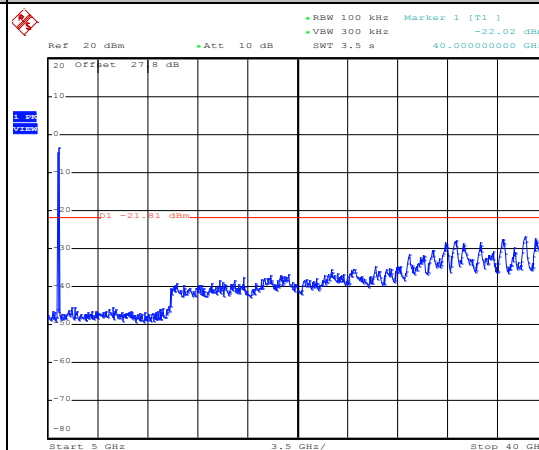
Date: 20.JAN.2014 11:03:33

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 11:05:50

Spurious Emission 5GHz~40GHz



Date: 20.JAN.2014 11:06:08

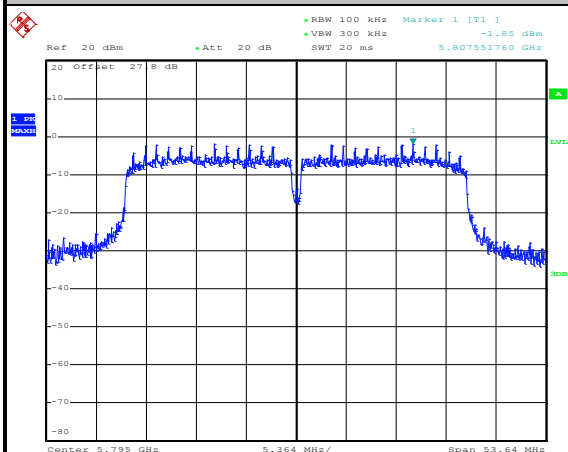
Remark: The signal above 33GHz is background noise
of spectrum analyzer.



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

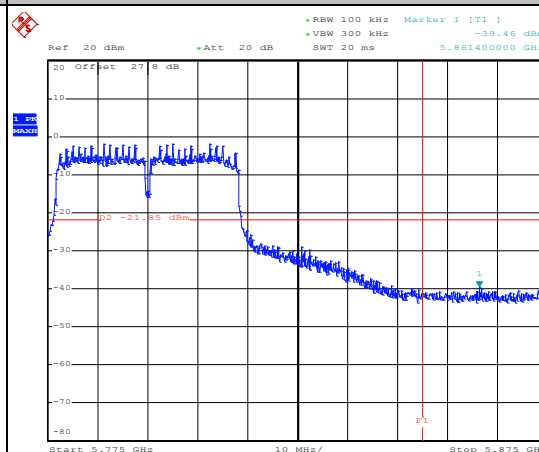
WLAN 802.11n HT40 Channel 159

100kHz PSD reference Level



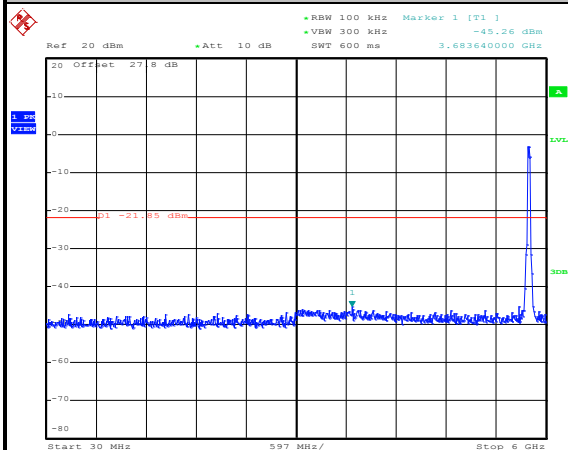
Date: 20.JAN.2014 11:11:13

High Channel Plot



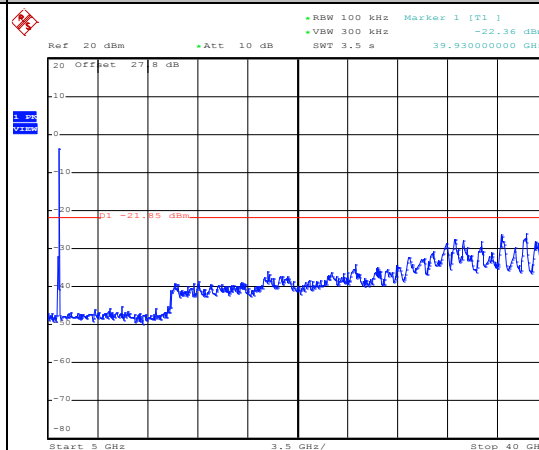
Date: 20.JAN.2014 11:11:35

Spurious Emission 30MHz~6GHz



Date: 20.JAN.2014 11:17:17

Spurious Emission 5GHz~40GHz



Date: 20.JAN.2014 11:17:36

Remark: The signal above 33GHz is background noise
of spectrum analyzer.

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

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

3.5.3 Test Procedures

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

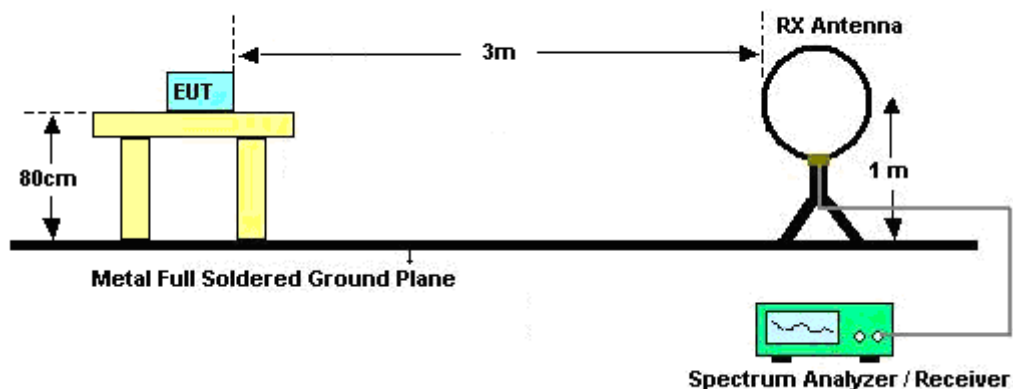
For average measurement:

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

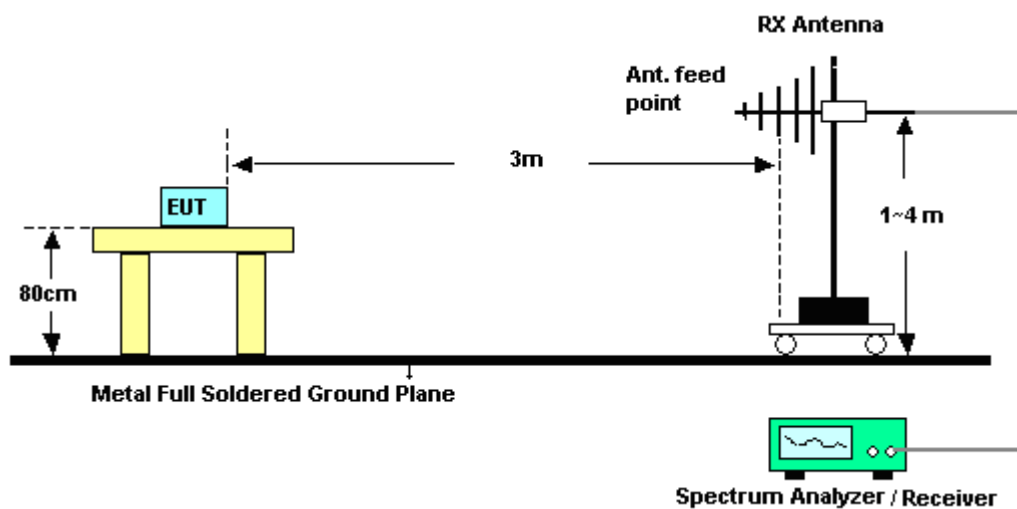
Band	Duty Cycle(%)	T(μ s)	1/T(kHz)	VBW Setting
802.11b	97.16	8220.00	0.12	300Hz
802.11g	87.26	1370.00	0.73	1kHz
2.4GHz 802.11n HT20	86.49	1280.00	0.78	1kHz
802.11a	87.26	1370.00	0.73	1kHz
5GHz 802.11n HT20	86.49	1280.00	0.78	1kHz
5GHz 802.11n HT40	86.49	640.00	1.56	3kHz

3.5.4 Test Setup

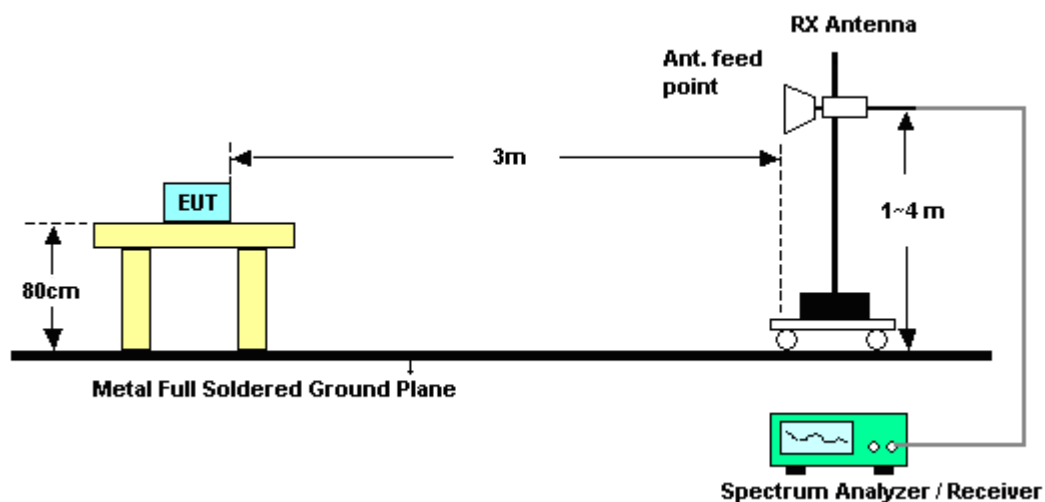
For radiated emissions below 30MHz



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

<Sample 1 with Battery 2>

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
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
2387.4	57.16	-16.84	74	52.22	32.3	6.91	34.27	101	163	Peak
2387.04	44.75	-9.25	54	39.81	32.3	6.91	34.27	101	163	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
2317.11	56.12	-17.88	74	51.33	32.21	6.8	34.22	159	24	Peak
2390	42.86	-11.14	54	37.95	32.3	6.91	34.3	159	24	Average

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	02	Relative Humidity :	51~53%
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
2331.06	56.9	-17.1	74	52.09	32.23	6.8	34.22	129	159	Peak
2390	45.48	-8.52	54	40.57	32.3	6.91	34.3	129	159	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
2334.93	56.46	-17.54	74	51.6	32.24	6.84	34.22	184	77	Peak
2390	43.84	-10.16	54	38.93	32.3	6.91	34.3	184	77	Average



Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
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
2487.31	59.76	-14.24	74	54.75	32.38	7.06	34.43	101	46	Peak
2487.64	47.76	-6.24	54	42.73	32.4	7.06	34.43	101	46	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2487.13	58.12	-15.88	74	53.11	32.38	7.06	34.43	182	103	Peak
2487.67	46.01	-7.99	54	40.98	32.4	7.06	34.43	182	103	Average

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	12	Relative Humidity :	51~53%
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
2483.65	62.25	-11.75	74	57.24	32.38	7.06	34.43	121	40	Peak
2484.28	52.39	-1.61	54	47.38	32.38	7.06	34.43	121	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2484.88	59.95	-14.05	74	54.94	32.38	7.06	34.43	129	101	Peak
2484.16	49.27	-4.73	54	44.26	32.38	7.06	34.43	129	101	Average



Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	13	Relative Humidity :	51~53%
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
2483.59	61.6	-12.4	74	56.59	32.38	7.06	34.43	120	44	Peak
2483.5	52.45	-1.55	54	47.44	32.38	7.06	34.43	120	44	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.83	58.61	-15.39	74	53.6	32.38	7.06	34.43	158	98	Peak
2483.5	48.27	-5.73	54	43.26	32.38	7.06	34.43	158	98	Average

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
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
2389.56	64.89	-9.11	74	59.95	32.3	6.91	34.27	123	46	Peak
2389.74	46.68	-7.32	54	41.74	32.3	6.91	34.27	123	46	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
2388.39	57.6	-16.4	74	52.66	32.3	6.91	34.27	100	340	Peak
2389.65	44.04	-9.96	54	39.1	32.3	6.91	34.27	100	340	Average

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	02	Relative Humidity :	51~53%
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
2389.92	69.51	-4.49	74	64.6	32.3	6.91	34.3	152	42	Peak
2390	47.94	-6.06	54	43.03	32.3	6.91	34.3	152	42	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2389.92	56.94	-17.06	74	52.03	32.3	6.91	34.3	100	339	Peak
2390	44.04	-9.96	54	39.13	32.3	6.91	34.3	100	339	Average

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
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	61.04	-12.96	74	56.03	32.38	7.06	34.43	147	156	Peak
2483.5	45.8	-8.2	54	40.79	32.38	7.06	34.43	147	156	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2483.68	60.63	-13.37	74	55.62	32.38	7.06	34.43	152	107	Peak
2483.65	45.15	-8.85	54	40.14	32.38	7.06	34.43	152	107	Average

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	12	Relative Humidity :	51~53%
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
2484.46	68.96	-5.04	74	63.95	32.38	7.06	34.43	100	159	Peak
2483.5	49.65	-4.35	54	44.64	32.38	7.06	34.43	100	159	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
2484.01	68.91	-5.09	74	63.9	32.38	7.06	34.43	158	104	Peak
2483.74	47.53	-6.47	54	42.52	32.38	7.06	34.43	158	104	Average



Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	13	Relative Humidity :	51~53%
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
2483.68	72.16	-1.84	74	67.15	32.38	7.06	34.43	101	48	Peak
2483.5	47.4	-6.6	54	42.39	32.38	7.06	34.43	101	48	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
2483.53	67.35	-6.65	74	62.34	32.38	7.06	34.43	179	109	Peak
2483.5	45.7	-8.3	54	40.69	32.38	7.06	34.43	179	109	Average



Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
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
2389.92	64.05	-9.95	74	59.14	32.3	6.91	34.3	100	52	Peak
2389.83	46.34	-7.66	54	41.43	32.3	6.91	34.3	100	52	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
2389.83	60.88	-13.12	74	55.97	32.3	6.91	34.3	105	125	Peak
2389.74	44.04	-9.96	54	39.1	32.3	6.91	34.27	105	125	Average

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	02	Relative Humidity :	51~53%
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
2389.02	63.29	-10.71	74	58.35	32.3	6.91	34.27	101	45	Peak
2390	48.66	-5.34	54	43.75	32.3	6.91	34.3	101	45	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
2372.73	57.35	-16.65	74	52.46	32.28	6.88	34.27	101	339	Peak
2389.92	44.34	-9.66	54	39.43	32.3	6.91	34.3	101	339	Average



Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	11	Relative Humidity :	51~53%
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
2484.73	64.64	-9.36	74	59.63	32.38	7.06	34.43	150	39	Peak
2483.5	47.42	-6.58	54	42.41	32.38	7.06	34.43	150	39	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
2483.92	61.36	-12.64	74	56.35	32.38	7.06	34.43	186	105	Peak
2483.77	45.82	-8.18	54	40.81	32.38	7.06	34.43	186	105	Average

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	12	Relative Humidity :	51~53%
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
2484.85	69.68	-4.32	74	64.67	32.38	7.06	34.43	100	47	Peak
2483.56	51.17	-2.83	54	46.16	32.38	7.06	34.43	100	47	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
2485.66	68.09	-5.91	74	63.08	32.38	7.06	34.43	129	119	Peak
2483.5	47.89	-6.11	54	42.88	32.38	7.06	34.43	129	119	Average



Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	13	Relative Humidity :	51~53%
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
2483.5	72.51	-1.49	74	67.5	32.38	7.06	34.43	121	42	Peak
2483.5	47.88	-6.12	54	42.87	32.38	7.06	34.43	121	42	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
2483.53	68.68	-5.32	74	63.67	32.38	7.06	34.43	127	105	Peak
2483.5	46.3	-7.7	54	41.29	32.38	7.06	34.43	127	105	Average

<Sample 1 with Battery 1>

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	13	Relative Humidity :	51~53%
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
2483.53	71.6	-2.4	74	66.59	32.38	7.06	34.43	100	30	Peak
2483.5	49.23	-4.77	54	44.22	32.38	7.06	34.43	100	30	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
2483.62	71.33	-2.67	74	66.32	32.38	7.06	34.43	106	120	Peak
2483.5	47.52	-6.48	54	42.51	32.38	7.06	34.43	106	120	Average

<Sample 2 with Battery 2>

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	13	Relative Humidity :	51~53%
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
2483.53	71.77	-2.23	74	66.76	32.38	7.06	34.43	102	41	Peak
2483.53	47.99	-6.01	54	42.98	32.38	7.06	34.43	102	41	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
2483.53	70.66	-3.34	74	65.65	32.38	7.06	34.43	108	127	Peak
2483.56	46.94	-7.06	54	41.93	32.38	7.06	34.43	108	127	Average

**<Sample 1 with Battery 2>**

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
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
5723.56	83.97	-3.73	87.7	72.75	35.33	10.04	34.15	120	13	Peak
5743	97.7	-	-	86.47	35.34	10.06	34.17	120	13	Average
5743	107.7	-	-	96.47	35.34	10.06	34.17	120	13	Peak

Note: 5723.56 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

For example, 107.70 dBμV/m - 20dB = 87.70dBμV/m.

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	82.15	-3.35	85.5	70.93	35.33	10.04	34.15	144	356	Peak
5747	95.98	-	-	84.75	35.34	10.06	34.17	144	356	Average
5747	105.5	-	-	94.27	35.34	10.06	34.17	144	356	Peak

Note: 5724.76 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	165	Relative Humidity :	51~53%
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
5823	96.97	-	-	85.73	35.4	10.11	34.27	117	8	Average
5823	106.32	-	-	95.08	35.4	10.11	34.27	117	8	Peak
5850.4	70.45	-15.87	86.32	59.22	35.41	10.13	34.31	117	8	Peak

Note: 5850.4MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	95.62	-	-	84.38	35.4	10.11	34.27	120	359	Average
5823	104.96	-	-	93.72	35.4	10.11	34.27	120	359	Peak
5851.04	69.96	-15	84.96	58.73	35.41	10.13	34.31	120	359	Peak

Note: 5851.04MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
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
5724.44	83.82	-2.98	86.8	72.6	35.33	10.04	34.15	100	198	Peak
5743	96.99	-	-	85.76	35.34	10.06	34.17	100	198	Average
5743	106.8	-	-	95.57	35.34	10.06	34.17	100	198	Peak

Note: 5724.44MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

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	85.79	-1.19	86.98	74.57	35.33	10.04	34.15	110	350	Peak
5747	97.04	-	-	85.81	35.34	10.06	34.17	110	350	Average
5747	106.98	-	-	95.75	35.34	10.06	34.17	110	350	Peak

Note: 5724.76 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	165	Relative Humidity :	51~53%
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
5827	94.68	-	-	83.44	35.4	10.11	34.27	100	260	Average
5827	104.33	-	-	93.09	35.4	10.11	34.27	100	260	Peak
5851.68	68.87	-15.46	84.33	57.64	35.41	10.13	34.31	100	260	Peak

Note: 5851.68MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5823	94.77	-	-	83.53	35.4	10.11	34.27	100	352	Average
5823	104.39	-	-	93.15	35.4	10.11	34.27	100	352	Peak
5850.64	68.43	-15.96	84.39	57.2	35.41	10.13	34.31	100	352	Peak

Note: 5850.64 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT40	Temperature :	21~23°C
Test Channel :	151	Relative Humidity :	51~53%
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	86.72	-1.43	88.15	75.5	35.33	10.04	34.15	108	26	Peak
5753	97.92	-	-	86.67	35.36	10.06	34.17	108	26	Average
5753	108.15	-	-	96.9	35.36	10.06	34.17	108	26	Peak
5852	55.42	-32.73	88.15	44.19	35.41	10.13	34.31	108	26	Peak

Note: 5724.12MHz and 5852MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

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	82.7	-1.77	84.47	71.48	35.33	10.04	34.15	101	47	Peak
5753	94.85	-	-	83.6	35.36	10.06	34.17	101	47	Average
5753	104.47	-	-	93.22	35.36	10.06	34.17	101	47	Peak
5853.36	54.96	-29.51	84.47	43.73	35.41	10.13	34.31	101	47	Peak

Note: 5724.68 MHz and 5853.36 MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.



Test Mode :	802.11n HT40	Temperature :	21~23°C
Test Channel :	159	Relative Humidity :	51~53%
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
5722.04	58.84	-28.07	86.91	47.62	35.33	10.04	34.15	107	13	Peak
5793	96.61	-	-	85.37	35.38	10.09	34.23	107	13	Average
5793	106.91	-	-	95.67	35.38	10.09	34.23	107	13	Peak
5852.72	60.12	-26.79	86.91	48.89	35.41	10.13	34.31	107	13	Peak

Note: 5722.04MHz and 5852.72MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

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
5720.44	56.86	-27.49	84.35	45.64	35.33	10.04	34.15	100	356	Peak
5797	94.77	-	-	83.53	35.38	10.09	34.23	100	356	Average
5797	104.35	-	-	93.11	35.38	10.09	34.23	100	356	Peak
5854.16	59.17	-25.18	84.35	47.93	35.42	10.13	34.31	100	356	Peak

Note: 5720.44MHz and 5854.16MHz are not within a restricted band, and its limit line is 20dB below the highest emission level.

<Sample 1 with Battery 1>

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
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
5722.84	85.81	-3.09	88.9	74.59	35.33	10.04	34.15	100	356	Peak
5747	98.97	-	-	87.74	35.34	10.06	34.17	100	356	Average
5747	108.9	-	-	97.67	35.34	10.06	34.17	100	356	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
5722.84	84.9	-1.23	86.13	73.68	35.33	10.04	34.15	101	349	Peak
5747	95.81	-	-	84.58	35.34	10.06	34.17	101	349	Average
5747	106.13	-	-	94.9	35.34	10.06	34.17	101	349	Peak

Note: 5722.84MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

<Sample 2 with Battery 2>

Test Mode :	802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
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
5723.16	86.7	-1.65	88.35	75.48	35.33	10.04	34.15	100	12	Peak
5743	98.37	-	-	87.14	35.34	10.06	34.17	100	12	Average
5743	108.35	-	-	97.12	35.34	10.06	34.17	100	12	Peak

Note: 5723.16MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.

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	84.61	-1.55	86.16	73.39	35.33	10.04	34.15	100	349	Peak
5747	95.77	-	-	84.54	35.34	10.06	34.17	100	349	Average
5747	106.16	-	-	94.93	35.34	10.06	34.17	100	349	Peak

Note: 5724.04MHz is 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)

<Sample 1 with Battery 2>

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
129.09	22.39	-21.11	43.5	40.43	11.92	1.14	31.1	-	-	Peak
137.46	24.48	-19.02	43.5	42.89	11.5	1.19	31.1	152	73	Peak
156.09	23.31	-20.19	43.5	42.59	10.66	1.22	31.16	-	-	Peak
415.5	16.54	-29.46	46	28.72	16.45	2.19	30.82	-	-	Peak
546.4	19.43	-26.57	46	28.36	19.32	2.54	30.79	-	-	Peak
671.7	22.18	-23.82	46	29.34	20.42	2.88	30.46	-	-	Peak
2412	108.53	-	-	103.57	32.31	6.95	34.3	101	163	Average
2412	112.38	-	-	107.42	32.31	6.95	34.3	101	163	Peak
4824	44.86	-29.14	74	61.05	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
85.89	22.3	-17.7	40	44.26	8.22	0.92	31.1	199	52	Peak
129.09	18.61	-24.89	43.5	36.65	11.92	1.14	31.1	-	-	Peak
205.5	22.4	-21.1	43.5	43.01	9.15	1.34	31.1	-	-	Peak
575.8	24.14	-21.86	46	32.58	19.64	2.62	30.7	-	-	Peak
851.6	25.26	-20.74	46	29.11	23.28	3.27	30.4	-	-	Peak
969.9	27.81	-26.19	54	29.85	24.8	3.48	30.32	-	-	Peak
2412	101.26	-	-	96.3	32.31	6.95	34.3	159	24	Average
2412	104.95	-	-	99.99	32.31	6.95	34.3	159	24	Peak
4824	44.41	-29.59	74	60.6	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°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
85.62	15.46	-24.54	40	37.55	8.1	0.91	31.1	-	-	Peak
137.46	21.36	-22.14	43.5	39.77	11.5	1.19	31.1	-	-	Peak
156.36	19.99	-23.51	43.5	39.28	10.66	1.22	31.17	-	-	Peak
438.6	18.32	-27.68	46	29.78	16.98	2.27	30.71	-	-	Peak
657	22.86	-23.14	46	30.17	20.33	2.85	30.49	-	-	Peak
860.7	25.63	-20.37	46	29.53	23.2	3.28	30.38	167	35	Peak
2438	109.75	-	-	104.76	32.35	6.99	34.35	101	52	Average
2438	113.65	-	-	108.66	32.35	6.99	34.35	101	52	Peak
4875	45.01	-28.99	74	61.07	33.95	8.82	58.83	100	0	Peak
7311	45.8	-28.2	74	57.08	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°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
85.62	22.57	-17.43	40	44.66	8.1	0.91	31.1	111	42	Peak
128.82	18.41	-25.09	43.5	36.45	11.92	1.14	31.1	-	-	Peak
207.12	21.95	-21.55	43.5	42.53	9.17	1.35	31.1	-	-	Peak
440	18.92	-27.08	46	30.34	17	2.28	30.7	-	-	Peak
575.8	25.03	-20.97	46	33.47	19.64	2.62	30.7	-	-	Peak
851.6	25.74	-20.26	46	29.59	23.28	3.27	30.4	-	-	Peak
2436	103.81	-	-	98.84	32.33	6.99	34.35	162	121	Average
2436	107.81	-	-	102.84	32.33	6.99	34.35	162	121	Peak
4875	41.99	-32.01	74	58.05	33.95	8.82	58.83	100	0	Peak
7308	46.58	-27.42	74	57.86	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°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
85.62	15.61	-24.39	40	37.7	8.1	0.91	31.1	-	-	Peak
137.46	24.66	-18.84	43.5	43.07	11.5	1.19	31.1	116	38	Peak
155.82	21.88	-21.62	43.5	41.16	10.66	1.22	31.16	-	-	Peak
475.7	19.47	-26.53	46	30.35	17.55	2.37	30.8	-	-	Peak
671.7	22.54	-23.46	46	29.7	20.42	2.88	30.46	-	-	Peak
909	25.77	-20.23	46	29.26	23.47	3.36	30.32	-	-	Peak
2462	108.42	-	-	103.42	32.37	7.02	34.39	101	46	Average
2462	112.35	-	-	107.35	32.37	7.02	34.39	101	46	Peak
4926	44.21	-29.79	74	60.11	33.93	8.9	58.73	100	0	Peak
7386	42.45	-31.55	74	53.74	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11b	Temperature :	21~23°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
85.89	21.83	-18.17	40	43.79	8.22	0.92	31.1	114	53	Peak
129.09	19.58	-23.92	43.5	37.62	11.92	1.14	31.1	-	-	Peak
210.09	22.25	-21.25	43.5	42.79	9.2	1.36	31.1	-	-	Peak
442.1	17.76	-28.24	46	29.13	17.06	2.28	30.71	-	-	Peak
582.1	23.57	-22.43	46	32.02	19.58	2.64	30.67	-	-	Peak
856.5	25.46	-20.54	46	29.33	23.24	3.28	30.39	-	-	Peak
2462	104.5	-	-	99.5	32.37	7.02	34.39	182	103	Average
2462	108.35	-	-	103.35	32.37	7.02	34.39	182	103	Peak
4923	40.59	-33.41	74	56.52	33.93	8.87	58.73	100	0	Peak
7386	42.77	-31.23	74	54.06	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2416 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
44.04	11.59	-28.41	40	30.95	11.2	0.64	31.2	-	-	Peak
106.95	12.5	-31	43.5	32.02	10.62	1.03	31.17	-	-	Peak
160.41	19.55	-23.95	43.5	39.02	10.5	1.22	31.19	-	-	Peak
364.4	16.67	-29.33	46	30.89	14.79	2.07	31.08	-	-	Peak
575.8	21.2	-24.8	46	29.64	19.64	2.62	30.7	-	-	Peak
813.1	24.6	-21.4	46	29.47	22.29	3.17	30.33	100	21	Peak
2416	98.53	-	-	93.62	32.31	6.95	34.35	123	46	Average
2416	107.77	-	-	102.86	32.31	6.95	34.35	123	46	Peak
4824	40.28	-33.72	74	56.47	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
39.72	16.26	-23.74	40	32.84	14	0.62	31.2	-	-	Peak
85.89	21.54	-18.46	40	43.5	8.22	0.92	31.1	114	258	Peak
159.6	20.32	-23.18	43.5	39.8	10.5	1.22	31.2	-	-	Peak
454.7	18.67	-27.33	46	29.78	17.35	2.31	30.77	-	-	Peak
568.1	22.03	-23.97	46	30.41	19.75	2.6	30.73	-	-	Peak
648.6	22.4	-23.6	46	29.66	20.4	2.84	30.5	-	-	Peak
2412	91.13	-	-	86.17	32.31	6.95	34.3	100	340	Average
2412	100.36	-	-	95.45	32.31	6.95	34.35	100	340	Peak
4824	40.39	-33.61	74	56.58	33.97	8.77	58.93	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°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
45.66	11.74	-28.26	40	32.13	10.15	0.66	31.2	-	-	Peak
86.97	11.96	-28.04	40	33.8	8.34	0.92	31.1	-	-	Peak
125.58	12.48	-31.02	43.5	30.77	11.68	1.13	31.1	-	-	Peak
428.8	18.35	-27.65	46	29.99	16.88	2.24	30.76	-	-	Peak
486.2	19.76	-26.24	46	30.32	17.78	2.4	30.74	-	-	Peak
552.7	21.13	-24.87	46	29.5	19.86	2.56	30.79	102	111	Peak
2437	103.49	-	-	98.5	32.35	6.99	34.35	100	46	Average
2437	113.13	-	-	108.16	32.33	6.99	34.35	100	46	Peak
4875	43.17	-30.83	74	59.23	33.95	8.82	58.83	100	0	Peak
7308	44.55	-29.45	74	55.83	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
40.53	17.99	-22.01	40	35.26	13.3	0.63	31.2	-	-	Peak
86.97	21.95	-18.05	40	43.79	8.34	0.92	31.1	132	48	Peak
166.89	20.54	-22.96	43.5	40.68	9.76	1.23	31.13	-	-	Peak
407.1	16.72	-29.28	46	29.29	16.12	2.17	30.86	-	-	Peak
547.1	21.86	-24.14	46	30.67	19.44	2.54	30.79	-	-	Peak
575.8	24.67	-21.33	46	33.11	19.64	2.62	30.7	-	-	Peak
2437	96.05	-	-	91.06	32.35	6.99	34.35	100	339	Average
2437	105.38	-	-	100.43	32.35	6.99	34.39	100	339	Peak
4875	39.42	-34.58	74	55.48	33.95	8.82	58.83	100	0	Peak
7311	42.96	-31.04	74	54.24	35.54	10.91	57.73	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°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
158.79	20.57	-22.93	43.5	40	10.54	1.22	31.19	-	-	Peak
215.76	22.51	-20.99	43.5	42.89	9.26	1.4	31.04	-	-	Peak
258.15	21.36	-24.64	46	37.1	13.68	1.58	31	-	-	Peak
486.2	19.76	-26.24	46	30.32	17.78	2.4	30.74	-	-	Peak
753.6	24.58	-21.42	46	29.8	22.1	3.07	30.39	-	-	Peak
926.5	26.55	-19.45	46	29.32	24.18	3.4	30.35	121	332	Peak
2464	95.75	-	-	90.75	32.37	7.02	34.39	147	156	Average
2464	106.23	-	-	101.23	32.37	7.02	34.39	147	156	Peak
4923	39.79	-34.21	74	55.72	33.93	8.87	58.73	100	0	Peak
7386	42.25	-31.75	74	53.54	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11g	Temperature :	21~23°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
32.16	19.78	-20.22	40	32.89	17.76	0.55	31.42	-	-	Peak
107.22	14.36	-29.14	43.5	33.81	10.68	1.04	31.17	-	-	Peak
259.5	19.48	-26.52	46	34.89	14	1.59	31	-	-	Peak
344.8	15.32	-30.68	46	30.16	14.25	1.93	31.02	-	-	Peak
762.7	25.22	-20.78	46	30.41	22.1	3.08	30.37	-	-	Peak
819.4	25.97	-20.03	46	30.62	22.5	3.19	30.34	155	52	Peak
2460	93.63	-	-	88.63	32.37	7.02	34.39	152	107	Average
2460	103.06	-	-	98.06	32.37	7.02	34.39	152	107	Peak
4923	40.09	-33.91	74	56.02	33.93	8.87	58.73	100	0	Peak
7386	42.81	-31.19	74	54.1	35.52	10.99	57.8	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
43.5	13.37	-26.63	40	32.73	11.2	0.64	31.2	-	-	Peak
157.44	20.64	-22.86	43.5	39.98	10.62	1.22	31.18	-	-	Peak
217.65	21.07	-24.93	46	41.42	9.27	1.4	31.02	-	-	Peak
348.3	18.04	-27.96	46	32.78	14.34	1.96	31.04	-	-	Peak
617.8	23.12	-22.88	46	30.8	20.14	2.74	30.56	-	-	Peak
853.7	26.49	-19.51	46	30.34	23.26	3.28	30.39	128	321	Peak
2412	97.09	-	-	92.13	32.31	6.95	34.3	100	52	Average
2412	106.55	-	-	101.59	32.31	6.95	34.3	100	52	Peak
4824	40.32	-33.68	74	56.51	33.97	8.77	58.93	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	01	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2410 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (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
71.31	19.04	-20.96	40	42.92	6.56	0.84	31.28	103	125	Peak
99.39	15.16	-28.34	43.5	34.87	10.4	0.99	31.1	-	-	Peak
137.46	19.49	-24.01	43.5	37.9	11.5	1.19	31.1	-	-	Peak
423.2	18.72	-27.28	46	30.53	16.76	2.22	30.79	-	-	Peak
588.4	23.69	-22.31	46	32.17	19.51	2.66	30.65	-	-	Peak
806.1	24.49	-21.51	46	29.52	22.12	3.16	30.31	-	-	Peak
2410	93.93	-	-	88.97	32.31	6.95	34.3	105	125	Average
2410	103.34	-	-	98.38	32.31	6.95	34.3	105	125	Peak
4824	40.15	-33.85	74	56.34	33.97	8.77	58.93	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°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
83.73	12.08	-27.92	40	34.65	7.66	0.9	31.13	-	-	Peak
137.46	17.43	-26.07	43.5	35.84	11.5	1.19	31.1	-	-	Peak
158.52	19.64	-23.86	43.5	39.03	10.58	1.22	31.19	-	-	Peak
348.3	18.47	-27.53	46	33.21	14.34	1.96	31.04	-	-	Peak
429.5	19.65	-26.35	46	31.26	16.9	2.24	30.75	-	-	Peak
867.7	26.38	-19.62	46	30.4	23.04	3.3	30.36	100	188	Peak
2437	102.76	-	-	97.77	32.35	6.99	34.35	101	47	Average
2437	112.27	-	-	107.3	32.33	6.99	34.35	101	47	Peak
4875	41.04	-32.96	74	57.1	33.95	8.82	58.83	100	0	Peak
7311	42.85	-31.15	74	54.13	35.54	10.91	57.73	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	06	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 2440 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
76.71	21.55	-18.45	40	45.02	6.87	0.86	31.2	133	96	Peak
85.89	21.24	-18.76	40	43.2	8.22	0.92	31.1	-	-	Peak
134.22	19.12	-24.38	43.5	37.45	11.6	1.17	31.1	-	-	Peak
450.5	18.52	-27.48	46	29.66	17.31	2.3	30.75	-	-	Peak
741	25.88	-20.12	46	31.05	22.19	3.04	30.4	-	-	Peak
964.3	28.09	-25.91	54	30.23	24.74	3.47	30.35	-	-	Peak
2440	98.95	-	-	93.96	32.35	6.99	34.35	104	124	Average
2440	109.15	-	-	104.16	32.35	6.99	34.35	104	124	Peak
4875	40.83	-33.17	74	56.89	33.95	8.82	58.83	100	0	Peak
7311	42.39	-31.61	74	53.67	35.54	10.91	57.73	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°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
38.1	16.52	-23.48	40	32.28	14.88	0.6	31.24	-	-	Peak
134.49	16.54	-26.96	43.5	34.97	11.5	1.17	31.1	-	-	Peak
215.22	22.3	-21.2	43.5	42.71	9.25	1.39	31.05	135	55	Peak
351.8	17.82	-28.18	46	32.43	14.46	1.99	31.06	-	-	Peak
370.7	17.59	-28.41	46	31.66	14.9	2.08	31.05	-	-	Peak
568.8	22.11	-23.89	46	30.48	19.75	2.6	30.72	-	-	Peak
2462	96.1	-	-	91.1	32.37	7.02	34.39	150	39	Average
2462	105.3	-	-	100.3	32.37	7.02	34.39	150	39	Peak
4923	39.51	-34.49	74	55.44	33.93	8.87	58.73	100	0	Peak
7386	42.39	-31.61	74	53.68	35.52	10.99	57.8	100	0	Peak

Test Mode :	2.4GHz 802.11n HT20	Temperature :	21~23°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
73.74	16.83	-23.17	40	40.48	6.72	0.85	31.22	-	-	Peak
158.79	21.27	-22.23	43.5	40.7	10.54	1.22	31.19	-	-	Peak
212.79	22.79	-20.71	43.5	43.27	9.22	1.37	31.07	-	-	Peak
381.2	17.16	-28.84	46	30.92	15.14	2.1	31	-	-	Peak
652.8	23.09	-22.91	46	30.36	20.37	2.85	30.49	-	-	Peak
855.1	25.64	-20.36	46	29.5	23.25	3.28	30.39	164	224	Peak
2462	93.92	-	-	88.92	32.37	7.02	34.39	186	105	Average
2462	102.6	-	-	97.6	32.37	7.02	34.39	186	105	Peak
4923	39.65	-34.35	74	55.58	33.93	8.87	58.73	100	0	Peak
7386	41.93	-32.07	74	53.22	35.52	10.99	57.8	100	0	Peak

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
34.32	18.47	-21.53	40	32.48	16.72	0.57	31.3	-	-	Peak
158.25	20.02	-23.48	43.5	39.41	10.58	1.22	31.19	-	-	Peak
229.26	21.56	-24.44	46	41.07	10.02	1.47	31	-	-	Peak
358.1	17.1	-28.9	46	31.51	14.64	2.04	31.09	-	-	Peak
561.1	21.87	-24.13	46	30.09	19.95	2.58	30.75	-	-	Peak
755.7	24.84	-21.16	46	30.06	22.1	3.07	30.39	100	221	Peak
5743	97.7	-	-	86.47	35.34	10.06	34.17	120	13	Average
5743	107.7	-	-	96.47	35.34	10.06	34.17	120	13	Peak
11493	43.37	-10.63	54	47.63	38.38	14.33	56.97	114	293	Average
11493	53.33	-20.67	74	57.59	38.38	14.33	56.97	114	293	Peak

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5747 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
41.34	17.97	-22.03	40	35.94	12.6	0.63	31.2	-	-	Peak
84.27	21.4	-18.6	40	43.74	7.88	0.9	31.12	111	254	Peak
215.49	23.18	-20.32	43.5	43.59	9.25	1.39	31.05	-	-	Peak
310.5	23.32	-22.68	46	39.23	13.3	1.79	31	-	-	Peak
573	23.81	-22.19	46	32.24	19.67	2.61	30.71	-	-	Peak
841.8	25.96	-20.04	46	29.87	23.22	3.25	30.38	-	-	Peak
5747	95.98	-	-	84.75	35.34	10.06	34.17	144	356	Average
5747	105.5	-	-	94.27	35.34	10.06	34.17	144	356	Peak
11493	49.68	-24.32	74	53.94	38.38	14.33	56.97	100	0	Peak

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5783 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
34.05	17.79	-22.21	40	31.84	16.72	0.57	31.34	-	-	Peak
160.41	20.09	-23.41	43.5	39.56	10.5	1.22	31.19	-	-	Peak
215.22	21.87	-21.63	43.5	42.28	9.25	1.39	31.05	-	-	Peak
405	17.16	-28.84	46	29.82	16.06	2.16	30.88	-	-	Peak
549.2	20.27	-25.73	46	28.84	19.68	2.55	30.8	-	-	Peak
731.2	24.38	-21.62	46	29.74	22.02	3.02	30.4	130	12	Peak
5783	98.34	-	-	87.13	35.37	10.07	34.23	110	360	Average
5783	108.16	-	-	96.95	35.37	10.07	34.23	110	360	Peak
11568	42.9	-11.1	54	46.81	38.46	14.41	56.78	142	352	Average
11568	52.92	-21.08	74	56.83	38.46	14.41	56.78	142	352	Peak

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5787 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (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
40.53	18.55	-21.45	40	35.82	13.3	0.63	31.2	-	-	Peak
126.39	15.36	-28.14	43.5	33.65	11.68	1.13	31.1	-	-	Peak
159.33	22.05	-21.45	43.5	41.49	10.54	1.22	31.2	-	-	Peak
394.5	16.41	-29.59	46	29.51	15.7	2.13	30.93	-	-	Peak
595.4	23.85	-22.15	46	32.24	19.55	2.68	30.62	-	-	Peak
840.4	25.98	-20.02	46	29.92	23.2	3.24	30.38	142	88	Peak
5787	98.06	-	-	86.84	35.38	10.07	34.23	112	350	Average
5787	108.13	-	-	96.91	35.38	10.07	34.23	112	350	Peak
11571	48.32	-25.68	74	52.23	38.46	14.41	56.78	100	0	Peak

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5823 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
33.24	19.41	-20.59	40	32.99	17.24	0.56	31.38	-	-	Peak
159.87	20.29	-23.21	43.5	39.77	10.5	1.22	31.2	-	-	Peak
215.22	20.68	-22.82	43.5	41.09	9.25	1.39	31.05	-	-	Peak
515.6	19.55	-26.45	46	29.63	18.1	2.48	30.66	-	-	Peak
634.6	23.13	-22.87	46	30.47	20.4	2.79	30.53	-	-	Peak
750.1	25.94	-20.06	46	31.18	22.1	3.06	30.4	102	22	Peak
5823	96.97	-	-	85.73	35.4	10.11	34.27	117	8	Average
5823	106.32	-	-	95.08	35.4	10.11	34.27	117	8	Peak
11649	42.45	-11.55	54	46.03	38.51	14.52	56.61	105	287	Average
11649	52.51	-21.49	74	56.09	38.51	14.52	56.61	105	287	Peak

Test Mode :	802.11a	Temperature :	21~23°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (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
76.71	21.48	-18.52	40	44.95	6.87	0.86	31.2	100	69	Peak
86.43	21.04	-18.96	40	43	8.22	0.92	31.1	-	-	Peak
213.87	23.63	-19.87	43.5	44.07	9.24	1.38	31.06	-	-	Peak
422.5	18.45	-27.55	46	30.26	16.76	2.22	30.79	-	-	Peak
595.4	24.41	-21.59	46	32.8	19.55	2.68	30.62	-	-	Peak
850.2	26.73	-19.27	46	30.57	23.29	3.27	30.4	-	-	Peak
5823	95.62	-	-	84.38	35.4	10.11	34.27	120	359	Average
5823	104.96	-	-	93.72	35.4	10.11	34.27	120	359	Peak
11649	49.32	-24.68	74	52.9	38.51	14.52	56.61	100	0	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5743MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
31.89	19.94	-20.06	40	33.05	17.76	0.55	31.42	100	89	Peak
158.79	21.9	-21.6	43.5	41.33	10.54	1.22	31.19	-	-	Peak
215.49	21.76	-21.74	43.5	42.17	9.25	1.39	31.05	-	-	Peak
325.9	17.54	-28.46	46	33.07	13.64	1.83	31	-	-	Peak
546.4	21.87	-24.13	46	30.8	19.32	2.54	30.79	-	-	Peak
976.9	28.08	-25.92	54	29.94	24.94	3.49	30.29	-	-	Peak
5743	96.99	-	-	85.76	35.34	10.06	34.17	100	198	Average
5743	106.8	-	-	95.57	35.34	10.06	34.17	100	198	Peak
11490	44.1	-9.9	54	48.36	38.38	14.33	56.97	100	358	Average
11490	53.94	-20.06	74	58.2	38.38	14.33	56.97	100	358	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5747 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
40.26	17.87	-22.13	40	35.14	13.3	0.63	31.2	-	-	Peak
86.43	21.83	-18.17	40	43.79	8.22	0.92	31.1	133	347	Peak
214.41	24.13	-19.37	43.5	44.57	9.24	1.38	31.06	-	-	Peak
426	18.5	-27.5	46	30.22	16.82	2.23	30.77	-	-	Peak
585.6	23.56	-22.44	46	32.03	19.54	2.65	30.66	-	-	Peak
595.4	23.05	-22.95	46	31.44	19.55	2.68	30.62	-	-	Peak
5747	97.04	-	-	85.81	35.34	10.06	34.17	110	350	Average
5747	106.98	-	-	95.75	35.34	10.06	34.17	110	350	Peak
11490	49.96	-24.04	74	54.22	38.38	14.33	56.97	100	0	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5787 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
37.56	16.64	-23.36	40	32.4	14.88	0.6	31.24	-	-	Peak
59.43	15.13	-24.87	40	39.58	6.08	0.75	31.28	-	-	Peak
159.06	20.53	-22.97	43.5	39.96	10.54	1.22	31.19	-	-	Peak
370.7	17.42	-28.58	46	31.49	14.9	2.08	31.05	-	-	Peak
524.7	20.81	-25.19	46	30.81	18.2	2.5	30.7	-	-	Peak
809.6	24.49	-21.51	46	29.44	22.2	3.17	30.32	124	228	Peak
5787	97.64	-	-	86.42	35.38	10.07	34.23	100	197	Average
5787	107.27	-	-	96.05	35.38	10.07	34.23	100	197	Peak
11571	43.75	-10.25	54	47.66	38.46	14.41	56.78	110	345	Average
11571	53.41	-20.59	74	57.32	38.46	14.41	56.78	110	345	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	157	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5783 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (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
76.17	21.9	-18.1	40	45.37	6.87	0.86	31.2	-	-	Peak
86.16	22.23	-17.77	40	44.19	8.22	0.92	31.1	155	299	Peak
215.22	23.31	-20.19	43.5	43.72	9.25	1.39	31.05	-	-	Peak
419.7	18.7	-27.3	46	30.59	16.7	2.21	30.8	-	-	Peak
510.7	20.3	-25.7	46	30.37	18.1	2.47	30.64	-	-	Peak
823.6	26.4	-19.6	46	30.94	22.61	3.2	30.35	-	-	Peak
5783	95.55	-	-	84.34	35.37	10.07	34.23	109	0	Average
5783	105.35	-	-	94.14	35.37	10.07	34.23	109	0	Peak
11574	48.36	-25.64	74	52.24	38.46	14.44	56.78	100	0	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5827 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
137.73	17.53	-25.97	43.5	35.94	11.5	1.19	31.1	-	-	Peak
157.71	19.24	-24.26	43.5	38.62	10.58	1.22	31.18	-	-	Peak
232.23	21.48	-24.52	46	40.65	10.34	1.49	31	-	-	Peak
354.6	17.95	-28.05	46	32.45	14.55	2.02	31.07	-	-	Peak
647.9	22.7	-23.3	46	29.97	20.4	2.83	30.5	-	-	Peak
928.6	28.09	-17.91	46	30.8	24.24	3.41	30.36	116	175	Peak
5827	94.68	-	-	83.44	35.4	10.11	34.27	100	260	Average
5827	104.33	-	-	93.09	35.4	10.11	34.27	100	260	Peak
11652	42.41	-11.59	54	45.94	38.52	14.52	56.57	102	333	Average
11652	52.27	-21.73	74	55.8	38.52	14.52	56.57	102	333	Peak

Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	165	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5823 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (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
40.53	17.59	-22.41	40	34.86	13.3	0.63	31.2	-	-	Peak
161.49	20.68	-22.82	43.5	40.42	10.22	1.22	31.18	-	-	Peak
214.14	22.21	-21.29	43.5	42.65	9.24	1.38	31.06	-	-	Peak
429.5	18.96	-27.04	46	30.57	16.9	2.24	30.75	-	-	Peak
595.4	23.37	-22.63	46	31.76	19.55	2.68	30.62	-	-	Peak
858.6	26.42	-19.58	46	30.3	23.22	3.28	30.38	173	341	Peak
5823	94.77	-	-	83.53	35.4	10.11	34.27	100	352	Average
5823	104.39	-	-	93.15	35.4	10.11	34.27	100	352	Peak
11652	48.47	-25.53	74	52	38.52	14.52	56.57	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	21~23°C
Test Channel :	151	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	1. 5753 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
33.24	18.81	-21.19	40	32.39	17.24	0.56	31.38	-	-	Peak
159.87	19.7	-23.8	43.5	39.18	10.5	1.22	31.2	-	-	Peak
215.49	20.6	-22.9	43.5	41.01	9.25	1.39	31.05	-	-	Peak
348.3	17.44	-28.56	46	32.18	14.34	1.96	31.04	-	-	Peak
566	22.05	-23.95	46	30.37	19.81	2.6	30.73	-	-	Peak
839	26.35	-19.65	46	30.33	23.16	3.24	30.38	119	2	Peak
5753	97.92	-	-	86.67	35.36	10.06	34.17	108	26	Average
5753	108.15	-	-	96.9	35.36	10.06	34.17	108	26	Peak
11511	50.56	-23.44	74	54.76	38.4	14.35	56.95	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	21~23°C
Test Channel :	151	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5753 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
31.62	19.95	-20.05	40	33.06	17.76	0.55	31.42	-	-	Peak
86.43	22.52	-17.48	40	44.48	8.22	0.92	31.1	142	98	Peak
160.68	20.99	-22.51	43.5	40.6	10.36	1.22	31.19	-	-	Peak
547.1	22.51	-23.49	46	31.32	19.44	2.54	30.79	-	-	Peak
579.3	23.84	-22.16	46	32.28	19.61	2.63	30.68	-	-	Peak
611.5	23.35	-22.65	46	31.28	19.93	2.72	30.58	-	-	Peak
5753	94.85	-	-	83.6	35.36	10.06	34.17	101	47	Average
5753	104.47	-	-	93.22	35.36	10.06	34.17	101	47	Peak
11512	48.56	-25.44	74	52.76	38.4	14.35	56.95	100	0	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	21~23°C
Test Channel :	159	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5793 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
34.59	18.79	-21.21	40	33.31	16.2	0.58	31.3	-	-	Peak
134.49	16.75	-26.75	43.5	35.18	11.5	1.17	31.1	-	-	Peak
159.06	20.29	-23.21	43.5	39.72	10.54	1.22	31.19	-	-	Peak
351.8	16.22	-29.78	46	30.83	14.46	1.99	31.06	-	-	Peak
367.9	17.34	-28.66	46	31.47	14.85	2.08	31.06	-	-	Peak
743.1	25.31	-20.69	46	30.5	22.17	3.04	30.4	115	84	Peak
5793	96.61	-	-	85.37	35.38	10.09	34.23	107	13	Average
5793	106.91	-	-	95.67	35.38	10.09	34.23	107	13	Peak
11589	42.15	-11.85	54	45.98	38.47	14.44	56.74	101	289	Average
11589	52.2	-21.8	74	56.03	38.47	14.44	56.74	101	289	Peak

Test Mode :	5GHz 802.11n HT40	Temperature :	21~23°C
Test Channel :	159	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	1. 5797 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (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
83.73	21.68	-18.32	40	44.25	7.66	0.9	31.13	173	258	Peak
137.46	19.82	-23.68	43.5	38.23	11.5	1.19	31.1	-	-	Peak
160.68	20.78	-22.72	43.5	40.39	10.36	1.22	31.19	-	-	Peak
370.7	16.62	-29.38	46	30.69	14.9	2.08	31.05	-	-	Peak
547.1	23.5	-22.5	46	32.31	19.44	2.54	30.79	-	-	Peak
588.4	23.06	-22.94	46	31.54	19.51	2.66	30.65	-	-	Peak
5797	94.77	-	-	83.53	35.38	10.09	34.23	100	356	Average
5797	104.35	-	-	93.11	35.38	10.09	34.23	100	356	Peak
11589	47.31	-26.69	74	51.14	38.47	14.44	56.74	100	0	Peak

<Sample 1 with Battery 1>

Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5747 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
35.13	17.72	-22.28	40	32.24	16.2	0.58	31.3	-	-	Peak
75.36	15.97	-24.03	40	39.48	6.83	0.86	31.2	-	-	Peak
86.97	16.36	-23.64	40	38.2	8.34	0.92	31.1	-	-	Peak
433.7	18.09	-27.91	46	29.62	16.94	2.26	30.73	-	-	Peak
503.7	19.36	-26.64	46	29.49	18.03	2.46	30.62	-	-	Peak
591.9	23.8	-22.2	46	32.24	19.52	2.67	30.63	100	31	Peak
5747	98.97	-	-	87.74	35.34	10.06	34.17	100	356	Average
5747	108.9	-	-	97.67	35.34	10.06	34.17	100	356	Peak
11493	43.4	-10.6	54	47.66	38.38	14.33	56.97	100	336	Average
11493	53.16	-20.84	74	57.42	38.38	14.33	56.97	100	336	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	5747 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
40.8	17.99	-22.01	40	35.26	13.3	0.63	31.2	-	-	Peak
44.85	17.42	-22.58	40	37.47	10.5	0.65	31.2	-	-	Peak
76.17	22.33	-17.67	40	45.8	6.87	0.86	31.2	152	51	Peak
387.5	16.86	-29.14	46	30.28	15.42	2.12	30.96	-	-	Peak
515.6	22.09	-23.91	46	32.17	18.1	2.48	30.66	-	-	Peak
595.4	23.98	-22.02	46	32.37	19.55	2.68	30.62	-	-	Peak
5747	95.81	-	-	84.58	35.34	10.06	34.17	101	349	Average
5747	106.13	-	-	94.9	35.34	10.06	34.17	101	349	Peak
11493	39.63	-14.37	54	43.89	38.38	14.33	56.97	166	56	Average
11493	49.4	-24.6	74	53.66	38.38	14.33	56.97	166	56	Peak

<Sample 2 with Battery 2>

Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Horizontal
Remark :	5743 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
32.43	19.14	-20.86	40	32.72	17.24	0.56	31.38	-	-	Peak
86.7	15.8	-24.2	40	37.76	8.22	0.92	31.1	-	-	Peak
137.46	21.64	-21.86	43.5	40.05	11.5	1.19	31.1	-	-	Peak
448.4	18.89	-27.11	46	30.09	17.24	2.3	30.74	-	-	Peak
595.4	25.14	-20.86	46	33.53	19.55	2.68	30.62	-	-	Peak
855.8	26.17	-19.83	46	30.03	23.25	3.28	30.39	114	230	Peak
5743	98.37	-	-	87.14	35.34	10.06	34.17	100	12	Average
5743	108.35	-	-	97.12	35.34	10.06	34.17	100	12	Peak
11490	42.6	-11.4	54	46.86	38.38	14.33	56.97	125	126	Average
11490	52.19	-21.81	74	56.45	38.38	14.33	56.97	125	126	Peak



Test Mode :	5GHz 802.11n HT20	Temperature :	21~23°C
Test Channel :	149	Relative Humidity :	51~53%
Test Engineer :	Eric Shih	Polarization :	Vertical
Remark :	5747 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
76.44	22.4	-17.6	40	45.87	6.87	0.86	31.2	138	72	Peak
159.33	21.67	-21.83	43.5	41.11	10.54	1.22	31.2	-	-	Peak
215.49	22.6	-20.9	43.5	43.01	9.25	1.39	31.05	-	-	Peak
440	18.99	-27.01	46	30.41	17	2.28	30.7	-	-	Peak
595.4	23.3	-22.7	46	31.69	19.55	2.68	30.62	-	-	Peak
895	25.99	-20.01	46	29.92	23.05	3.33	30.31	-	-	Peak
5747	95.77	-	-	84.54	35.34	10.06	34.17	100	349	Average
5747	106.16	-	-	94.93	35.34	10.06	34.17	100	349	Peak
11487	41.7	-12.3	54	45.96	38.38	14.33	56.97	144	36	Average
11487	51.45	-22.55	74	55.71	38.38	14.33	56.97	144	36	Peak

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

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

*Decreases with the logarithm of the frequency.

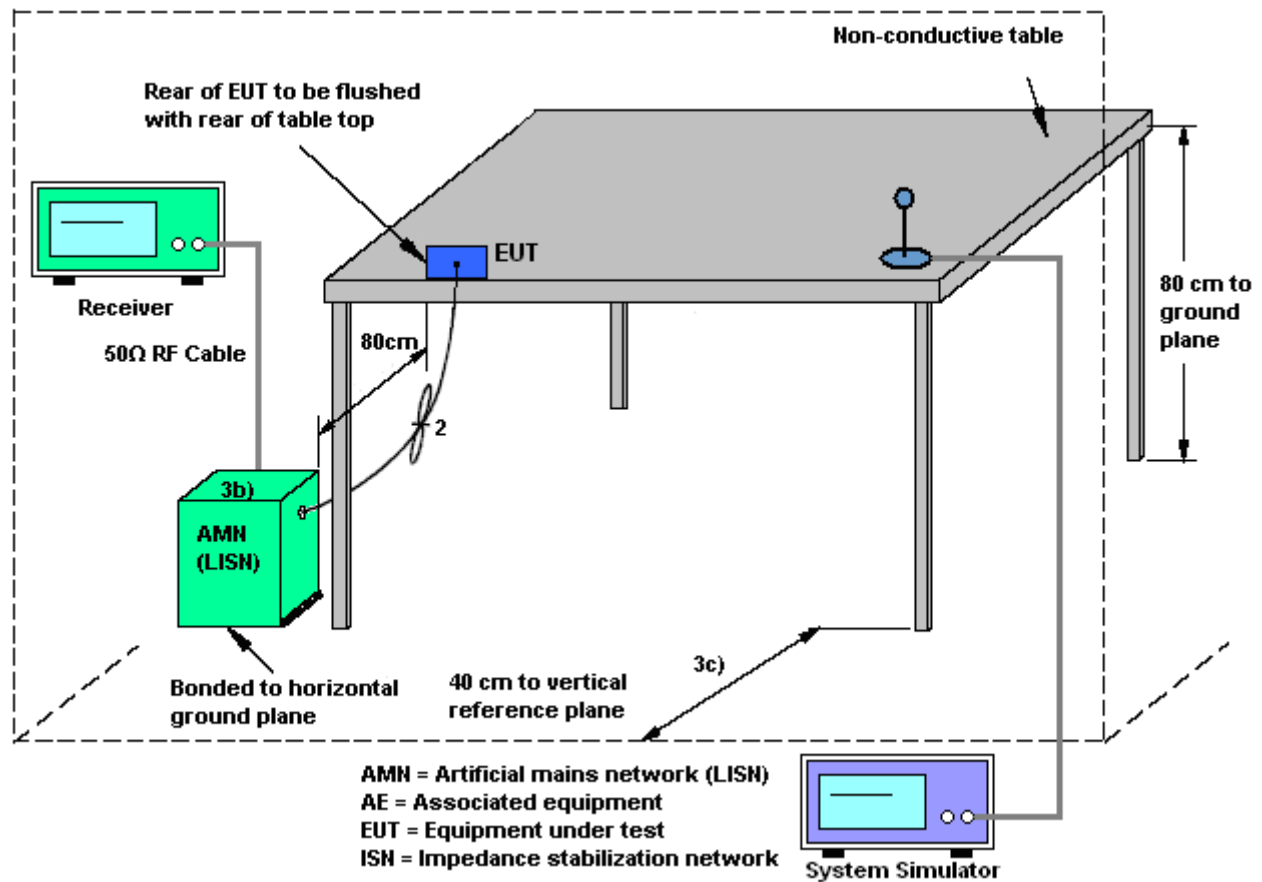
3.6.2 Measuring Instruments

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

3.6.3 Test Procedures

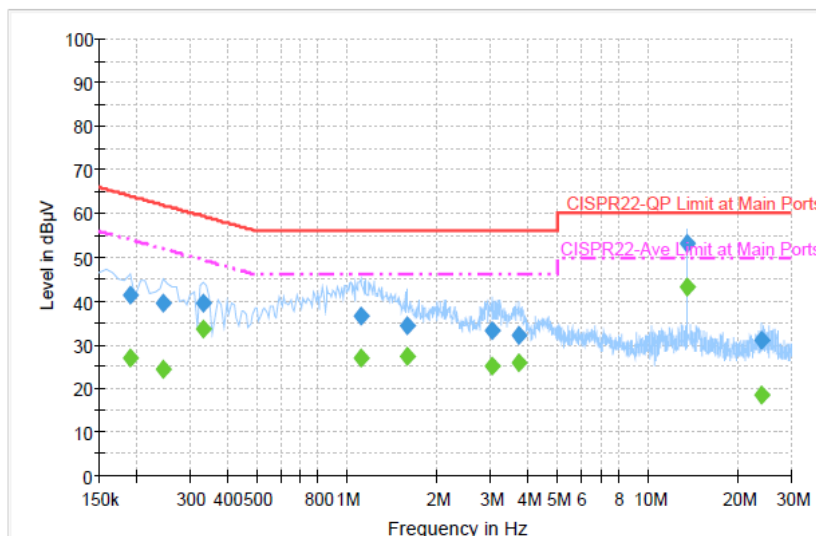
1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other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

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Cosmo Xu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4GHz) Link + Earphone + NFC active + Scanner + USB Cable (Charging from Adapter) + Battery 2 for Sample 1		



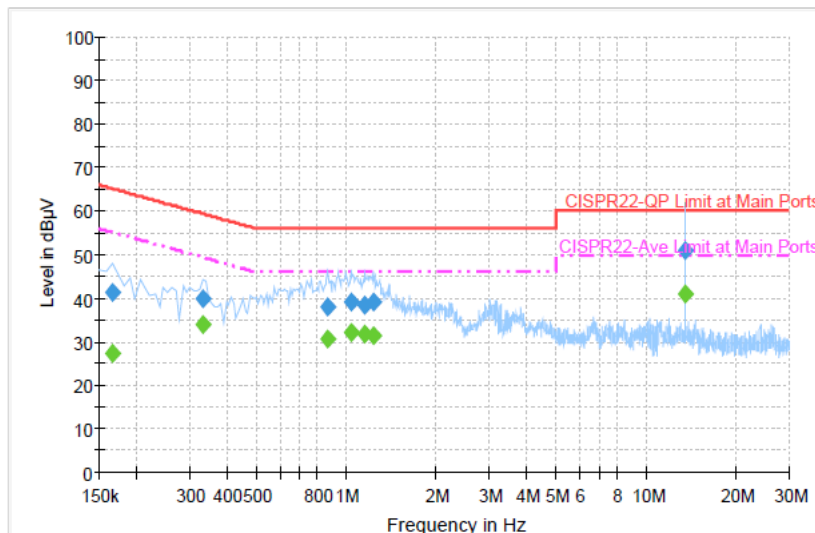
Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.190000	41.4	Off	L1	19.4	22.6	64.0
0.246000	39.3	Off	L1	19.4	22.6	61.9
0.334000	39.5	Off	L1	19.4	19.9	59.4
1.110000	36.6	Off	L1	19.4	19.4	56.0
1.582000	34.4	Off	L1	19.4	21.6	56.0
3.046000	33.3	Off	L1	19.6	22.7	56.0
3.734000	32.3	Off	L1	19.6	23.7	56.0
13.558000	53.0	Off	L1	19.8	7.0	60.0
24.022000	30.9	Off	L1	19.9	29.1	60.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.190000	27.0	Off	L1	19.4	27.0	54.0
0.246000	24.4	Off	L1	19.4	27.5	51.9
0.334000	33.4	Off	L1	19.4	16.0	49.4
1.110000	27.0	Off	L1	19.4	19.0	46.0
1.582000	27.4	Off	L1	19.4	18.6	46.0
3.046000	25.0	Off	L1	19.6	21.0	46.0
3.734000	26.0	Off	L1	19.6	20.0	46.0
13.558000	43.0	Off	L1	19.8	7.0	50.0
24.022000	18.5	Off	L1	19.9	31.5	50.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Cosmo Xu	Relative Humidity :	46~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (2.4GHz) Link + Earphone + NFC active + Scanner + USB Cable (Charging from Adapter) + Battery 2 for Sample 1		


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	41.4	Off	N	19.4	23.8	65.2
0.334000	40.0	Off	N	19.4	19.4	59.4
0.870000	37.9	Off	N	19.5	18.1	56.0
1.038000	39.0	Off	N	19.5	17.0	56.0
1.158000	38.5	Off	N	19.5	17.5	56.0
1.230000	39.1	Off	N	19.5	16.9	56.0
13.558000	51.0	Off	N	19.9	9.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.166000	27.2	Off	N	19.4	28.0	55.2
0.334000	34.0	Off	N	19.4	15.4	49.4
0.870000	30.5	Off	N	19.5	15.5	46.0
1.038000	31.9	Off	N	19.5	14.1	46.0
1.158000	31.6	Off	N	19.5	14.4	46.0
1.230000	31.5	Off	N	19.5	14.5	46.0
13.558000	41.0	Off	N	19.9	9.0	50.0



3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

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

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	Rohde & Schwarz	FSP40	100055	9kHz~40GHz	Jun. 07, 2013	Jan. 16, 2014 ~ Jan. 20, 2014	Jun. 06, 2014	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Aug. 17, 2013	Jan. 16, 2014 ~ Jan. 20, 2014	Aug. 16, 2014	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Aug. 17, 2013	Jan. 16, 2014 ~ Jan. 20, 2014	Aug. 16, 2014	Conducted (TH02-HY)
EMI Test Receiver	Rohde & Schwarz	ESCS 30	100356	9kHz~2.75GHz	Nov. 15, 2013	Jan. 16, 2014	Nov. 14, 2014	Conduction (CO05-HY)
Two-LISN (for auxiliary equipment)	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 12, 2013	Jan. 16, 2014	Dec. 11, 2014	Conduction (CO05-HY)
Two-LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Dec. 04, 2013	Jan. 16, 2014	Dec. 03, 2014	Conduction (CO05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jan. 16, 2014	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9 kHz~7 GHz	Sep. 06, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Sep. 05, 2014	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9 kHz~30 GHz	Nov. 20, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Nov. 19, 2014	Radiation (03CH07-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	860004/0001	9 kHz~30 MHz	Jul. 03, 2012	Jan. 19, 2014 ~ Jan. 27, 2014	Jul. 03, 2014	Radiation (03CH07-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30 MHz~1 GHz	Oct. 10, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Oct. 09, 2014	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	75962	1 GHz~18 GHz	Aug. 22, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Aug. 21, 2014	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15 GHz~40 GHz	Oct. 03, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Oct. 02, 2014	Radiation (03CH07-HY)
Preamplifier	COM-POWER	PA-103A	161241	30 MHz~1 GHz	Feb. 26, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Feb. 25, 2014	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1 GHz~26.5 GHz	Nov. 29, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Nov. 28, 2014	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	159088	DC~18 G High Gain	Feb. 27, 2013	Jan. 19, 2014 ~ Jan. 27, 2014	Feb. 26, 2014	Radiation (03CH07-HY)
Turn Table	ChainTek	ChainTek 3000	N/A	0 ~ 360 degree	N/A	Jan. 19, 2014 ~ Jan. 27, 2014	N/A	Radiation (03CH07-HY)
Antenna Mast	ChainTek	ChainTek 3000	N/A	N/A	N/A	Jan. 19, 2014 ~ Jan. 27, 2014	N/A	Radiation (03CH07-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
---	------

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.50
---	------

Uncertainty of Radiated Emission Measurement (1 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.10
---	------