FCC RF Test Report

APPLICANT	:	PEGATRON CORPORATION
EQUIPMENT	:	Tablet
BRAND NAME	:	TOSHIBA
MODEL NAME	:	TOSHIBA AT10-A、TOSHIBA AT15-A
FCC ID	:	VUIPDAPDAAT10-A
STANDARD	:	FCC Part 15 Subpart E §15.407
CLASSIFICATION	:	(NII) Unlicensed National Information Infrastructure

The product was received on Feb. 28, 2013 and completely tested on Apr. 12, 2013. 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: Joseph Lin / Supervisor

Approved by: Jones Tsai / Manager

Testing Laboratory 1190

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

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR322823D	Rev. 01	Initial issue of report	Apr. 15, 2013

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	RSS-210 A9.2	26dB & 99% Bandwidth	-	Pass	-
3.2	15.407(a)	RSS-210 A9.2	Maximum Conducted Output Power	≤ 17, 24, 30 dBm (depend on band)	Pass	-
3.3	15.407(a)	RSS-210 A9.2	Power Spectral Density	≤ 4, 11, 17 dBm (depend on band)	Pass	-
3.4	15.407(a)(6)	RSS-210 A9.3	Peak Excursion Ratio	≤ 13dB	Pass	-
3.5	15.407(b)	RSS-210 A9.3	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 0.44 dB at 5150.000 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 4.36 dB at 7.810 MHz
3.7	15.407(g)	RSS-210 A9.5	Frequency Stability	Within Operation Band	Pass	-
3.8	15.407(c)	RSS-210 A9.5	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.9	15.203 & 15.407(a)	RSS-210 A9.2	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

PEGATRON CORPORATION
No. 76, Ligong St., Beitou District, Taipei City 112

1.2 Manufacturer

Toshiba Corporation
1-1, Shibaura 1-chome, Minato-ku, Tokyo 105-8001, Japan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Tablet
Brand Name	TOSHIBA
Model Name	TOSHIBA AT10-A、TOSHIBA AT15-A
FCC ID	VUIPDAPDAAT10-A
EUT supports Radios application	WLAN 11abgn / Bluetooth 2.1/3.0/4.0 / NFC
EUT Stage	Production Unit

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5580 MHz 5660 MHz ~ 5700 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 10.97 dBm / 0.0125 W 802.11n HT20 : 10.90 dBm / 0.0123 W 802.11n HT40 : 10.44 dBm / 0.0111 W **<5260 MHz ~ 5320 MHz>** 802.11a : 10.71 dBm / 0.0118 W 802.11n HT20 : 10.67 dBm / 0.0117 W 802.11n HT40 : 10.43 dBm / 0.0110 W **<5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz >** 802.11a : 12.07 dBm / 0.0161 W 802.11n HT20 : 11.07 dBm / 0.0128 W 802.11n HT40 : 11.55 dBm / 0.0143 W
99% Occupied Bandwidth	802.11a : 18.60 MHz 802.11n HT20 : 19.35 MHz 802.11n HT40 : 37.89 MHz
Antenna Type	**<5180 MHz ~ 5240 MHz>** Chip Antenna type with gain 1.97 dBi **<5260 MHz ~ 5320 MHz>** Chip Antenna type with gain 1.97 dBi **<5500 MHz ~ 5580 MHz and 5660 MHz ~ 5700 MHz >** Chip Antenna type with gain 2.16 dBi
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Testing Site

Test Site	SPORTON INTERNATIONAL INC.			
Test Site Location	No. 52, Hwa Ya 1st 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	CO01-HY	03CH07-HY	722060/4086B-1

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

1.6 Applied Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D01 General UNII Test Procedures v01r03
- ANSI C63.10-2009
- IC RSS-210 Issued 8
- IC RSS-Gen Issue 3
- NOTICE 2012-DRS0126

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. Per the section 2.2.3 of Notice of 2012-DRS0126, " Receivers Excluded from Industry Canada Requirements", only radiocommunication receivers operating in stand-alone mode within the band 30-960 MHz and scanner receivers are subject to Industry Canada requirements.

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 (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)
5150-5250 MHz Band 1	36	5180	44	5220
	38	**5190**	**46**	**5230**
	40	5200	48	5240

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5250-5350 MHz Band 2	52	5260	60	5300
	54	**5270**	**62**	**5310**
	56	5280	64	5320

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5470-5600 MHz and 5650-5725 MHz Band 3	100	5500	116	5580
	102	**5510**	132	5660
	104	5520	**134**	**5670**
	108	5540	136	5680
	110	**5550**	140	5700
	112	5560		

Note: The above Frequency and Channel in boldface were 802.11n HT40.

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.

5GHz 802.11a mode								
Data Rate (MHz)	6M bps	9M bps	12M bps	18M bps	24M bps	36M bps	48M bps	54M bps
Average Power (dBm)	12.07	12.04	12.00	11.99	12.04	11.99	12.07	12.02

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	11.07	11.04	10.90	11.02	10.97	10.94	11.05	10.94

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Average Power (dBm)	11.55	11.06	10.97	11.07	11.16	11.31	11.13	11.08

2.3 Test Mode

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

Test Cases				
	Test Items	**Mode**	**Data rate**	**Test Channel**
Conducted TCs	**26dB and 99% BW Power Spectral Density**	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
	Output Power	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
	Peak Excursion	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
	Frequency Stability	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
Radiated TCs	**Radiated Band Edge**	**802.11a**	**6 Mbps**	**L/H**
		802.11n HT20	**6.5 Mbps**	**L/H**
		802.11n HT40	**13.5 Mbps**	**L/H**
	Radiated Spurious Emission	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
AC Conducted Emission	Mode 1 : Bluetooth Link + WLAN Link + MP3 + SD Card + H Pattern + HDMI Cable + Earphone + USB Cable (Data Link with PC) + NFC On			

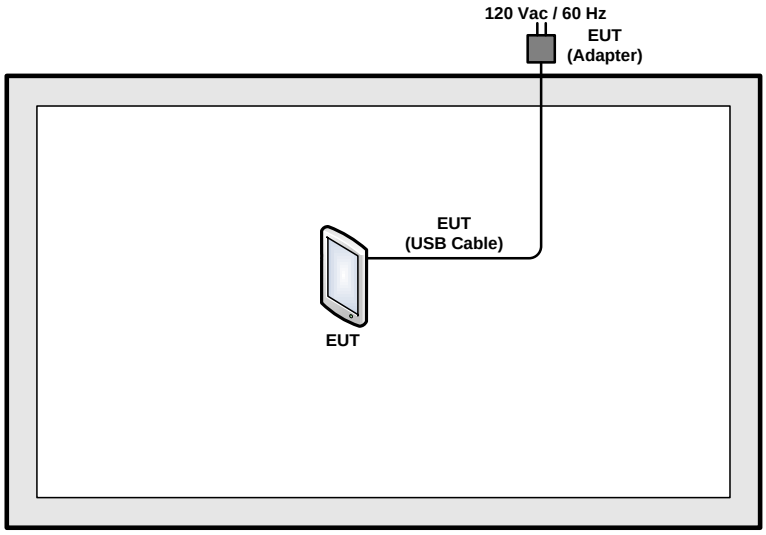
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11n HT20	802.11n HT20	802.11n HT20
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

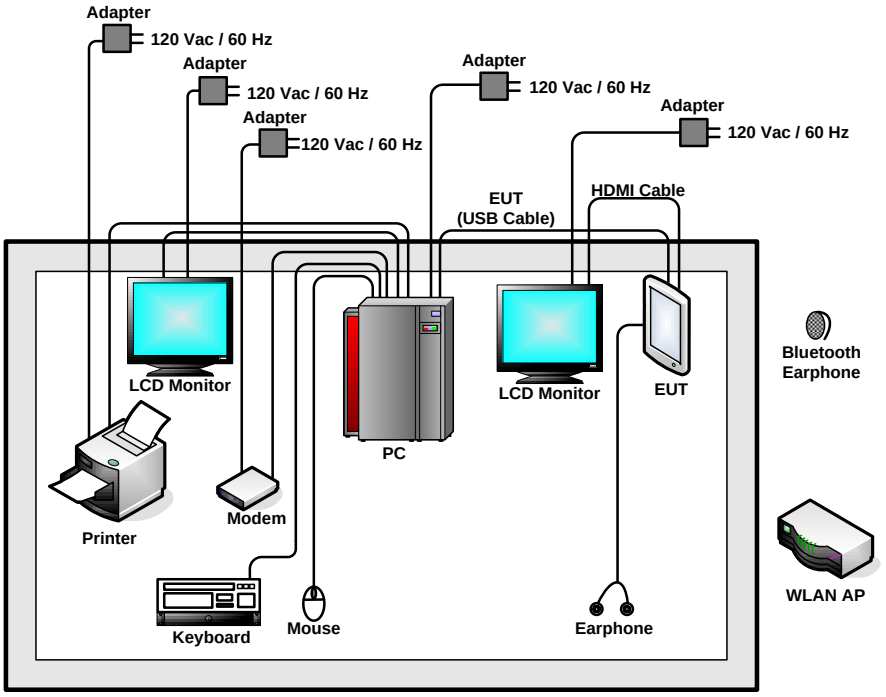
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5600 MHz and 5650-5725MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	D-Link	DNS-G120	N/A	N/A	Unshielded, 1.5 m
2.	Bluetooth Earphone	SONY	Z354	N/A	N/A	N/A
3.	PC	HP	DC7700	FCC DoC	N/A	Unshielded, 1.8 m
4.	LCD Monitor	DELL	U2410f	FCC DoC	Shielded, 1.5 m	Unshielded, 1.8 m
5.	(USB) Mouse	Microsoft	1113	FCC DoC	Shielded, 1.8 m	N/A
6.	(USB) Keyboard	Microsoft	1366	FCC DoC	Shielded, 2.0 m	N/A
7.	Printer	EPSON	LQ300+	FCC DoC	Shielded, 1.8 m	Unshielded, 1.8 m
8.	Earphone	Apple	MB770FE/A	N/A	Unshielded, 1.5m	N/A
9.	MicroSD Card	Transcend	8G	FCC DoC	N/A	N/A
10.	NFC Card	Metro Taipei	Easy Card	N/A	N/A	N/A
11.	Modem	ACCEX	DM1414	IFAXDM1414	Shielded, 1 m	Unshielded, 1.8 m

2.6 Description of RF Function Operation Test Setup

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

2.7 Measurement Results Explanation Example

For all conducted test items:

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

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

Offset = RF cable loss + attenuator factor.

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

Example :

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

= 4.2 + 10 = 14.2 (dB)

3 Test Result

3.1 26dB & 99% Bandwidth Measurement

3.1.1 Description of Bandwidth Measurement

There is no restriction limits for bandwidth. The maximum conducted output power can be limited by measured emission bandwidth (B). For the band 5150-5250 MHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B. For the bands 5250-5350 MHz and 5470-5600 MHz and 5650-5725MHz, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B.

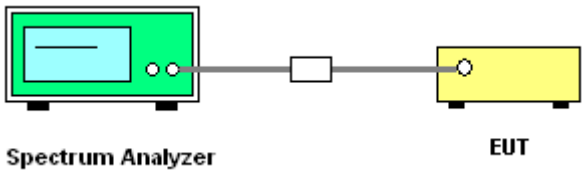
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03. Section D) Emission bandwidth
2. Set RBW = approximately 1% of the emission bandwidth.
3. Set the VBW > RBW.
4. Detector = Peak.
5. Trace mode = max hold
6. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.
7. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1MHz and set the Video bandwidth (VBW) ≥ 3 * RBW.
8. Measure and record the results in the test report.

3.1.4 Test Setup

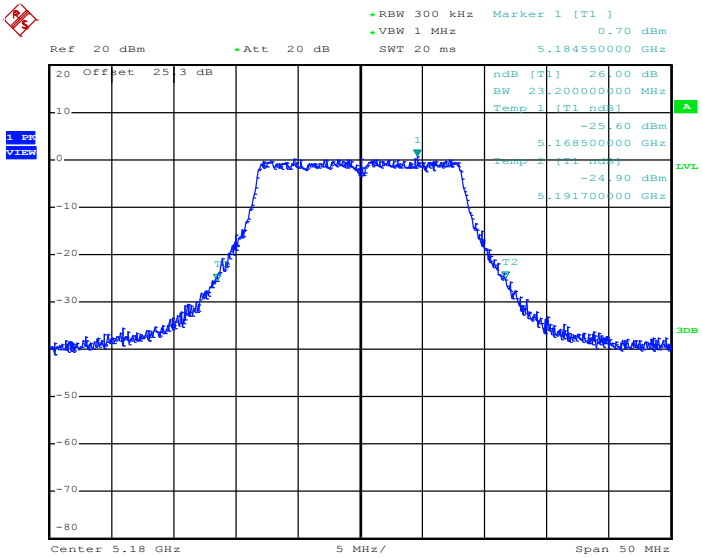


3.1.5 Test Result of 26dB Bandwidth Plots

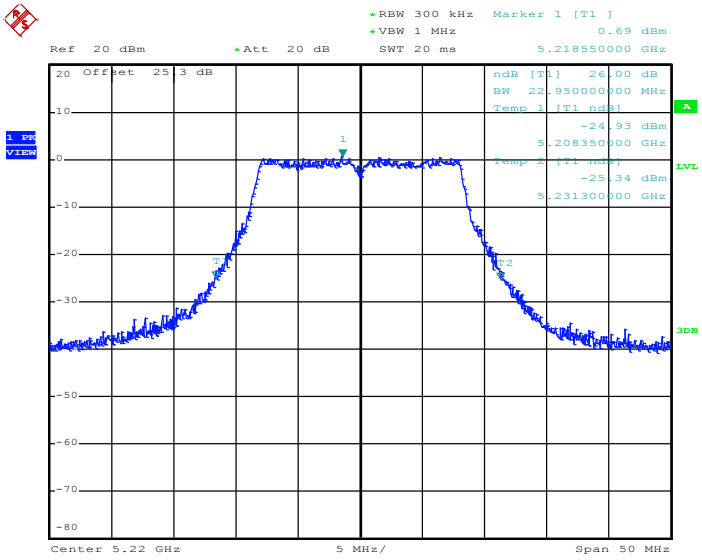
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)	Pass/Fail
NII Band 1	36	5180	23.20	N/A
	44	5220	22.95	N/A
	48	5240	23.25	N/A
NII Band 2	52	5260	22.85	N/A
	60	5300	22.90	N/A
	64	5320	22.80	N/A
NII Band 3	100	5500	23.10	N/A
	116	5580	22.85	N/A
	140	5700	23.05	N/A

26 dB Bandwidth Plot on 802.11a Channel 36



26 dB Bandwidth Plot on 802.11a Channel 44



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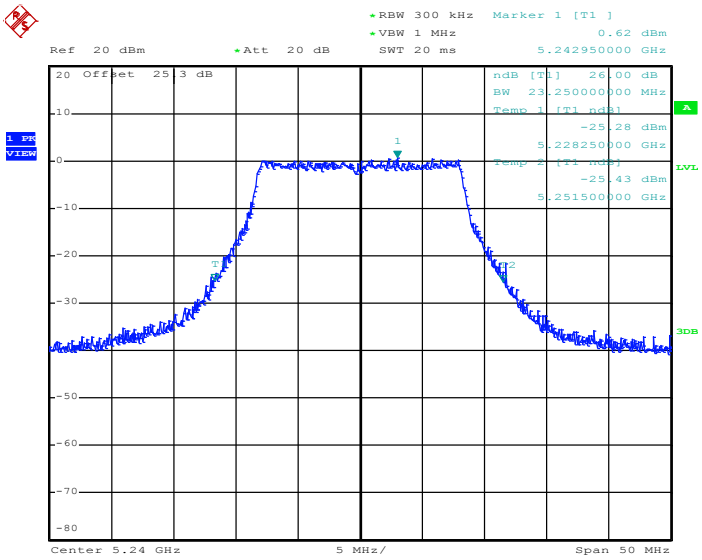
26 dB Bandwidth Plot on 802.11a Channel 48



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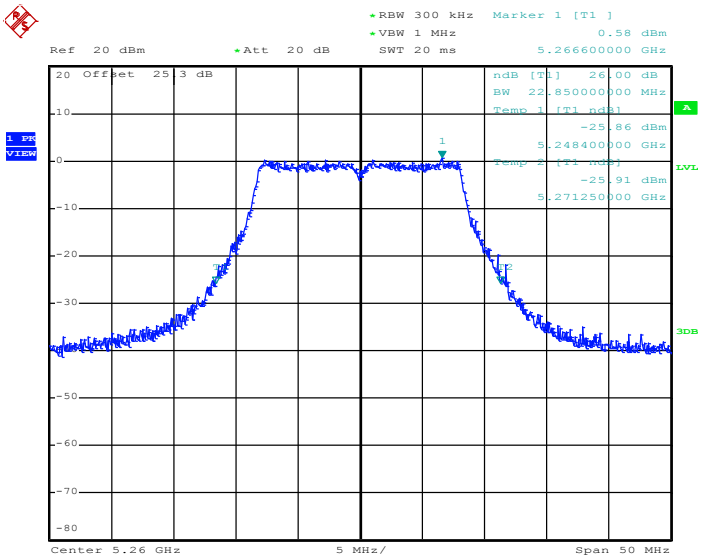

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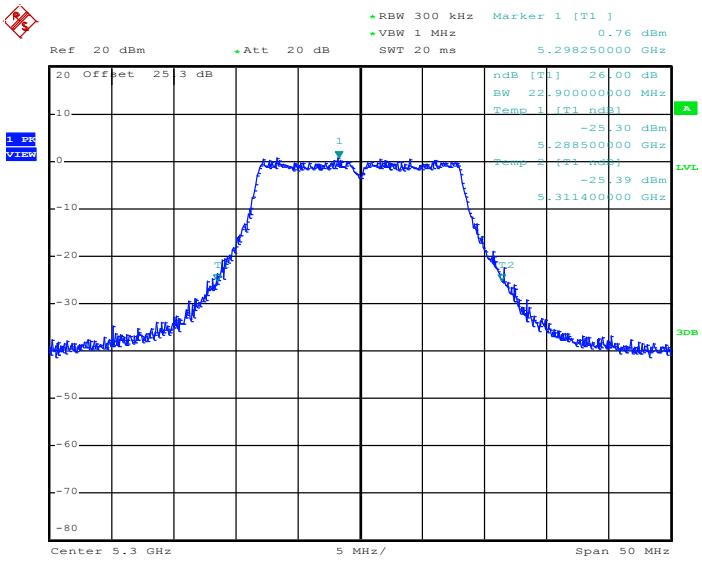
26 dB Bandwidth Plot on 802.11a Channel 60



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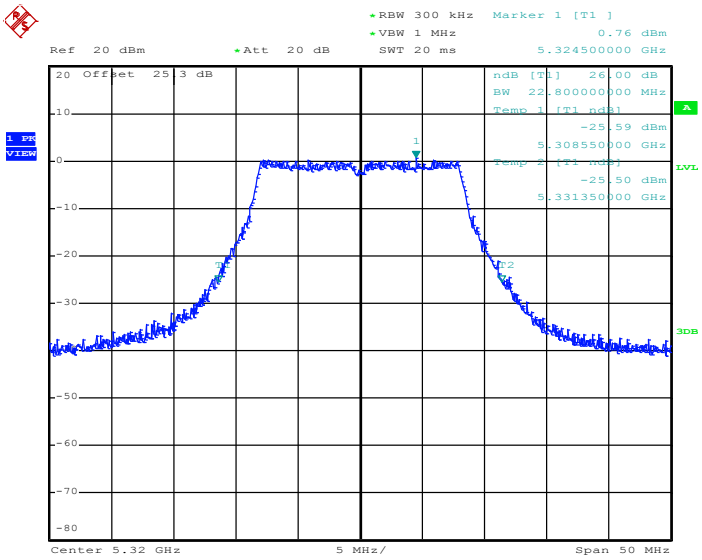

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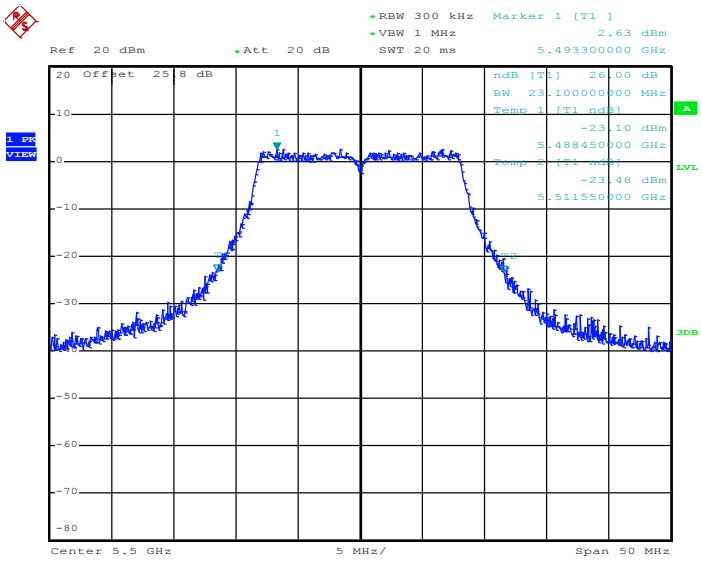
26 dB Bandwidth Plot on 802.11a Channel 100



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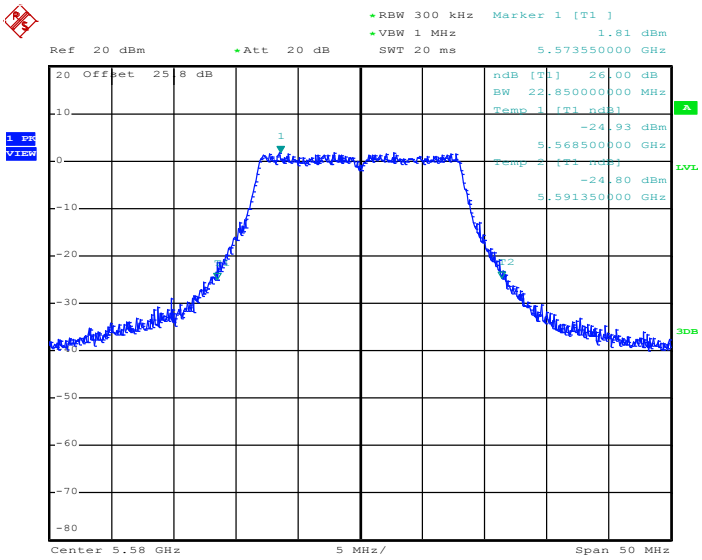

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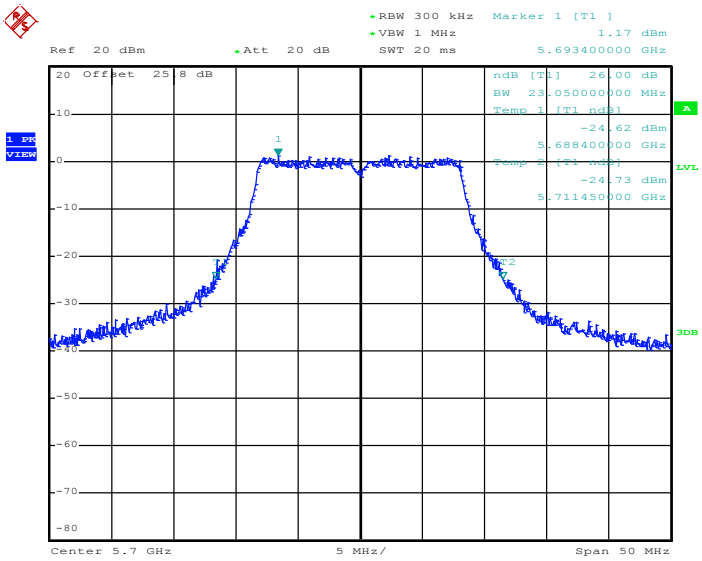
26 dB Bandwidth Plot on 802.11a Channel 140



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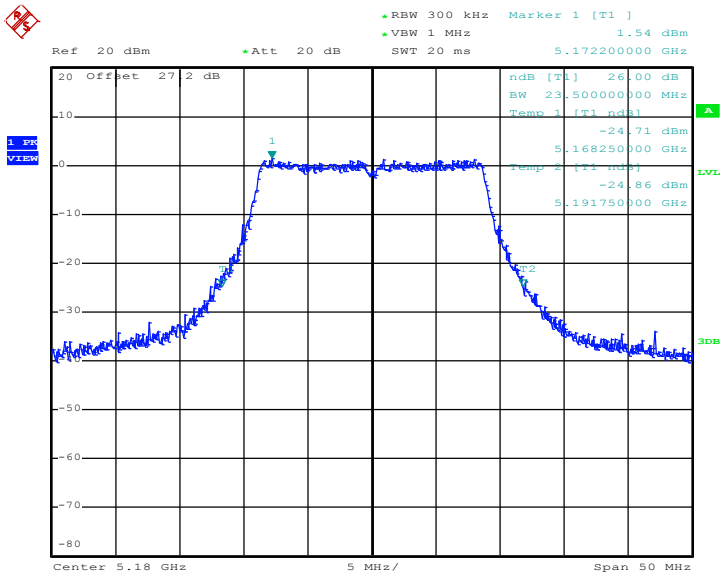
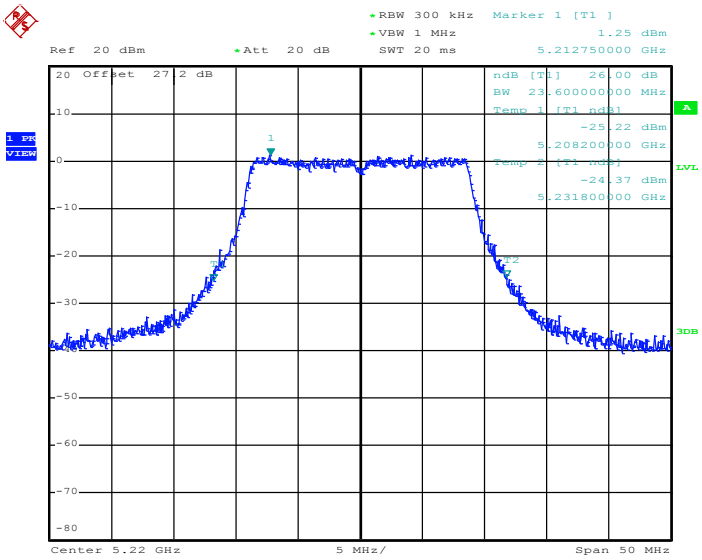
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	802.11n HT20 26dB Bandwidth (MHz)	Pass/Fail
NII Band 1	36	5180	23.50	N/A
	44	5220	23.60	N/A
	48	5240	23.60	N/A
NII Band 2	52	5260	23.10	N/A
	60	5300	23.20	N/A
	64	5320	23.50	N/A
NII Band 3	100	5500	23.60	N/A
	116	5580	23.40	N/A
	140	5700	23.55	N/A

26 dB Bandwidth Plot on 802.11n HT20 Channel 36



26 dB Bandwidth Plot on 802.11n HT20 Channel 44



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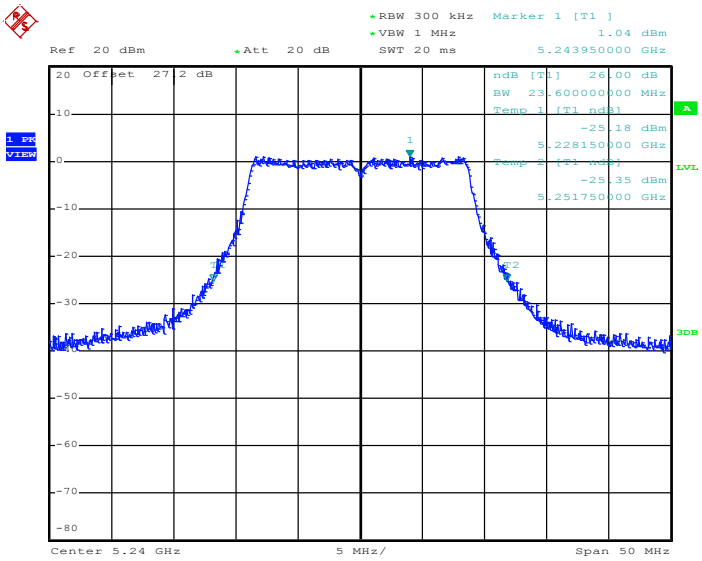

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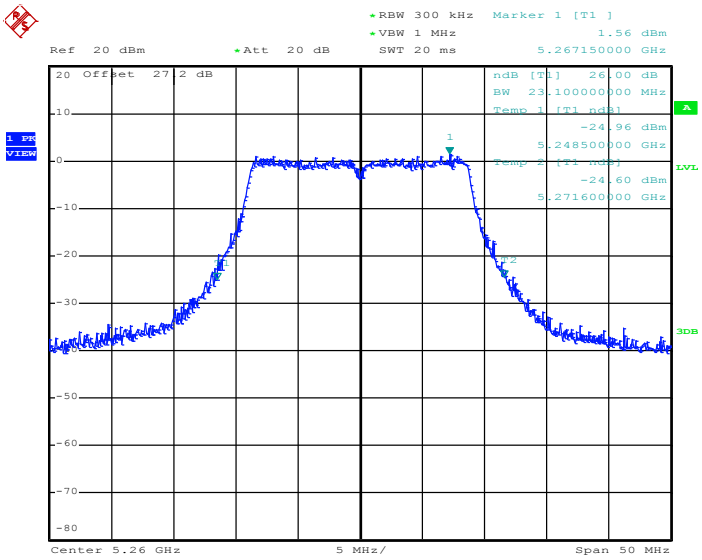

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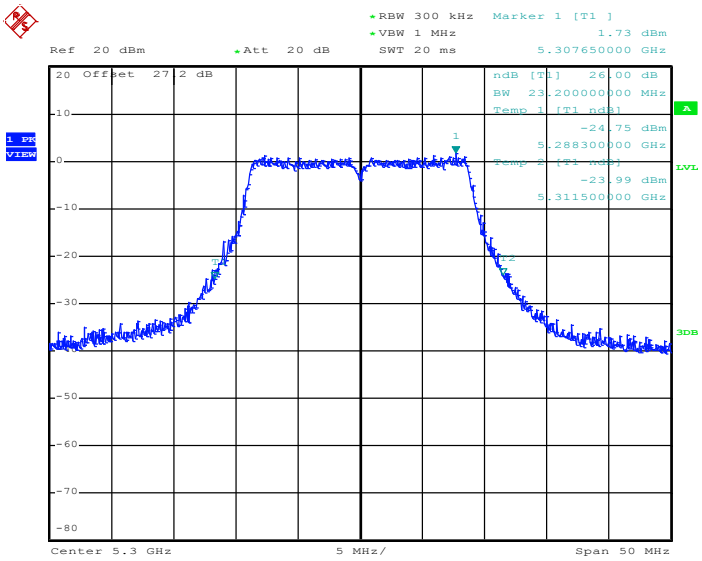

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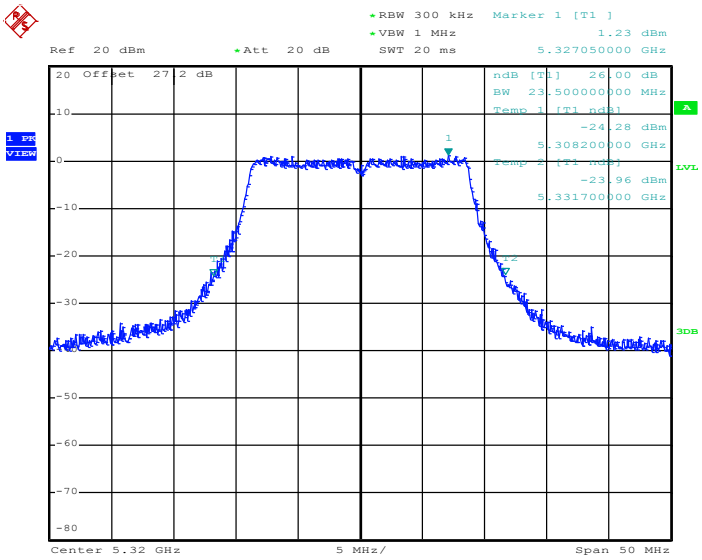

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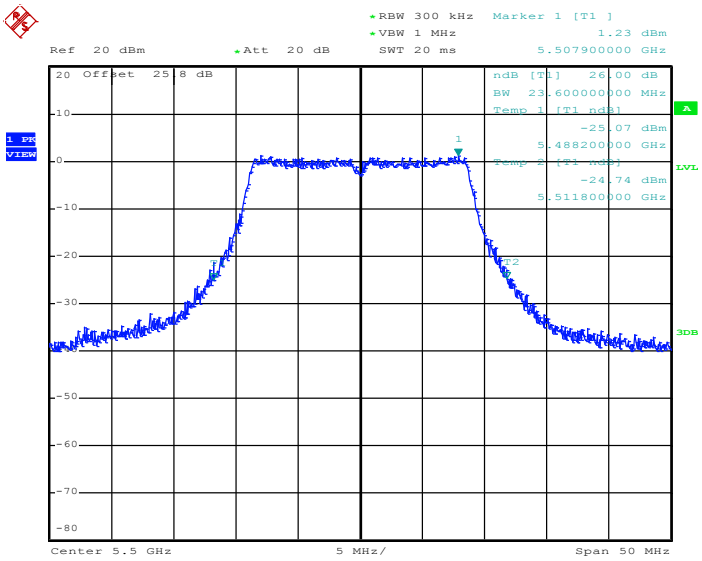

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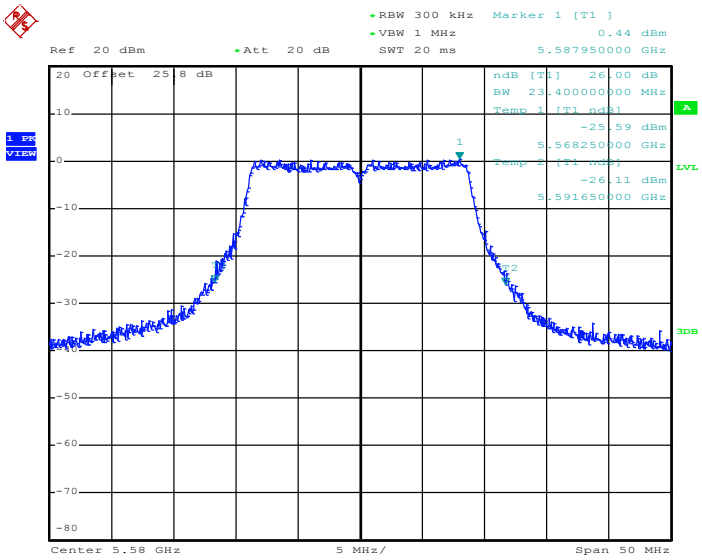

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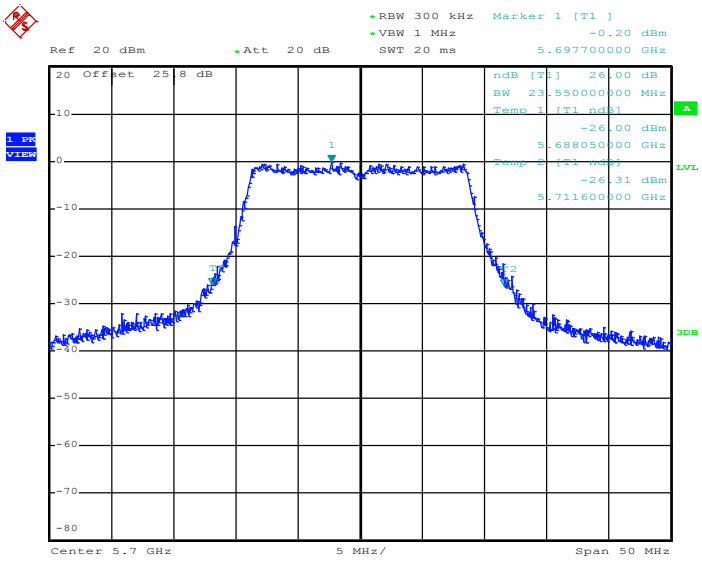

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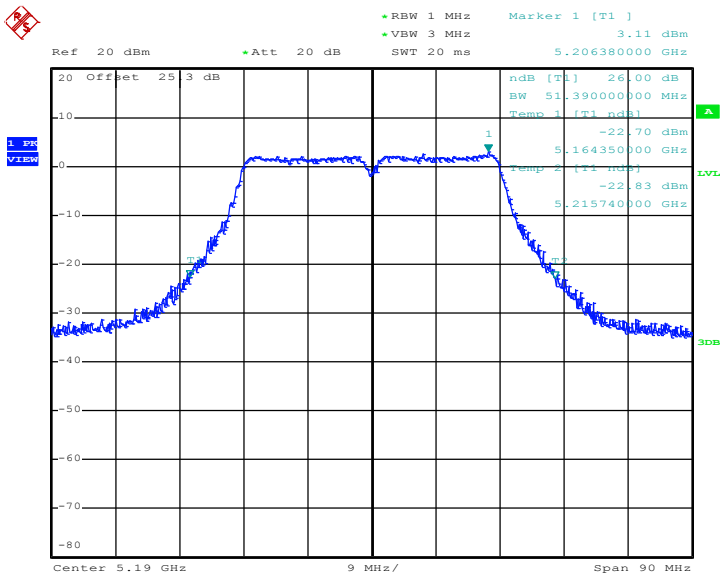
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

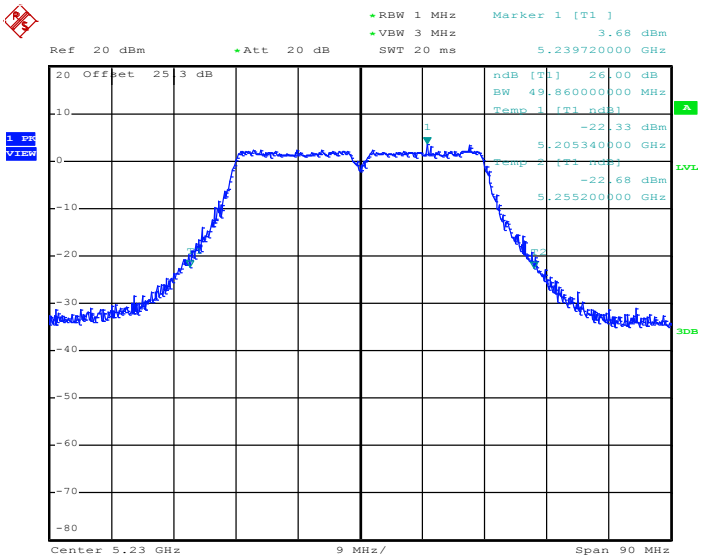
Band	Channel	Frequency (MHz)	802.11n HT40 26dB Bandwidth (MHz)	Pass/Fail
NII Band 1	38	5190	51.39	N/A
	46	5230	49.86	N/A
NII Band 2	54	5270	51.84	N/A
	62	5310	51.75	N/A
NII Band 3	102	5510	51.39	N/A
	110	5550	52.29	N/A
	134	5670	50.22	N/A

26 dB Bandwidth Plot on 802.11n HT40 Channel 38



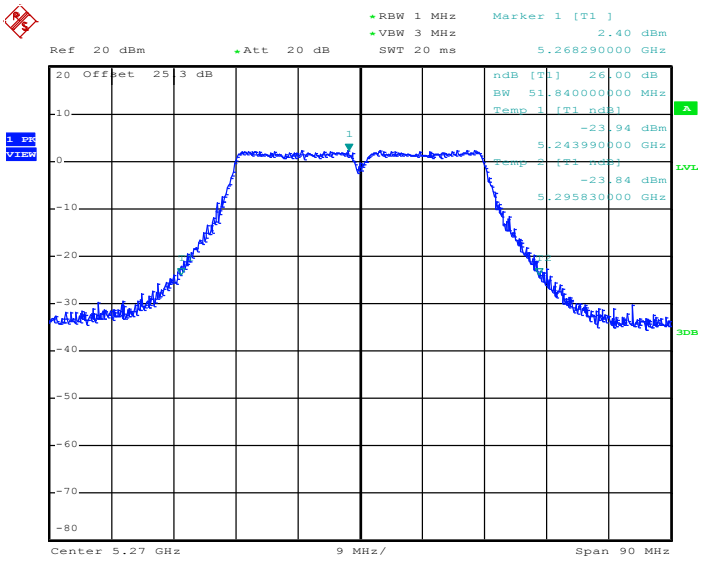
Date: 21.MAR.2013 10:57:37

26 dB Bandwidth Plot on 802.11n HT40 Channel 46



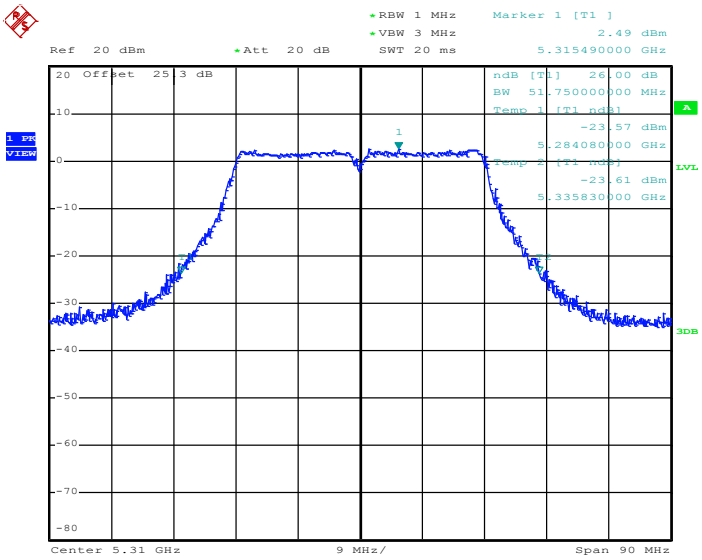
Date: 21.MAR.2013 10:55:02

26 dB Bandwidth Plot on 802.11n HT40 Channel 54



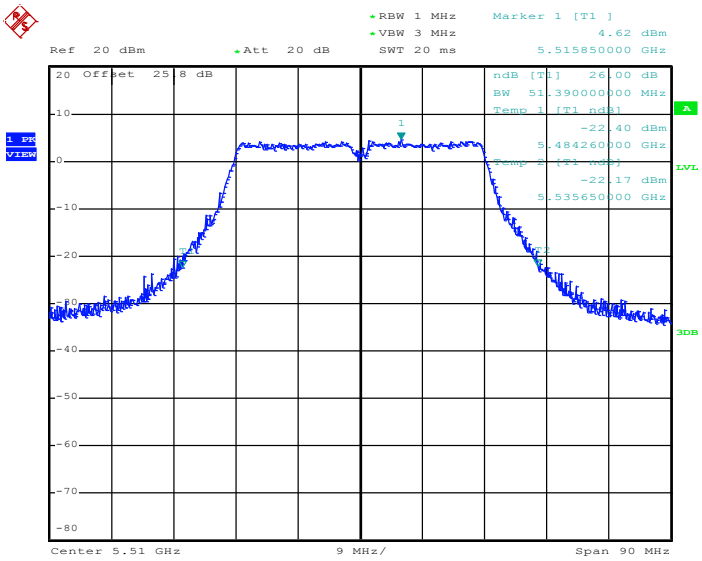
Date: 21.MAR.2013 10:51:08

26 dB Bandwidth Plot on 802.11n HT40 Channel 62



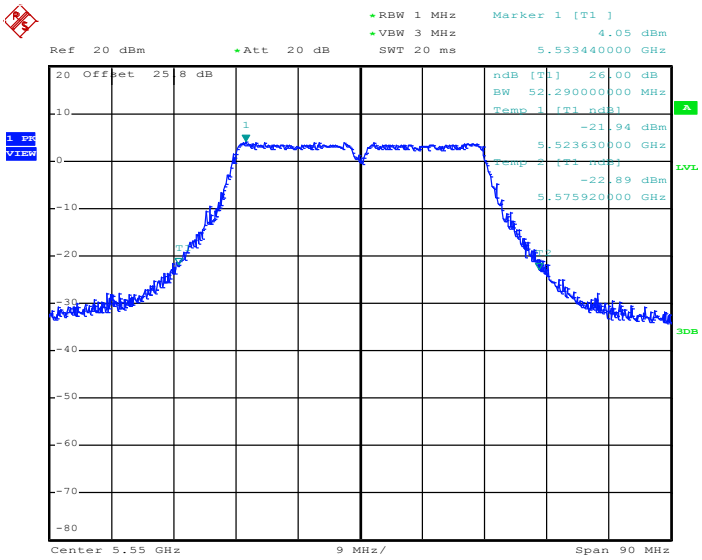
Date: 21.MAR.2013 10:48:29

26 dB Bandwidth Plot on 802.11n HT40 Channel 102



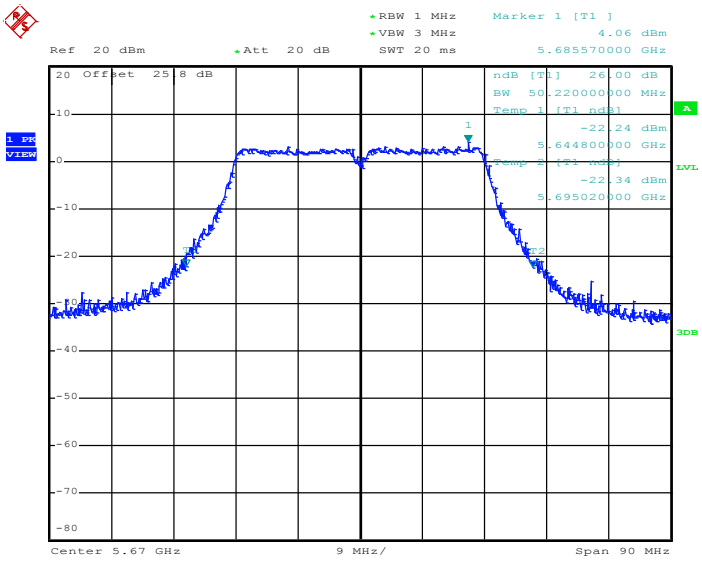
Date: 21.MAR.2013 10:43:08

26 dB Bandwidth Plot on 802.11n HT40 Channel 110



Date: 21.MAR.2013 10:40:31

26 dB Bandwidth Plot on 802.11n HT40 Channel 134



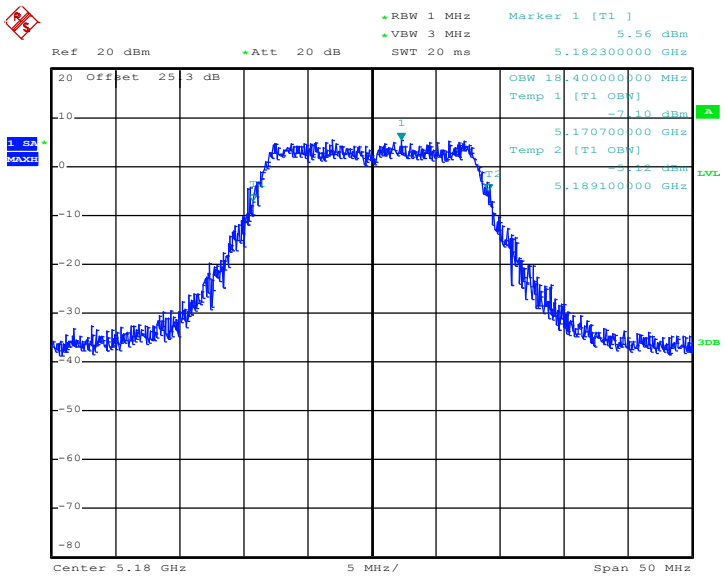
Date: 21.MAR.2013 10:37:21

3.1.6 Test Result of 99% Occupied Bandwidth Plots

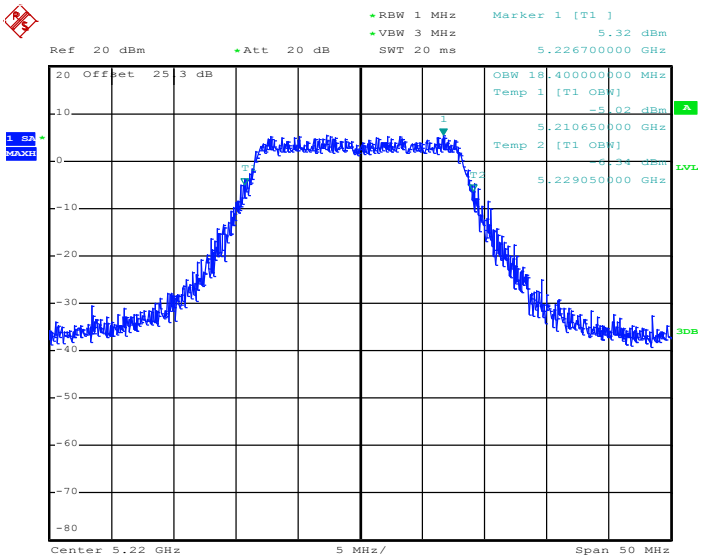
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)	Pass/Fail
NII Band 1	36	5180	18.40	N/A
	44	5220	18.40	N/A
	48	5240	18.40	N/A
NII Band 2	52	5260	18.40	N/A
	60	5300	18.50	N/A
	64	5320	18.30	N/A
NII Band 3	100	5500	18.25	N/A
	116	5580	18.60	N/A
	140	5700	18.50	N/A

99% Occupied Bandwidth Plot on 802.11a Channel 36

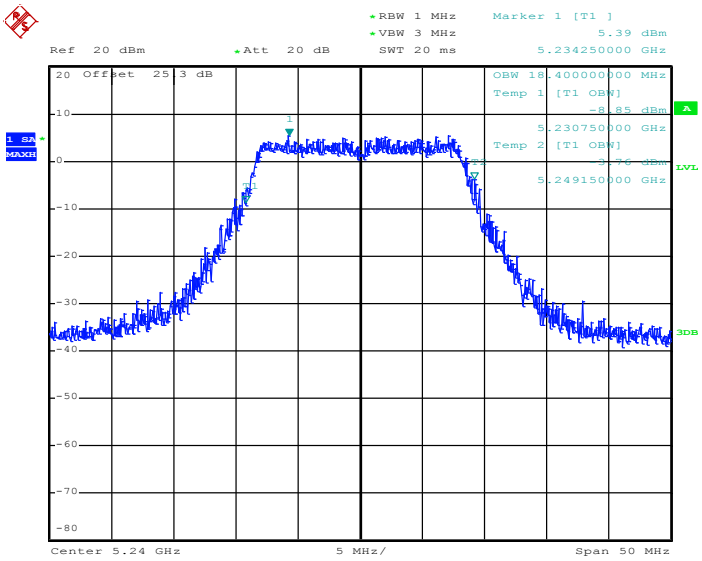


99% Occupied Bandwidth Plot on 802.11a Channel 44



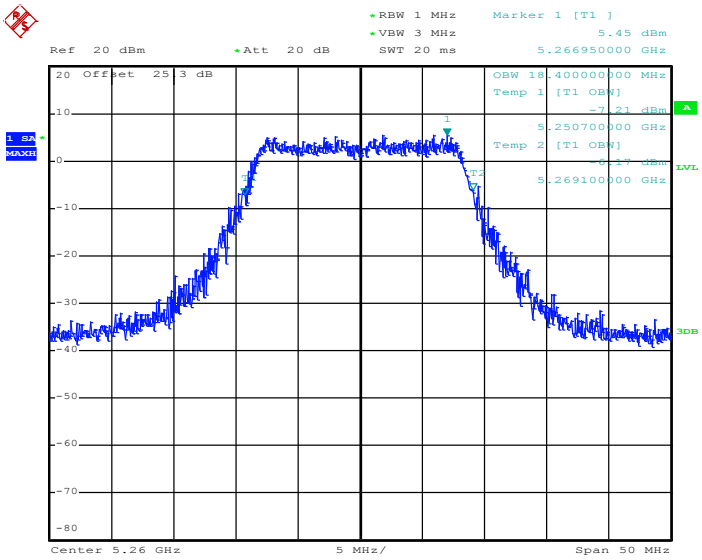
Date: 21.MAR.2013 09:29:46

99% Occupied Bandwidth Plot on 802.11a Channel 48



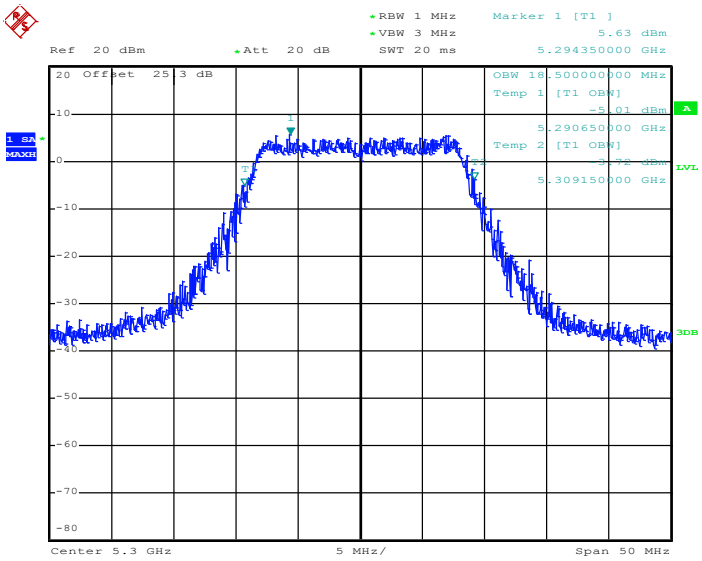
Date: 21.MAR.2013 09:33:33

99% Occupied Bandwidth Plot on 802.11a Channel 52



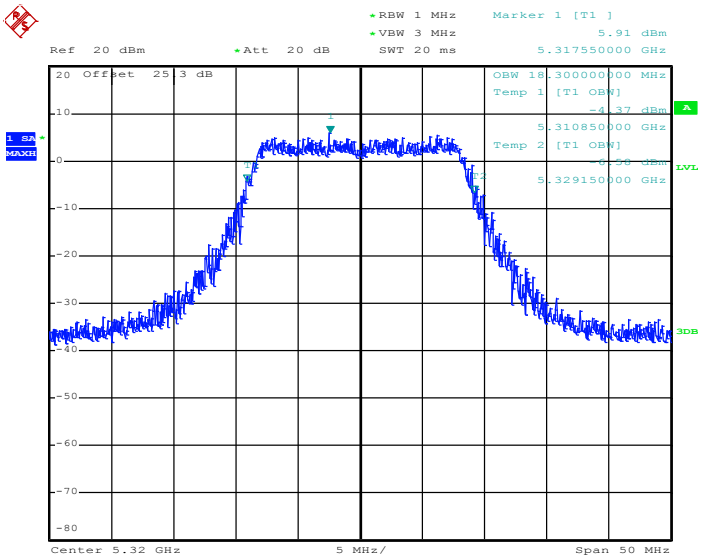
Date: 21.MAR.2013 09:36:35

99% Occupied Bandwidth Plot on 802.11a Channel 60



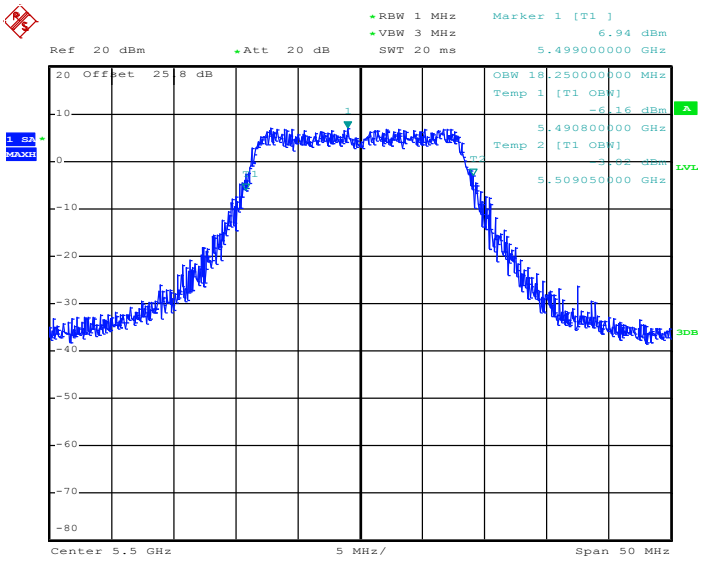
Date: 21.MAR.2013 09:40:19

99% Occupied Bandwidth Plot on 802.11a Channel 64



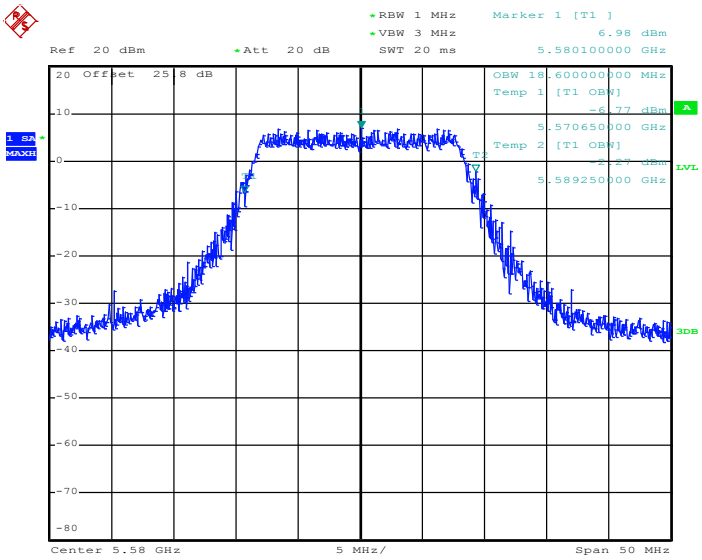
Date: 21.MAR.2013 09:43:20

99% Occupied Bandwidth Plot on 802.11a Channel 100



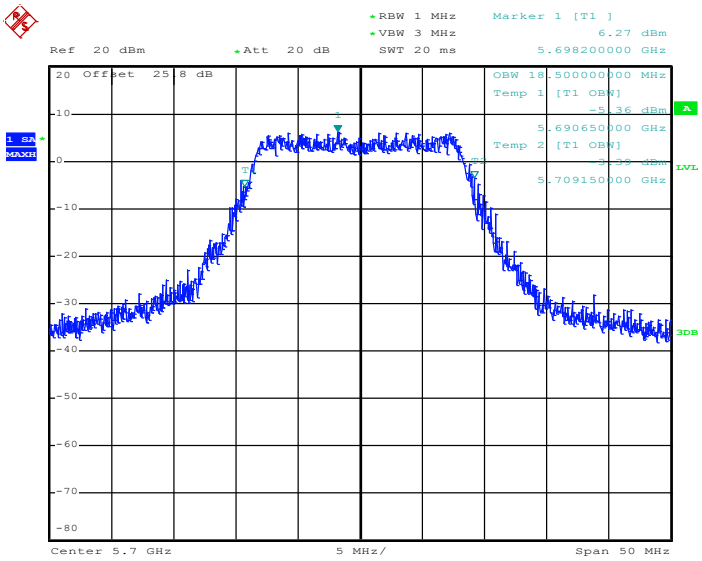
Date: 21.MAR.2013 09:52:21

99% Occupied Bandwidth Plot on 802.11a Channel 116



Date: 21.MAR.2013 09:55:19

99% Occupied Bandwidth Plot on 802.11a Channel 140

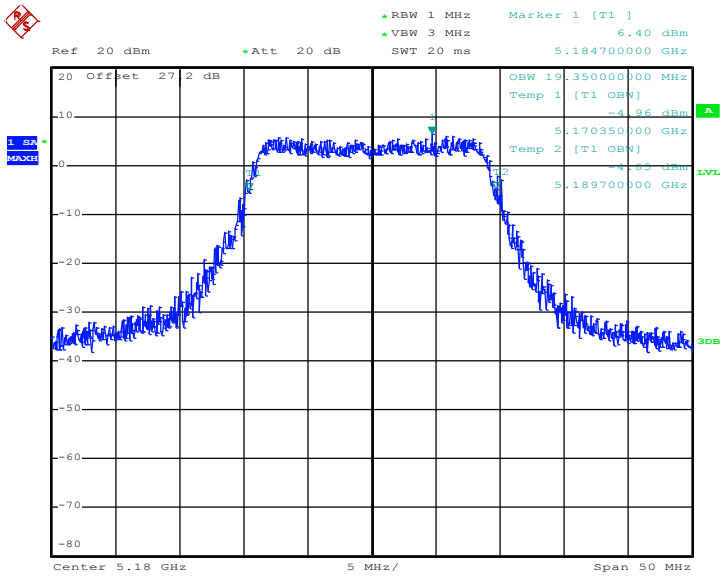


Date: 21.MAR.2013 09:58:58

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

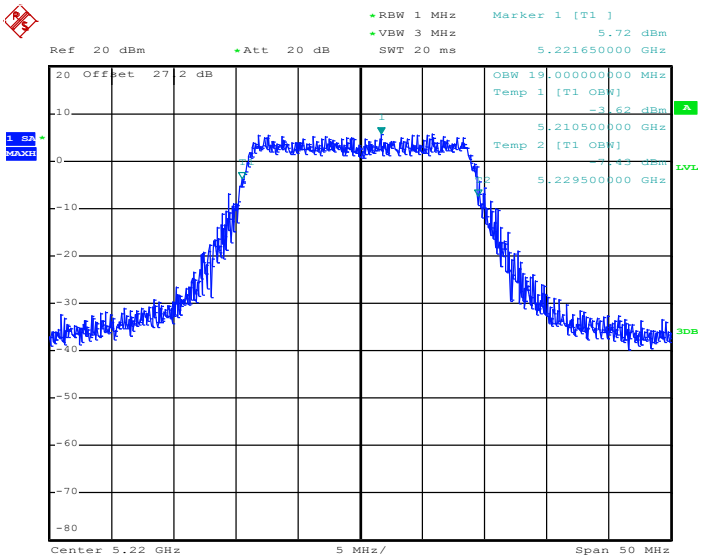
Band	Channel	Frequency (MHz)	802.11n HT20 99% Occupied Bandwidth (MHz)	Pass/Fail
NII Band 1	36	5180	19.35	N/A
	44	5220	19.00	N/A
	48	5240	19.25	N/A
NII Band 2	52	5260	19.05	N/A
	60	5300	19.00	N/A
	64	5320	19.10	N/A
NII Band 3	100	5500	19.10	N/A
	116	5580	19.25	N/A
	140	5700	19.25	N/A

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 36



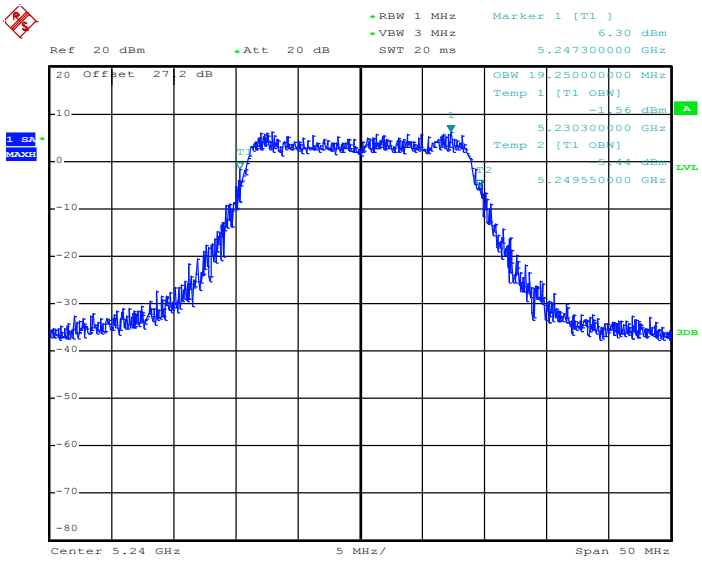
Date: 22.MAR.2013 14:13:30

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 44



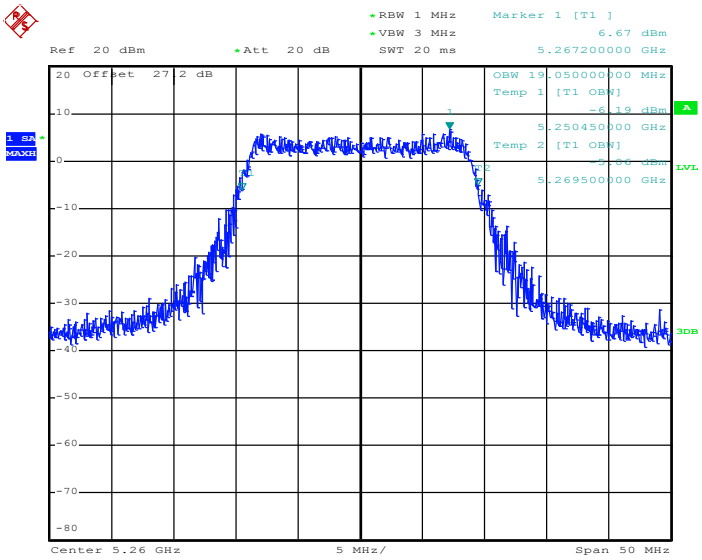
Date: 22.MAR.2013 14:16:13

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 48



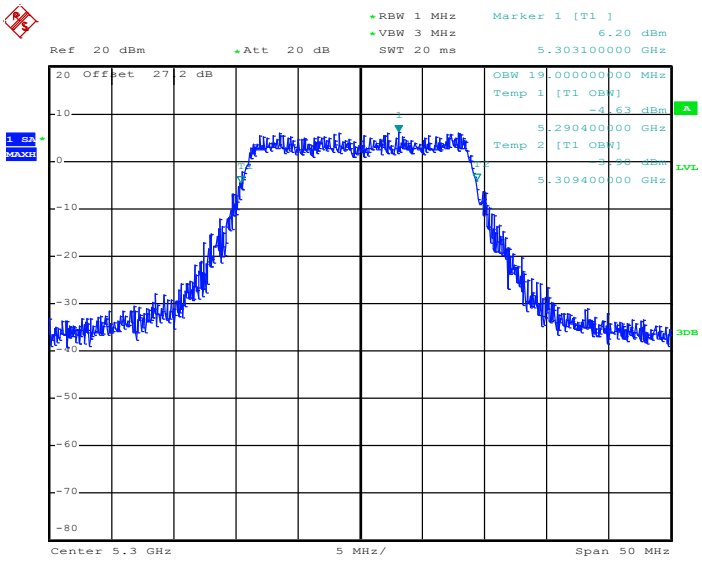
Date: 22.MAR.2013 14:18:54

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 52



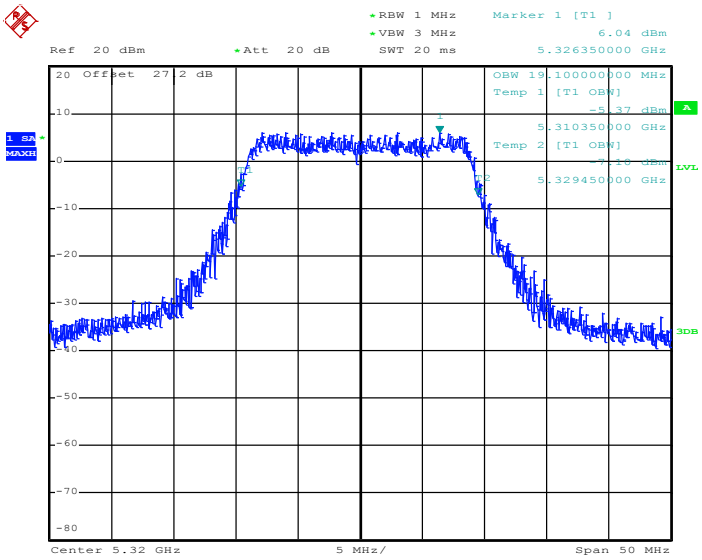
Date: 22.MAR.2013 14:21:39

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 60



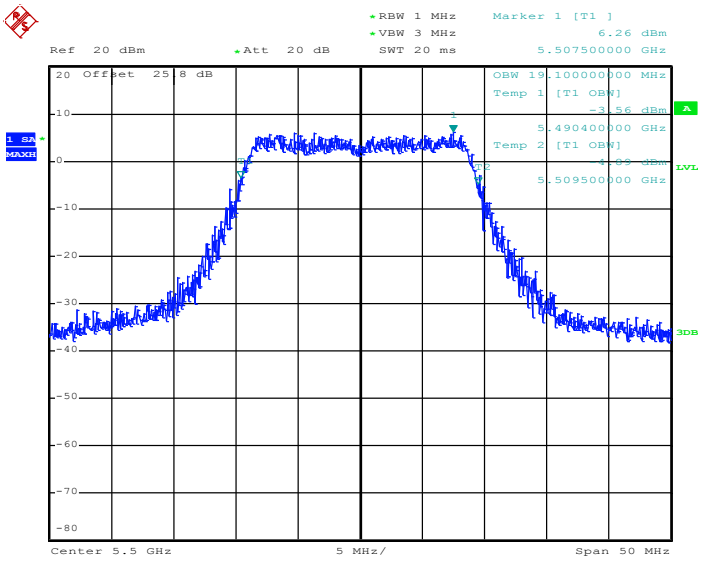
Date: 22.MAR.2013 14:24:28

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 64



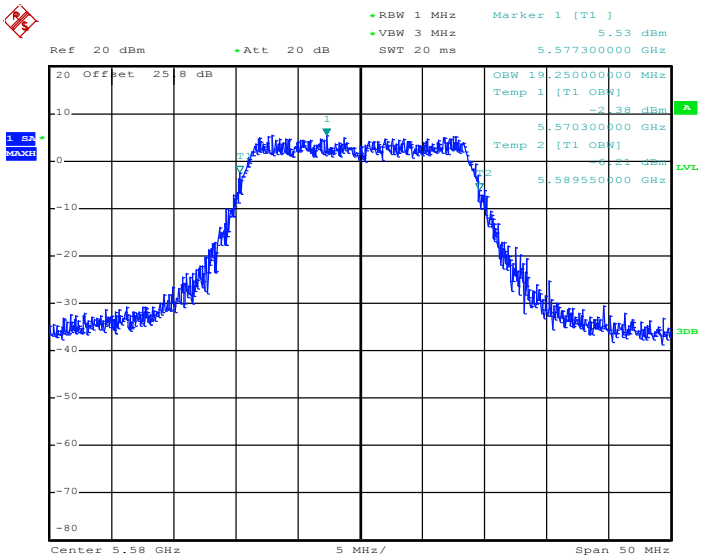
Date: 22.MAR.2013 14:27:03

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 100



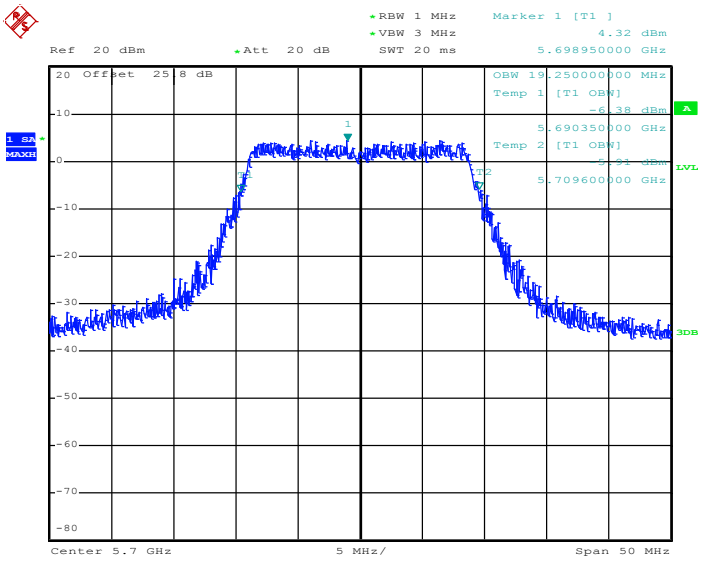
Date: 21.MAR.2013 10:30:31

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 116



Date: 21.MAR.2013 10:33:22

99% Occupied Bandwidth Plot on 802.11n HT20 Channel 140

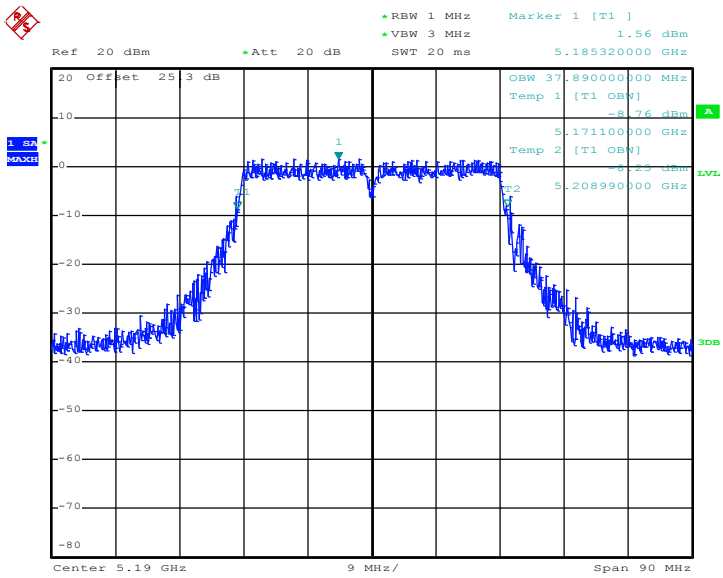


Date: 21.MAR.2013 10:36:08

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

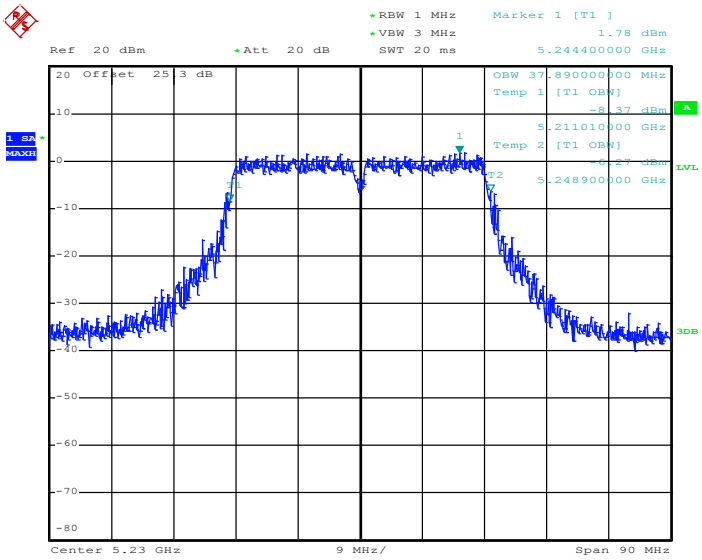
Band	Channel	Frequency (MHz)	802.11n HT40 99% Occupied Bandwidth (MHz)	Pass/Fail
NII Band 1	38	5190	37.89	N/A
	46	5230	37.89	N/A
NII Band 2	54	5270	37.71	N/A
	62	5310	37.80	N/A
NII Band 3	102	5510	37.44	N/A
	110	5550	37.80	N/A
	134	5670	37.89	N/A

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 38



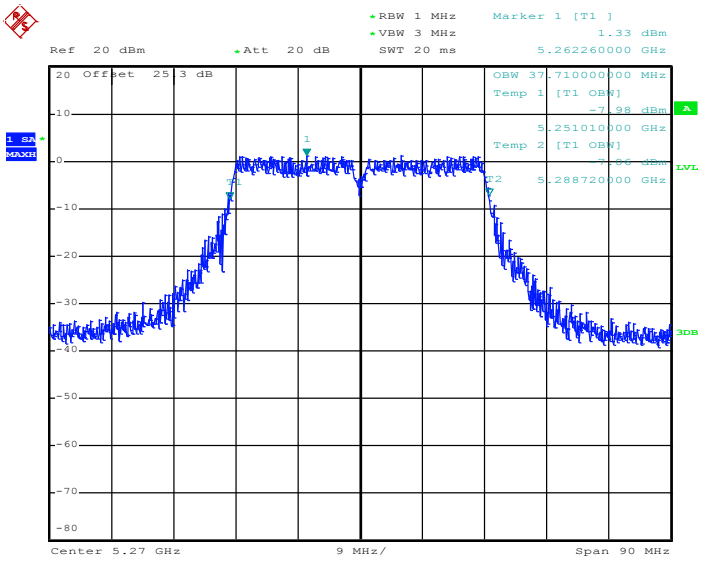
Date: 21.MAR.2013 11:01:30

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 46



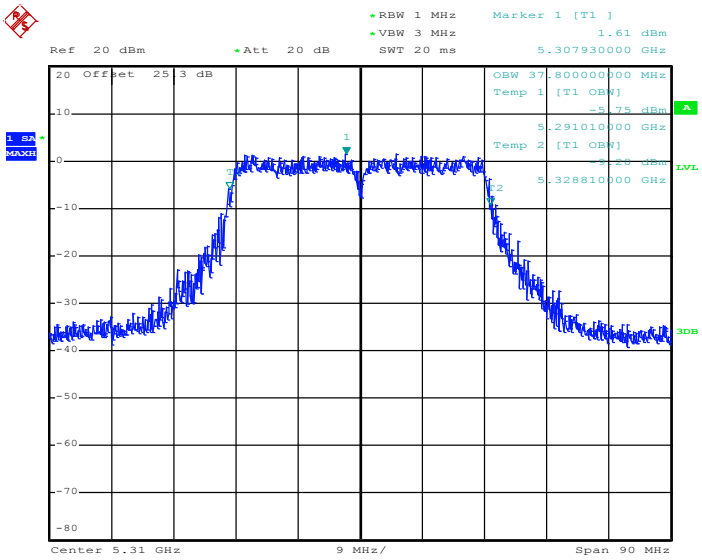
Date: 21.MAR.2013 10:57:09

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 54



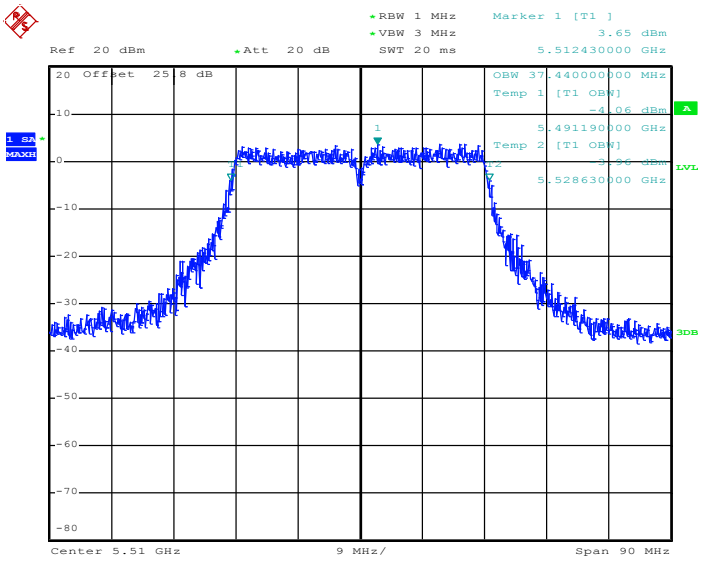
Date: 21.MAR.2013 10:54:34

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 62



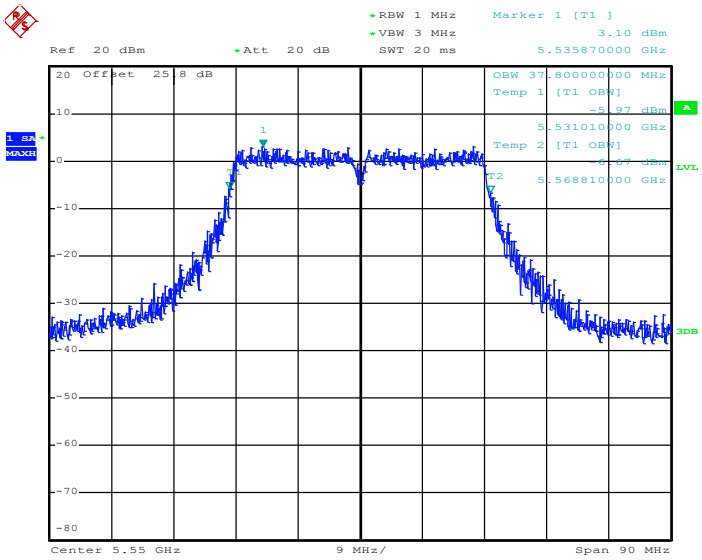
Date: 21.MAR.2013 10:50:25

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 102



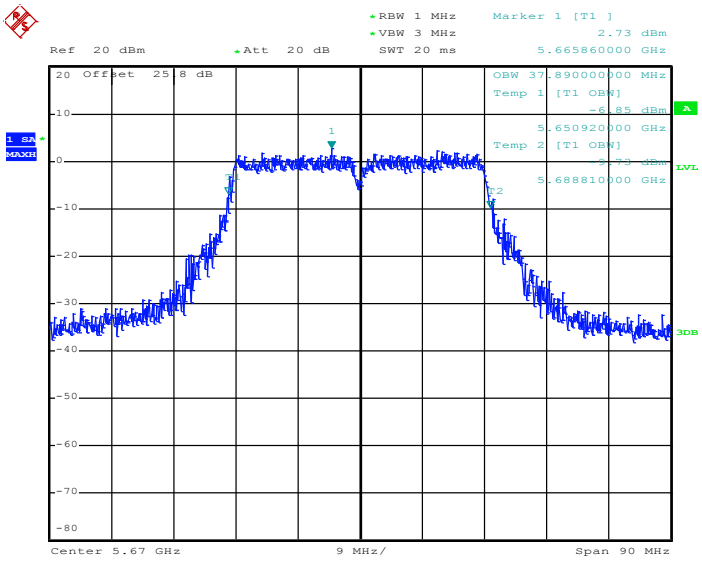
Date: 21.MAR.2013 10:44:59

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 110



Date: 21.MAR.2013 10:42:29

99% Occupied Bandwidth Plot on 802.11n HT40 Channel 134



Date: 21.MAR.2013 10:39:56

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5150-5250 MHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B, where B is the 26 dB emissions bandwidth in 1-MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

For the bands 5250-5350 MHz and 5470-5600 MHz and 5650-5725 MHz, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B, where B is the 26 dB emissions bandwidth in 1-MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

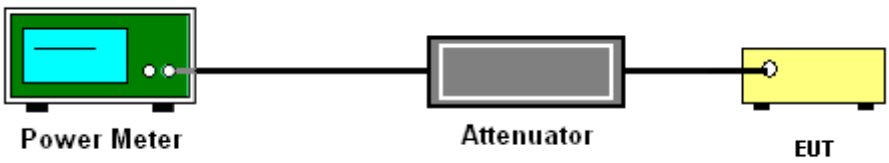
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Method PM (Measurement using an RF average power meter):

1. Measurement is performed using a wideband RF power meter.
2. The EUT is configured to transmit continuously with a consistent duty cycle at its maximum power control level.
3. Measure the average power of the transmitter, and the average power is corrected with duty factor, 10 log(1/x), where x is the duty cycle.

3.2.4 Test Setup



3.2.5 Test Result of Maximum Conducted Output Power

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%
Duty Cycle :	86.55%	Duty Factor :	0.63dB

Band	Channel	Frequency (MHz)	Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	10.16	10.79	17	Pass
	44	5220	10.34	10.97	17	Pass
	48	5240	10.02	10.65	17	Pass
NII Band 2	52	5260	9.80	10.43	24	Pass
	60	5300	10.08	10.71	24	Pass
	64	5320	9.92	10.55	24	Pass
NII Band 3	100	5500	11.44	12.07	24	Pass
	116	5580	11.12	11.75	24	Pass
	140	5700	10.65	11.28	24	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5150-5250 MHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW).
3. For the 5250-5350 MHz and 5470-5600MHz and 5650-5725MHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log (26dB BW).

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%
Duty Cycle :	86.49%	Duty Factor :	0.63dB

Band	Channel	Frequency (MHz)	Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	10.12	10.75	17	Pass
	44	5220	10.27	10.90	17	Pass
	48	5240	9.91	10.54	17	Pass
NII Band 2	52	5260	9.78	10.41	24	Pass
	60	5300	10.04	10.67	24	Pass
	64	5320	9.88	10.51	24	Pass
NII Band 3	100	5500	10.44	11.07	24	Pass
	116	5580	10.35	10.98	24	Pass
	140	5700	10.22	10.85	24	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5150-5250 MHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW).
3. For the 5250-5350 MHz and 5470-5600MHz and 5650-5725MHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log (26dB BW).

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%
Duty Cycle :	75.96%	Duty Factor :	1.19dB

Band	Channel	Frequency (MHz)	Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	38	5190	9.12	10.31	17	Pass
	46	5230	9.25	10.44	17	Pass
NII Band 2	54	5270	8.96	10.15	24	Pass
	62	5310	9.24	10.43	24	Pass
NII Band 3	102	5510	10.36	11.55	24	Pass
	110	5550	10.25	11.44	24	Pass
	134	5670	10.02	11.21	24	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5150-5250 MHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW).
3. For the 5250-5350 MHz and 5470-5600MHz and 5650-5725MHz bands, the maximum conducted output power shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log (26dB BW).

3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

For the band 5150-5250 MHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. For the bands 5250-5350 MHz and 5470-5600 and 5650-5725 MHz, the peak power spectral density shall not exceed 11 dBm in any 1-MHz band. If transmitting antenna directional gain is greater than 6 dBi, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section F) Peak power spectral density (PPSD).

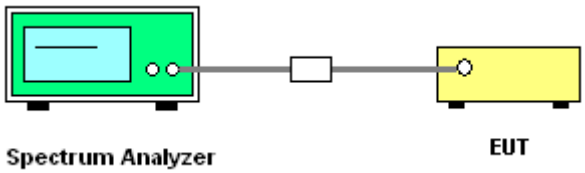
Note: Though the rule refers to “peak power spectral density”, the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

 # Method SA-2 #

(trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).

1. The testing follows Method SA-2 of FCC KDB 789033 D01 General UNII Test Procedures v01r03.
   - Measure the duty cycle.
   - Set span to encompass the entire emission bandwidth (EBW) of the signal.
   - Set RBW = 1 MHz.
   - Set VBW ≥ 3 MHz.
   - Number of points in sweep ≥ 2 Span / RBW.
   - Sweep time = auto.
   - Detector = sample
   - Trace average at least 100 traces in power averaging mode.
   - Add 10 log(1/x), where x is the duty cycle, to the measured power in order to compute the average power during the actual transmission times. For example, add 10 log(1/0.25) = 6 dB if the duty cycle is 25 percent.
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Each plot has already offset with cable loss, and attenuator loss. Measure the PPSD and record it.

3.3.4 Test Setup



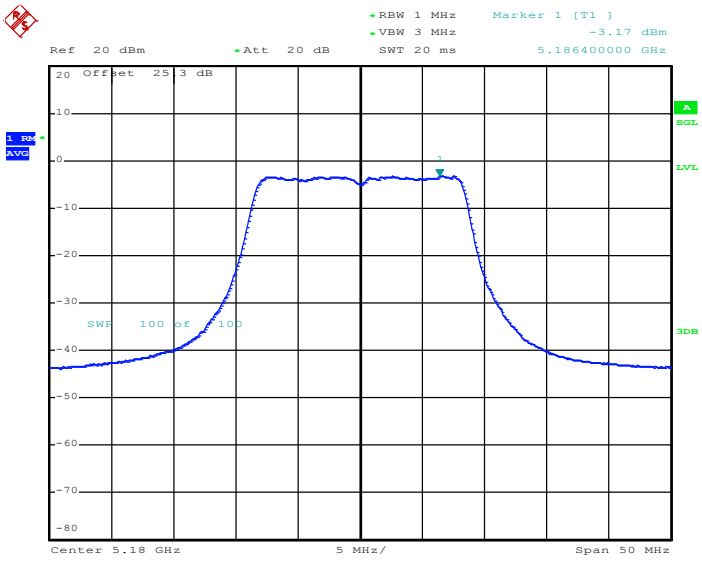
3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%
Duty Cycle :	86.55%	Duty Factor :	0.63dB

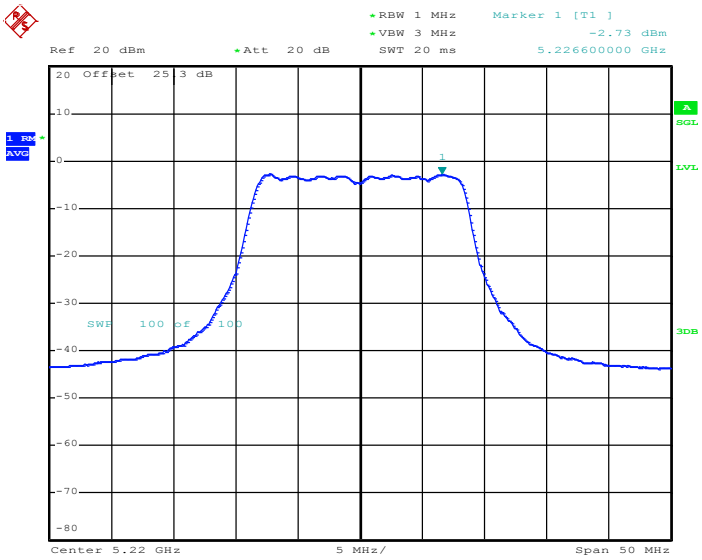
Band	Channel	Frequency (MHz)	802.11a PSD (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	-3.17	-2.54	4	Pass
	44	5220	-2.73	-2.10	4	Pass
	48	5240	-3.04	-2.41	4	Pass
NII Band 2	52	5260	-3.16	-2.53	11	Pass
	60	5300	-2.80	-2.17	11	Pass
	64	5320	-3.05	-2.42	11	Pass
NII Band 3	100	5500	-0.82	-0.19	11	Pass
	116	5580	-1.79	-1.16	11	Pass
	140	5700	-2.42	-1.79	11	Pass

Note: Result of Final PSD equals to Measured PSD adds the duty factor.

PSD Plot on 802.11a Channel 36

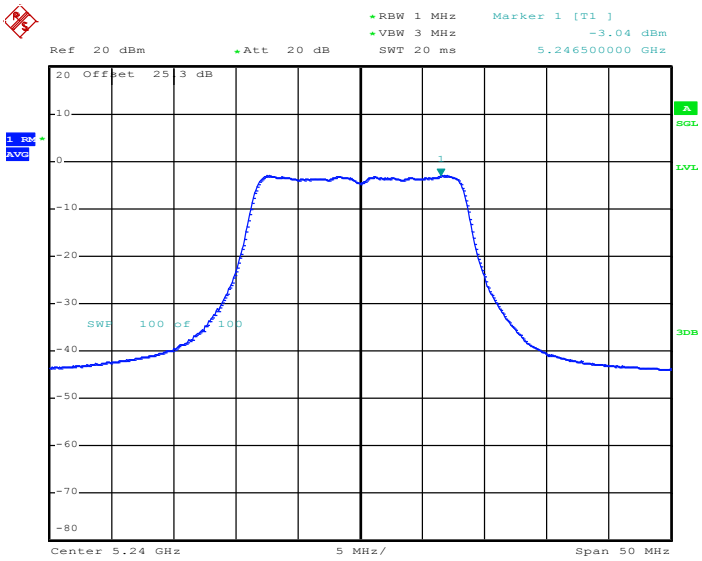


PSD Plot on 802.11a Channel 44



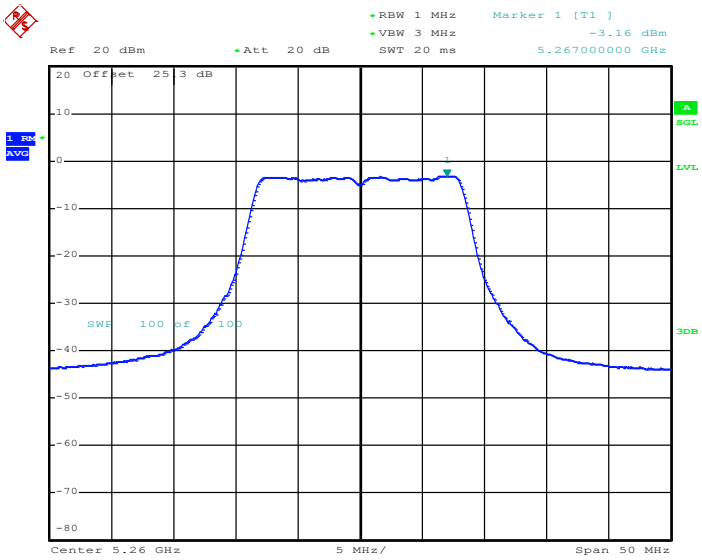
Date: 21.MAR.2013 09:27:39

PSD Plot on 802.11a Channel 48



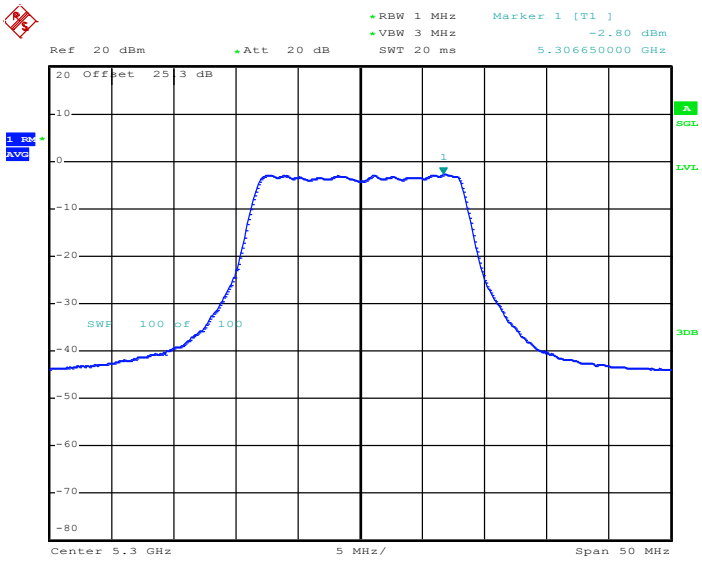
Date: 21.MAR.2013 09:30:36

PSD Plot on 802.11a Channel 52



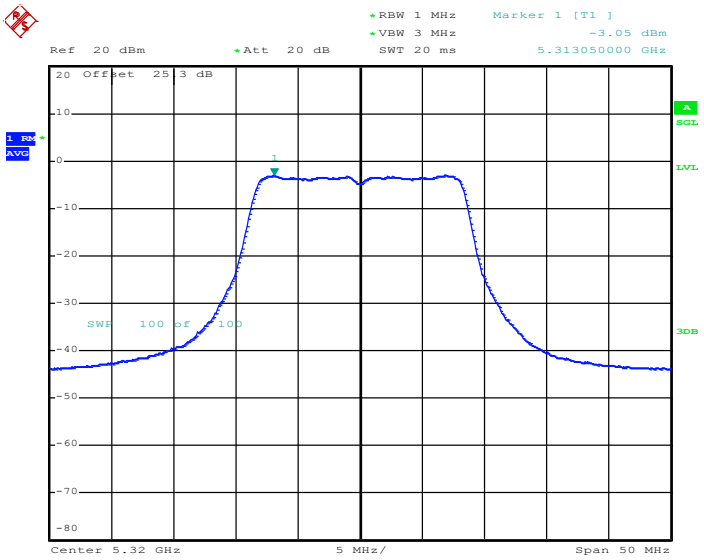
Date: 21.MAR.2013 09:34:14

PSD Plot on 802.11a Channel 60



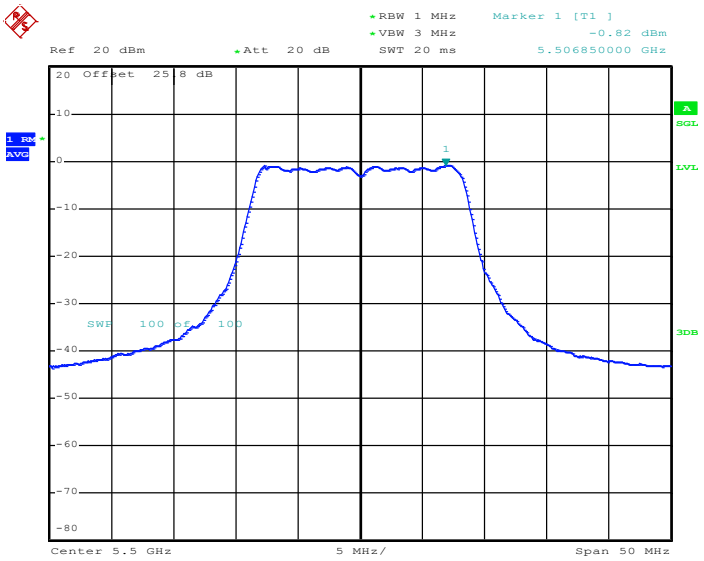
Date: 21.MAR.2013 09:38:23

PSD Plot on 802.11a Channel 64



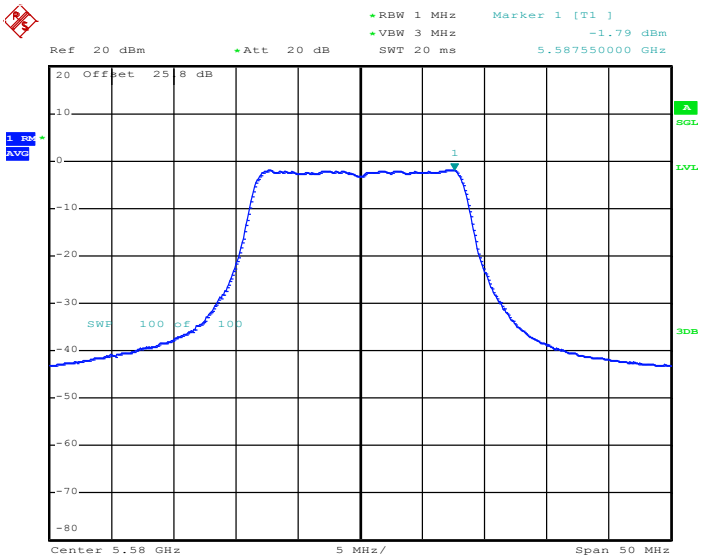
Date: 21.MAR.2013 09:45:02

PSD Plot on 802.11a Channel 100



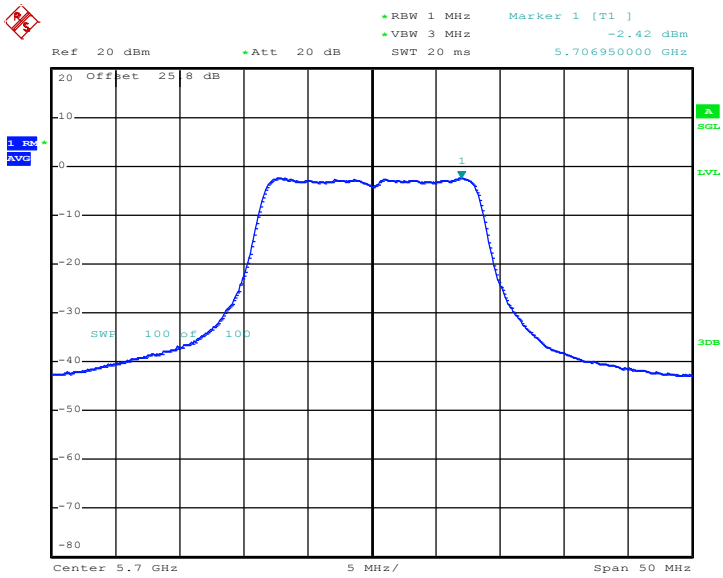
Date: 21.MAR.2013 09:49:07

PSD Plot on 802.11a Channel 116



Date: 21.MAR.2013 09:53:22

PSD Plot on 802.11a Channel 140



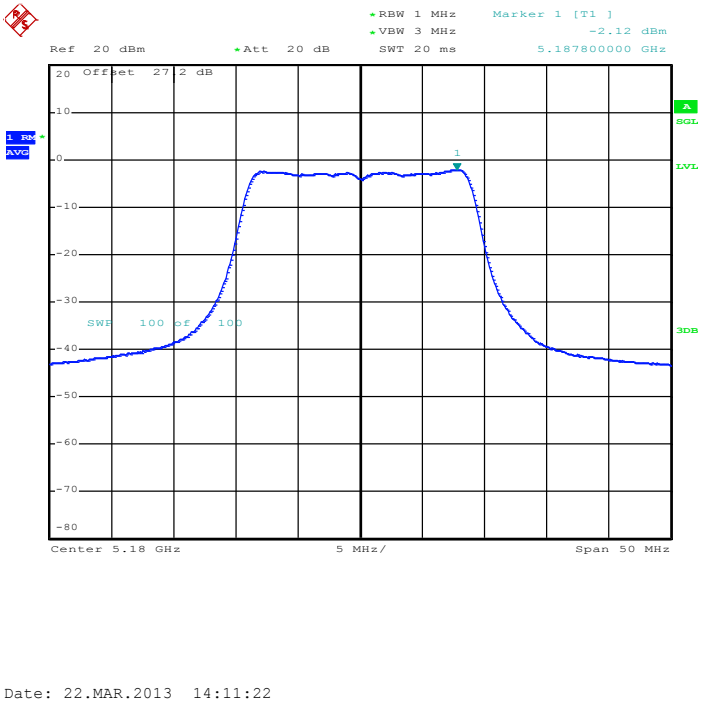
Date: 21.MAR.2013 09:56:23

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%
Duty Cycle :	86.49%	Duty Factor :	0.63dB

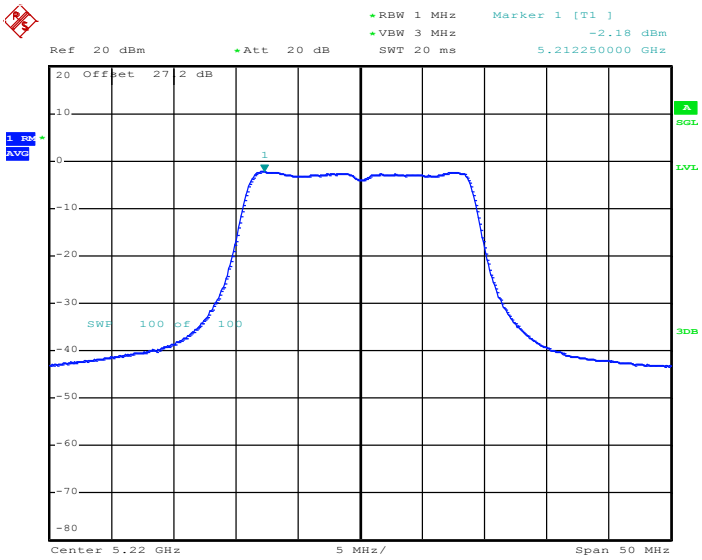
Band	Channel	Frequency (MHz)	802.11n HT20 PSD (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	-2.12	-1.49	4	Pass
	44	5220	-2.18	-1.55	4	Pass
	48	5240	-2.34	-1.71	4	Pass
NII Band 2	52	5260	-2.23	-1.60	11	Pass
	60	5300	-2.11	-1.48	11	Pass
	64	5320	-2.22	-1.59	11	Pass
NII Band 3	100	5500	-2.01	-1.38	11	Pass
	116	5580	-3.09	-2.46	11	Pass
	140	5700	-3.49	-2.86	11	Pass

Note: Result of Final PSD equals to Measured PSD adds the duty factor.

PSD Plot on 802.11n HT20 channel 36

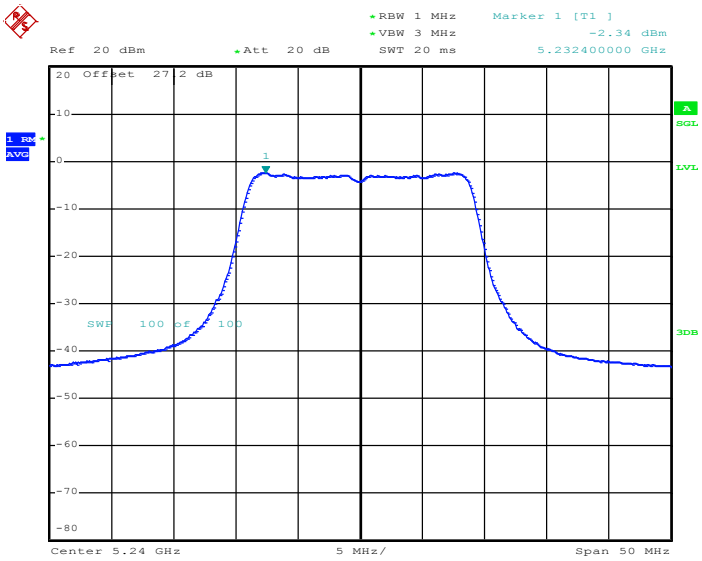


PSD Plot on 802.11n HT20 Channel 44



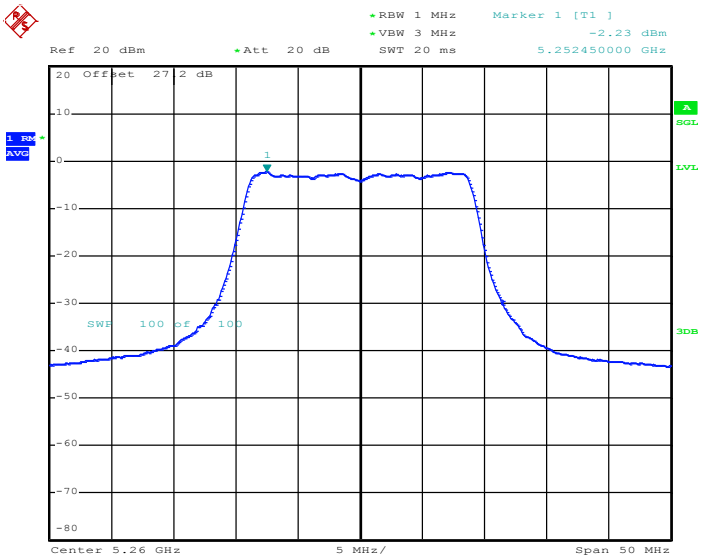
Date: 22.MAR.2013 14:14:23

PSD Plot on 802.11n HT20 Channel 48



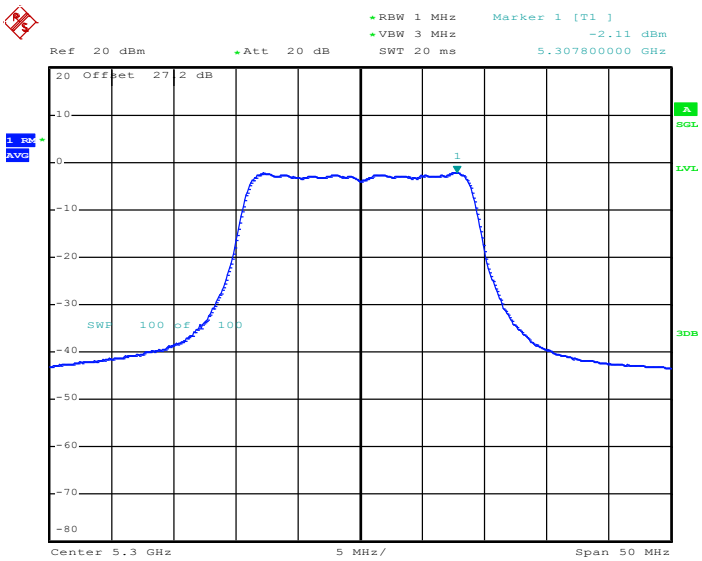
Date: 22.MAR.2013 14:17:03

PSD Plot on 802.11n HT20 Channel 52



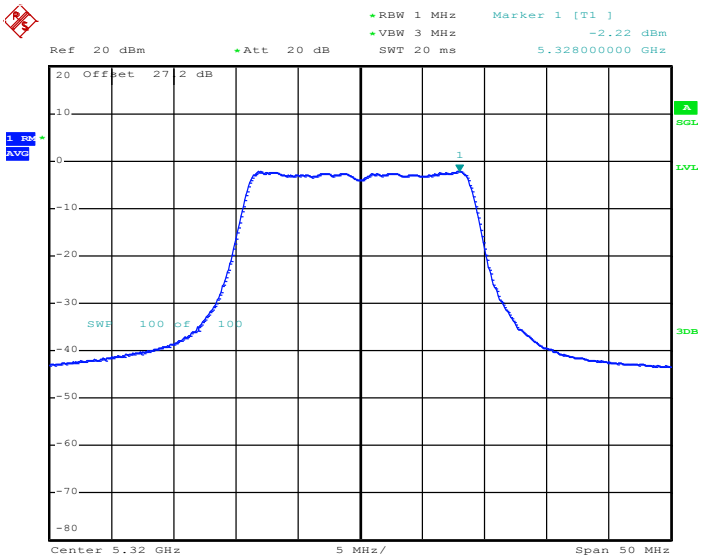
Date: 22.MAR.2013 14:19:45

PSD Plot on 802.11n HT20 Channel 60



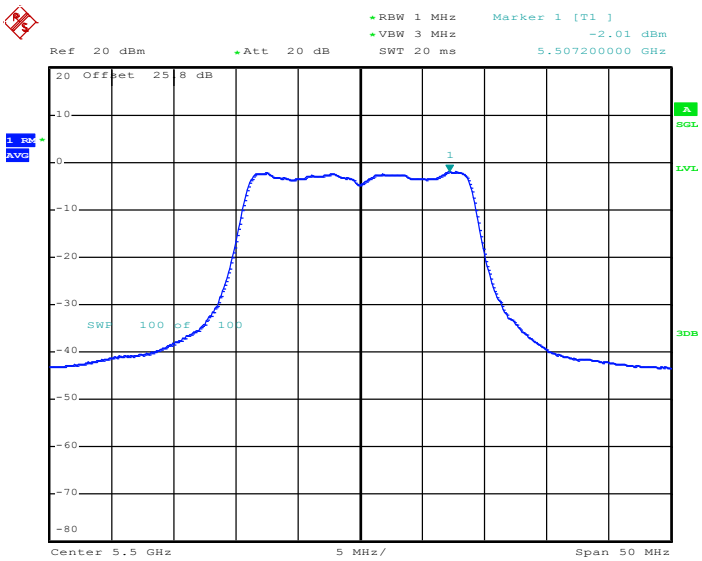
Date: 22.MAR.2013 14:22:35

PSD Plot on 802.11n HT20 Channel 64



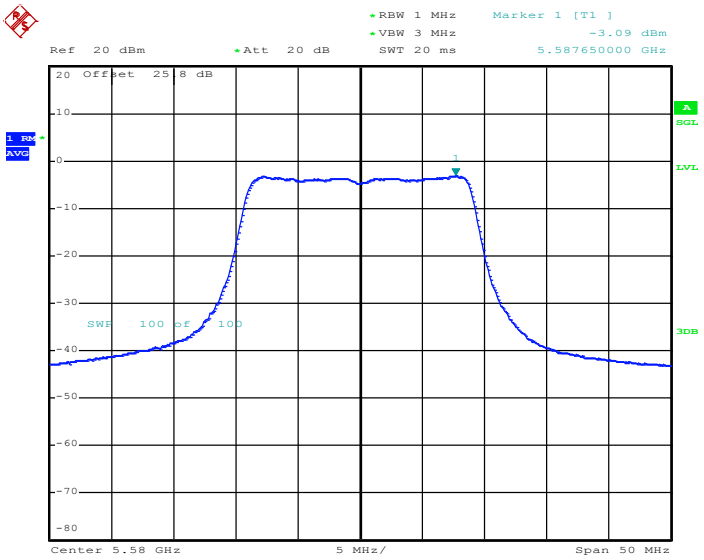
Date: 22.MAR.2013 14:25:13

PSD Plot on 802.11n HT20 Channel 100



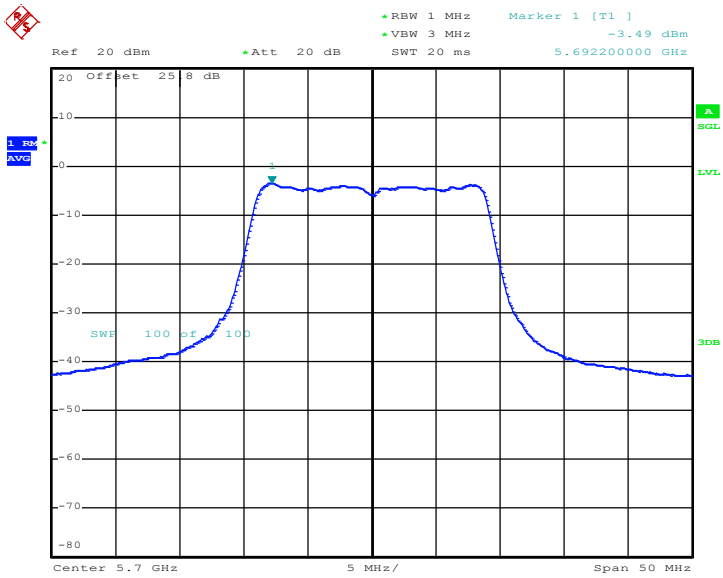
Date: 21.MAR.2013 10:28:24

PSD Plot on 802.11n HT20 Channel 116



Date: 21.MAR.2013 10:31:25

PSD Plot on 802.11n HT20 Channel 140



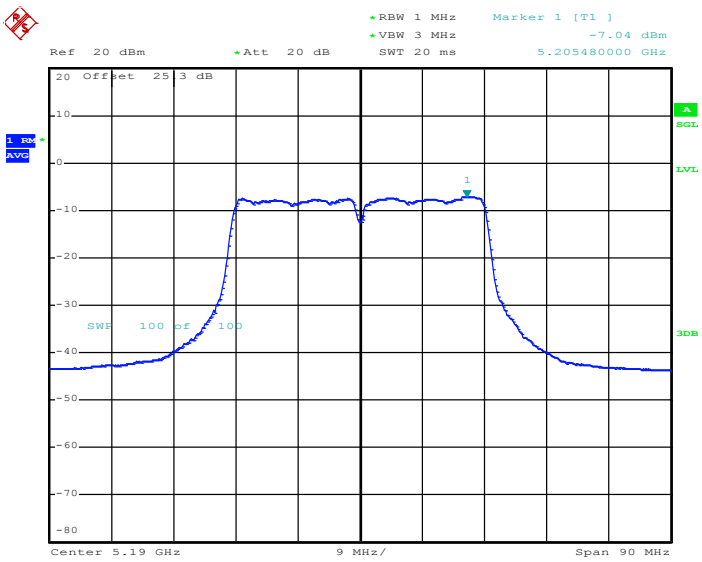
Date: 21.MAR.2013 10:34:18

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%
Duty Cycle :	75.96%	Duty Factor :	1.19dB

Band	Channel	Frequency (MHz)	802.11n HT40 PSD (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	38	5190	-7.04	-5.85	4	Pass
	46	5230	-7.36	-6.17	4	Pass
NII Band 2	54	5270	-7.37	-6.18	11	Pass
	62	5310	-6.90	-5.71	11	Pass
NII Band 3	102	5510	-5.30	-4.11	11	Pass
	110	5550	-5.73	-4.54	11	Pass
	134	5670	-6.80	-5.61	11	Pass

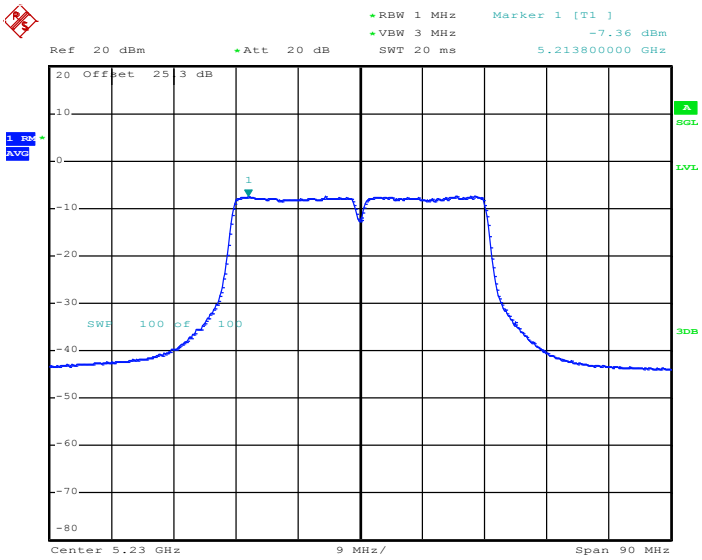
Note: Result of Final PSD equals to Measured PSD adds the duty factor.

PSD Plot on 802.11n HT40 Channel 38



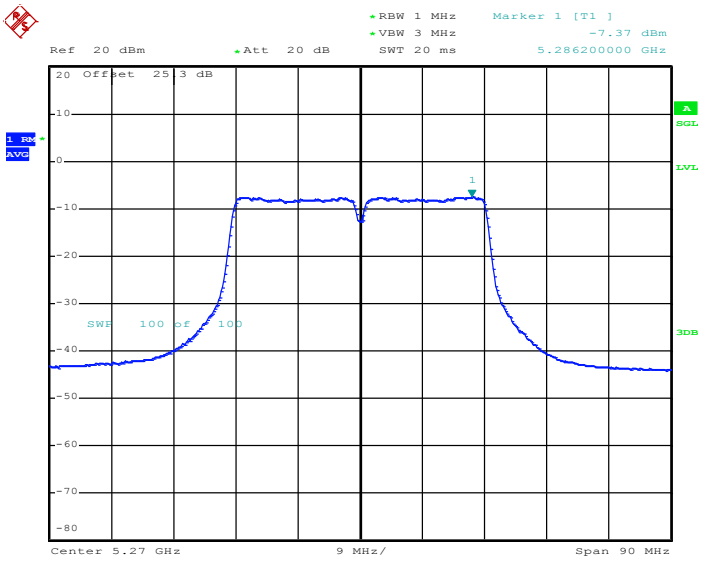
Date: 21.MAR.2013 10:58:59

PSD Plot on 802.11n HT40 Channel 46



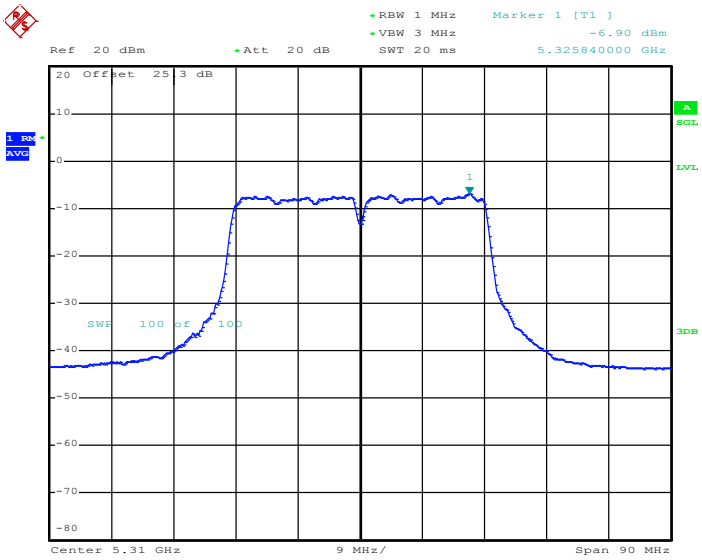
Date: 21.MAR.2013 10:55:21

PSD Plot on 802.11n HT40 Channel 54



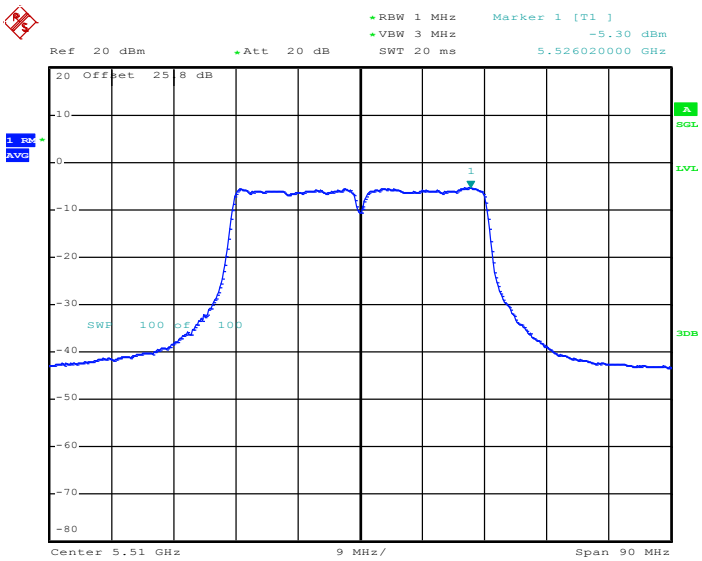
Date: 21.MAR.2013 10:51:46

PSD Plot on 802.11n HT40 Channel 62



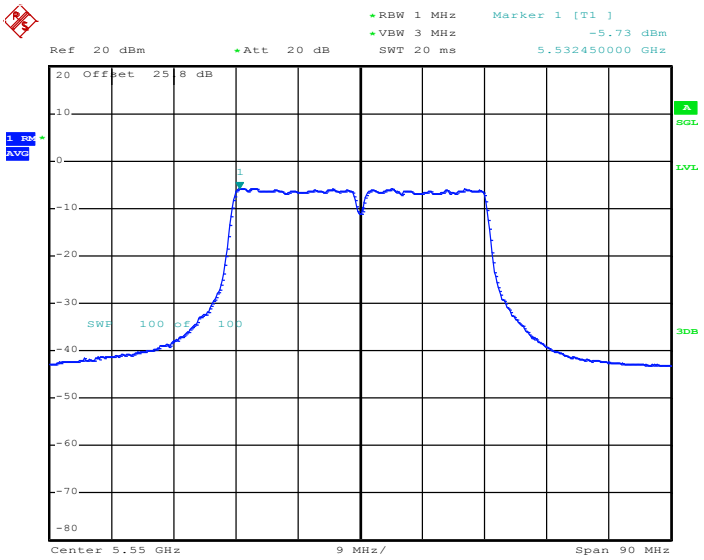
Date: 21.MAR.2013 10:48:47

PSD Plot on 802.11n HT40 Channel 102



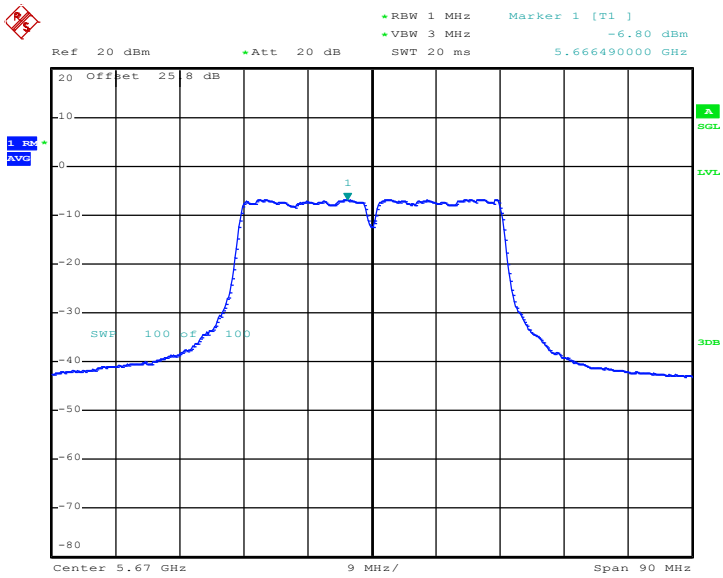
Date: 21.MAR.2013 10:43:28

PSD Plot on 802.11n HT40 Channel 110



Date: 21.MAR.2013 10:40:49

PSD Plot on 802.11n HT40 Channel 134



Date: 21.MAR.2013 10:37:39

3.4 Peak Excursion Ratio Measurement

3.4.1 Limit of Peak Excursion Ratio

The ratio of the peak excursion of the modulation envelope (measured using a peak hold function) to the maximum conducted output power (measured as specified above) shall not exceed 13 dB across any 1 MHz bandwidth or the emission bandwidth whichever is less.

3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

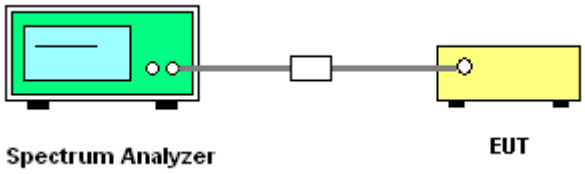
3.4.3 Test Procedures

The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r03.

Section G) Peak excursion measurement

1. The transmitter output is connected to the spectrum analyzer.
2. Set the spectrum analyzer span to view the entire emission bandwidth.
3. Find the maximum of the peak-max-hold spectrum.
   *Set RBW = 1MHz.
   *Set VBW ≥ 3MHz.
   *Detector = peak.
   *Trace mode = max-hold.
   *Allow the sweeps to continue until the trace stabilizes.
   *Use the peak search function to find the peak of the spectrum.
4. Use the procedure found under section 3.3 to measure the PPSD.
5. Compute the ratio of the maximum of the peak-max-hold spectrum to the PPSD.

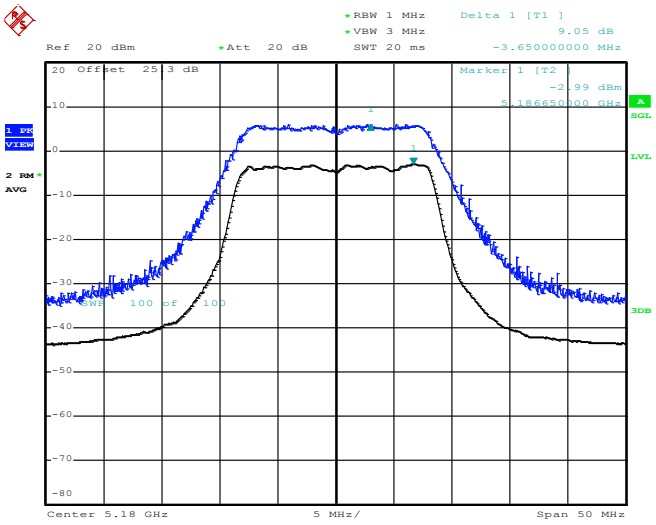
3.4.4 Test Setup



3.4.5 Test Result of Peak Excursion Ratio

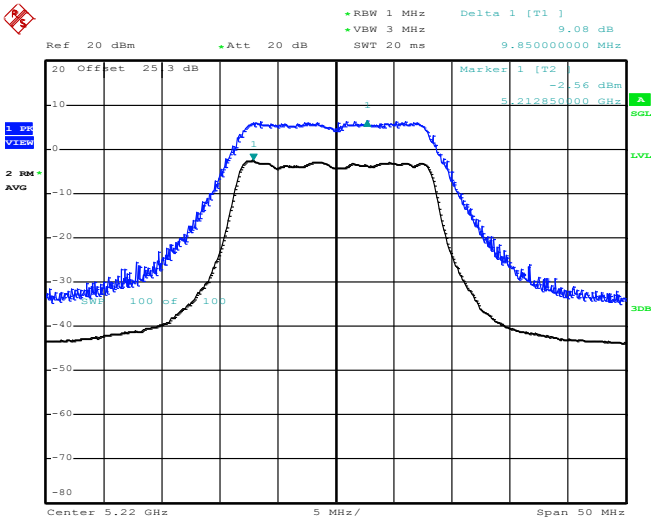
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11a Channel 36



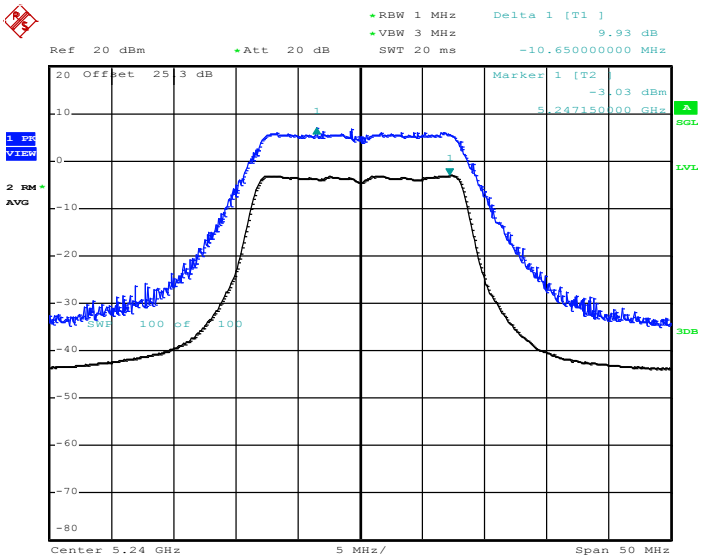
Date: 21.MAR.2013 09:24:56

Peak Excursion Ratio Plot on 802.11a Channel 44



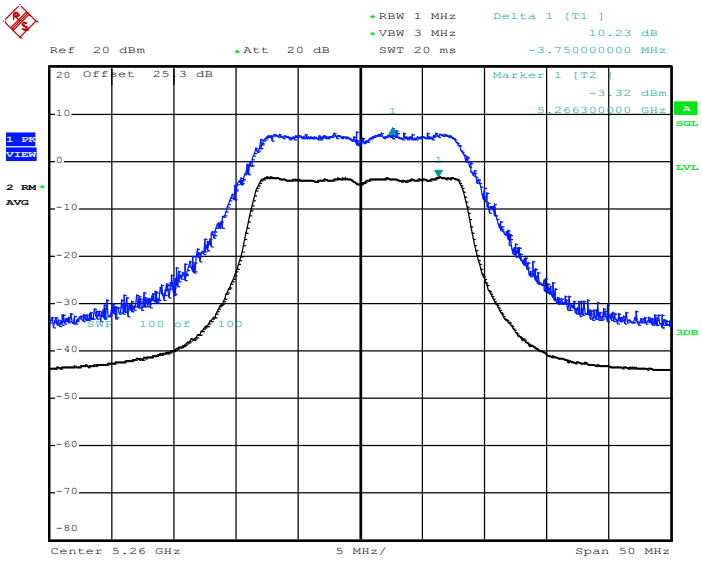
Date: 21.MAR.2013 09:28:01

Peak Excursion Ratio Plot on 802.11a Channel 48



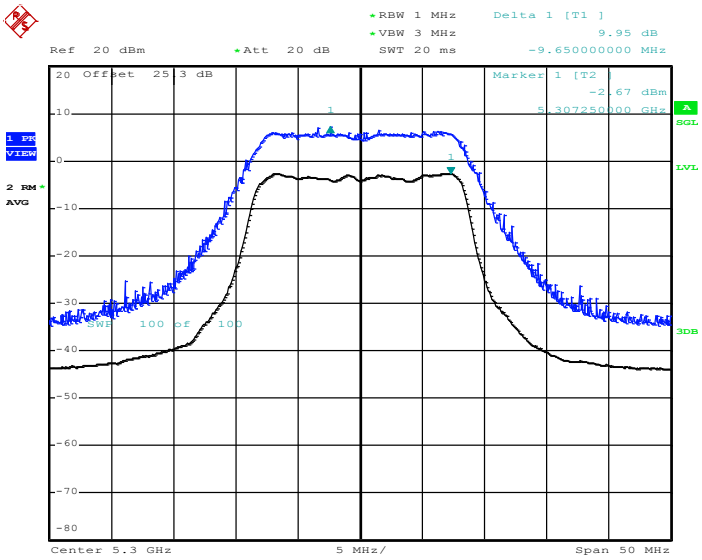
Date: 21.MAR.2013 09:30:56

Peak Excursion Ratio Plot on 802.11a Channel 52



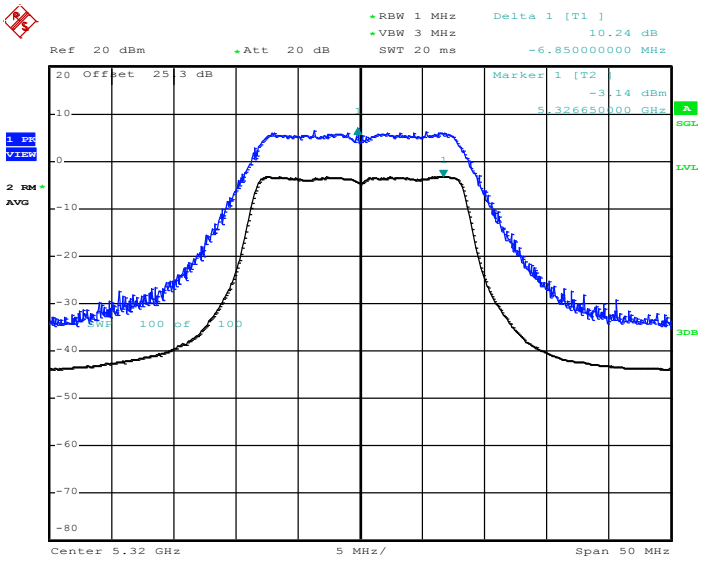
Date: 21.MAR.2013 09:34:40

Peak Excursion Ratio Plot on 802.11a Channel 60



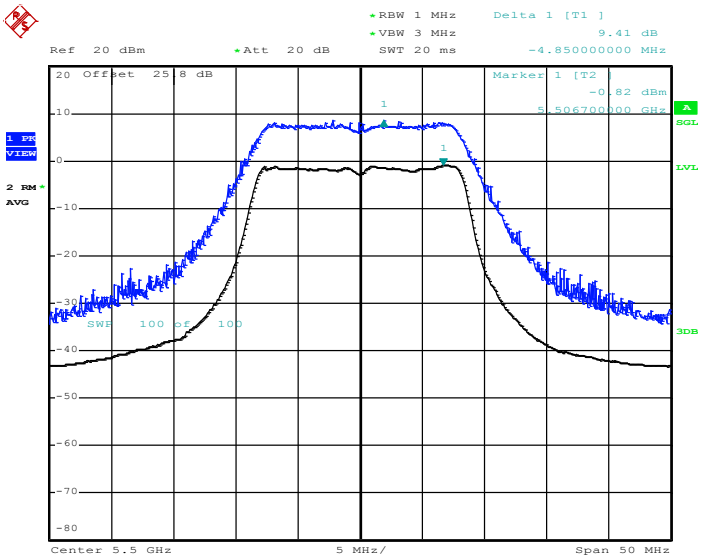
Date: 21.MAR.2013 09:38:55

Peak Excursion Ratio Plot on 802.11a Channel 64



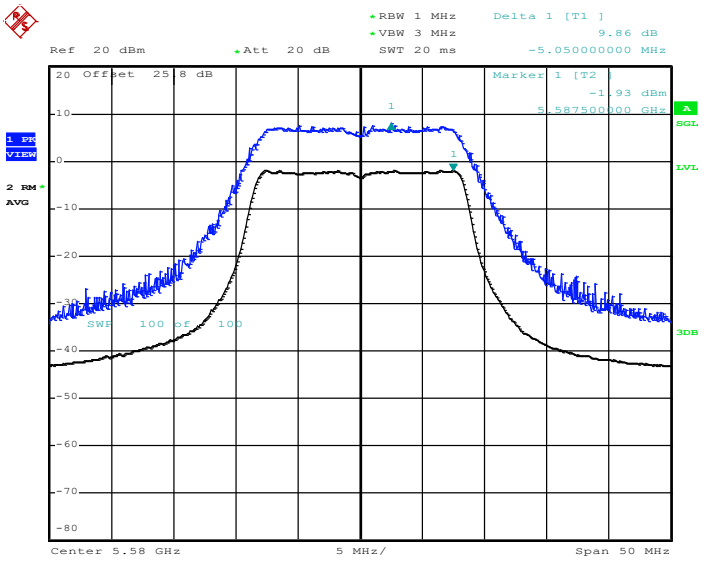
Date: 21.MAR.2013 09:41:24

Peak Excursion Ratio Plot on 802.11a Channel 100



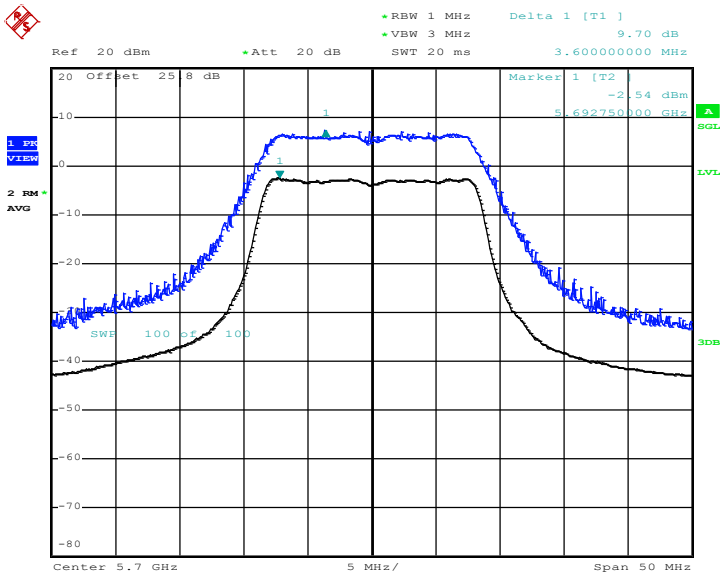
Date: 21.MAR.2013 09:49:37

Peak Excursion Ratio Plot on 802.11a Channel 116



Date: 21.MAR.2013 09:53:48

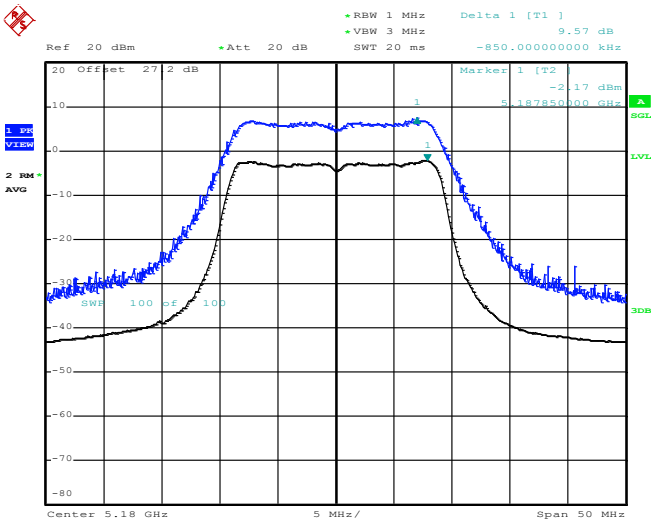
Peak Excursion Ratio Plot on 802.11a Channel 140



Date: 21.MAR.2013 09:56:47

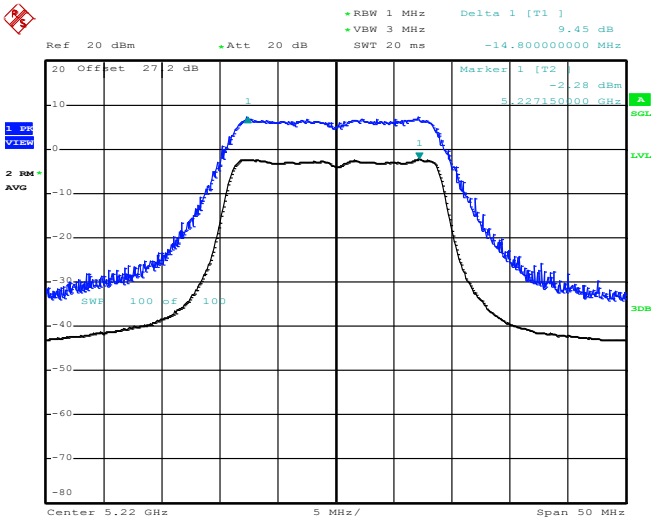
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36



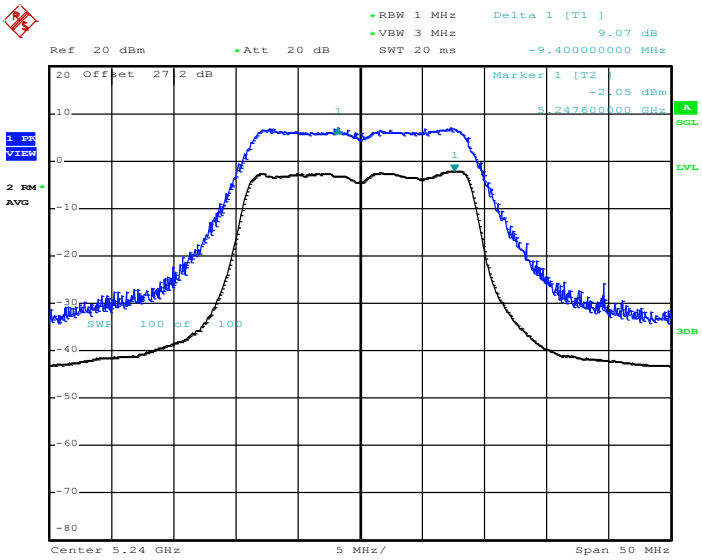
Date: 22.MAR.2013 14:11:44

Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



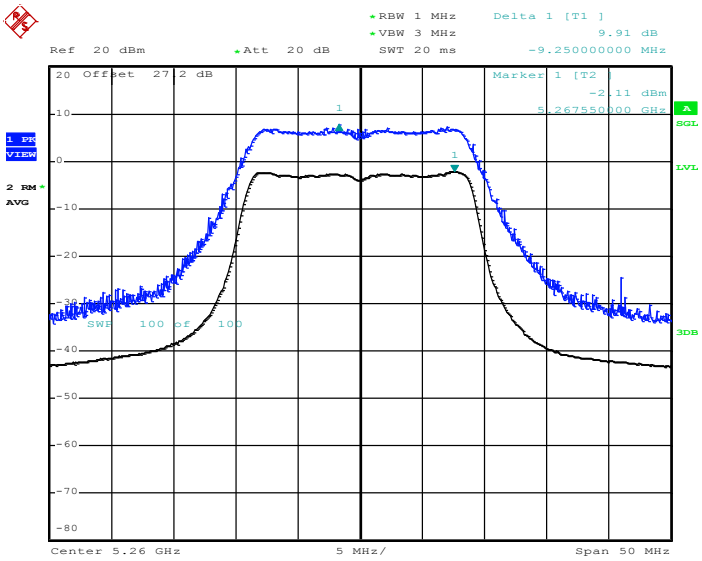
Date: 22.MAR.2013 14:14:44

Peak Excursion Ratio Plot on 802.11n HT20 Channel 48



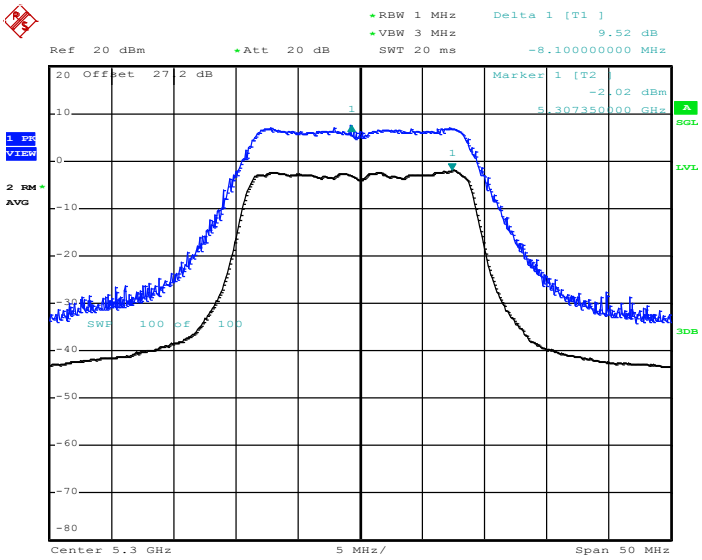
Date: 22.MAR.2013 14:17:22

Peak Excursion Ratio Plot on 802.11n HT20 Channel 52



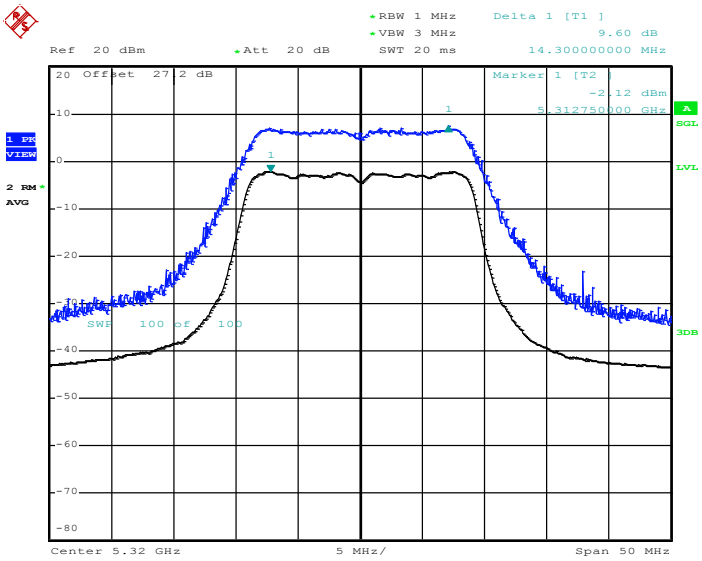
Date: 22.MAR.2013 14:20:06

Peak Excursion Ratio Plot on 802.11n HT20 Channel 60



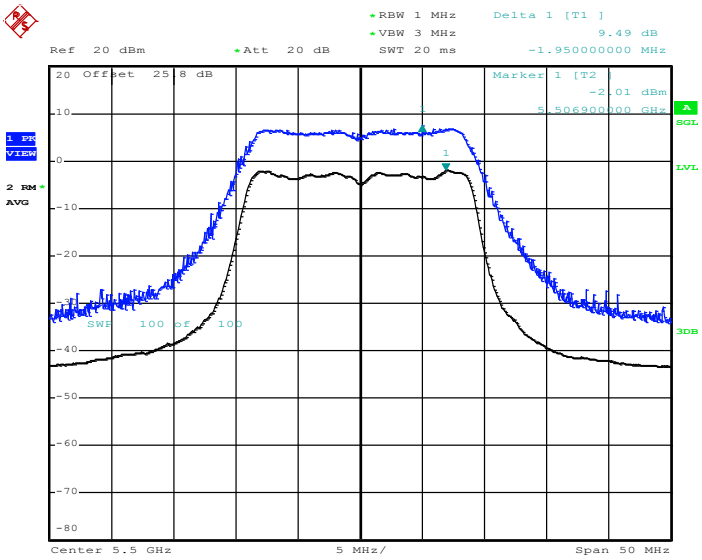
Date: 22.MAR.2013 14:23:01

Peak Excursion Ratio Plot on 802.11n HT20 Channel 64



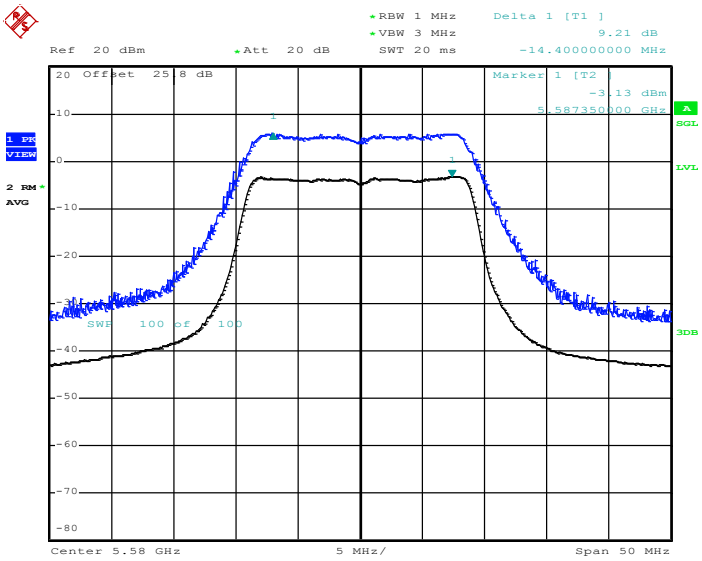
Date: 22.MAR.2013 14:25:33

Peak Excursion Ratio Plot on 802.11n HT20 Channel 100



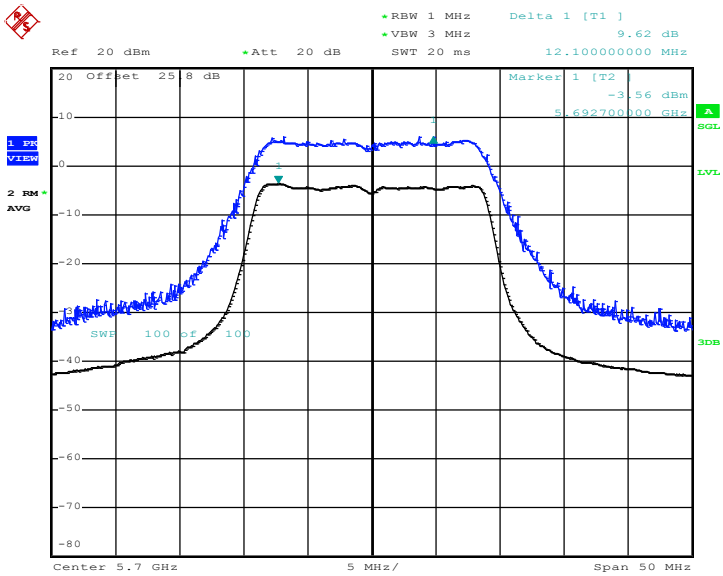
Date: 21.MAR.2013 10:28:44

Peak Excursion Ratio Plot on 802.11n HT20 Channel 116



Date: 21.MAR.2013 10:31:44

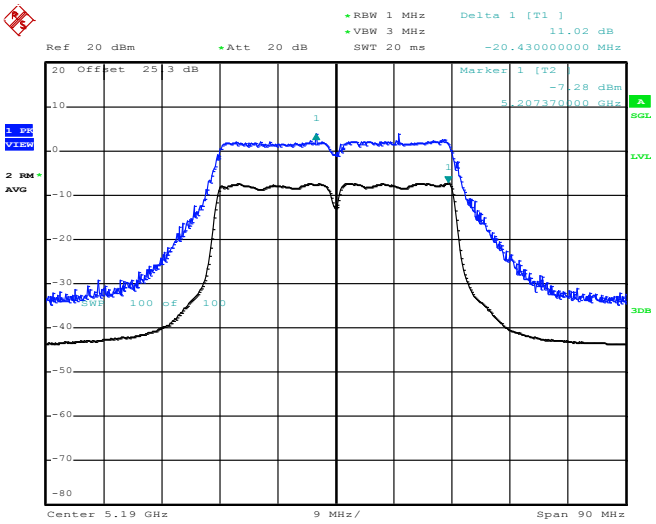
Peak Excursion Ratio Plot on 802.11n HT20 Channel 140



Date: 21.MAR.2013 10:34:37

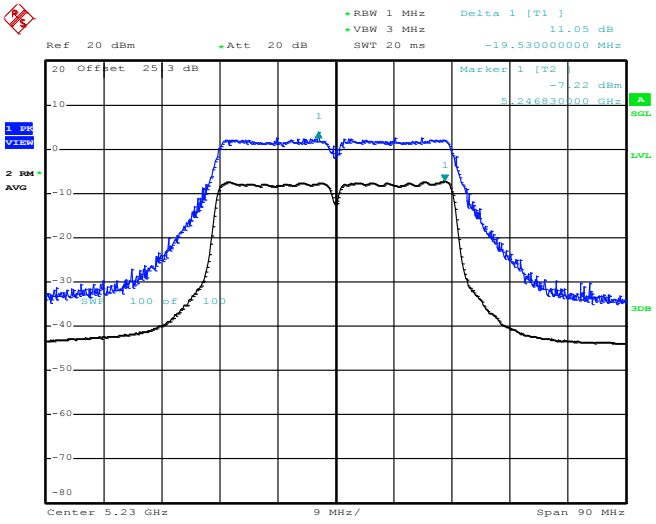
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38



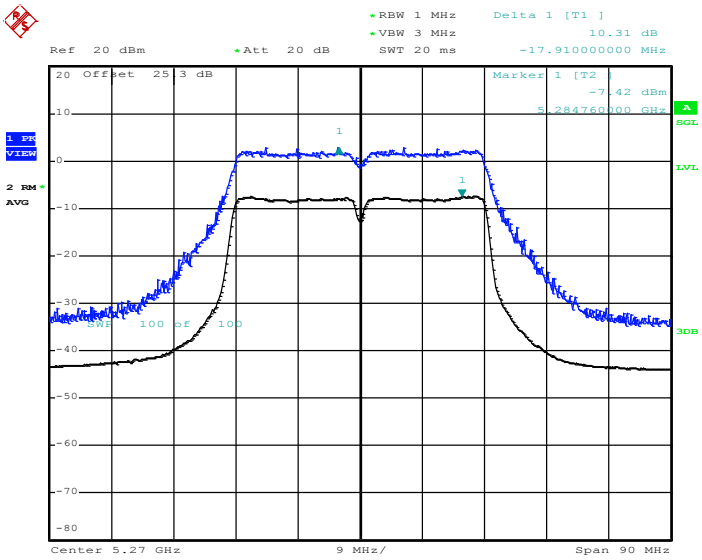
Date: 21.MAR.2013 10:59:20

Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



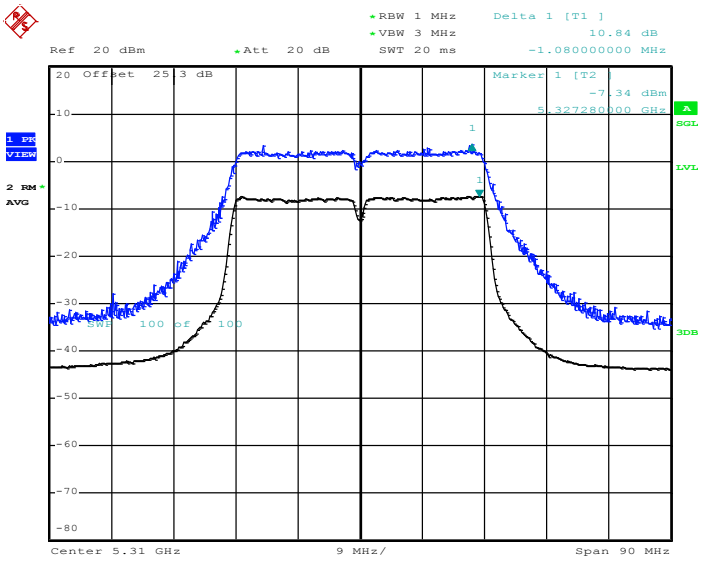
Date: 21.MAR.2013 10:55:47

Peak Excursion Ratio Plot on 802.11n HT40 Channel 54



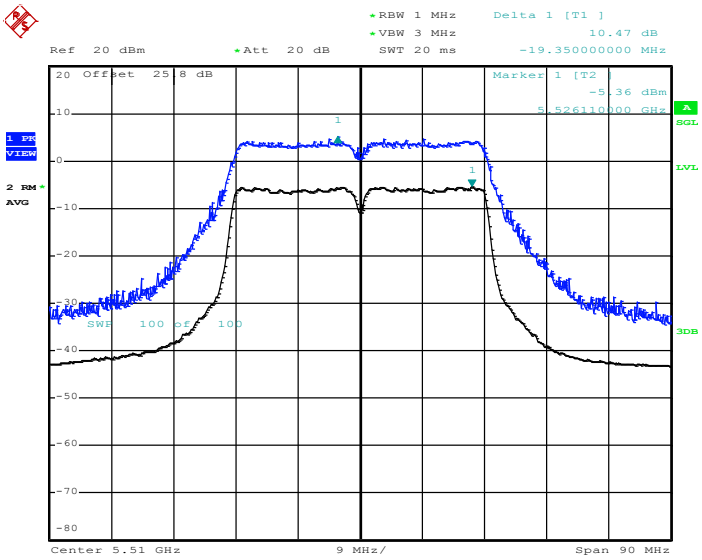
Date: 21.MAR.2013 10:52:09

Peak Excursion Ratio Plot on 802.11n HT40 Channel 62



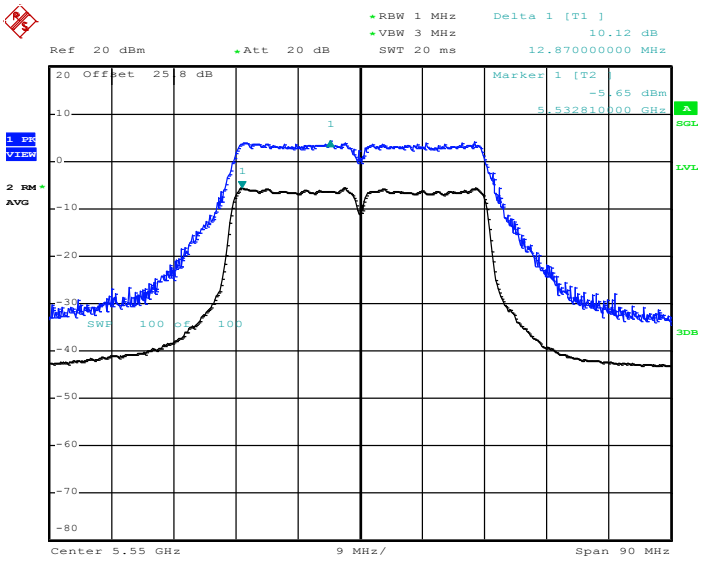
Date: 21.MAR.2013 10:49:06

Peak Excursion Ratio Plot on 802.11n HT40 Channel 102



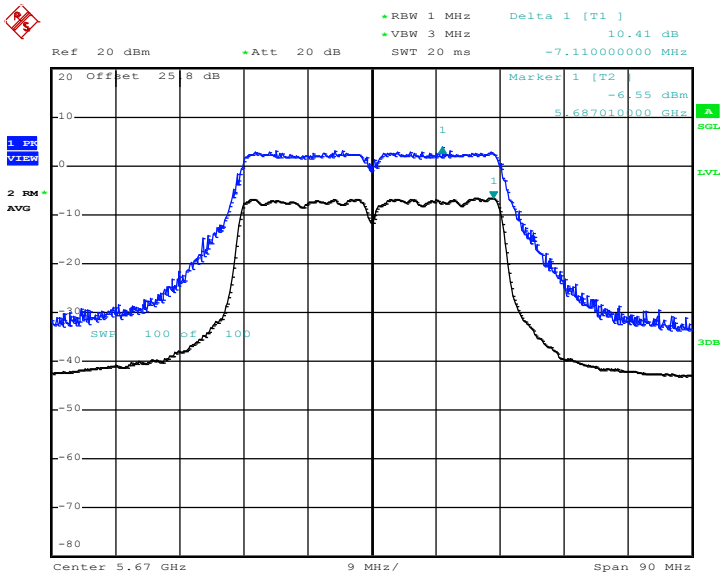
Date: 21.MAR.2013 10:43:48

Peak Excursion Ratio Plot on 802.11n HT40 Channel 110



Date: 21.MAR.2013 10:41:09

Peak Excursion Ratio Plot on 802.11n HT40 Channel 134



Date: 21.MAR.2013 10:37:57

3.5 Unwanted Radiated Emission Measurement

This section as specified in FCC Part 15.407(b) is to measure unwanted emissions through radiated measurement for band edge spurious emissions and out of band emissions measurement. The unwanted emissions shall comply with 15.407(b)(1) to (6), and restricted bands per FCC Part15.205.

3.5.1 Limit of Unwanted Emissions

(1) For transmitters operating in the 5150-5250 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5250-5350 MHz band: all emissions outside of the 5150-5350 MHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5250-5350 MHz band that generate emissions in the 5150-5250 MHz band must meet all applicable technical requirements for operation in the 5150-5250 MHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5150-5250 MHz band.

For transmitters operating in the 5470-5600 MHz and 5650-5725MHz band: all emissions outside of the 5470-5600 MHz and 5650-5725MHz band shall not exceed an EIRP of -27 dBm/MHz.

(2) Unwanted spurious emissions fallen in restricted bands per FCC Part15.205 shall comply with the general field strength limits set forth in § 15.209 as below table,

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

Note: The following formula is used to convert the EIRP to field strength.

$$E=\frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

EIRP (dBm)	Field Strength at 3m (dBμV/m)
-17	78.3
- 27	68.3

(3) KDB789033 v01r03 H)2)c)(i) As specified in 15.407(b), emissions above 1000 MHz that are outside of the restricted bands are subject to a peak emission limit of -27 dBm/MHz (or -17 dBm/MHz as specified in 15.407(b)(4)). However, an out-of-band emission that complies with both the average and peak limits of 15.209 is not required to satisfy the -27 dBm/MHz or -17 dBm/MHz peak emission limit.

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009 and FCC KDB 789033 D01 General UNII Test Procedures v01r03.

   Section H) Unwanted emissions measurement.

   (1) Procedure for Unwanted Emissions Measurements Below 1000MHz

   - RBW = 120 KHz
   - VBW = 300 KHz
   - Detector = Peak
   - Trace mode = max hold

   (2) Procedure for Peak Unwanted Emissions Measurements Above 1000 MHz

   - The setting follows the H) 5) of FCC KDB 789033.
   - RBW = 1 MHz
   - VBW ≥ 3 MHz
   - Detector = Peak
   - Sweep time = auto
   - Trace mode = max hold

   (3) Procedures for Average Unwanted Emissions Measurements Above 1000MHz

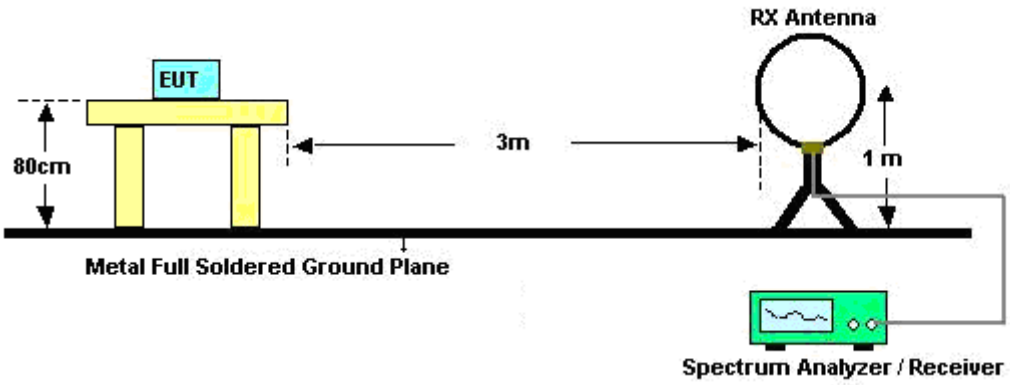
   - The setting follows H) 6) of FCC KDB 789033.
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

Band	Duty Cycle(%)	T(μs)	1/T(kHz)	VBW Setting
802.11a	86.55	2060.000	0.485	1kHz
802.11n HT20	86.49	1920.000	0.521	1kHz
802.11n HT40	75.96	948.000	1.055	3kHz

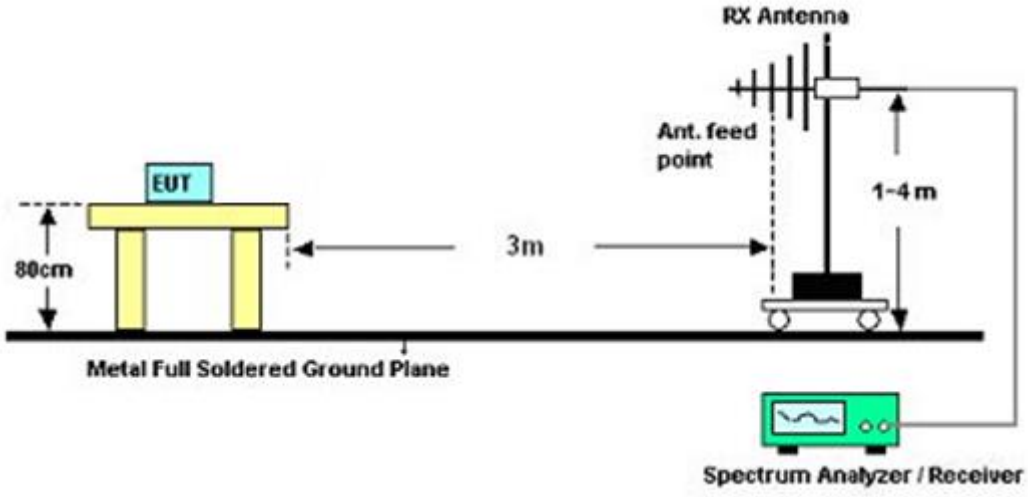
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.5.4 Test Setup

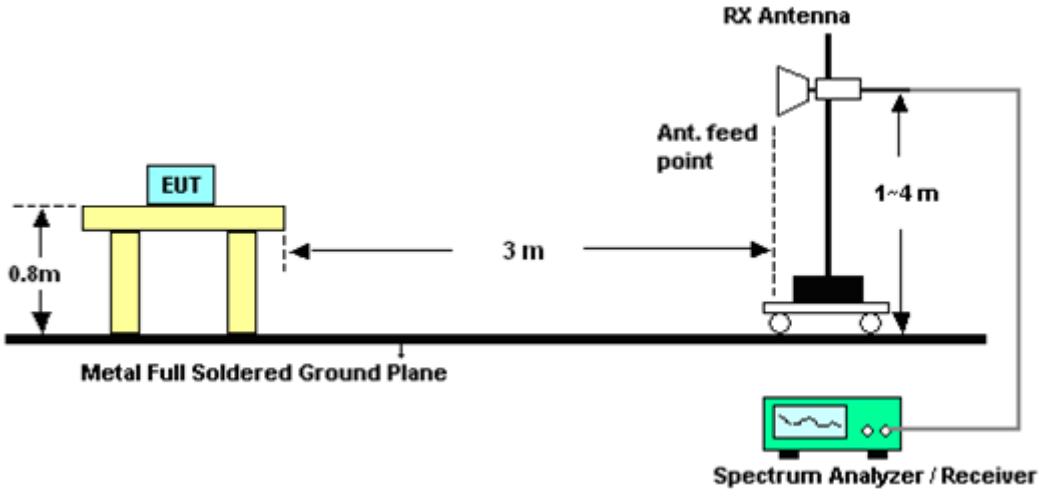
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



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

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

3.5.6.1 Test Result of Radiated Band Edges

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5133.65	55.02	-18.98	74	43.59	34.88	10.4	33.85	158	64	Peak
5148.2	44.64	-9.36	54	33.16	34.89	10.44	33.85	158	64	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
5142.5	59.39	-14.61	74	47.91	34.89	10.44	33.85	104	268	Peak
5141.75	47.26	-6.74	54	35.78	34.89	10.44	33.85	104	268	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5148.95	54.81	-19.19	74	43.33	34.89	10.44	33.85	174	63	Peak
5145.65	44.29	-9.71	54	32.81	34.89	10.44	33.85	174	63	Average
5357.26	56.14	-17.86	74	44.22	35.01	10.75	33.84	174	63	Peak
5458.13	46.58	-7.42	54	34.46	35.07	10.89	33.84	174	63	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
5141	56.02	-17.98	74	44.54	34.89	10.44	33.85	104	254	Peak
5148.05	44.85	-9.15	54	33.37	34.89	10.44	33.85	104	254	Average
5372.44	57.56	-16.44	74	45.63	35.02	10.75	33.84	104	254	Peak
5458.24	47.69	-6.31	54	35.57	35.07	10.89	33.84	104	254	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5138.15	54.37	-19.63	74	42.94	34.88	10.4	33.85	161	58	Peak
5145.65	44.16	-9.84	54	32.68	34.89	10.44	33.85	161	58	Average
5440.2	56.59	-17.41	74	44.51	35.06	10.86	33.84	161	58	Peak
5364.52	45.11	-8.89	54	33.18	35.02	10.75	33.84	161	58	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
5145.05	55.35	-18.65	74	43.87	34.89	10.44	33.85	103	256	Peak
5146.85	45.42	-8.58	54	33.94	34.89	10.44	33.85	103	256	Average
5359.24	58.32	-15.68	74	46.4	35.01	10.75	33.84	103	256	Peak
5355.17	47.13	-6.87	54	35.24	35.01	10.72	33.84	103	256	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5355.17	57.52	-16.48	74	45.63	35.01	10.72	33.84	159	62	Peak
5362.54	46.06	-7.94	54	34.13	35.02	10.75	33.84	159	62	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
5355.17	60.19	-13.81	74	48.3	35.01	10.72	33.84	102	260	Peak
5361.77	48.32	-5.68	54	36.39	35.02	10.75	33.84	102	260	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5434.96	61.26	-12.74	74	49.18	35.06	10.86	33.84	150	38	Peak
5457.36	47.07	-6.93	54	34.95	35.07	10.89	33.84	150	38	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
5460.08	62.86	-11.14	74	50.74	35.07	10.89	33.84	117	225	Peak
5462.96	49.85	-4.15	54	37.72	35.08	10.89	33.84	117	225	Average

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5727.64	60.21	-13.79	74	47.3	35.41	11.34	33.84	147	64	Peak
5725.16	47.48	-6.52	54	34.57	35.41	11.34	33.84	147	64	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725.24	64.37	-9.63	74	51.46	35.41	11.34	33.84	100	259	Peak
5725.32	50.29	-3.71	54	37.38	35.41	11.34	33.84	100	259	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5136.2	57.25	-16.75	74	45.82	34.88	10.4	33.85	103	58	Peak
5137.25	45.5	-8.5	54	34.07	34.88	10.4	33.85	103	58	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
5147.9	59.99	-14.01	74	48.51	34.89	10.44	33.85	100	273	Peak
5147.9	47.87	-6.13	54	36.39	34.89	10.44	33.85	100	273	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5078.45	55.1	-18.9	74	43.77	34.85	10.33	33.85	104	65	Peak
5141	44.18	-9.82	54	32.7	34.89	10.44	33.85	104	65	Average
5457.91	56.53	-17.47	74	44.41	35.07	10.89	33.84	104	65	Peak
5458.13	46.25	-7.75	54	34.13	35.07	10.89	33.84	104	65	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
5140.7	56.14	-17.86	74	44.66	34.89	10.44	33.85	100	276	Peak
5149.7	45.11	-8.89	54	33.63	34.89	10.44	33.85	100	276	Average
5352.31	57.18	-16.82	74	45.29	35.01	10.72	33.84	100	276	Peak
5458.24	46.42	-7.58	54	34.3	35.07	10.89	33.84	100	276	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5120.6	55.35	-18.65	74	43.93	34.87	10.4	33.85	152	64	Peak
5139.8	44.19	-9.81	54	32.75	34.89	10.4	33.85	152	64	Average
5379.59	55.71	-18.29	74	43.77	35.03	10.75	33.84	152	64	Peak
5386.41	45.11	-8.89	54	33.13	35.03	10.79	33.84	152	64	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
5101.7	55.49	-18.51	74	44.11	34.86	10.37	33.85	100	269	Peak
5149.55	44.63	-9.37	54	33.15	34.89	10.44	33.85	100	269	Average
5361.22	56.62	-17.38	74	44.69	35.02	10.75	33.84	100	269	Peak
5364.96	45.68	-8.32	54	33.75	35.02	10.75	33.84	100	269	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5407.97	57.3	-16.7	74	45.28	35.04	10.82	33.84	100	67	Peak
5359.79	45.74	-8.26	54	33.82	35.01	10.75	33.84	100	67	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
5374.09	60.53	-13.47	74	48.6	35.02	10.75	33.84	128	279	Peak
5356.49	47.59	-6.41	54	35.67	35.01	10.75	33.84	128	279	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5466.48	57.47	-16.53	74	45.34	35.08	10.89	33.84	141	67	Peak
5455.6	45.76	-8.24	54	33.64	35.07	10.89	33.84	141	67	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
5459.6	62.42	-11.58	74	50.3	35.07	10.89	33.84	100	232	Peak
5459.92	49.77	-4.23	54	37.65	35.07	10.89	33.84	100	232	Average

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5725.08	60.3	-13.7	74	47.39	35.41	11.34	33.84	100	146	Peak
5725.48	46.82	-7.18	54	33.91	35.41	11.34	33.84	100	146	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	63.98	-10.02	74	51.07	35.41	11.34	33.84	100	295	Peak
5725	49.98	-4.02	54	37.07	35.41	11.34	33.84	100	295	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5148.95	56.54	-17.46	74	45.06	34.89	10.44	33.85	105	65	Peak
5149.85	46.03	-7.97	54	34.55	34.89	10.44	33.85	105	65	Average
5403.46	56.13	-17.87	74	44.14	35.04	10.79	33.84	105	65	Peak
5407.64	45.09	-8.91	54	33.07	35.04	10.82	33.84	105	65	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
5149.4	66.72	-7.28	74	55.24	34.89	10.44	33.85	101	277	Peak
5150	53.56	-0.44	54	42.08	34.89	10.44	33.85	101	277	Average
5414.46	56.19	-17.81	74	44.16	35.05	10.82	33.84	101	277	Peak
5441.52	45.3	-8.7	54	33.22	35.06	10.86	33.84	101	277	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5123	54.47	-19.53	74	43.04	34.88	10.4	33.85	107	66	Peak
5148.05	44.24	-9.76	54	32.76	34.89	10.44	33.85	107	66	Average
5363.97	56.66	-17.34	74	44.73	35.02	10.75	33.84	107	66	Peak
5439.54	44.98	-9.02	54	32.9	35.06	10.86	33.84	107	66	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
5149.4	56.3	-17.7	74	44.82	34.89	10.44	33.85	100	262	Peak
5150	44.98	-9.02	54	33.5	34.89	10.44	33.85	100	262	Average
5386.19	56.83	-17.17	74	44.85	35.03	10.79	33.84	100	262	Peak
5353.3	45.36	-8.64	54	33.47	35.01	10.72	33.84	100	262	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5111.6	55.35	-18.65	74	43.96	34.87	10.37	33.85	101	63	Peak
5138.75	44.17	-9.83	54	32.74	34.88	10.4	33.85	101	63	Average
5365.51	56.98	-17.02	74	45.05	35.02	10.75	33.84	101	63	Peak
5445.37	45.06	-8.94	54	32.98	35.06	10.86	33.84	101	63	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
5145.05	55.19	-18.81	74	43.71	34.89	10.44	33.85	100	270	Peak
5132.75	44.57	-9.43	54	33.14	34.88	10.4	33.85	100	270	Average
5354.29	60.74	-13.26	74	48.85	35.01	10.72	33.84	100	270	Peak
5352.31	45.74	-8.26	54	33.85	35.01	10.72	33.84	100	270	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5139.2	54.36	-19.64	74	42.93	34.88	10.4	33.85	135	63	Peak
5138.9	44.15	-9.85	54	32.72	34.88	10.4	33.85	135	63	Average
5368.7	58.73	-15.27	74	46.8	35.02	10.75	33.84	135	63	Peak
5350.55	45.68	-8.32	54	33.79	35.01	10.72	33.84	135	63	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
5109.95	54.52	-19.48	74	43.13	34.87	10.37	33.85	106	273	Peak
5142.2	44.15	-9.85	54	32.67	34.89	10.44	33.85	106	273	Average
5380.03	62.4	-11.6	74	50.42	35.03	10.79	33.84	106	273	Peak
5350	49.39	-4.61	54	37.5	35.01	10.72	33.84	106	273	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5468.56	61.12	-12.88	74	48.99	35.08	10.89	33.84	141	65	Peak
5469.84	47.96	-6.04	54	35.83	35.08	10.89	33.84	141	65	Average
5736.84	57.58	-16.42	74	44.64	35.44	11.34	33.84	141	65	Peak
5754.52	45.51	-8.49	54	32.5	35.46	11.39	33.84	141	65	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
5468.56	64.17	-9.83	74	52.04	35.08	10.89	33.84	103	252	Peak
5470	51.09	-2.91	54	38.96	35.08	10.89	33.84	103	252	Average
5744.44	56.22	-17.78	74	43.23	35.44	11.39	33.84	103	252	Peak
5738.84	45.5	-8.5	54	32.56	35.44	11.34	33.84	103	252	Average

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu		

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
5469.36	55.48	-18.52	74	43.35	35.08	10.89	33.84	147	69	Peak
5459.92	45.2	-8.8	54	33.08	35.07	10.89	33.84	147	69	Average
5737.4	59.43	-14.57	74	46.49	35.44	11.34	33.84	147	69	Peak
5725.48	46.35	-7.65	54	33.44	35.41	11.34	33.84	147	69	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
5445.04	55.28	-18.72	74	43.2	35.06	10.86	33.84	100	240	Peak
5459.92	45.09	-8.91	54	32.97	35.07	10.89	33.84	100	240	Average
5727.96	63.25	-10.75	74	50.34	35.41	11.34	33.84	100	240	Peak
5727.96	47.68	-6.32	54	34.77	35.41	11.34	33.84	100	240	Average

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

Test Mode :	802.11a	**Temperature :**	27~28°C
Test Channel :	36	**Relative Humidity :**	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	**Polarization :**	Horizontal
Remark :	1. 5178 MHz is fundamental signal which can be ignored. 2. 10359 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5178	90.88	-	-	79.35	34.91	10.47	33.85	158	64	Average
5178	100.83	-	-	89.3	34.91	10.47	33.85	158	64	Peak
10359	50.93	-23.07	74	57.96	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11a	**Temperature :**	27~28°C
Test Channel :	36	**Relative Humidity :**	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	**Polarization :**	Vertical
Remark :	1. 5182 MHz is fundamental signal which can be ignored. 2. 10359 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5182	97.96	-	-	86.43	34.91	10.47	33.85	104	268	Average
5182	108.24	-	-	96.71	34.91	10.47	33.85	104	268	Peak
10359	50.84	-23.16	74	57.87	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	91.87	-	-	80.25	34.93	10.54	33.85	154	64	Average
5220	102.63	-	-	91.01	34.93	10.54	33.85	154	64	Peak
10440	50.14	-23.86	74	57.02	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5221 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5221	98.35	-	-	86.73	34.93	10.54	33.85	103	270	Average
5221	108.45	-	-	96.82	34.94	10.54	33.85	103	270	Peak
10440	50	-24	74	56.88	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5242 MHz is fundamental signal which can be ignored. 2. 10480 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5242	92.04	-	-	80.36	34.95	10.58	33.85	174	63	Average
5242	101.87	-	-	90.18	34.95	10.58	33.84	174	63	Peak
10480	50.04	-23.96	74	56.81	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5242 MHz is fundamental signal which can be ignored. 2. 10479 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5242	98.43	-	-	86.75	34.95	10.58	33.85	104	254	Average
5242	108.14	-	-	96.46	34.95	10.58	33.85	104	254	Peak
10479	50.96	-23.04	74	57.73	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5258 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5258	91.3	-	-	79.61	34.95	10.58	33.84	161	58	Average
5258	101.07	-	-	89.38	34.95	10.58	33.84	161	58	Peak
10521	50.81	-23.19	74	57.51	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5261 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5261	98.18	-	-	86.45	34.96	10.61	33.84	103	256	Average
5261	108.26	-	-	96.53	34.96	10.61	33.84	103	256	Peak
10521	50.61	-23.39	74	57.31	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5302 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5302	93.37	-	-	81.58	34.98	10.65	33.84	157	62	Average
5302	103.24	-	-	91.45	34.98	10.65	33.84	157	62	Peak
10600	48.72	-25.28	74	55.28	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5301 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5301	99.29	-	-	87.5	34.98	10.65	33.84	103	250	Average
5301	109.63	-	-	97.84	34.98	10.65	33.84	103	250	Peak
10599	50.73	-23.27	74	57.29	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5318	92.15	-	-	80.32	34.99	10.68	33.84	159	62	Average
5318	102.49	-	-	90.66	34.99	10.68	33.84	159	62	Peak
10641	50.01	-23.99	74	56.49	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5318	97.85	-	-	86.02	34.99	10.68	33.84	102	260	Average
5318	108.08	-	-	96.25	34.99	10.68	33.84	102	260	Peak
10641	49.69	-24.31	74	56.17	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11a	**Temperature :**	27~28°C
Test Channel :	100	**Relative Humidity :**	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	**Polarization :**	Horizontal
Remark :	1. 5499 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5499	92.81	-	-	80.62	35.1	10.93	33.84	150	38	Average
5499	102.89	-	-	90.71	35.09	10.93	33.84	150	38	Peak
11000	50.49	-23.51	74	56.33	38	10.76	54.6	100	0	Peak

Test Mode :	802.11a	**Temperature :**	27~28°C
Test Channel :	100	**Relative Humidity :**	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	**Polarization :**	Vertical
Remark :	1. 5498 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5498	99.28	-	-	87.09	35.1	10.93	33.84	117	225	Average
5498	109.05	-	-	96.86	35.1	10.93	33.84	117	225	Peak
11000	50.63	-23.37	74	56.47	38	10.76	54.6	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5579 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5579	93.15	-	-	80.7	35.2	11.09	33.84	140	66	Average
5579	103.37	-	-	90.92	35.2	11.09	33.84	140	66	Peak
11160	50.28	-23.72	74	55.64	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5582 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5582	99.42	-	-	86.95	35.22	11.09	33.84	103	254	Average
5582	109.56	-	-	97.09	35.22	11.09	33.84	103	254	Peak
11160	50.15	-23.85	74	55.51	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5698 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
67.53	27.91	-12.09	40	52.19	6.48	0.93	31.69	-	-	Peak
203.34	30.14	-13.36	43.5	51	9.23	1.55	31.64	-	-	Peak
230.61	42.27	-3.73	46	62	10.22	1.65	31.6	103	245	Peak
420.4	32.96	-13.04	46	46.05	16.5	2.24	31.83	-	-	Peak
639.5	33.05	-12.95	46	43.06	19.2	2.79	32	-	-	Peak
837.6	32.68	-13.32	46	41.24	20.18	3.19	31.93	-	-	Peak
5698	92.86	-	-	80.03	35.37	11.3	33.84	147	64	Average
5698	103.15	-	-	90.32	35.37	11.3	33.84	147	64	Peak
11400	50.63	-23.37	74	55.28	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11a	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5702 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.12	36.01	-3.99	40	56.66	10.28	0.77	31.7	100	245	Peak
67.53	34.55	-5.45	40	58.83	6.48	0.93	31.69	-	-	Peak
230.61	33.78	-12.22	46	53.51	10.22	1.65	31.6	-	-	Peak
323.1	37.13	-8.87	46	53.23	13.53	1.97	31.6	-	-	Peak
437.9	37.71	-8.29	46	50.76	16.5	2.29	31.84	-	-	Peak
908.3	33.09	-12.91	46	40.64	20.6	3.37	31.52	-	-	Peak
5702	98.66	-	-	85.81	35.39	11.3	33.84	100	259	Average
5702	108.95	-	-	96.1	35.39	11.3	33.84	100	259	Peak
11400	50.85	-23.15	74	55.5	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5188 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5188	90.78	-	-	79.25	34.91	10.47	33.85	103	58	Average
5188	100.85	-	-	89.32	34.91	10.47	33.85	103	58	Peak
10360	49.94	-24.06	74	56.97	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	36	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5182 MHz is fundamental signal which can be ignored. 2. 10360 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5182	98.05	-	-	86.52	34.91	10.47	33.85	100	273	Average
5182	108.14	-	-	96.61	34.91	10.47	33.85	100	273	Peak
10360	50.3	-23.7	74	57.33	37.69	10.64	55.36	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5221 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5221	90.79	-	-	79.17	34.93	10.54	33.85	161	59	Average
5221	100.9	-	-	89.27	34.94	10.54	33.85	161	59	Peak
10440	50.09	-23.91	74	56.97	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	44	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5222 MHz is fundamental signal which can be ignored. 2. 10440 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5222	97.92	-	-	86.3	34.93	10.54	33.85	100	275	Average
5222	108.17	-	-	96.54	34.94	10.54	33.85	100	275	Peak
10440	49.56	-24.44	74	56.44	37.75	10.65	55.28	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5238 MHz is fundamental signal which can be ignored. 2. 10479 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5238	91.92	-	-	80.25	34.94	10.58	33.85	104	65	Average
5238	101.62	-	-	89.95	34.94	10.58	33.85	104	65	Peak
10479	50.55	-23.45	74	57.32	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	48	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5239 MHz is fundamental signal which can be ignored. 2. 10480 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5239	98.46	-	-	86.79	34.94	10.58	33.85	100	276	Average
5239	108.84	-	-	97.21	34.94	10.54	33.85	100	276	Peak
10480	50.01	-23.99	74	56.78	37.79	10.66	55.22	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	90.27	-	-	78.54	34.96	10.61	33.84	152	64	Average
5260	99.87	-	-	88.14	34.96	10.61	33.84	152	64	Peak
10521	50.9	-23.1	74	57.6	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	52	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5262 MHz is fundamental signal which can be ignored. 2. 10521 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5262	97.53	-	-	85.8	34.96	10.61	33.84	100	269	Average
5262	107.45	-	-	95.72	34.96	10.61	33.84	100	269	Peak
10521	50.74	-23.26	74	57.44	37.81	10.67	55.18	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5298 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5298	89.7	-	-	77.92	34.97	10.65	33.84	102	69	Average
5298	99.89	-	-	88.11	34.97	10.65	33.84	102	69	Peak
10599	50.87	-23.13	74	57.43	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	60	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5302 MHz is fundamental signal which can be ignored. 2. 10599 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5302	97.77	-	-	85.98	34.98	10.65	33.84	100	235	Average
5302	107.81	-	-	96.02	34.98	10.65	33.84	100	235	Peak
10599	50.51	-23.49	74	57.07	37.84	10.68	55.08	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5322 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5322	90.41	-	-	78.58	34.99	10.68	33.84	100	67	Average
5322	100.82	-	-	88.99	34.99	10.68	33.84	100	67	Peak
10641	50.01	-23.99	74	56.49	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	64	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5318 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5318	97.96	-	-	86.13	34.99	10.68	33.84	128	279	Average
5318	108.37	-	-	96.54	34.99	10.68	33.84	128	279	Peak
10641	49.51	-24.49	74	55.99	37.86	10.69	55.03	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5502 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5502	91.6	-	-	79.38	35.1	10.96	33.84	141	67	Average
5502	101.95	-	-	89.73	35.1	10.96	33.84	141	67	Peak
11000	50.57	-23.43	74	56.41	38	10.76	54.6	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	100	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5498 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5498	98.14	-	-	85.95	35.1	10.93	33.84	100	232	Average
5498	108.31	-	-	96.13	35.09	10.93	33.84	100	232	Peak
11001	50.35	-23.65	74	56.19	38	10.76	54.6	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5581 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5581	92.26	-	-	79.81	35.2	11.09	33.84	145	68	Average
5581	102.89	-	-	90.42	35.22	11.09	33.84	145	68	Peak
11160	49.82	-24.18	74	55.18	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	116	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5581 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5581	97.86	-	-	85.41	35.2	11.09	33.84	128	198	Average
5581	108.21	-	-	95.8	35.2	11.05	33.84	128	198	Peak
11160	50.76	-23.24	74	56.12	38.13	10.84	54.33	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5698 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
65.64	25.9	-14.1	40	50.3	6.36	0.92	31.68	-	-	Peak
203.34	29.67	-13.83	43.5	50.53	9.23	1.55	31.64	-	-	Peak
230.61	42.64	-3.36	46	62.37	10.22	1.65	31.6	103	25	Peak
420.4	39.04	-6.96	46	52.13	16.5	2.24	31.83	-	-	Peak
442.8	33.43	-12.57	46	46.38	16.59	2.3	31.84	-	-	Peak
815.9	30.58	-15.42	46	39.46	19.96	3.11	31.95	-	-	Peak
5698	91.48	-	-	78.65	35.37	11.3	33.84	100	146	Average
5698	101.93	-	-	89.1	35.37	11.3	33.84	100	146	Peak
11400	50.75	-23.25	74	55.4	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	27~28°C
Test Channel :	140	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.93	33.97	-6.03	40	54.62	10.28	0.77	31.7	100	248	Peak
66.18	33	-7	40	57.4	6.36	0.92	31.68	-	-	Peak
230.61	33.28	-12.72	46	53.01	10.22	1.65	31.6	-	-	Peak
330.1	38.15	-7.85	46	54.16	13.6	1.98	31.59	-	-	Peak
420.4	37.02	-8.98	46	50.11	16.5	2.24	31.83	-	-	Peak
586.3	37.64	-8.36	46	48.13	18.86	2.71	32.06	-	-	Peak
5700	97.41	-	-	84.58	35.37	11.3	33.84	100	295	Average
5700	107.67	-	-	94.84	35.37	11.3	33.84	100	295	Peak
11400	50.71	-23.29	74	55.36	38.32	10.99	53.96	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5188 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
66.18	28.68	-11.32	40	53.08	6.36	0.92	31.68	-	-	Peak
203.34	29.56	-13.94	43.5	50.42	9.23	1.55	31.64	-	-	Peak
230.61	42.31	-3.69	46	62.04	10.22	1.65	31.6	100	249	Peak
393.1	35.14	-10.86	46	49.33	15.42	2.17	31.78	-	-	Peak
420.4	39.73	-6.27	46	52.82	16.5	2.24	31.83	-	-	Peak
816.6	31.2	-14.8	46	40.06	19.97	3.12	31.95	-	-	Peak
5188	85.23	-	-	73.65	34.92	10.51	33.85	105	65	Average
5188	95.24	-	-	83.66	34.92	10.51	33.85	105	65	Peak
10380	50.43	-23.57	74	57.42	37.71	10.64	55.34	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	38	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5192 MHz is fundamental signal which can be ignored. 2. 10380 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.93	34.64	-5.36	40	55.29	10.28	0.77	31.7	-	-	Peak
66.45	35.48	-4.52	40	59.83	6.42	0.92	31.69	100	62	Peak
230.61	32.92	-13.08	46	52.65	10.22	1.65	31.6	-	-	Peak
420.4	37.62	-8.38	46	50.71	16.5	2.24	31.83	-	-	Peak
528.9	33.29	-12.71	46	44.55	18.06	2.52	31.84	-	-	Peak
952.4	29.1	-16.9	46	35.93	20.93	3.35	31.11	-	-	Peak
5192	92.92	-	-	81.34	34.92	10.51	33.85	101	277	Average
5192	102.33	-	-	90.75	34.92	10.51	33.85	101	277	Peak
10380	50.26	-23.74	74	57.25	37.71	10.64	55.34	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5232 MHz is fundamental signal which can be ignored. 2. 10461 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5232	85.77	-	-	74.14	34.94	10.54	33.85	107	66	Average
5232	94.65	-	-	83.02	34.94	10.54	33.85	107	66	Peak
10461	50.8	-23.2	74	57.61	37.77	10.66	55.24	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	46	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5232 MHz is fundamental signal which can be ignored. 2. 10461 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5232	92.13	-	-	80.5	34.94	10.54	33.85	100	262	Average
5232	102.08	-	-	90.45	34.94	10.54	33.85	100	262	Peak
10461	50.76	-23.24	74	57.57	37.77	10.66	55.24	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5272 MHz is fundamental signal which can be ignored. 2. 10539 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5272	86.89	-	-	75.16	34.96	10.61	33.84	101	63	Average
5272	96.74	-	-	85.01	34.96	10.61	33.84	101	63	Peak
10539	50.59	-23.41	74	57.27	37.81	10.67	55.16	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	54	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5272 MHz is fundamental signal which can be ignored. 2. 10540 MHz is not within a restricted band and satisfies both the average and peak limits of 15.209. 3. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5272	92.77	-	-	81.04	34.96	10.61	33.84	100	270	Average
5272	102.37	-	-	90.64	34.96	10.61	33.84	100	270	Peak
10540	50.38	-23.62	74	57.06	37.81	10.67	55.16	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5312 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5312	86.92	-	-	75.09	34.99	10.68	33.84	135	63	Average
5312	96.57	-	-	84.74	34.99	10.68	33.84	135	63	Peak
10620	50.2	-23.8	74	56.72	37.85	10.69	55.06	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	62	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5312 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5312	92.54	-	-	80.71	34.99	10.68	33.84	106	273	Average
5312	102.38	-	-	90.55	34.99	10.68	33.84	106	273	Peak
10620	50	-24	74	56.52	37.85	10.69	55.06	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5512 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5512	89.1	-	-	76.88	35.1	10.96	33.84	141	65	Average
5512	98.52	-	-	86.3	35.1	10.96	33.84	141	65	Peak
11020	50.27	-23.73	74	56.06	38.01	10.77	54.57	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	102	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5512 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5512	92.43	-	-	80.21	35.1	10.96	33.84	103	252	Average
5512	102.8	-	-	90.58	35.1	10.96	33.84	103	252	Peak
11019	50.22	-23.78	74	56.02	38.01	10.76	54.57	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	110	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5548 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5548	89.15	-	-	76.77	35.17	11.05	33.84	152	68	Average
5548	98.47	-	-	86.09	35.17	11.05	33.84	152	68	Peak
11001	50.89	-23.11	74	56.73	38	10.76	54.6	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	110	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5548 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5548	93.46	-	-	81.08	35.17	11.05	33.84	103	262	Average
5548	102.97	-	-	90.59	35.17	11.05	33.84	103	262	Peak
11001	50.96	-23.04	74	56.8	38	10.76	54.6	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5672 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5672	88.86	-	-	76.1	35.34	11.26	33.84	147	69	Average
5672	97.82	-	-	85.06	35.34	11.26	33.84	147	69	Peak
11340	50.41	-23.59	74	55.25	38.27	10.96	54.07	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	27~28°C
Test Channel :	134	Relative Humidity :	45~46%
Test Engineer :	Kai Wang and Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5668 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5668	93.82	-	-	81.1	35.34	11.22	33.84	100	240	Average
5668	103.16	-	-	90.44	35.34	11.22	33.84	100	240	Peak
11340	50.18	-23.82	74	55.02	38.27	10.96	54.07	100	0	Peak

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

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

Frequency of emission (MHz)	Conducted limit (dBμV)	
	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.

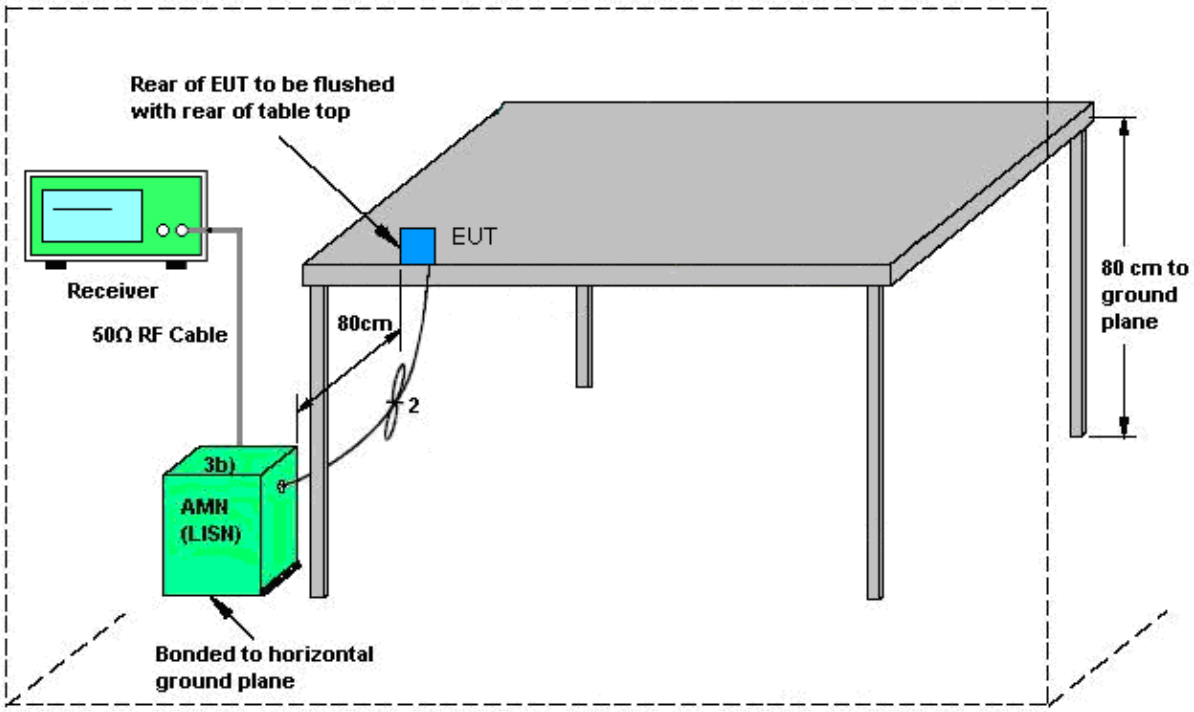
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.10-2009 test site requirement.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room 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.

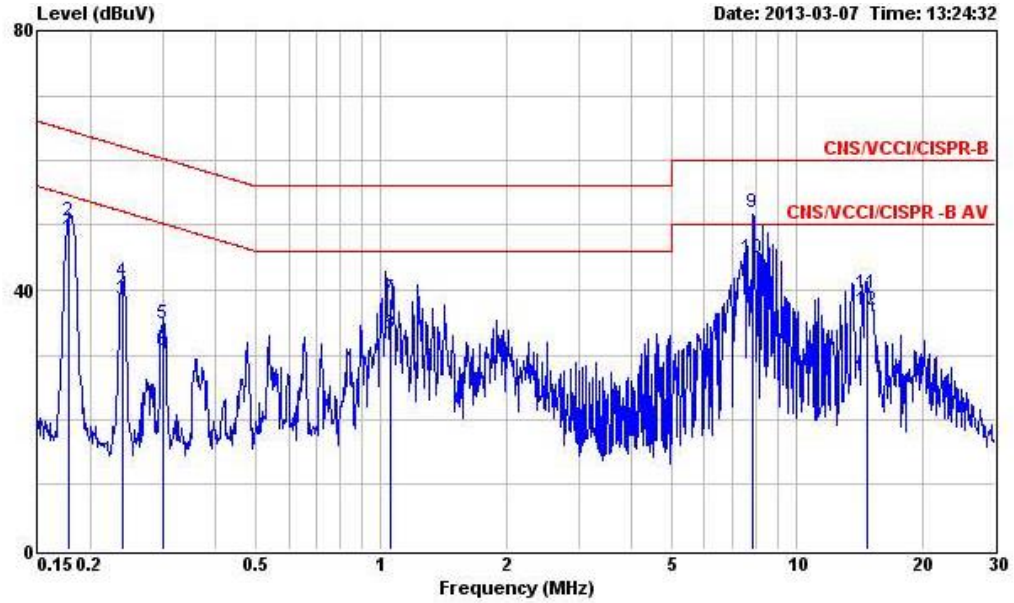
3.6.4 Test Setup



AMN = Artificial mains network (LISN)
AE = Associated equipment
EUT = Equipment under test
ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

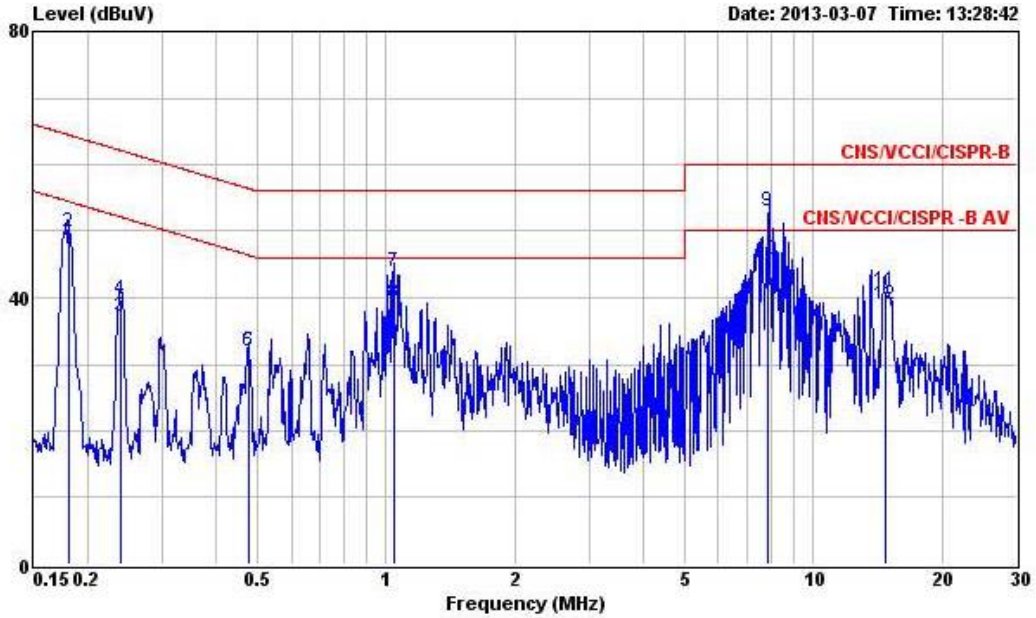
Test Mode :	Mode 1	Temperature :	24~25℃
Test Engineer :	David Du	Relative Humidity :	47~48%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	Bluetooth Link + WLAN Link + MP3 + SD Card + H Pattern + HDMI Cable + Earphone + USB Cable (Data Link with PC) + NFC On		



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 LINE

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.178	48.09	-6.49	54.58	47.71	0.14	0.24	Average
2	0.178	50.74	-13.84	64.58	50.36	0.14	0.24	QP
3	0.239	38.46	-13.67	52.13	38.15	0.14	0.17	Average
4	0.239	41.24	-20.89	62.13	40.93	0.14	0.17	QP
5	0.299	34.84	-25.43	60.27	34.55	0.15	0.14	QP
6	0.299	30.77	-19.50	50.27	30.48	0.15	0.14	Average
7	1.050	38.83	-17.17	56.00	38.56	0.17	0.10	QP
8	1.050	33.19	-12.81	46.00	32.92	0.17	0.10	Average
9	7.810	51.96	-8.04	60.00	51.50	0.29	0.17	QP
10	7.810	44.98	-5.02	50.00	44.52	0.29	0.17	Average
11	14.727	39.48	-20.52	60.00	39.00	0.37	0.11	QP
12	14.727	36.84	-13.16	50.00	36.36	0.37	0.11	Average

Test Mode :	Mode 1	Temperature :	24~25℃
Test Engineer :	David Du	Relative Humidity :	47~48%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	Bluetooth Link + WLAN Link + MP3 + SD Card + H Pattern + HDMI Cable + Earphone + USB Cable (Data Link with PC) + NFC On		



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B LISN 2001/004-121228 NEUTRAL

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.181	47.17	-7.27	54.44	46.84	0.10	0.23	Average
2	0.181	49.78	-14.66	64.44	49.45	0.10	0.23	QP
3	0.239	37.19	-14.94	52.13	36.91	0.11	0.17	Average
4	0.239	39.78	-22.35	62.13	39.50	0.11	0.17	QP
5	0.476	32.02	-24.39	56.41	31.80	0.12	0.10	QP
6	0.476	31.83	-14.58	46.41	31.61	0.12	0.10	Average
7	1.040	43.87	-12.13	56.00	43.63	0.14	0.10	QP
8	1.040	39.30	-6.70	46.00	39.06	0.14	0.10	Average
9	7.810	52.96	-7.04	60.00	52.51	0.28	0.17	QP
10	7.810	45.64	-4.36	50.00	45.19	0.28	0.17	Average
11	14.728	41.06	-18.94	60.00	40.56	0.39	0.11	QP
12	14.728	38.99	-11.01	50.00	38.49	0.39	0.11	Average

3.7 Frequency Stability Measurement

3.7.1 Limit of Frequency Stability

Manufacturers of U-NII devices are responsible for ensuring frequency stability such that an emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

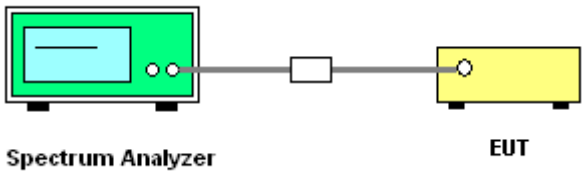
3.7.2 Measuring Instruments

See list of measuring instruments of this test report.

3.7.3 Test Procedures

1. To ensure emission at the band edge is maintained within the authorized band, those values shall be measured by radiation emissions at upper and lower frequency points, and finally compensated by frequency deviation as procedures below.
2. The EUT was operated at the maximum output power, and connected to the spectrum analyzer, which is set to maximum hold function and peak detector. The peak value of the power envelope was measured and noted. The upper and lower frequency points were respectively measured relatively 10dB lower than the measured peak value.
3. The frequency deviation was calculated by adding the upper frequency point and the lower frequency point divided by two. Those detailed values of frequency deviation are provided in table below.

3.7.4 Test Setup



3.7.5 Test Result of Frequency Stability

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	36	5180	5171.70	5188.30	0.00
	44	5220	5211.70	5228.25	-4.79
	48	5240	5231.65	5248.30	-4.77
NII Band 2	52	5260	5251.70	5268.25	-4.75
	60	5300	5291.70	5308.25	-4.72
	64	5320	5311.70	5328.25	-4.70
NII Band 3	100	5500	5491.70	5508.25	-4.55
	116	5580	5571.70	5588.25	-4.48
	140	5700	5691.65	5708.25	-8.77

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	36	5180	5171.05	5188.90	-4.83
	44	5220	5211.10	5228.85	-4.79
	48	5240	5231.05	5248.90	-4.77
NII Band 2	52	5260	5251.05	5268.85	-9.51
	60	5300	5291.05	5308.90	-4.72
	64	5320	5311.05	5328.85	-9.40
NII Band 3	100	5500	5491.05	5508.85	-9.09
	116	5580	5571.00	5588.90	-8.96
	140	5700	5691.05	5708.85	-8.77

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Coyote Lin	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	38	5190	5171.64	5208.18	-17.34
	46	5230	5211.64	5248.27	-8.60
NII Band 2	54	5270	5251.73	5288.27	0.00
	62	5310	5291.64	5328.18	-16.95
NII Band 3	102	5510	5491.64	5528.18	-16.33
	110	5550	5531.73	5568.27	0.00
	134	5670	5651.64	5688.18	-15.87

3.8 Automatically Discontinue Transmission

3.8.1 Limit of Automatically Discontinue Transmission

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signaling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals. Applicants shall include in their application for equipment authorization to describe how this requirement is met.

3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

3.8.3 Test Result of Automatically Discontinue Transmission

During no any information transmission, the EUT can automatically discontinue transmission and become standby mode for power saving. The EUT can detect the controlling signal of ACK message transmitting from remote device and verify whether it shall resend or discontinue transmission.

3.9 Antenna Requirements

3.9.1 Standard Applicable

According to FCC 47 CFR Section 15.407(a)(1)(2) ,if transmitting antenna directional gain is greater than 6 dBi, both the peak transmit power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

3.9.2 Antenna Connected Construction

Non-standard connector used.

3.9.3 Antenna Gain

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

4 List of Measuring Equipments

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	Mar. 08, 2013 ~ Mar. 22, 2013	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Mar. 08, 2013 ~ Mar. 22, 2013	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Mar. 08, 2013 ~ Mar. 22, 2013	Sep. 07, 2013	Conducted (TH02-HY)
EMC Receiver	R&S	ESCS 30	100132	9kHz ~ 2.75GHz	Nov. 14, 2012	Mar. 07, 2013	Nov. 13, 2013	Conduction (CO01-HY)
LISN	MessTec	NNB-2/16Z	2001/004	9kHz – 30MHz	Dec. 28, 2012	Mar. 07, 2013	Dec. 27, 2013	Conduction (CO01-HY)
LISN (Support Unit)	MessTec	NNB-2/16Z	2001/009	9kHz ~ 30MHz	Jan. 08, 2013	Mar. 07, 2013	Jan. 07, 2014	Conduction (CO01-HY)
EMI Filter	LINDGREN	LRE-2060	1004	< 450Hz	N/A	Mar. 07, 2013	N/A	Conduction (CO01-HY)
EMI Filter	LINDGREN	N6006	201052	0~60Hz	N/A	Mar. 07, 2013	N/A	Conduction (CO01-HY)
RF Cable-CON	HUBER + SUHNER	RG213/U	07611832010001	9kHz ~ 30MHz	Mar. 01, 2013	Mar. 07, 2013	Feb. 28, 2014	Conduction (CO01-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Oct. 06, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Oct. 05, 2013	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9KHz ~ 30GHz	Nov. 30, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Nov. 29, 2013	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 22, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Aug. 21, 2013	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 01, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Nov. 30, 2013	Radiation (03CH07-HY)
Preamplifier	MITEQ	AMF-7D-00101800-30-10P	159088	1GHz ~ 18GHz	Feb. 27, 2013	Apr. 09, 2013 ~ Apr. 12, 2013	Feb. 26, 2014	Radiation (03CH07-HY)
Preamplifier	COM -POWER	PA-103A	161241	10-1000MHz. 32dB.GAIN	Feb. 26, 2013	Apr. 09, 2013 ~ Apr. 12, 2013	Feb. 25, 2014	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Sep. 03, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Sep. 02, 2013	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Jul. 02, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Apr. 09, 2013 ~ Apr. 12, 2013	Sep. 27, 2013	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	**2.26**

Uncertainty of Radiated Emission Measurement (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**

Appendix A. Photographs of EUT

Please refer to Sporton report number EP322823 as below.