

FCC RF Test Report

APPLICANT : SAMSUNG Electronics Co., LTD.
EQUIPMENT : Mobile Phone
BRAND NAME : Samsung
MODEL NAME : GT-I9260
MARKETING NAME : Superior
FCC ID : A3LGTI9260
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Sep. 26, 2012 and completely tested on Oct. 04, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by:



Jones Tsai / Manager



SPORTON INTERNATIONAL INC.

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FCC ID : A3LGTI9260

Page Number : 1 of 106

Report Issued Date : Oct. 11, 2012

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 Testing Site	6
1.5 Applied Standards	6
1.6 Ancillary Equipment List	6
2 TEST CONFIGURATION OF EQUIPMENT UNDER TEST	7
2.1 Carrier Frequency Channel	7
2.2 Pre-Scanned RF Power	8
2.3 Test Mode	9
2.4 Connection Diagram of Test System	11
2.5 RF Utility	11
3 TEST RESULT	12
3.1 6dB Bandwidth Measurement	12
3.2 Output Power Measurement	24
3.3 Power Spectral Density Measurement	29
3.4 Conducted Band Edges and Spurious Emission Measurement	41
3.5 Radiated Band Edges and Spurious Emission Measurement	71
3.6 AC Conducted Emission Measurement	99
3.7 Antenna Requirements	104
4 LIST OF MEASURING EQUIPMENT	105
5 UNCERTAINTY OF EVALUATION	106

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR292639B	Rev. 01	Initial issue of report	Oct. 11, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	$\geq 0.5\text{MHz}$	Pass	-
3.2	15.247(b)	A8.4	Power Output Measurement	$\leq 30\text{dBm}$	Pass	-
3.3	15.247(e)	A8.2(b)	Power Spectral Density	$\leq 8\text{dBm}/3\text{kHz}$	Pass	-
3.4	15.247(d)	A8.5	Conducted Band Edges	$\leq 20\text{dBc}$	Pass	-
			Conducted Spurious Emission		Pass	-
0	15.247(d)	A8.5	Radiated Band Edges	15.209(a) & 15.247(d)	Pass	-
			Radiated Spurious Emission		Pass	Under limit 8.57 dB at 2484.080 MHz
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 11.00 dB at 2.102 MHz
3.7	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

SAMSUNG Electronics Co., LTD.

IT center, 416, Maetan-3dong, Yeongtong-gu, Suwon-city, Gyeonggi-do, Korea

1.2 Manufacturer

SAMSUNG Electronics Co., LTD.

IT center, 416, Maetan-3dong, Yeongtong-gu, Suwon-city, Gyeonggi-do, Korea

1.3 Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Phone
Brand Name	Samsung
Model Name	GT-I9260
Marketing Name	Superior
FCC ID	A3LGTI9260
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA WLAN 11abgn / Bluetooth / NFC
HW Version	REV1.1
SW Version	I9260.002
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.

Product Specification subjective to this standard	
Tx/Rx Channel Frequency Range	802.11b/g/n : 2412 MHz ~ 2462 MHz 802.11a/n: 5745~5825MHz.
Maximum Output Power to Antenna	<2412 MHz ~ 2462 MHz> 802.11b : 18.78 dBm (0.0755 W) 802.11g : 21.73 dBm (0.1489 W) 802.11n HT20 : 21.26 dBm (0.1337 W) <5745 MHz ~ 5825 MHz> 802.11a : 22.93 dBm (0.1963 W) 802.11n HT20 : 22.93 dBm (0.1963 W) 802.11n HT40 : 22.71 dBm (0.1866 W)
Antenna Type	802.11b/g/n : PIFA Antenna type with gain -3.90 dBi 802.11a/n : PIFA Antenna type with gain -3.90 dBi
Type of Modulation	802.11b : DSSS (BPSK / QPSK / CCK) 802.11a/g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978			
Test Site No.	Sporton Site No.			FCC/IC Registration No.
	TH02-HY	CO05-HY	03CH06-HY	722060/4086B-1

1.5 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 v01
- FCC TCB Workshop 2012, April
- ANSI C63.4-2003 and ANSI C63.10-2009
- IC RSS-210 Issue 8
- IC RSS-Gen Issue 3

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

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
2.	System Simulator	R&S	CMU 200	N/A	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

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 (X plane) were recorded in this report.

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

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

2.1 Carrier Frequency Channel

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

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

2.2 Pre-Scanned RF Power

Preliminary tests were performed in different data rate and antenna configurations as following table and the highest power data rates were chosen for full test in the following tables. Final Output Power equals to Measured Output Power adds the duty factor.

2.4GHz 802.11b mode				
Data Rate (MHz)	1M bps	2M bps	5.5M bps	11M bps
Peak Power (dBm)	18.78	18.74	18.72	18.77

2.4GHz 802.11g mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	21.73	21.66	21.62	21.32	21.54	21.58	21.63	21.67

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	21.26	21.18	21.04	21.07	21.09	21.05	20.90	21.03

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Peak Power (dBm)	22.93	22.87	22.40	22.44	22.55	22.45	22.49	22.53

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.93	22.47	22.49	22.44	22.68	22.90	22.41	22.42

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.71	22.67	22.68	22.70	22.41	22.37	22.46	22.34

2.3 Test Mode

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

<2.4GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and 99% BW Power Spectral Density	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
	Output Power	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
	Conducted Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	6.5 Mbps	1/11
	Conducted Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11
Radiated TCs	Radiated Band Edge	802.11b	1 Mbps	1/11
		802.11g	6 Mbps	1/11
		802.11n HT20	6.5 Mbps	1/11
	Radiated Spurious Emission	802.11b	1 Mbps	1/6/11
		802.11g	6 Mbps	1/6/11
		802.11n HT20	6.5 Mbps	1/6/11

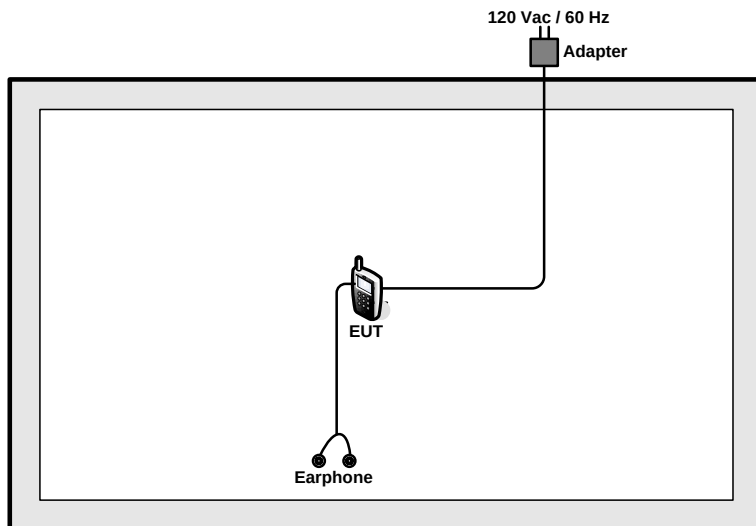
<5GHz>

Test Cases				
Conducted TCs	Test Items	Mode	Data Rate	Test Channel
	6dB and 99% BW Power Spectral Density	802.11a	6 Mbps	149/157/165
		802.11n HT20	6.5 Mbps	149/157/165
		802.11n HT40	13.5 Mbps	151/159
	Output Power	802.11a	6 Mbps	149/157/165
		802.11n HT20	6.5 Mbps	149/157/165
		802.11n HT40	13.5 Mbps	151/159
	Conducted Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	6.5 Mbps	149/165
		802.11n HT40	13.5 Mbps	151/159
	Conducted Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	6.5 Mbps	149/157/165
		802.11n HT40	13.5 Mbps	151/159
Radiated TCs	Radiated Band Edge	802.11a	6 Mbps	149/165
		802.11n HT20	6.5 Mbps	149/165
		802.11n HT40	13.5 Mbps	151/159
	Radiated Spurious Emission	802.11a	6 Mbps	149/157/165
		802.11n HT20	6.5 Mbps	149/157/165
		802.11n HT40	13.5 Mbps	151/159

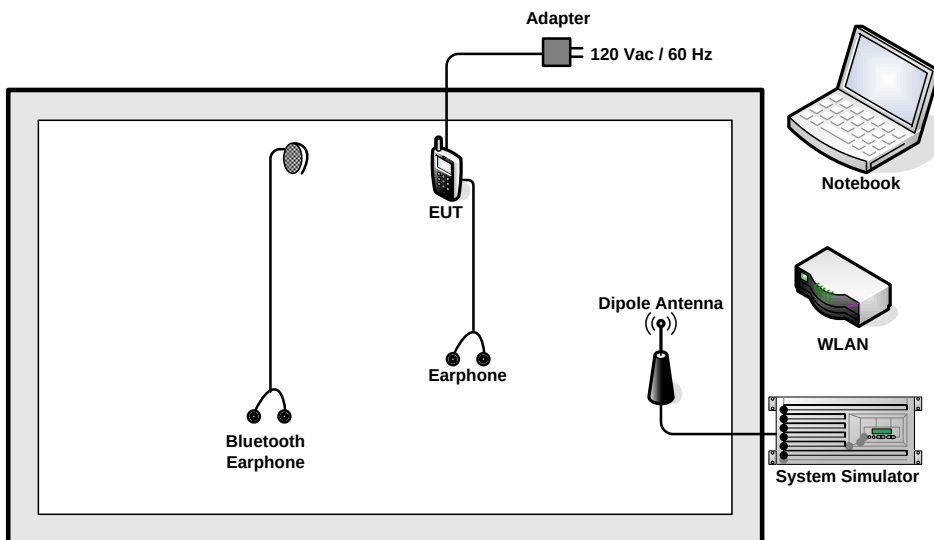
Test Cases	
AC Conducted Emission	Mode 1 : GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone + MP3 + Battery

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 RF Utility

For WLAN function, key in “* # 232339 #” on the EUT directly. Then, the EUT will get into the engineering modes to continuous transmitting and receiving signals.

3 Test Result

3.1 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

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

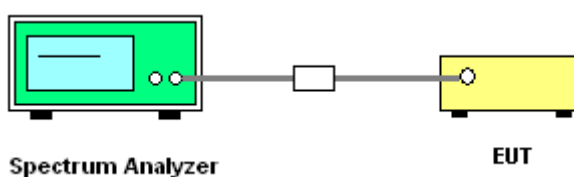
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. 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) = 1-5% of the emission bandwidth (EBW). Set the Video bandwidth (VBW) $\geq 3 * RBW$. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 KHz.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	802.11b	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	8.60	0.5	Pass
06	2437	8.60	0.5	Pass
11	2462	9.04	0.5	Pass

Test Mode :	802.11g	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.92	0.5	Pass
06	2437	15.96	0.5	Pass
11	2462	15.88	0.5	Pass

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.24	0.5	Pass
06	2437	17.28	0.5	Pass
11	2462	17.36	0.5	Pass

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.64	0.5	Pass
157	5785	16.60	0.5	Pass
165	5825	16.64	0.5	Pass



Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

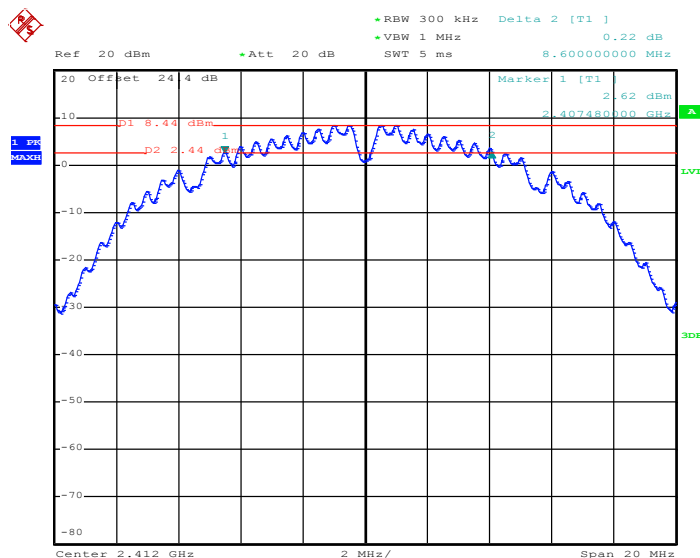
Channel	Frequency (MHz)	5GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.88	0.5	Pass
157	5785	17.80	0.5	Pass
165	5825	17.84	0.5	Pass

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	35.12	0.5	Pass
159	5795	35.20	0.5	Pass

3.1.6 Test Result of 6dB Bandwidth Plots

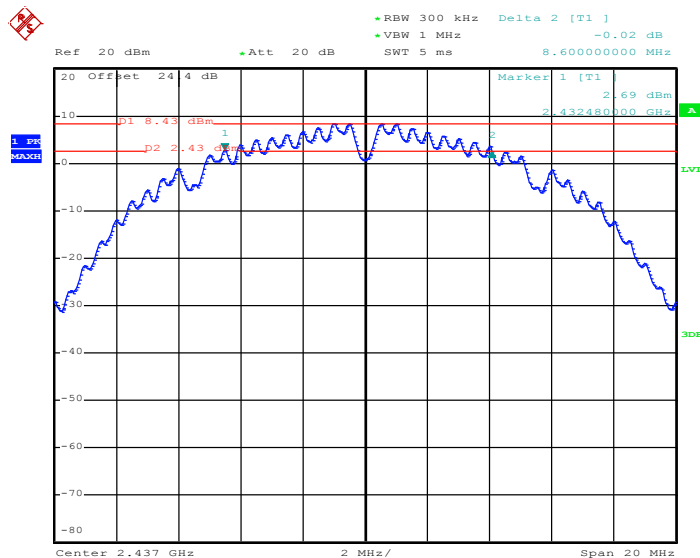
6 dB Bandwidth Plot on 802.11b Channel 01



292639 15C 6dB.11b 2412 (ch01)

Date: 4.OCT.2012 17:11:50

6 dB Bandwidth Plot on 802.11b Channel 06

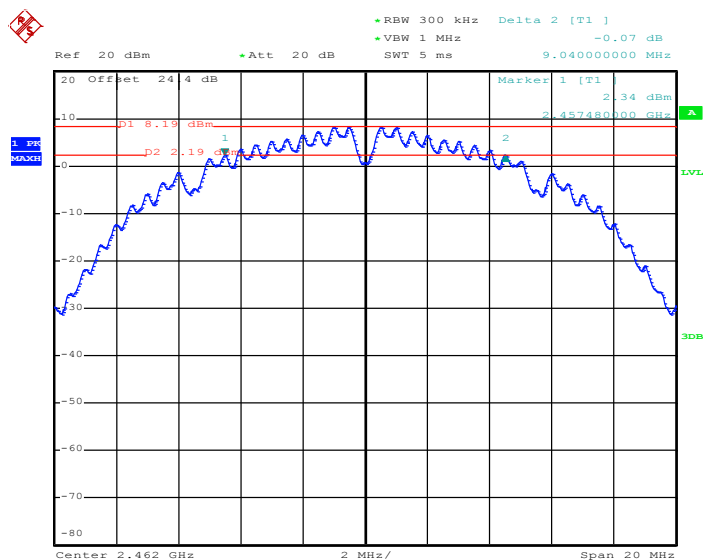


292639 15C 6dB.11b 2437 (ch06)

Date: 4.OCT.2012 17:14:52



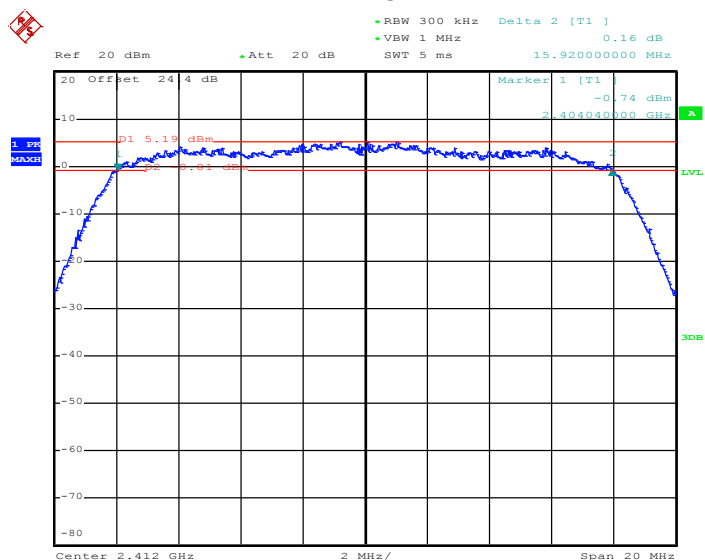
6 dB Bandwidth Plot on 802.11b Channel 11



292639 15C 6dB.11b 2462 (ch11)

Date: 4.OCT.2012 17:17:31

6 dB Bandwidth Plot on 802.11g Channel 01

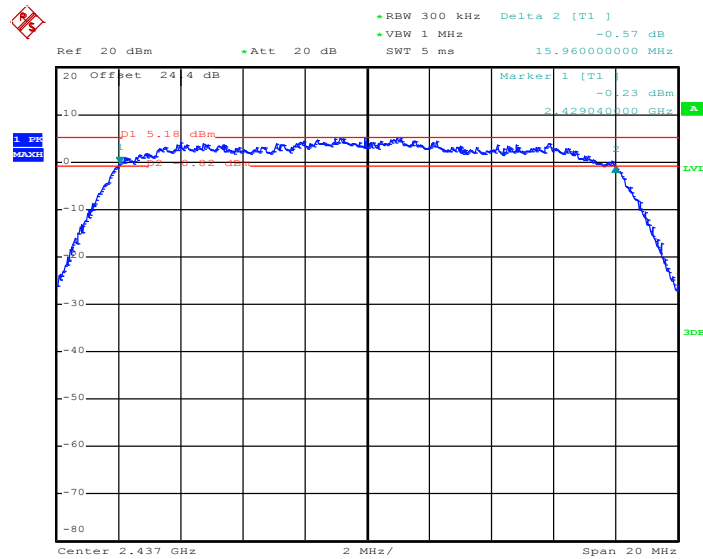


292639 15C 6dB.11g 2412 (ch01)

Date: 4.OCT.2012 17:29:02



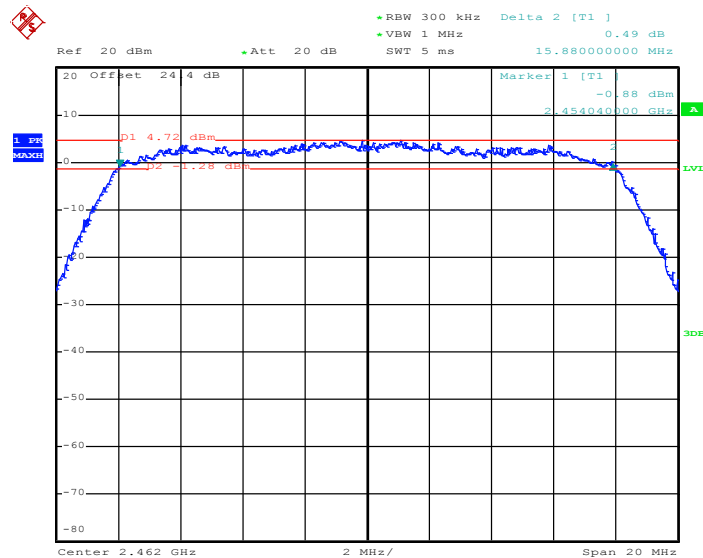
6 dB Bandwidth Plot on 802.11g Channel 06



292639 15C 6dB.11g 2437 (ch06)

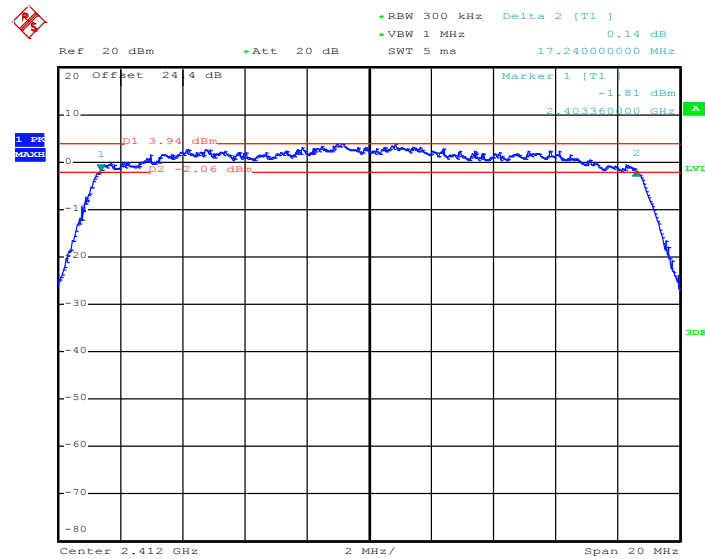
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6 dB Bandwidth Plot on 802.11g Channel 11



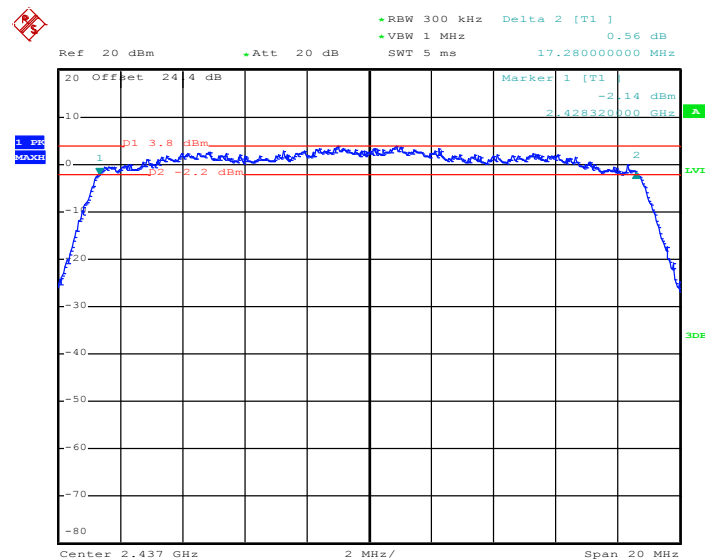
292639 15C 6dB.11g 2462 (ch11)

Date: 4.OCT.2012 17:21:59

6 dB Bandwidth Plot on 2.4G 802.11n HT20 Channel 01


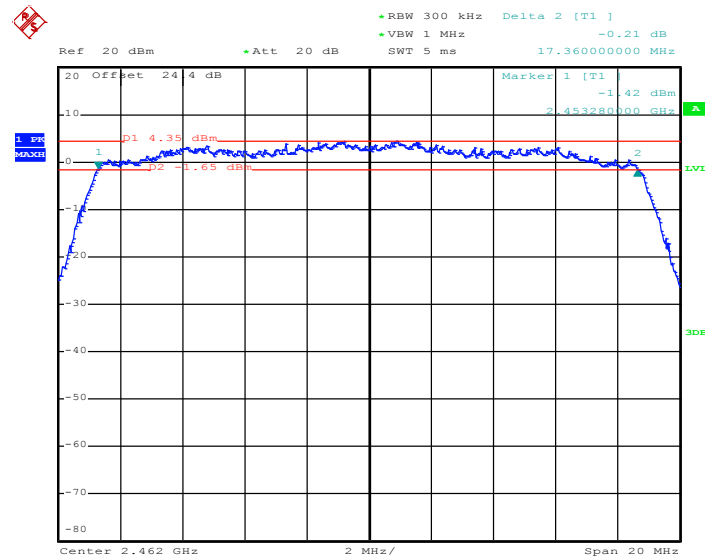
292639 15C 6dB.11g_N20 2412 (ch01)

Date: 4.OCT.2012 17:33:39

6 dB Bandwidth Plot on 2.4G 802.11n HT20 Channel 06


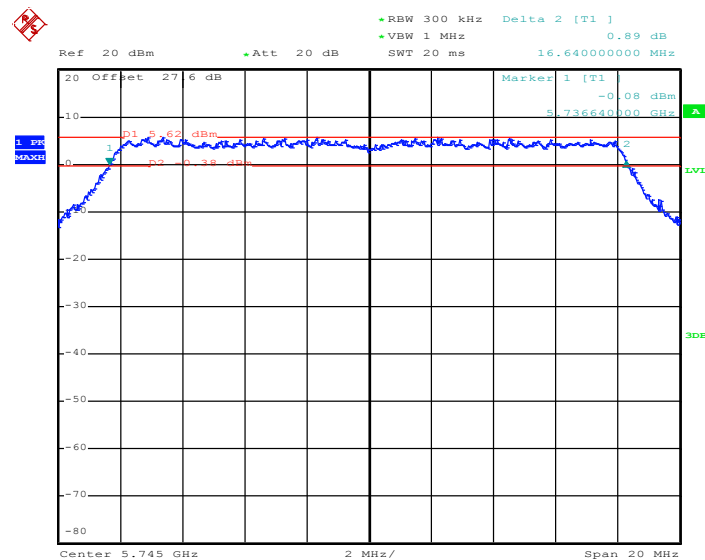
292639 15C 6dB.11g_N20 2437 (ch06)

Date: 4.OCT.2012 17:37:45

6 dB Bandwidth Plot on 2.4G 802.11n HT20 Channel 11


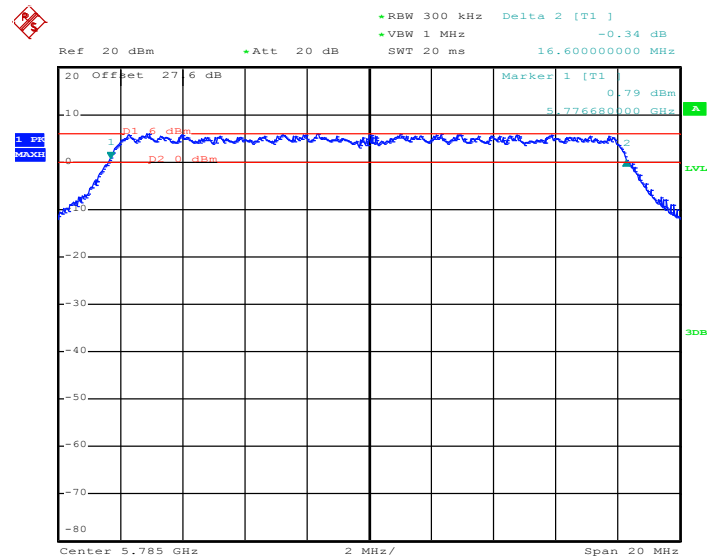
292639 15C 6dB.11g_N20 2462 (ch11)

Date: 4.OCT.2012 17:41:03

6 dB Bandwidth Plot on 802.11a Channel 149


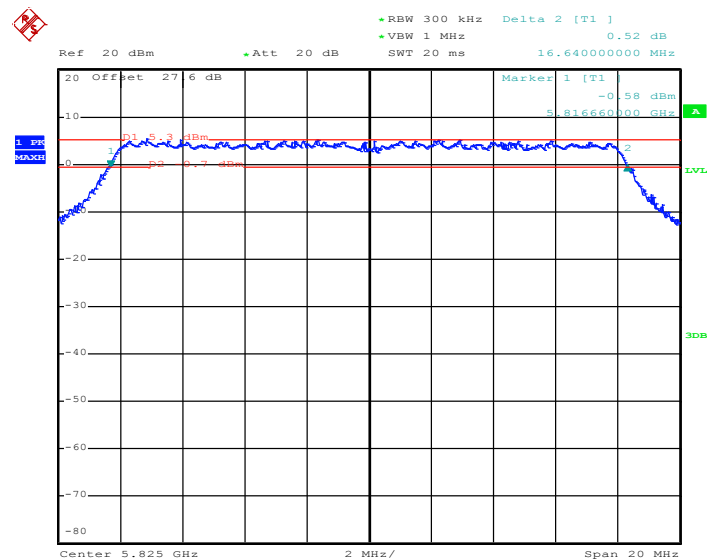
292639 15C 6dB.11g_N20 5745 (ch149)

Date: 4.OCT.2012 17:53:39

6 dB Bandwidth Plot on 802.11a Channel 157


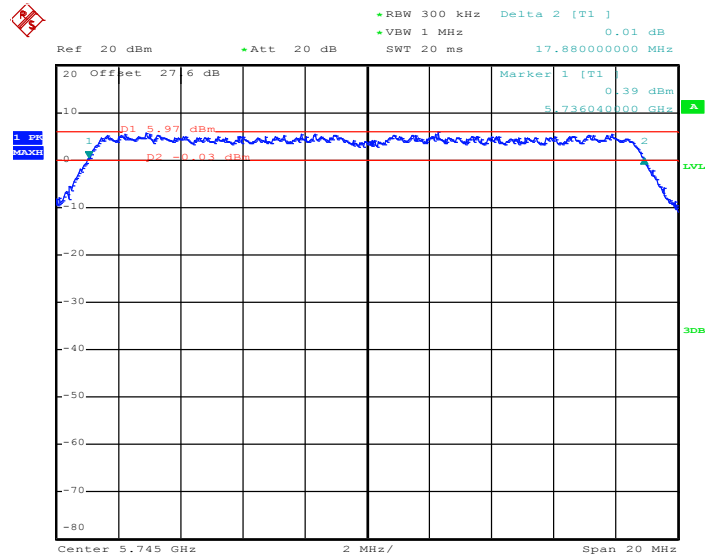
292639 15C 6dB.11a 5785 (ch157)

Date: 4.OCT.2012 18:05:30

6 dB Bandwidth Plot on 802.11a Channel 165


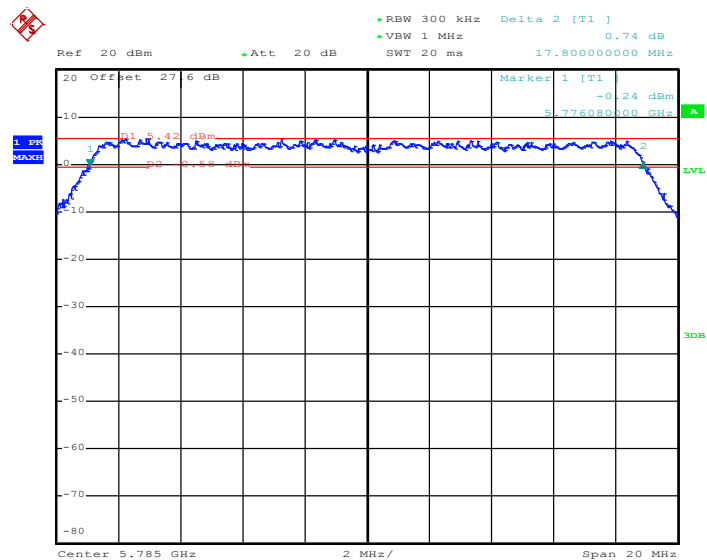
292639 15C 6dB.11a 5825 (ch165)

Date: 4.OCT.2012 18:11:14

6 dB Bandwidth Plot on 5G 802.11n HT20 Channel 149


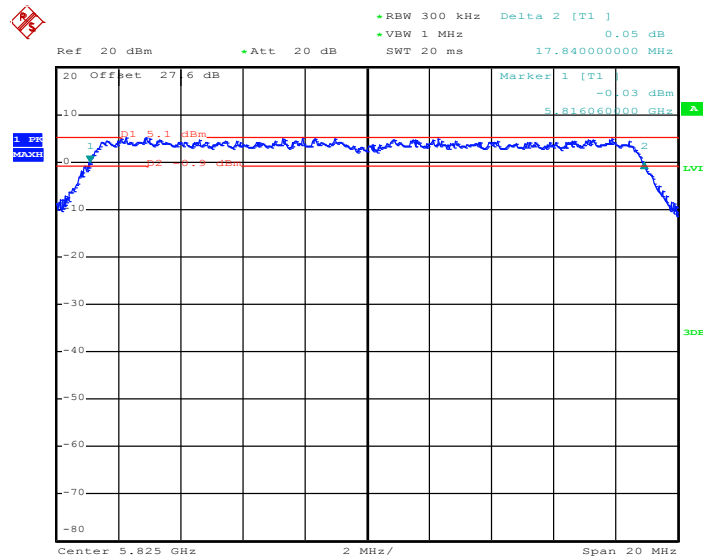
292639 15C 6dB.11a_N20 5745 (ch149)

Date: 4.OCT.2012 18:27:11

6 dB Bandwidth Plot on 5G 802.11n HT20 Channel 157


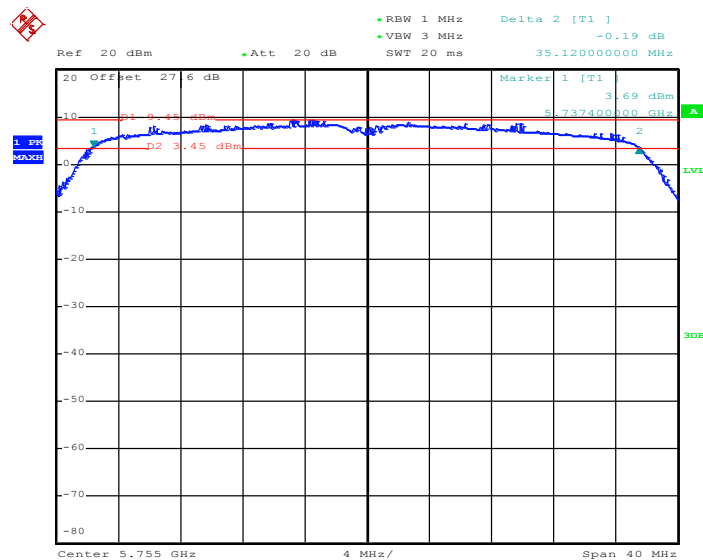
292639 15C 6dB.11a_N20 5785 (ch157)

Date: 4.OCT.2012 18:20:00

6 dB Bandwidth Plot on 5G 802.11n HT20 Channel 165


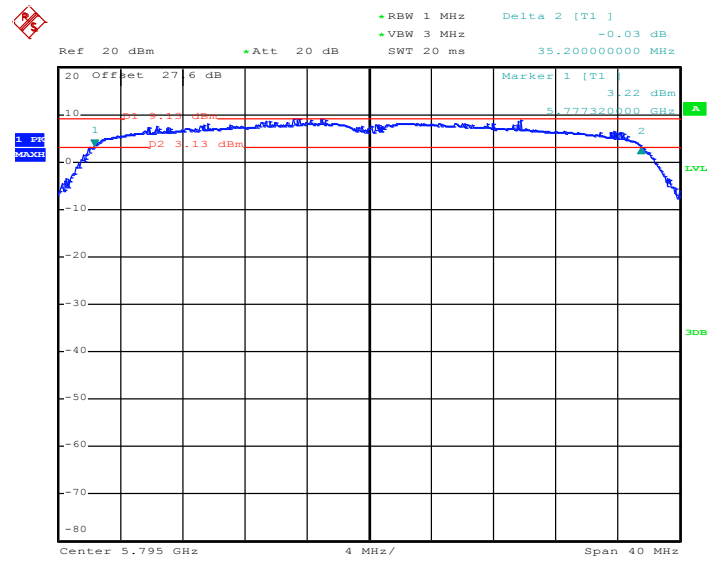
292639 15C 6dB.11a_N20 5825 (ch165)

Date: 4.OCT.2012 18:16:25

6 dB Bandwidth Plot on 5G 802.11n HT40 Channel 151


292639 15C 6dB.11a_N40 5755

Date: 4.OCT.2012 18:48:55

6 dB Bandwidth Plot on 5G 802.11n HT40 Channel 159


292639 15C 6dB.11a_N40 5795

Date: 4.OCT.2012 18:52:50

3.2 Output Power Measurement

3.2.1 Limit of Output Power

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

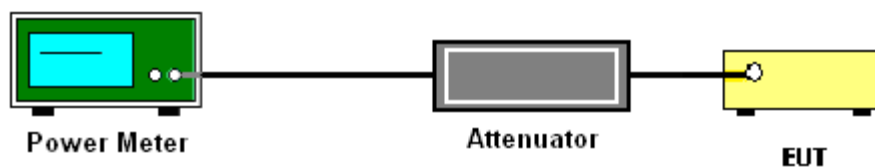
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the power meter by a low loss cable
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 :	802.11b	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	18.78	30	Pass
06	2437	18.51	30	Pass
11	2462	18.24	30	Pass

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.73	30	Pass
06	2437	21.71	30	Pass
11	2462	21.42	30	Pass

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4G 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	21.20	30	Pass
06	2437	21.10	30	Pass
11	2462	21.26	30	Pass

Test Mode :	802.11a	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.82	30	Pass
157	5785	22.89	30	Pass
165	5825	22.93	30	Pass

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5G 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.48	30	Pass
157	5785	22.80	30	Pass
165	5825	22.93	30	Pass

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5G 802.11n HT40 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	22.48	30	Pass
159	5795	22.71	30	Pass

3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%
Duty Cycle:	98.62%	Duty Factor:	0.06dB

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
01	2412	16.24
06	2437	15.97
11	2462	15.70

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%
Duty Cycle:	93.23%	Duty Factor:	0.30dB

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
01	2412	12.52
06	2437	12.20
11	2462	12.14

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%
Duty Cycle:	93.33%	Duty Factor:	0.30dB

Channel	Frequency (MHz)	2.4G 802.11n HT20 Average Output Power (dBm)
01	2412	11.37
06	2437	11.07
11	2462	11.86

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%
Duty Cycle:	93.23%	Duty Factor:	0.30dB

Channel	Frequency (MHz)	802.11a Average Output Power (dBm)
149	5745	12.52
157	5785	12.66
165	5825	12.78

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%
Duty Cycle:	92.95%	Duty Factor:	0.32dB

Channel	Frequency (MHz)	5G 802.11n HT20 Average Output Power (dBm)
149	5745	12.57
157	5785	12.74
165	5825	12.81

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Reece Li	Relative Humidity :	50~53%
Duty Cycle:	87.50%	Duty Factor:	0.58dB

Channel	Frequency (MHz)	5G 802.11n HT40 Average Output Power (dBm)
151	5755	12.61
159	5795	12.88

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 100KHz band at any time interval of continuous transmission.

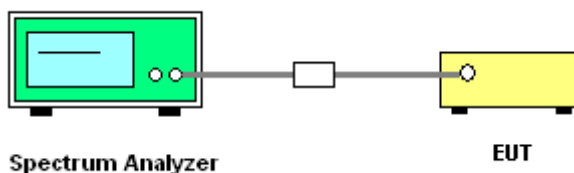
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 5.3.1 (Peak PSD) of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable. 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. Video bandwidth (VBW) $\geq$ 300 KHz In order to make an accurate measurement, set the span to 5-30% greater than Emission Bandwidth (EBW)
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 in any 100 kHz band segment within the fundamental EBW.
6. Record the measurement data derived from spectrum analyzer.

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11b	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Power Density	Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)		
01	2412	7.76	8	Pass
06	2437	7.49	8	Pass
11	2462	7.12	8	Pass

Test Mode :	802.11g	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11g Power Density	Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)		
01	2412	0.91	8	Pass
06	2437	0.84	8	Pass
11	2462	0.43	8	Pass

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	2.4G 802.11n HT20 Power Density	Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)		
01	2412	-0.12	8	Pass
06	2437	-0.25	8	Pass
11	2462	0.51	8	Pass

Test Mode :	802.11a	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11a Power Density	Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)		
149	5745	2.41	8	Pass
157	5785	1.88	8	Pass
165	5825	1.66	8	Pass

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

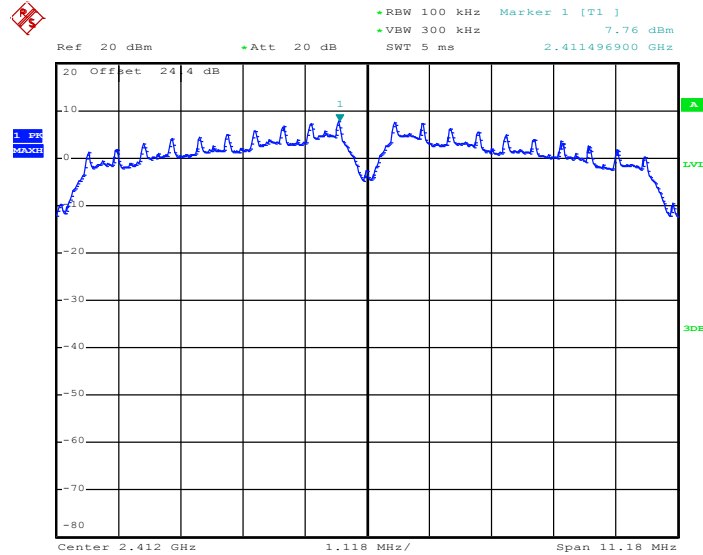
Channel	Frequency (MHz)	5G 802.11n HT20 Power Density	Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)		
149	5745	2.09	8	Pass
157	5785	1.93	8	Pass
165	5825	1.66	8	Pass

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Reece Li	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5G 802.11n HT40 Power Density	Max. Limits (dBm)	Pass/Fail
		Measured PSD/100KHz (dBm)		
151	5755	-0.02	8	Pass
159	5795	-0.27	8	Pass

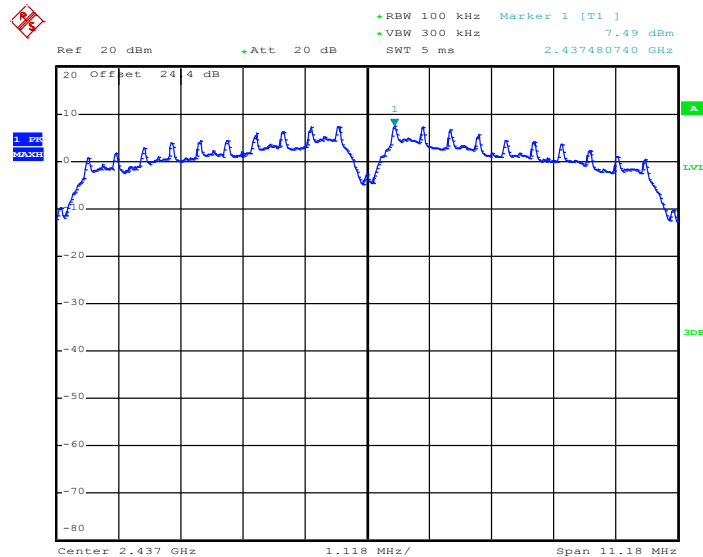
Note: Measured power density (dBm) has offset with cable loss.

3.3.6 Test Result of Power Spectral Density Plots

PSD Plot on 802.11b Channel 01


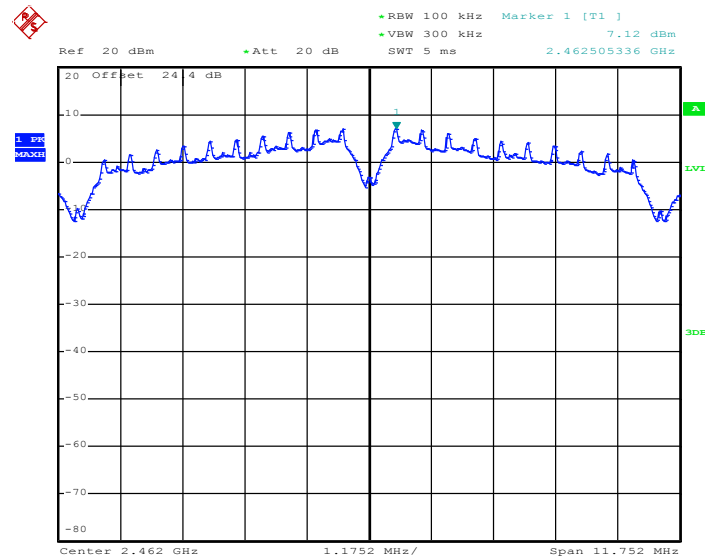
292639 15C PSD 802.11b 2412 (ch01)

Date: 4.OCT.2012 17:12:11

PSD Plot on 802.11b Channel 06


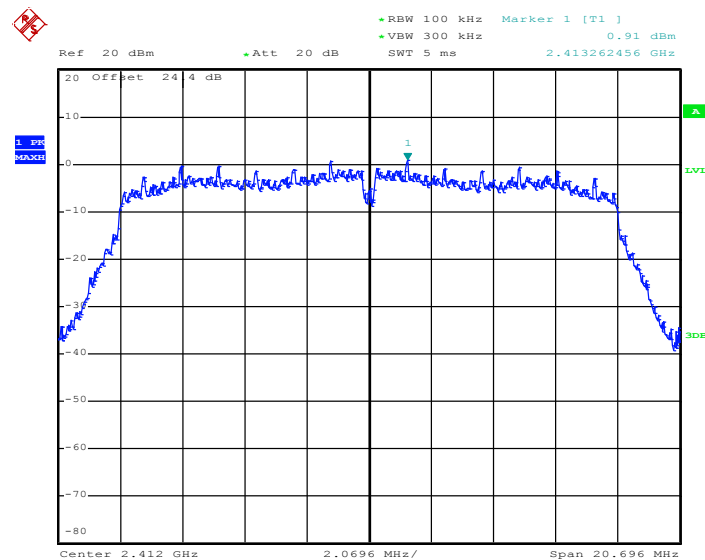
292639 15C PSD 802.11b 2437 (ch06)

Date: 4.OCT.2012 17:15:11

PSD Plot on 802.11b Channel 11


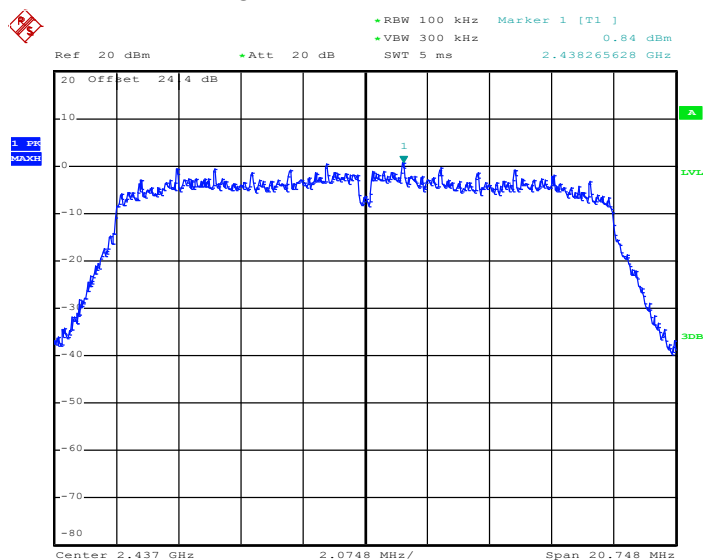
292639 15C PSD 802.11b 2462 (ch11)

Date: 4.OCT.2012 17:17:52

PSD Plot on 802.11g Channel 01


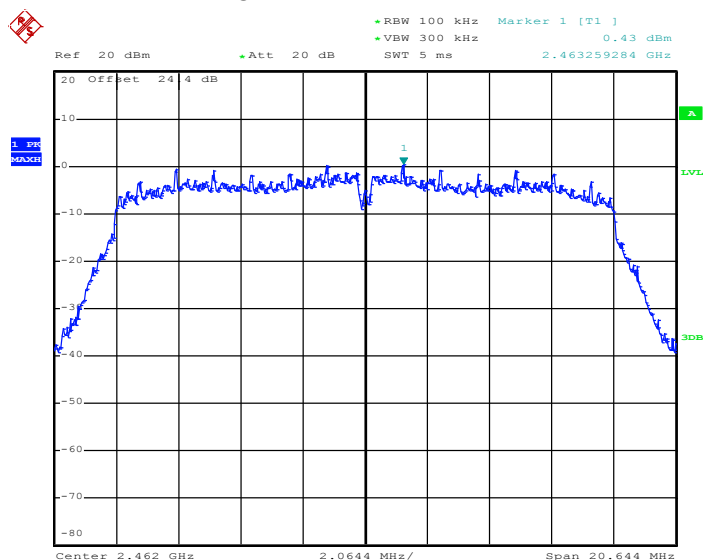
292639 15C PSD 802.11g 2412 (ch01)

Date: 4.OCT.2012 17:29:31

PSD Plot on 802.11g Channel 06


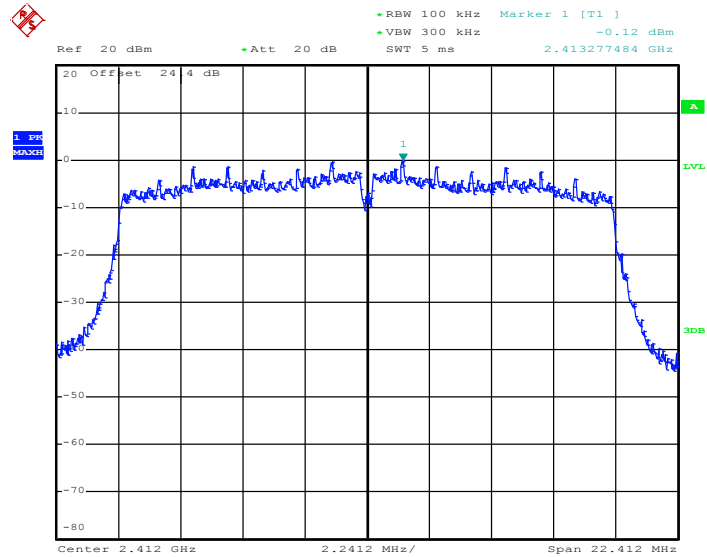
292639 15C PSD 802.11g 2437 (ch06)

Date: 4.OCT.2012 17:26:30

PSD Plot on 802.11g Channel 11


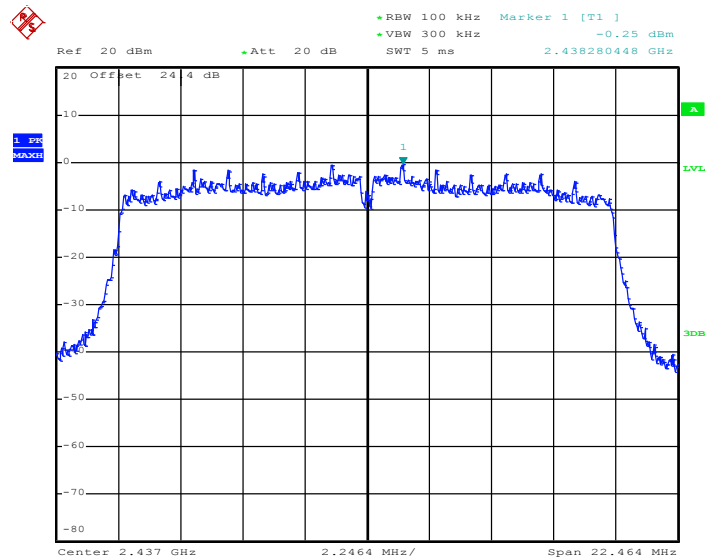
292639 15C PSD 802.11g 2462 (ch11)

Date: 4.OCT.2012 17:22:18

PSD Plot on 2.4G 802.11n HT20 Channel 01


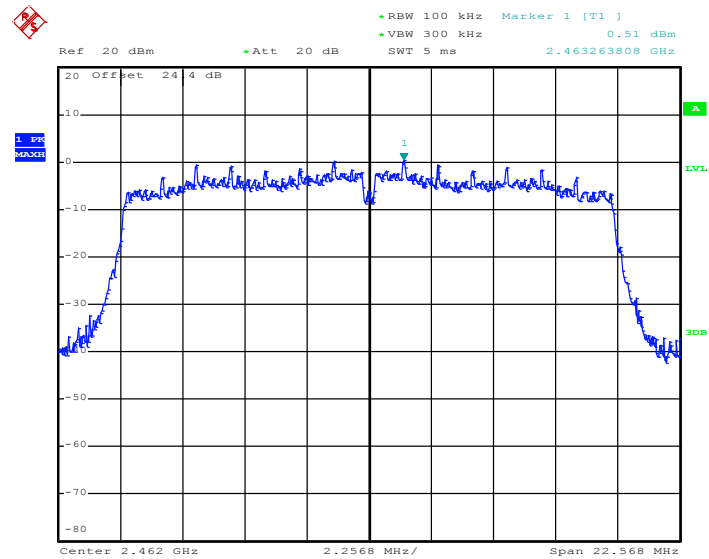
292639 15C PSD 802.11g_N20 2412 (ch01)

Date: 4.OCT.2012 17:33:58

PSD Plot on 2.4G 802.11n HT20 Channel 06


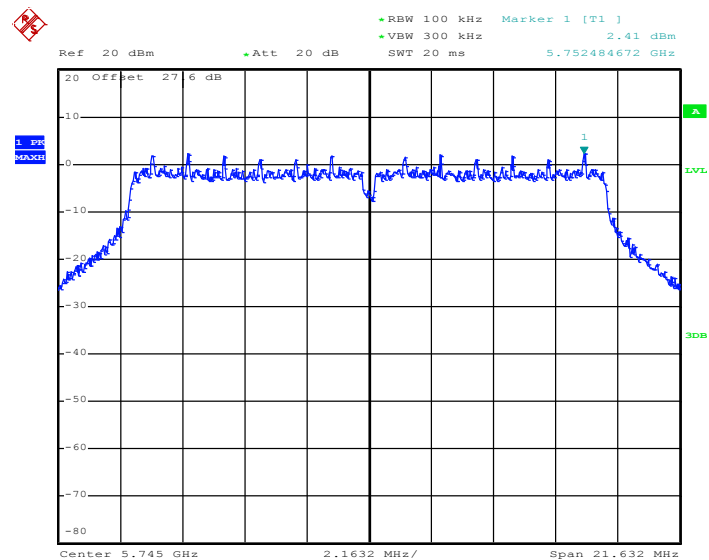
292639 15C PSD 802.11g_N20 2437 (ch06)

Date: 4.OCT.2012 17:38:05

PSD Plot on 2.4G 802.11n HT20 Channel 11


292639 15C PSD 802.11g_N20 2462 (ch11)

Date: 4.OCT.2012 17:41:22

PSD Plot on 802.11a Channel 149


292639 15C PSD 802.11a 5745 (ch149)

Date: 4.OCT.2012 17:55:07



Ref 20 dBm Att 20 dB RBW 100 kHz VBW 300 kHz SWT 20 ms

Marker 1 [T1] 1.88 dBm 5.792488260 GHz

20 Offset 27.6 dB

1.88 dBm

21.58 MHz

Center 5.785 GHz Span 21.58 MHz

Ref 20 dBm Att 20 dB RBW 100 kHz VBW 300 kHz Marker 1 [T1] 1.66 dBm

SWT 20 ms 5.832484672 GHz

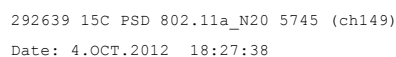
20 Offset 276 dB

1.66 dBm

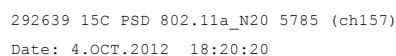
1

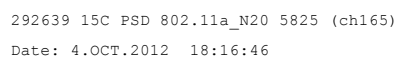
Center 5.825 GHz 2.1632 MHz/ Span 21.632 MHz

292639 15C PSD 802.11a 5825 (ch165)
Date: 4.OCT.2012 18:11:43

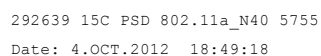


PSD Plot on 5G 802.11n HT20 Channel 157

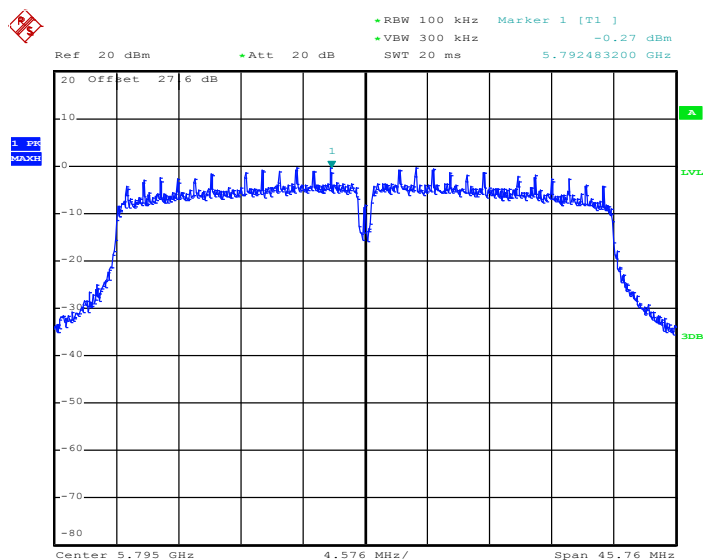




PSD Plot on 5G 802.11n HT40 Channel 151



PSD Plot on 5G 802.11n HT40 Channel 159



292639 15C PSD 802.11a_N40 5795

Date: 4.OCT.2012 18:53:12

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

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

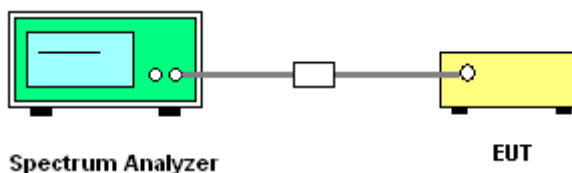
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows the guidelines in the Measurement Procedure of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance and TCB Workshop 2012, April.
2. Set to the maximum power setting and enable the EUT transmit continuously.
3. 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. The attenuation is set to 30dB, when maximum conducted output power procedure is used.
4. Measure and record the results in the test report.

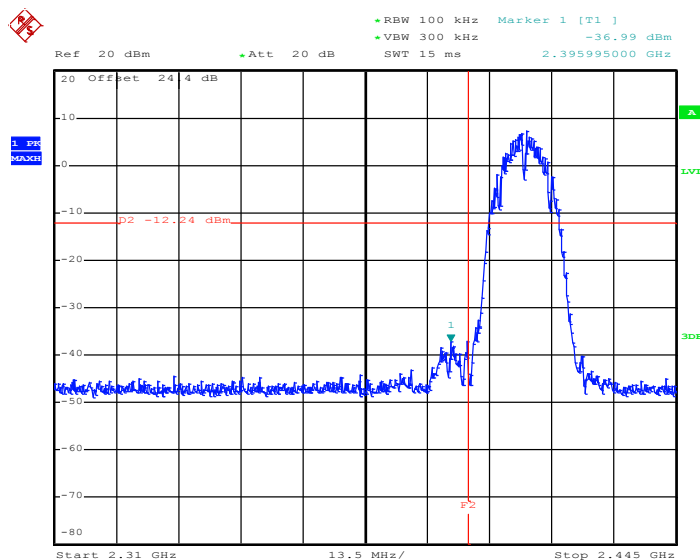
3.4.4 Test Setup



3.4.6 Test Result of Conducted Spurious at Band Edges

Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Reece Li

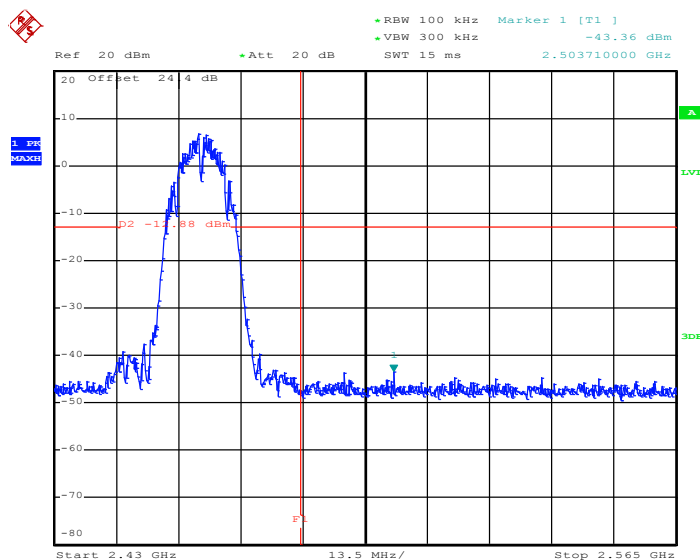
Low Band Edge Plot on 802.11b Channel 01



292639 15C BandEdge 802.11b 2412 (ch01)

Date: 4.OCT.2012 17:12:27

High Band Edge Plot on 802.11b Channel 11

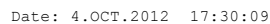


292639 15C BandEdge 802.11b 2462 (ch11)

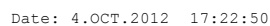
Date: 4.OCT.2012 17:18:53



Low Band Edge Plot on 802.11g Channel 01

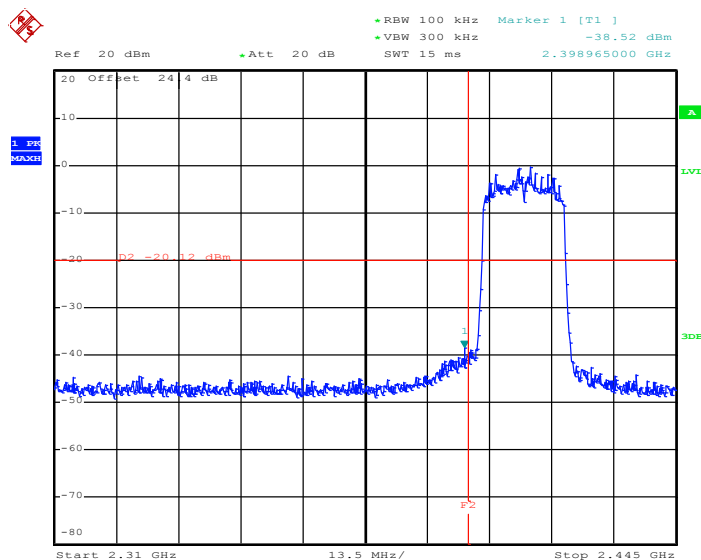


High Band Edge Plot on 802.11g Channel 11



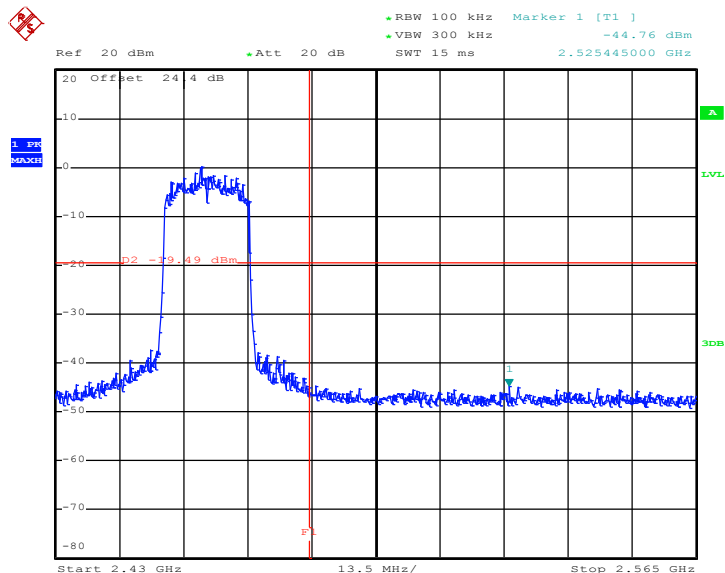


Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Reece Li

Low Band Edge Plot on 2.4G 802.11n HT20 Channel 01

292639 15C BandEdge 802.11g_N20 2412 (ch01)

Date: 4.OCT.2012 17:34:16

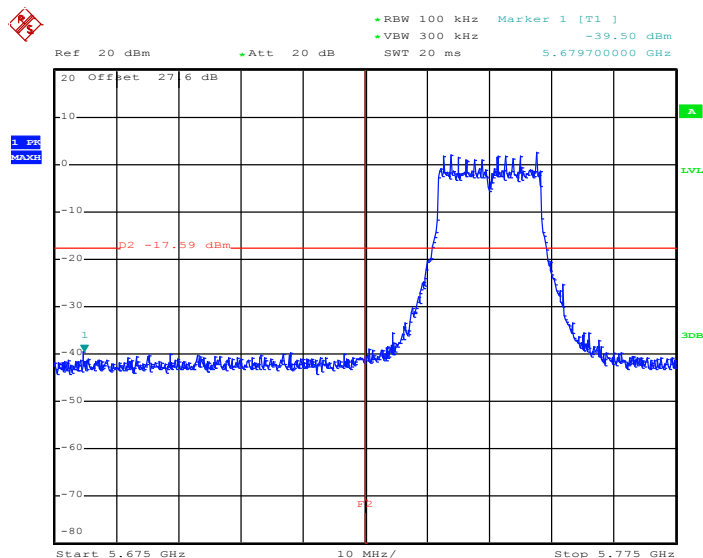
High Band Edge Plot on 2.4G 802.11n HT20 Channel 11

292639 15C BandEdge 802.11g_N20 2462 (ch11)

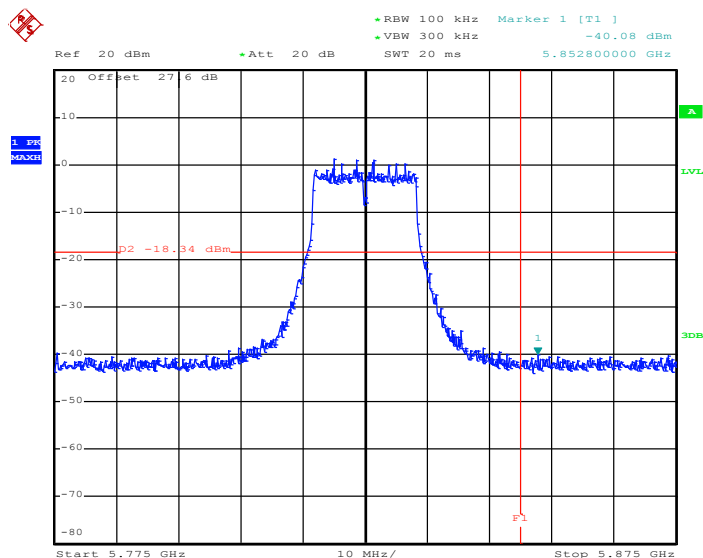
Date: 4.OCT.2012 17:41:38



Test Mode :	802.11a	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Reece Li



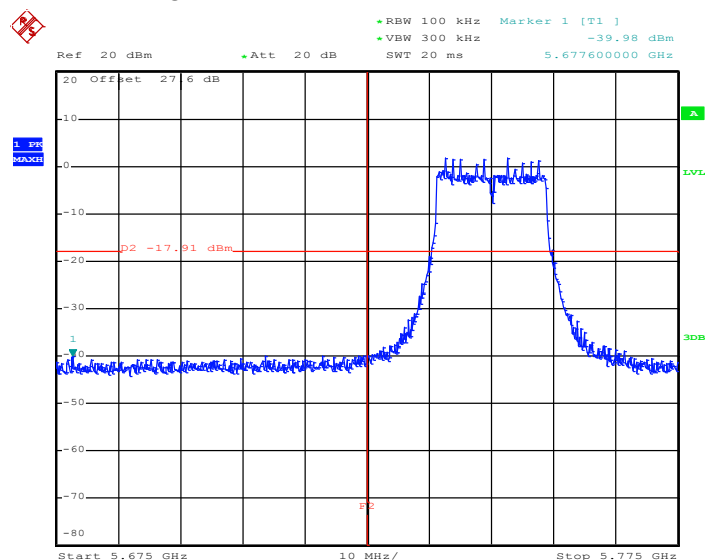
Date: 4.OCT.2012 17:55:31



Date: 4.OCT.2012 18:12:00

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Reece Li

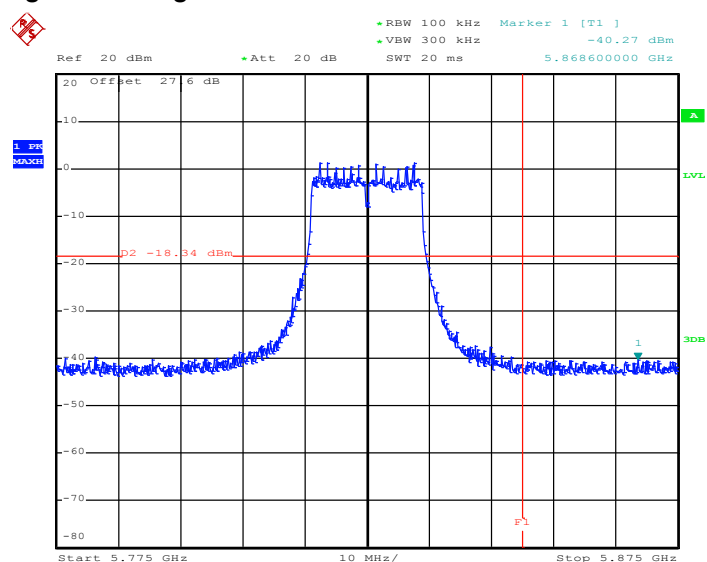
Low Band Edge Plot on 5G 802.11n HT20 Channel 149



292639 15C BandEdge 802.11a_N20 5745 (ch149)

Date: 4.OCT.2012 18:28:33

High Band Edge Plot on 5G 802.11n HT20 Channel 165

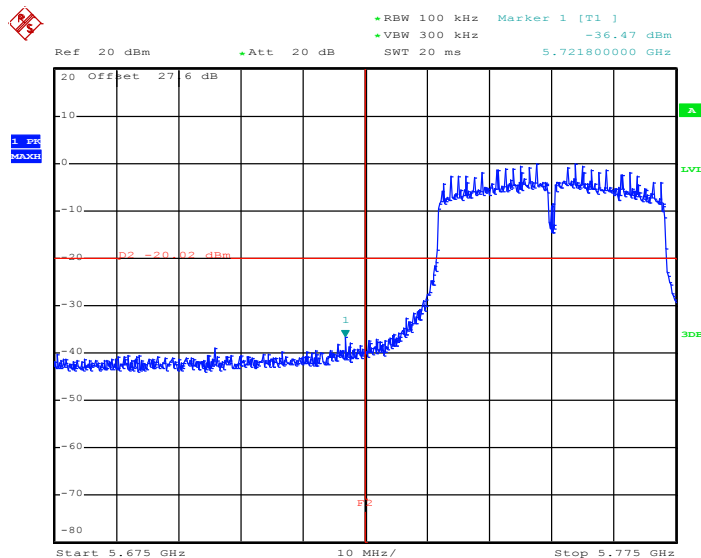


292639 15C BandEdge 802.11a_N20 5825 (ch165)

Date: 4.OCT.2012 18:17:04

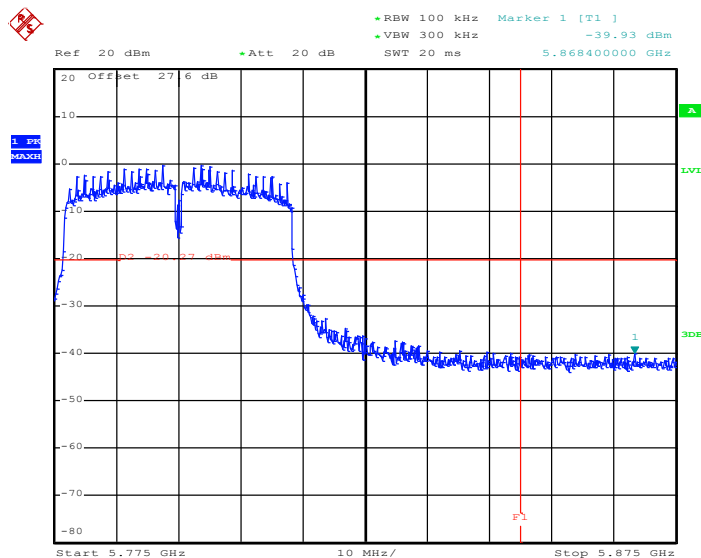


Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Reece Li

Low Band Edge Plot on 5G 802.11n HT40 Channel 151

292639 15C BandEdge 802.11a_N40 5755

Date: 4.OCT.2012 18:50:16

High Band Edge Plot on 5G 802.11n HT40 Channel 159

292639 15C BandEdge 802.11a_N40 5795

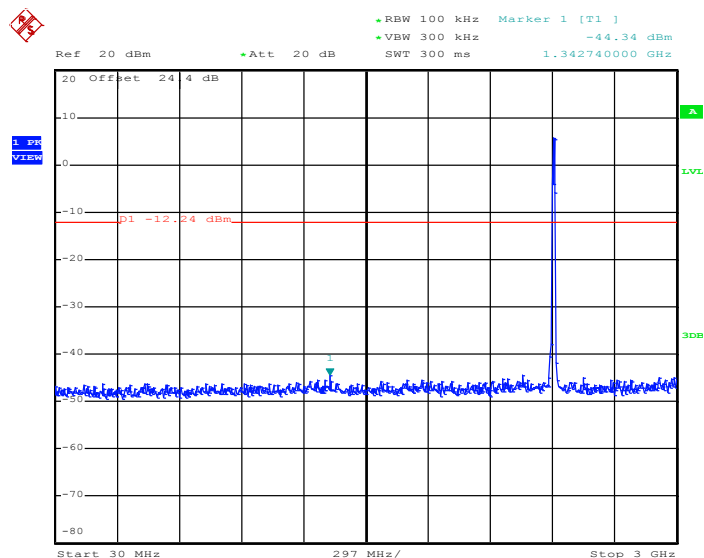
Date: 4.OCT.2012 18:53:29

3.4.7 Test Result of Conducted Spurious Emission

Test Mode :	802.11b	Temperature :	24~26°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Reece Li

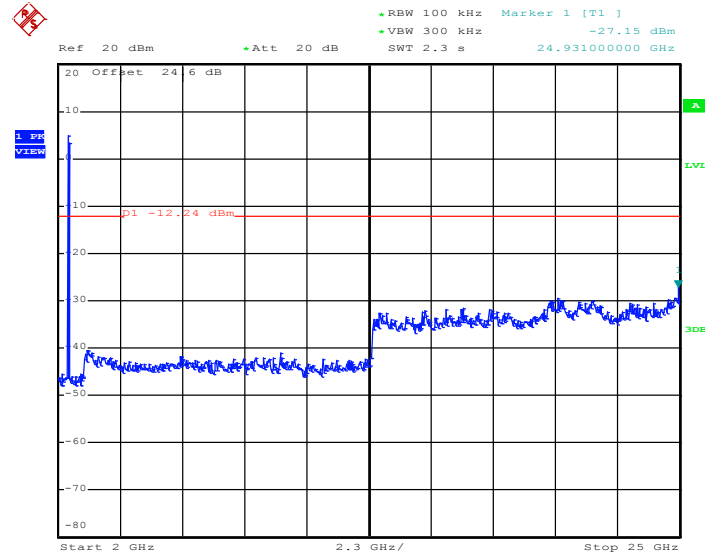
802.11b 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



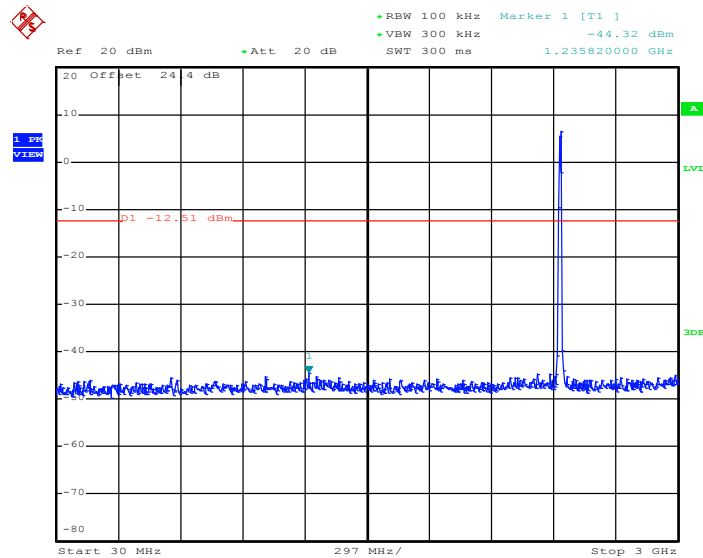
292639 15C Spurious 802.11b 2412 (ch01)

Date: 4.OCT.2012 17:12:48

802.11b 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 01


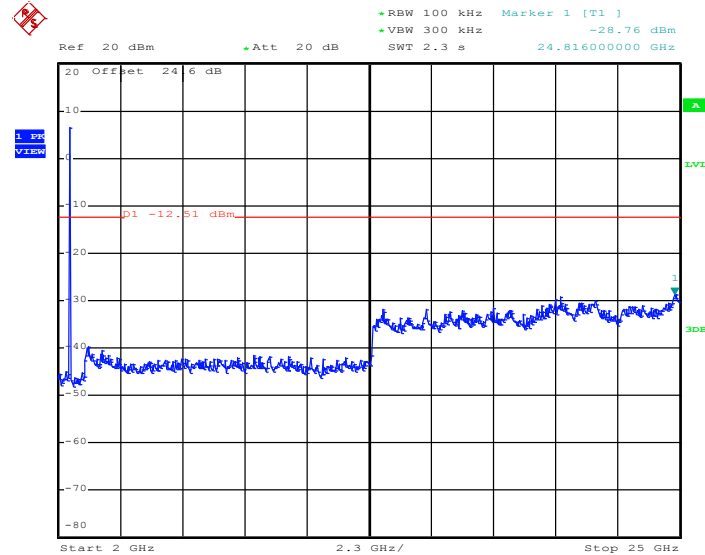
292639 15C Spurious 802.11b 2412 (ch01)

Date: 4.OCT.2012 17:13:06

802.11b 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


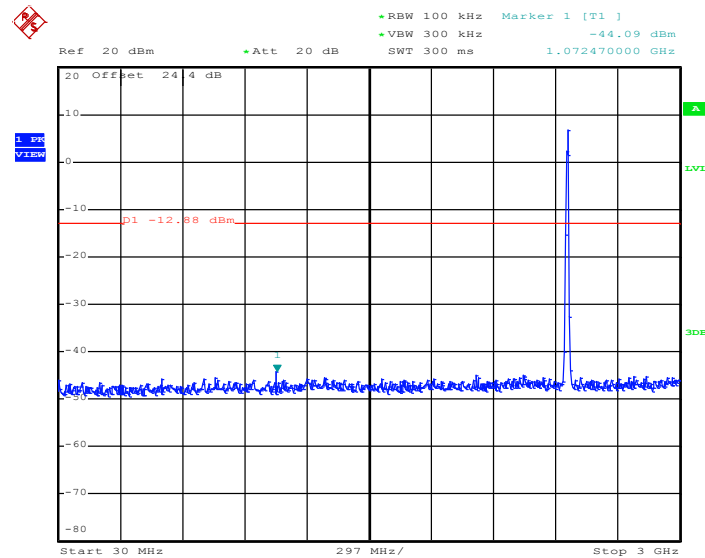
292639 15C Spurious 802.11b 2437 (ch06)

Date: 4.OCT.2012 17:15:36

802.11b 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


292639 15C Spurious 802.11b 2437 (ch06)

Date: 4.OCT.2012 17:15:54

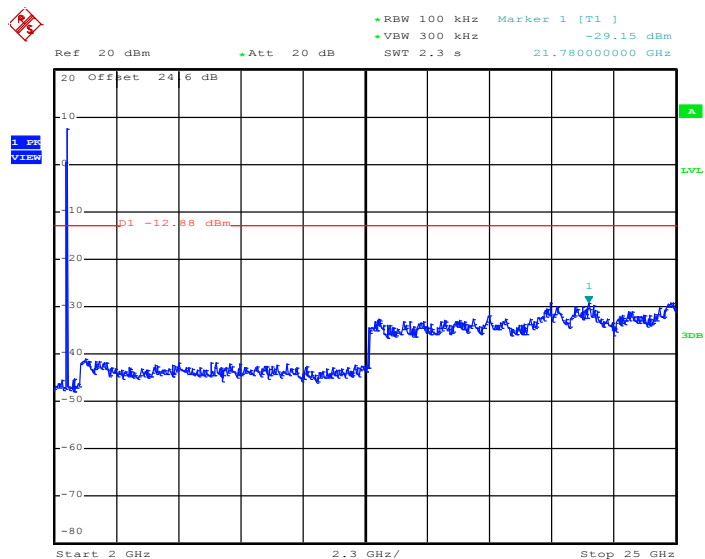
802.11b 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 11


292639 15C Spurious 802.11b 2462 (ch11)

Date: 4.OCT.2012 17:19:17

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



292639 15C Spurious 802.11b 2462 (ch11)

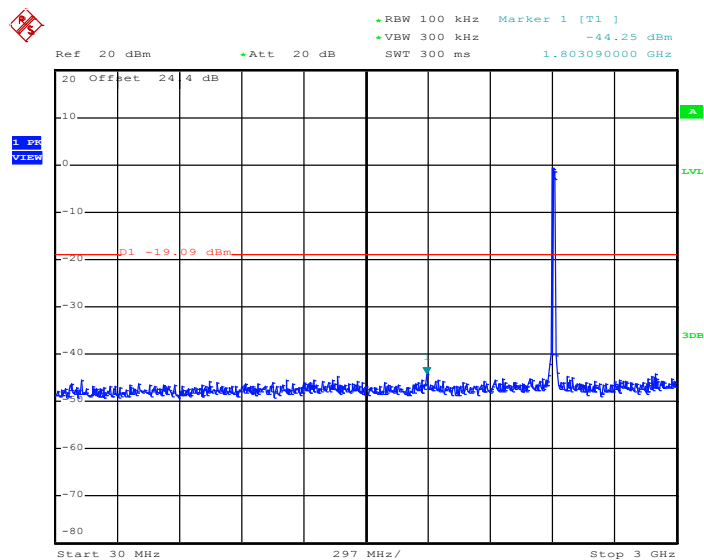
Date: 4.OCT.2012 17:19:35



Test Mode :	802.11g	Temperature :	24~26℃
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Reece Li

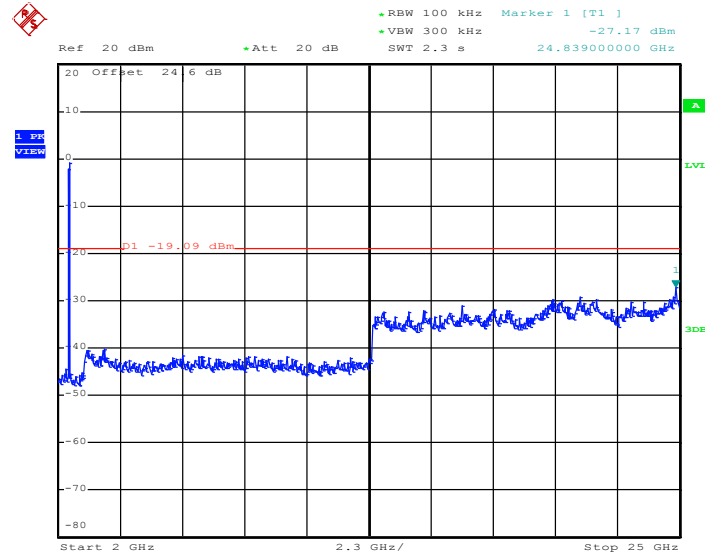
802.11g 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



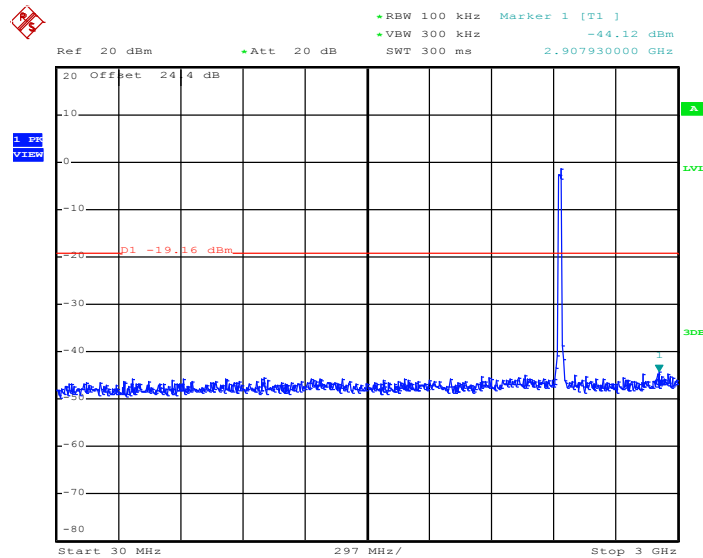
292639 15C Spurious 802.11g 2412 (ch01)

Date: 4.OCT.2012 17:30:34

802.11g 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 01


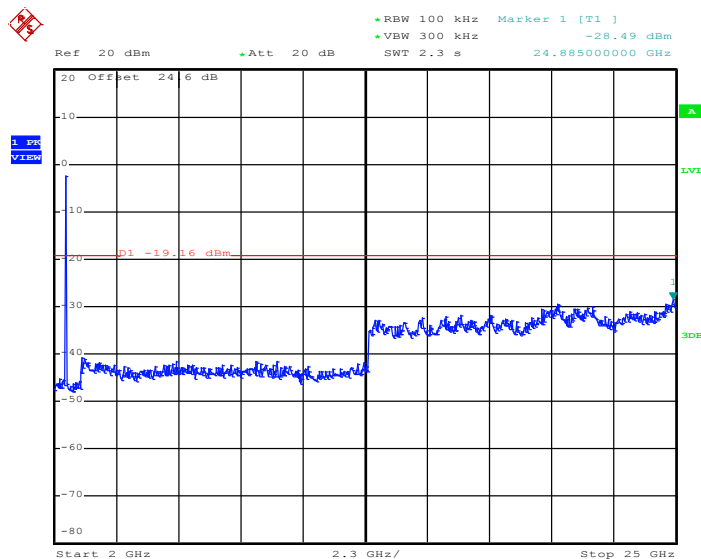
292639 15C Spurious 802.11g 2412 (ch01)

Date: 4.OCT.2012 17:30:53

802.11g 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


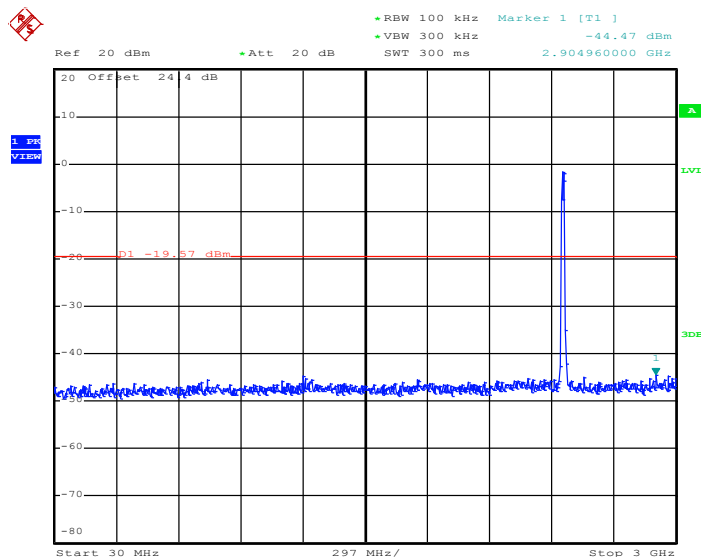
292639 15C Spurious 802.11g 2437 (ch06)

Date: 4.OCT.2012 17:26:51

802.11g 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


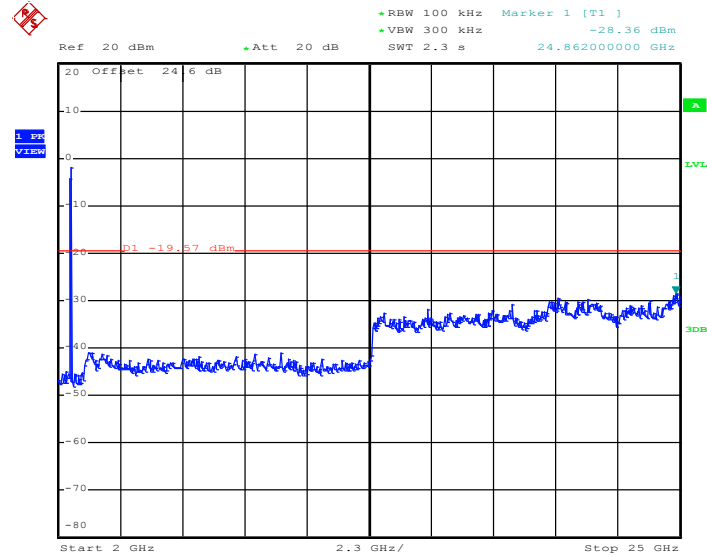
292639 15C Spurious 802.11g 2437 (ch06)

Date: 4.OCT.2012 17:27:09

802.11g 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 11


292639 15C Spurious 802.11g 2462 (ch11)

Date: 4.OCT.2012 17:23:14

802.11g 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 11


292639 15C Spurious 802.11g 2462 (ch11)

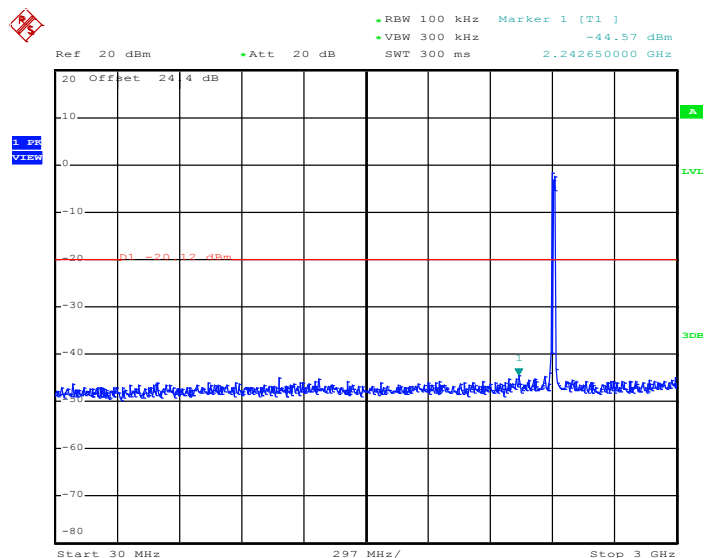
Date: 4.OCT.2012 17:23:34



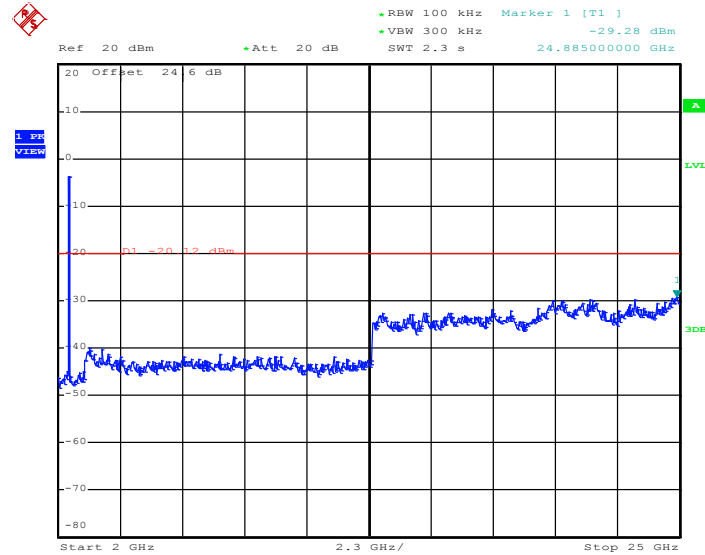
Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	30MHz-3GHz and 2G-25GHz	Relative Humidity :	50~53%
Test Channel :	01, 06, 11	Test Engineer :	Reece Li

2.4G 802.11n HT20 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01

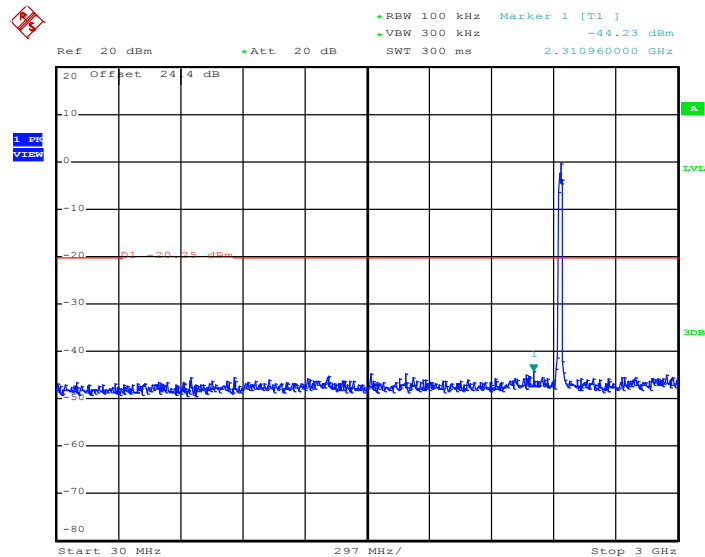


292639 15C Spurious 802.11g_N20 2412 (ch01)
Date: 4.OCT.2012 17:34:59

2.4G 802.11n HT20 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 01


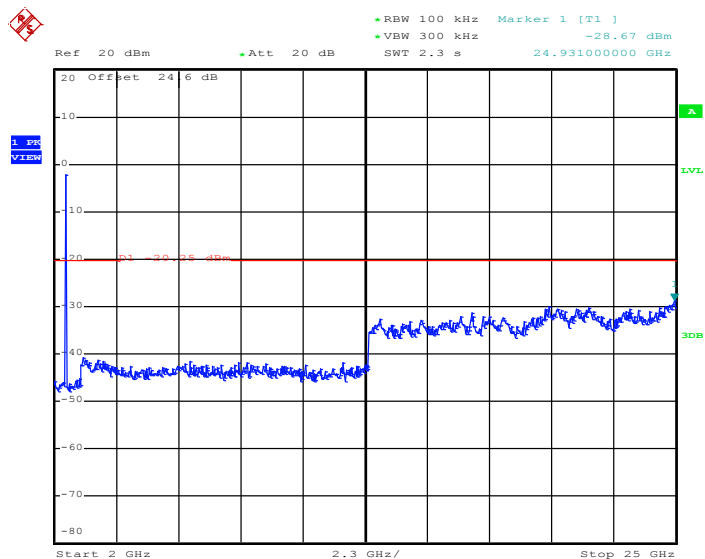
292639 15C Spurious 802.11g_N20 2412 (ch01)

Date: 4.OCT.2012 17:35:18

2.4G 802.11n HT20 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 06


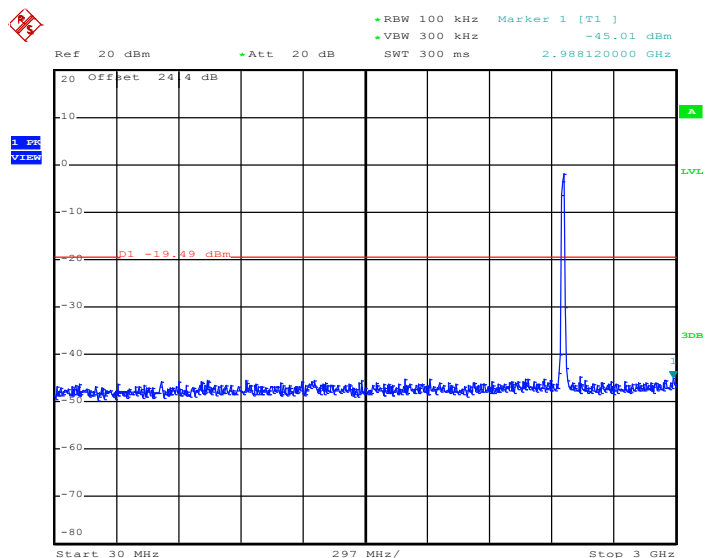
292639 15C Spurious 802.11g_N20 2437 (ch06)

Date: 4.OCT.2012 17:38:46

2.4G 802.11n HT20 2 GHz~25 GHz
Conducted Spurious Emission Plot on Channel 06


292639 15C Spurious 802.11g_N20 2437 (ch06)

Date: 4.OCT.2012 17:39:04

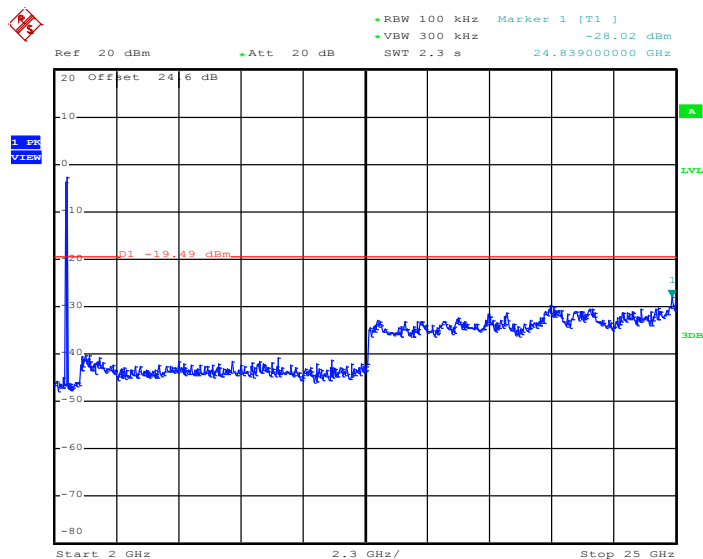
2.4G 802.11n HT20 30 MHz~3 GHz
Conducted Spurious Emission Plot on Channel 11


292639 15C Spurious 802.11g_N20 2462 (ch11)

Date: 4.OCT.2012 17:42:01

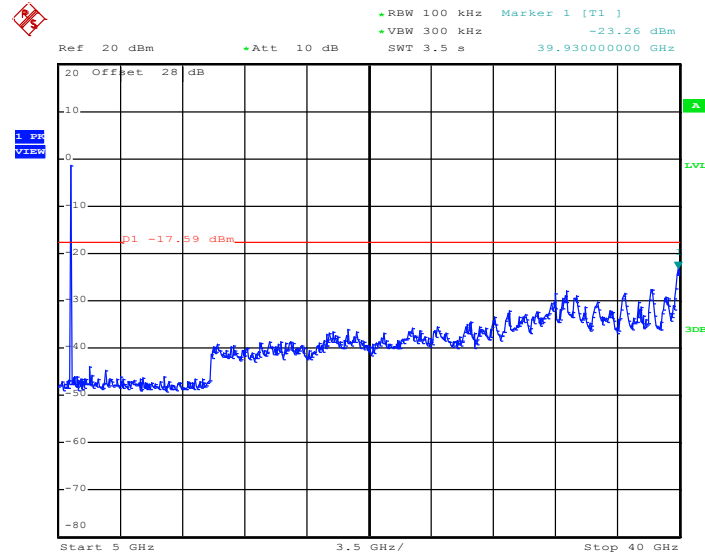
2.4G 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



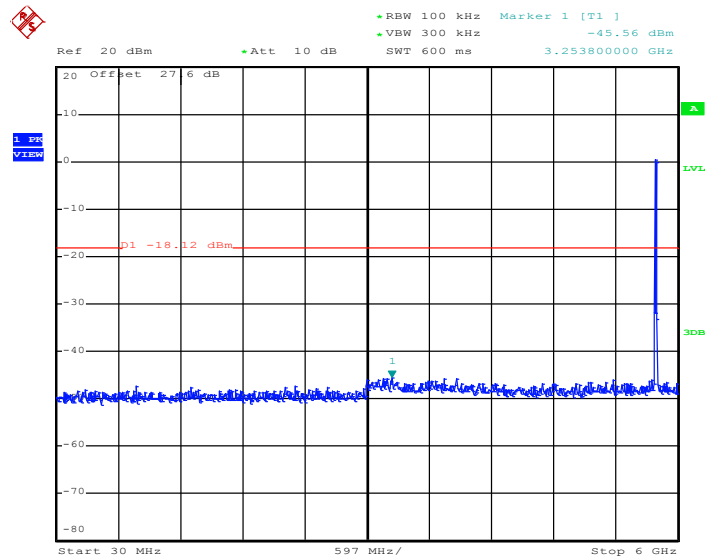
292639 15C Spurious 802.11g_N20 2462 (ch11)

Date: 4.OCT.2012 17:42:19

802.11a 5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 149


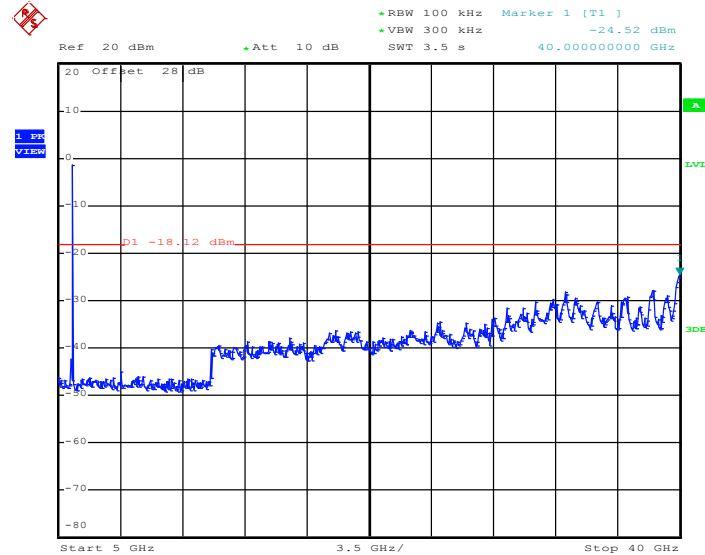
292639 15C Spurious 802.11a 5745 (ch149)

Date: 4.OCT.2012 17:57:29

802.11a 30 MHz~6 GHz
Conducted Spurious Emission Plot on Channel 157


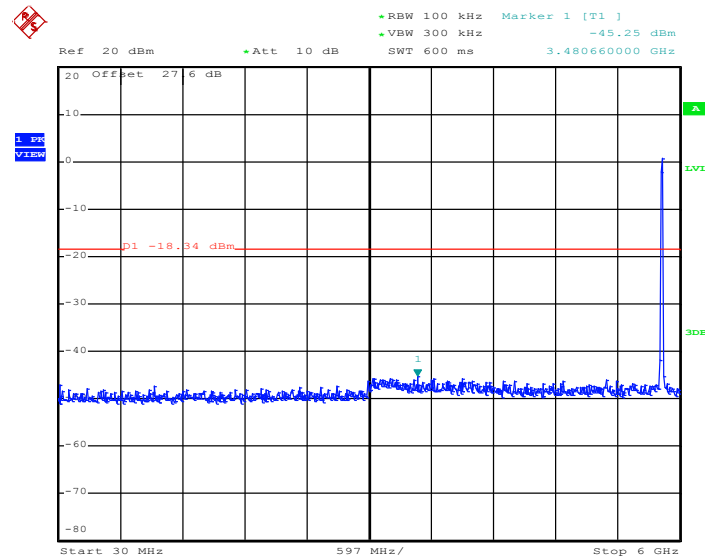
292639 15C Spurious 802.11a 5785 (ch157)

Date: 4.OCT.2012 18:06:27

802.11a 5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 157


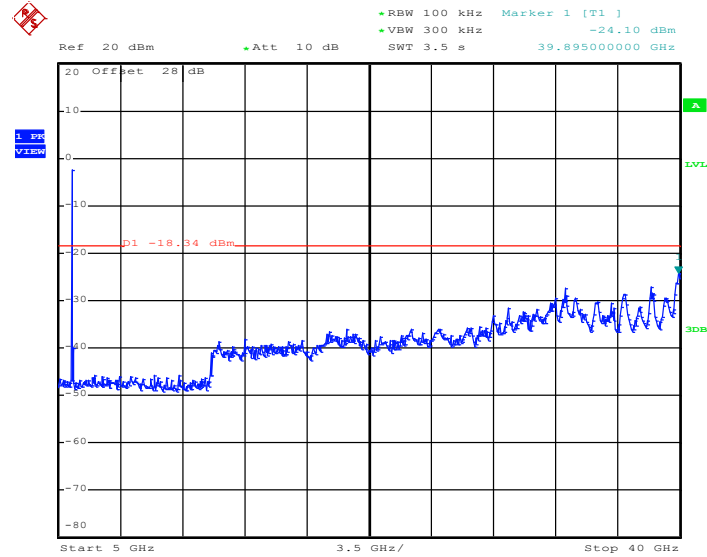
292639 15C Spurious 802.11a 5785 (ch157)

Date: 4.OCT.2012 18:06:45

802.11a 30 MHz~6 GHz
Conducted Spurious Emission Plot on Channel 165


292639 15C Spurious 802.11a 5825 (ch165)

Date: 4.OCT.2012 18:12:32

802.11a 5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 165


292639 15C Spurious 802.11a 5825 (ch165)

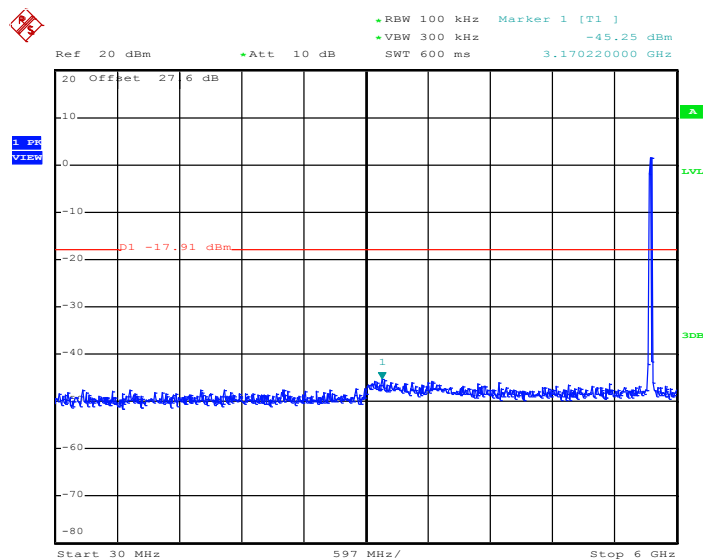
Date: 4.OCT.2012 18:12:52



Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Reece Li

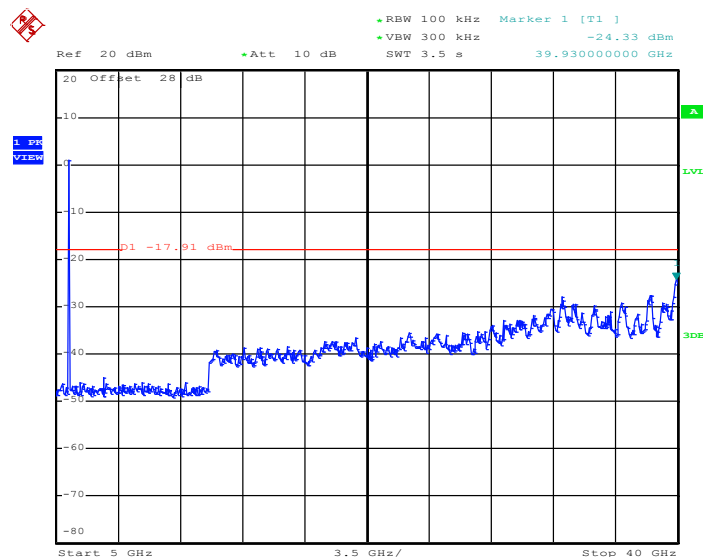
5G 802.11n HT20 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



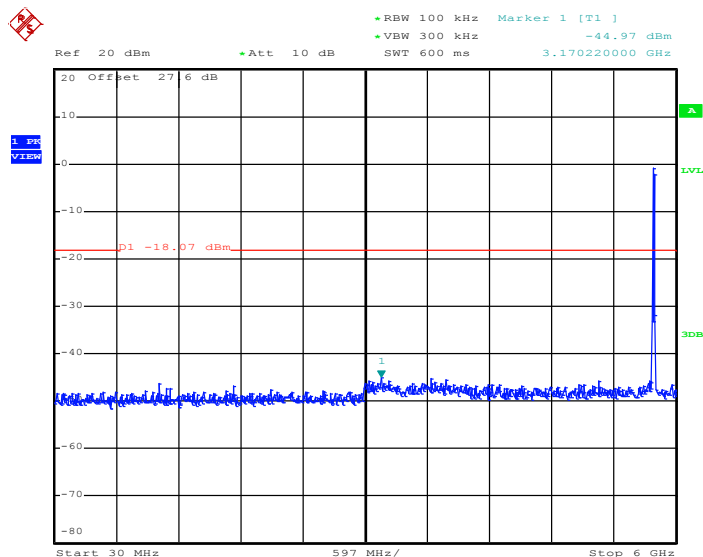
292639 15C Spurious 802.11a_N20 5745 (ch149)

Date: 4.OCT.2012 18:29:04

5G 802.11n HT20 5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 149


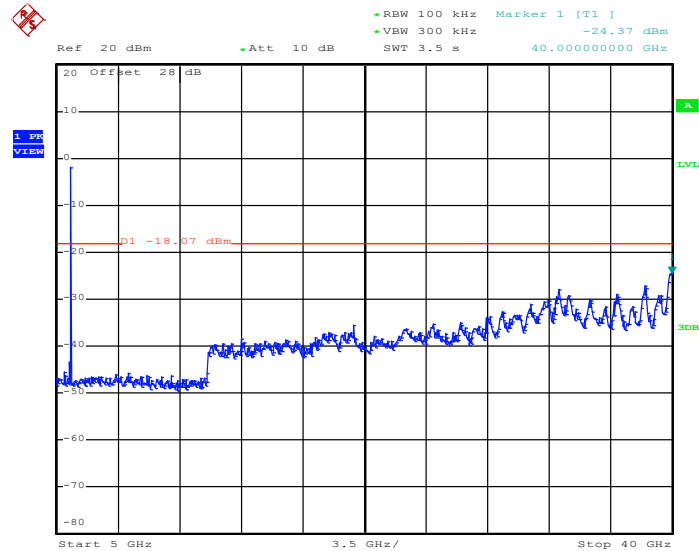
292639 15C Spurious 802.11a_N20 5745 (ch149)

Date: 4.OCT.2012 18:29:23

5G 802.11n HT20 30 MHz~6 GHz
Conducted Spurious Emission Plot on Channel 157


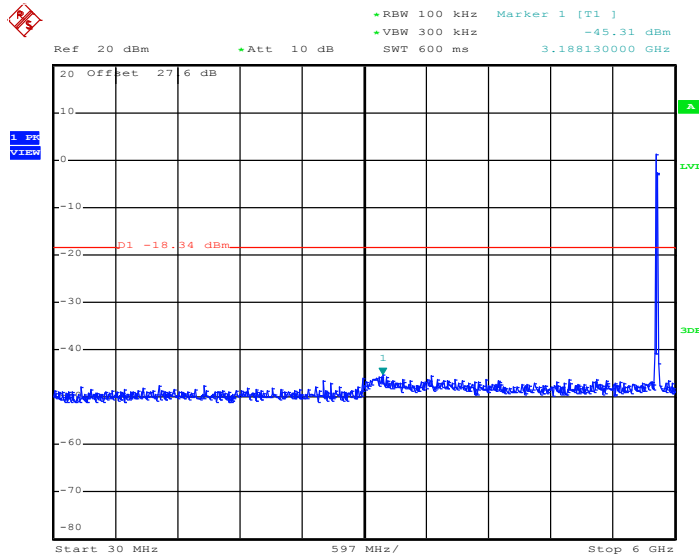
292639 15C Spurious 802.11a_N20 5785 (ch157)

Date: 4.OCT.2012 18:20:44

5G 802.11n HT20 5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 157


292639 15C Spurious 802.11a_N20 5785 (ch157)

Date: 4.OCT.2012 18:21:02

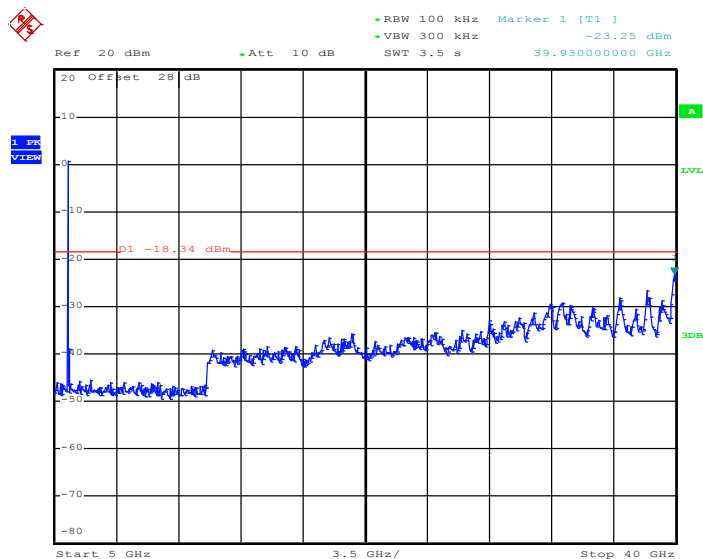
5G 802.11n HT20 30 MHz~6 GHz
Conducted Spurious Emission Plot on Channel 165


292639 15C Spurious 802.11a_N20 5825 (ch165)

Date: 4.OCT.2012 18:17:27

5G 802.11n HT20 5 GHz~40 GHz

Conducted Spurious Emission Plot on Channel 165



292639 15C Spurious 802.11a_N20 5825 (ch165)

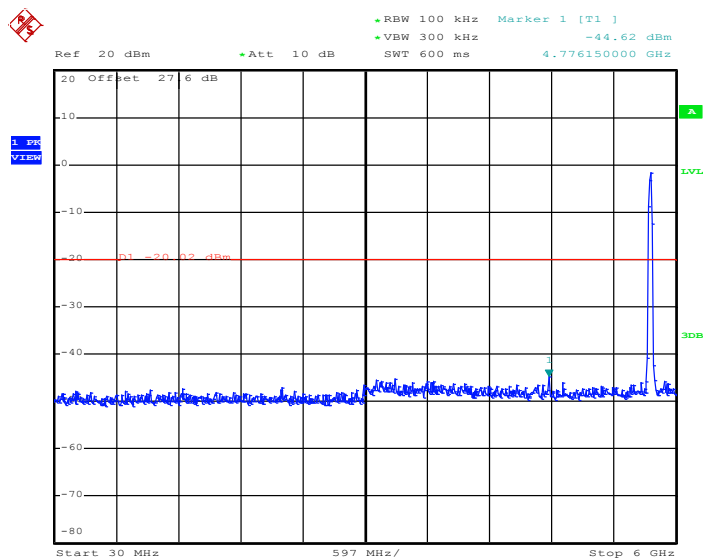
Date: 4.OCT.2012 18:17:45



Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Band :	30MHz-6GHz and 5G-40GHz	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Reece Li

5G 802.11n HT40 30 MHz~6 GHz

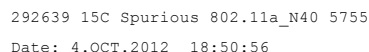
Conducted Spurious Emission Plot on Channel 151



292639 15C Spurious 802.11a_N40 5755
Date: 4.OCT.2012 18:50:38

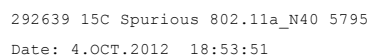


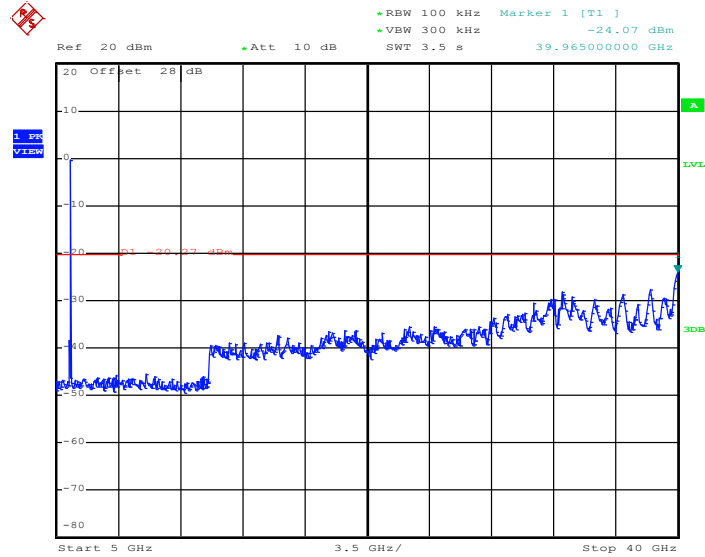
Conducted Spurious Emission Plot on Channel 151



5G 802.11n HT40 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 159



5G 802.11n HT40 5 GHz~40 GHz
Conducted Spurious Emission Plot on Channel 159


292639 15C Spurious 802.11a_N40 5795

Date: 4.OCT.2012 18:54:09

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

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

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

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows the guidelines in ANSI C63. 10-2009
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For measurement below 1GHz, If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
7. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 KHz for $f < 1$ GHz; $VBW \geq RBW$; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, $VBW = 3$ MHz for $f \geq 1$ GHz for peak measurement.

For average measurement:

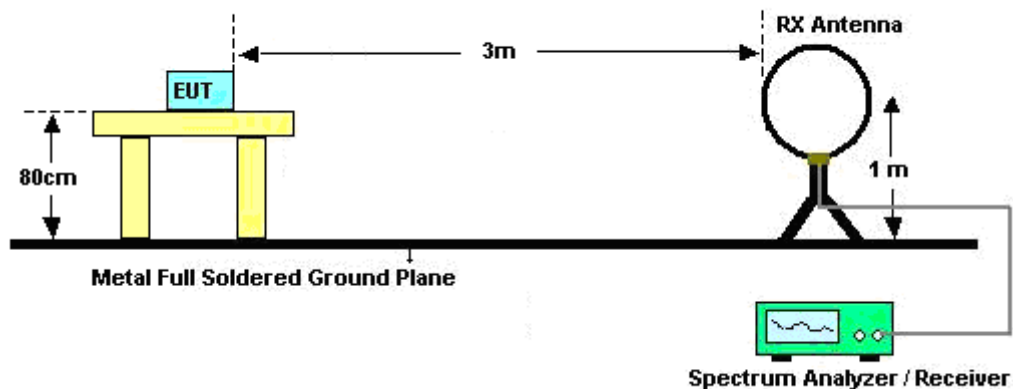
 - $VBW = 10$ Hz, when duty cycle is no less than 98 percent.
 - $VBW \geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(us)	1/T(KHz)	VBW Setting
802.11b	98.62	-	-	10Hz
802.11g	93.23	1432	0.70	1KHz
2.4G 802.11n HT20	93.33	1344	0.74	1KHz
802.11a	93.23	1432	0.70	1KHz
5G 802.11n HT20	92.95	1344	0.74	1KHz
5G 802.11n HT40	87.50	672	1.49	3KHz

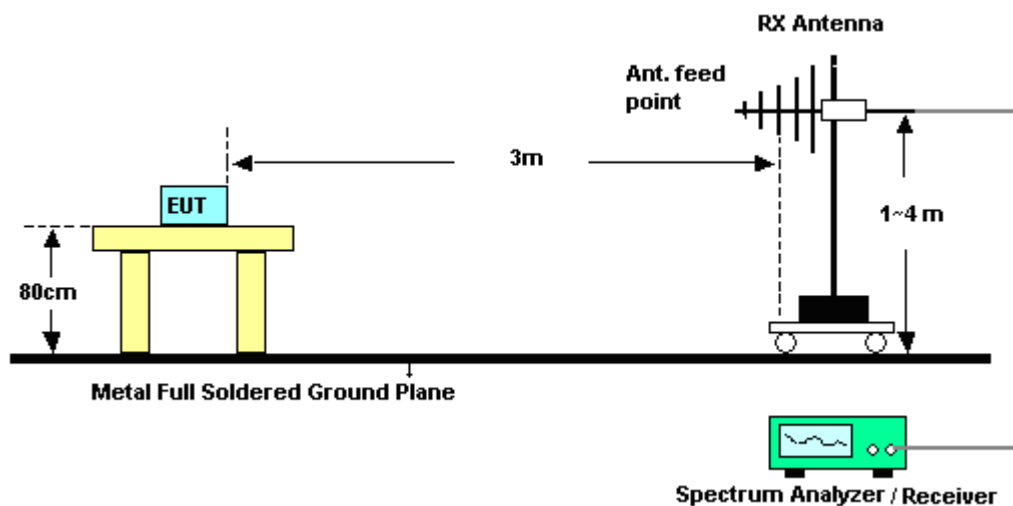
Note: For average measurement with duty cycle < 98%, use reduced VBW measurement method 4.2.3.2.3 in ANSI C63.10.

3.5.4 Test Setup

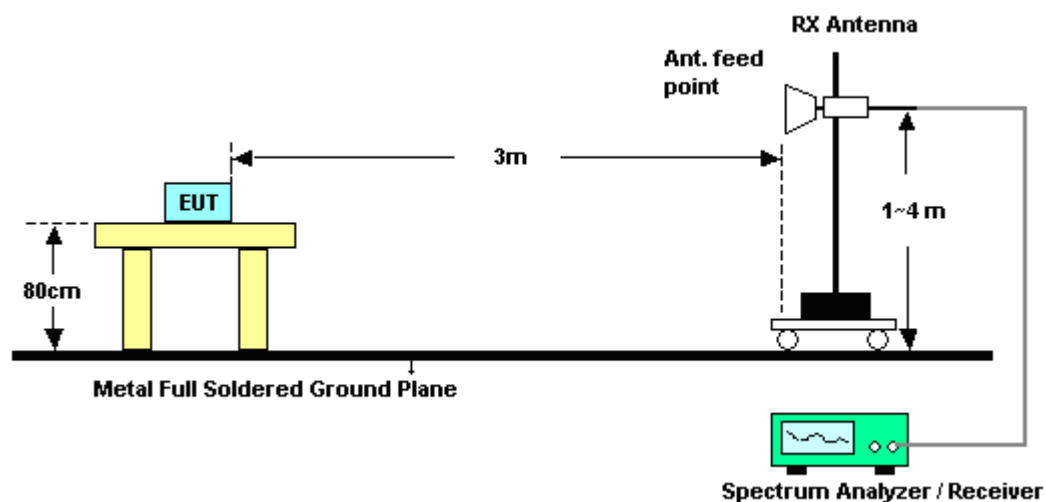
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated 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 Band Edges

Test Mode :	802.11b	Temperature :	30~31°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
2383.17	55.4	-18.6	74	51.18	32.33	6.45	34.56	111	335	Peak
2385.33	44.77	-9.23	54	40.55	32.33	6.45	34.56	111	335	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
2382.99	53.03	-20.97	74	48.81	32.33	6.45	34.56	200	342	Peak
2385.6	41.29	-12.71	54	37.04	32.36	6.45	34.56	200	342	Average

Test Mode :	802.11b	Temperature :	30~31°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
2488.84	54.76	-19.24	74	50.22	32.5	6.59	34.55	100	25	Peak
2488.66	42.65	-11.35	54	38.11	32.5	6.59	34.55	100	25	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
2490.46	55.32	-18.68	74	50.78	32.5	6.59	34.55	200	55	Peak
2488.68	40.82	-13.18	54	36.28	32.5	6.59	34.55	200	55	Average

Test Mode :	802.11g	Temperature :	30~31°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
2389.29	63.64	-10.36	74	59.39	32.36	6.45	34.56	110	335	Peak
2390	44.57	-9.43	54	40.32	32.36	6.45	34.56	110	335	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2386.32	62.46	-11.54	74	58.21	32.36	6.45	34.56	200	55	Peak
2390	41.86	-12.14	54	37.61	32.36	6.45	34.56	200	55	Average

Test Mode :	802.11g	Temperature :	30~31°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
2484.12	64.22	-9.78	74	59.7	32.48	6.59	34.55	104	5	Peak
2483.5	43.65	-10.35	54	39.13	32.48	6.59	34.55	104	5	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
2483.54	57.98	-16.02	74	53.46	32.48	6.59	34.55	166	304	Peak
2483.5	38.2	-15.8	54	33.68	32.48	6.59	34.55	166	304	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2390	61.88	-12.12	74	57.63	32.36	6.45	34.56	111	335	Peak
2390	43.19	-10.81	54	38.94	32.36	6.45	34.56	111	335	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
2389.29	61.25	-12.75	74	57	32.36	6.45	34.56	200	342	Peak
2390	41.86	-12.14	54	37.61	32.36	6.45	34.56	200	342	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
2484.08	65.43	-8.57	74	60.91	32.48	6.59	34.55	100	17	Peak
2483.5	42.21	-11.79	54	37.69	32.48	6.59	34.55	100	17	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	62.42	-11.58	74	57.9	32.48	6.59	34.55	200	52	Peak
2483.5	40.4	-13.6	54	35.88	32.48	6.59	34.55	200	52	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	149	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	60.57	-21.94	82.51	47.66	35.41	11.34	33.84	132	83	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	62.82	-22.04	84.86	49.91	35.41	11.34	33.84	100	358	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	165	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
5850	53.32	-26.61	79.93	40.02	35.58	11.56	33.84	102	228	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
5850	52.63	-29.73	82.36	39.33	35.58	11.56	33.84	109	358	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	149	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	62.74	-19.48	82.22	49.83	35.41	11.34	33.84	118	84	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	66.07	-18.85	84.92	53.16	35.41	11.34	33.84	100	357	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	165	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

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
5850	56.06	-22.59	78.65	42.76	35.58	11.56	33.84	103	228	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
5850	56.82	-25.18	82	43.52	35.58	11.56	33.84	109	357	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	151	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	60.08	-17.33	77.41	47.17	35.41	11.34	33.84	125	236	Peak
5850	50.68	-26.73	77.41	37.38	35.58	11.56	33.84	125	236	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
5725	66.85	-14.7	81.55	53.94	35.41	11.34	33.84	100	357	Peak
5850	51.59	-29.96	81.55	38.29	35.58	11.56	33.84	100	357	Average

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	159	Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	53.86	-26.02	79.88	40.95	35.41	11.34	33.84	126	200	Peak
5850	51.23	-28.65	79.88	37.93	35.58	11.56	33.84	126	200	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
5725	54.17	-27.21	81.38	41.26	35.41	11.34	33.84	100	356	Peak
5850	52.46	-28.92	81.38	39.16	35.58	11.56	33.84	100	356	Average

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

Test Mode :	802.11b	Temperature :	30~31°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang		Polarization : Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
112.35	21.71	-21.79	43.5	40.45	11.8	1.17	31.71	-	-	Peak
233.04	26.47	-19.53	46	45.37	10.53	2.18	31.61	-	-	Peak
292.44	25.1	-20.9	46	41.44	13.06	2.24	31.64	-	-	Peak
361.6	26.4	-19.6	46	40.95	14.64	2.38	31.57	-	-	Peak
522.6	26.62	-19.38	46	37.71	17.79	2.95	31.83	-	-	Peak
669.6	27.95	-18.05	46	37.37	19.11	3.46	31.99	100	85	Peak
2412	102.75	-	-	98.44	32.38	6.49	34.56	111	335	Average
2412	107.98	-	-	103.67	32.38	6.49	34.56	111	335	Peak

Test Mode :	802.11b	Temperature :	30~31°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (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	24.46	-15.54	40	43.52	12.12	0.52	31.7	100	22	Peak
51.06	18.73	-21.27	40	41.68	8.1	0.65	31.7	-	-	Peak
102.9	19.87	-23.63	43.5	39.08	11.44	1.04	31.69	-	-	Peak
389.6	22.16	-23.84	46	36.29	15.3	2.34	31.77	-	-	Peak
529.6	23.59	-22.41	46	34.47	18	2.96	31.84	-	-	Peak
779.5	23.7	-22.3	46	32.34	19.9	3.49	32.03	-	-	Peak
2412	97.79	-	-	93.48	32.38	6.49	34.56	200	342	Average
2412	102.39	-	-	98.08	32.38	6.49	34.56	200	342	Peak

Test Mode :	802.11b	Temperature :	30~31°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	100.8	-	-	96.41	32.43	6.52	34.56	101	35	Average
2437	105.83	-	-	101.44	32.43	6.52	34.56	101	35	Peak

Test Mode :	802.11b	Temperature :	30~31°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	98.52	-	-	94.13	32.43	6.52	34.56	198	343	Average
2437	103.29	-	-	98.9	32.43	6.52	34.56	198	343	Peak

Test Mode :	802.11b	Temperature :	30~31°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	102.87	-	-	98.42	32.45	6.56	34.56	100	25	Average
2462	107.67	-	-	103.22	32.45	6.56	34.56	100	25	Peak

Test Mode :	802.11b	Temperature :	30~31°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	101.56	-	-	97.11	32.45	6.56	34.56	200	55	Average
2462	106.44	-	-	101.99	32.45	6.56	34.56	200	55	Peak

Test Mode :	802.11g	Temperature :	30~31°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	96.04	-	-	91.73	32.38	6.49	34.56	110	335	Average
2412	106.26	-	-	101.95	32.38	6.49	34.56	110	335	Peak

Test Mode :	802.11g	Temperature :	30~31°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	89.91	-	-	85.6	32.38	6.49	34.56	200	55	Average
2412	99.81	-	-	95.5	32.38	6.49	34.56	200	55	Peak

Test Mode :	802.11g	Temperature :	30~31°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	94.5	-	-	90.11	32.43	6.52	34.56	189	8	Average
2437	104.37	-	-	99.98	32.43	6.52	34.56	189	8	Peak

Test Mode :	802.11g	Temperature :	30~31°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	101.26	-	-	96.9	32.4	6.52	34.56	122	360	Peak
2437	91.15	-	-	86.76	32.43	6.52	34.56	122	360	Average

Test Mode :	802.11g	Temperature :	30~31°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	98.56	-	-	94.11	32.45	6.56	34.56	104	5	Average
2462	108.74	-	-	104.29	32.45	6.56	34.56	104	5	Peak

Test Mode :	802.11g	Temperature :	30~31°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	103.92	-	-	99.47	32.45	6.56	34.56	166	304	Peak
2462	93.75	-	-	89.3	32.45	6.56	34.56	166	304	Average

Test Mode :	2.4G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	93.94	-	-	89.63	32.38	6.49	34.56	111	335	Average
2412	103.67	-	-	99.36	32.38	6.49	34.56	111	335	Peak

Test Mode :	2.4G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	88.52	-	-	84.21	32.38	6.49	34.56	200	342	Average
2412	98.34	-	-	94.03	32.38	6.49	34.56	200	342	Peak

Test Mode :	2.4G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	92.3	-	-	87.91	32.43	6.52	34.56	112	35	Average
2437	102.96	-	-	98.57	32.43	6.52	34.56	112	35	Peak

Test Mode :	2.4G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2437 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	89.94	-	-	85.55	32.43	6.52	34.56	200	344	Average
2437	99.78	-	-	95.39	32.43	6.52	34.56	200	344	Peak

Test Mode :	2.4G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (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	24.68	-15.32	40	43.74	12.12	0.52	31.7	100	321	Peak
112.35	21.71	-21.79	43.5	40.45	11.8	1.17	31.71	-	-	Peak
233.04	26.47	-19.53	46	45.37	10.53	2.18	31.61	-	-	Peak
361.6	26.4	-19.6	46	40.95	14.64	2.38	31.57	-	-	Peak
522.6	26.62	-19.38	46	37.71	17.79	2.95	31.83	-	-	Peak
933.5	29.78	-16.22	46	36.53	20.73	3.8	31.28	-	-	Peak
2462	96.44	-	-	91.99	32.45	6.56	34.56	100	17	Average
2462	106.56	-	-	102.11	32.45	6.56	34.56	100	17	Peak

Test Mode :	2.4G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2462 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (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	24.46	-15.54	40	43.52	12.12	0.52	31.7	100	117	Peak
102.9	19.87	-23.63	43.5	39.08	11.44	1.04	31.69	-	-	Peak
233.04	20.42	-25.58	46	39.32	10.53	2.18	31.61	-	-	Peak
389.6	22.16	-23.84	46	36.29	15.3	2.34	31.77	-	-	Peak
529.6	23.59	-22.41	46	34.47	18	2.96	31.84	-	-	Peak
910.4	24.05	-21.95	46	31.08	20.7	3.77	31.5	-	-	Peak
2462	93.55	-	-	89.1	32.45	6.56	34.56	200	52	Average
2462	103.33	-	-	98.88	32.45	6.56	34.56	200	52	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
112.35	21.71	-21.79	43.5	40.45	11.8	1.17	31.71	-	-	Peak
233.04	26.47	-19.53	46	45.37	10.53	2.18	31.61	-	-	Peak
292.44	25.1	-20.9	46	41.44	13.06	2.24	31.64	-	-	Peak
361.6	26.4	-19.6	46	40.95	14.64	2.38	31.57	-	-	Peak
522.6	26.62	-19.38	46	37.71	17.79	2.95	31.83	100	144	Peak
779.5	25.93	-20.07	46	34.57	19.9	3.49	32.03	-	-	Peak
5745	92.4	-	-	79.41	35.44	11.39	33.84	132	83	Average
5745	102.51	-	-	89.52	35.44	11.39	33.84	132	83	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (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	24.46	-15.54	40	43.52	12.12	0.52	31.7	100	117	Peak
51.06	18.73	-21.27	40	41.68	8.1	0.65	31.7	-	-	Peak
102.9	19.87	-23.63	43.5	39.08	11.44	1.04	31.69	-	-	Peak
389.6	22.16	-23.84	46	36.29	15.3	2.34	31.77	-	-	Peak
529.6	23.59	-22.41	46	34.47	18	2.96	31.84	-	-	Peak
637.4	22.12	-23.88	46	31.62	19.2	3.31	32.01	-	-	Peak
5745	104.86	-	-	91.87	35.44	11.39	33.84	100	358	Peak
5745	95.76	-	-	82.77	35.44	11.39	33.84	100	358	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	89.99	-	-	76.91	35.49	11.43	33.84	103	228	Average
5785	99.93	-	-	86.85	35.49	11.43	33.84	103	228	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	93.45	-	-	80.37	35.49	11.43	33.84	110	358	Average
5785	103.05	-	-	89.97	35.49	11.43	33.84	110	358	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	89.53	-	-	76.3	35.56	11.51	33.84	102	228	Average
5825	99.93	-	-	86.7	35.56	11.51	33.84	102	228	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	92.85	-	-	79.62	35.56	11.51	33.84	109	358	Average
5825	102.36	-	-	89.13	35.56	11.51	33.84	109	358	Peak

Test Mode :	5G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	92.37	-	-	79.38	35.44	11.39	33.84	118	84	Average
5745	102.22	-	-	89.23	35.44	11.39	33.84	118	84	Peak

Test Mode :	5G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	95.08	-	-	82.09	35.44	11.39	33.84	100	357	Average
5745	104.92	-	-	91.93	35.44	11.39	33.84	100	357	Peak

Test Mode :	5G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	89.54	-	-	76.46	35.49	11.43	33.84	103	229	Average
5785	99.26	-	-	86.18	35.49	11.43	33.84	103	229	Peak

Test Mode :	5G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	93.42	-	-	80.34	35.49	11.43	33.84	109	347	Average
5785	103.2	-	-	90.12	35.49	11.43	33.84	109	347	Peak

Test Mode :	5G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	88.6	-	-	75.37	35.56	11.51	33.84	103	228	Average
5825	98.65	-	-	85.42	35.56	11.51	33.84	103	228	Peak

Test Mode :	5G 802.11n-HT20	Temperature :	30~31°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5825	92.07	-	-	78.84	35.56	11.51	33.84	109	357	Average
5825	102	-	-	88.77	35.56	11.51	33.84	109	357	Peak

Test Mode :	5G 802.11n-HT40	Temperature :	30~31°C
Test Channel :	151	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (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	24.68	-15.32	40	43.74	12.12	0.52	31.7	100	113	Peak
121.26	19.92	-23.58	43.5	38.43	11.88	1.32	31.71	-	-	Peak
268.95	25.46	-20.54	46	41.94	12.98	2.22	31.68	-	-	Peak
410.6	25.54	-20.46	46	38.64	16.3	2.41	31.81	-	-	Peak
546.4	25.04	-20.96	46	34.99	18.94	2.98	31.87	-	-	Peak
846	24.37	-21.63	46	32.05	20.36	3.87	31.91	-	-	Peak
5755	88.2	-	-	75.19	35.46	11.39	33.84	125	236	Average
5755	97.41	-	-	84.4	35.46	11.39	33.84	125	236	Peak

Test Mode :	5G 802.11n-HT40	Temperature :	30~31°C
Test Channel :	151	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5755 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	21.45	-18.55	40	33.97	18.8	0.4	31.72	102	258	Peak
107.76	19.1	-24.4	43.5	37.98	11.72	1.1	31.7	-	-	Peak
285.15	19.43	-26.57	46	35.97	12.95	2.19	31.68	-	-	Peak
373.5	20.99	-25.01	46	35.48	14.86	2.33	31.68	-	-	Peak
637.4	22.12	-23.88	46	31.62	19.2	3.31	32.01	-	-	Peak
865.6	23.13	-22.87	46	30.63	20.45	3.86	31.81	-	-	Peak
5755	92.36	-	-	79.35	35.46	11.39	33.84	100	357	Average
5755	101.55	-	-	88.54	35.46	11.39	33.84	100	357	Peak

Test Mode :	5G 802.11n-HT40	Temperature :	30~31°C
Test Channel :	159	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5795	89.88	-	-	76.74	35.51	11.47	33.84	126	200	Average
5795	99.88	-	-	86.74	35.51	11.47	33.84	126	200	Peak

Test Mode :	5G 802.11n-HT40	Temperature :	30~31°C
Test Channel :	159	Relative Humidity :	42~43%
Test Engineer :	Kai Wang , Timberland Lin, and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5795 MHz is fundamental signal which can be ignored. 2. Test result of emissions which are 20 dB lower than the limit is not reported per15.31		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5795	91.48	-	-	78.34	35.51	11.47	33.84	100	356	Average
5795	101.38	-	-	88.24	35.51	11.47	33.84	100	356	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 (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

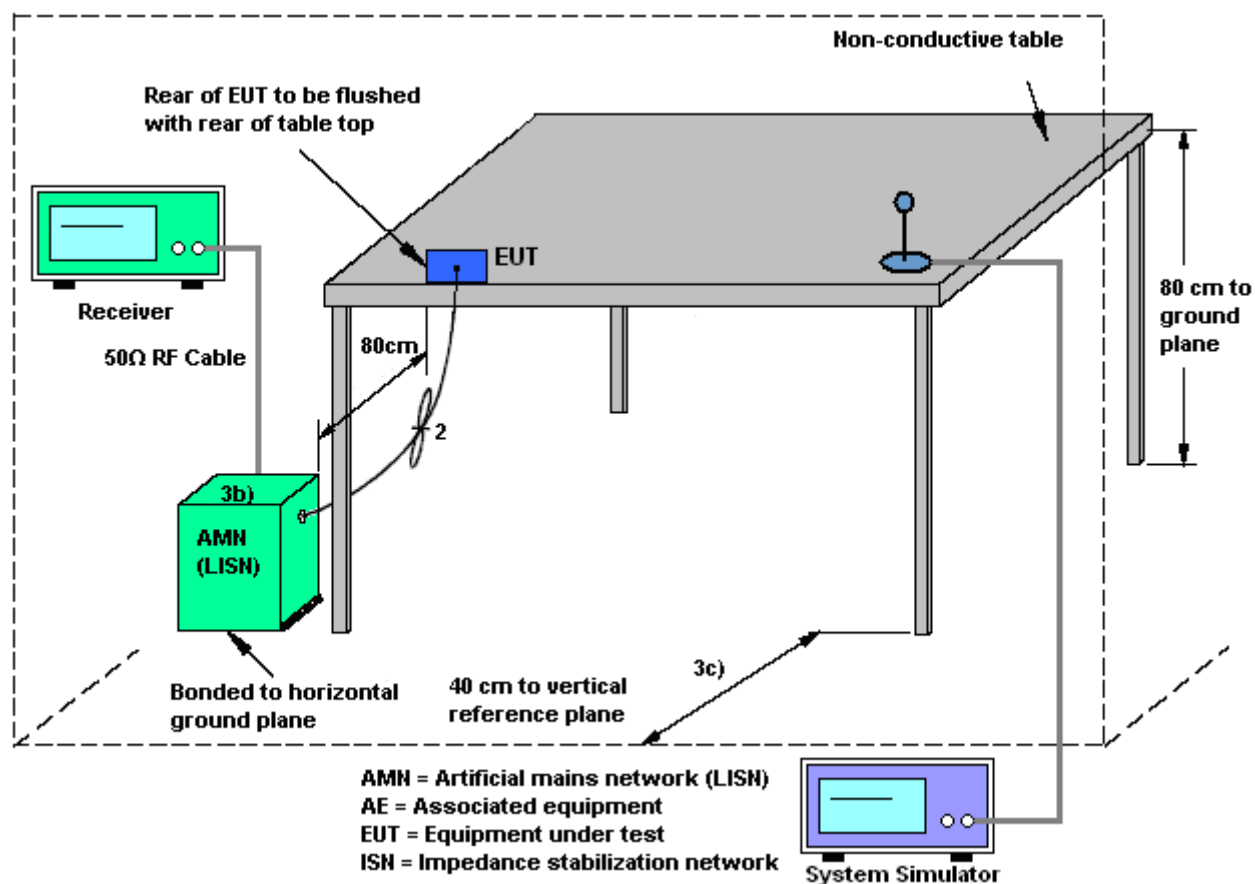
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

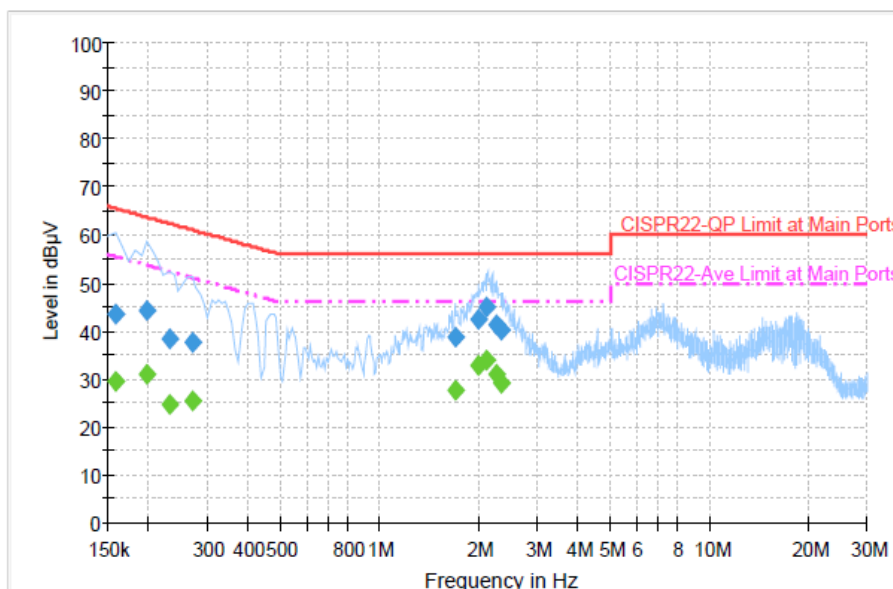
1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 KHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

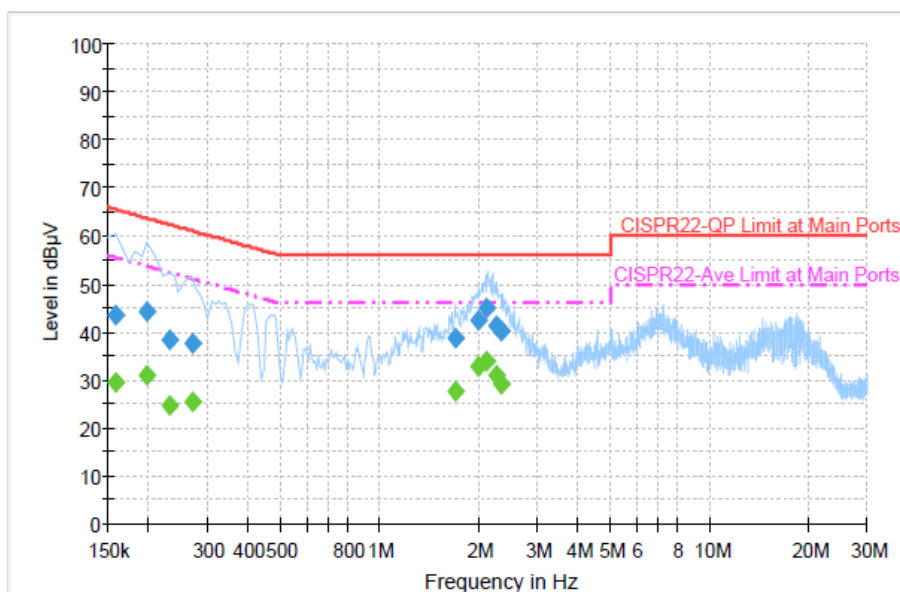
Test Mode :	Mode 1	Temperature :	20~22℃
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone + MP3 + Battery		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : Quasi-Peak

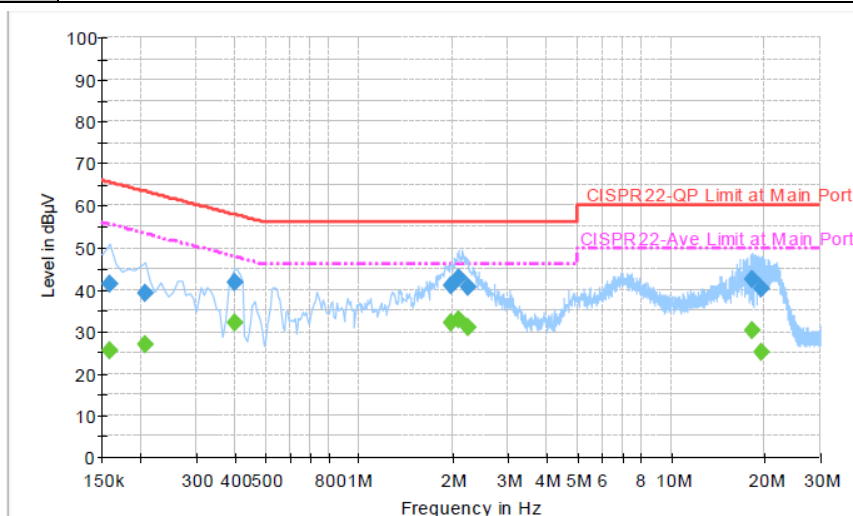
Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	43.5	Off	L1	19.3	22.1	65.6
0.198000	44.5	Off	L1	19.3	19.2	63.7
0.230000	38.4	Off	L1	19.4	24.0	62.4
0.270000	37.6	Off	L1	19.3	23.5	61.1
1.694000	38.6	Off	L1	19.5	17.4	56.0
1.990000	42.3	Off	L1	19.5	13.7	56.0
2.102000	45.0	Off	L1	19.5	11.0	56.0
2.270000	41.2	Off	L1	19.6	14.8	56.0
2.334000	40.1	Off	L1	19.6	15.9	56.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone + MP3 + Battery		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	29.7	Off	L1	19.3	25.9	55.6
0.198000	31.2	Off	L1	19.3	22.5	53.7
0.230000	24.9	Off	L1	19.4	27.5	52.4
0.270000	25.5	Off	L1	19.3	25.6	51.1
1.694000	27.8	Off	L1	19.5	18.2	46.0
1.990000	32.8	Off	L1	19.5	13.2	46.0
2.102000	34.1	Off	L1	19.5	11.9	46.0
2.270000	30.9	Off	L1	19.6	15.1	46.0
2.334000	29.2	Off	L1	19.6	16.8	46.0

Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	GSM850 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone + MP3 + Battery		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	41.5	Off	N	19.3	24.1	65.6
0.206000	39.2	Off	N	19.4	24.2	63.4
0.398000	41.7	Off	N	19.5	16.2	57.9
1.974000	41.1	Off	N	19.5	14.9	56.0
2.086000	42.7	Off	N	19.6	13.3	56.0
2.222000	40.5	Off	N	19.6	15.5	56.0
18.214000	42.6	Off	N	19.9	17.4	60.0
19.510000	40.4	Off	N	19.9	19.6	60.0

Final Result : Average

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.158000	25.6	Off	N	19.3	30.0	55.6
0.206000	27.0	Off	N	19.4	26.4	53.4
0.398000	32.1	Off	N	19.5	15.8	47.9
1.974000	32.2	Off	N	19.5	13.8	46.0
2.086000	32.9	Off	N	19.6	13.1	46.0
2.222000	31.0	Off	N	19.6	15.0	46.0
18.214000	30.2	Off	N	19.9	19.8	50.0
19.510000	25.2	Off	N	19.9	24.8	50.0



3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Connected Construction

Non-standard connector 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	R&S	FSP40	100055	9kHz~40GHz	Jun. 06, 2012	Sep. 28, 2012~ Oct. 04, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Sep. 28, 2012~ Oct. 04, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Sep. 28, 2012~ Oct. 04, 2012	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	R&S	ESCS 30	100356	9KHz ~ 2.75GHz	Oct. 27, 2011	Oct. 02, 2012	Oct. 26, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Oct. 02, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Oct. 02, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Oct. 02, 2012	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	112403	N/A	Feb. 22, 2011	Oct. 02, 2012	Feb. 21, 2013	Conduction (CO05-HY)
Spectrum Analyzer	Agilent	E4408B	MY442110 30	9KHz ~ 26.5GHz	Nov. 23, 2011	Sep. 29, 2012~ Oct. 03, 2012	Nov. 22, 2012	Radiation (03CH06-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz-30GHz	Nov. 03, 2011	Sep. 29, 2012~ Oct. 03, 2012	Nov. 02, 2012	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/00 3	20MHz ~ 1000MHz	May 04, 2012	Sep. 29, 2012~ Oct. 03, 2012	May. 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 22, 2011	Sep. 29, 2012~ Oct. 03, 2012	Oct. 21, 2012	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Sep. 29, 2012~ Oct. 03, 2012	Jul. 31, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170 251	15GHz ~ 40GHz	Oct. 20, 2011	Sep. 29, 2012~ Oct. 03, 2012	Oct. 19, 2012	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A019 17	1GHz ~ 26.5GHz	Apr. 13, 2012	Sep. 29, 2012~ Oct. 03, 2012	Apr. 12, 2013	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 11, 2012	Sep. 29, 2012~ Oct. 03, 2012	Apr. 10, 2013	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Sep. 29, 2012~ Oct. 03, 2012	Jul. 20, 2013	Radiation (03CH06-HY)
Pre Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	159087	1GHz~18GHz	Feb. 27, 2012	Sep. 29, 2012~ Oct. 03, 2012	Feb. 26, 2013	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/00 1	9KHz ~ 30MHz	Jul. 03, 2012	Sep. 29, 2012~ Oct. 03, 2012	Jul. 02, 2014	Radiation (03CH06-HY)

5 Uncertainty of Evaluation

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

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

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

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