

FCC RF Test Report

APPLICANT : SAMSUNG Electronics Co., LTD.
EQUIPMENT : Mobile Phone
BRAND NAME : Samsung
MODEL NAME : SHV-E270L
MARKETING NAME : BAFFIN
FCC ID : A3LSHVE270L
STANDARD : FCC Part 15 Subpart C §15.247
CLASSIFICATION : (DTS) Digital Transmission System

The product was received on Oct. 09, 2012 and completely tested on Oct. 13, 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.

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



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 32

 3.3 Power Spectral Density Measurement 37

 3.4 Conducted Band Edges and Spurious Emission Measurement 57

 3.5 Radiated Band Edges and Spurious Emission Measurement 104

 3.6 AC Conducted Emission Measurement 141

 3.7 Antenna Requirements 146

4 LIST OF MEASURING EQUIPMENT 147

5 UNCERTAINTY OF EVALUATION 148

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 2.05 dB at 7311.000 MHz
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 8.10 dB at 0.406 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	SHV-E270L
Marketing Name	BAFFIN
FCC ID	A3LSHVE270L
EUT supports Radios application	GSM/EGPRS/WCDMA/HSPA WLAN 11abgn / Bluetooth
HW Version	REV0.1
SW Version	E270L.001
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 : 19.92 dBm (0.0982 W) 802.11g : 22.38 dBm (0.1730 W) 802.11n HT20 : 22.02 dBm (0.1592 W) <5745 MHz ~ 5825 MHz> 802.11a : 23.91 dBm (0.2460 W) 802.11n HT20 : 22.42 dBm (0.1746 W) 802.11n HT40 : 22.51 dBm (0.1782 W)
Antenna Type	802.11b/g/n : PIFA Antenna type with gain -5.01 dBi 802.11a/n : PIFA Antenna type with gain -5.01 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 v02
- 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.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
3.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
4.	LCD Monitor	Lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m

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 and Z 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)	19.92	19.91	19.88	19.89

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)	22.38	22.33	22.21	22.19	22.12	22.26	22.13	22.17

2.4GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.02	21.89	21.45	21.64	21.51	21.49	21.45	21.44

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)	23.91	23.77	23.75	23.65	23.61	23.62	23.75	23.57

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.42	22.19	22.16	22.14	22.16	22.01	22.23	22.13

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	22.51	22.45	22.41	22.42	22.34	22.40	22.35	22.24



2.3 Test Mode

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

<2.4GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	6dB 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



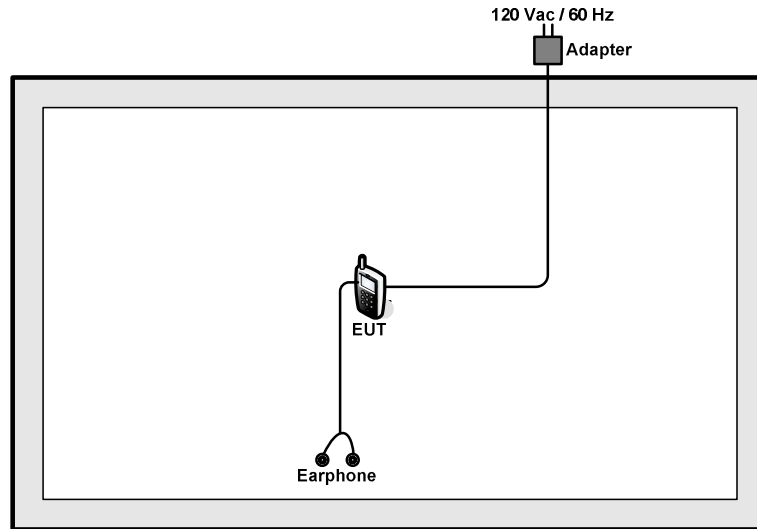
<5GHz>

Test Cases				
	Test Items	Mode	Data Rate	Test Channel
Conducted TCs	6dB 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

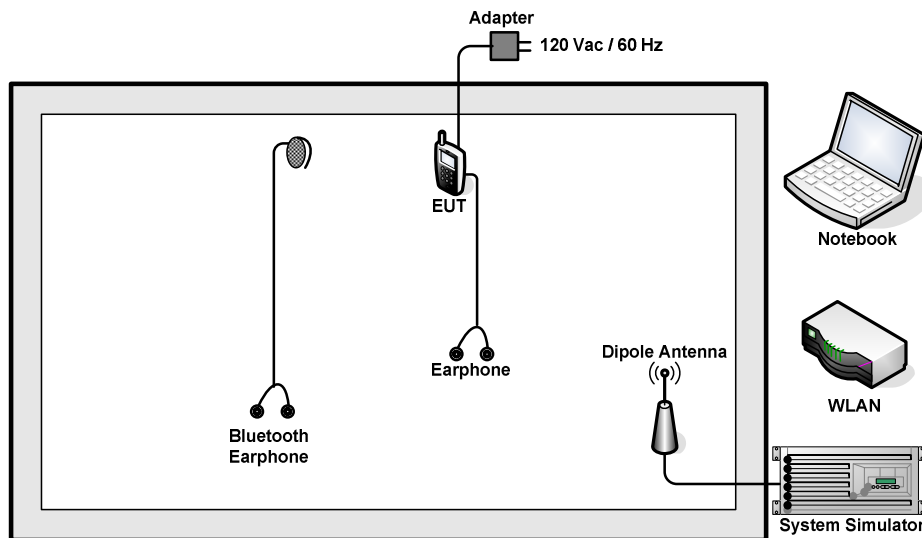
Test Cases	
AC Conducted Emission	Mode 1 : GSM1900 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone +MP3

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 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.

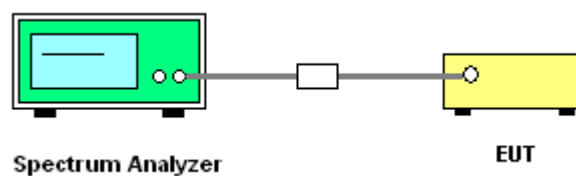
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v02.
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°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	9.08	0.5	Pass
06	2437	9.08	0.5	Pass
11	2462	9.08	0.5	Pass

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

Channel	Frequency (MHz)	802.11g 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.88	0.5	Pass
06	2437	16.08	0.5	Pass
11	2462	15.88	0.5	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	17.36	0.5	Pass
06	2437	17.32	0.5	Pass
11	2462	17.28	0.5	Pass



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

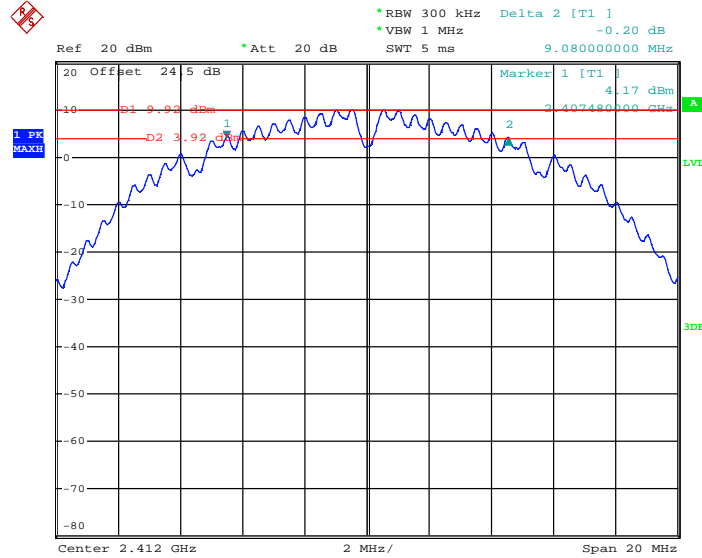
Channel	Frequency (MHz)	5GHz 802.11n HT20 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	17.88	0.5	Pass
157	5785	17.84	0.5	Pass
165	5825	17.84	0.5	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT40 6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	35.36	0.5	Pass
159	5795	35.04	0.5	Pass

3.1.6 Test Result of 6dB Bandwidth Plots

6 dB Bandwidth Plot on 802.11b Channel 01

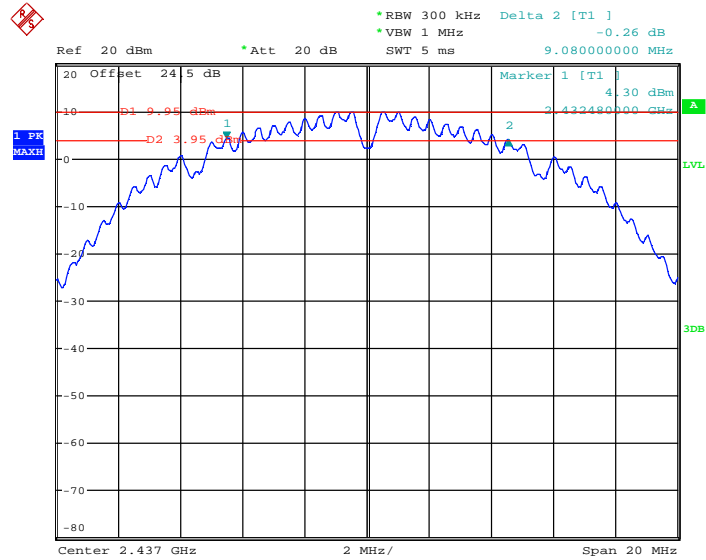


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

Example: the 6dB bandwidth test item, the peak point of fundamental signal is 9.92dBm, has added (offset) with the total loss = attenuator factor + cable loss = 24.5dB, where, cable loss = 4.5dB and 20dB attenuator, and then the 6dB bandwidth is measured and compliance with the limit line. Hereafter, each plot of spectrum analyzer has been added the total loss respectively and to demonstrate in compliance with the limit line.

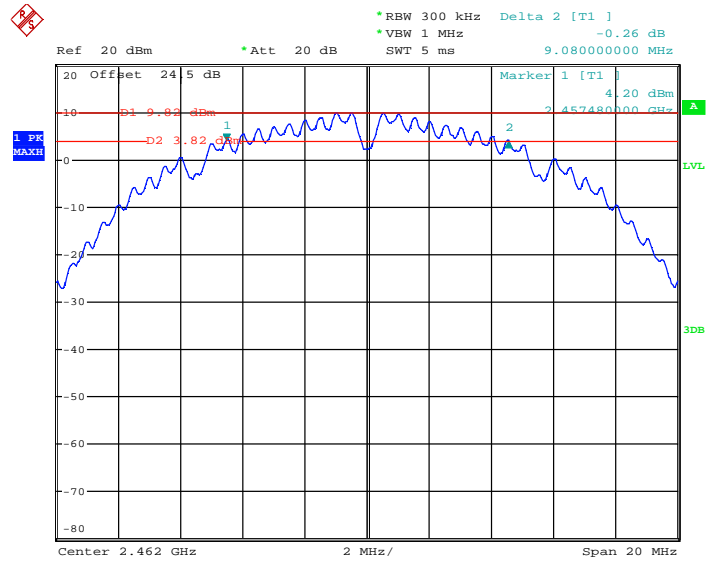
6 dB Bandwidth Plot on 802.11b Channel 06



Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

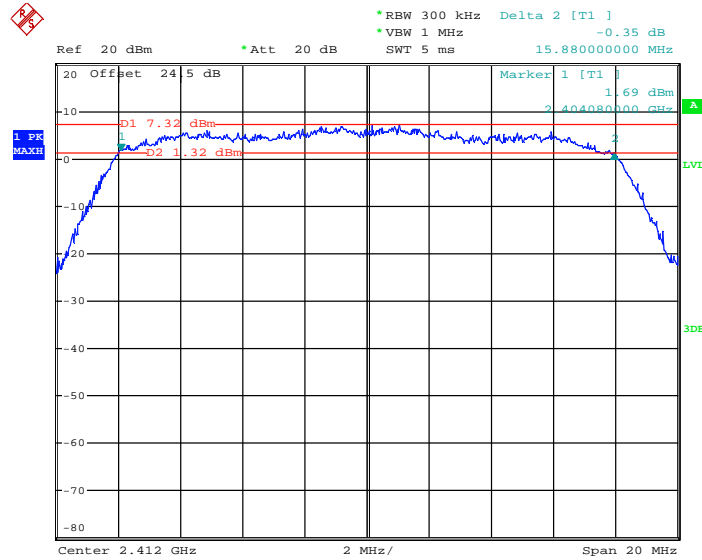
6 dB Bandwidth Plot on 802.11b Channel 11



Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

6 dB Bandwidth Plot on 802.11g Channel 01

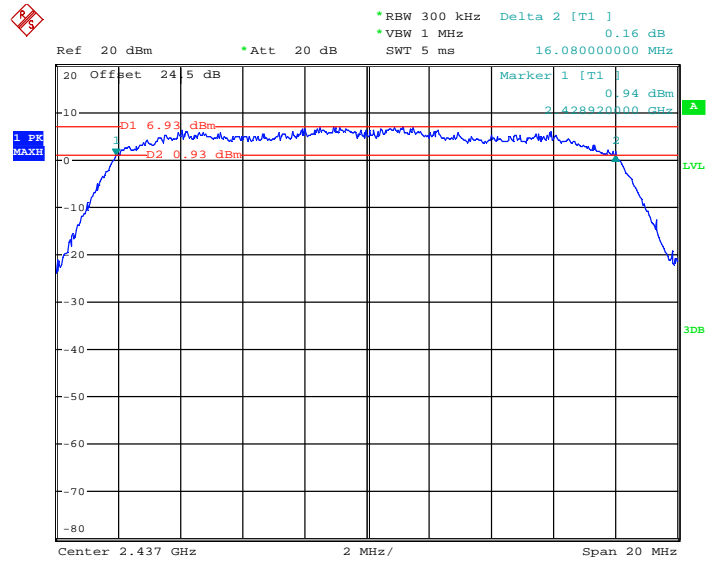


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



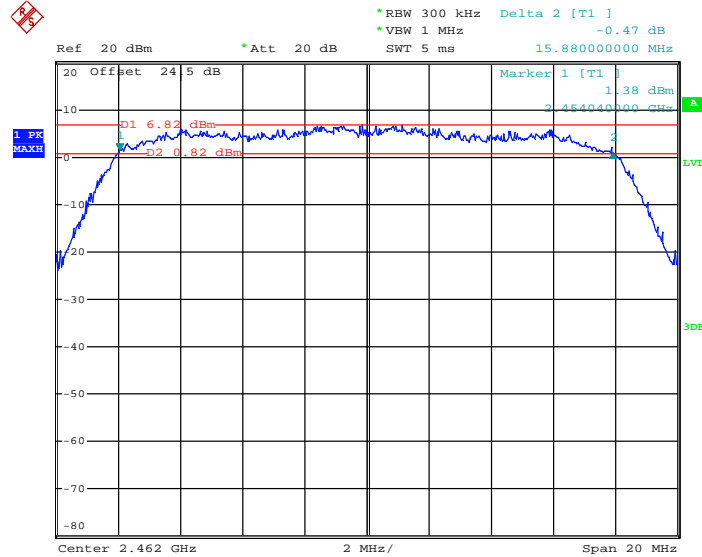
6 dB Bandwidth Plot on 802.11g Channel 06



Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

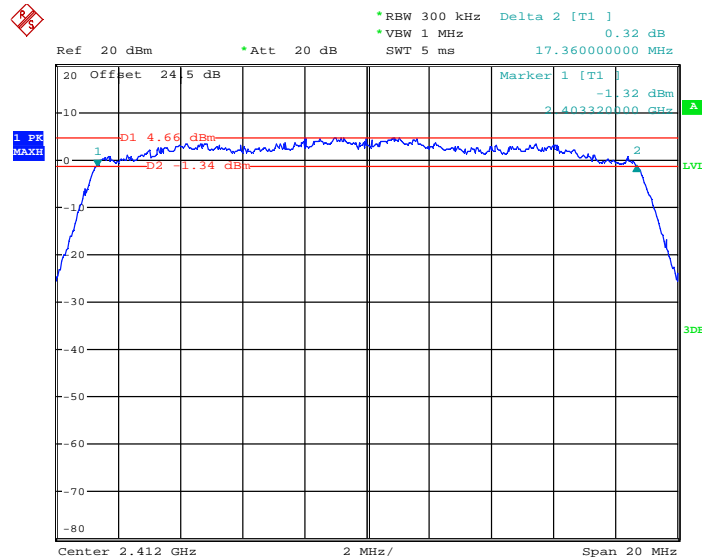
6 dB Bandwidth Plot on 802.11g Channel 11



Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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

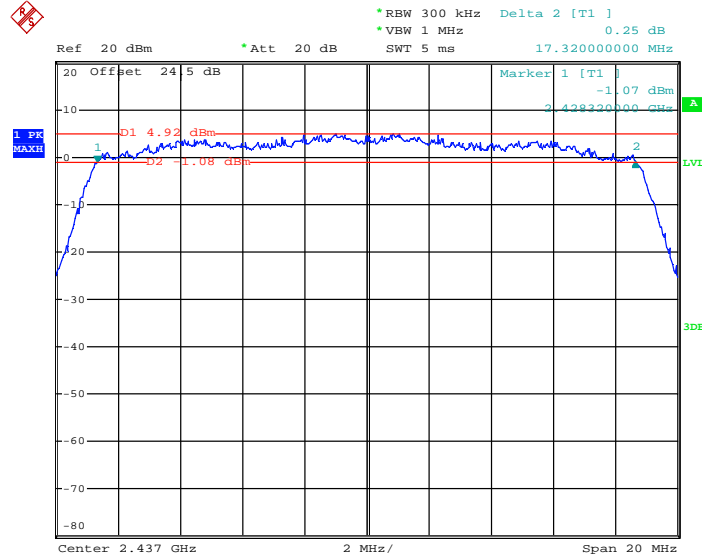


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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

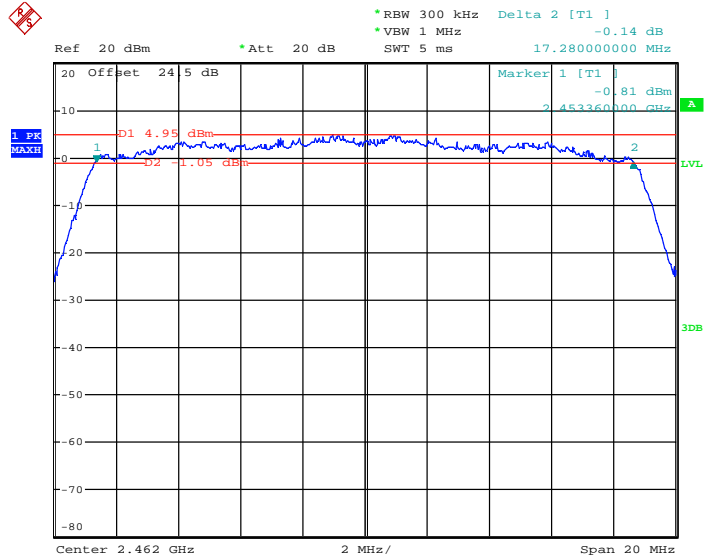


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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

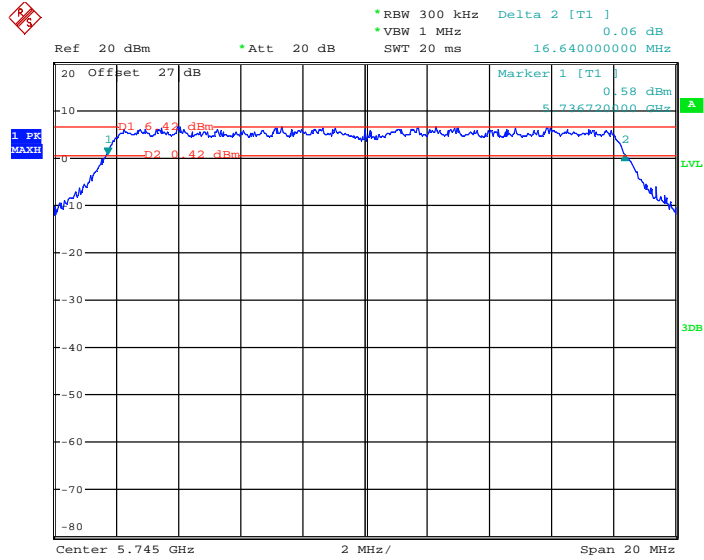


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



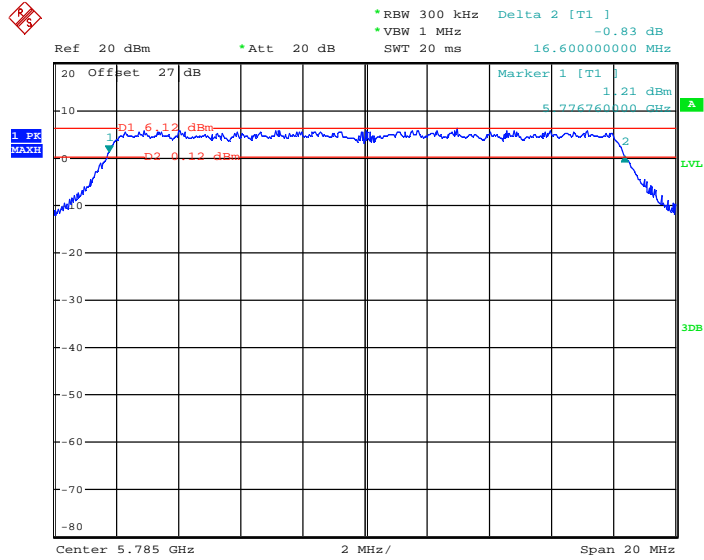
6 dB Bandwidth Plot on 802.11a Channel 149



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

6 dB Bandwidth Plot on 802.11a Channel 157

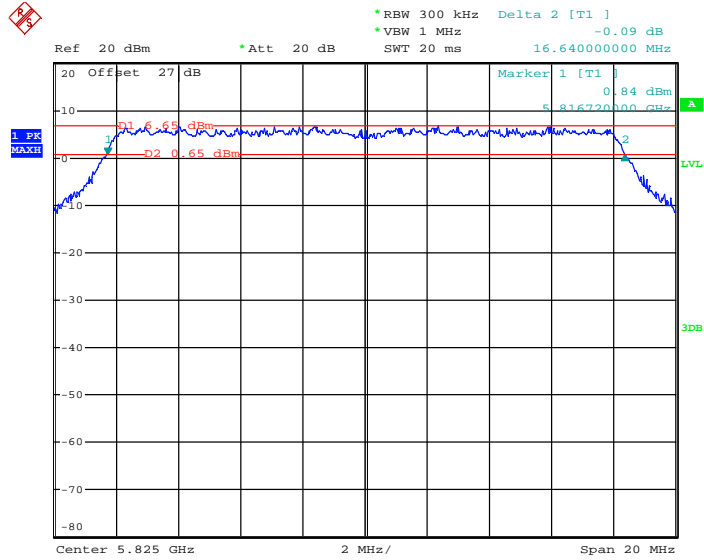


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



6 dB Bandwidth Plot on 802.11a Channel 165

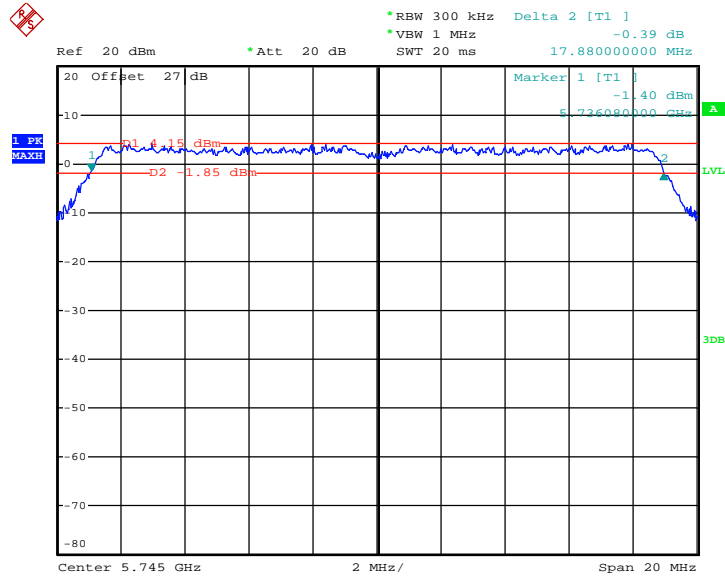


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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

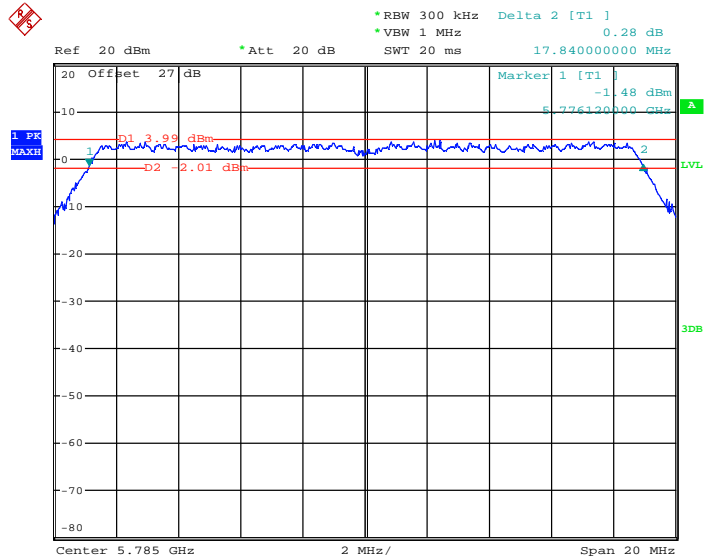


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



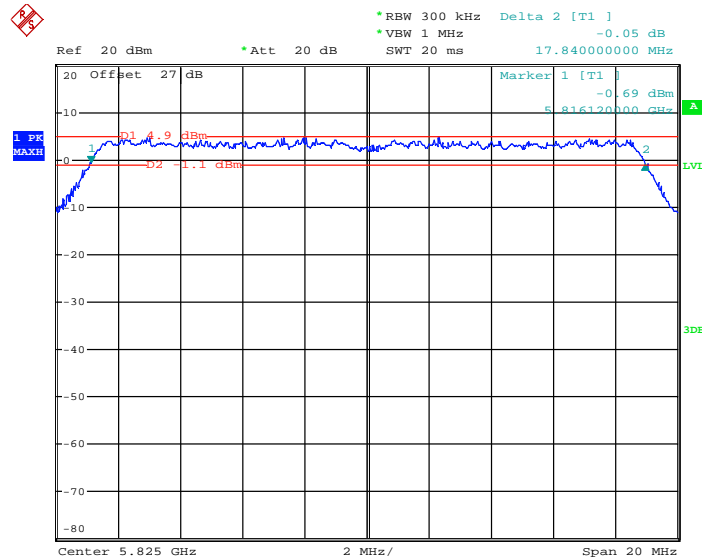
6 dB Bandwidth Plot on 5GHz 802.11n HT20 Channel 157



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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

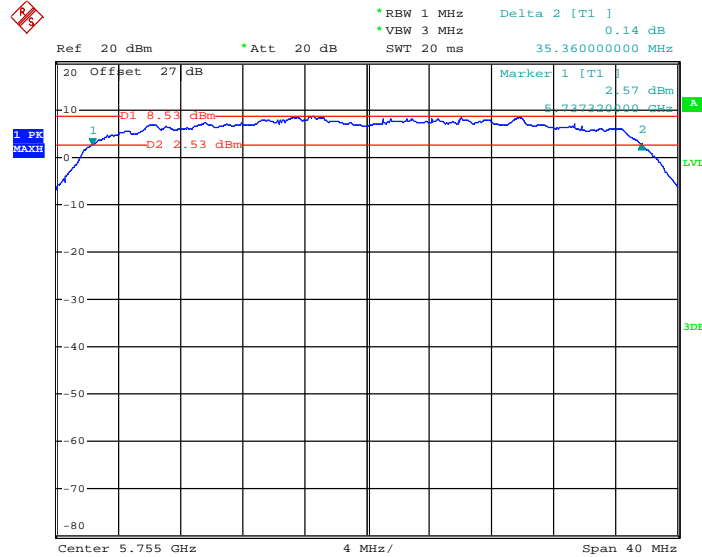


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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

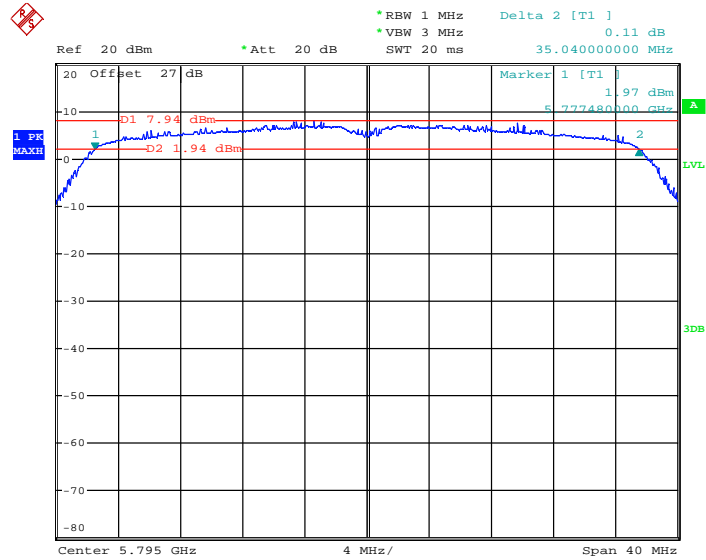


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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.

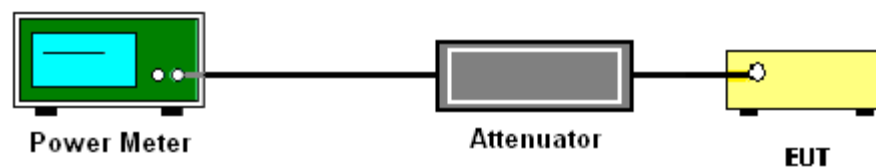
3.2.2 Measuring Instruments

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 v02.
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 :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	19.90	30	Pass
06	2437	19.92	30	Pass
11	2462	19.71	30	Pass

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

Channel	Frequency (MHz)	802.11g Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.30	30	Pass
06	2437	22.38	30	Pass
11	2462	22.19	30	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	22.02	30	Pass
06	2437	21.94	30	Pass
11	2462	21.49	30	Pass



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

Channel	Frequency (MHz)	802.11a Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	23.91	30	Pass
157	5785	23.22	30	Pass
165	5825	23.81	30	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT20 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	22.36	30	Pass
157	5785	21.86	30	Pass
165	5825	22.42	30	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT40 Peak Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	22.51	30	Pass
159	5795	21.89	30	Pass



3.2.6 Test Result of Average output Power (Reporting Only)

Test Mode :	802.11b	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	98.63%	Duty Factor:	0.06dB

Channel	Frequency (MHz)	802.11b Average Output Power (dBm)
01	2412	17.37
06	2437	17.41
11	2462	17.26

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

Channel	Frequency (MHz)	802.11g Average Output Power (dBm)
01	2412	13.60
06	2437	13.76
11	2462	13.61

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	93.06%	Duty Factor:	0.31dB

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Average Output Power (dBm)
01	2412	11.87
06	2437	11.75
11	2462	11.66



Test Mode :	802.11a	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	93.46%	Duty Factor:	0.29dB

Channel	Frequency (MHz)	802.11a Average Output Power (dBm)
149	5745	14.31
157	5785	13.62
165	5825	14.26

Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	93.06%	Duty Factor:	0.31dB

Channel	Frequency (MHz)	5GHz 802.11n HT20 Average Output Power (dBm)
149	5745	12.22
157	5785	11.66
165	5825	12.29

Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%
Duty Cycle:	86.98%	Duty Factor:	0.61dB

Channel	Frequency (MHz)	5GHz 802.11n HT40 Average Output Power (dBm)
151	5755	12.47
159	5795	11.74

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

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

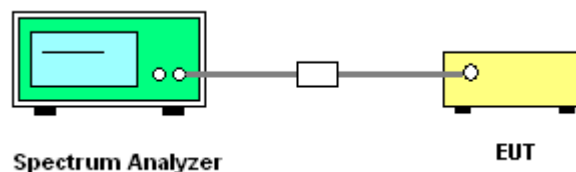
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 9.1 Option 1 of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v02
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) = 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. 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 :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	802.11b Power Density	Max. Limits (dBm)	Pass/Fail
		PSD/3KHz (dBm)		
01	2412	-4.91	8	Pass
06	2437	-4.87	8	Pass
11	2462	-5.25	8	Pass

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

Channel	Frequency (MHz)	802.11g Power Density	Max. Limits (dBm)	Pass/Fail
		PSD/3KHz (dBm)		
01	2412	-11.35	8	Pass
06	2437	-10.17	8	Pass
11	2462	-11.34	8	Pass

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

Channel	Frequency (MHz)	2.4GHz 802.11n HT20 Power Density	Max. Limits (dBm)	Pass/Fail
		PSD/3KHz (dBm)		
01	2412	-13.83	8	Pass
06	2437	-12.89	8	Pass
11	2462	-13.56	8	Pass



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

Channel	Frequency (MHz)	802.11a Power Density	Max. Limits (dBm)	Pass/Fail
		PSD/3KHz (dBm)		
149	5745	-11.58	8	Pass
157	5785	-11.79	8	Pass
165	5825	-11.21	8	Pass

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

Channel	Frequency (MHz)	5GHz 802.11n HT20 Power Density	Max. Limits (dBm)	Pass/Fail
		PSD/3KHz (dBm)		
149	5745	-13.84	8	Pass
157	5785	-14.55	8	Pass
165	5825	-13.44	8	Pass

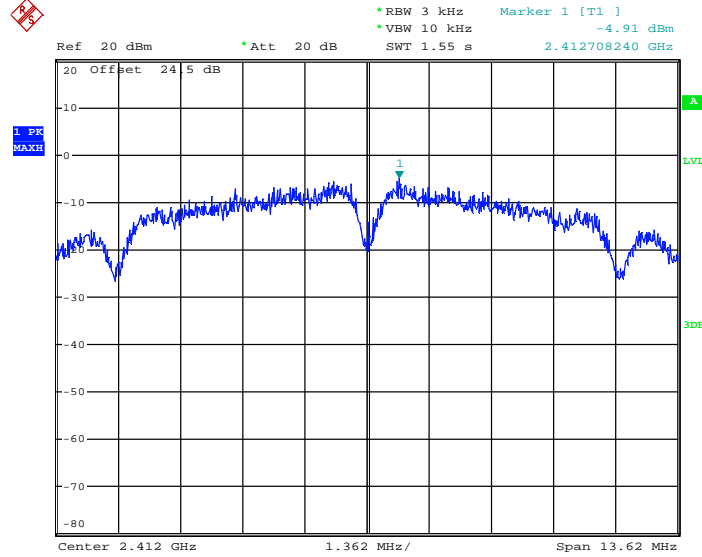
Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Engineer :	Bill Kuo	Relative Humidity :	50~53%

Channel	Frequency (MHz)	5GHz 802.11n HT40 Power Density	Max. Limits (dBm)	Pass/Fail
		PSD/3KHz (dBm)		
151	5755	-16.00	8	Pass
159	5795	-16.80	8	Pass

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

3.3.7 Test Result of Power Spectral Density Plots (3kHz)

PSD 3kHz Plot on 802.11b Channel 01

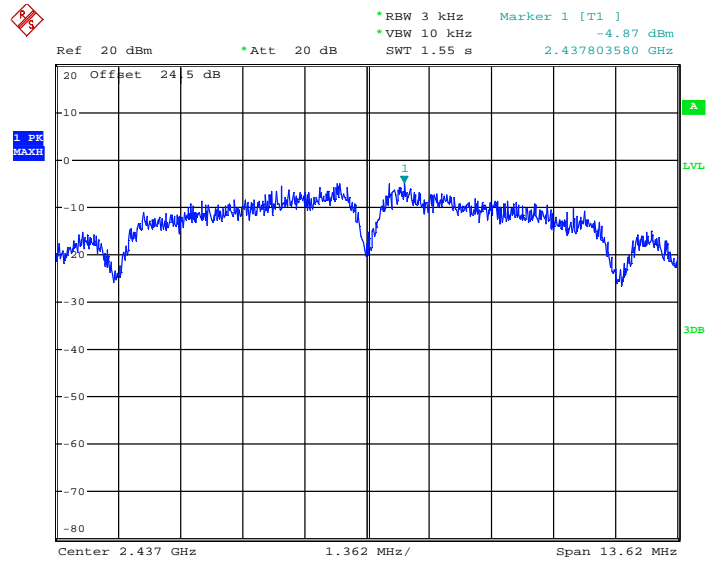


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



PSD 3kHz Plot on 802.11b Channel 06

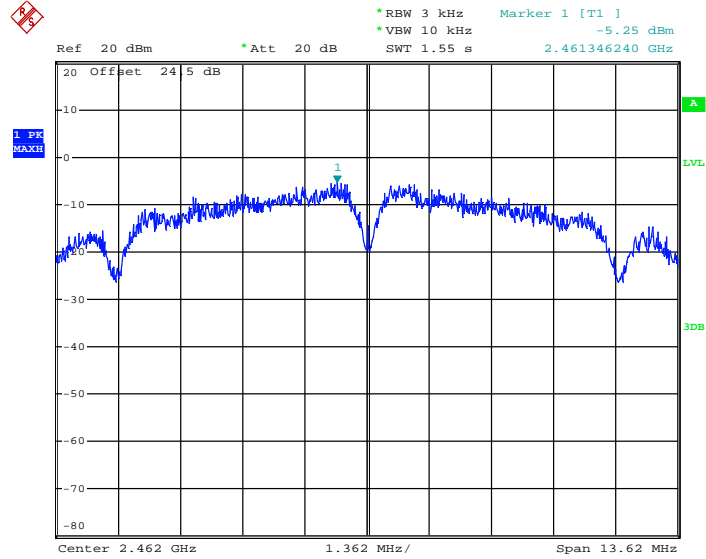


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



PSD 3kHz Plot on 802.11b Channel 11

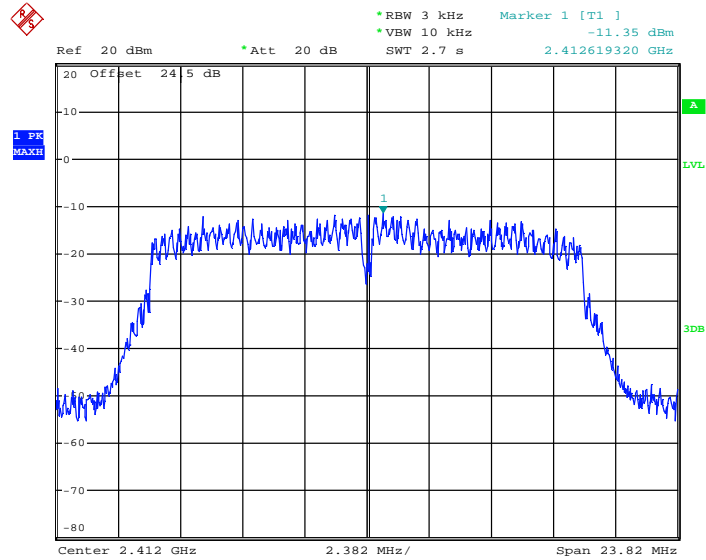


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



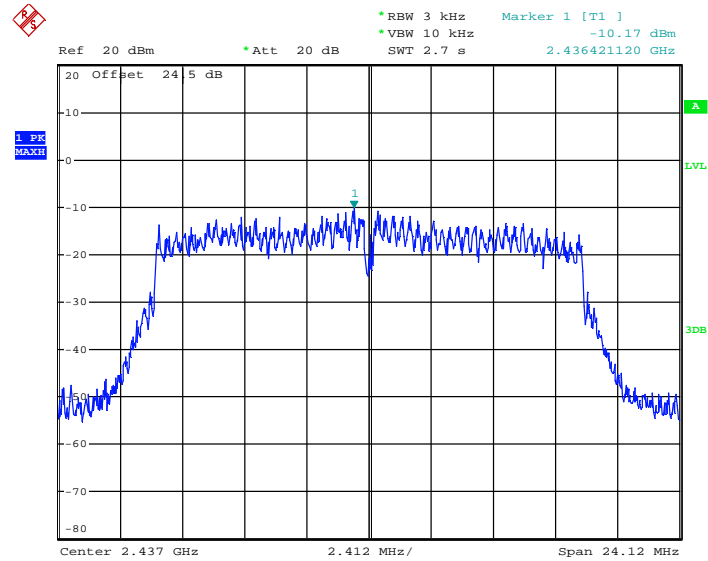
PSD 3kHz Plot on 802.11g Channel 01



Note:

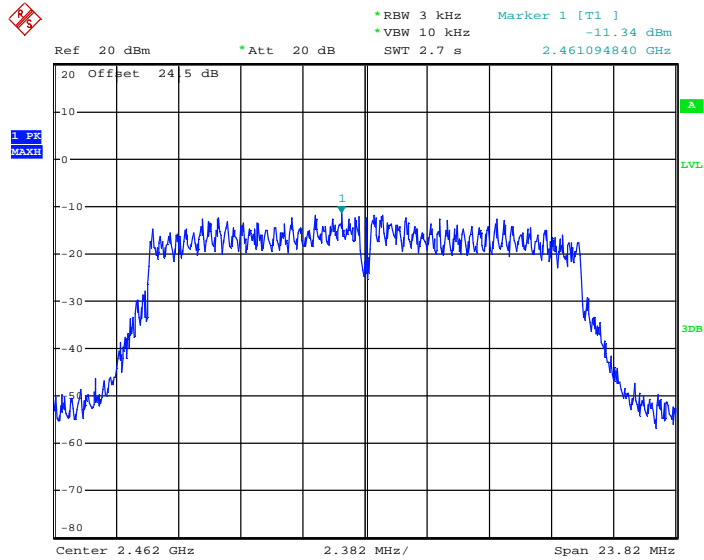
The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

PSD 3kHz Plot on 802.11g Channel 06

**Note:**

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

PSD 3kHz Plot on 802.11g Channel 11

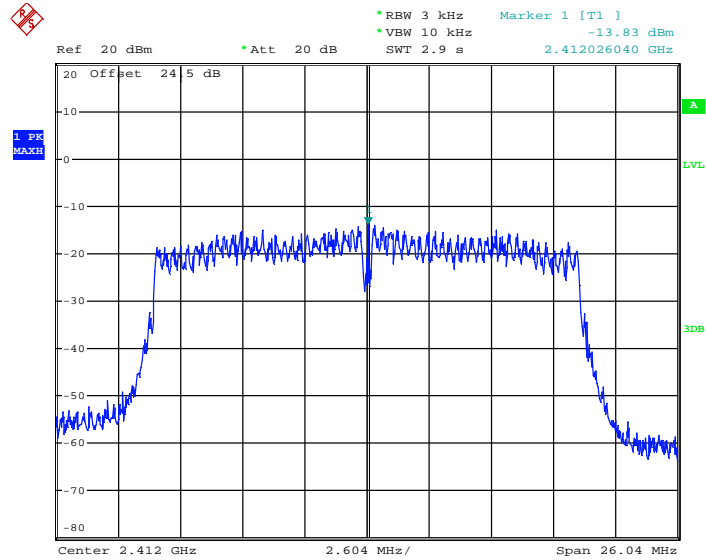


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



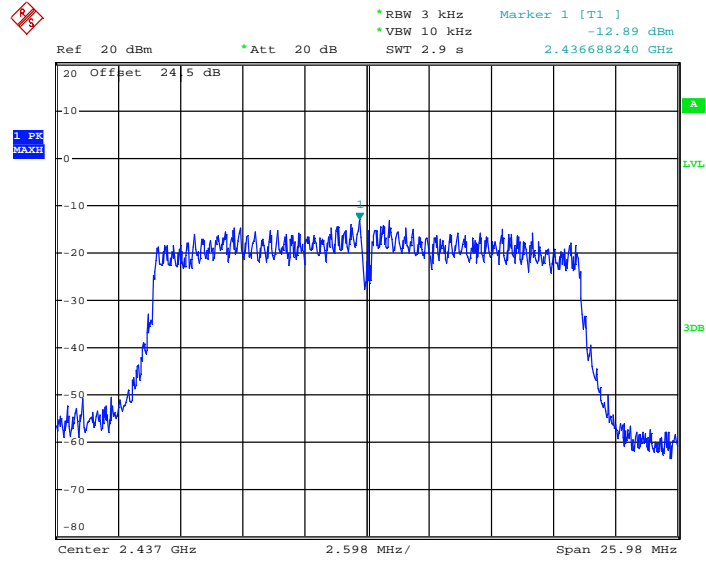
PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 01



Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

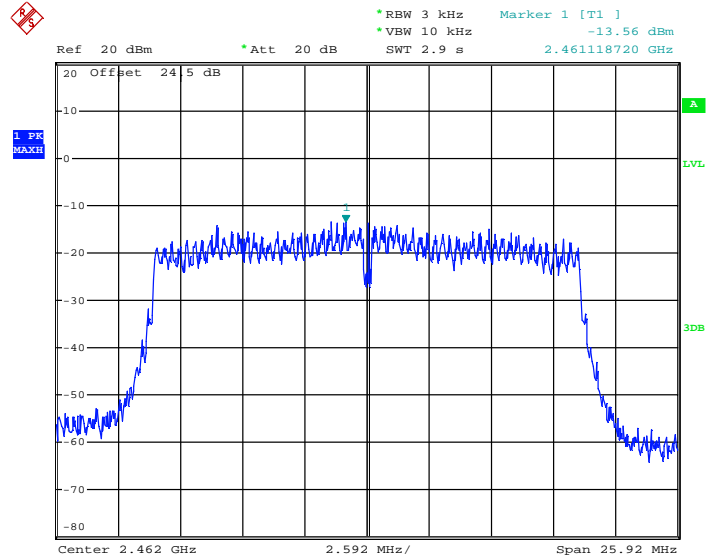
PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 06



Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

PSD 3kHz Plot on 2.4GHz 802.11n HT20 Channel 11

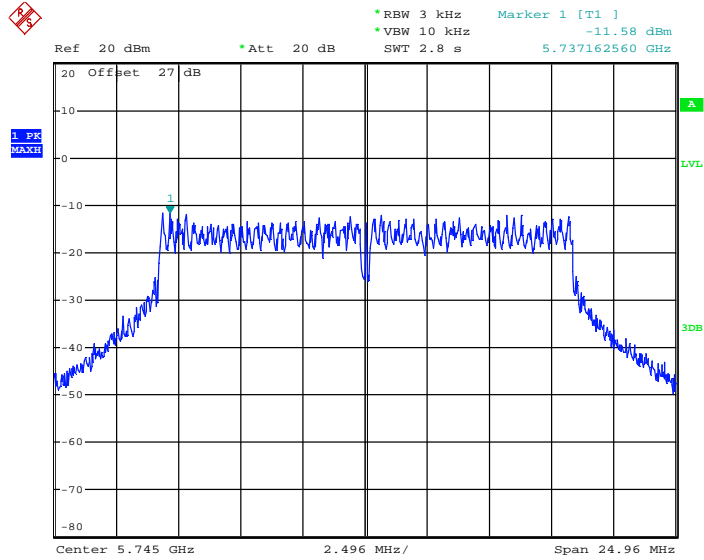


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



PSD 3kHz Plot on 802.11a Channel 149

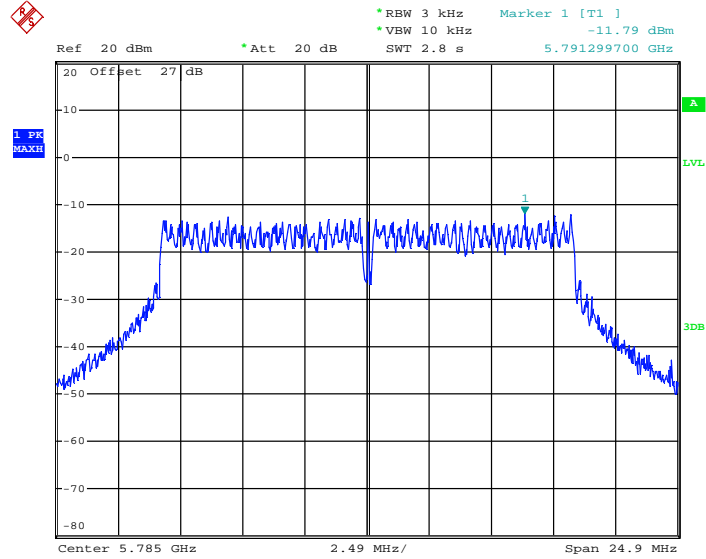


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



PSD 3kHz Plot on 802.11a Channel 157

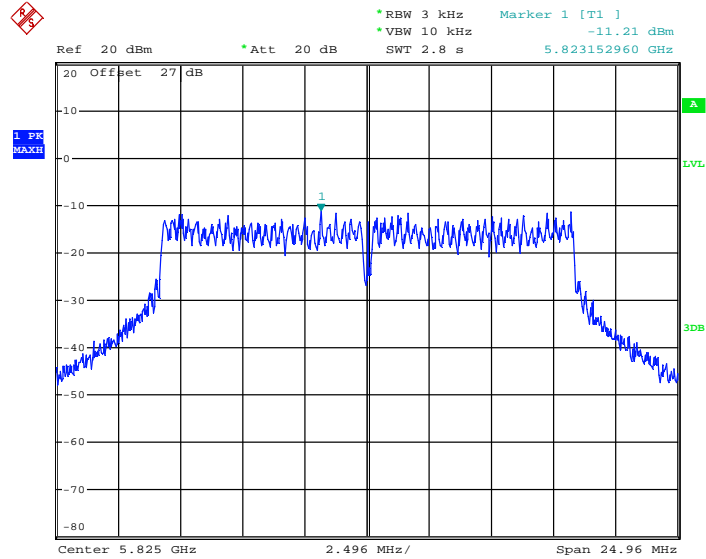


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



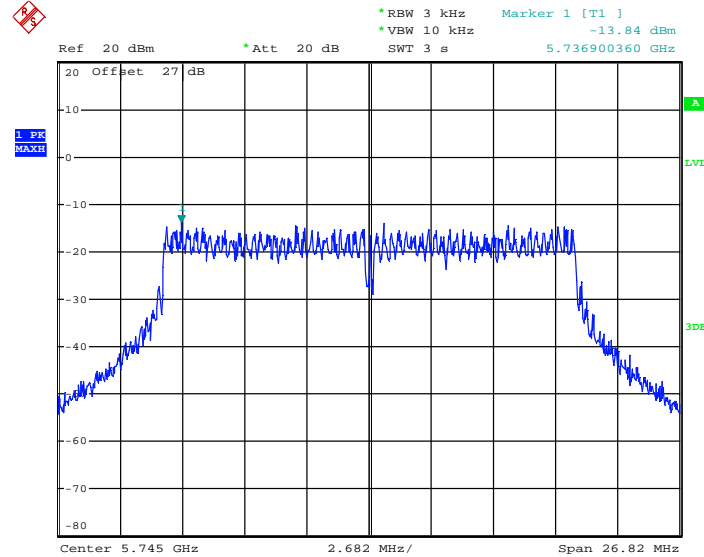
PSD 3kHz Plot on 802.11a Channel 165



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

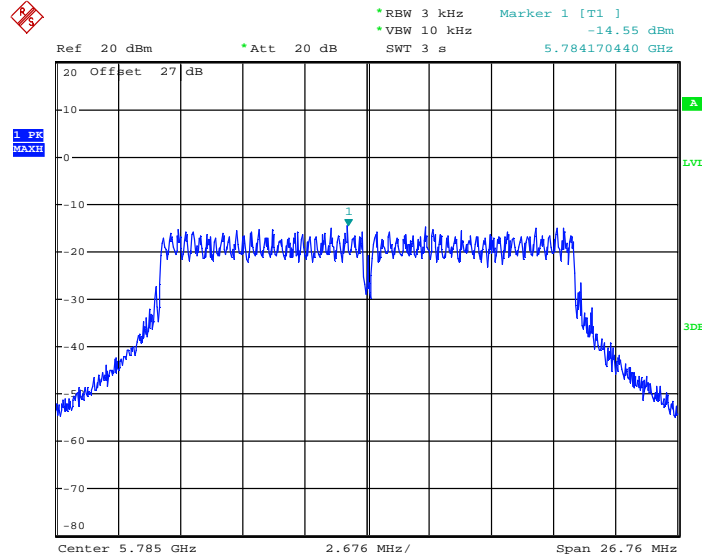
PSD 3kHz Plot on 5GHz 802.11n HT20 Channel 149



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

PSD 3kHz Plot on 5GHz 802.11n HT20 Channel 157

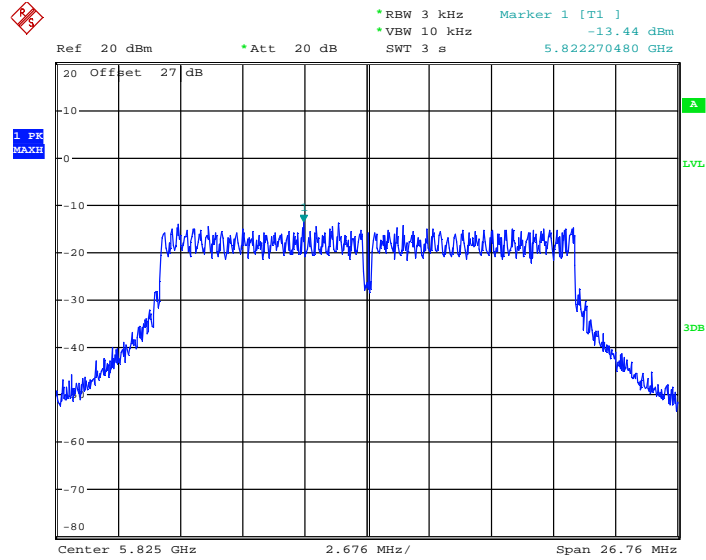


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



PSD 3kHz Plot on 5GHz 802.11n HT20 Channel 165

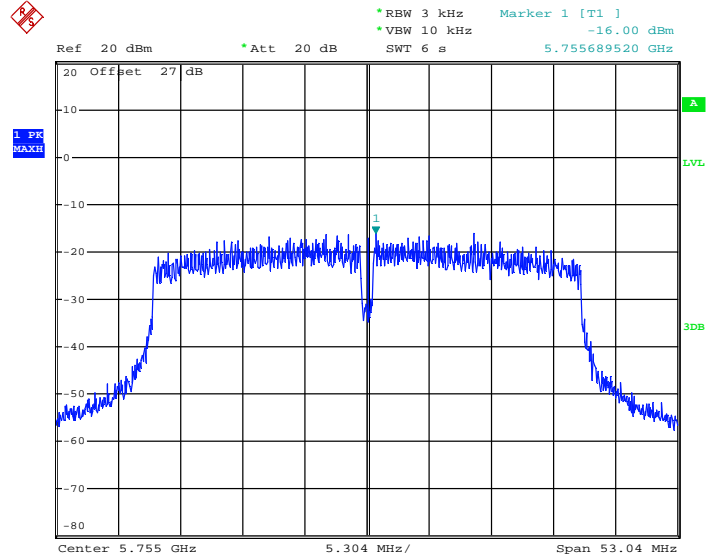


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



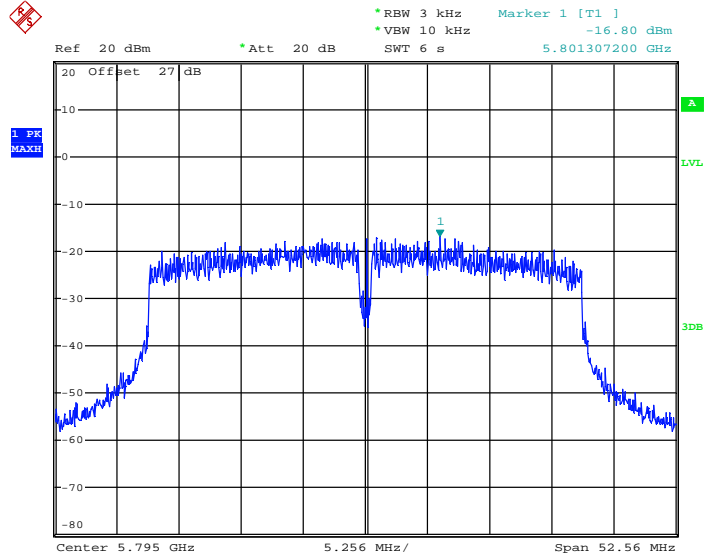
PSD 3kHz Plot on 5GHz 802.11n HT40 Channel 151



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

PSD 3kHz Plot on 5GHz 802.11n HT40 Channel 159



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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).

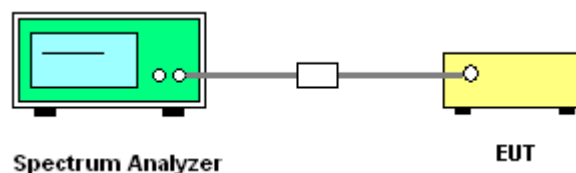
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedures

1. The testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v02.
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.

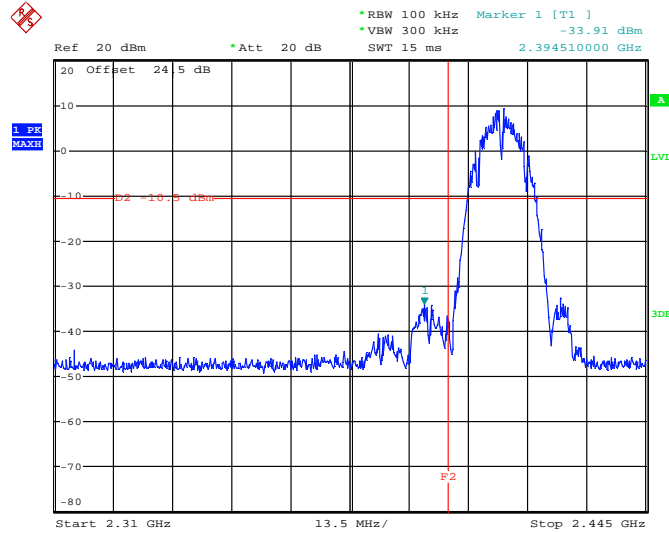
3.4.4 Test Setup



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 :	Bill Kuo

Low Band Edge Plot on 802.11b Channel 01

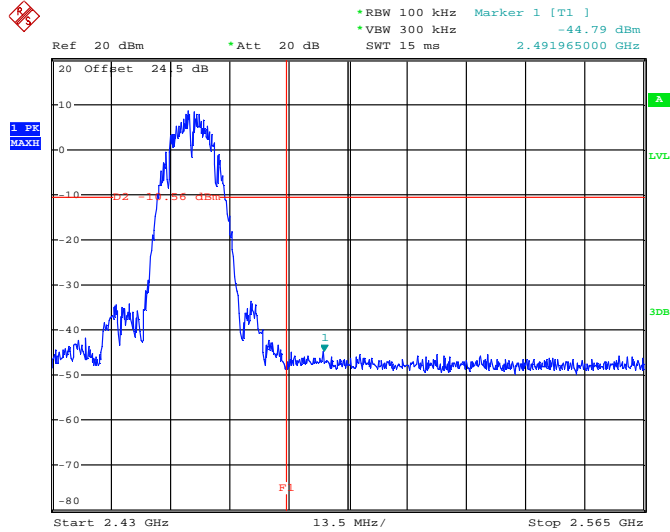


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



High Band Edge Plot on 802.11b Channel 11



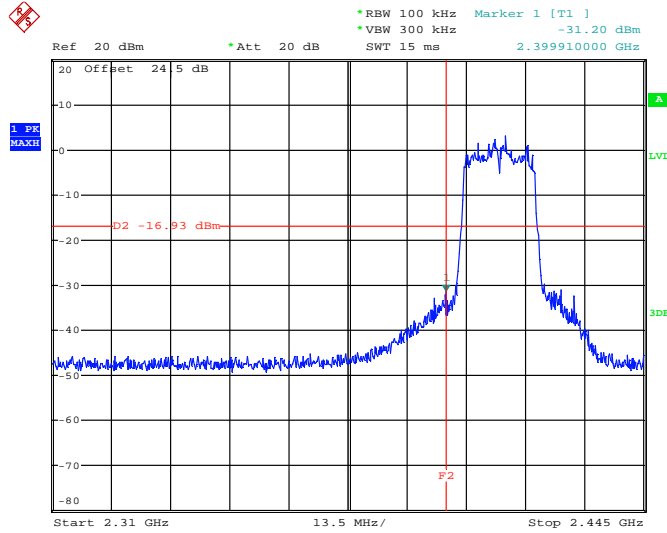
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



Test Mode :	802.11g	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	01 and 11	Test Engineer :	Bill Kuo

Low Band Edge Plot on 802.11g Channel 01

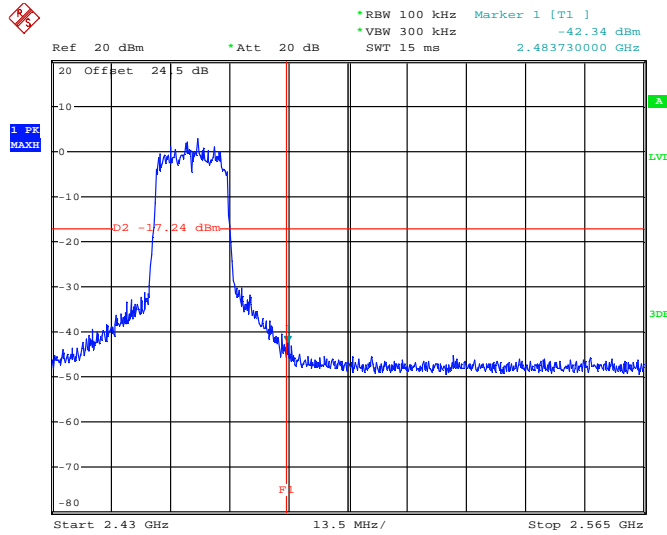


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



High Band Edge Plot on 802.11g Channel 11



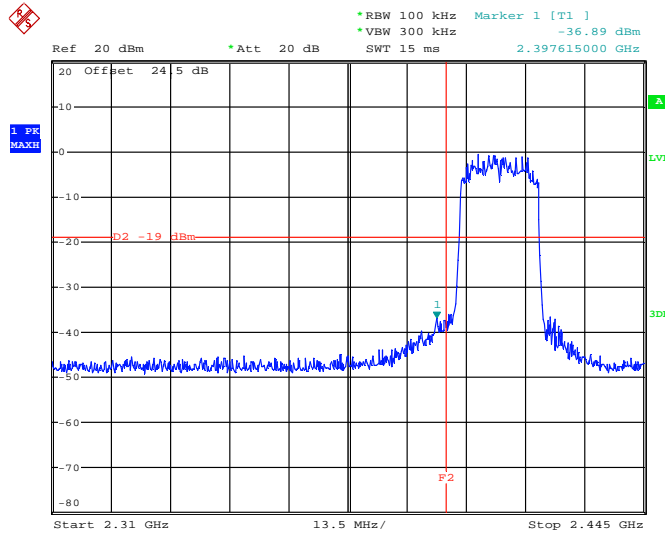
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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 :	Bill Kuo

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

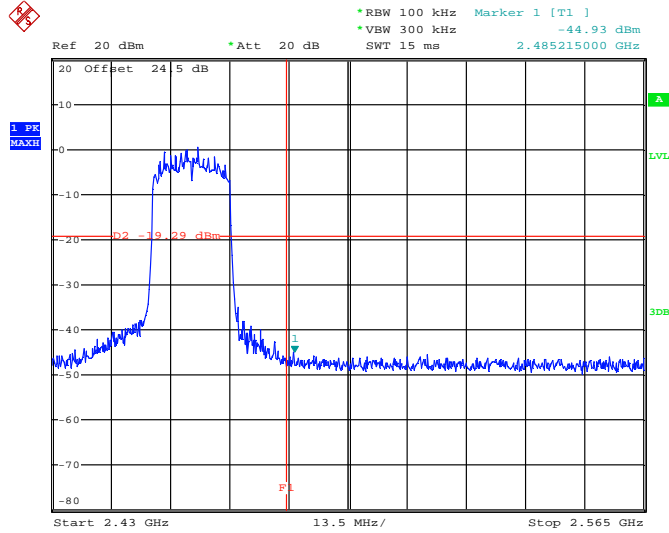


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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



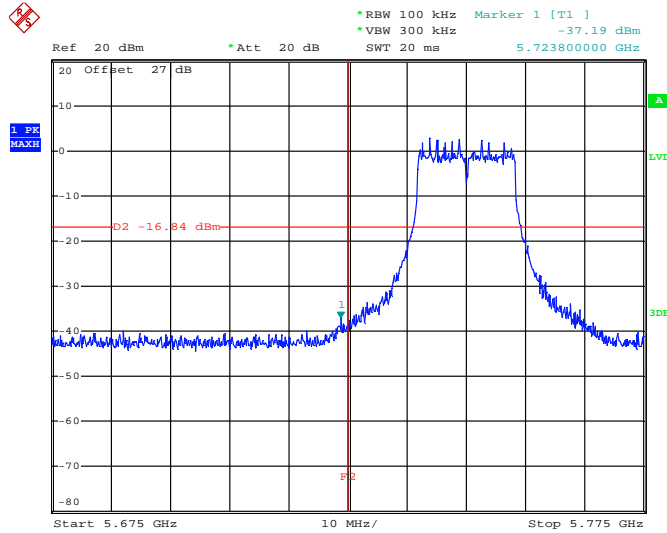
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Bill Kuo

Low Band Edge Plot on 802.11a Channel 149

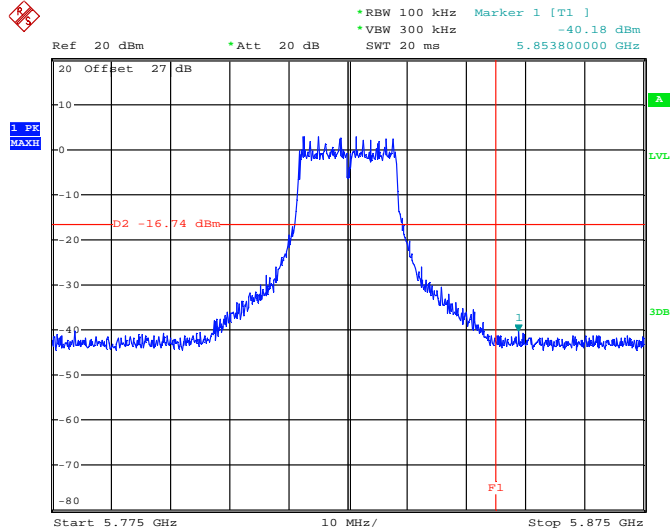


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



High Band Edge Plot on 802.11a Channel 165



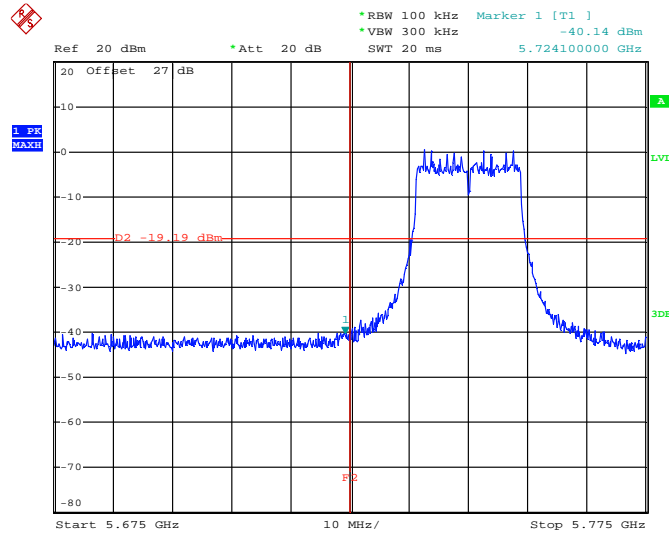
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	Low and High	Relative Humidity :	50~53%
Test Channel :	149 and 165	Test Engineer :	Bill Kuo

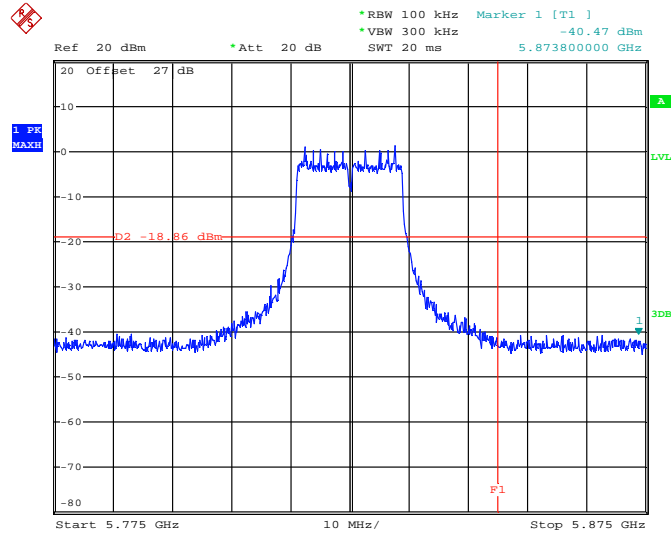
Low Band Edge Plot on 5GHz 802.11n HT20 Channel 149



Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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



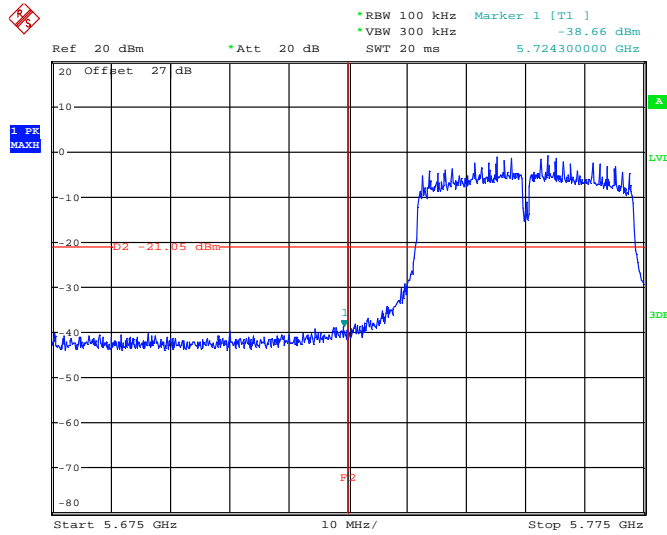
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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 :	Bill Kuo

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

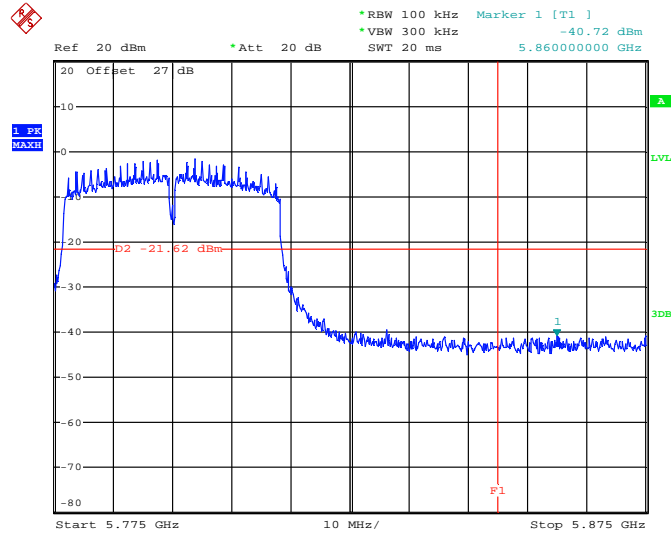


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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



Note:

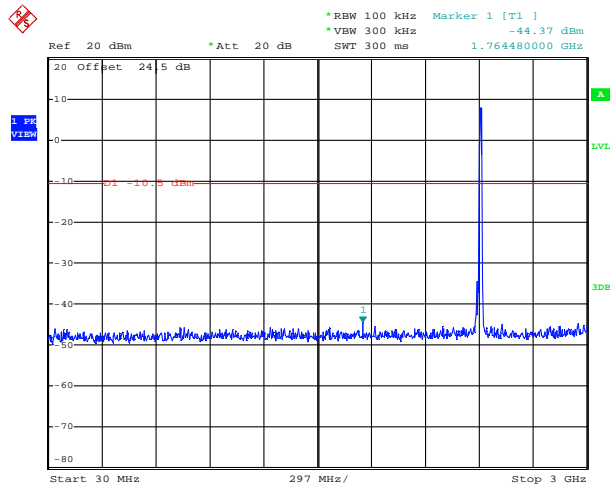
The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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 :	Bill Kuo

802.11b 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



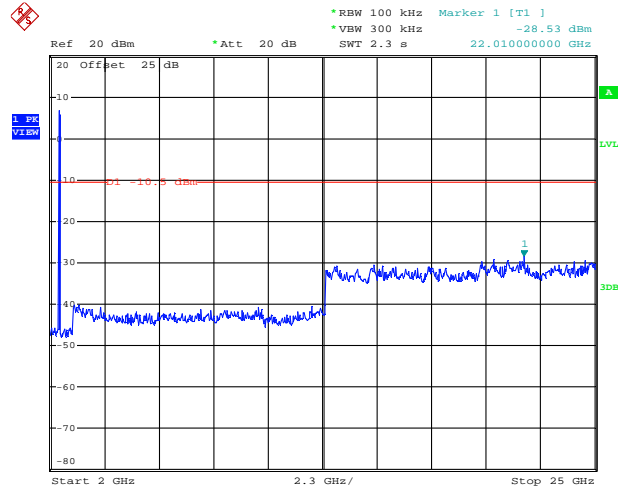
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



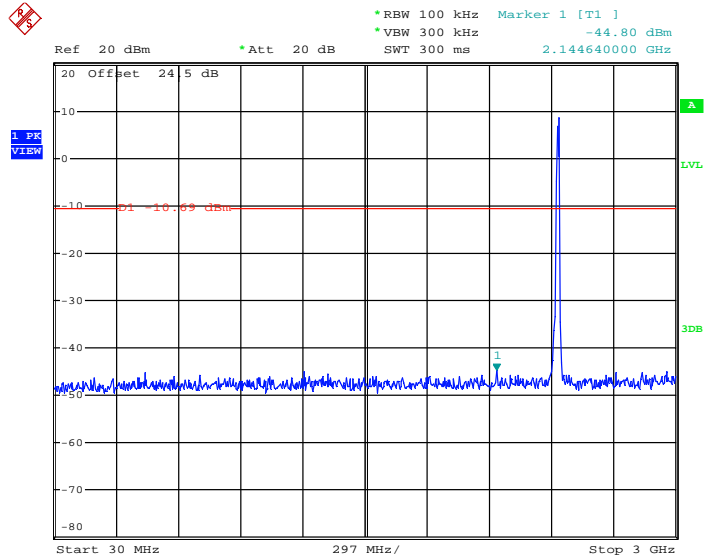
Note:

The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11b 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



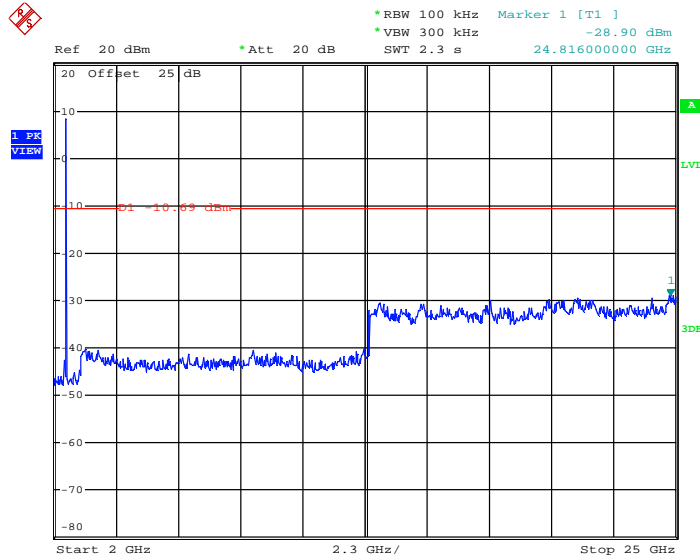
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



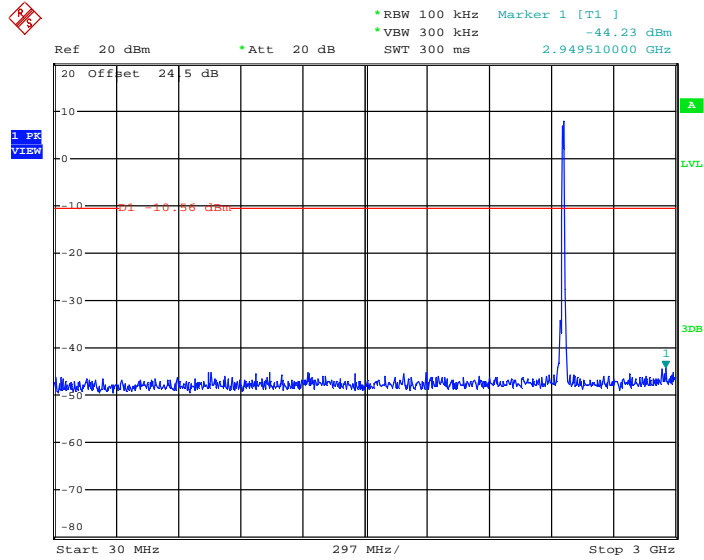
Note:

The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11b 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11

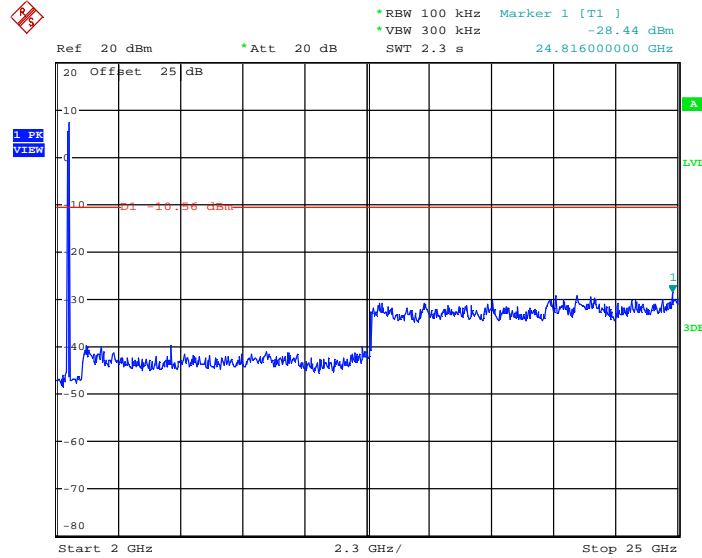


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

802.11b 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



Note:

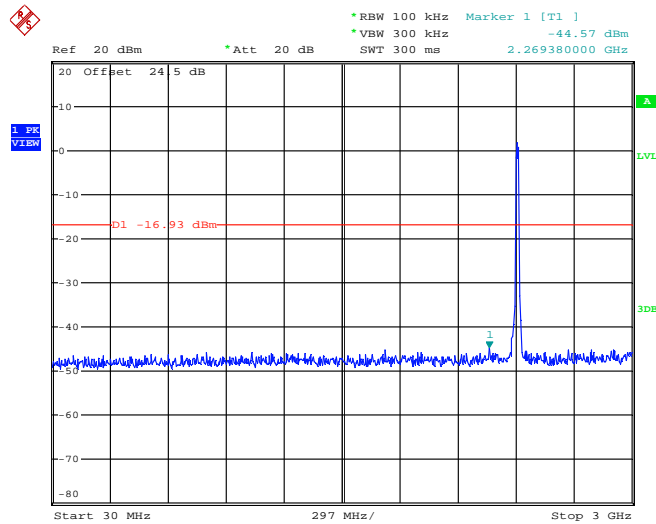
The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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

802.11g 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01



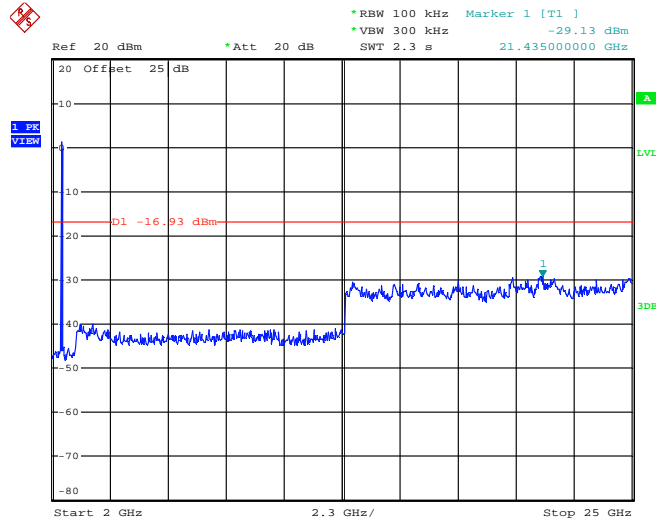
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



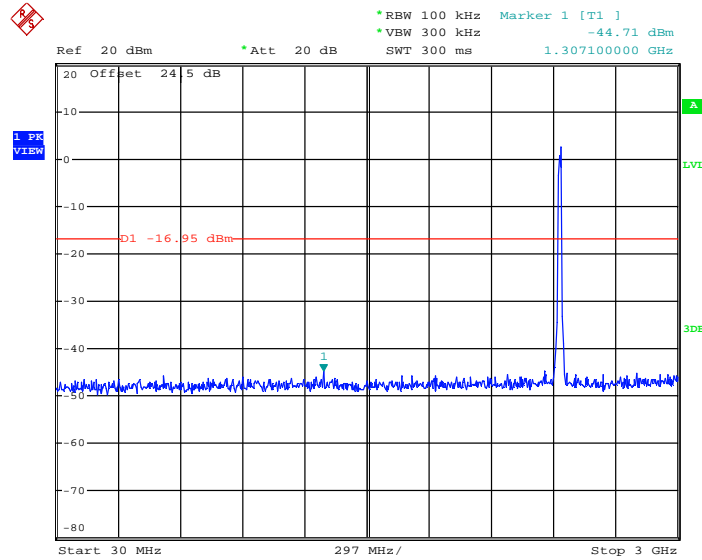
Note:

The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



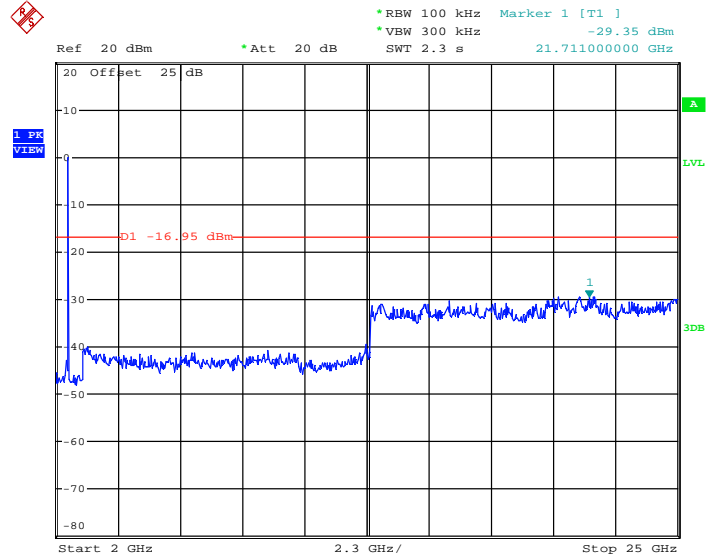
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



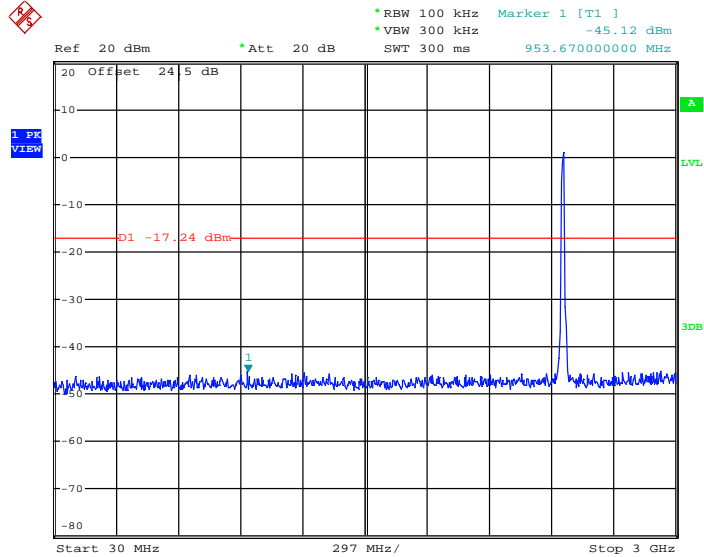
Note:

The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



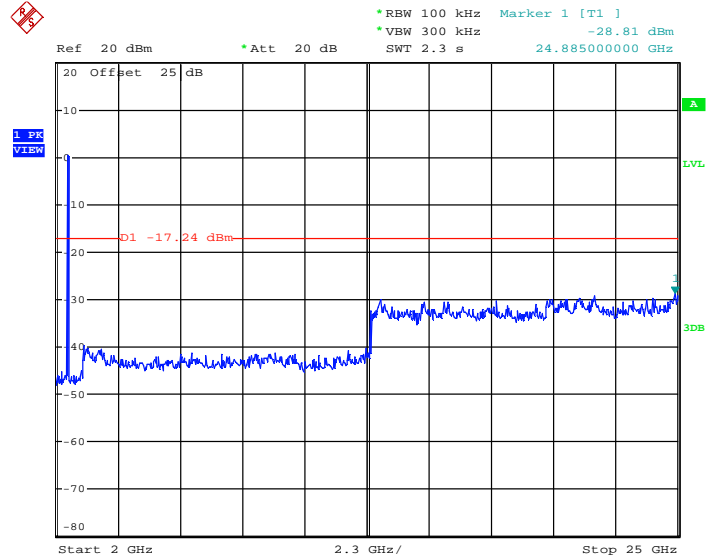
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



Note:

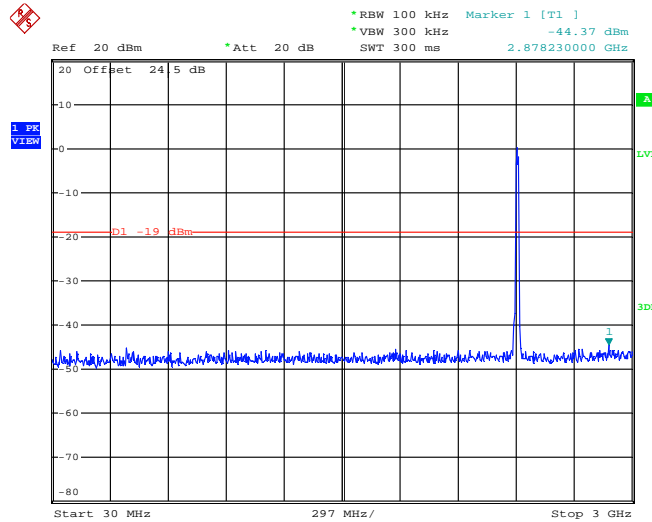
The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



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 :	Bill Kuo

2.4GHz 802.11n HT20 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 01

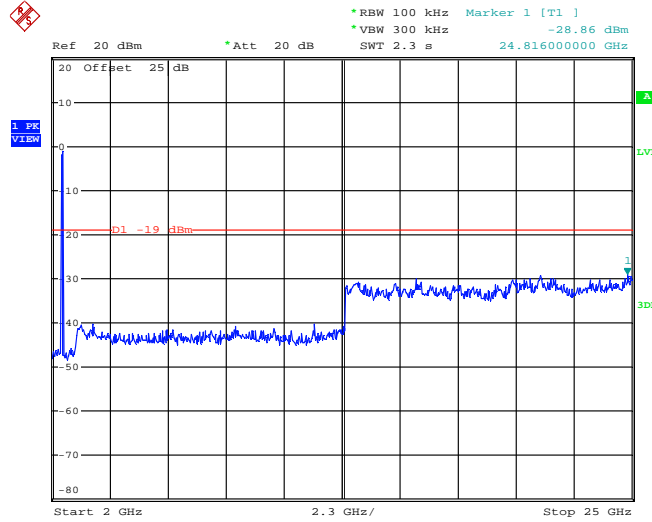


Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 01



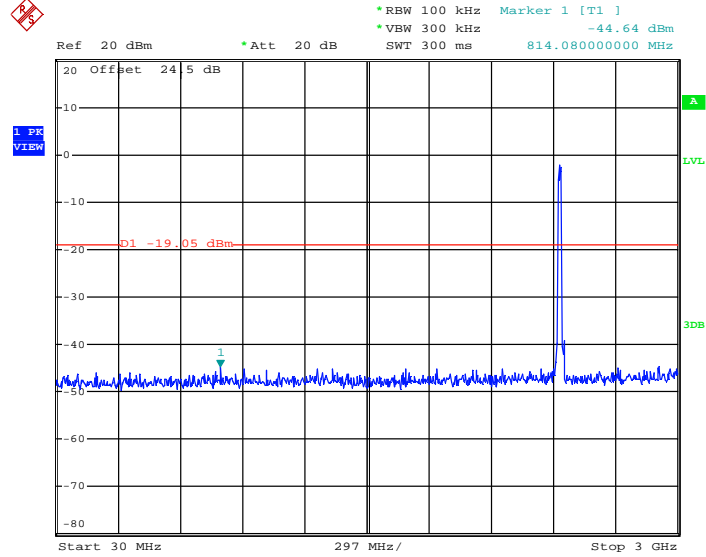
Note:

The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



2.4GHz 802.11n HT20 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 06



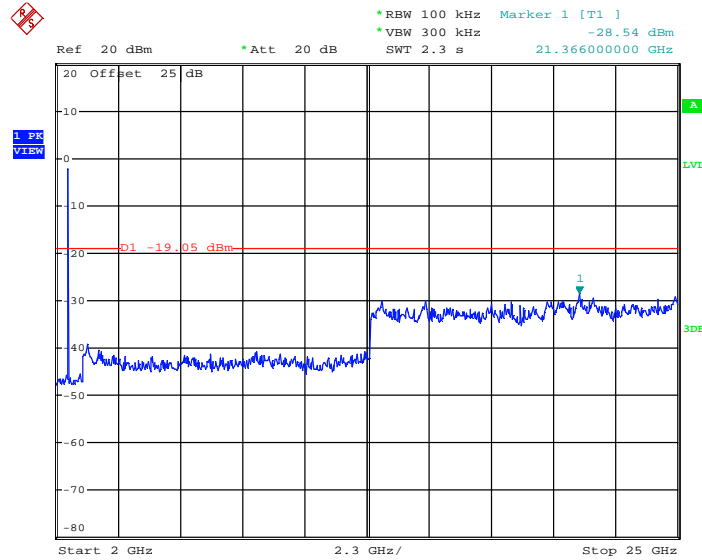
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 06



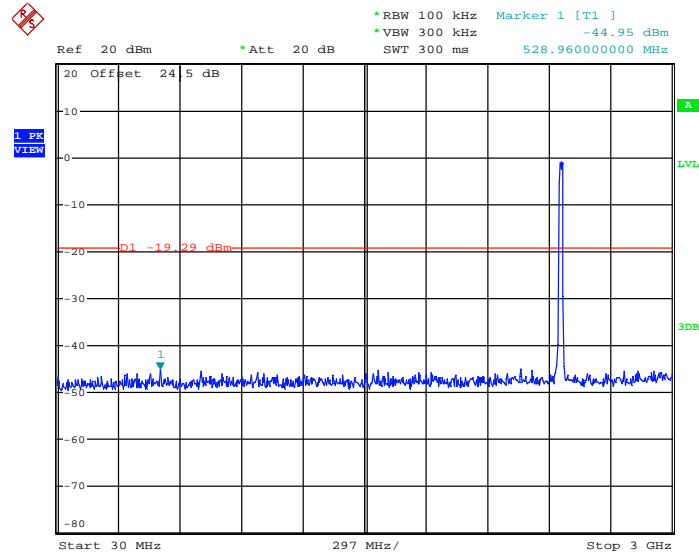
Note:

The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



2.4GHz 802.11n HT20 30 MHz~3 GHz

Conducted Spurious Emission Plot on Channel 11



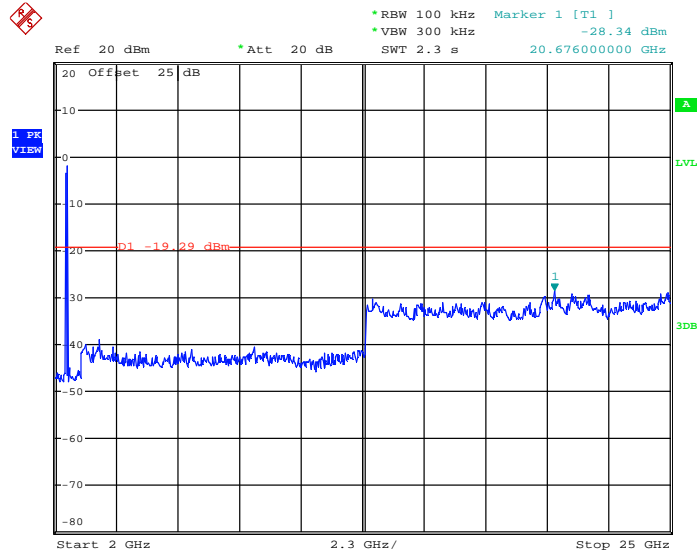
Note:

The total loss is 24.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



2.4GHz 802.11n HT20 2 GHz~25 GHz

Conducted Spurious Emission Plot on Channel 11



Note:

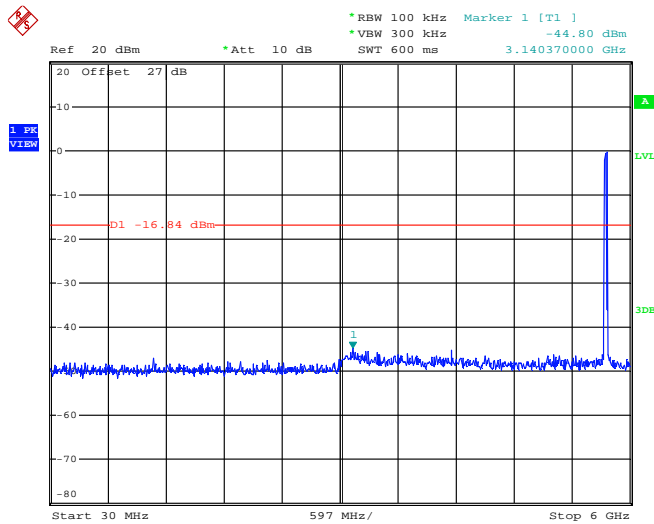
The total loss is 25dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



Test Mode :	802.11a	Temperature :	24~26°C
Test Band :	30MHz-6GHz and 5GHz-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Bill Kuo

802.11a 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



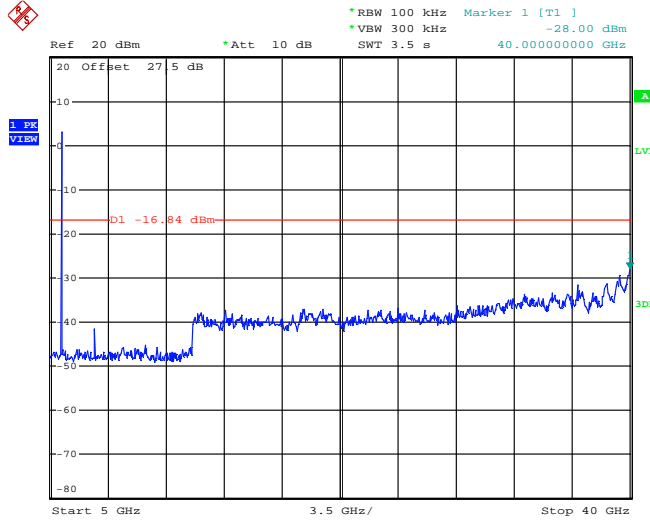
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11a 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 149



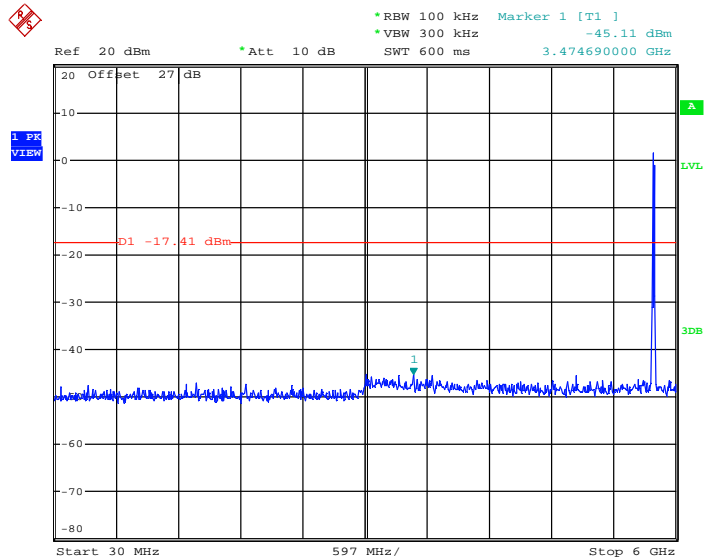
Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11a 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 157



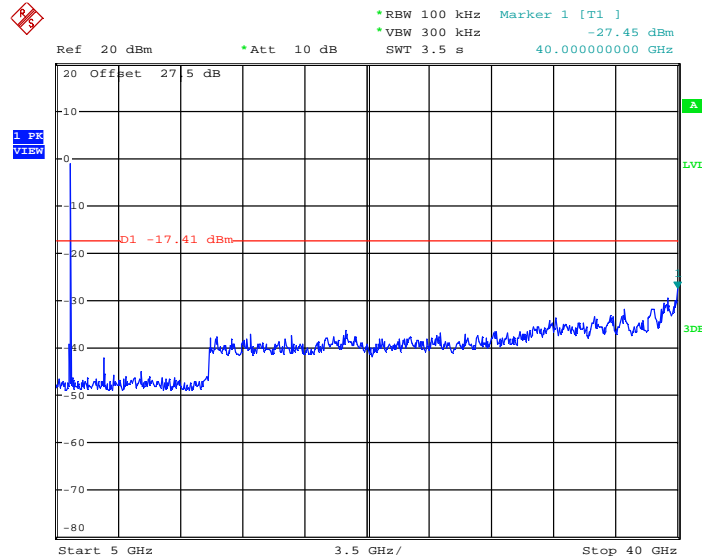
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11a 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 157



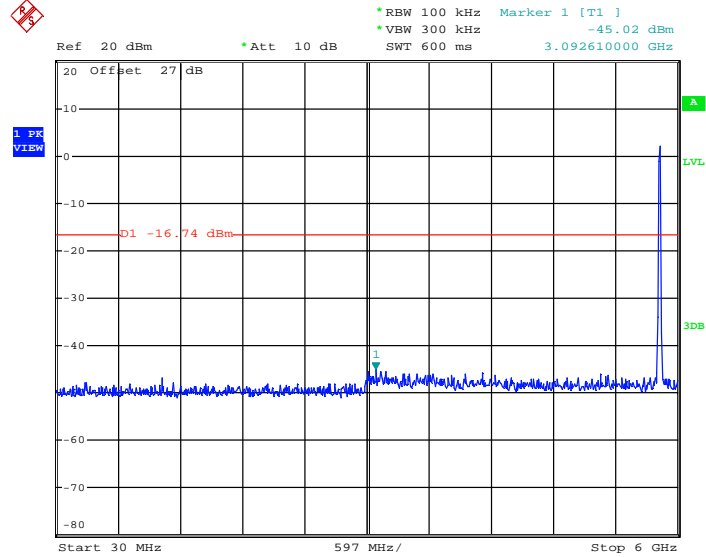
Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11a 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 165

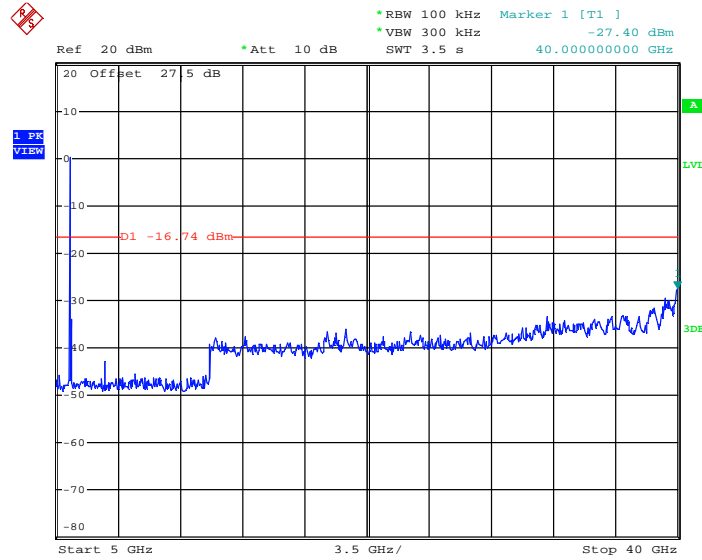


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

802.11a 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 165



Note:

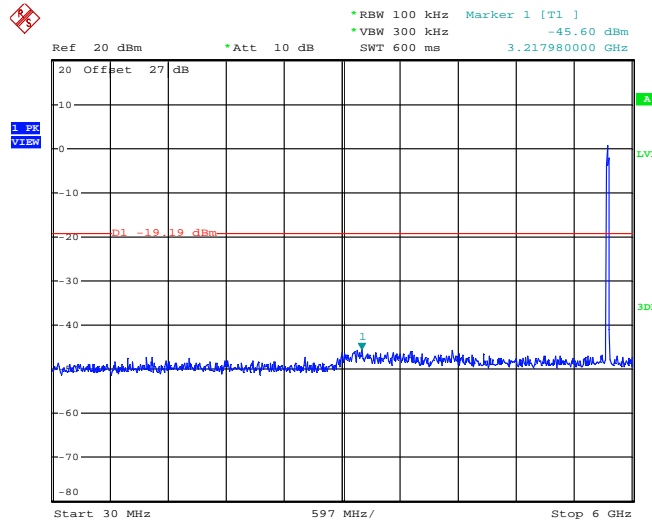
The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



Test Mode :	802.11n HT20	Temperature :	24~26°C
Test Band :	30MHz-6GHz and 5GHz-40GHz	Relative Humidity :	50~53%
Test Channel :	149, 157, 165	Test Engineer :	Bill Kuo

5GHz 802.11n HT20 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 149



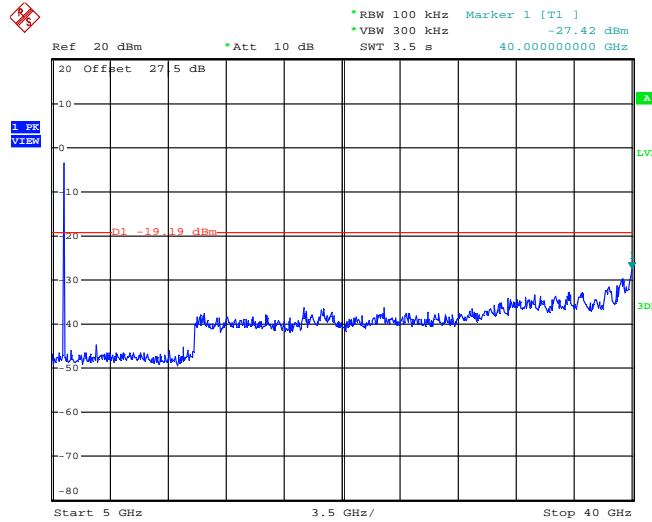
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT20 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 149



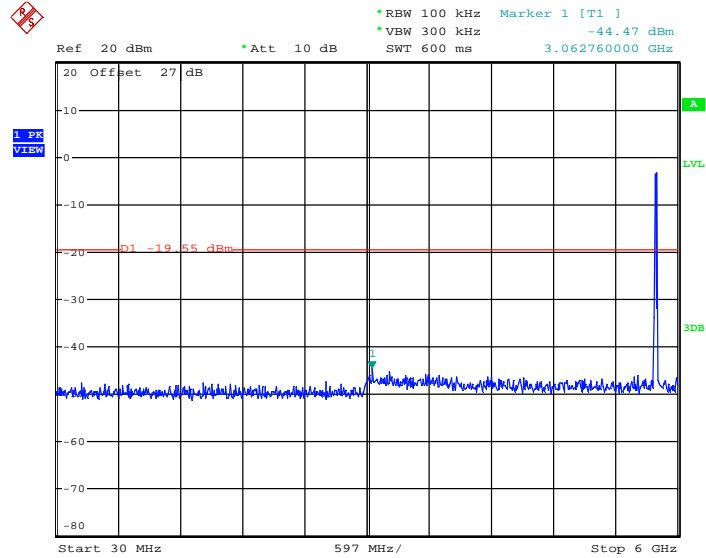
Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT20 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 157



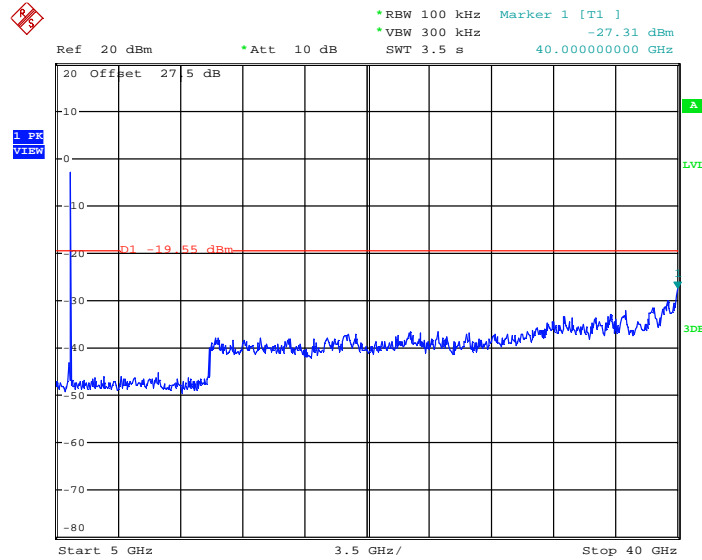
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT20 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 157



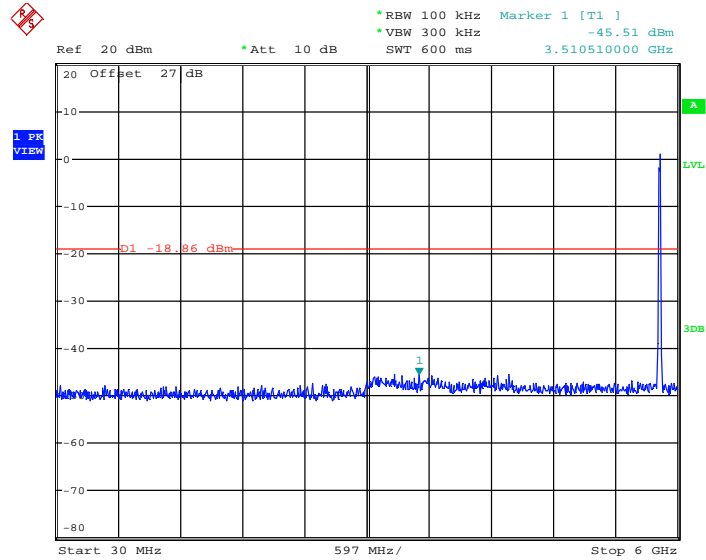
Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT20 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 165



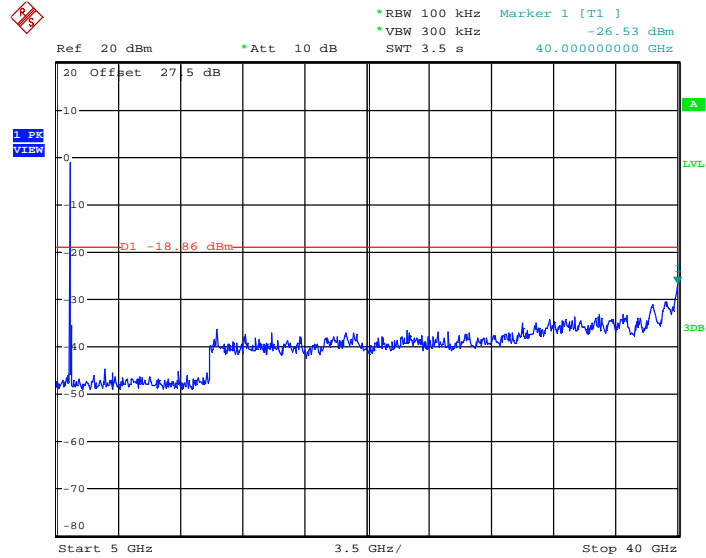
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT20 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 165



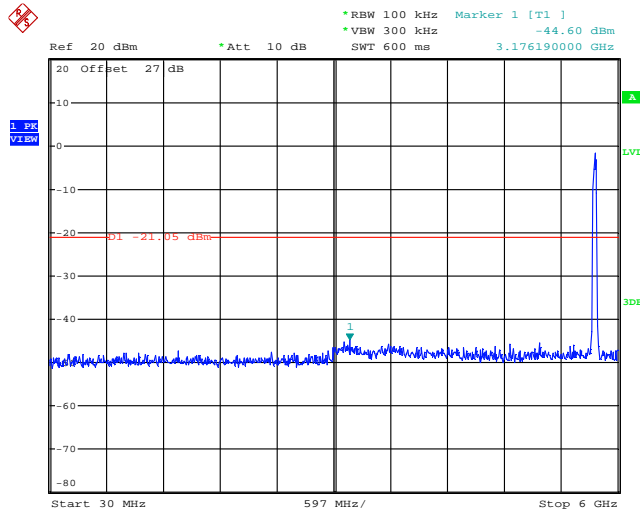
Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



Test Mode :	802.11n HT40	Temperature :	24~26°C
Test Band :	30MHz-6GHz and 5GHz-40GHz	Relative Humidity :	50~53%
Test Channel :	151 and 159	Test Engineer :	Bill Kuo

5GHz 802.11n HT40 30 MHz~6 GHz
Conducted Spurious Emission Plot on Channel 151



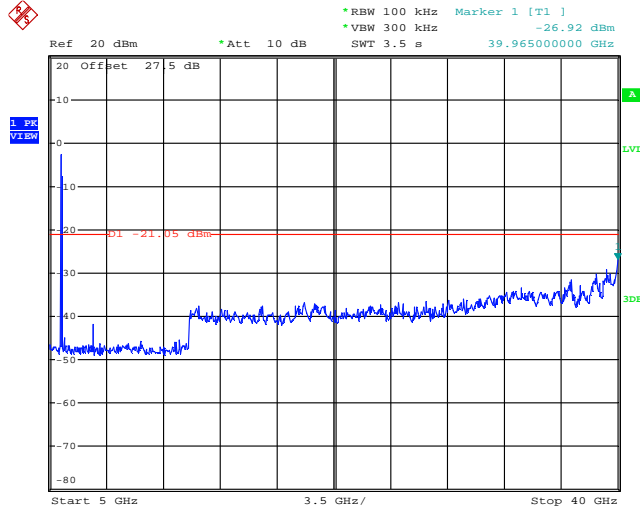
Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT40 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 151

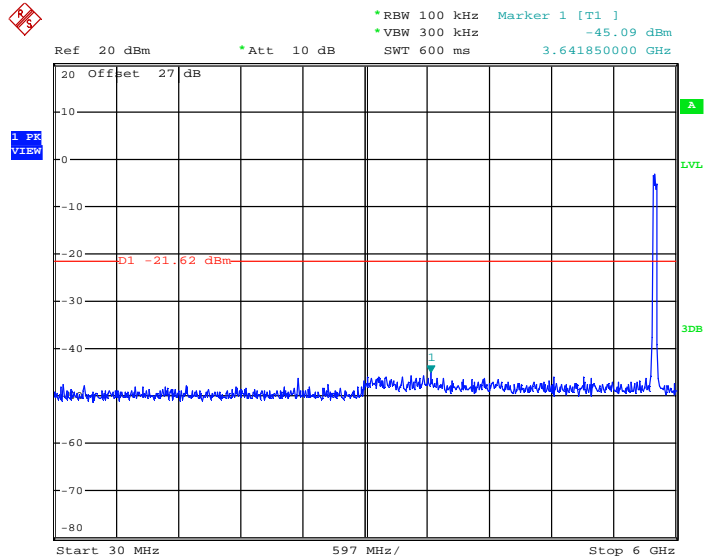


Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

5GHz 802.11n HT40 30 MHz~6 GHz

Conducted Spurious Emission Plot on Channel 159

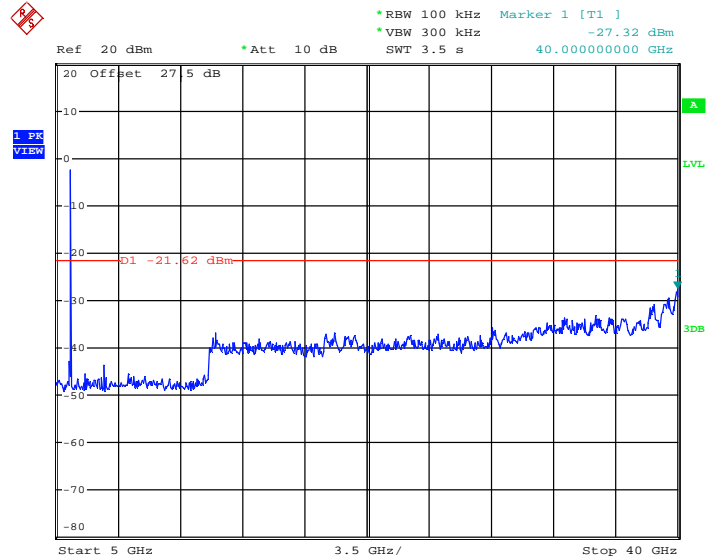


Note:

The total loss is 27dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

5GHz 802.11n HT40 5 GHz ~40 GHz

Conducted Spurious Emission Plot on Channel 159



Note:

The total loss is 27.5dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

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 C63.4-2003 and 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 ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.

For average measurement:

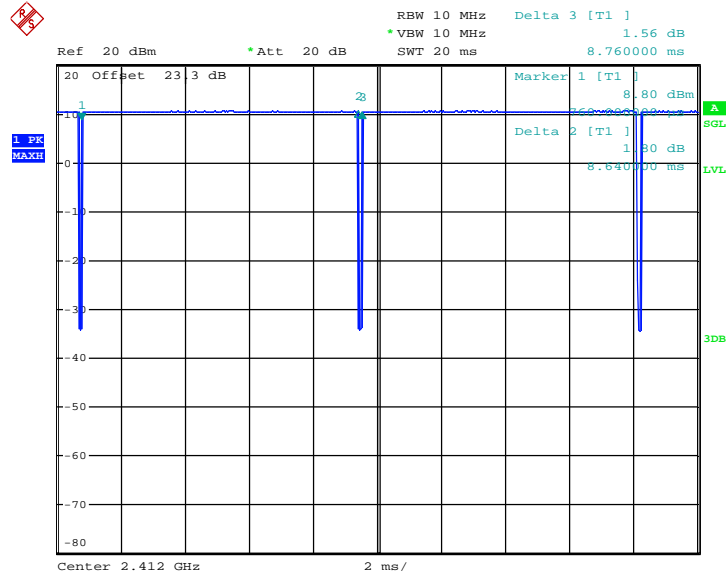
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(us)	1/T(KHz)	VBW Setting
802.11b	98.63	-	-	10Hz
802.11g	93.23	1432.00	0.698	1KHz
2.4GHz 802.11n HT20	93.06	1340.00	0.746	1KHz
802.11a	93.46	1430.00	0.699	1KHz
5GHz 802.11n HT20	93.06	1340.00	0.746	1KHz
5GHz 802.11n HT40	86.98	668.00	1.497	3KHz

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



802.11b Duty Cycle



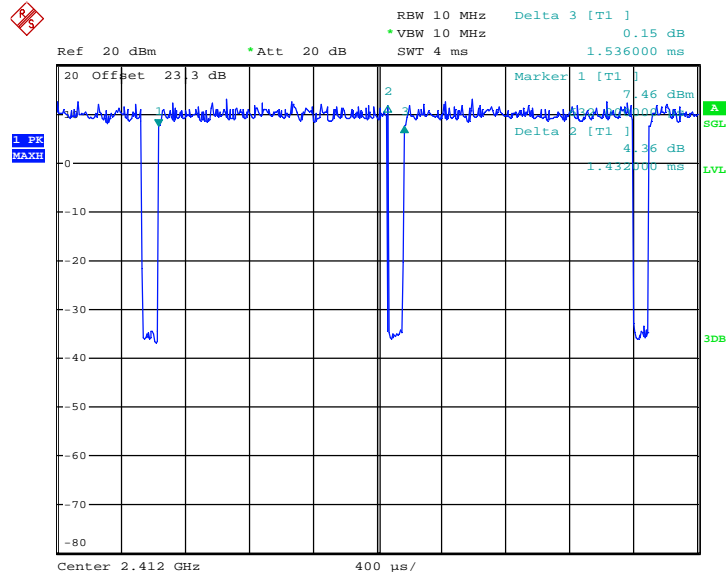
Date: 9.OCT.2012 21:10:42

Note:

The total loss is 23.3dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11g Duty Cycle



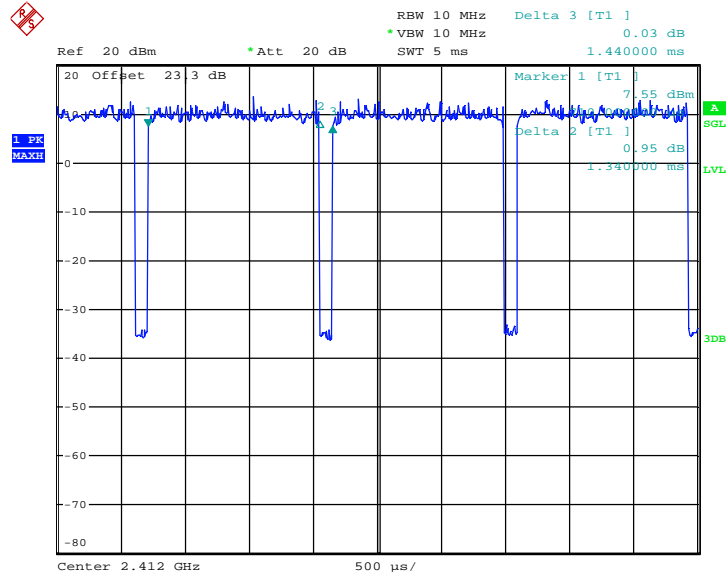
Date: 9.OCT.2012 21:14:42

Note:

The total loss is 23.3dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



2.4GHz 802.11n HT20 Duty Cycle



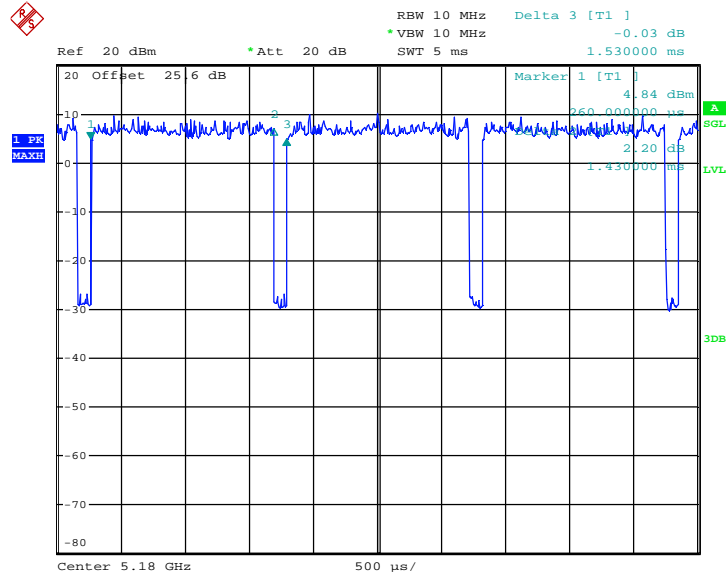
Date: 9.OCT.2012 21:21:30

Note:

The total loss is 23.3dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



802.11a Duty Cycle



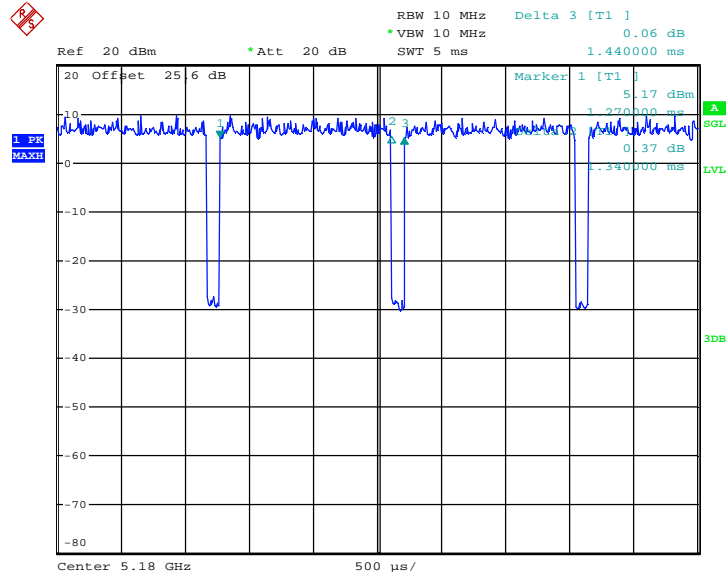
Date: 9.OCT.2012 21:44:51

Note:

The total loss is 25.6dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT20 Duty Cycle



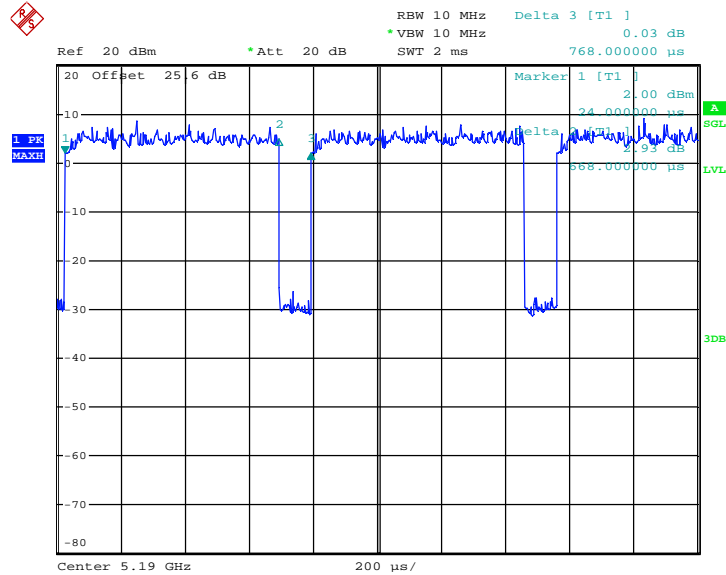
Date: 9.OCT.2012 21:56:26

Note:

The total loss is 25.6dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.



5GHz 802.11n HT40 Duty Cycle



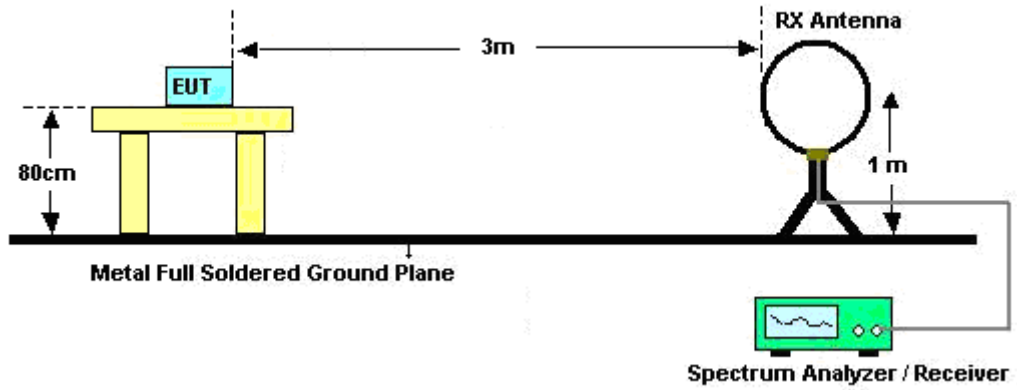
Date: 9.OCT.2012 22:10:12

Note:

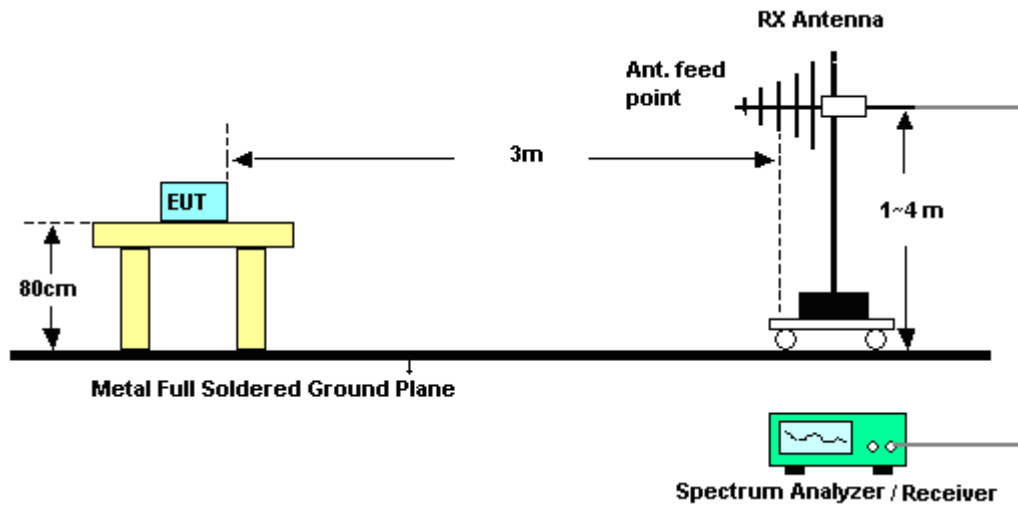
The total loss is 25.6dB of the RF cable and attenuator, and has been compensated to the spectrum analyzer by setting into the amplitude level offset. That means the measured result shown on the spectrum analyzer has added the total loss and been compliance with the limit line.

3.5.4 Test Setup

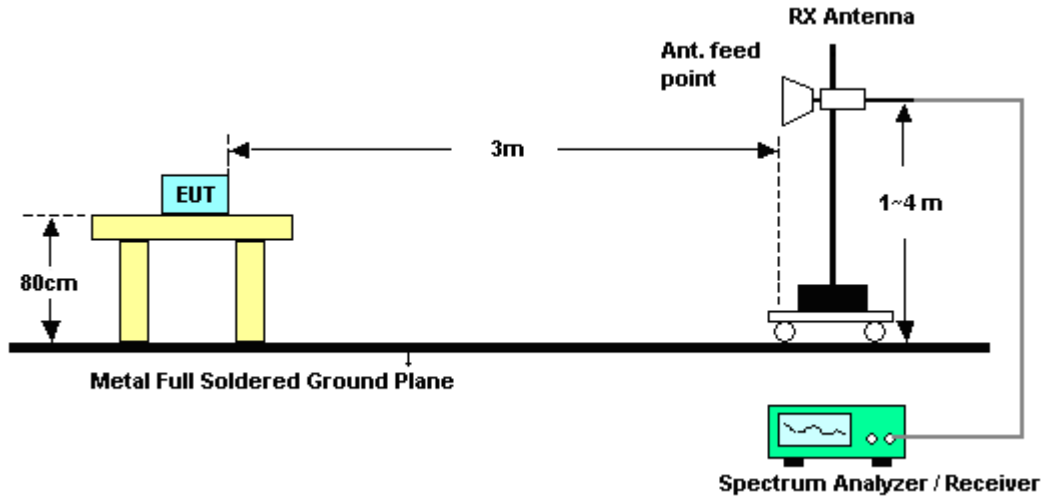
For radiated emissions below 30MHz



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 :	23~24°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kai Wang, Timberland 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
2319	47.33	-26.67	74	43.29	32.26	6.35	34.57	100	6	Peak
2386.86	34.66	-19.34	54	30.41	32.36	6.45	34.56	100	6	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
2322.96	47.55	-26.45	74	43.51	32.26	6.35	34.57	104	0	Peak
2386.95	34.25	-19.75	54	30	32.36	6.45	34.56	104	0	Average

Test Mode :	802.11b	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kai Wang, Timberland 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
2498	48.41	-25.59	74	43.87	32.5	6.59	34.55	175	303	Peak
2483.7	34.59	-19.41	54	30.07	32.48	6.59	34.55	175	303	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
2484.5	48.57	-25.43	74	44.05	32.48	6.59	34.55	200	41	Peak
2487.58	35.02	-18.98	54	30.48	32.5	6.59	34.55	200	41	Average



Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kai Wang, Timberland 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
2389.92	54.39	-19.61	74	50.14	32.36	6.45	34.56	175	12	Peak
2390	37.6	-16.4	54	33.35	32.36	6.45	34.56	175	12	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
2389.11	49.41	-24.59	74	45.16	32.36	6.45	34.56	180	299	Peak
2390	36.23	-17.77	54	31.98	32.36	6.45	34.56	180	299	Average

Test Mode :	802.11g	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kai Wang, Timberland 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
2483.94	51.75	-22.25	74	47.23	32.48	6.59	34.55	170	11	Peak
2483.78	36.38	-17.62	54	31.86	32.48	6.59	34.55	170	11	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	49.05	-24.95	74	44.53	32.48	6.59	34.55	151	360	Peak
2483.68	35.8	-18.2	54	31.28	32.48	6.59	34.55	151	360	Average



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	01	Test Engineer :	Kai Wang, Timberland 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
2388.21	49.41	-24.59	74	45.16	32.36	6.45	34.56	121	6	Peak
2390	36.57	-17.43	54	32.32	32.36	6.45	34.56	121	6	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
2372.46	47.91	-26.09	74	43.72	32.33	6.42	34.56	181	342	Peak
2389.65	35.78	-18.22	54	31.53	32.36	6.45	34.56	181	342	Average

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	11	Test Engineer :	Kai Wang, Timberland 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
2483.74	48.75	-25.25	74	44.23	32.48	6.59	34.55	169	14	Peak
2483.64	35.84	-18.16	54	31.32	32.48	6.59	34.55	169	14	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
2483.56	48.44	-25.56	74	43.92	32.48	6.59	34.55	200	301	Peak
2483.5	35.79	-18.21	54	31.27	32.48	6.59	34.55	200	301	Average



Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	149	Test Engineer :	Kai Wang, Timberland 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	64.82	-17.25	82.07	51.91	35.41	11.34	33.84	100	21	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	57.41	-17.82	75.23	44.5	35.41	11.34	33.84	200	267	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	165	Test Engineer :	Kai Wang, Timberland 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	60.55	-21.82	82.37	47.25	35.58	11.56	33.84	100	15	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	53.82	-19.48	73.3	40.52	35.58	11.56	33.84	100	340	Peak



Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	149	Test Engineer :	Kai Wang, Timberland 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	60.25	-18.43	78.68	47.34	35.41	11.34	33.84	100	20	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	53.53	-18.74	72.27	40.62	35.41	11.34	33.84	200	268	Peak

Test Mode :	802.11n HT20	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	165	Test Engineer :	Kai Wang, Timberland 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	57.32	-22.74	80.06	44.02	35.58	11.56	33.84	100	14	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	52.15	-18.58	70.73	38.85	35.58	11.56	33.84	101	339	Peak



Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	Low	Relative Humidity :	42~43%
Test Channel :	151	Test Engineer :	Kai Wang, Timberland 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	61.57	-12.82	74.39	48.66	35.41	11.34	33.84	100	12	Peak
5850	51.85	-22.54	74.39	38.55	35.58	11.56	33.84	100	12	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	55.63	-11.42	67.05	42.72	35.41	11.34	33.84	199	263	Peak
5850	51.25	-15.8	67.05	37.95	35.58	11.56	33.84	199	263	Peak

Test Mode :	802.11n HT40	Temperature :	23~24°C
Test Band :	High	Relative Humidity :	42~43%
Test Channel :	159	Test Engineer :	Kai Wang, Timberland 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	53.57	-20.04	73.61	40.66	35.41	11.34	33.84	100	16	Peak
5850	51.76	-21.85	73.61	38.46	35.58	11.56	33.84	100	16	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	53.84	-11.36	65.2	40.93	35.41	11.34	33.84	100	263	Peak
5850	51.4	-13.8	65.2	38.1	35.58	11.56	33.84	100	263	Peak



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

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level. For example, 90.56 dBuV/m - 20dB = 70.56 dBuV/m.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	85.97	-	-	81.66	32.38	6.49	34.56	100	6	Average
2412	90.56	-	-	86.25	32.38	6.49	34.56	100	6	Peak
4824	50.98	-3.02	54	61.53	34.87	10.17	55.59	100	346	Average
4824	54.84	-19.16	74	65.39	34.87	10.17	55.59	100	346	Peak
7236	58.22	-12.34	70.56	67.53	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	82.04	-	-	77.73	32.38	6.49	34.56	104	0	Average
2412	86.78	-	-	82.47	32.38	6.49	34.56	104	0	Peak
4824	50.92	-3.08	54	61.47	34.87	10.17	55.59	116	357	Average
4824	54.72	-19.28	74	65.27	34.87	10.17	55.59	116	357	Peak
7236	58.2	-8.58	66.78	67.51	36.15	10.96	56.42	100	0	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.27	15.35	-24.65	40	27.46	18.8	0.64	31.55	-	-	Peak
200.91	27.66	-15.84	43.5	48.54	9.26	1.54	31.68	-	-	Peak
299.19	27.01	-18.99	46	43.57	13.2	1.91	31.67	-	-	Peak
311.2	28.64	-17.36	46	44.46	13.51	1.94	31.27	-	-	Peak
398	29.33	-16.67	46	43.14	15.78	2.18	31.77	-	-	Peak
464.5	32.79	-13.21	46	44.32	17.15	2.32	31	100	132	Peak
2437	83.59	-	-	79.2	32.43	6.52	34.56	123	21	Average
2437	88.45	-	-	84.06	32.43	6.52	34.56	123	21	Peak
4874	50.61	-3.39	54	61.26	34.85	10.18	55.68	100	343	Average
4874	54.52	-19.48	74	65.17	34.85	10.18	55.68	100	343	Peak
7311	51.95	-2.05	54	61.15	36.14	10.94	56.28	105	323	Average
7311	58.62	-15.38	74	67.82	36.14	10.94	56.28	105	323	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.8	-12.2	40	39.91	18.8	0.64	31.55	100	249	Peak
200.1	23.84	-19.66	43.5	44.68	9.3	1.54	31.68	-	-	Peak
299.19	19.47	-26.53	46	36.03	13.2	1.91	31.67	-	-	Peak
398.7	25.24	-20.76	46	38.98	15.84	2.19	31.77	-	-	Peak
599.6	31.84	-14.16	46	42.3	18.8	2.77	32.03	-	-	Peak
881	22.12	-23.88	46	29.38	20.61	3.32	31.19	-	-	Peak
2437	80.97	-	-	76.58	32.43	6.52	34.56	179	300	Average
2437	86.72	-	-	82.33	32.43	6.52	34.56	179	300	Peak
4874	50.58	-3.42	54	61.23	34.85	10.18	55.68	115	356	Average
4874	54.26	-19.74	74	64.91	34.85	10.18	55.68	115	356	Peak
7311	51.83	-2.17	54	61.03	36.14	10.94	56.28	100	352	Average
7311	58.1	-15.9	74	67.3	36.14	10.94	56.28	100	352	Peak



Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	86.61	-	-	82.16	32.45	6.56	34.56	200	41	Average
2462	91.36	-	-	86.91	32.45	6.56	34.56	200	41	Peak
4924	50.65	-3.35	54	61.39	34.83	10.21	55.78	100	341	Average
4924	54.43	-19.57	74	65.17	34.83	10.21	55.78	100	341	Peak
7386	51.82	-2.18	54	60.89	36.12	10.92	56.11	104	320	Average
7386	58.04	-15.96	74	67.11	36.12	10.92	56.11	104	320	Peak

Test Mode :	802.11b	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	82.6	-	-	78.15	32.45	6.56	34.56	175	303	Average
2462	87.47	-	-	83.02	32.45	6.56	34.56	175	303	Peak
4924	50.53	-3.47	54	61.27	34.83	10.21	55.78	115	354	Average
4924	54.2	-19.8	74	64.95	34.83	10.2	55.78	115	354	Peak
7386	51.75	-2.25	54	60.82	36.12	10.92	56.11	100	353	Average
7386	57.99	-16.01	74	67.06	36.12	10.92	56.11	100	353	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	77.76	-	-	73.45	32.38	6.49	34.56	175	12	Average
2412	88.05	-	-	83.74	32.38	6.49	34.56	175	12	Peak
7236	55.63	-12.42	68.05	64.94	36.15	10.96	56.42	100	0	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	1. 2412 MHz is fundamental signal which can be ignored. 2. 7236 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2412	74.21	-	-	69.9	32.38	6.49	34.56	180	299	Average
2412	83.55	-	-	79.24	32.38	6.49	34.56	180	299	Peak
7236	55.13	-8.42	63.55	64.44	36.15	10.96	56.42	100	0	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	77.33	-	-	72.97	32.4	6.52	34.56	119	12	Average
2437	87.77	-	-	83.41	32.4	6.52	34.56	119	12	Peak
7311	43.19	-10.81	54	52.39	36.14	10.94	56.28	100	315	Average
7311	55.96	-18.04	74	65.16	36.14	10.94	56.28	100	315	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	2437 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2437	73.43	-	-	69.07	32.4	6.52	34.56	179	317	Average
2437	83.41	-	-	79.05	32.4	6.52	34.56	179	317	Peak
7311	42.5	-11.5	54	51.7	36.14	10.94	56.28	100	314	Average
7311	55.57	-18.43	74	64.77	36.14	10.94	56.28	100	314	Peak



Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	77.8	-	-	73.34	32.45	6.56	34.55	170	11	Average
2462	87.85	-	-	83.39	32.45	6.56	34.55	170	11	Peak
7386	42.78	-11.22	54	51.85	36.12	10.92	56.11	100	313	Average
7386	55.55	-18.45	74	64.62	36.12	10.92	56.11	100	313	Peak

Test Mode :	802.11g	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	2462 MHz is fundamental signal which can be ignored.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
2462	72.92	-	-	68.46	32.45	6.56	34.55	151	360	Average
2462	82.62	-	-	78.16	32.45	6.56	34.55	151	360	Peak
7386	41.67	-12.33	54	50.74	36.12	10.92	56.11	100	316	Average
7386	54.76	-19.24	74	63.83	36.12	10.92	56.11	100	316	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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
30	15.02	-24.98	40	27.13	18.8	0.64	31.55	-	-	Peak
199.29	27.85	-15.65	43.5	48.74	9.3	1.54	31.73	-	-	Peak
299.19	26.58	-19.42	46	43.14	13.2	1.91	31.67	-	-	Peak
400.1	32.43	-13.57	46	46.14	15.94	2.19	31.84	102	196	Peak
669.6	20.63	-25.37	46	30.08	19.11	2.83	31.39	-	-	Peak
850.9	22.49	-23.51	46	29.51	20.4	3.23	30.65	-	-	Peak
2412	75.25	-	-	70.94	32.38	6.49	34.56	121	6	Average
2412	85.75	-	-	81.44	32.38	6.49	34.56	121	6	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	01	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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
30	27.6	-12.4	40	39.71	18.8	0.64	31.55	100	248	Peak
200.1	22.08	-21.42	43.5	42.92	9.3	1.54	31.68	-	-	Peak
266.79	18.12	-27.88	46	34.32	13.14	1.8	31.14	-	-	Peak
400.1	25.62	-20.38	46	39.33	15.94	2.19	31.84	-	-	Peak
599.6	26.05	-19.95	46	36.51	18.8	2.77	32.03	-	-	Peak
948.9	23.55	-22.45	46	29.34	20.89	3.35	30.03	-	-	Peak
2412	70.69	-	-	66.38	32.38	6.49	34.56	181	342	Average
2412	81.05	-	-	76.74	32.38	6.49	34.56	181	342	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	74.44	-	-	70.05	32.43	6.52	34.56	199	28	Average
2437	84.83	-	-	80.44	32.43	6.52	34.56	199	28	Peak

Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	06	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	71.43	-	-	67.07	32.4	6.52	34.56	178	316	Average
2437	81.76	-	-	77.4	32.4	6.52	34.56	178	316	Peak



Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	75.62	-	-	71.16	32.45	6.56	34.55	169	14	Average
2462	85.34	-	-	80.88	32.45	6.56	34.55	169	14	Peak

Test Mode :	2.4GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	11	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	72.17	-	-	67.68	32.48	6.56	34.55	200	301	Average
2462	81.69	-	-	77.2	32.48	6.56	34.55	200	301	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 17238 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	92.31	-	-	79.32	35.44	11.39	33.84	100	21	Average
5745	102.07	-	-	89.08	35.44	11.39	33.84	100	21	Peak
11490	47.25	-6.75	54	51.65	38.39	11.04	53.83	153	351	Average
11490	57.91	-16.09	74	62.31	38.39	11.04	53.83	153	351	Peak
17238	62.91	-19.16	82.07	62.45	41.53	12.3	53.37	100	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5745 MHz is fundamental signal which can be ignored. 2. 17238 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5745	85.17	-	-	72.18	35.44	11.39	33.84	200	267	Average
5745	95.23	-	-	82.24	35.44	11.39	33.84	200	267	Peak
11490	45.6	-8.4	54	50	38.39	11.04	53.83	103	9	Average
11490	57.09	-16.91	74	61.49	38.39	11.04	53.83	103	9	Peak
17238	62.81	-12.42	75.23	62.35	41.53	12.3	53.37	100	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 17358 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	91.13	-	-	78.05	35.49	11.43	33.84	100	10	Average
5785	101.26	-	-	88.18	35.49	11.43	33.84	100	10	Peak
11571	47.05	-6.95	54	51.21	38.51	11.09	53.76	148	22	Average
11571	58.09	-15.91	74	62.25	38.51	11.09	53.76	148	22	Peak
17358	62.22	-19.04	81.26	62.03	41.34	12.45	53.6	100	0	Peak

Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 17358 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5785	83.75	-	-	70.67	35.49	11.43	33.84	145	263	Average
5785	93	-	-	79.92	35.49	11.43	33.84	145	263	Peak
11571	45.65	-8.35	54	49.81	38.51	11.09	53.76	129	316	Average
11571	57.39	-16.61	74	61.55	38.51	11.09	53.76	129	316	Peak
17358	62.04	-10.96	73	61.85	41.34	12.45	53.6	100	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. 17478 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.27	14.63	-25.37	40	26.74	18.8	0.64	31.55	-	-	Peak
199.29	28.2	-15.3	43.5	49.09	9.3	1.54	31.73	-	-	Peak
266.79	28.78	-17.22	46	44.98	13.14	1.8	31.14	-	-	Peak
314.7	29.85	-16.15	46	45.5	13.55	1.95	31.15	-	-	Peak
398.7	36.52	-9.48	46	50.26	15.84	2.19	31.77	135	289	Peak
956.6	22.99	-23.01	46	28.76	20.96	3.35	30.08	-	-	Peak
5825	92.32	-	-	79.09	35.56	11.51	33.84	100	15	Average
5825	102.37	-	-	89.14	35.56	11.51	33.84	100	15	Peak
11646	47.98	-6.02	54	51.94	38.62	11.14	53.72	159	347	Average
11646	58.7	-15.3	74	62.66	38.62	11.14	53.72	159	347	Peak
17478	63.97	-18.4	82.37	64.05	41.15	12.6	53.83	100	0	Peak



Test Mode :	802.11a	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5825 MHz is fundamental signal which can be ignored. 2. 17478 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	27.37	-12.63	40	39.48	18.8	0.64	31.55	100	348	Peak
199.29	20.43	-23.07	43.5	41.32	9.3	1.54	31.73	-	-	Peak
269.22	16.59	-29.41	46	33.02	12.9	1.81	31.14	-	-	Peak
398.7	24.21	-21.79	46	37.95	15.84	2.19	31.77	-	-	Peak
600.3	25.67	-20.33	46	36.15	18.8	2.77	32.05	-	-	Peak
945.4	23.2	-22.8	46	29.14	20.86	3.35	30.15	-	-	Peak
5825	83.88	-	-	70.65	35.56	11.51	33.84	100	340	Average
5825	93.3	-	-	80.07	35.56	11.51	33.84	100	340	Peak
11646	45.83	-8.17	54	49.79	38.62	11.14	53.72	100	5	Average
11646	57.32	-16.68	74	61.28	38.62	11.14	53.72	100	5	Peak
17478	62.33	-10.97	73.3	62.41	41.15	12.6	53.83	100	0	Peak



Test Mode :	5GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	88.7	-	-	75.71	35.44	11.39	33.84	100	20	Average
5745	98.68	-	-	85.69	35.44	11.39	33.84	100	20	Peak

Test Mode :	5GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	149	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	82.25	-	-	69.26	35.44	11.39	33.84	200	268	Average
5745	92.27	-	-	79.28	35.44	11.39	33.84	200	268	Peak



Test Mode :	5GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 17358 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	15.42	-24.58	40	27.53	18.8	0.64	31.55	-	-	Peak
199.29	24.83	-18.67	43.5	45.72	9.3	1.54	31.73	-	-	Peak
267.6	23.84	-22.16	46	40.11	13.06	1.81	31.14	-	-	Peak
317.5	26.99	-19.01	46	42.51	13.57	1.95	31.04	-	-	Peak
400.1	35.03	-10.97	46	48.74	15.94	2.19	31.84	100	245	Peak
852.3	22.23	-23.77	46	29.27	20.4	3.24	30.68	-	-	Peak
5785	88.43	-	-	75.35	35.49	11.43	33.84	100	12	Average
5785	98.68	-	-	85.6	35.49	11.43	33.84	100	12	Peak
11571	45.2	-8.8	54	49.36	38.51	11.09	53.76	145	56	Average
11571	55.87	-18.13	74	60.03	38.51	11.09	53.76	145	56	Peak
17358	59.97	-18.71	78.68	59.78	41.34	12.45	53.6	100	0	Peak



Test Mode :	5GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	157	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5785 MHz is fundamental signal which can be ignored. 2. 17358 MHz is not within a restricted band, and its limit line is 20dB below the highest emission level.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	28.68	-11.32	40	40.79	18.8	0.64	31.55	100	247	Peak
200.1	20.42	-23.08	43.5	41.26	9.3	1.54	31.68	-	-	Peak
268.41	17.85	-28.15	46	34.2	12.98	1.81	31.14	-	-	Peak
400.1	26.57	-19.43	46	40.28	15.94	2.19	31.84	-	-	Peak
599.6	26.65	-19.35	46	37.11	18.8	2.77	32.03	-	-	Peak
875.4	22.56	-23.44	46	29.78	20.56	3.3	31.08	-	-	Peak
5785	80.59	-	-	67.51	35.49	11.43	33.84	123	262	Average
5785	90.49	-	-	77.41	35.49	11.43	33.84	123	262	Peak
11571	42.95	-11.05	54	47.11	38.51	11.09	53.76	102	19	Average
11571	54.41	-19.59	74	58.57	38.51	11.09	53.76	102	19	Peak
17358	59.81	-10.68	70.49	59.62	41.34	12.45	53.6	100	0	Peak



Test Mode :	5GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	89.92	-	-	76.69	35.56	11.51	33.84	100	14	Average
5825	100.06	-	-	86.83	35.56	11.51	33.84	100	14	Peak

Test Mode :	5GHz 802.11n-HT20	Temperature :	23~24°C
Test Channel :	165	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	81.3	-	-	68.07	35.56	11.51	33.84	101	339	Average
5825	90.73	-	-	77.5	35.56	11.51	33.84	101	339	Peak



Test Mode :	5GHz 802.11n-HT40	Temperature :	23~24°C
Test Channel :	151	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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
5755	84.35	-	-	71.34	35.46	11.39	33.84	100	12	Average
5755	94.39	-	-	81.38	35.46	11.39	33.84	100	12	Peak

Test Mode :	5GHz 802.11n-HT40	Temperature :	23~24°C
Test Channel :	151	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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
5755	77.11	-	-	64.1	35.46	11.39	33.84	199	263	Average
5755	87.05	-	-	74.04	35.46	11.39	33.84	199	263	Peak



Test Mode :	5GHz 802.11n-HT40	Temperature :	23~24°C
Test Channel :	159	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	83.72	-	-	70.58	35.51	11.47	33.84	100	16	Average
5795	93.61	-	-	80.47	35.51	11.47	33.84	100	16	Peak

Test Mode :	5GHz 802.11n-HT40	Temperature :	23~24°C
Test Channel :	159	Relative Humidity :	42~43%
Test Engineer :	Kai Wang, Timberland 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	75.58	-	-	62.44	35.51	11.47	33.84	100	263	Average
5795	85.2	-	-	72.06	35.51	11.47	33.84	100	263	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.

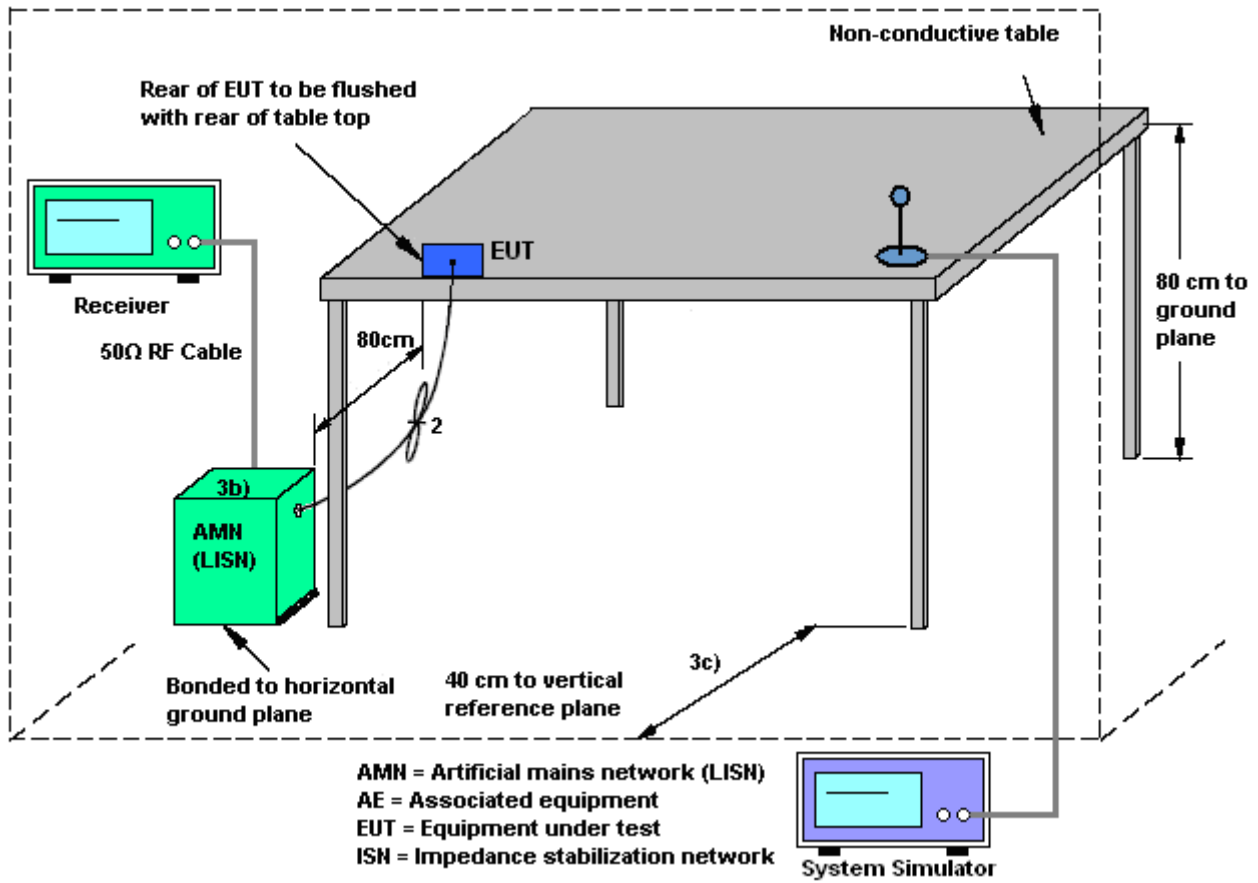
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

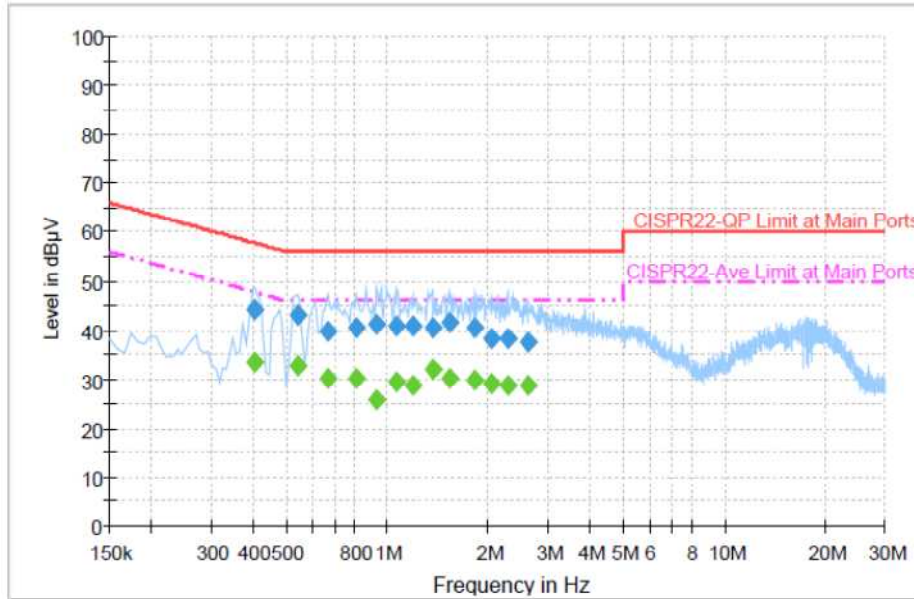
1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance 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

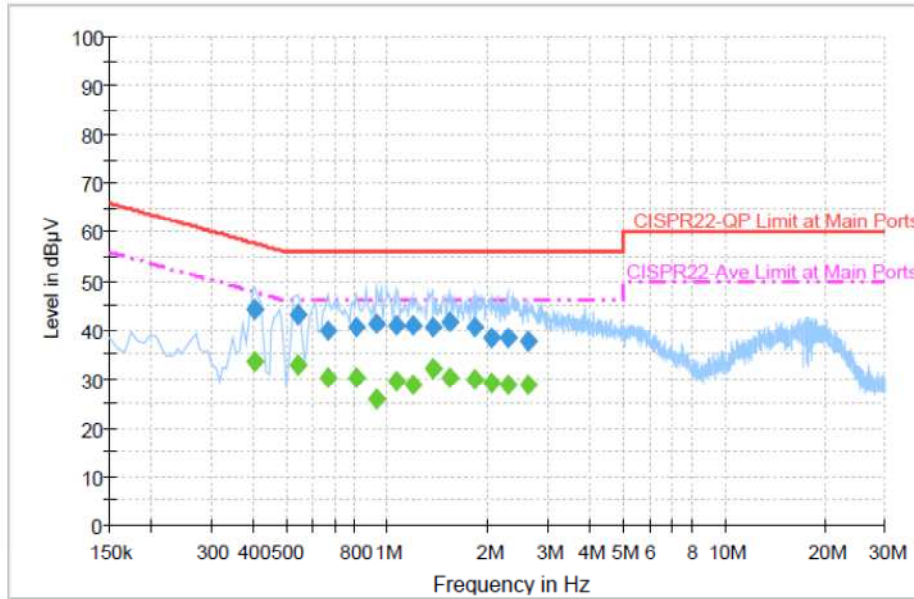
Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone +MP3		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : Quasi-Peak

Frequency (MHz)	Quasi-Peak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.406000	44.2	Off	L1	19.4	13.5	57.7
0.542000	43.2	Off	L1	19.4	12.8	56.0
0.670000	40.0	Off	L1	19.5	16.0	56.0
0.806000	40.5	Off	L1	19.5	15.5	56.0
0.926000	41.5	Off	L1	19.4	14.5	56.0
1.070000	41.0	Off	L1	19.4	15.0	56.0
1.190000	41.0	Off	L1	19.5	15.0	56.0
1.366000	40.5	Off	L1	19.5	15.5	56.0
1.534000	41.6	Off	L1	19.4	14.4	56.0
1.822000	40.6	Off	L1	19.5	15.4	56.0
2.046000	38.5	Off	L1	19.5	17.5	56.0
2.278000	38.2	Off	L1	19.6	17.8	56.0
2.606000	37.7	Off	L1	19.6	18.3	56.0

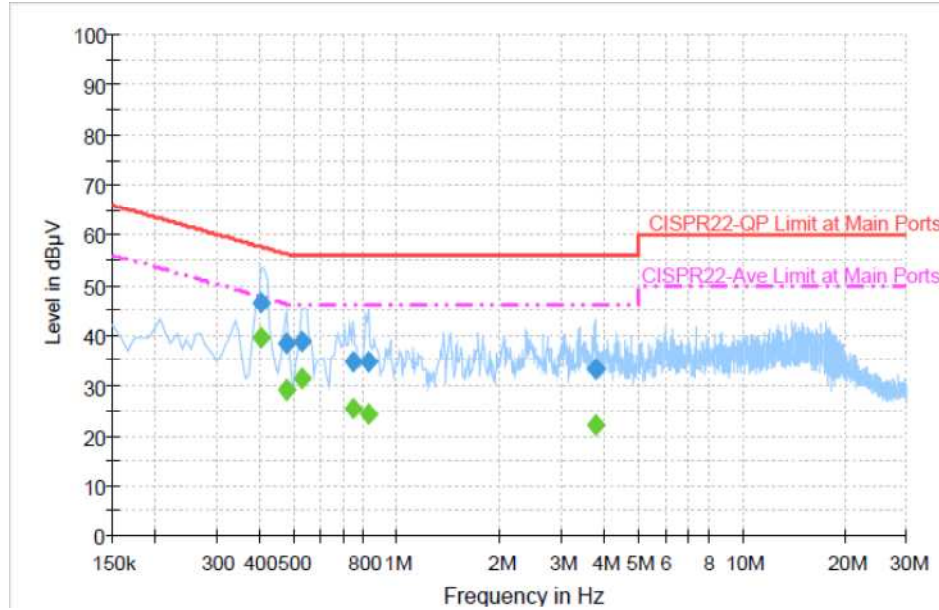
Test Mode :	Mode 1	Temperature :	20~22°C
Test Engineer :	Slash Huang	Relative Humidity :	45~47%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	GSM1900 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone +MP3		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.406000	33.5	Off	L1	19.4	14.2	47.7
0.542000	32.8	Off	L1	19.4	13.2	46.0
0.670000	30.3	Off	L1	19.5	15.7	46.0
0.806000	30.1	Off	L1	19.5	15.9	46.0
0.926000	25.9	Off	L1	19.4	20.1	46.0
1.070000	29.4	Off	L1	19.4	16.6	46.0
1.190000	28.6	Off	L1	19.5	17.4	46.0
1.366000	32.1	Off	L1	19.5	13.9	46.0
1.534000	30.1	Off	L1	19.4	15.9	46.0
1.822000	29.7	Off	L1	19.5	16.3	46.0
2.046000	29.2	Off	L1	19.5	16.8	46.0
2.278000	28.6	Off	L1	19.6	17.4	46.0
2.606000	28.7	Off	L1	19.6	17.3	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 :	GSM1900 Idle + Bluetooth Link + WLAN (2.4G) Link + Adapter + Earphone +MP3		
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)
0.406000	46.6	Off	N	19.4	11.1	57.7
0.478000	38.5	Off	N	19.4	17.9	56.4
0.534000	38.7	Off	N	19.4	17.3	56.0
0.750000	34.7	Off	N	19.4	21.3	56.0
0.830000	34.8	Off	N	19.5	21.2	56.0
3.750000	33.0	Off	N	19.6	23.0	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.406000	39.6	Off	N	19.4	8.1	47.7
0.478000	29.1	Off	N	19.4	17.3	46.4
0.534000	31.2	Off	N	19.4	14.8	46.0
0.750000	25.5	Off	N	19.4	20.5	46.0
0.830000	24.5	Off	N	19.5	21.5	46.0
3.750000	22.1	Off	N	19.6	23.9	46.0



3.7 Antenna Requirements

3.7.1 Standard Applicable

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

3.7.2 Antenna Connected Construction

Non-standard connector 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	Oct. 09, 2012~ Oct. 12, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Oct. 09, 2012~ Oct. 12, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Oct. 09, 2012~ Oct. 12, 2012	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	R&S	ESCS 30	100356	9KHz ~ 2.75GHz	Oct. 27, 2011	Oct. 12, 2012	Oct. 26, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Oct. 12, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Oct. 12, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Oct. 12, 2012	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	117997	N/A	Aug. 22, 2011	Oct. 12, 2012	Aug. 21, 2013	Conduction (CO05-HY)
Spectrum Analyzer	Agilent	E4408B	MY442110 30	9KHz ~ 26.5GHz	Nov. 23, 2011	Oct.09, 2012~ Oct.13, 2012	Nov. 22, 2012	Radiation (03CH06-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz-30GHz	Nov. 03, 2011	Oct.09, 2012~ Oct.13, 2012	Nov. 02, 2012	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/00 3	20MHz ~ 1000MHz	May 04, 2012	Oct.09, 2012~ Oct.13, 2012	May. 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 22, 2011	Oct.09, 2012~ Oct.13, 2012	Oct. 21, 2012	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Oct.09, 2012~ Oct.13, 2012	Jul. 31, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA 9170	BBHA9170 251	15GHz ~ 40GHz	Oct. 20, 2011	Oct.09, 2012~ Oct.13, 2012	Oct. 19, 2012	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A019 17	1GHz ~ 26.5GHz	Apr. 13, 2012	Oct.09, 2012~ Oct.13, 2012	Apr. 12, 2013	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 11, 2012	Oct.09, 2012~ Oct.13, 2012	Apr. 10, 2013	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Oct.09, 2012~ Oct.13, 2012	Jul. 20, 2013	Radiation (03CH06-HY)
Pre Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	159087	1GHz~18GHz	Feb. 27, 2012	Oct.09, 2012~ Oct.13, 2012	Feb. 26, 2013	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/00 1	9KHz ~ 30MHz	Jul. 03, 2012	Oct.09, 2012~ Oct.13, 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
---	------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.54
---	------

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

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