FCC RF Test Report

APPLICANT	:	**HTC Corporation**
EQUIPMENT	:	**Smartphone**
MODEL NAME	:	**PL80110**
FCC ID	:	**NM8PL80110**
STANDARD	:	**FCC Part 15 Subpart E §15.407**
CLASSIFICATION	:	**(NII) Unlicensed National Information Infrastructure**

The product was received on Oct. 26, 2012 and completely tested on Dec. 13, 2012. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures and shown the compliance with the applicable technical standards.

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

Reviewed by:

Jones Tsai

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
FR2O2633D	Rev. 01	Initial issue of report	Dec. 21, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	RSS-210 A9.2	26dB 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 6.34 dB at 5470.000 MHz
3.6	15.207	RSS-Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 5.10 dB at 13.558 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

HTC Corporation
No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan

1.2 Manufacturer

HTC Corporation
No. 23, Xinghua Rd., Taoyuan City, Taoyuan County 330, Taiwan

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Smartphone
Model Name	PL80110
FCC ID	NM8PL80110
Sample 1	EUT with LCD Panel 1, Camera Front 1, and 2nd Camera 1
Sample 2	EUT with LCD Panel 2, Camera Front 2, and 2nd Camera 2
EUT supports Radios application	CDMA/EV-DO/LTE WLAN 11abgn / Bluetooth 3.0/4.0 / NFC
EUT Stage	Identical Prototype

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

1.4 Product Specification of Equipment Under Test

Product Specification subjective to this standard	
Tx/Rx Frequency Range	5180 MHz ~ 5240 MHz 5260 MHz ~ 5320 MHz 5500 MHz ~ 5700 MHz
Maximum Output Power to Antenna	**<5180 MHz ~ 5240 MHz>** 802.11a : 12.25 dBm / 0.0168 W 802.11n HT20 : 11.80 dBm / 0.0151 W 802.11n HT40 : 12.26 dBm / 0.0168 W **<5260 MHz ~ 5320 MHz>** 802.11a : 12.23 dBm / 0.0167 W 802.11n HT20 : 12.32 dBm / 0.0171 W 802.11n HT40 : 12.47 dBm / 0.0177 W **<5500 MHz ~ 5700 MHz>** 802.11a : 12.23 dBm / 0.0167 W 802.11n HT20 : 12.42 dBm / 0.0175 W 802.11n HT40 : 12.23 dBm / 0.0167 W
Antenna Type	PIFA Antenna **<5180 MHz ~ 5240 MHz>** with gain -0.70 dBi **<5260 MHz ~ 5320 MHz>** with gain -0.70 dBi **<5500 MHz ~ 5700 MHz>** with gain -0.50 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	CO05-HY	03CH07-HY	722060/4086B-1

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 v01r02
- ANSI C63.4-2003 and 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. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. 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 (X plane) were recorded in this report.

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

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

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
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)
5470-5725 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
Peak Power (dBm)	12.25	12.24	12.20	12.23	12.19	12.13	12.15	12.18

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	12.42	12.41	12.36	12.39	12.35	12.37	12.27	12.35

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	12.47	12.33	12.28	12.22	12.19	12.14	12.08	12.02

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	Remark
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	Sample 1
		802.11n HT20	6.5 Mbps	L/H	Sample 1
		802.11n HT40	13.5 Mbps	L/H	Sample 1 and Sample 2
	Radiated Spurious Emission	802.11a	6 Mbps	L/M/H	Sample 1
		802.11n HT20	6.5 Mbps	L/M/H	Sample 1
		802.11n HT40	13.5 Mbps	L/M/H	Sample 1 and Sample 2
AC Conducted Emission	Mode 1 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 2 : CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 2				

Remark:

1. The worst case of conducted emission is mode 1; only the test data of it was reported.
2. Radiated TCs, the tests were performance with Earphone, Battery2, USB Cable 2, Adapter 1

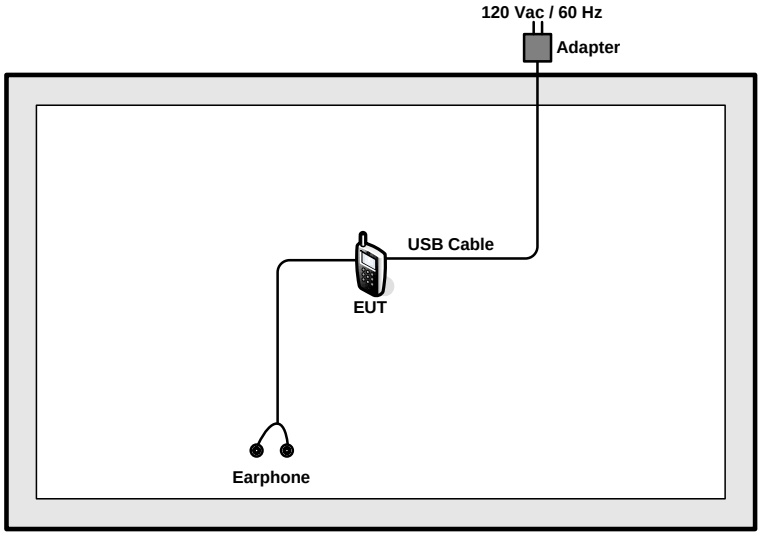
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725 MHz
		802.11a	802.11a	802.11a
L	Low	36	52	100
M	Middle	44	60	116
H	High	48	64	140

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

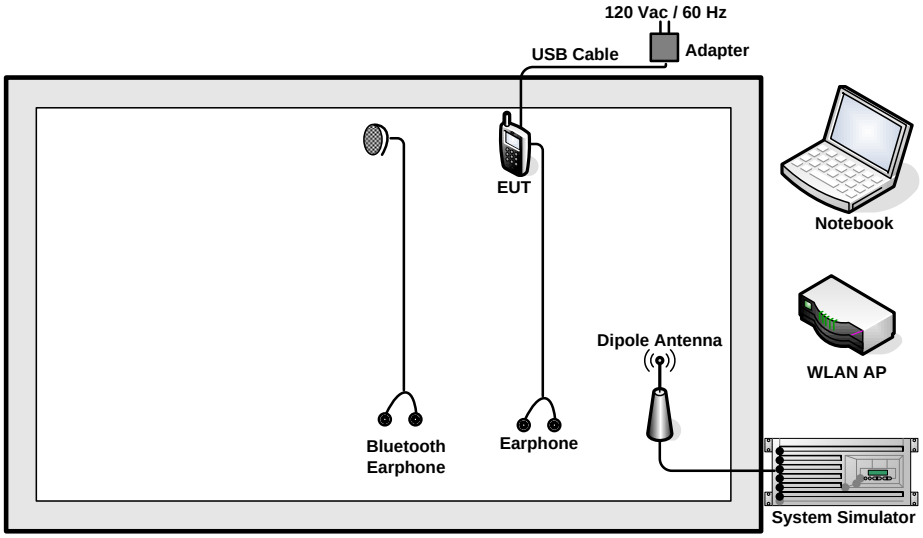
Ch. #		Band I：5150-5250 MHz	Band II：5250-5350 MHz	Band III：5470-5725 MHz
		802.11n HT40	802.11n HT40	802.11n HT40
L	Low	38	54	102
M	Middle	-	-	110
H	High	46	62	134

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.	System Simulator	Agilent	E5515C	N/A	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DIR-628	KA2DIR628A2	N/A	Unshielded, 1.8 m
3.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
4.	Notebook	DELL	Latitude E6320	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
5.	SD Card	SanDisk	N/A	N/A	N/A	N/A

2.6 Description of RF Function Operation Test Setup

For WLAN function, programmed RF utility, “Remote 433x controller(P2.01)” 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 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 5.15~5.25 GHz, 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 5.25-5.35 GHz and 5.47-5.725 GHz bands, 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.

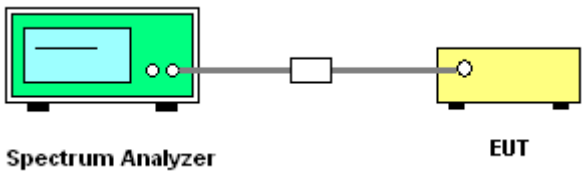
3.1.2 Measuring Instruments

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 v01r02. 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. Measure and record the results in the test report.

3.1.4 Test Setup

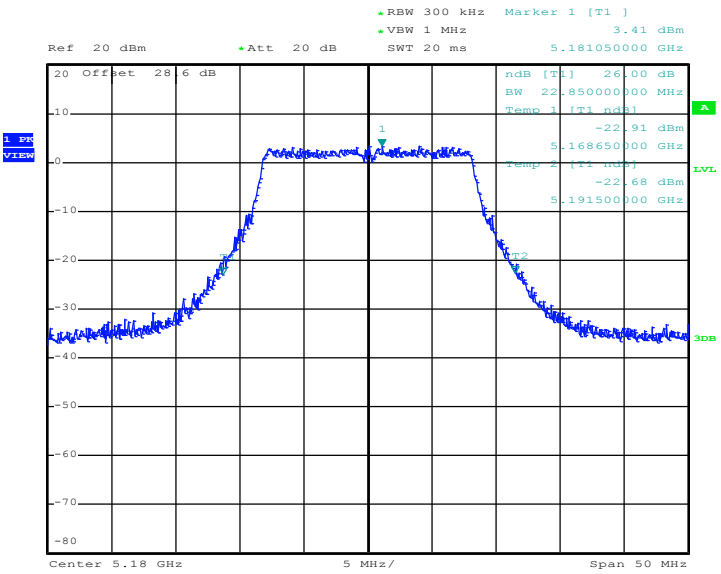


3.1.5 Test Result of 26dB Bandwidth Plots

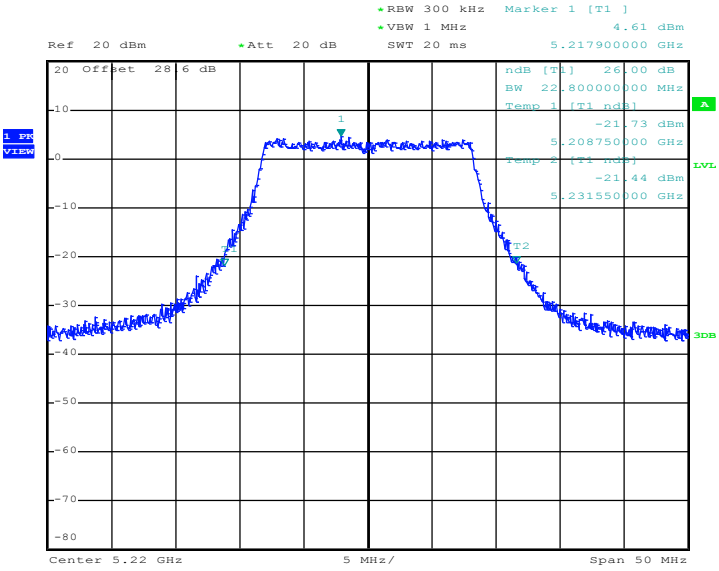
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)	Pass/Fail
NII Band 1	36	5180	22.850	N/A
	44	5220	22.800	N/A
	48	5240	23.300	N/A
NII Band 2	52	5260	23.100	N/A
	60	5300	23.250	N/A
	64	5320	23.250	N/A
NII Band 3	100	5500	23.000	N/A
	116	5580	22.850	N/A
	140	5700	22.850	N/A

26 dB Bandwidth Plot on 802.11a Channel 36



26 dB Bandwidth Plot on 802.11a Channel 44



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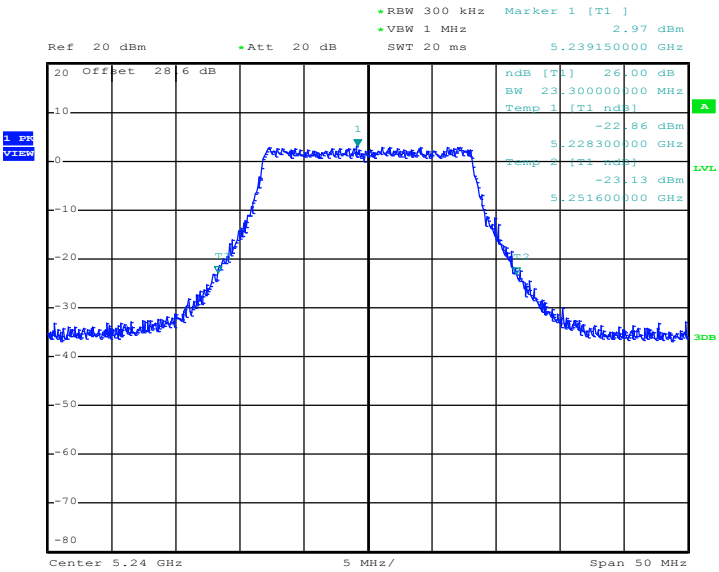
26 dB Bandwidth Plot on 802.11a Channel 48



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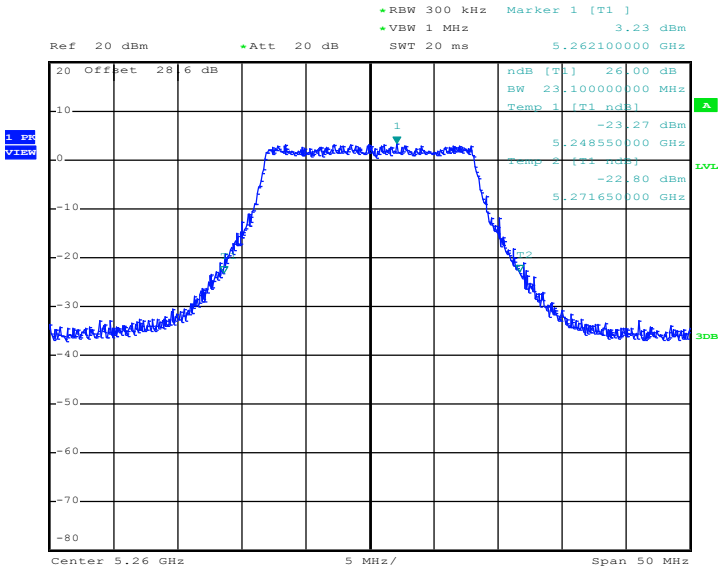

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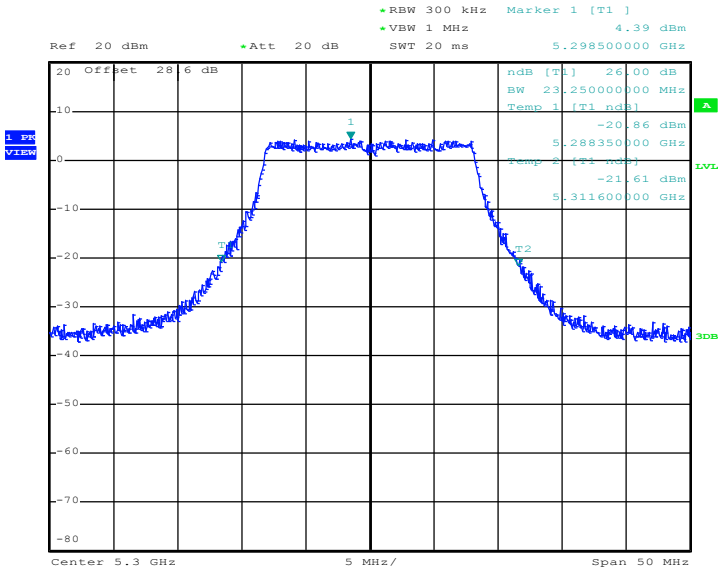
26 dB Bandwidth Plot on 802.11a Channel 60



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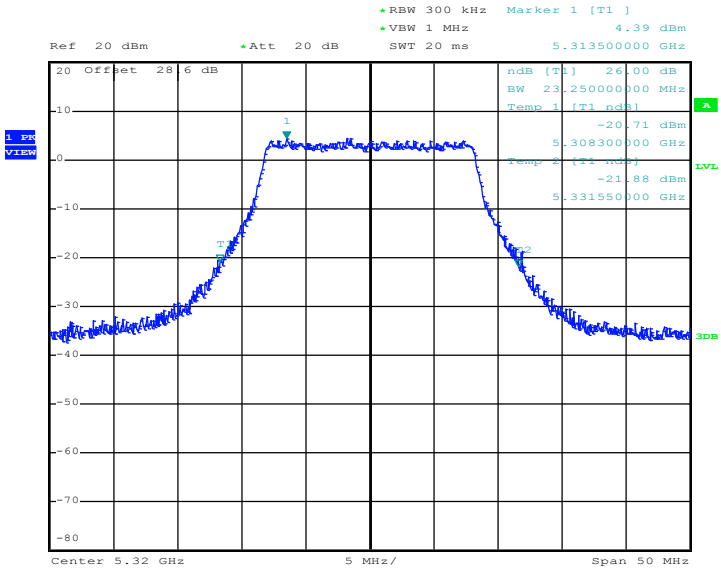

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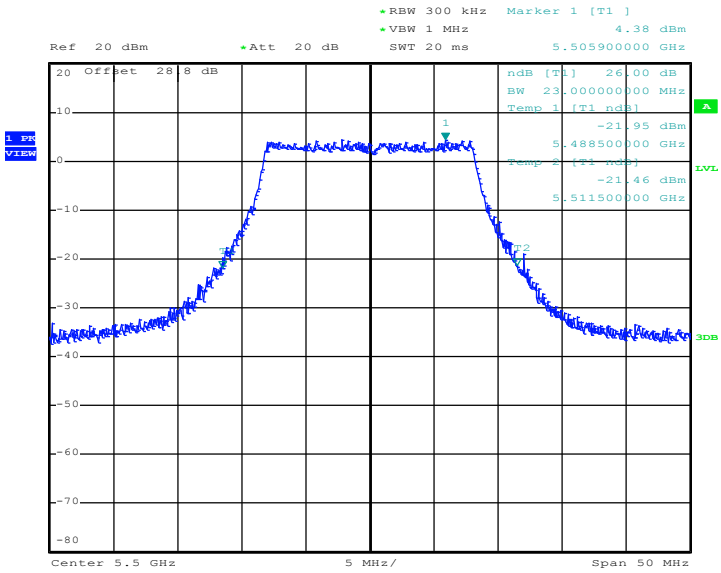
26 dB Bandwidth Plot on 802.11a Channel 100



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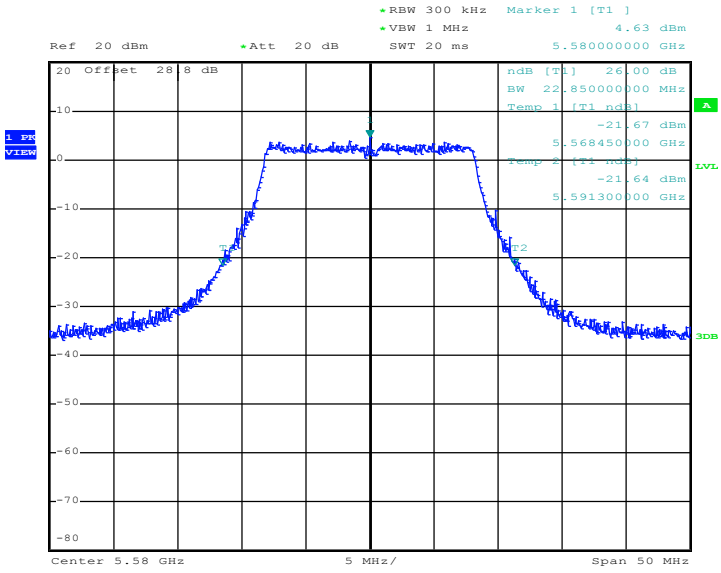
26 dB Bandwidth Plot on 802.11a Channel 116



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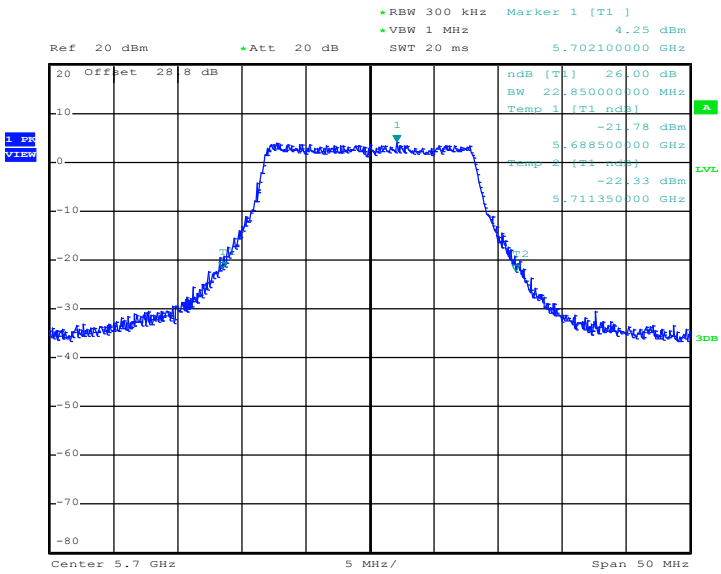

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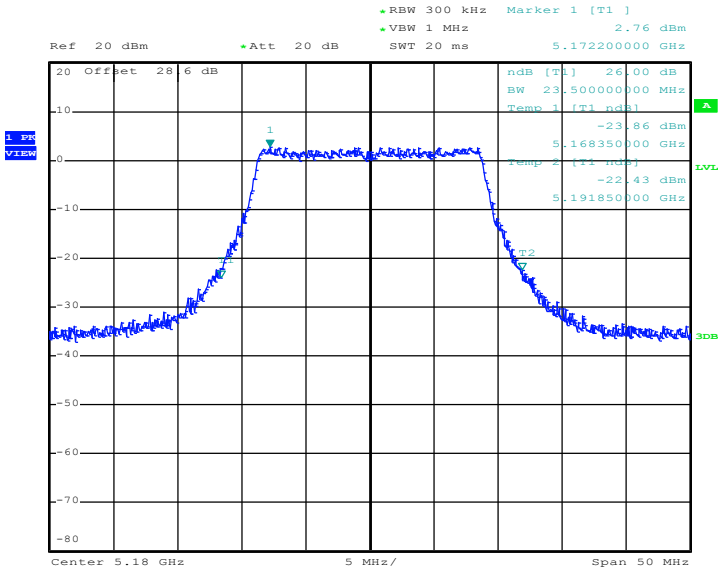
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%

Band	Channel	Frequency (MHz)	802.11n HT20 26dB Bandwidth (MHz)	Pass/Fail
NII Band 1	36	5180	23.500	N/A
	44	5220	23.300	N/A
	48	5240	23.450	N/A
NII Band 2	52	5260	23.450	N/A
	60	5300	23.500	N/A
	64	5320	23.350	N/A
NII Band 3	100	5500	23.550	N/A
	116	5580	23.450	N/A
	140	5700	23.500	N/A

26 dB Bandwidth Plot on 802.11n HT20 Channel 36



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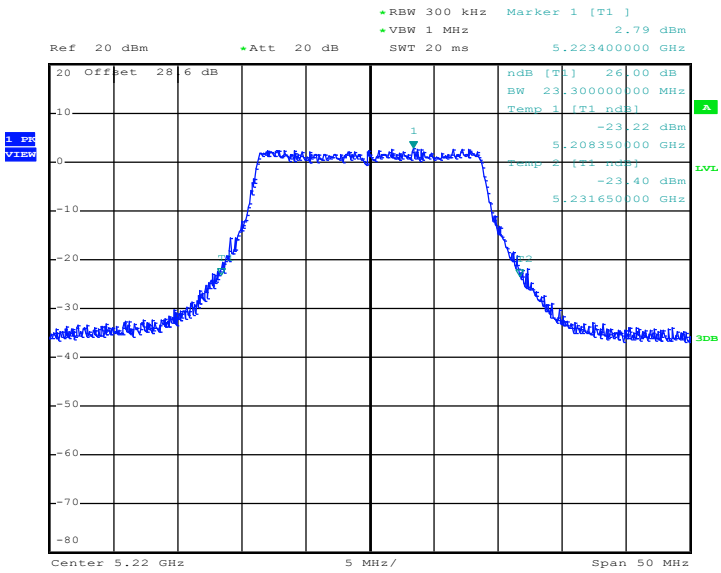

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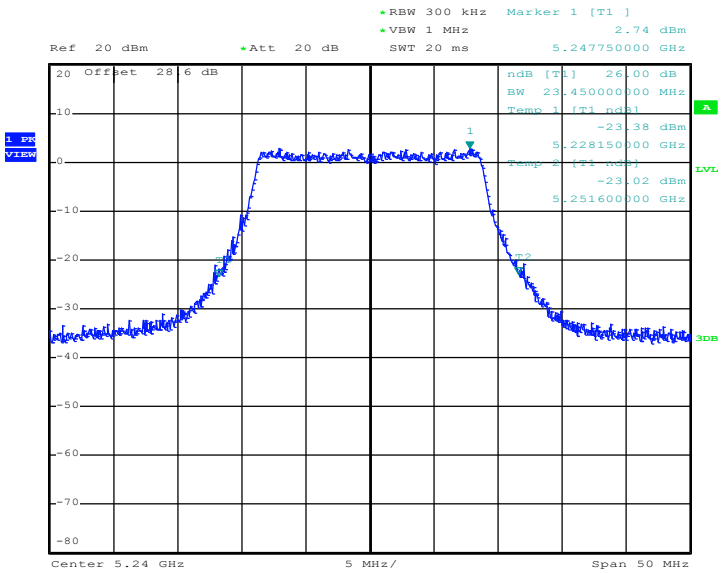

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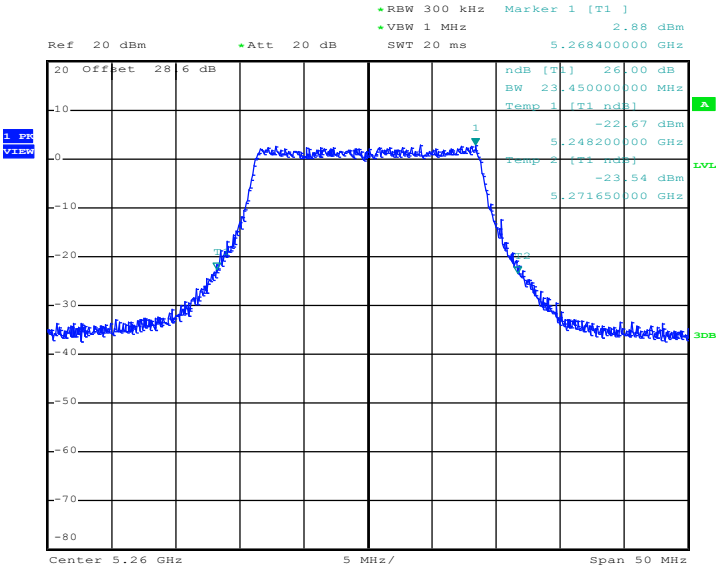
26 dB Bandwidth Plot on 802.11n HT20 Channel 52



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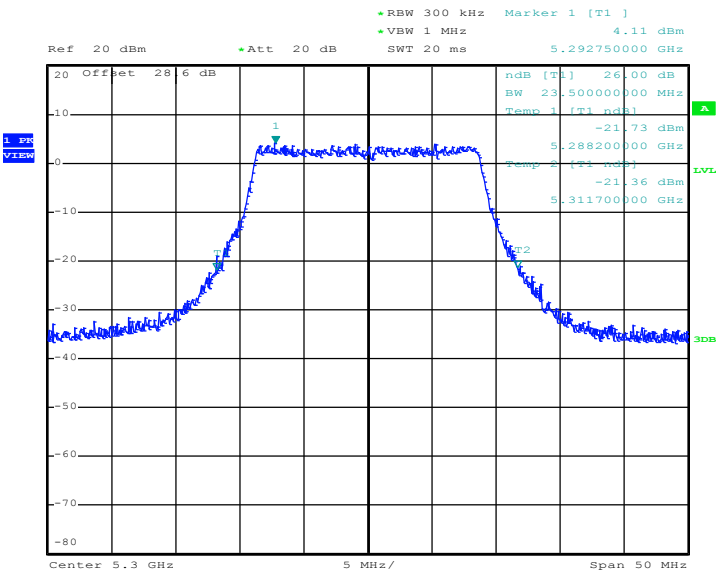
26 dB Bandwidth Plot on 802.11n HT20 Channel 60



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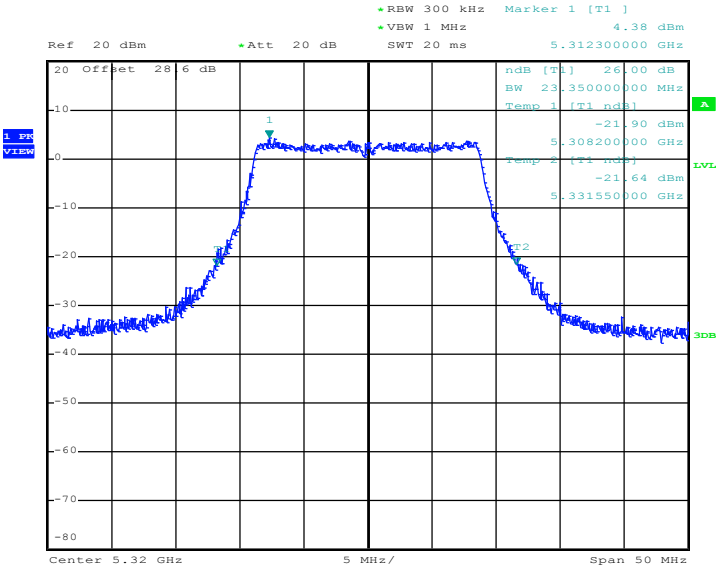
26 dB Bandwidth Plot on 802.11n HT20 Channel 64



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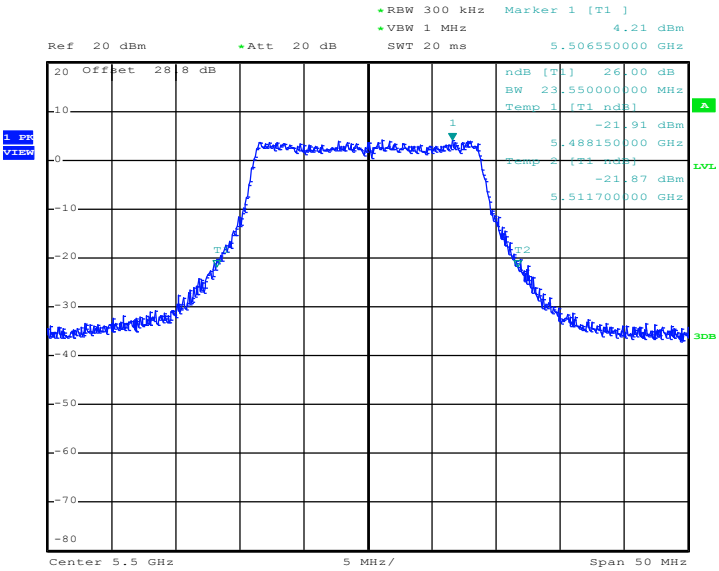
26 dB Bandwidth Plot on 802.11n HT20 Channel 100



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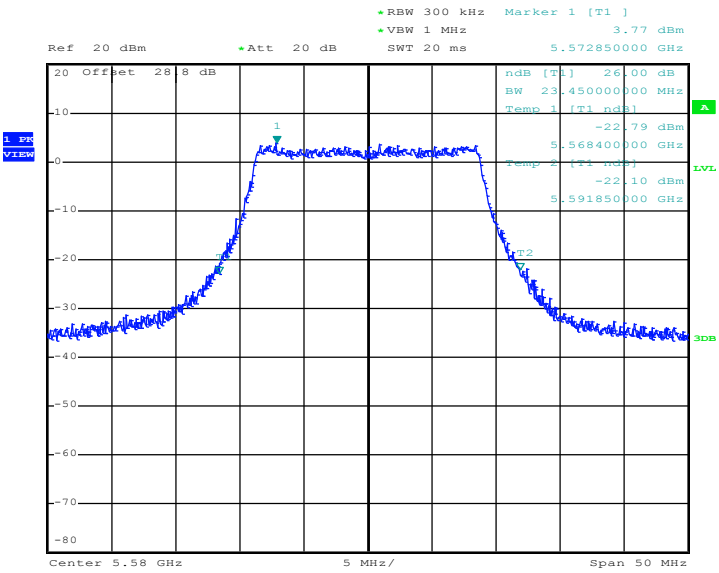
26 dB Bandwidth Plot on 802.11n HT20 Channel 116



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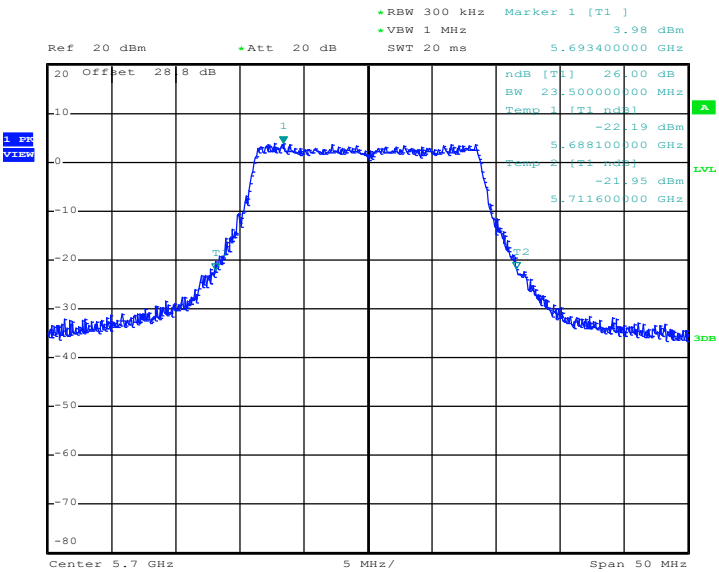
26 dB Bandwidth Plot on 802.11n HT20 Channel 140



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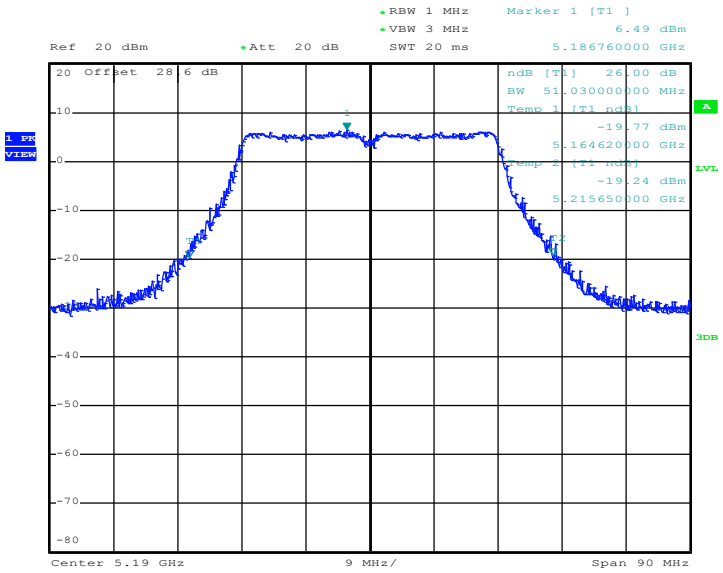
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%

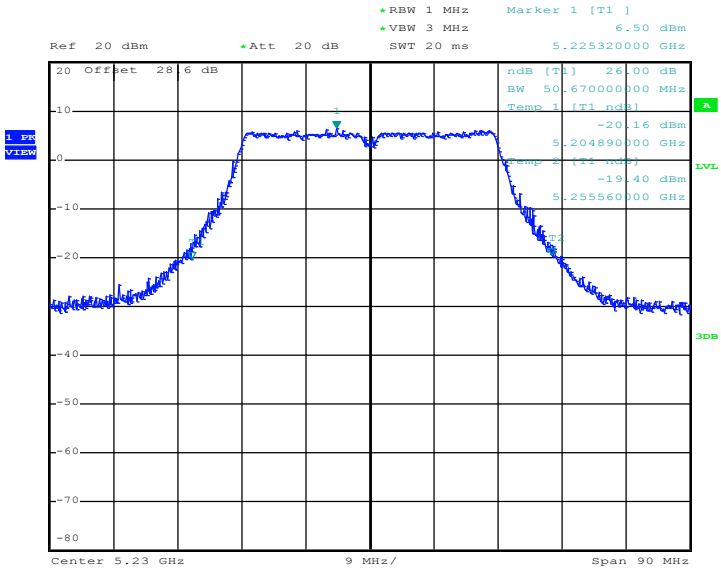
Band	Channel	Frequency (MHz)	802.11n HT20 26dB Bandwidth (MHz)	Pass/Fail
NII Band 1	38	5190	51.030	N/A
	46	5230	50.670	N/A
NII Band 2	54	5270	51.210	N/A
	62	5310	50.490	N/A
NII Band 3	102	5510	51.750	N/A
	110	5550	51.570	N/A
	134	5670	51.210	N/A

26 dB Bandwidth Plot on 802.11n HT40 Channel 38



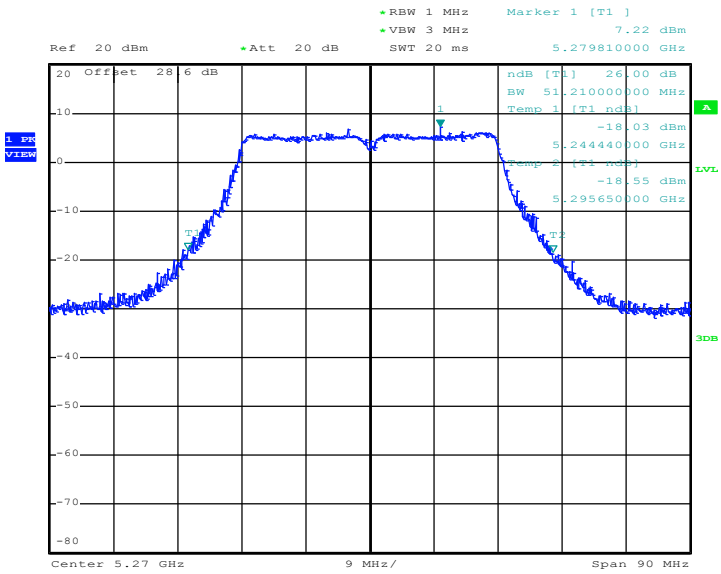
Date: 7.NOV.2012 23:47:14

26 dB Bandwidth Plot on 802.11n HT40 Channel 46



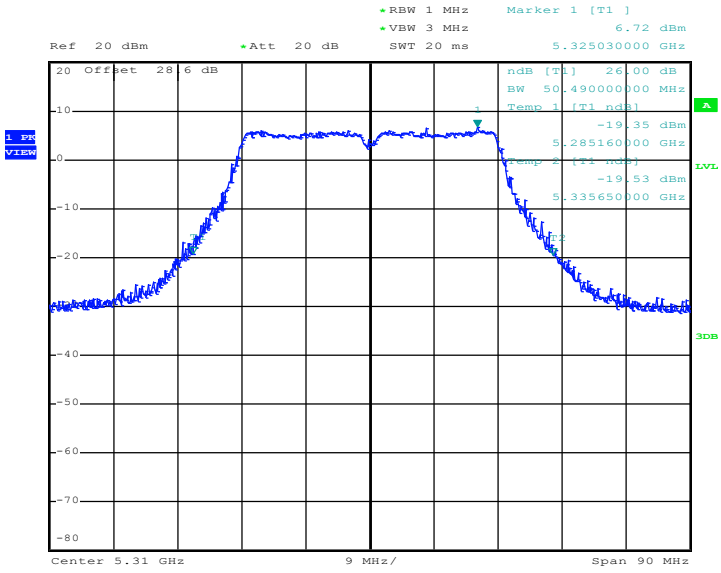
Date: 7.NOV.2012 23:49:27

26 dB Bandwidth Plot on 802.11n HT40 Channel 54



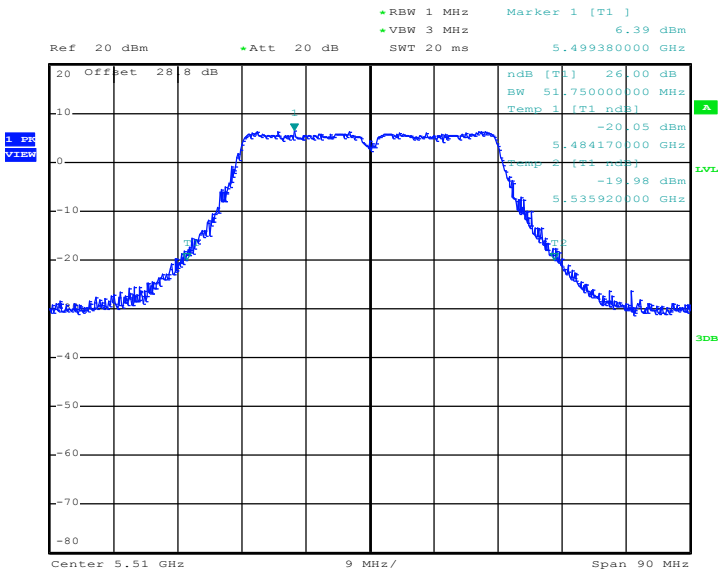
Date: 7.NOV.2012 23:51:31

26 dB Bandwidth Plot on 802.11n HT40 Channel 62



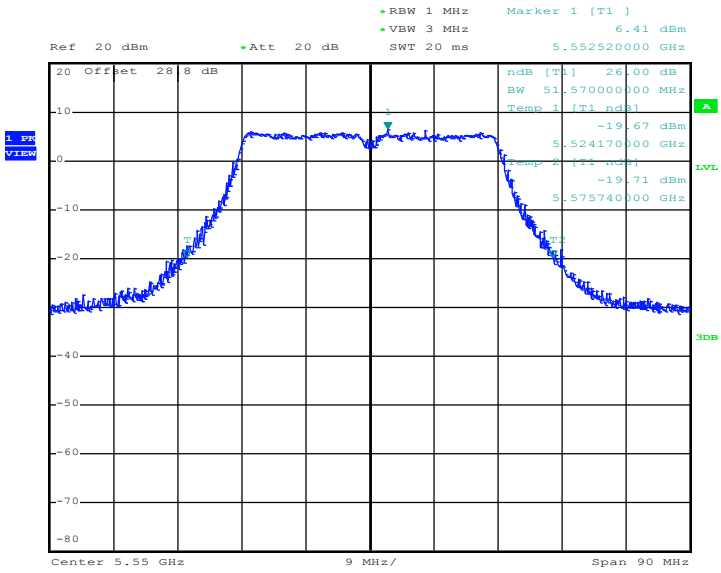
Date: 7.NOV.2012 23:53:32

26 dB Bandwidth Plot on 802.11n HT40 Channel 102



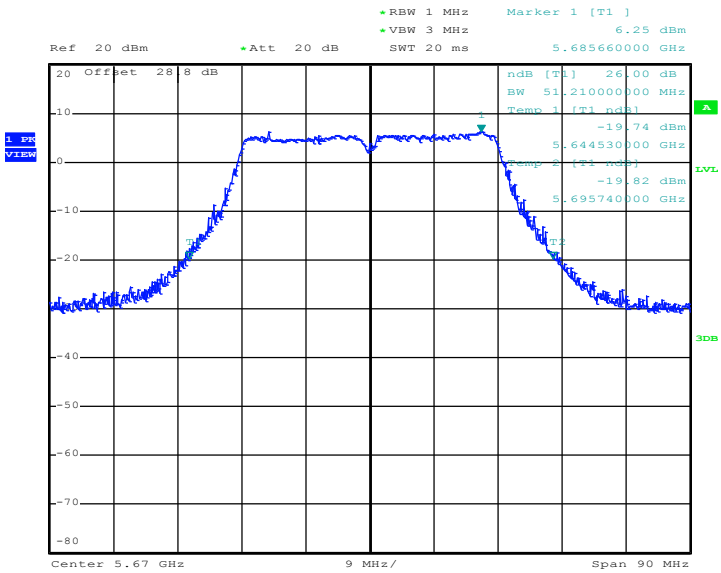
Date: 7.NOV.2012 23:55:36

26 dB Bandwidth Plot on 802.11n HT40 Channel 110



Date: 7.NOV.2012 23:57:27

26 dB Bandwidth Plot on 802.11n HT40 Channel 134



Date: 7.NOV.2012 23:59:23

3.2 Maximum Conducted Output Power Measurement

3.2.1 Limit of Maximum Conducted Output Power

For the band 5.15~5.25 GHz, 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 5.25-5.35 GHz and 5.47-5.725 GHz bands, 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.

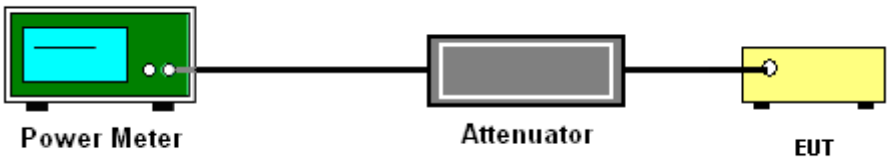
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D01 General UNII Test Procedures v01r02.

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 :	Bill Kuo	Relative Humidity :	45~49%
Duty Cycle	95.38%	Duty Factor	0.21dB

Band	Channel	Frequency (MHz)	802.11a Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	11.50	11.71	17	Pass
	44	5220	12.04	12.25	17	Pass
	48	5240	11.51	11.72	17	Pass
NII Band 2	52	5260	11.77	11.98	24	Pass
	60	5300	11.84	12.05	24	Pass
	64	5320	12.02	12.23	24	Pass
NII Band 3	100	5500	11.56	11.77	24	Pass
	116	5580	11.49	11.70	24	Pass
	140	5700	12.02	12.23	24	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5.15~5.25 GHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW)
3. For the 5.25-5.35 GHz and 5.47-5.725 GHz 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 :	Bill Kuo	Relative Humidity :	45~49%
Duty Cycle	95.05%	Duty Factor	0.22dB

Band	Channel	Frequency (MHz)	802.11a Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	11.36	11.58	17	Pass
	44	5220	11.11	11.33	17	Pass
	48	5240	11.58	11.80	17	Pass
NII Band 2	52	5260	11.65	11.87	24	Pass
	60	5300	11.80	12.02	24	Pass
	64	5320	12.10	12.32	24	Pass
NII Band 3	100	5500	11.79	12.01	24	Pass
	116	5580	11.86	12.08	24	Pass
	140	5700	12.20	12.42	24	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5.15~5.25 GHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW)
3. For the 5.25-5.35 GHz and 5.47-5.725 GHz 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 :	Bill Kuo	Relative Humidity :	45~49%
Duty Cycle	87.14%	Duty Factor	0.60dB

Band	Channel	Frequency (MHz)	802.11a Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	38	5190	11.53	12.13	17	Pass
	46	5230	11.66	12.26	17	Pass
NII Band 2	54	5270	11.87	12.47	24	Pass
	62	5310	11.31	11.91	24	Pass
NII Band 3	102	5510	11.40	12.00	24	Pass
	110	5550	11.57	12.17	24	Pass
	134	5670	11.63	12.23	24	Pass

Note:

1. Final Output Power equals to Measured Output Power adds the duty factor.
2. For the band 5.15~5.25 GHz, the maximum conducted output power shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log (26dB BW)
3. For the 5.25-5.35 GHz and 5.47-5.725 GHz 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 5.15–5.25 GHz, the peak power spectral density shall not exceed 4 dBm in any 1-MHz band. For the 5.25–5.35 GHz and 5.47–5.725 GHz bands, 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 v01r02.
Section E) 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.

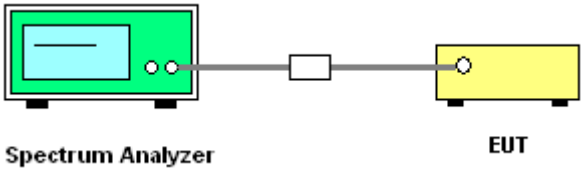
 # Method SA-2 #

(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 v01r02.
   - 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



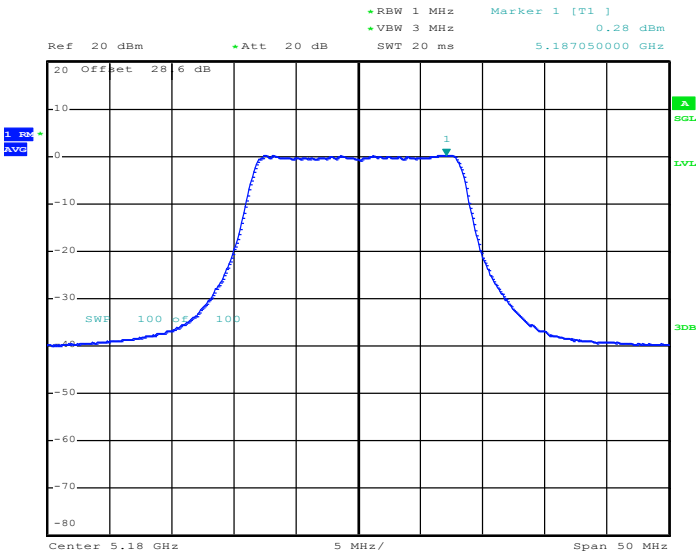
3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%
Duty Cycle:	95.38%	Duty Factor:	0.21dB

Band	Channel	Frequency (MHz)	802.11a PSD (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	0.280	0.485	4	Pass
	44	5220	1.270	1.475	4	Pass
	48	5240	-0.020	0.185	4	Pass
NII Band 2	52	5260	0.180	0.385	11	Pass
	60	5300	1.280	1.485	11	Pass
	64	5320	1.080	1.285	11	Pass
NII Band 3	100	5500	1.080	1.285	11	Pass
	116	5580	0.640	0.845	11	Pass
	140	5700	0.990	1.195	11	Pass

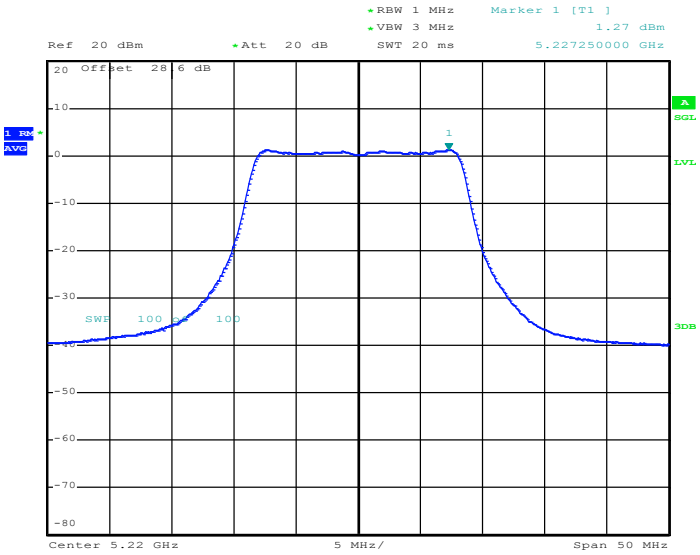
Note: Result of Final PSD equals to Measured PSD adds the duty factor.

PSD Plot on 802.11a Channel 36



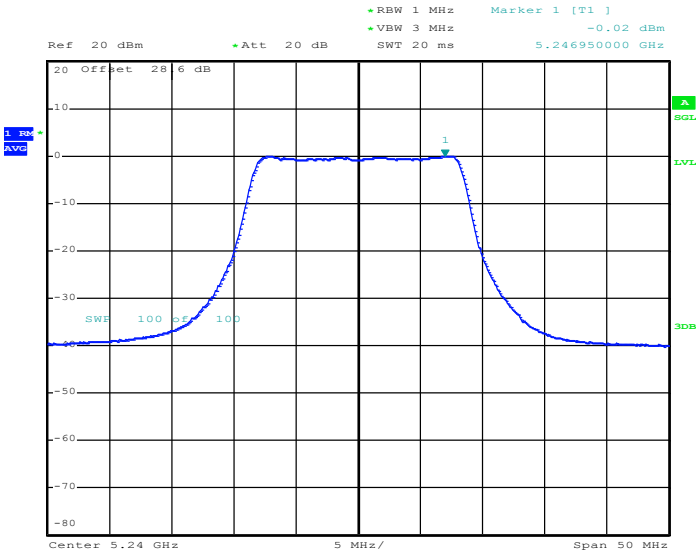
Date: 7.NOV.2012 23:09:51

PSD Plot on 802.11a Channel 44



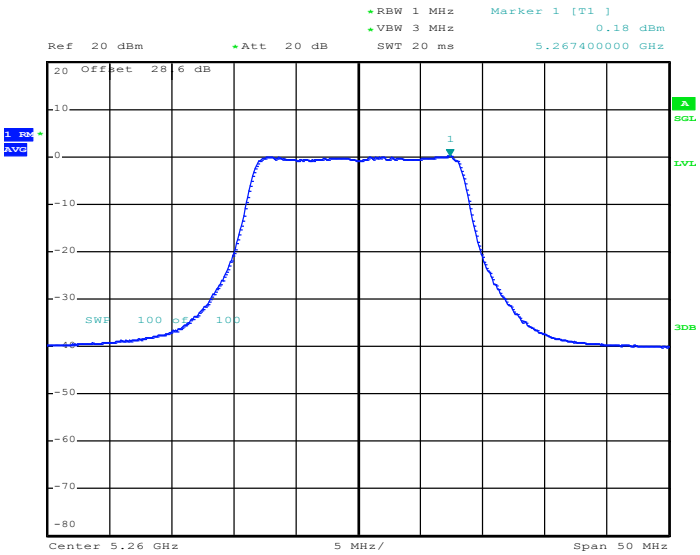
Date: 7.NOV.2012 23:12:05

PSD Plot on 802.11a Channel 48



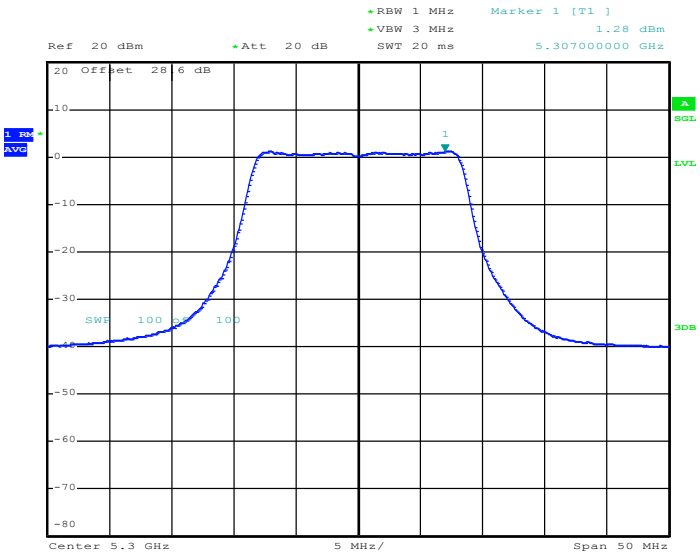
Date: 7.NOV.2012 23:14:21

PSD Plot on 802.11a Channel 52



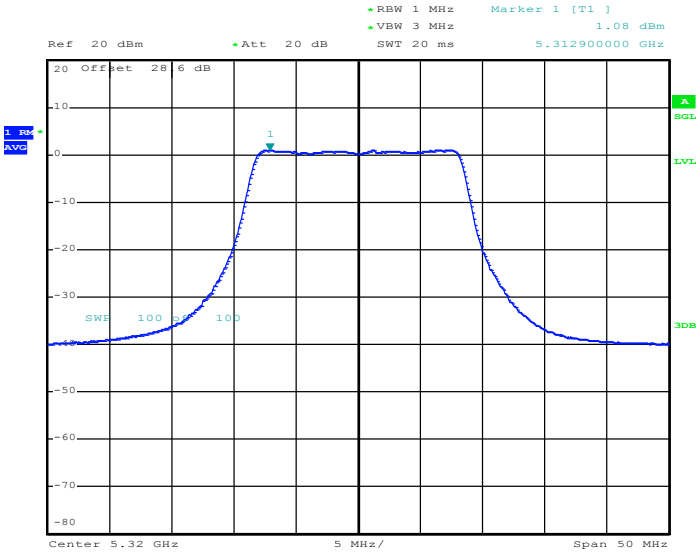
Date: 7.NOV.2012 23:16:12

PSD Plot on 802.11a Channel 60



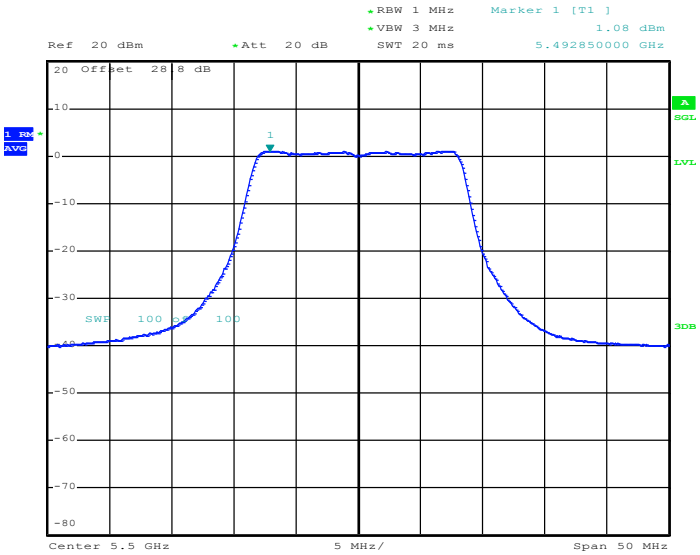
Date: 7.NOV.2012 23:18:17

PSD Plot on 802.11a Channel 64



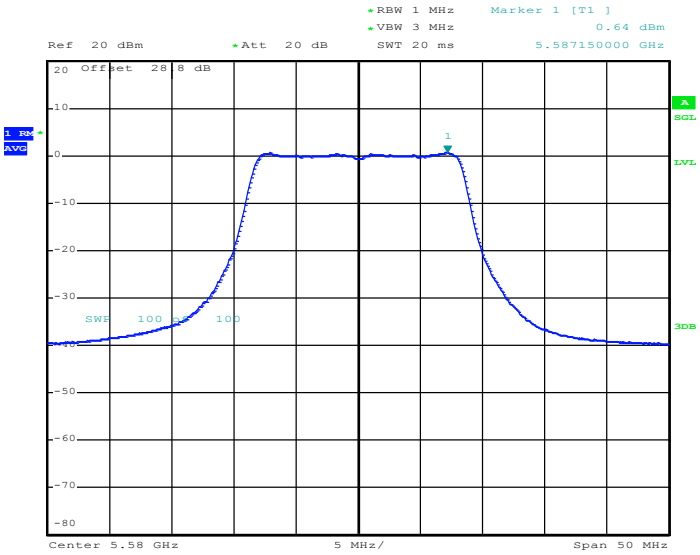
Date: 7.NOV.2012 23:19:57

PSD Plot on 802.11a Channel 100



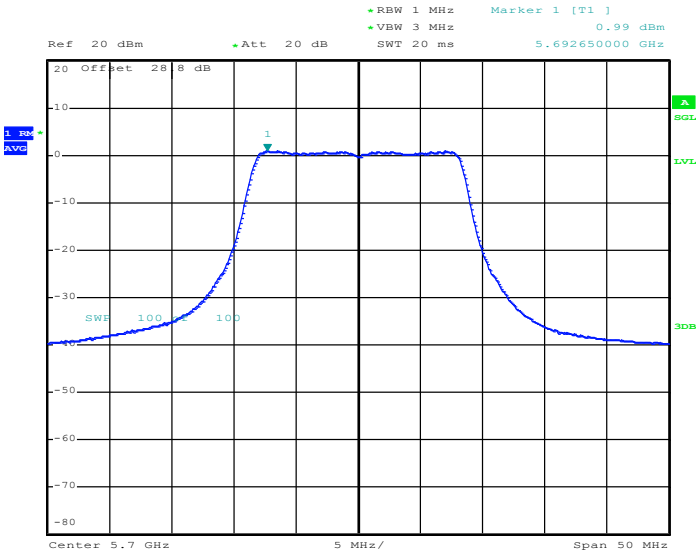
Date: 7.NOV.2012 23:23:12

PSD Plot on 802.11a Channel 116



Date: 7.NOV.2012 23:24:52

PSD Plot on 802.11a Channel 140



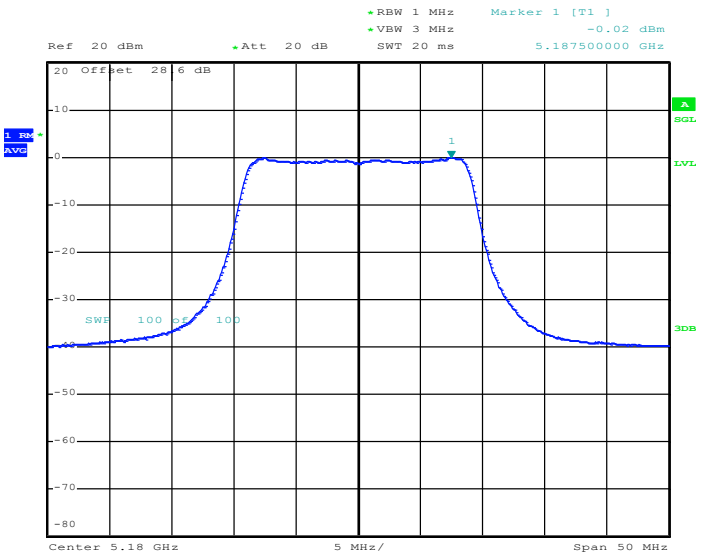
Date: 7.NOV.2012 23:27:45

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%
Duty Cycle:	95.05%	Duty Factor:	0.22dB

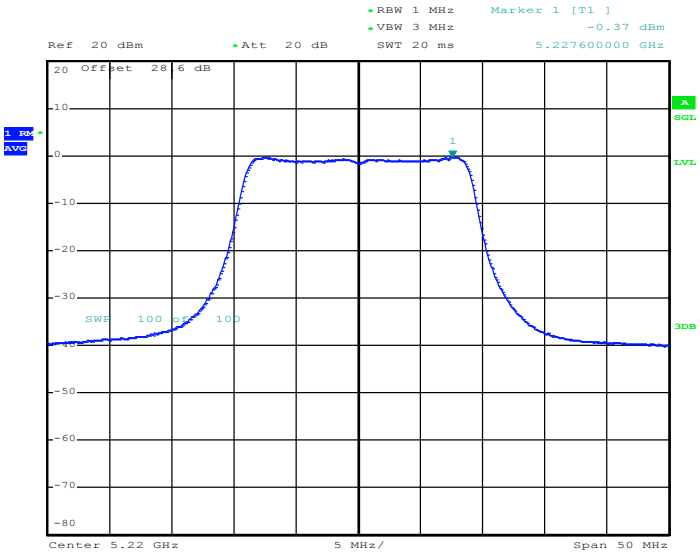
Band	Channel	Frequency (MHz)	802.11n HT40 PSD (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	36	5180	-0.020	0.201	4	Pass
	44	5220	-0.370	-0.149	4	Pass
	48	5240	-0.330	-0.109	4	Pass
NII Band 2	52	5260	-0.050	0.171	11	Pass
	60	5300	0.850	1.071	11	Pass
	64	5320	0.870	1.091	11	Pass
NII Band 3	100	5500	1.020	1.241	11	Pass
	116	5580	0.460	0.681	11	Pass
	140	5700	0.770	0.991	11	Pass

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

PSD Plot on 802.11n HT20 channel 36

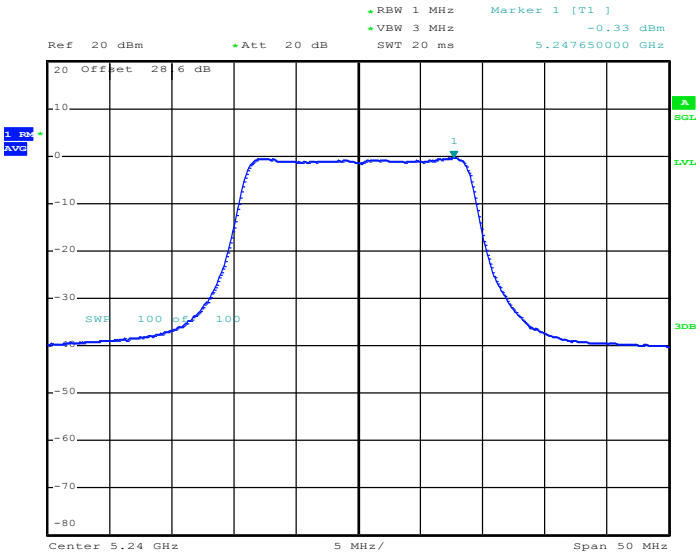


PSD Plot on 802.11n HT20 Channel 44



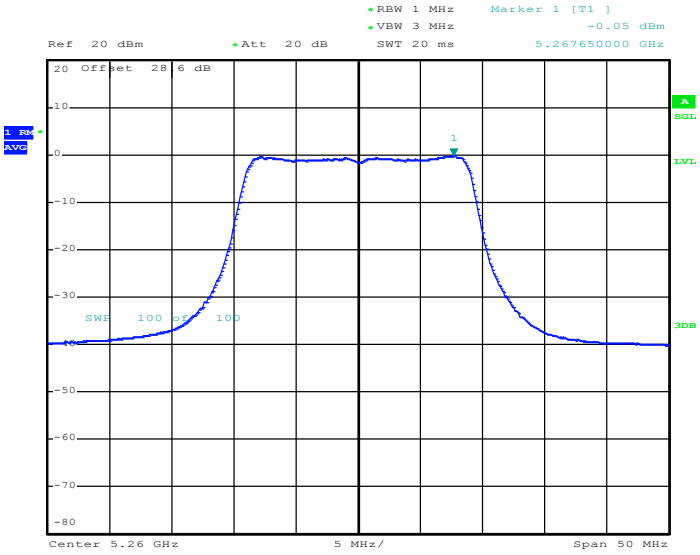
Date: 7.NOV.2012 23:43:26

PSD Plot on 802.11n HT20 Channel 48



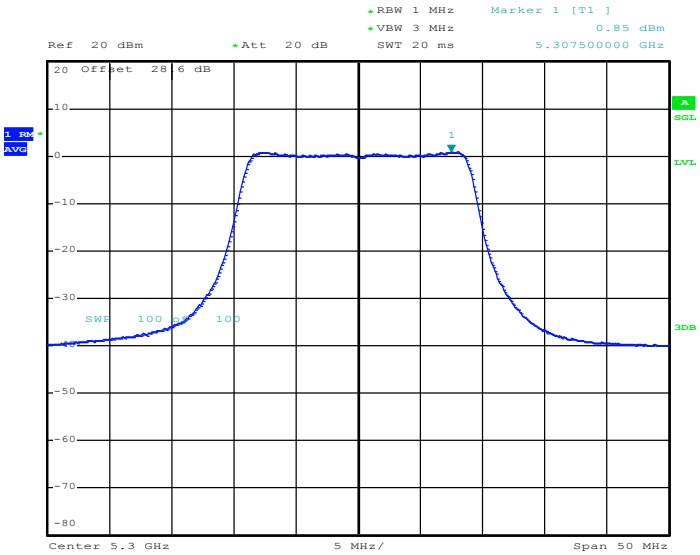
Date: 7.NOV.2012 23:41:42

PSD Plot on 802.11n HT20 Channel 52



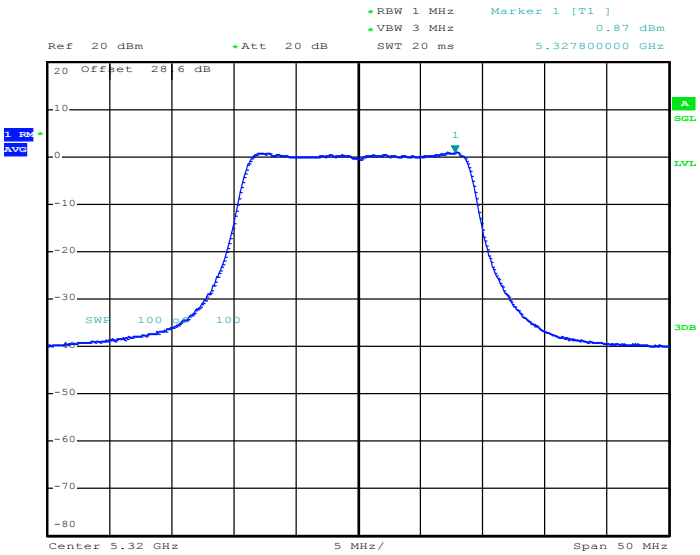
Date: 7.NOV.2012 23:39:25

PSD Plot on 802.11n HT20 Channel 60



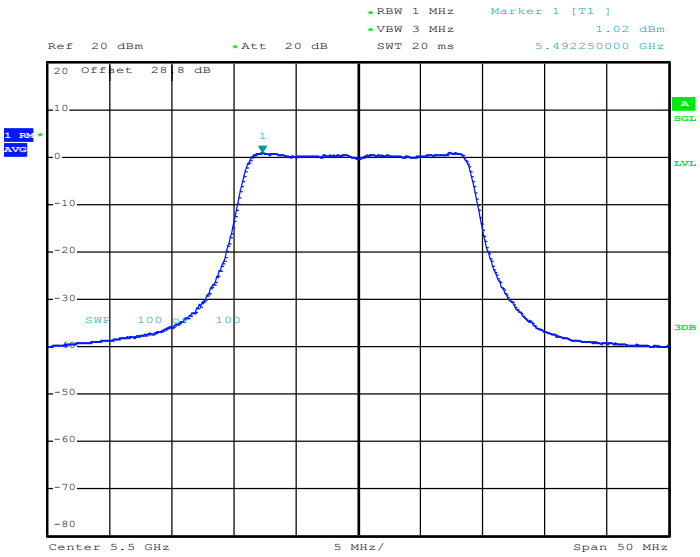
Date: 7.NOV.2012 23:36:58

PSD Plot on 802.11n HT20 Channel 64



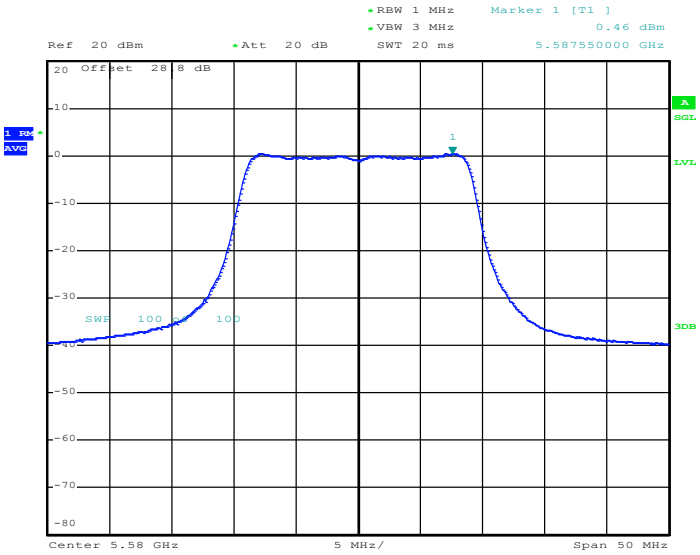
Date: 7.NOV.2012 23:35:13

PSD Plot on 802.11n HT20 Channel 100



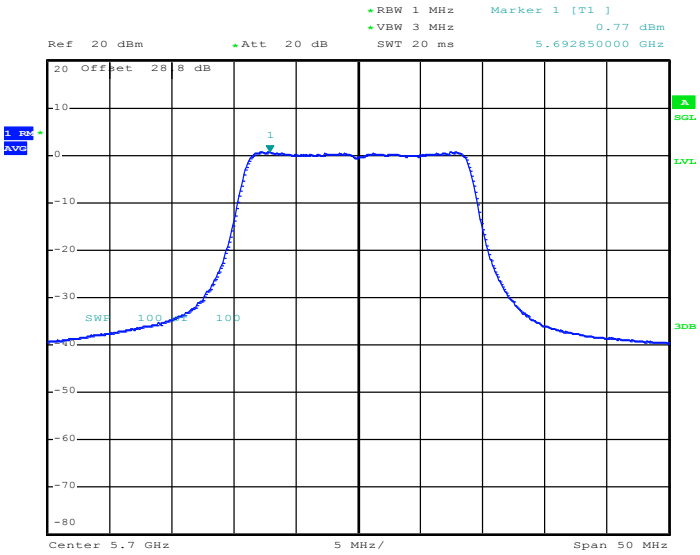
Date: 7.NOV.2012 23:33:09

PSD Plot on 802.11n HT20 Channel 116



Date: 7.NOV.2012 23:31:20

PSD Plot on 802.11n HT20 Channel 140



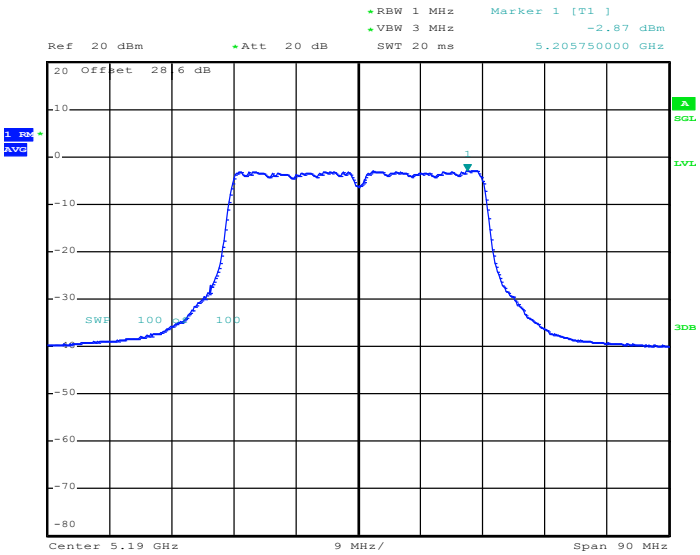
Date: 7.NOV.2012 23:29:35

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%
Duty Cycle:	87.14%	Duty Factor:	0.60dB

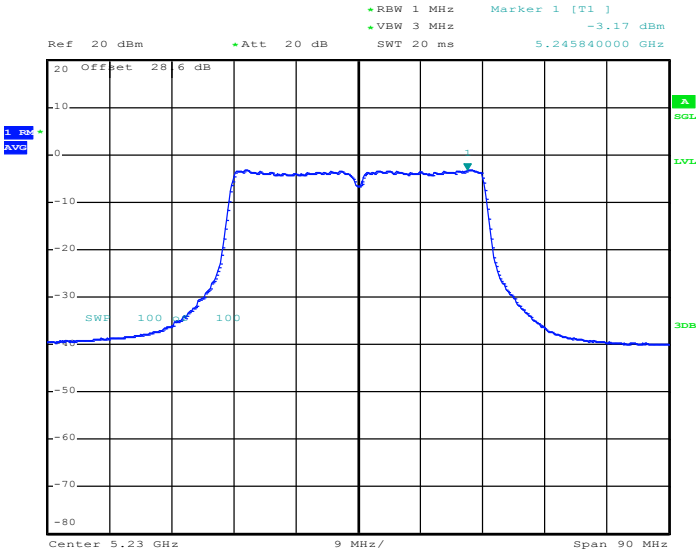
Band	Channel	Frequency (MHz)	802.11n HT40 PSD (dBm)		Max. Limits (dBm)	Pass/Fail
			Measured	Final		
NII Band 1	38	5190	-2.870	-2.272	4	Pass
	46	5230	-3.170	-2.572	4	Pass
NII Band 2	54	5270	-2.970	-2.372	11	Pass
	62	5310	-3.070	-2.472	11	Pass
NII Band 3	102	5510	-3.050	-2.452	11	Pass
	110	5550	-3.110	-2.512	11	Pass
	134	5670	-3.040	-2.442	11	Pass

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

PSD Plot on 802.11n HT40 Channel 38

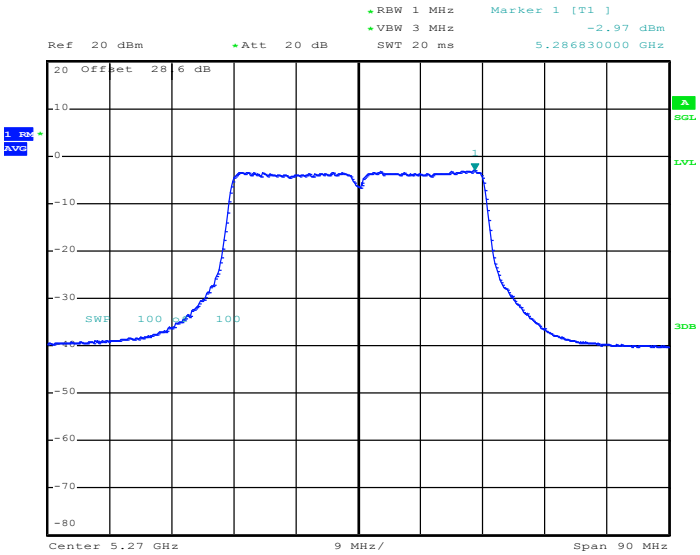


PSD Plot on 802.11n HT40 Channel 46



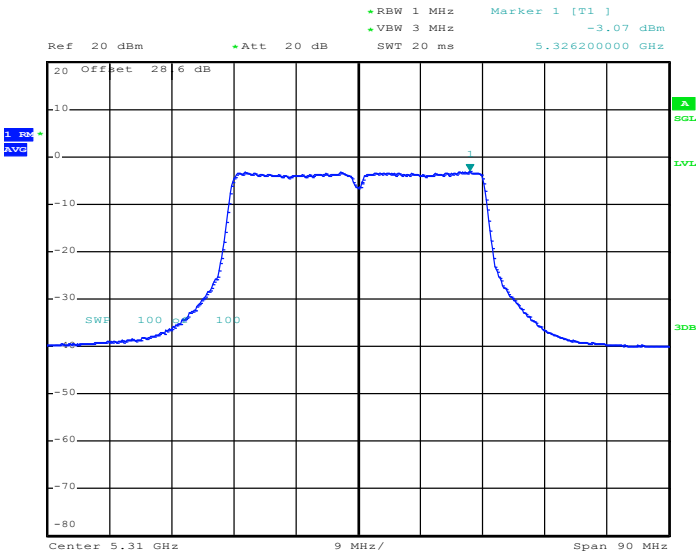
Date: 7.NOV.2012 23:49:44

PSD Plot on 802.11n HT40 Channel 54



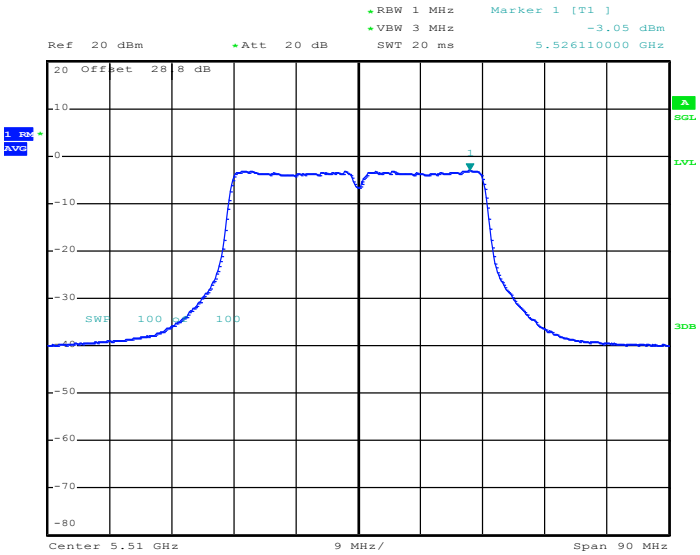
Date: 7.NOV.2012 23:51:48

PSD Plot on 802.11n HT40 Channel 62



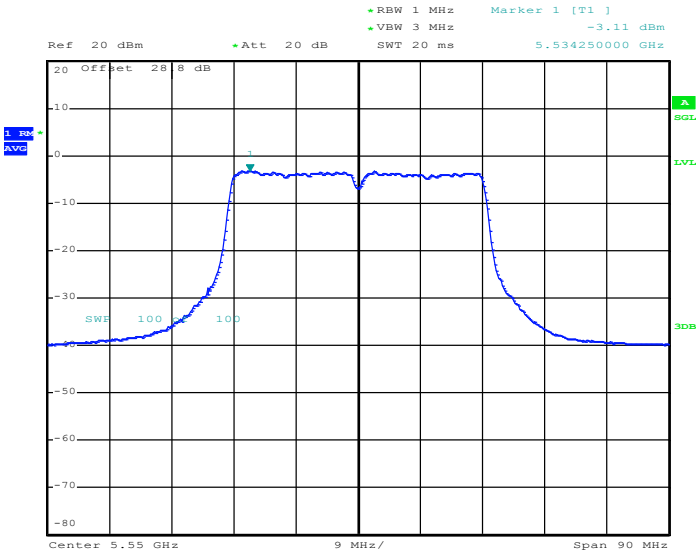
Date: 7.NOV.2012 23:53:50

PSD Plot on 802.11n HT40 Channel 102



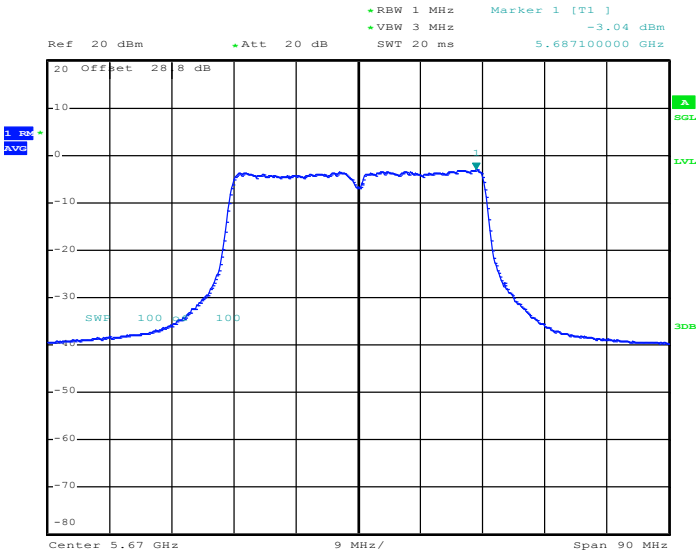
Date: 7.NOV.2012 23:55:53

PSD Plot on 802.11n HT40 Channel 110



Date: 7.NOV.2012 23:57:45

PSD Plot on 802.11n HT40 Channel 134



Date: 7.NOV.2012 23:59:39

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

T The testing follows FCC KDB 789033 D01 General UNII Test Procedures v01r02.

Section F) 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.

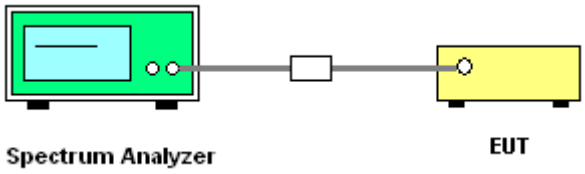
   *Detector = peak.

   *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.

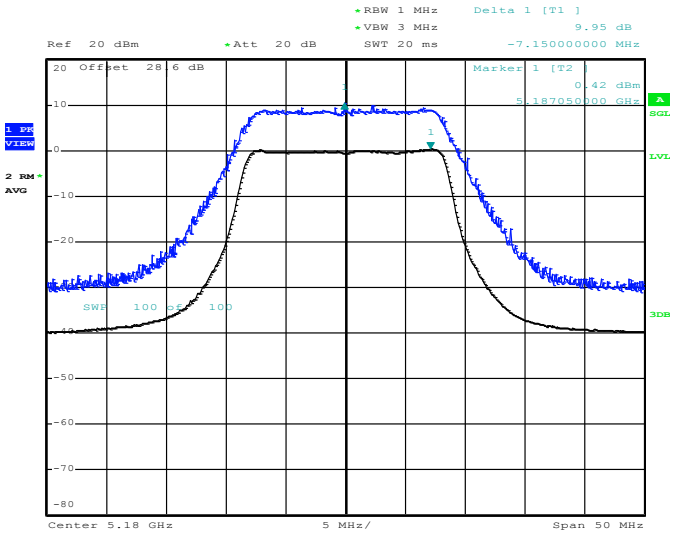
3.4.4 Test Setup



3.4.5 Test Result of Peak Excursion Ratio

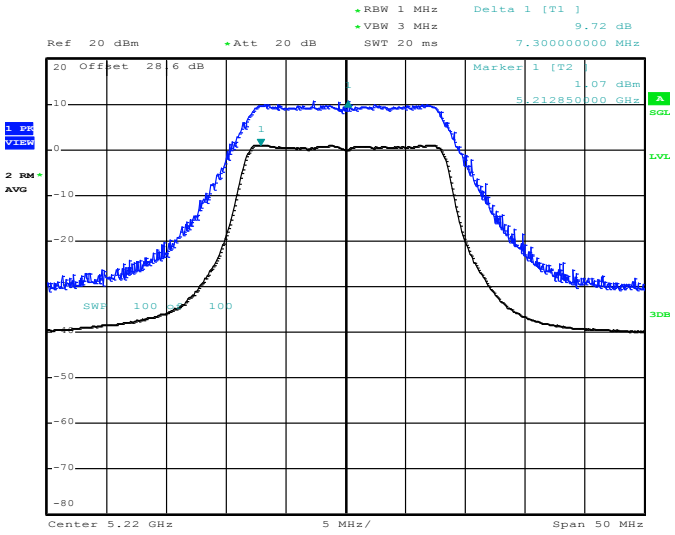
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11a Channel 36



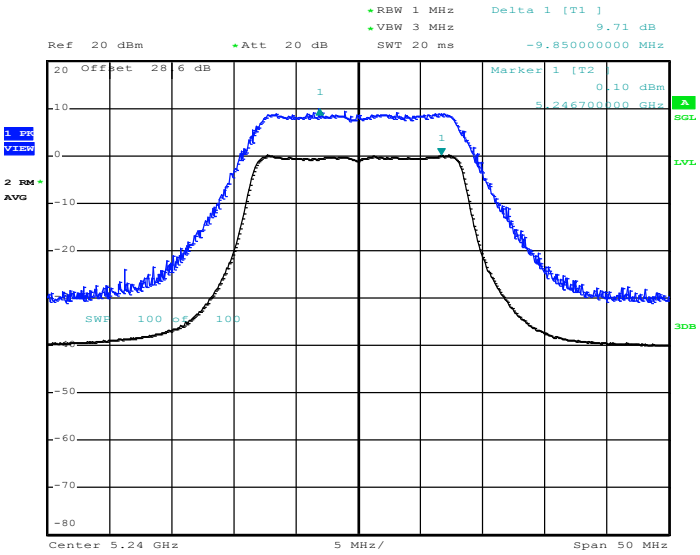
Date: 7.NOV.2012 23:10:15

Peak Excursion Ratio Plot on 802.11a Channel 44



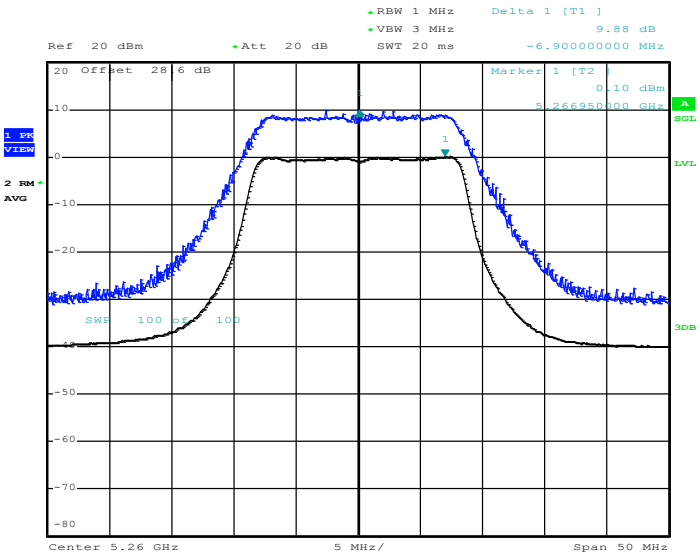
Date: 7.NOV.2012 23:12:29

Peak Excursion Ratio Plot on 802.11a Channel 48



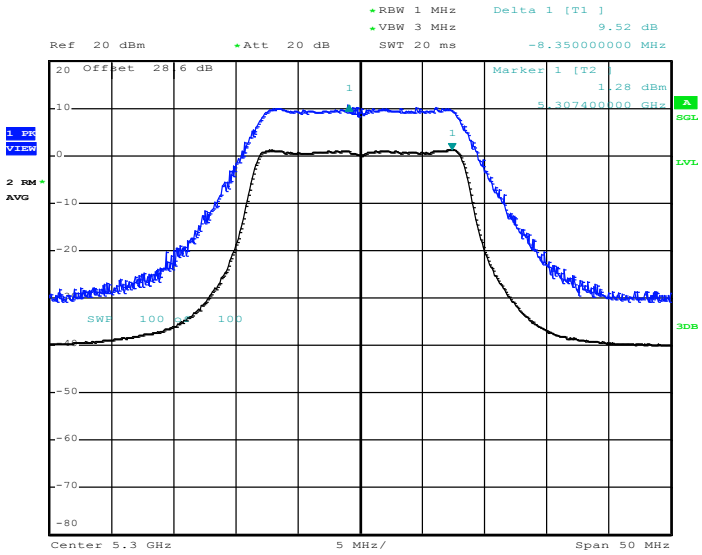
Date: 7.NOV.2012 23:14:39

Peak Excursion Ratio Plot on 802.11a Channel 52



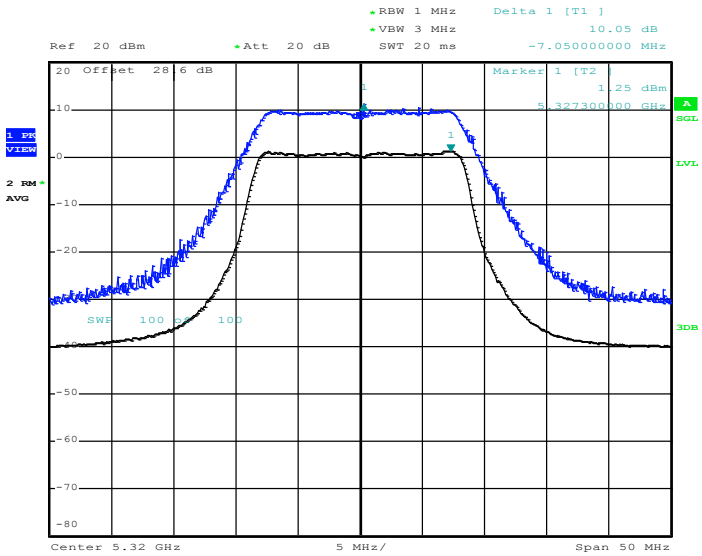
Date: 7.NOV.2012 23:16:30

Peak Excursion Ratio Plot on 802.11a Channel 60



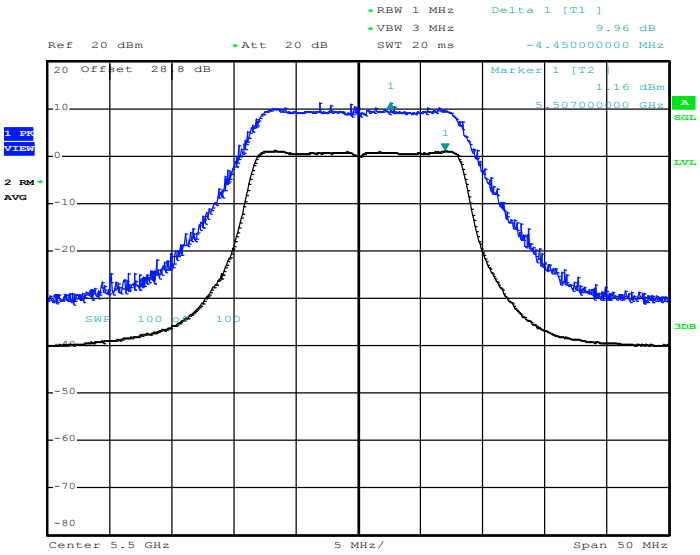
Date: 7.NOV.2012 23:18:35

Peak Excursion Ratio Plot on 802.11a Channel 64



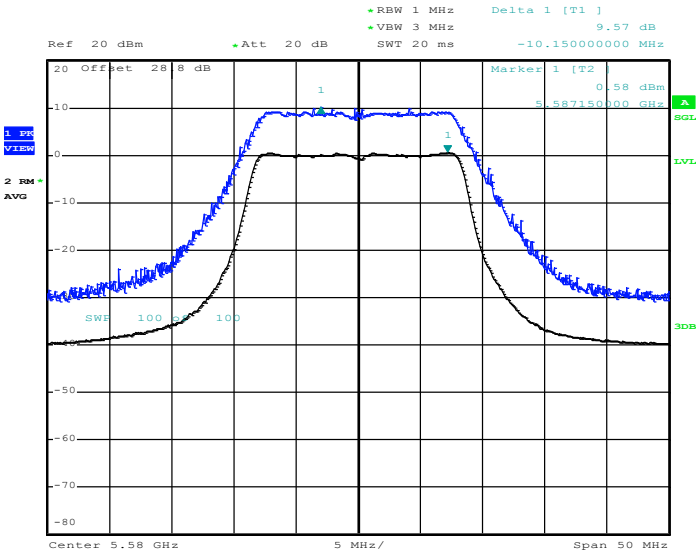
Date: 7.NOV.2012 23:20:15

Peak Excursion Ratio Plot on 802.11a Channel 100



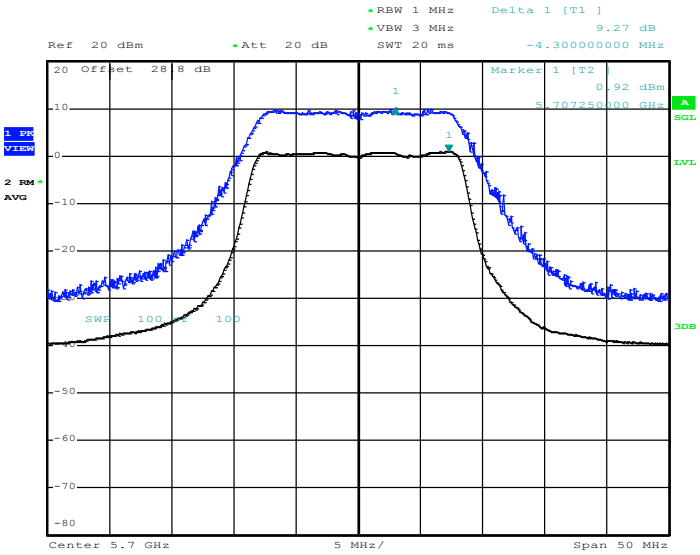
Date: 7.NOV.2012 23:23:29

Peak Excursion Ratio Plot on 802.11a Channel 116



Date: 7.NOV.2012 23:25:12

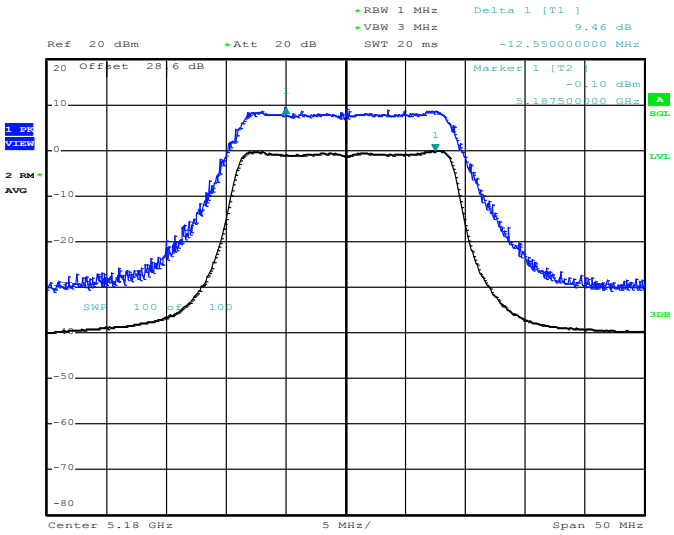
Peak Excursion Ratio Plot on 802.11a Channel 140



Date: 7.NOV.2012 23:28:02

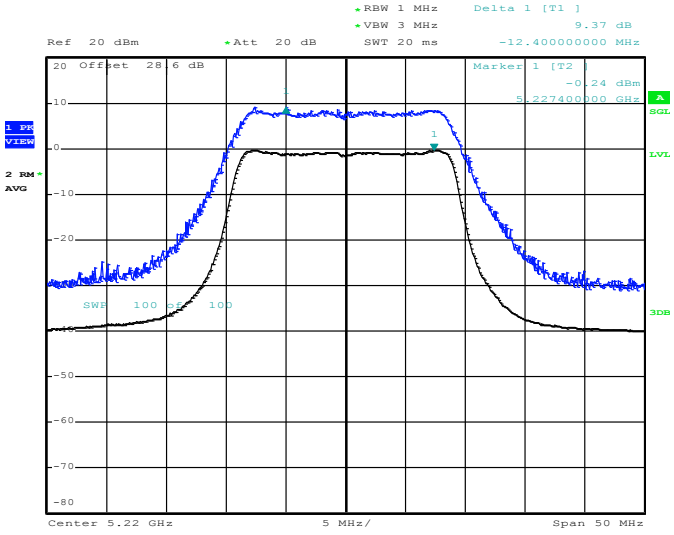
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36



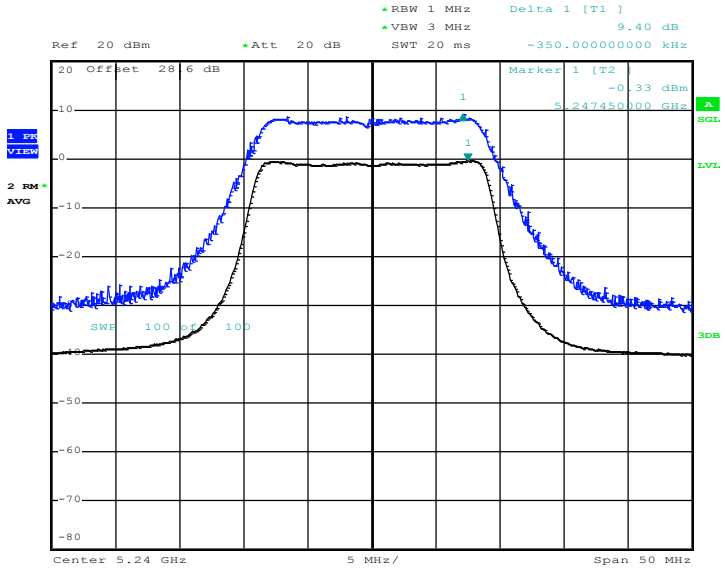
Date: 7.NOV.2012 23:45:54

Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



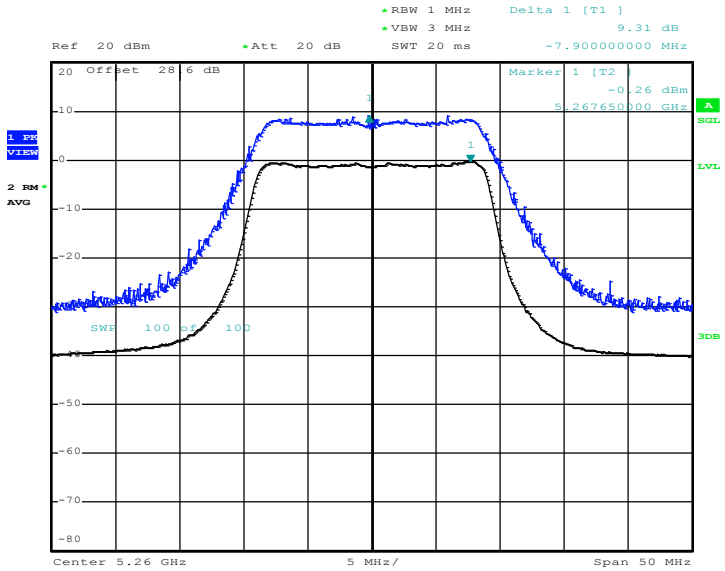
Date: 7.NOV.2012 23:43:43

Peak Excursion Ratio Plot on 802.11n HT20 Channel 48



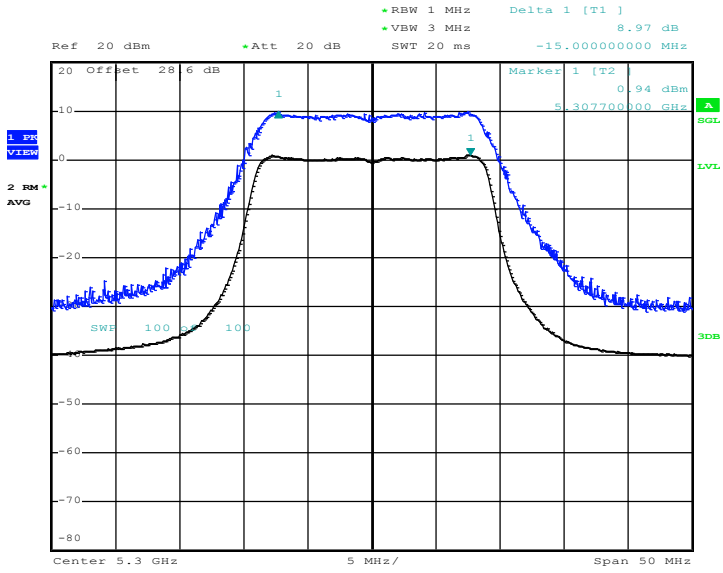
Date: 7.NOV.2012 23:42:00

Peak Excursion Ratio Plot on 802.11n HT20 Channel 52



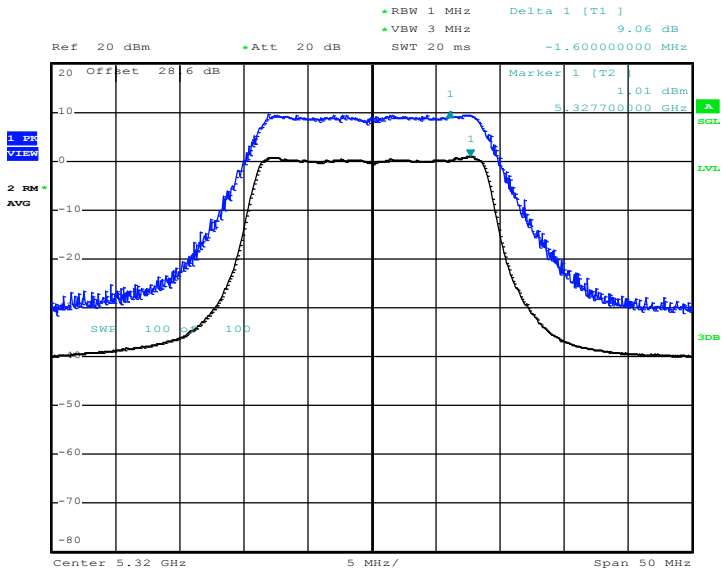
Date: 7.NOV.2012 23:39:43

Peak Excursion Ratio Plot on 802.11n HT20 Channel 60



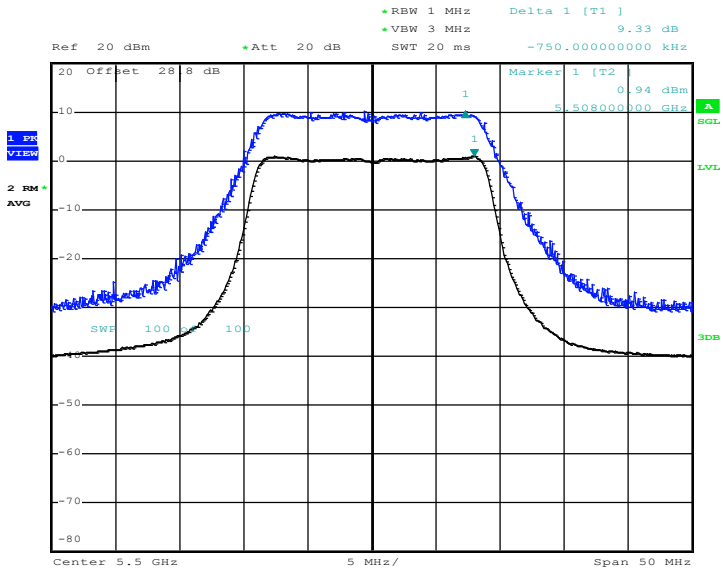
Date: 7.NOV.2012 23:37:15

Peak Excursion Ratio Plot on 802.11n HT20 Channel 64



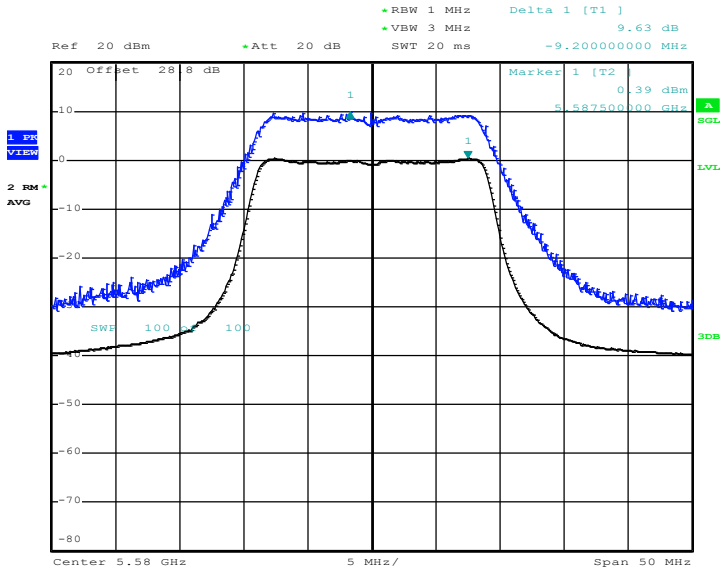
Date: 7.NOV.2012 23:35:30

Peak Excursion Ratio Plot on 802.11n HT20 Channel 100



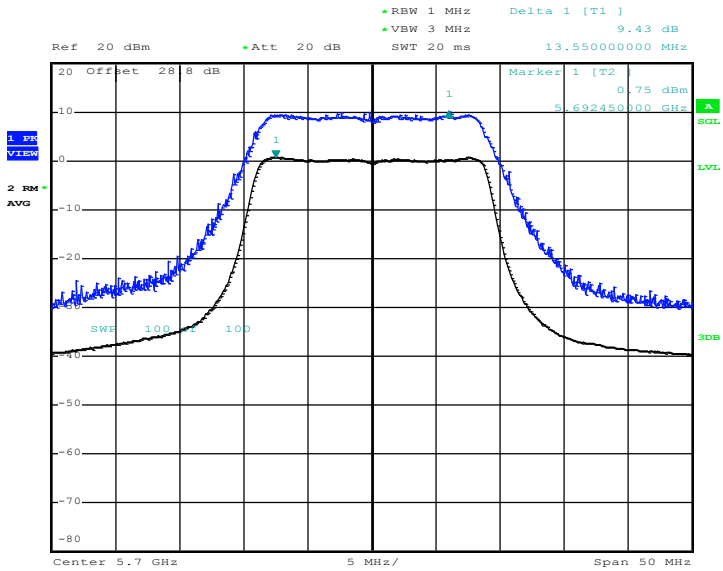
Date: 7.NOV.2012 23:33:26

Peak Excursion Ratio Plot on 802.11n HT20 Channel 116



Date: 7.NOV.2012 23:31:37

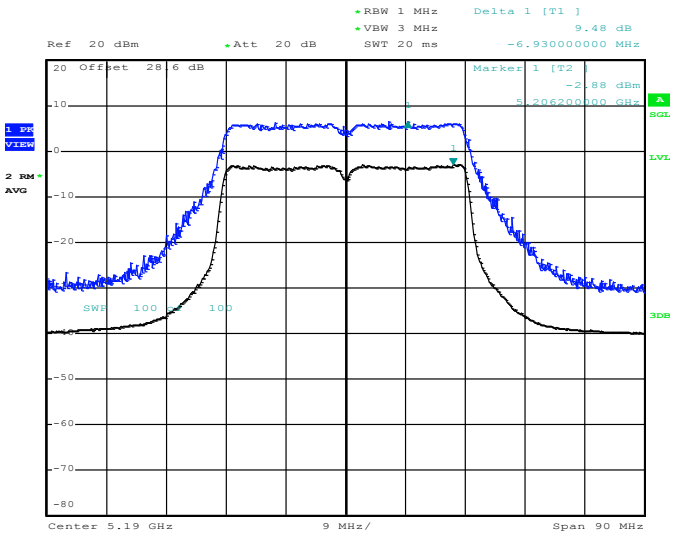
Peak Excursion Ratio Plot on 802.11n HT20 Channel 140



Date: 7.NOV.2012 23:29:53

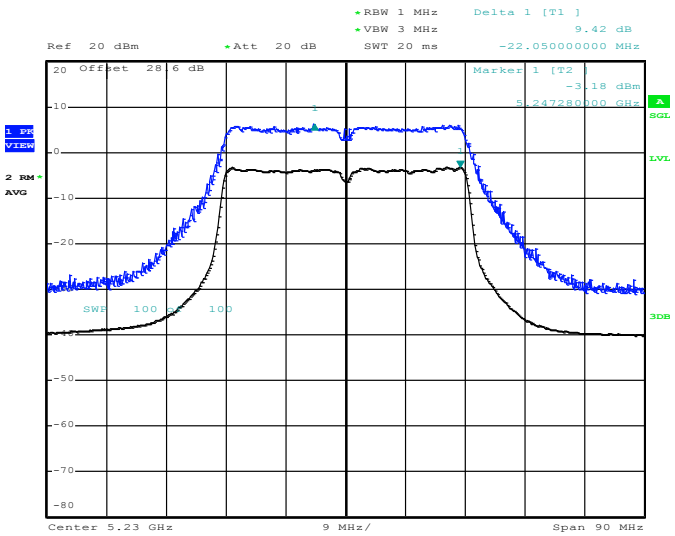
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Bill Kuo	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38



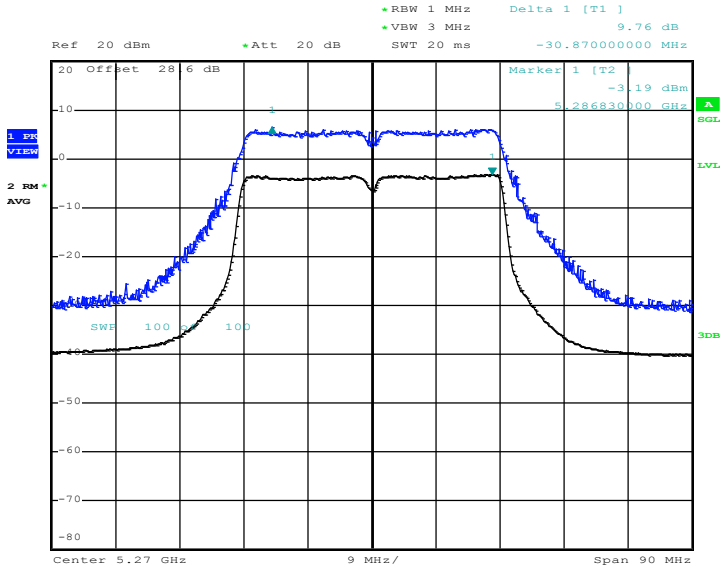
Date: 7.NOV.2012 23:47:52

Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



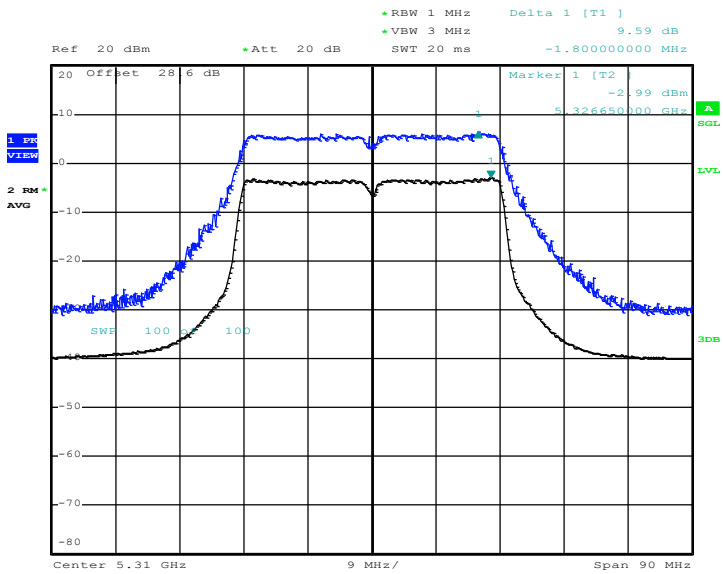
Date: 7.NOV.2012 23:50:04

Peak Excursion Ratio Plot on 802.11n HT40 Channel 54



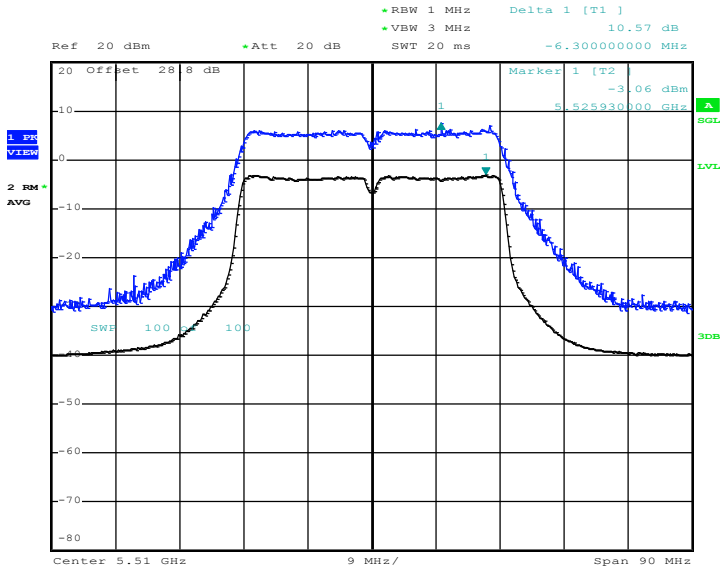
Date: 7.NOV.2012 23:52:07

Peak Excursion Ratio Plot on 802.11n HT40 Channel 62



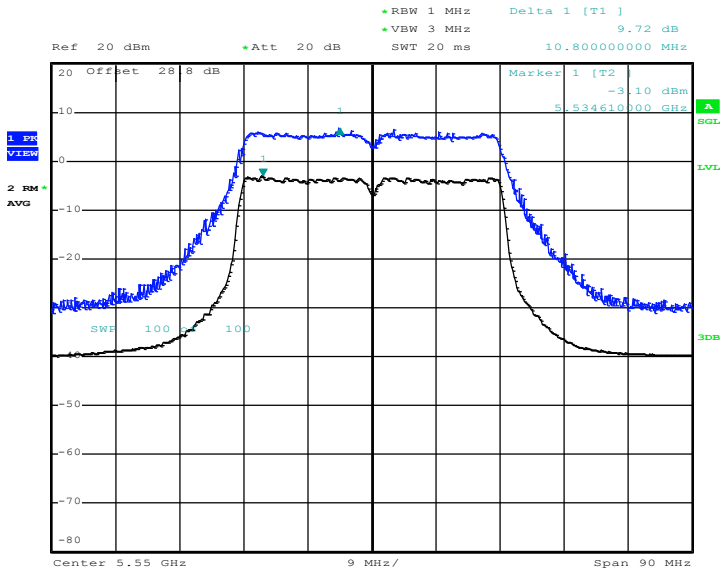
Date: 7.NOV.2012 23:54:11

Peak Excursion Ratio Plot on 802.11n HT40 Channel 102



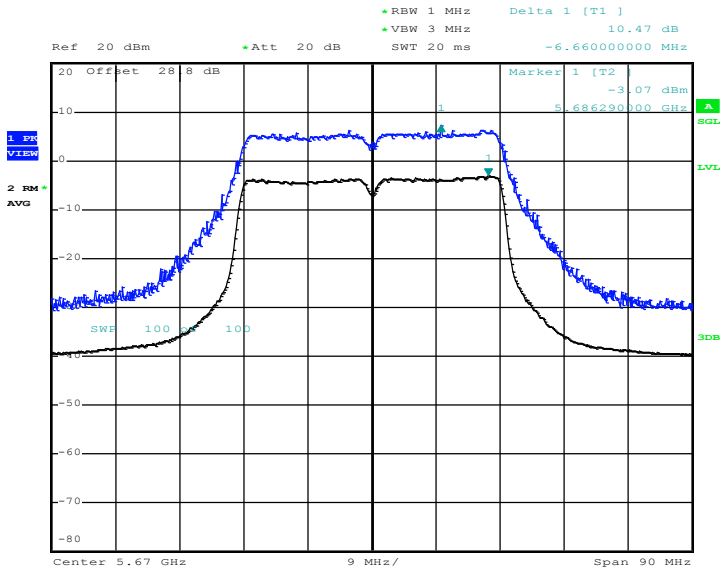
Date: 7.NOV.2012 23:56:11

Peak Excursion Ratio Plot on 802.11n HT40 Channel 110



Date: 7.NOV.2012 23:58:02

Peak Excursion Ratio Plot on 802.11n HT40 Channel 134



Date: 8.NOV.2012 00:00:00

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 5.15–5.25 GHz band: all emissions outside of the 5.15–5.35 GHz band shall not exceed an EIRP of –27dBm/MHz.

For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an EIRP of -27 dBm/MHz. Devices operating in the 5.25-5.35 GHz band that generate emissions in the 5.15-5.25 GHz band must meet all applicable technical requirements for operation in the 5.15-5.25 GHz band (including indoor use) or alternatively meet an out-of-band emission EIRP limit of -27 dBm/MHz in the 5.15-5.25 GHz band.

For transmitters operating in the 5.47-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz 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 (dBuV/m)
-17	78.3
- 27	68.3

3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

1. The testing follows the guidelines in fulfills ANSI C63.4-2003 and the guidelines in ANSI C63.10-2009 test site requirement and FCC KDB 789033 D01 General UNII Test Procedures v01r02.

   Section G) 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 G) 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

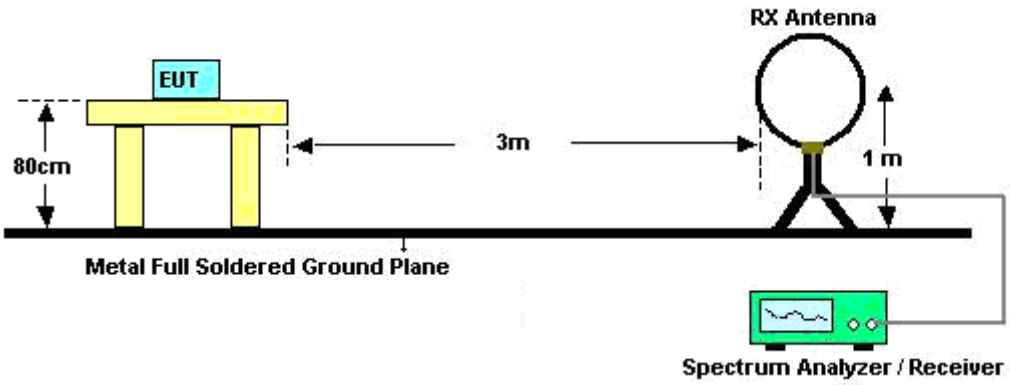
   - The setting follows G) 6) of FCC KDB 789033.
   - RBW = 1 MHz
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power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

Band	Duty Cycle (%)	T(us)	1/T(KHz)	VBW Setting
802.11a	95.38	2065	0.484	1kHz
802.11n HT20	95.05	1920	0.521	1kHz
802.11n HT40	87.14	664	1.506	3kHz

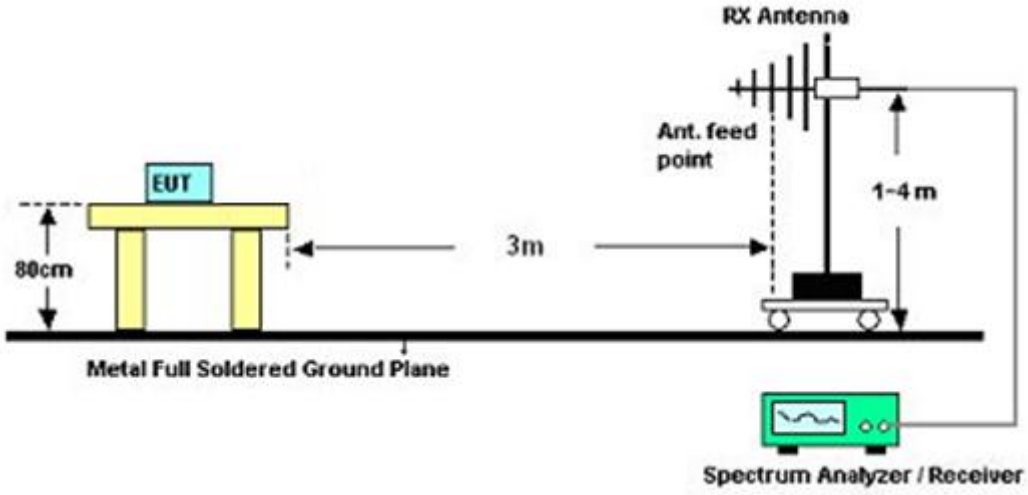
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters 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

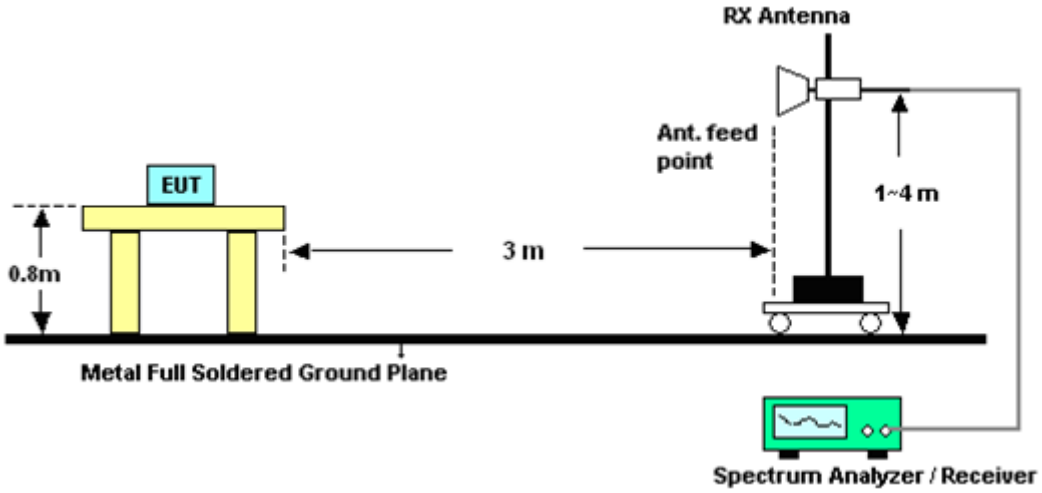
For radiated emissions below 30MHz



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

<Sample 1>

Test Mode :	802.11a	**Temperature :**	22~24°C
Test Channel :	36	**Relative Humidity :**	53~55%
Test Engineer :	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**
5146.7	53.27	-20.73	74	42.54	34.29	9.41	32.97	148	300	Peak
5146.1	41.49	-12.51	54	30.76	34.29	9.41	32.97	148	300	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**
5031.5	52.46	-21.54	74	42.26	33.99	9.21	33	101	247	Peak
5140.7	40.33	-13.67	54	29.6	34.29	9.41	32.97	101	247	Average

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	48	Relative Humidity :	53~55%
Test Engineer :	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
5082.95	52.69	-21.31	74	42.27	34.12	9.29	32.99	146	262	Peak
5005.85	40.08	-13.92	54	29.97	33.94	9.17	33	146	262	Average
5352.09	54.55	-19.45	74	42.93	34.81	9.74	32.93	146	262	Peak
5424.69	41.68	-12.32	54	29.76	34.98	9.86	32.92	146	262	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
5009.45	52.47	-21.53	74	42.36	33.94	9.17	33	101	243	Peak
5012.9	40.04	-13.96	54	29.93	33.94	9.17	33	101	243	Average
5386.96	54	-20	74	42.2	34.9	9.82	32.92	101	243	Peak
5372.22	41.53	-12.47	54	29.83	34.85	9.78	32.93	101	243	Average

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	52	Relative Humidity :	53~55%
Test Engineer :	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
5049.05	52.38	-21.62	74	42.09	34.03	9.25	32.99	131	259	Peak
5035.25	39.95	-14.05	54	29.75	33.99	9.21	33	131	259	Average
5439.1	54.49	-19.51	74	42.47	35.03	9.9	32.91	131	259	Peak
5360.23	41.66	-12.34	54	30	34.81	9.78	32.93	131	259	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
5033	52.17	-21.83	74	41.97	33.99	9.21	33	100	244	Peak
5048.45	39.85	-14.15	54	29.56	34.03	9.25	32.99	100	244	Average
5363.42	54.51	-19.49	74	42.81	34.85	9.78	32.93	100	244	Peak
5367.82	41.43	-12.57	54	29.73	34.85	9.78	32.93	100	244	Average

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	64	Relative Humidity :	53~55%
Test Engineer :	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
5357.15	55.84	-18.16	74	44.18	34.81	9.78	32.93	119	311	Peak
5354.95	43.04	-10.96	54	31.42	34.81	9.74	32.93	119	311	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
5369.03	54.66	-19.34	74	42.96	34.85	9.78	32.93	100	241	Peak
5356.16	42.38	-11.62	54	30.72	34.81	9.78	32.93	100	241	Average

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	100	Relative Humidity :	53~55%
Test Engineer :	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
5462.8	55.43	-18.57	74	43.29	35.11	9.94	32.91	124	301	Peak
5465.52	43.43	-10.57	54	31.29	35.11	9.94	32.91	124	301	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
5455.6	54.13	-19.87	74	42.03	35.07	9.94	32.91	144	281	Peak
5466.96	41.89	-12.11	54	29.75	35.11	9.94	32.91	144	281	Average

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	140	Relative Humidity :	53~55%
Test Engineer :	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
5738.2	54.98	-19.02	74	42.98	35.34	9.92	33.26	131	303	Peak
5740.04	42.8	-11.2	54	30.85	35.34	9.91	33.3	131	303	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5734.92	54.64	-19.36	74	42.64	35.34	9.92	33.26	101	240	Peak
5741.16	41.78	-12.22	54	29.83	35.34	9.91	33.3	101	240	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	36	Relative Humidity :	53~55%
Test Engineer :	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
5138.9	53.12	-20.88	74	42.48	34.25	9.37	32.98	149	308	Peak
5149.1	40.88	-13.12	54	30.15	34.29	9.41	32.97	149	308	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
5143.85	52.61	-21.39	74	41.88	34.29	9.41	32.97	100	244	Peak
5135.6	40.05	-13.95	54	29.41	34.25	9.37	32.98	100	244	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	48	Relative Humidity :	53~55%
Test Engineer :	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
5090.15	53.14	-20.86	74	42.68	34.16	9.29	32.99	131	302	Peak
5148.05	39.93	-14.07	54	29.2	34.29	9.41	32.97	131	302	Average
5369.03	54.41	-19.59	74	42.71	34.85	9.78	32.93	131	302	Peak
5458.57	42.05	-11.95	54	29.95	35.07	9.94	32.91	131	302	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
5135.75	53.17	-20.83	74	42.53	34.25	9.37	32.98	102	240	Peak
5007.05	39.9	-14.1	54	29.79	33.94	9.17	33	102	240	Average
5420.95	54.06	-19.94	74	42.14	34.98	9.86	32.92	102	240	Peak
5366.83	41.49	-12.51	54	29.79	34.85	9.78	32.93	102	240	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	52	Relative Humidity :	53~55%
Test Engineer :	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
5121.65	52.21	-21.79	74	41.62	34.2	9.37	32.98	145	301	Peak
5148.05	39.94	-14.06	54	29.21	34.29	9.41	32.97	145	301	Average
5361.55	54.69	-19.31	74	42.99	34.85	9.78	32.93	145	301	Peak
5358.69	41.81	-12.19	54	30.15	34.81	9.78	32.93	145	301	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
5116.85	52.62	-21.38	74	42.03	34.2	9.37	32.98	100	247	Peak
5022.2	39.92	-14.08	54	29.72	33.99	9.21	33	100	247	Average
5396.42	54.05	-19.95	74	42.21	34.94	9.82	32.92	100	247	Peak
5406.43	41.66	-12.34	54	29.78	34.94	9.86	32.92	100	247	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	64	Relative Humidity :	53~55%
Test Engineer :	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
5353.63	56.35	-17.65	74	44.73	34.81	9.74	32.93	118	302	Peak
5352.64	43.64	-10.36	54	32.02	34.81	9.74	32.93	118	302	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
5431.62	54.33	-19.67	74	42.31	35.03	9.9	32.91	100	283	Peak
5354.07	42.4	-11.6	54	30.78	34.81	9.74	32.93	100	283	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	100	Relative Humidity :	53~55%
Test Engineer :	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	55.78	-18.22	74	43.64	35.11	9.94	32.91	137	303	Peak
5467.28	43.59	-10.41	54	31.45	35.11	9.94	32.91	137	303	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5437.84	54.9	-19.1	74	42.88	35.03	9.9	32.91	108	205	Peak
5463.28	41.55	-12.45	54	29.41	35.11	9.94	32.91	108	205	Average

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	140	Relative Humidity :	53~55%
Test Engineer :	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
5728.6	55.41	-18.59	74	43.42	35.33	9.92	33.26	129	118	Peak
5725	43.1	-10.9	54	31.11	35.33	9.92	33.26	129	118	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
5733.4	54.35	-19.65	74	42.36	35.33	9.92	33.26	112	90	Peak
5725.16	41.68	-12.32	54	29.69	35.33	9.92	33.26	112	90	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	38	Relative Humidity :	53~55%
Test Engineer :	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
5149.4	56.85	-17.15	74	46.12	34.29	9.41	32.97	145	125	Peak
5149.1	43.82	-10.18	54	33.09	34.29	9.41	32.97	145	125	Average
5397.08	54.17	-19.83	74	42.33	34.94	9.82	32.92	145	125	Peak
5361.22	42.37	-11.63	54	30.67	34.85	9.78	32.93	145	125	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
5150	53.28	-20.72	74	42.55	34.29	9.41	32.97	101	62	Peak
5150	41.27	-12.73	54	30.54	34.29	9.41	32.97	101	62	Average
5398.84	54.29	-19.71	74	42.45	34.94	9.82	32.92	101	62	Peak
5425.79	42.13	-11.87	54	30.21	34.98	9.86	32.92	101	62	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	46	Relative Humidity :	53~55%
Test Engineer :	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
5142.8	52.8	-21.2	74	42.07	34.29	9.41	32.97	119	124	Peak
5148.05	40.79	-13.21	54	30.06	34.29	9.41	32.97	119	124	Average
5364.19	54.7	-19.3	74	43	34.85	9.78	32.93	119	124	Peak
5353.41	42.54	-11.46	54	30.92	34.81	9.74	32.93	119	124	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
5030.6	52.62	-21.38	74	42.42	33.99	9.21	33	100	99	Peak
5046.65	40.61	-13.39	54	30.32	34.03	9.25	32.99	100	99	Average
5427.99	54.61	-19.39	74	42.69	34.98	9.86	32.92	100	99	Peak
5435.36	42.23	-11.77	54	30.21	35.03	9.9	32.91	100	99	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	54	Relative Humidity :	53~55%
Test Engineer :	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
5052.05	52.16	-21.84	74	41.87	34.03	9.25	32.99	142	123	Peak
5022.65	40.65	-13.35	54	30.45	33.99	9.21	33	142	123	Average
5368.26	54.83	-19.17	74	43.13	34.85	9.78	32.93	142	123	Peak
5355.72	43.05	-10.95	54	31.43	34.81	9.74	32.93	142	123	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
5123	52.11	-21.89	74	41.47	34.25	9.37	32.98	100	110	Peak
5042.6	40.6	-13.4	54	30.36	34.03	9.21	33	100	110	Average
5424.58	55.4	-18.6	74	43.48	34.98	9.86	32.92	100	110	Peak
5351.76	42.02	-11.98	54	30.4	34.81	9.74	32.93	100	110	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	62	Relative Humidity :	53~55%
Test Engineer :	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
5015.6	53.71	-20.29	74	43.6	33.94	9.17	33	129	124	Peak
5002.7	40.47	-13.53	54	30.4	33.9	9.17	33	129	124	Average
5350.88	58.78	-15.22	74	47.16	34.81	9.74	32.93	129	124	Peak
5350.11	45.83	-8.17	54	34.21	34.81	9.74	32.93	129	124	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
5017.7	52.82	-21.18	74	42.71	33.94	9.17	33	100	54	Peak
5052.5	40.61	-13.39	54	30.32	34.03	9.25	32.99	100	54	Average
5406.54	54.41	-19.59	74	42.53	34.94	9.86	32.92	100	54	Peak
5350.22	42.6	-11.4	54	30.98	34.81	9.74	32.93	100	54	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	102	Relative Humidity :	53~55%
Test Engineer :	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
5469.84	62.35	-11.65	74	50.21	35.11	9.94	32.91	133	119	Peak
5469.36	45.9	-8.1	54	33.76	35.11	9.94	32.91	133	119	Average
5752.76	54.44	-19.56	74	42.47	35.36	9.91	33.3	133	119	Peak
5741.48	41.4	-12.6	54	29.45	35.34	9.91	33.3	133	119	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
5470	54.96	-19.04	74	42.82	35.11	9.94	32.91	123	347	Peak
5469.04	42.54	-11.46	54	30.4	35.11	9.94	32.91	123	347	Average
5728.2	53.63	-20.37	74	41.64	35.33	9.92	33.26	123	347	Peak
5725.48	41.23	-12.77	54	29.24	35.33	9.92	33.26	123	347	Average

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	134	Relative Humidity :	53~55%
Test Engineer :	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
5403.28	53.89	-20.11	74	42.05	34.94	9.82	32.92	143	116	Peak
5433.52	41.94	-12.06	54	29.92	35.03	9.9	32.91	143	116	Average
5761	54.6	-19.4	74	42.63	35.36	9.91	33.3	143	116	Peak
5726.12	42.54	-11.46	54	30.55	35.33	9.92	33.26	143	116	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
5407.6	53.95	-20.05	74	42.07	34.94	9.86	32.92	101	74	Peak
5433.2	41.9	-12.1	54	29.88	35.03	9.9	32.91	101	74	Average
5729.88	54.47	-19.53	74	42.48	35.33	9.92	33.26	101	74	Peak
5726.68	42.05	-11.95	54	30.06	35.33	9.92	33.26	101	74	Average

<Sample 2>

Test Mode :	802.11n HT40	**Temperature :**	22~24°C
Test Channel :	102	**Relative Humidity :**	53~55%
Test Engineer :	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**
5467.12	60.78	-13.22	74	48.8	35.11	9.78	32.91	148	303	Peak
5470	47.66	-6.34	54	35.68	35.11	9.78	32.91	148	303	Average
5731.88	55.02	-18.98	74	42.91	35.33	10.04	33.26	148	303	Peak
5743.32	42.98	-11.02	54	30.88	35.34	10.06	33.3	148	303	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	**Level (dBµV/m)**	**Over Limit (dB)**	**Limit Line (dBµV/m)**	**Read Level (dBµV)**	**Antenna Factor (dB)**	**Cable Loss (dB)**	**Preamp Factor (dB)**	**Ant Pos (cm)**	**Table Pos (deg)**	**Remark**
5468.24	57.16	-16.84	74	45.18	35.11	9.78	32.91	109	280	Peak
5469.04	44.87	-9.13	54	32.89	35.11	9.78	32.91	109	280	Average
5728.6	54.81	-19.19	74	42.7	35.33	10.04	33.26	109	280	Peak
5762.04	42.99	-11.01	54	30.87	35.36	10.06	33.3	109	280	Average

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

<Sample 1>

Test Mode :	802.11a	**Temperature :**	22~24°C
Test Channel :	36	**Relative Humidity :**	53~55%
Test Engineer :	Marlboro Hsu	**Polarization :**	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored.. 2. 3452MHz and 10359 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3452	44.21	-29.79	74	60.86	32.71	7.71	57.07	100	0	Peak
5180	89.09	-	-	78.23	34.38	9.45	32.97	148	300	Average
5180	99.37	-	-	88.51	34.38	9.45	32.97	148	300	Peak
10359	41.66	-32.34	74	51.62	37.29	11.31	58.56	100	0	Peak

Test Mode :	802.11a	**Temperature :**	22~24°C
Test Channel :	36	**Relative Humidity :**	53~55%
Test Engineer :	Marlboro Hsu	**Polarization :**	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 3454MHz and 10359 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3454	43.7	-30.3	74	60.35	32.71	7.71	57.07	100	0	Peak
5180	84.61	-	-	73.75	34.38	9.45	32.97	101	247	Average
5180	95.12	-	-	84.26	34.38	9.45	32.97	101	247	Peak
10359	41.99	-32.01	74	51.95	37.29	11.31	58.56	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	44	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 3480MHz and 10440 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3480	44.99	-29.01	74	61.63	32.7	7.76	57.1	100	0	Peak
5220	90.92	-	-	79.89	34.46	9.53	32.96	146	305	Average
5220	101.18	-	-	90.15	34.46	9.53	32.96	146	305	Peak
10440	40.94	-33.06	74	51	37.35	11.21	58.62	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	44	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 3480MHz and 10440 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3480	44.44	-29.56	74	61.08	32.7	7.76	57.1	100	0	Peak
5220	86.89	-	-	75.86	34.46	9.53	32.96	101	276	Average
5220	96.84	-	-	85.81	34.46	9.53	32.96	101	276	Peak
10440	40.4	-33.6	74	50.46	37.35	11.21	58.62	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	48	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. 3494MHz and 10479 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3494	45.17	-28.83	74	61.78	32.7	7.81	57.12	100	0	Peak
5240	86.43	-	-	75.3	34.51	9.57	32.95	146	262	Average
5240	96.63	-	-	85.5	34.51	9.57	32.95	146	262	Peak
10479	40.24	-33.76	74	50.37	37.39	11.14	58.66	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	48	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. 3494MHz and 10479 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3494	44.73	-29.27	74	61.34	32.7	7.81	57.12	100	0	Peak
5240	85.61	-	-	74.48	34.51	9.57	32.95	101	243	Average
5240	95.75	-	-	84.62	34.51	9.57	32.95	101	243	Peak
10479	40.75	-33.25	74	50.88	37.39	11.14	58.66	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	52	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 3506MHz and 10521 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3506	45.82	-28.18	74	62.43	32.7	7.81	57.12	100	0	Peak
5260	86.18	-	-	74.92	34.59	9.62	32.95	131	259	Average
5260	96.28	-	-	85.02	34.59	9.62	32.95	131	259	Peak
10521	41.46	-32.54	74	51.5	37.42	11.21	58.67	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	52	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 3506MHz and 10521 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3506	44.87	-29.13	74	61.48	32.7	7.81	57.12	100	0	Peak
5260	84.71	-	-	73.45	34.59	9.62	32.95	100	244	Average
5260	94.84	-	-	83.58	34.59	9.62	32.95	100	244	Peak
10521	42.08	-31.92	74	52.12	37.42	11.21	58.67	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	60	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. 3534MHz and 10599 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3534	45.97	-28.03	74	62.48	32.71	7.93	57.15	100	0	Peak
5300	92.43	-	-	81.03	34.68	9.66	32.94	143	301	Average
5300	102.58	-	-	91.18	34.68	9.66	32.94	143	301	Peak
10599	40.26	-33.74	74	49.89	37.5	11.51	58.64	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	60	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. 3534MHz and 10599 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3534	43.95	-30.05	74	60.46	32.71	7.93	57.15	100	0	Peak
5300	87.67	-	-	76.27	34.68	9.66	32.94	100	276	Average
5300	97.91	-	-	86.51	34.68	9.66	32.94	100	276	Peak
10599	40.26	-33.74	74	49.89	37.5	11.51	58.64	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	64	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. 3546MHz 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
3546	46.43	-27.57	74	62.95	32.72	7.93	57.17	100	0	Peak
5320	90.9	-	-	79.42	34.72	9.7	32.94	119	311	Average
5320	101.16	-	-	89.68	34.72	9.7	32.94	119	311	Peak
10641	40.87	-33.13	74	50.25	37.54	11.71	58.63	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	64	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. 3546MHz 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
3546	45.69	-28.31	74	62.21	32.72	7.93	57.17	100	0	Peak
5320	88.01	-	-	76.53	34.72	9.7	32.94	100	241	Average
5320	98.33	-	-	86.85	34.72	9.7	32.94	100	241	Peak
10641	41.45	-32.55	74	50.83	37.54	11.71	58.63	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	100	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5500 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
3666	46.4	-27.6	74	62.7	32.77	8.21	57.28	100	0	Peak
5500	91.87	-	-	79.55	35.2	10.02	32.9	124	301	Average
5500	102.45	-	-	90.13	35.2	10.02	32.9	124	301	Peak
11001	42.08	-31.92	74	49.5	37.9	13.22	58.54	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	100	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5500 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
3668	42.29	-31.71	74	58.59	32.77	8.21	57.28	100	0	Peak
5500	85.65	-	-	73.33	35.2	10.02	32.9	144	281	Average
5500	96.53	-	-	84.21	35.2	10.02	32.9	144	281	Peak
11001	41.7	-32.3	74	49.12	37.9	13.22	58.54	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	116	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5580 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
3720	46.06	-27.94	74	62.26	32.79	8.33	57.32	100	0	Peak
5580	91.73	-	-	79.52	35.24	9.99	33.02	122	301	Average
5580	101.8	-	-	89.59	35.24	9.99	33.02	122	301	Peak
11160	43.21	-30.79	74	50.48	38.07	13.2	58.54	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	116	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5580 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
3720	43.37	-30.63	74	59.57	32.79	8.33	57.32	100	0	Peak
5580	83.21	-	-	71	35.24	9.99	33.02	125	125	Average
5580	93.35	-	-	81.14	35.24	9.99	33.02	125	125	Peak
11160	42.37	-31.63	74	49.64	38.07	13.2	58.54	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	140	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
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
3800	47.65	-26.35	74	63.67	32.82	8.56	57.4	100	0	Peak
5700	90.39	-	-	78.37	35.31	9.93	33.22	131	303	Average
5700	100.33	-	-	88.31	35.31	9.93	33.22	131	303	Peak
11400	43.11	-30.89	74	50.19	38.3	13.16	58.54	100	0	Peak

Test Mode :	802.11a	Temperature :	22~24°C
Test Channel :	140	Relative Humidity :	53~55%
Test Engineer :	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
3800	41.93	-32.07	74	57.95	32.82	8.56	57.4	100	0	Peak
5700	86.33	-	-	74.31	35.31	9.93	33.22	101	240	Average
5700	96.05	-	-	84.03	35.31	9.93	33.22	101	240	Peak
11400	42.91	-31.09	74	49.99	38.3	13.16	58.54	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	36	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 3454MHz and 10359 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3454	42.95	-31.05	74	59.6	32.71	7.71	57.07	100	0	Peak
5180	87.82	-	-	76.96	34.38	9.45	32.97	149	308	Average
5180	98.11	-	-	87.25	34.38	9.45	32.97	149	308	Peak
10359	40.6	-33.4	74	50.56	37.29	11.31	58.56	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	36	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. 3454MHz and 10359 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3452	44.06	-29.94	74	60.71	32.71	7.71	57.07	100	0	Peak
5180	83.1	-	-	72.24	34.38	9.45	32.97	100	244	Average
5180	93.06	-	-	82.2	34.38	9.45	32.97	100	244	Peak
10359	40.73	-33.27	74	50.69	37.29	11.31	58.56	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	44	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 3480MHz and 10440 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3480	45.07	-28.93	74	61.71	32.7	7.76	57.1	100	0	Peak
5220	89.57	-	-	78.54	34.46	9.53	32.96	146	309	Average
5220	99.52	-	-	88.49	34.46	9.53	32.96	146	309	Peak
10440	40.75	-33.25	74	50.81	37.35	11.21	58.62	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	44	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. 3480MHz and 10440 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3480	45.14	-28.86	74	61.78	32.7	7.76	57.1	100	0	Peak
5220	85.24	-	-	74.21	34.46	9.53	32.96	100	244	Average
5220	94.73	-	-	83.7	34.46	9.53	32.96	100	244	Peak
10440	40.74	-33.26	74	50.8	37.35	11.21	58.62	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	48	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. 3492MHz and 10479 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3492	44.85	-29.15	74	61.46	32.7	7.81	57.12	100	0	Peak
5240	88.97	-	-	77.84	34.51	9.57	32.95	131	302	Average
5240	99.08	-	-	87.95	34.51	9.57	32.95	131	302	Peak
10479	40.36	-33.64	74	50.49	37.39	11.14	58.66	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	48	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. 3494MHz and 10479 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3494	43.9	-30.1	74	60.51	32.7	7.81	57.12	100	0	Peak
5240	85.02	-	-	73.89	34.51	9.57	32.95	102	240	Average
5240	95.05	-	-	83.92	34.51	9.57	32.95	102	240	Peak
10479	40.56	-33.44	74	50.69	37.39	11.14	58.66	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	52	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 3506MHz and 10521 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3506	46.99	-27.01	74	63.6	32.7	7.81	57.12	100	0	Peak
5260	89.16	-	-	77.9	34.59	9.62	32.95	145	301	Average
5260	99.93	-	-	88.67	34.59	9.62	32.95	145	301	Peak
10521	41.65	-32.35	74	51.69	37.42	11.21	58.67	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	52	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. 3506MHz and 10521 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3506	44.87	-29.13	74	61.48	32.7	7.81	57.12	100	0	Peak
5260	85.48	-	-	74.22	34.59	9.62	32.95	100	247	Average
5260	95.5	-	-	84.24	34.59	9.62	32.95	100	247	Peak
10521	41.2	-32.8	74	51.24	37.42	11.21	58.67	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	60	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. 3534MHz and 10599 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3534	46.83	-27.17	74	63.34	32.71	7.93	57.15	100	0	Peak
5300	91.88	-	-	80.48	34.68	9.66	32.94	117	306	Average
5300	101.82	-	-	90.42	34.68	9.66	32.94	117	306	Peak
10599	40.1	-33.9	74	49.73	37.5	11.51	58.64	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	60	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. 3532MHz and 10599 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3532	43.27	-30.73	74	59.78	32.71	7.93	57.15	100	0	Peak
5300	87.46	-	-	76.06	34.68	9.66	32.94	110	245	Average
5300	97.6	-	-	86.2	34.68	9.66	32.94	110	245	Peak
10599	40.33	-33.67	74	49.96	37.5	11.51	58.64	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	64	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. 3546MHz 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
3546	46.99	-27.01	74	63.51	32.72	7.93	57.17	100	0	Peak
5320	91.53	-	-	80.05	34.72	9.7	32.94	118	302	Average
5320	101.95	-	-	90.47	34.72	9.7	32.94	118	302	Peak
10641	41.38	-32.62	74	50.76	37.54	11.71	58.63	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	64	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. 3546MHz 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
3546	45.29	-28.71	74	61.81	32.72	7.93	57.17	100	0	Peak
5320	87.72	-	-	76.24	34.72	9.7	32.94	100	283	Average
5320	97.82	-	-	86.34	34.72	9.7	32.94	100	283	Peak
10641	41.22	-32.78	74	50.6	37.54	11.71	58.63	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	100	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5500 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
3666	46.62	-27.38	74	62.92	32.77	8.21	57.28	100	0	Peak
5500	91.73	-	-	79.41	35.2	10.02	32.9	137	303	Average
5500	102.38	-	-	90.06	35.2	10.02	32.9	137	303	Peak
11001	41.46	-32.54	74	48.88	37.9	13.22	58.54	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	100	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5500 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
3666	42.42	-31.58	74	58.72	32.77	8.21	57.28	100	0	Peak
5500	82.81	-	-	70.49	35.2	10.02	32.9	108	205	Average
5500	92.95	-	-	80.63	35.2	10.02	32.9	108	205	Peak
11001	41.63	-32.37	74	49.05	37.9	13.22	58.54	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	116	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5580 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
3720	45.9	-28.1	74	62.1	32.79	8.33	57.32	100	0	Peak
5580	92.01	-	-	79.8	35.24	9.99	33.02	146	117	Average
5580	102.32	-	-	90.11	35.24	9.99	33.02	146	117	Peak
11160	42.08	-31.92	74	49.35	38.07	13.2	58.54	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	116	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5580 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
3720	43.27	-30.73	74	59.47	32.79	8.33	57.32	100	0	Peak
5580	85.51	-	-	73.3	35.24	9.99	33.02	108	347	Average
5580	96	-	-	83.79	35.24	9.99	33.02	108	347	Peak
11160	42.07	-31.93	74	49.34	38.07	13.2	58.54	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	140	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
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
3800	46.49	-27.51	74	62.51	32.82	8.56	57.4	100	0	Peak
5700	91.38	-	-	79.36	35.31	9.93	33.22	129	118	Average
5700	101.73	-	-	89.7	35.32	9.93	33.22	129	118	Peak
11400	42.3	-31.7	74	49.38	38.3	13.16	58.54	100	0	Peak

Test Mode :	802.11n HT20	Temperature :	22~24°C
Test Channel :	140	Relative Humidity :	53~55%
Test Engineer :	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
3800	41.97	-32.03	74	57.99	32.82	8.56	57.4	100	0	Peak
5700	96.34	-	-	84.32	35.31	9.93	33.22	112	90	Average
5700	96.3	-	-	84.28	35.31	9.93	33.22	112	90	Peak
11400	42.08	-31.92	74	49.16	38.3	13.16	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	38	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5190 MHz is fundamental signal which can be ignored. 2. 3460MHz and 10380 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3460	43.24	-30.76	74	59.9	32.71	7.71	57.08	100	0	Peak
5190	86.92	-	-	76.01	34.38	9.49	32.96	145	125	Average
5190	97.49	-	-	86.58	34.38	9.49	32.96	145	125	Peak
10380	41.38	-32.62	74	51.37	37.31	11.27	58.57	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	38	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5190 MHz is fundamental signal which can be ignored. 2. 3460MHz and 10380 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3460	44.05	-29.95	74	60.71	32.71	7.71	57.08	100	0	Peak
5190	80.76	-	-	69.85	34.38	9.49	32.96	101	62	Average
5190	90.47	-	-	79.56	34.38	9.49	32.96	101	62	Peak
10380	41.37	-32.63	74	51.36	37.31	11.27	58.57	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	46	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5230 MHz is fundamental signal which can be ignored. 2. 3486MHz and 10461 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3486	45.47	-28.53	74	62.06	32.7	7.81	57.1	100	0	Peak
5230	87.65	-	-	76.57	34.51	9.53	32.96	119	124	Average
5230	97.81	-	-	86.73	34.51	9.53	32.96	119	124	Peak
10461	41.06	-32.94	74	51.15	37.37	11.18	58.64	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	46	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5230 MHz is fundamental signal which can be ignored. 2. 3486MHz and 10461 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3486	44.04	-29.96	74	60.63	32.7	7.81	57.1	100	0	Peak
5230	80.63	-	-	69.55	34.51	9.53	32.96	100	99	Average
5230	90.23	-	-	79.15	34.51	9.53	32.96	100	99	Peak
10461	41.19	-32.81	74	51.28	37.37	11.18	58.64	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	54	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. 3514MHz and 10539 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3514	46.76	-27.24	74	63.32	32.71	7.87	57.14	100	0	Peak
5270	87.96	-	-	76.7	34.59	9.62	32.95	142	123	Average
5270	97.87	-	-	86.56	34.64	9.62	32.95	142	123	Peak
10539	40.54	-33.46	74	50.56	37.43	11.21	58.66	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	54	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. 3514MHz and 10539 MHz are not within a restricted band and satisfies both the average and peak limits of 15.209.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
3514	44.28	-29.72	74	60.84	32.71	7.87	57.14	100	0	Peak
5270	79.92	-	-	68.66	34.59	9.62	32.95	100	110	Average
5270	89.79	-	-	78.62	34.55	9.57	32.95	100	110	Peak
10539	41.01	-32.99	74	51.03	37.43	11.21	58.66	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	62	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. 3540MHz 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
3540	45.59	-28.41	74	62.1	32.71	7.93	57.15	100	0	Peak
5310	88.76	-	-	77.28	34.72	9.7	32.94	129	124	Average
5310	98.34	-	-	86.86	34.72	9.7	32.94	129	124	Peak
10620	40.08	-33.92	74	49.59	37.52	11.61	58.64	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	62	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. 3540MHz 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
3540	43.07	-30.93	74	59.58	32.71	7.93	57.15	100	0	Peak
5310	80.44	-	-	68.96	34.72	9.7	32.94	100	54	Average
5310	90.35	-	-	78.87	34.72	9.7	32.94	100	54	Peak
10620	41.06	-32.94	74	50.57	37.52	11.61	58.64	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	102	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5510 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
102.63	33.97	-9.53	43.5	54.58	10.07	1.01	31.69	100	145	Peak
151.23	25.49	-18.01	43.5	44.54	11.13	1.21	31.39	-	-	Peak
227.1	22.95	-23.05	46	41.72	10.98	1.46	31.21	-	-	Peak
422.5	17.15	-28.85	46	29.69	16.48	2.22	31.24	-	-	Peak
562.5	20.06	-25.94	46	29.4	19.16	2.59	31.09	-	-	Peak
794.9	24.2	-21.8	46	29.24	22.03	3.13	30.2	-	-	Peak
3674	47.39	-26.61	74	63.69	32.77	8.21	57.28	100	0	Peak
5510	88.83	-	-	76.51	35.2	10.02	32.9	133	119	Average
5510	98.85	-	-	86.52	35.21	10.02	32.9	133	119	Peak
11019	42.04	-31.96	74	49.44	37.92	13.22	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	102	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. Average measurement was not performed if peak level went lower than the average limit.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
44.31	32.63	-7.37	40	53.21	10.5	0.65	31.73	100	12	Peak
77.79	31.88	-8.12	40	55.42	7.32	0.87	31.73	-	-	Peak
216.84	18.03	-27.97	46	37.6	10.31	1.4	31.28	-	-	Peak
317.5	20.89	-25.11	46	36.46	13.77	1.8	31.14	-	-	Peak
682.9	22.32	-23.68	46	29.39	20.46	2.91	30.44	-	-	Peak
807.5	24.73	-21.27	46	29.6	22.18	3.16	30.21	-	-	Peak
3674	44.16	-29.84	74	60.46	32.77	8.21	57.28	100	0	Peak
5510	80.31	-	-	67.99	35.2	10.02	32.9	123	347	Average
5510	89.98	-	-	77.7	35.21	10.01	32.94	123	347	Peak
11019	42.86	-31.14	74	50.26	37.92	13.22	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	110	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5550 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
3700	45.11	-28.89	74	61.37	32.78	8.27	57.31	100	0	Peak
5550	88.97	-	-	76.72	35.23	10	32.98	133	122	Average
5550	98.82	-	-	86.56	35.24	10	32.98	133	122	Peak
11100	42.05	-31.95	74	49.39	38	13.2	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	110	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5550 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
3700	42.5	-31.5	74	58.76	32.78	8.27	57.31	100	0	Peak
5550	83.56	-	-	71.31	35.23	10	32.98	102	85	Average
5550	94.05	-	-	81.8	35.23	10	32.98	102	85	Peak
11100	41.84	-32.16	74	49.18	38	13.2	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	134	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Horizontal
Remark :	1. 5670 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
3780	46.98	-27.02	74	63.04	32.82	8.5	57.38	100	0	Peak
5670	88.16	-	-	76.1	35.3	9.94	33.18	143	116	Average
5670	98.54	-	-	86.48	35.3	9.94	33.18	143	116	Peak
11340	42.57	-31.43	74	49.71	38.23	13.17	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	134	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	1. 5670 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
3780	42	-32	74	58.06	32.82	8.5	57.38	100	0	Peak
5670	82.43	-	-	70.37	35.3	9.94	33.18	101	74	Average
5670	92.37	-	-	80.31	35.3	9.94	33.18	101	74	Peak
11340	42.45	-31.55	74	49.59	38.23	13.17	58.54	100	0	Peak

<Sample 2>

Test Mode :	802.11n HT40	**Temperature :**	22~24°C
Test Channel :	102	**Relative Humidity :**	53~55%
Test Engineer :	Marlboro Hsu	**Polarization :**	Horizontal
Remark :	3. 5510 MHz is fundamental signal which can be ignored. 4. 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
49.17	28.47	-11.53	40	50.91	8.5	0.69	31.63	100	89	Peak
119.1	26.34	-17.16	43.5	45.26	11.61	1.1	31.63	-	-	Peak
218.46	21.48	-24.52	46	40.95	10.38	1.41	31.26	-	-	Peak
444.2	17.64	-28.36	46	29.56	16.93	2.29	31.14	-	-	Peak
708.8	22.43	-23.57	46	29.24	20.73	2.96	30.5	-	-	Peak
855.8	24.01	-21.99	46	28.65	22.65	3.28	30.57	-	-	Peak
3674	49.91	-24.09	74	66.97	32.77	7.45	57.28	100	0	Peak
5510	90.01	-	-	77.85	35.2	9.86	32.9	148	303	Average
5510	100.01	-	-	87.85	35.2	9.86	32.9	148	303	Peak
11019	44.02	-29.98	74	50.88	37.92	13.76	58.54	100	0	Peak

Test Mode :	802.11n HT40	Temperature :	22~24°C
Test Channel :	102	Relative Humidity :	53~55%
Test Engineer :	Marlboro Hsu	Polarization :	Vertical
Remark :	3. 5510 MHz is fundamental signal which can be ignored. 4. 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
30	33.64	-6.36	40	44.98	20	0.53	31.87	100	23	Peak
119.1	24.1	-19.4	43.5	43.02	11.61	1.1	31.63	-	-	Peak
236.55	16.31	-29.69	46	34.34	11.66	1.51	31.2	-	-	Peak
463.8	17.78	-28.22	46	29.25	17.33	2.33	31.13	-	-	Peak
656.3	21.85	-24.15	46	29.12	20.25	2.85	30.37	-	-	Peak
834.1	24.7	-21.3	46	29.45	22.44	3.23	30.42	-	-	Peak
3674	45.17	-28.83	74	62.23	32.77	7.45	57.28	100	0	Peak
5510	83.22	-	-	71.06	35.2	9.86	32.9	109	280	Average
5510	93.08	-	-	80.92	35.2	9.86	32.9	109	280	Peak
11019	43.39	-30.61	74	50.25	37.92	13.76	58.54	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 (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

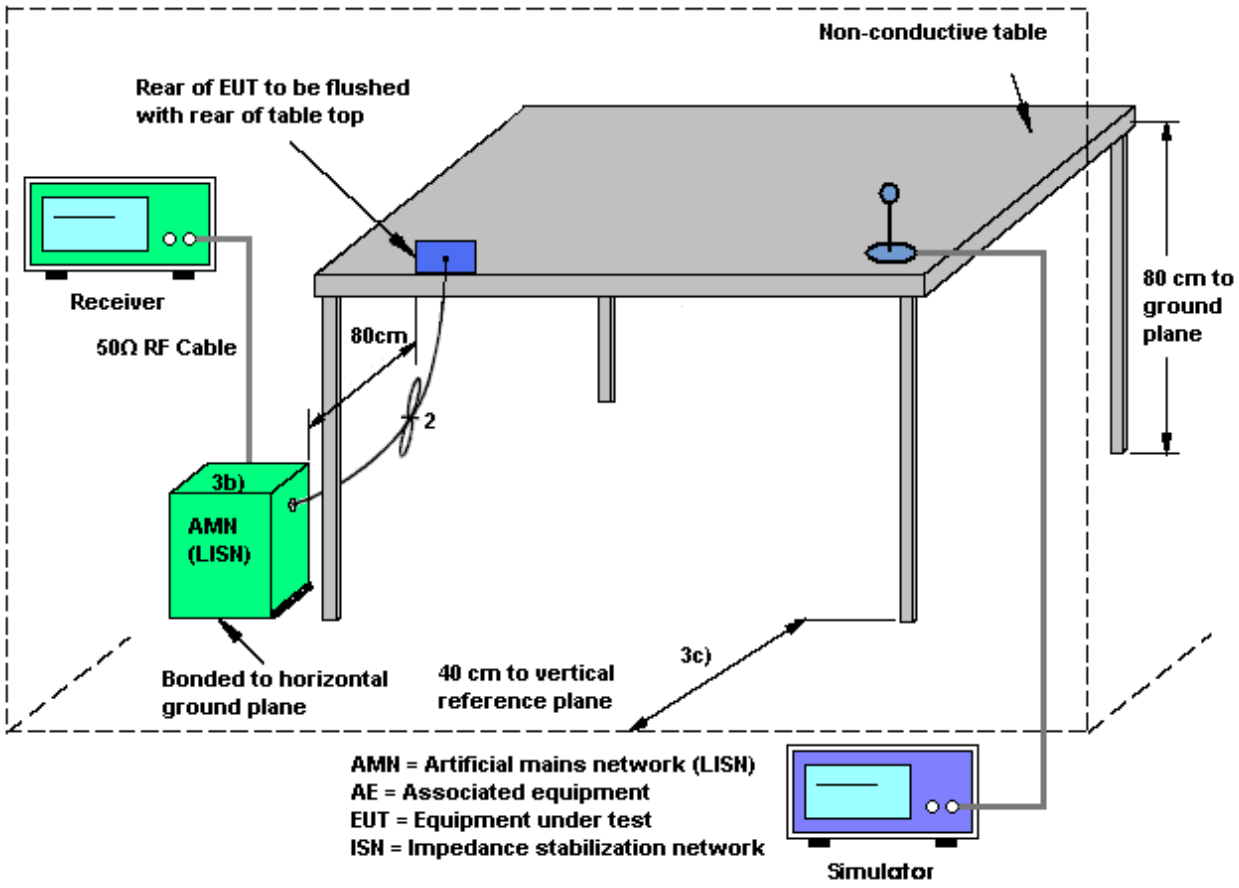
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

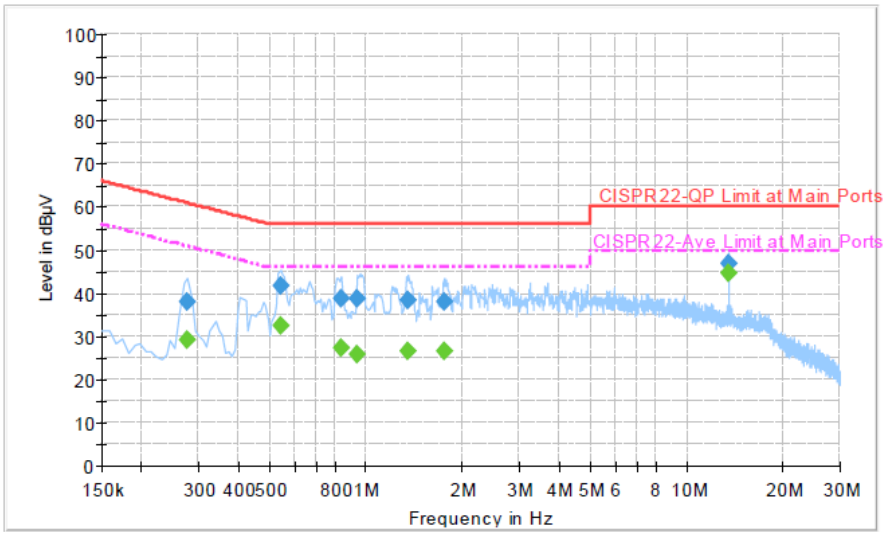
1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009 test site requirement.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a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



3.6.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Slash Huang	**Relative Humidity :**	45~47%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



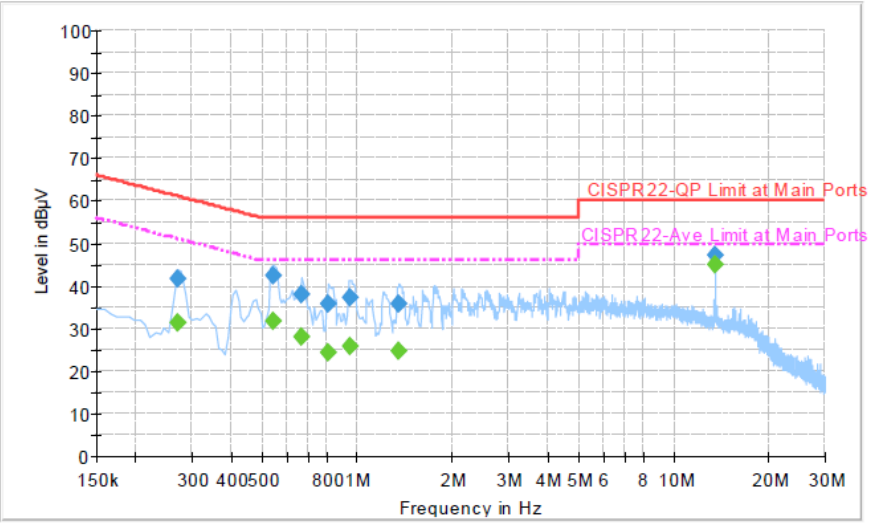
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.278000	38.1	Off	L1	19.4	22.8	60.9
0.542000	41.7	Off	L1	19.4	14.3	56.0
0.838000	38.6	Off	L1	19.5	17.4	56.0
0.934000	38.8	Off	L1	19.4	17.2	56.0
1.358000	38.5	Off	L1	19.4	17.5	56.0
1.750000	38.0	Off	L1	19.4	18.0	56.0
13.558000	47.0	Off	L1	19.6	13.0	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.278000	29.1	Off	L1	19.4	21.8	50.9
0.542000	32.4	Off	L1	19.4	13.6	46.0
0.838000	27.1	Off	L1	19.5	18.9	46.0
0.934000	25.8	Off	L1	19.4	20.2	46.0
1.358000	26.6	Off	L1	19.4	19.4	46.0
1.750000	26.5	Off	L1	19.4	19.5	46.0
13.558000	44.6	Off	L1	19.6	5.4	50.0

Test Mode :	Mode 1	**Temperature :**	20~22℃
Test Engineer :	Slash Huang	**Relative Humidity :**	45~47%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	CDMA2000 BC0 Idle + Bluetooth Link + WLAN (5G) Link + NFC + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.270000	41.7	Off	N	19.4	19.4	61.1
0.542000	42.4	Off	N	19.4	13.6	56.0
0.670000	37.9	Off	N	19.4	18.1	56.0
0.814000	35.9	Off	N	19.4	20.1	56.0
0.950000	37.3	Off	N	19.4	18.7	56.0
1.358000	35.9	Off	N	19.5	20.1	56.0
13.558000	47.3	Off	N	19.7	12.7	60.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.270000	31.5	Off	N	19.4	19.6	51.1
0.542000	31.6	Off	N	19.4	14.4	46.0
0.670000	28.2	Off	N	19.4	17.8	46.0
0.814000	24.5	Off	N	19.4	21.5	46.0
0.950000	26.0	Off	N	19.4	20.0	46.0
1.358000	24.7	Off	N	19.5	21.3	46.0
13.558000	44.9	Off	N	19.7	5.1	50.0

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.

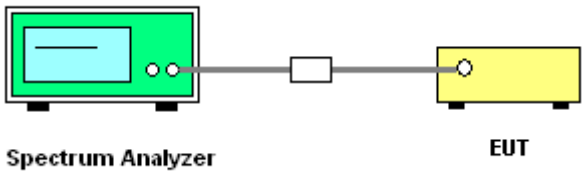
3.7.2 Measuring Instruments

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 :	Bill Kuo	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	5228.30	0.00
	48	5240	5231.70	5248.30	0.00
NII Band 2	52	5260	5251.70	5268.30	0.00
	60	5300	5291.70	5308.30	0.00
	64	5320	5311.70	5328.30	0.00
NII Band 3	100	5500	5491.70	5508.30	0.00
	116	5580	5571.70	5588.30	0.00
	140	5700	5691.70	5708.30	0.00

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

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	36	5180	5171.10	5188.90	0.00
	44	5220	5211.10	5228.90	0.00
	48	5240	5231.10	5248.90	0.00
NII Band 2	52	5260	5251.05	5268.90	-4.75
	60	5300	5291.10	5308.90	0.00
	64	5320	5311.10	5328.90	0.00
NII Band 3	100	5500	5491.15	5508.90	4.55
	116	5580	5571.10	5588.90	0.00
	140	5700	5691.05	5708.90	-4.39

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

Band	Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
NII Band 1	38	5190	5171.82	5208.27	8.67
	46	5230	5211.73	5248.27	0.00
NII Band 2	54	5270	5251.73	5288.27	0.00
	62	5310	5291.73	5328.27	0.00
NII Band 3	102	5510	5491.73	5528.27	0.00
	110	5550	5531.73	5568.27	0.00
	134	5670	5651.73	5688.27	0.00

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	Nov. 05, 2012 ~ Nov. 08, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1036004	300MHz~40GHz	Sep. 08, 2012	Nov. 05, 2012 ~ Nov. 08, 2012	Sep. 07, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1027253	300MHz~40GHz	Sep. 08, 2012	Nov. 05, 2012 ~ Nov. 08, 2012	Sep. 07, 2013	Conducted (TH02-HY)
EMI Test Receiver	R&S	ESCI 7	100724	9kHz~7GHz	Sep. 03, 2012	Nov. 07, 2012 ~ Nov. 29, 2012	Sep. 02, 2013	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Nov. 07, 2012 ~ Nov. 29, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Nov. 07, 2012 ~ Nov. 29, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Nov. 07, 2012 ~ Nov. 29, 2012	N/A	Conduction (CO05-HY)
System Simulator	Agilent	E5515C (8960)	MY48360820	N/A	Jan. 05, 2012	Nov. 07, 2012 ~ Nov. 29, 2012	Jan. 04, 2014	Conduction (CO05-HY)
Bilog Antenna	Schaffner	CBL6111C	2726	30MHz ~ 1GHz	Oct. 06, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Oct. 05, 2013	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9KHz ~ 30GHz	Dec. 06, 2011	Nov. 07, 2012 ~ Nov. 30, 2012	Dec. 05, 2012	Radiation (03CH07-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP30	101067	9KHz ~ 30GHz	Nov. 30, 2012	Nov. 30, 2012 ~ Dec. 13, 2012	Nov. 29, 2013	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 22, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Aug. 21, 2013	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz ~ 26.5GHz	Dec. 05, 2011	Nov. 07, 2012 ~ Dec. 01, 2012	Dec. 04, 2012	Radiation (03CH07-HY)
Preamplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec. 01, 2012	Dec. 01, 2012 ~ Dec. 13, 2012	Nov. 30, 2013	Radiation (03CH07-HY)
Pre Amplifier	MITEQ	AMF-7D-0010 1800-30-10P	159088	1GHz ~ 18GHz	Mar. 10, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Mar. 09, 2013	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz. 32dB.GAIN	Feb. 27, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Feb. 26, 2013	Radiation (03CH07-HY)
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100724	9kHz~7GHz	Sep. 03, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Sep. 02, 2013	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Sep. 28, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Sep. 27, 2013	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Nov. 07, 2012 ~ Dec. 13, 2012	Jul. 02, 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**