FCC RF Test Report

APPLICANT	:	**HTC Corporation**
EQUIPMENT	:	**Smartphone**
MODEL NAME	:	**PL80120**
FCC ID	:	**NM8PL80120**
STANDARD	:	**FCC Part 15 Subpart E**
CLASSIFICATION	:	**(NII) Unlicensed National Information Infrastructure**

The product was received on Aug. 16, 2012 and completely tested on Sep. 27, 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
FR281609D	Rev. 01	Initial issue of report	Oct. 31, 2012

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.403(i)	A9.2	26dB Bandwidth	-	Pass	-
3.2	15.407(a)	A9.2	Maximum Conducted Output Power	≤ 17, 24, 30 dBm (depend on band)	Pass	-
3.3	15.407(a)	A9.2	Power Spectral Density	≤ 4, 11, 17 dBm (depend on band)	Pass	-
3.4	15.407(a)(6)	A9.3	Peak Excursion Ratio	≤ 13dB	Pass	-
3.5	15.407(b)	A9.3	Unwanted Emissions	≤ -17, -27 dBm (depend on band)&15.209(a)	Pass	Under limit 4.01 dB at 5350.800 MHz
3.6	15.207	Gen 7.2.4	AC Conducted Emission	15.207(a)	Pass	Under limit 12.50 dB at 0.566 MHz
3.7	15.407(g)	A9.5	Frequency Stability	Within Operation Band	Pass	-
3.8	15.407(c)	A9.5	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.9	15.203 & 15.407(a)	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	PL80120
FCC ID	NM8PL80120
Sample 1	EUT with LCM 1 and Main Camera 1
Sample 2	EUT with LCM 2 and Main Camera 2
EUT supports Radios application	CDMA/EV-DO/ LTE/ WLAN 11abgn / Bluetooth / NFC
EUT Stage	Production Unit

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

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 : 12.51 dBm / 0.0178 W 802.11n HT20 : 12.04 dBm / 0.0160 W 802.11n HT40 : 12.80 dBm / 0.0191 W **<5260 MHz ~ 5320 MHz>** 802.11a : 12.60 dBm / 0.0182 W 802.11n HT20 : 12.06 dBm / 0.0161 W 802.11n HT40 : 12.73 dBm / 0.0187 W **<5500 MHz ~ 5700 MHz>** 802.11a : 12.62 dBm / 0.0183 W 802.11n HT20 : 12.00 dBm / 0.0158 W 802.11n HT40 : 12.75 dBm / 0.0188 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)**

1.4 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	03CH06-HY	722060/4086B-1

1.5 Applied Standards

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

- FCC Part 15 Subpart E
- FCC KDB 789033 D01 General UNII Test Procedures v01r01
- ANSI C63.4-2003 and ANSI C63.10-2009
- IC RSS-210 Issued 8
- IC RSS-Gen Issue 3

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.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	System Simulator	R&S	CMU 200	N/A	N/A	Unshielded, 1.8 m
2.	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

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conducted emission (150 KHz to 30 MHz) and radiated emission (9 KHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Y plane) were recorded in this report.

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

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

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
5150-5250 MHz Band 1	36	5180	46	5230
	38	**5190**	**48**	**5240**
	44	5220	-	-

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)	12.62	12.59	12.61	12.60	12.60	12.61	12.59	12.60

5GHz 802.11n HT20 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	12.06	12.04	11.95	12.01	12.02	12.04	12.02	12.04

5GHz 802.11n HT40 mode								
Data Rate (MHz)	MCS0	MCS1	MCS2	MCS3	MCS4	MCS5	MCS6	MCS7
Peak Power (dBm)	12.80	12.65	12.75	12.72	12.66	12.67	12.78	12.79

2.3 Test Mode

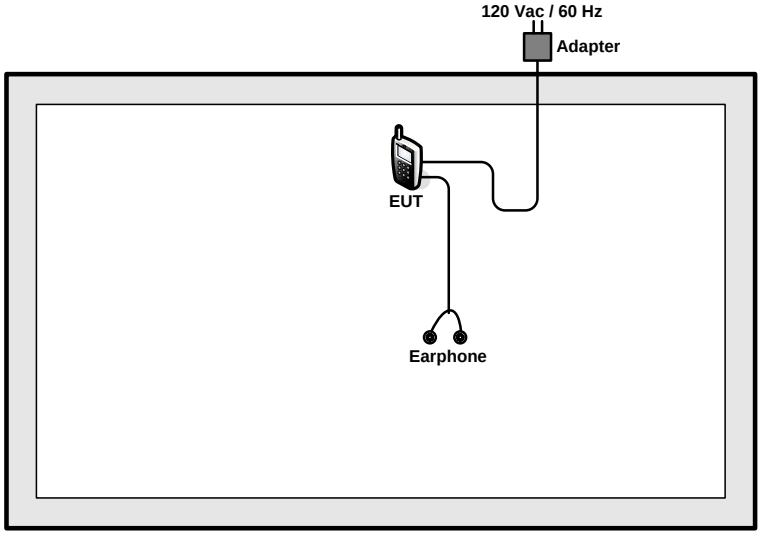
Final results of test modes, data rates and test channels are shown as following table.

Test Cases				
	Test Items	**Mode**	**Data rate**	**Test Channel**
Conducted TCs	**26dB and 99% BW Power Spectral Density**	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
	Output Power	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
	Peak Excursion	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
	Frequency Stability	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
Radiated TCs	**Radiated Band Edge**	**802.11a**	**6 Mbps**	**L/H**
		802.11n HT20	**6.5 Mbps**	**L/H**
		802.11n HT40	**13.5 Mbps**	**L/H**
	Radiated Spurious Emission	**802.11a**	**6 Mbps**	**L/M/H**
		802.11n HT20	**6.5 Mbps**	**L/M/H**
		802.11n HT40	**13.5 Mbps**	**L/M/H**
AC Conducted Emission	Mode 1 : CDMA2000 BC15 Idle + Bluetooth Link + WLAN (5G) Link + MPEG4 + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 1 Mode 2 : CDMA2000 BC15 Idle + Bluetooth Link + WLAN (5G) Link + MPEG4 + Earphone + Battery 1 + USB Cable 1 (Charging from Adapter 1) for Sample 2			
Remark: The worst case of conducted emission is mode 1; only the test data of it was reported.				

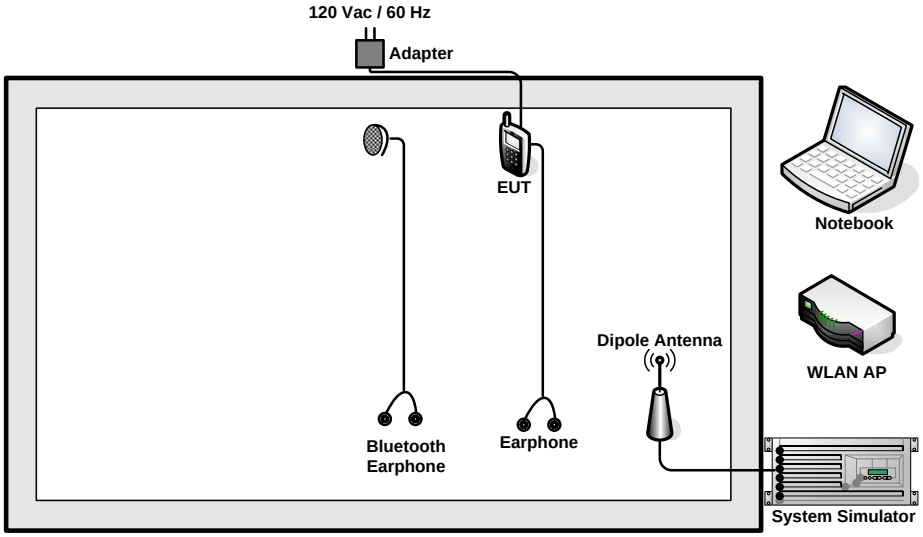
Ch. #		Band I：5150-5250 MHz		Band II：5250-5350 MHz		Band III：5470-5725 MHz	
		802.11a, 802.11n HT20	802.11n HT40	802.11a, 802.11n HT20	802.11n HT40	802.11a, 802.11n HT20	802.11n HT40
L	Low	36	38	52	54	100	102
M	Middle	44	-	60	-	116	110
H	High	48	46	64	62	140	134

2.4 Connection Diagram of Test System

<WLAN Tx Mode>



<AC Conducted Emission Mode>



2.5 RF Utility

For WLAN (802.11a and 802.11n HT20) function, execute “Remote 432X controller (P2.01)” to make the EUT contact with WLAN AP for continuous transmitting and receiving signals.

For WLAN (802.11n HT40) function, execute “Command” to make the EUT contact with WLAN AP for continuous transmitting and receiving signals.

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. For the band 5.725-5.825 GHz, the maximum conducted output power over the frequency band of operation shall not exceed the lesser of 1 W (30dBm) or 17 dBm + 10log B.

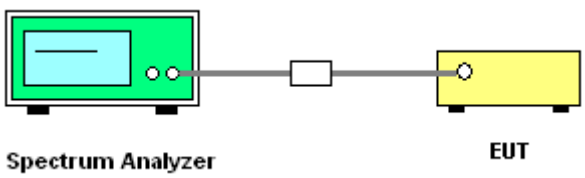
3.1.2 Measuring Instruments

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 v01r01. 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%.

3.1.4 Test Setup

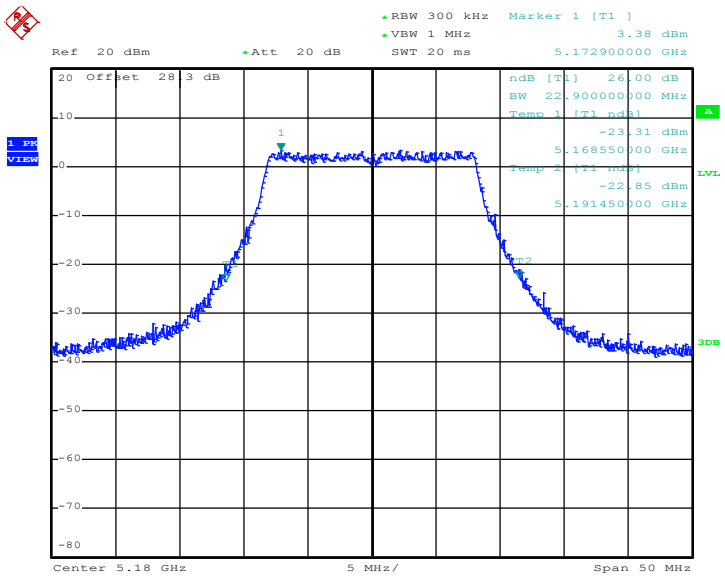


3.1.5 Test Result of 26dB Bandwidth Plots

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

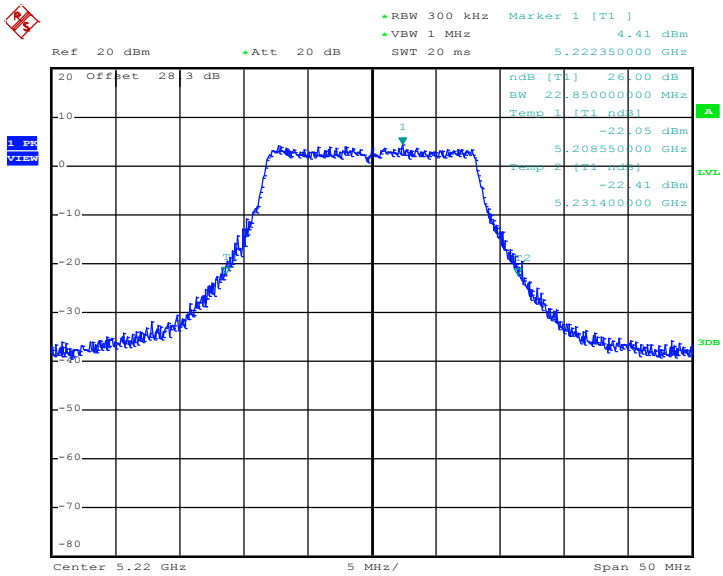
Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)	Pass/Fail
36	5180	22.900	N/A
44	5220	22.850	N/A
48	5240	22.900	N/A
52	5260	23.000	N/A
60	5300	22.750	N/A
64	5320	23.050	N/A
100	5500	22.900	N/A
116	5580	22.800	N/A
140	5700	22.950	N/A

26 dB Bandwidth Plot on 802.11a Channel 36



281609 15E 26dB 802.11a 5180 (ch36)
Date: 15.SEP.2012 01:06:13

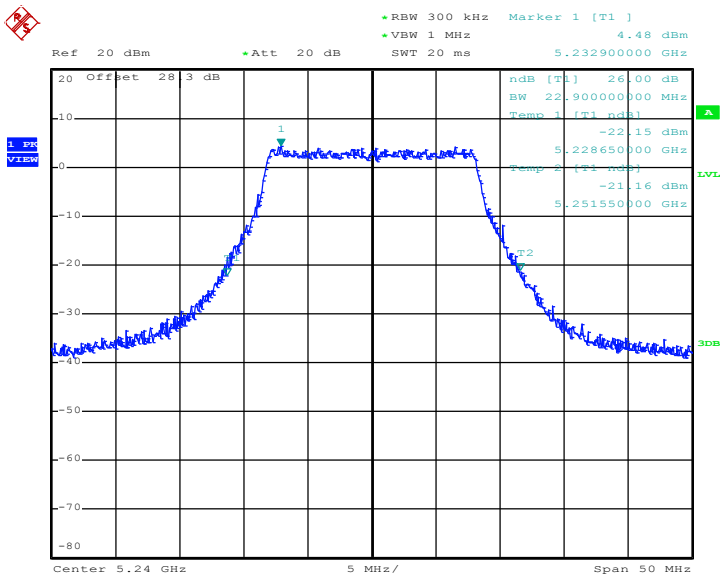
26 dB Bandwidth Plot on 802.11a Channel 44



281609 15E 26dB 802.11a 5220 (ch44)

Date: 15.SEP.2012 01:08:16

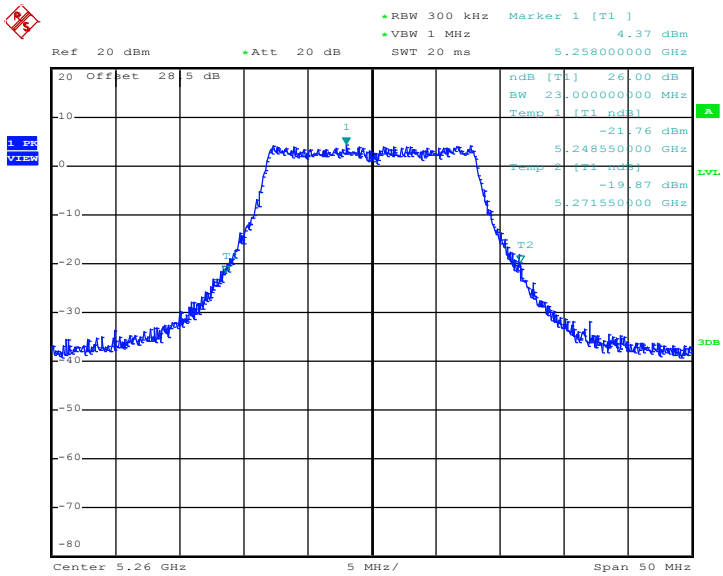
26 dB Bandwidth Plot on 802.11a Channel 48



281609 15E 26dB 802.11a 5240 (ch48)

Date: 15.SEP.2012 01:10:16

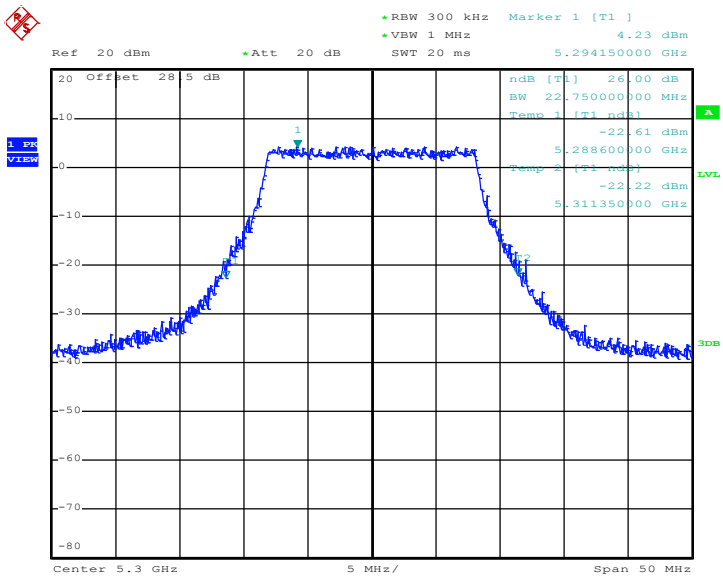
26 dB Bandwidth Plot on 802.11a Channel 52



281609 15E 26dB 802.11a 5260 (ch52)

Date: 15.SEP.2012 01:12:02

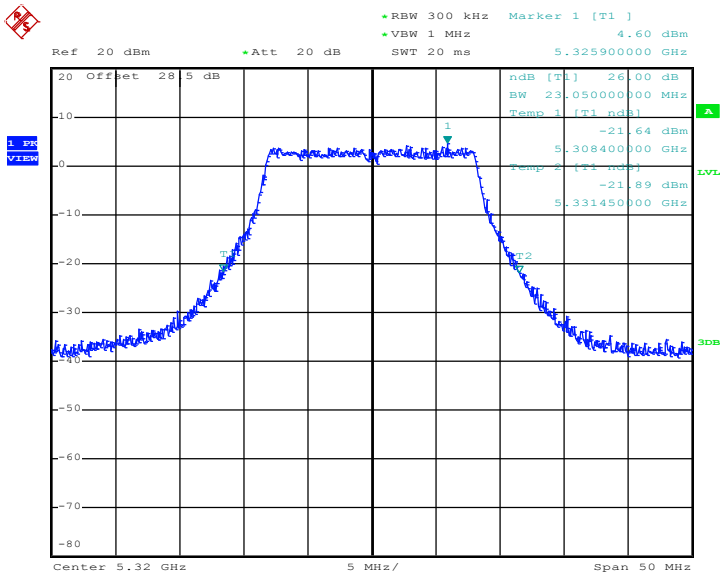
26 dB Bandwidth Plot on 802.11a Channel 60



281609 15E 26dB 802.11a 5300 (ch60)

Date: 15.SEP.2012 01:13:19

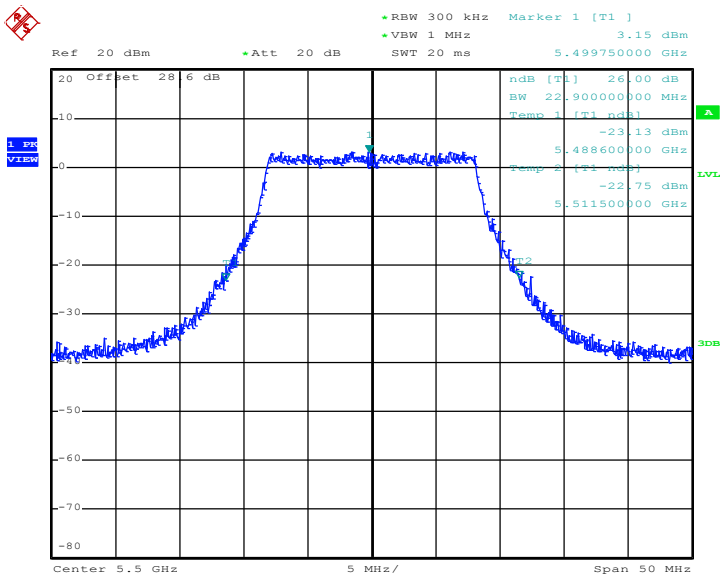
26 dB Bandwidth Plot on 802.11a Channel 64



281609 15E 26dB 802.11a 5320 (ch64)

Date: 15.SEP.2012 01:15:01

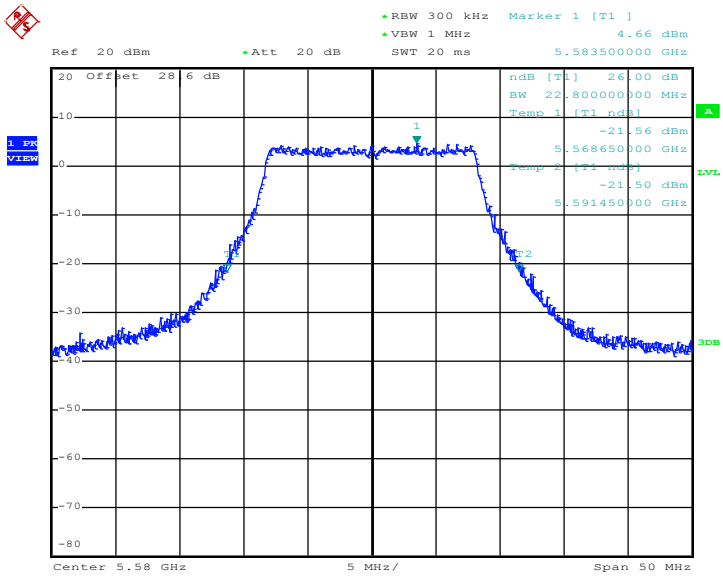
26 dB Bandwidth Plot on 802.11a Channel 100



281609 15E 26dB 802.11a 5500 (ch100)

Date: 15.SEP.2012 01:17:24

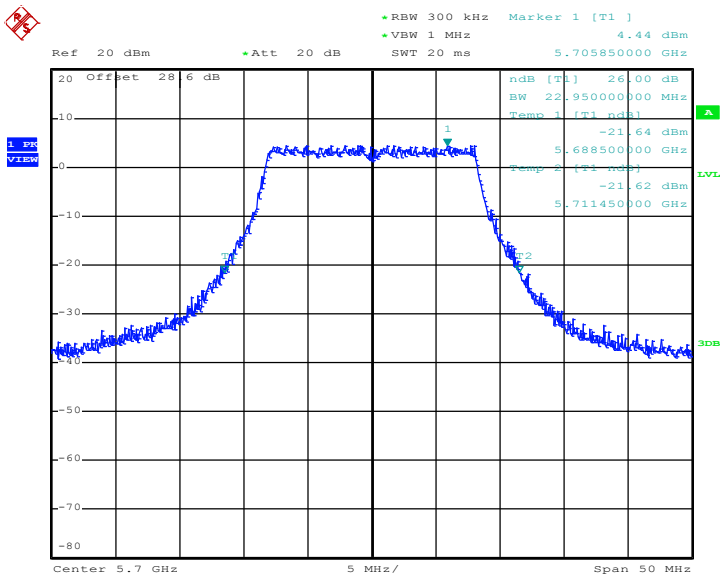
26 dB Bandwidth Plot on 802.11a Channel 116



281609 15E 26dB 802.11a 5580

Date: 15.SEP.2012 01:19:33

26 dB Bandwidth Plot on 802.11a Channel 140



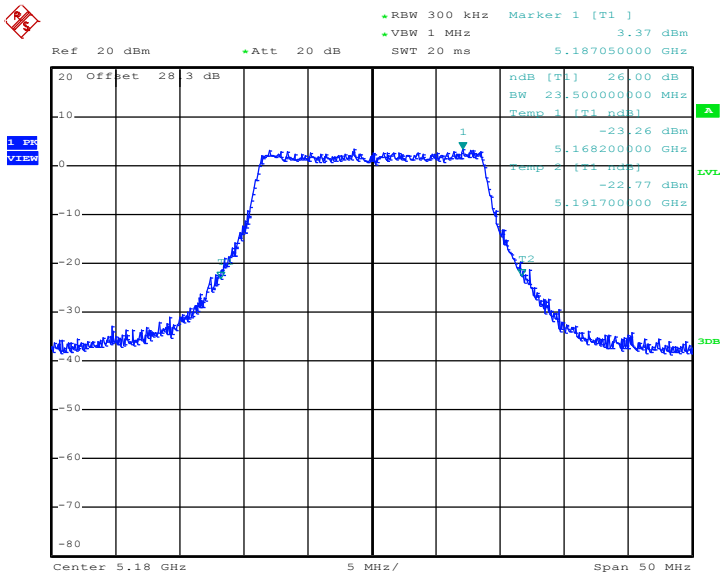
281609 15E 26dB 802.11a 5700 (ch140)

Date: 15.SEP.2012 01:20:57

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

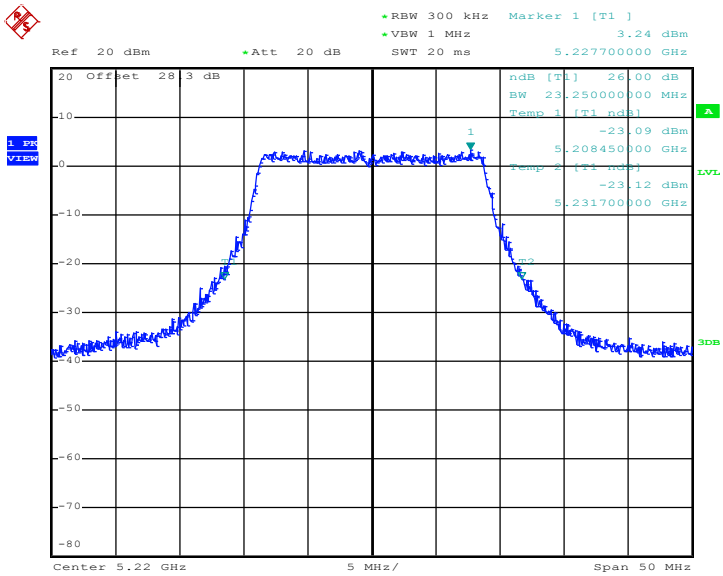
Channel	Frequency (MHz)	802.11n HT20 26dB Bandwidth (MHz)	Pass/Fail
36	5180	23.500	N/A
44	5220	23.250	N/A
48	5240	23.450	N/A
52	5260	23.400	N/A
60	5300	23.300	N/A
64	5320	23.150	N/A
100	5500	23.050	N/A
116	5580	23.300	N/A
140	5700	23.000	N/A

26 dB Bandwidth Plot on 802.11n HT20 Channel 36



281609 15E 26dB 802.11a_N20 5180 (ch36)
Date: 15.SEP.2012 01:35:41

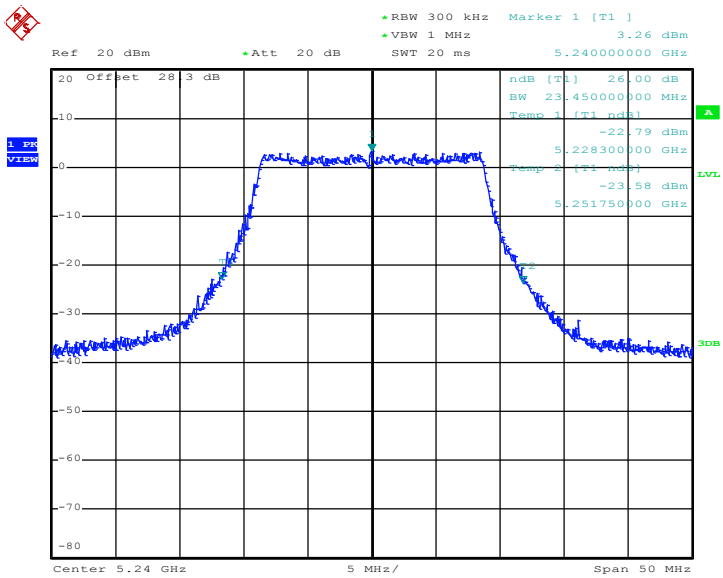
26 dB Bandwidth Plot on 802.11n HT20 Channel 44



281609 15E 26dB 802.11a_N20 5220 (ch44)

Date: 15.SEP.2012 01:34:14

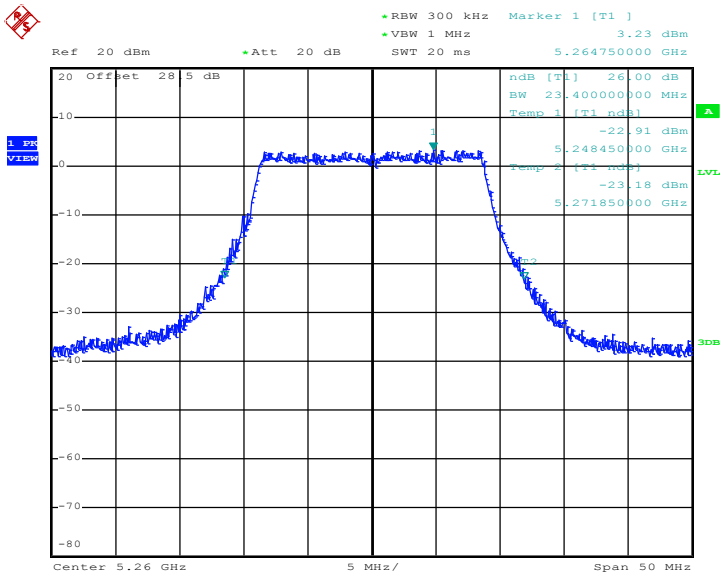
26 dB Bandwidth Plot on 802.11n HT20 Channel 48



281609 15E 26dB 802.11a_N20 5240 (ch48)

Date: 15.SEP.2012 01:32:54

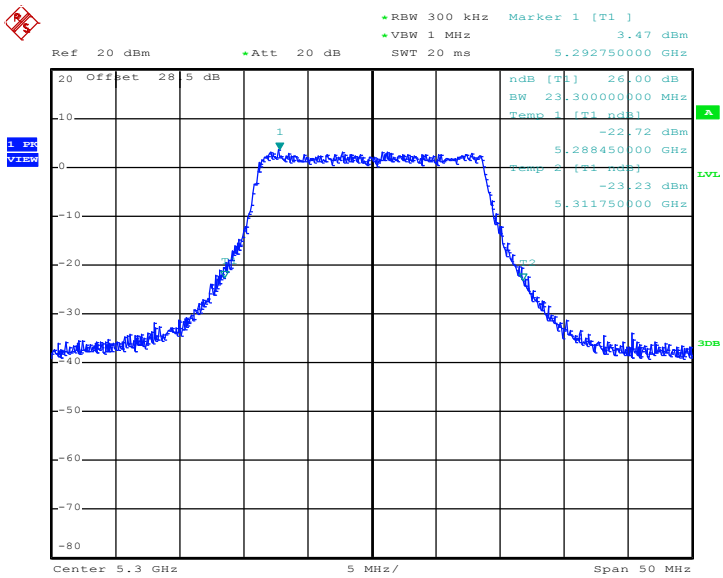
26 dB Bandwidth Plot on 802.11n HT20 Channel 52



281609 15E 26dB 802.11a_N20 5260 (ch52)

Date: 15.SEP.2012 01:30:27

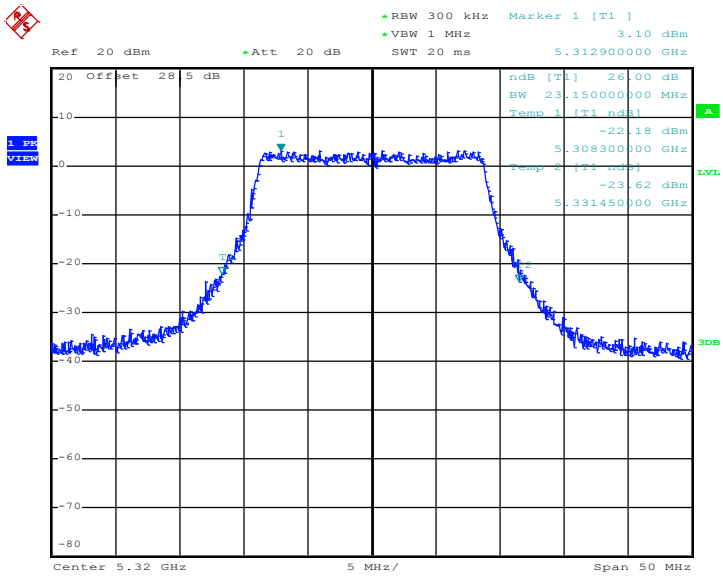
26 dB Bandwidth Plot on 802.11n HT20 Channel 60



281609 15E 26dB 802.11a_N20 5300 (ch60)

Date: 15.SEP.2012 01:28:30

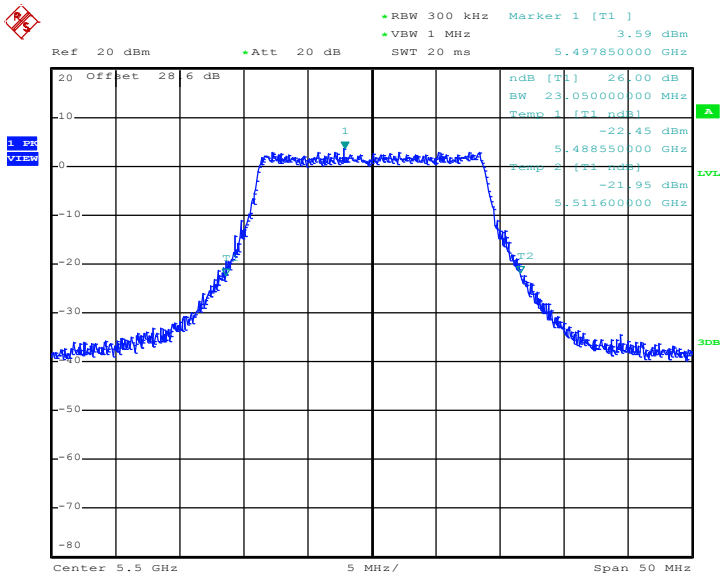
26 dB Bandwidth Plot on 802.11n HT20 Channel 64



281609 15E 26dB 802.11a_N20 5320 (ch64)

Date: 15.SEP.2012 01:27:07

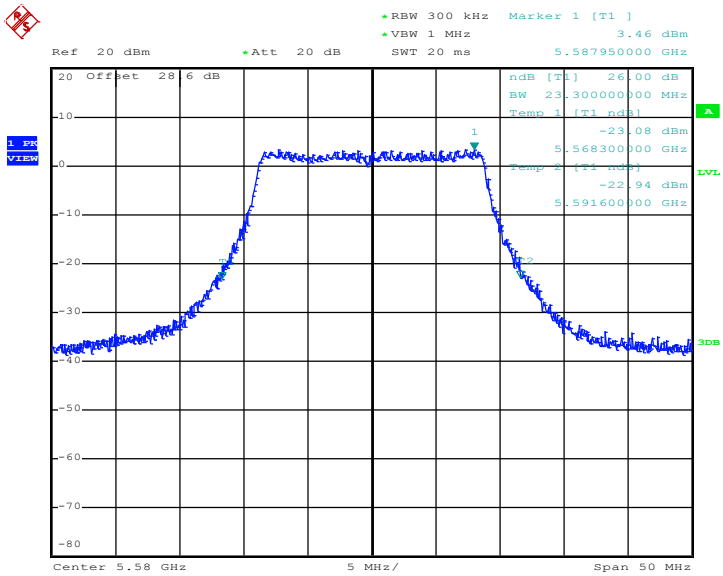
26 dB Bandwidth Plot on 802.11n HT20 Channel 100



281609 15E 26dB 802.11a_N20 5500 (ch100)

Date: 15.SEP.2012 01:25:37

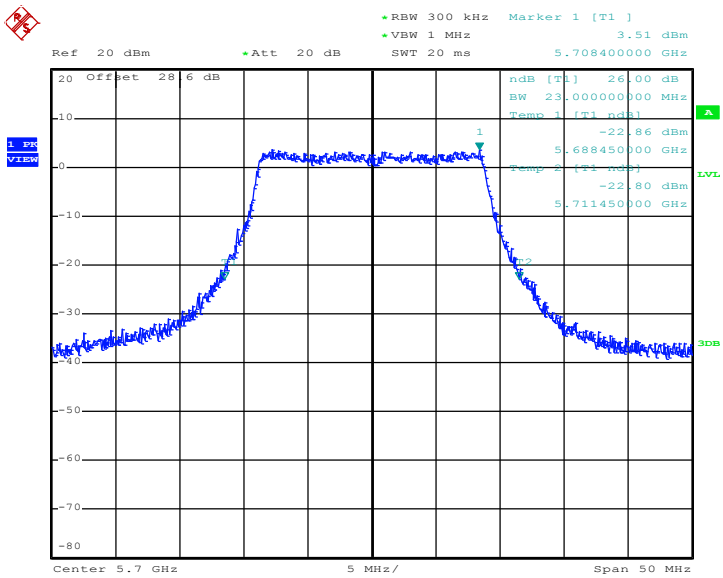
26 dB Bandwidth Plot on 802.11n HT20 Channel 116



281609 15E 26dB 802.11a_N20 5580

Date: 15.SEP.2012 01:24:23

26 dB Bandwidth Plot on 802.11n HT20 Channel 140



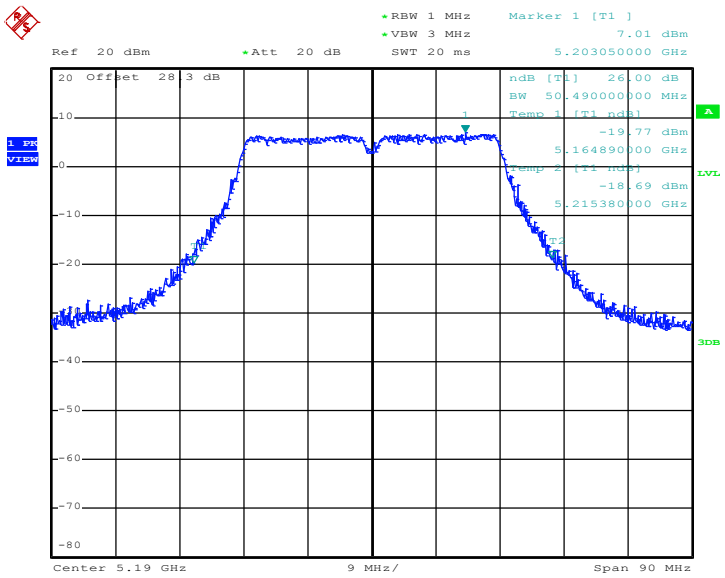
281609 15E 26dB 802.11a_N20 5700 (ch140)

Date: 15.SEP.2012 01:22:56

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

Channel	Frequency (MHz)	802.11n HT40 26dB Bandwidth (MHz)	Pass/Fail
38	5190	50.490	N/A
46	5230	50.580	N/A
54	5270	50.490	N/A
62	5310	50.040	N/A
102	5510	50.580	N/A
110	5550	49.770	N/A
134	5670	51.300	N/A

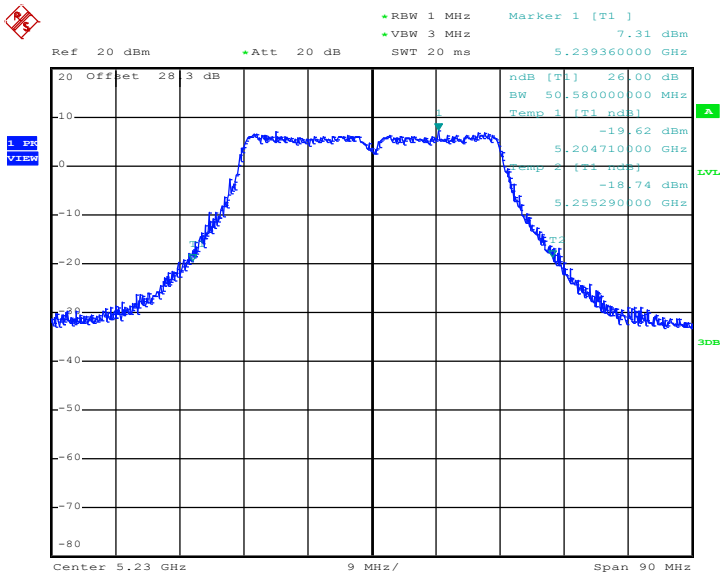
26 dB Bandwidth Plot on 802.11n HT40 Channel 38



281609 15E 26dB 802.11a_N40 5190 (ch38)

Date: 15.SEP.2012 01:39:23

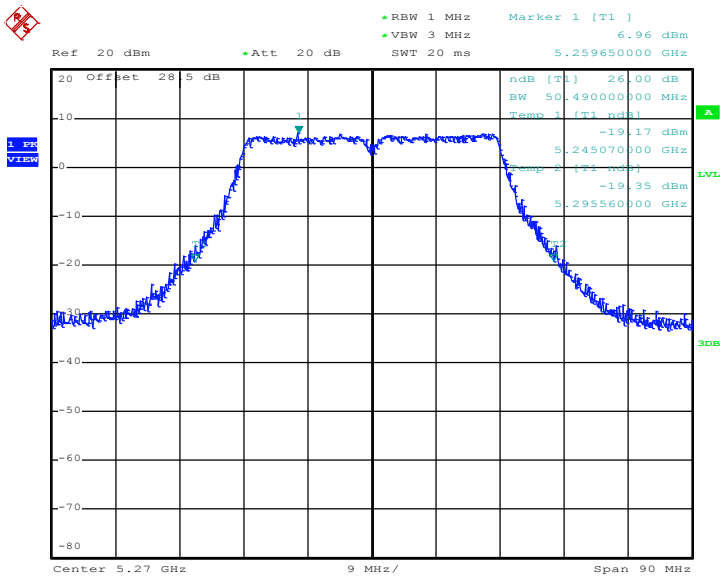
26 dB Bandwidth Plot on 802.11n HT40 Channel 46



281609 15E 26dB 802.11a_N40 5230 (ch46)

Date: 15.SEP.2012 01:41:08

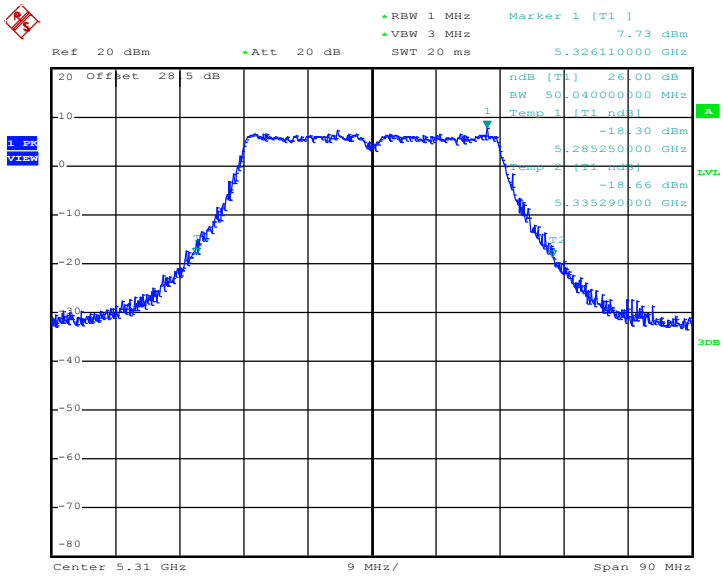
26 dB Bandwidth Plot on 802.11n HT40 Channel 54



281609 15E 26dB 802.11a_N40 5270 (ch54)

Date: 15.SEP.2012 01:44:06

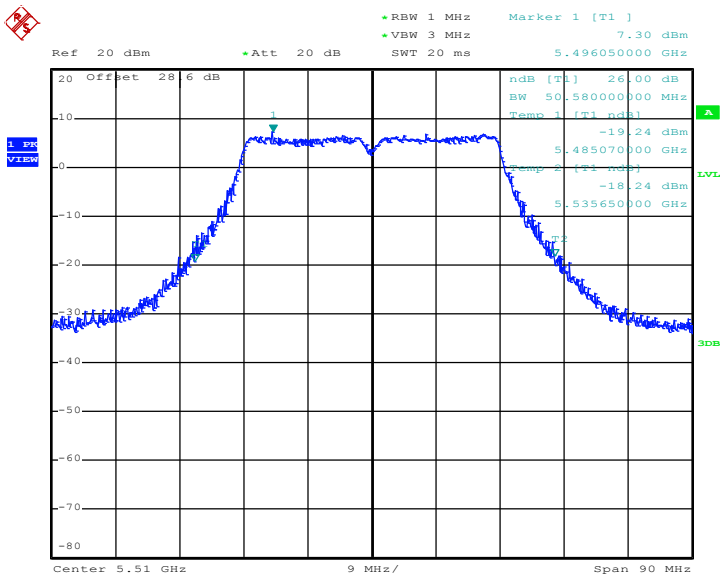
26 dB Bandwidth Plot on 802.11n HT40 Channel 62



281609 15E 26dB 802.11a_N40 5310 (ch62)

Date: 15.SEP.2012 01:46:21

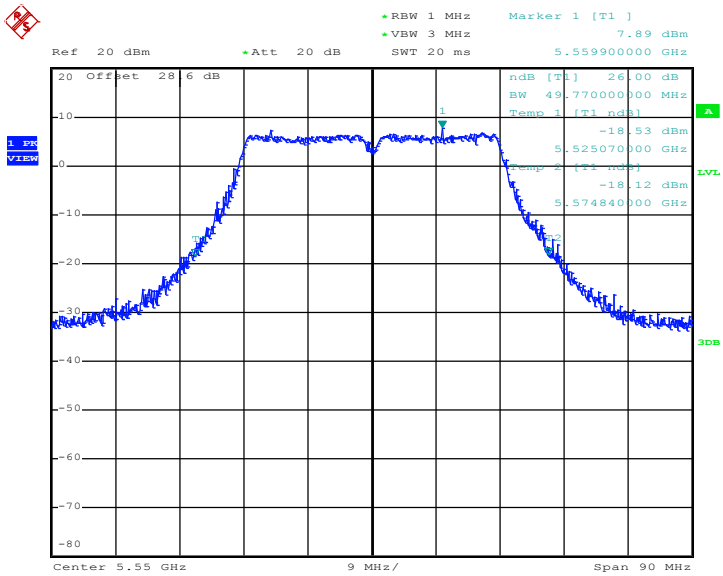
26 dB Bandwidth Plot on 802.11n HT40 Channel 102



281609 15E 26dB 802.11a_N40 5510 (ch102)

Date: 15.SEP.2012 01:48:12

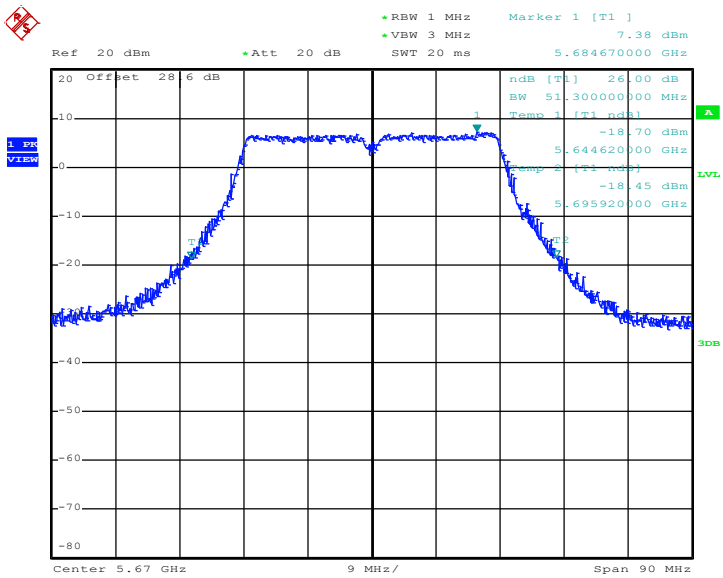
26 dB Bandwidth Plot on 802.11n HT40 Channel 110



281609 15E 26dB 802.11a_N40 5550

Date: 15.SEP.2012 01:50:10

26 dB Bandwidth Plot on 802.11n HT40 Channel 134



281609 15E 26dB 802.11a_N40 5670 (ch134)

Date: 15.SEP.2012 01:51:56

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.

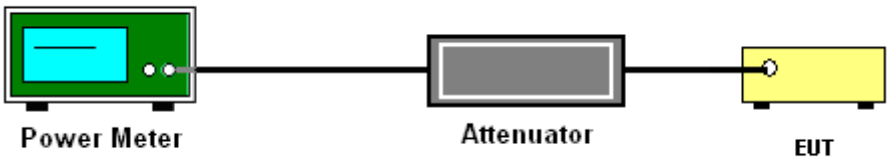
3.2.3 Test Procedures

The testing follows Method PM of FCC KDB 789033 D01 General UNII Test Procedures v01r01.

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 :	Book Lin	Relative Humidity :	45~49%
Duty Cycle	95.37%	Duty Factor	0.21dB

Channel	Frequency (MHz)	802.11a Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
36	5180	11.67	11.88	17	Pass
44	5220	12.30	12.51	17	Pass
48	5240	12.17	12.38	17	Pass
52	5260	12.39	12.60	24	Pass
60	5300	12.35	12.56	24	Pass
64	5320	12.27	12.48	24	Pass
100	5500	11.58	11.79	24	Pass
116	5580	12.33	12.54	24	Pass
140	5700	12.41	12.62	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 :	Book Lin	Relative Humidity :	45~49%
Duty Cycle	95.07%	Duty Factor	0.22dB

Channel	Frequency (MHz)	802.11n HT20 Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
36	5180	11.82	12.04	17	Pass
44	5220	11.63	11.85	17	Pass
48	5240	11.52	11.74	17	Pass
52	5260	11.73	11.95	24	Pass
60	5300	11.84	12.06	24	Pass
64	5320	11.55	11.77	24	Pass
100	5500	11.78	12.00	24	Pass
116	5580	11.63	11.85	24	Pass
140	5700	11.58	11.80	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 :	Book Lin	Relative Humidity :	45~49%
Duty Cycle	86.72%	Duty Factor	0.62dB

Channel	Frequency (MHz)	802.11n HT40 Output Power (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
38	5190	12.18	12.80	17	Pass
46	5230	11.84	12.46	17	Pass
54	5270	12.07	12.69	24	Pass
62	5310	12.11	12.73	24	Pass
102	5510	12.13	12.75	24	Pass
110	5550	11.85	12.47	24	Pass
134	5670	11.84	12.46	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 v01r01.

Section E) Peak power spectral density (PPSD).

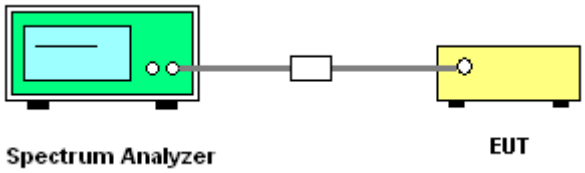
Note: Though the rule refers to “peak power spectral density”, the intent is to measure the maximum value of the time average of the power spectral density measured during a period of continuous transmission.

 # 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 v01r01.
   - 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



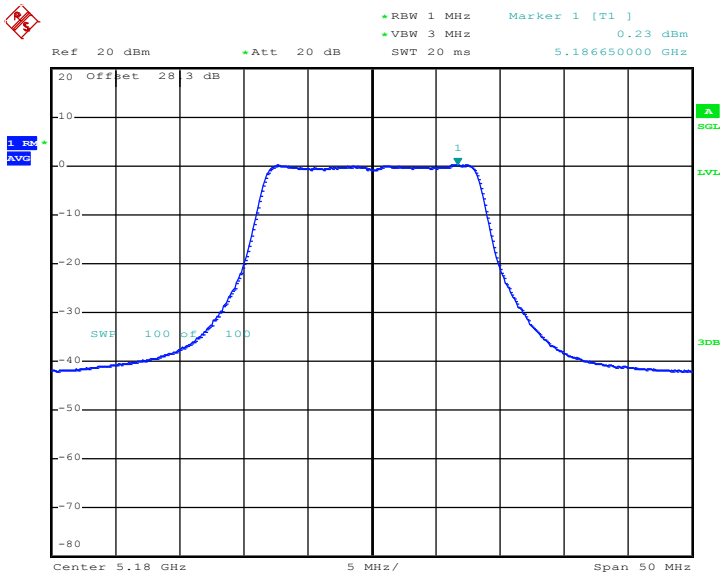
3.3.5 Test Result of Power Spectral Density

Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%
Duty Cycle:	95.37%	Duty Factor:	0.21dB

Channel	Frequency (MHz)	802.11a PSD (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
36	5180	0.230	0.436	4	Pass
44	5220	1.130	1.336	4	Pass
48	5240	0.990	1.196	4	Pass
52	5260	1.210	1.416	11	Pass
60	5300	1.360	1.566	11	Pass
64	5320	1.070	1.276	11	Pass
100	5500	0.190	0.396	11	Pass
116	5580	1.410	1.616	11	Pass
140	5700	1.680	1.886	11	Pass

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

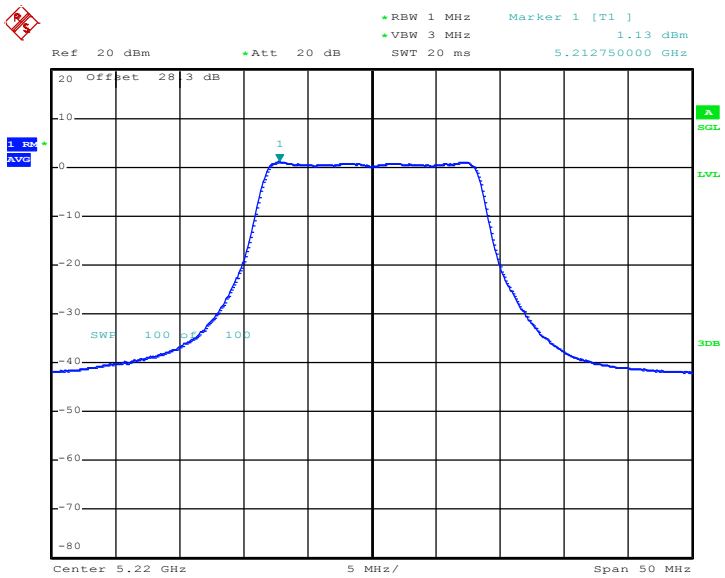
PSD Plot on 802.11a Channel 36



281609 15E PSD 802.11a 5180 (ch36)

Date: 15.SEP.2012 01:06:31

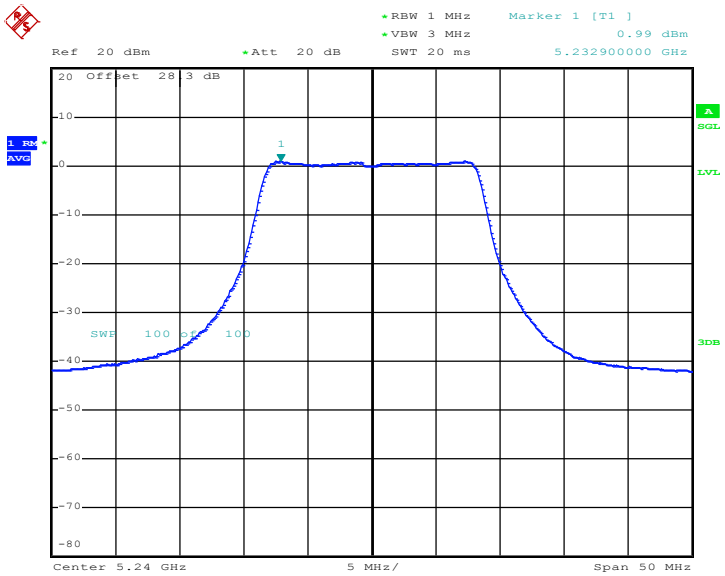
PSD Plot on 802.11a Channel 44



281609 15E PSD 802.11a 5220 (ch44)

Date: 15.SEP.2012 01:08:53

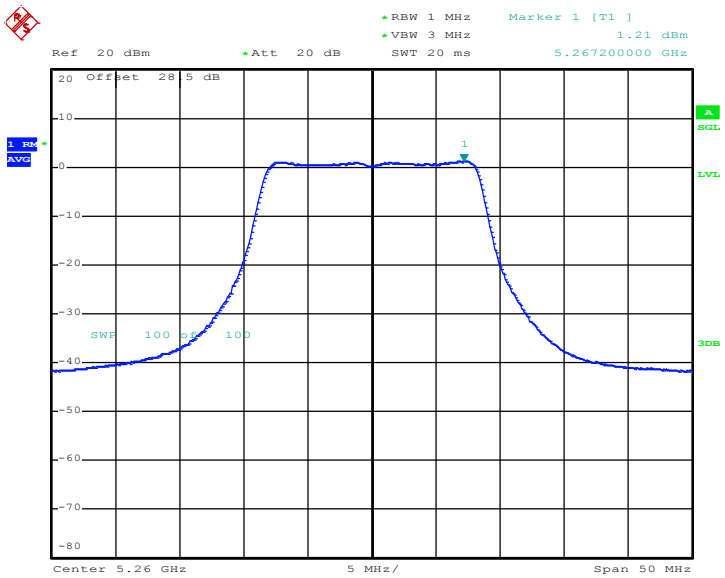
PSD Plot on 802.11a Channel 48



281609 15E PSD 802.11a 5240 (ch48)

Date: 15.SEP.2012 01:10:39

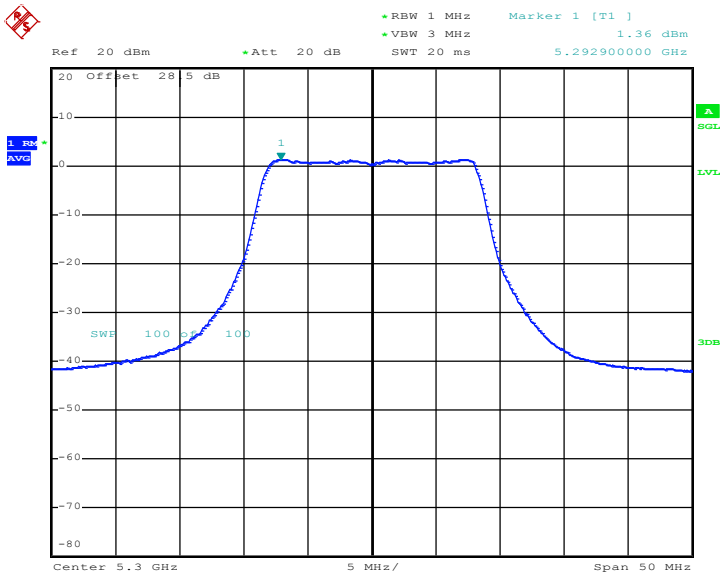
PSD Plot on 802.11a Channel 52



281609 15E PSD 802.11a 5260 (ch52)

Date: 15.SEP.2012 01:12:21

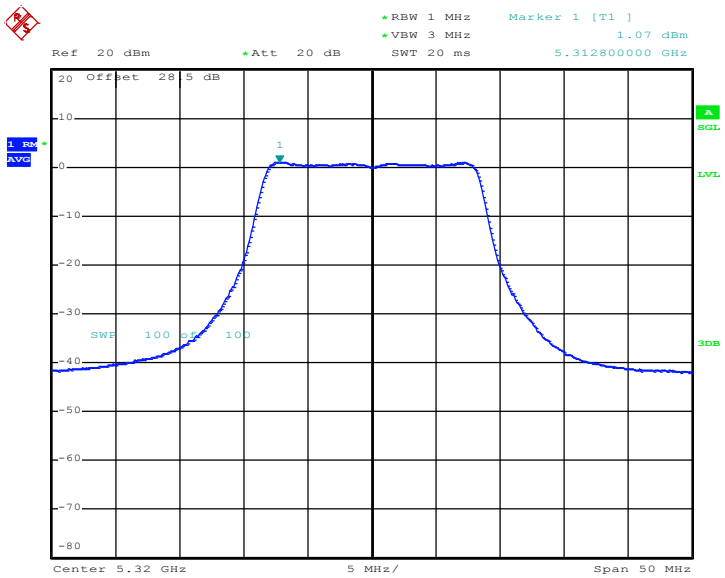
PSD Plot on 802.11a Channel 60



281609 15E PSD 802.11a 5300 (ch60)

Date: 15.SEP.2012 01:14:05

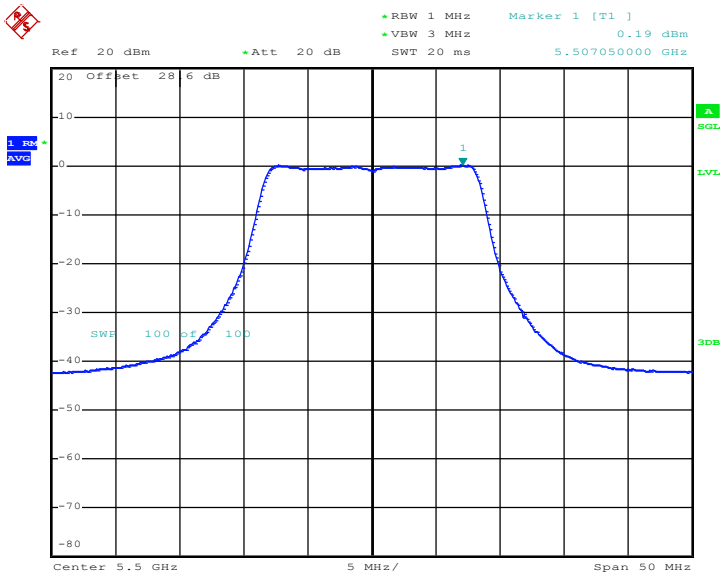
PSD Plot on 802.11a Channel 64



281609 15E PSD 802.11a 5320 (ch64)

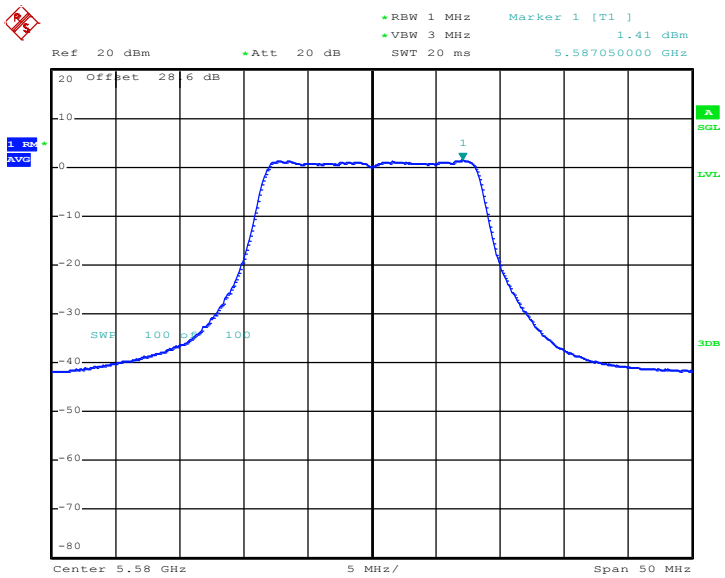
Date: 15.SEP.2012 01:15:26

PSD Plot on 802.11a Channel 100



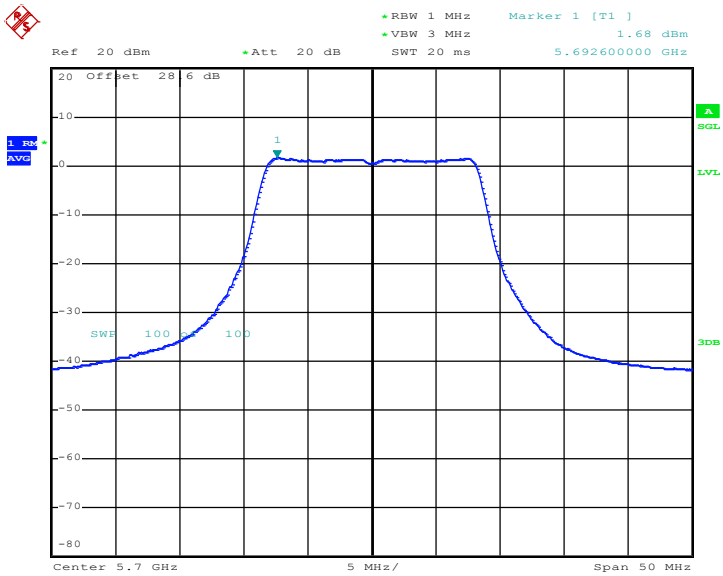
281609 15E PSD 802.11a 5500 (ch100)
Date: 15.SEP.2012 01:18:04

PSD Plot on 802.11a Channel 116



281609 15E PSD 802.11a 5580
Date: 15.SEP.2012 01:19:53

PSD Plot on 802.11a Channel 140



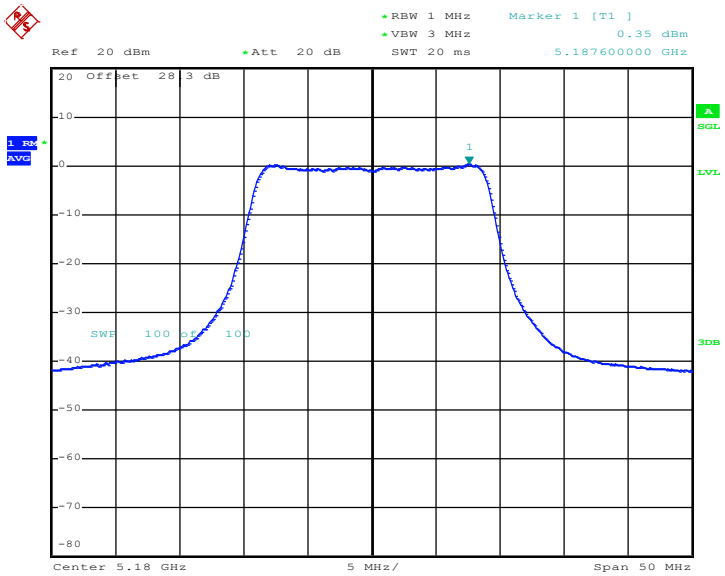
281609 15E PSD 802.11a 5700 (ch140)
Date: 15.SEP.2012 01:21:18

Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%
Duty Cycle:	95.07%	Duty Factor:	0.22dB

Channel	Frequency (MHz)	802.11n HT20 PSD (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
36	5180	0.350	0.570	4	Pass
44	5220	0.120	0.340	4	Pass
48	5240	0.030	0.250	4	Pass
52	5260	0.320	0.540	11	Pass
60	5300	0.240	0.460	11	Pass
64	5320	-0.020	0.200	11	Pass
100	5500	0.300	0.520	11	Pass
116	5580	0.260	0.480	11	Pass
140	5700	0.520	0.740	11	Pass

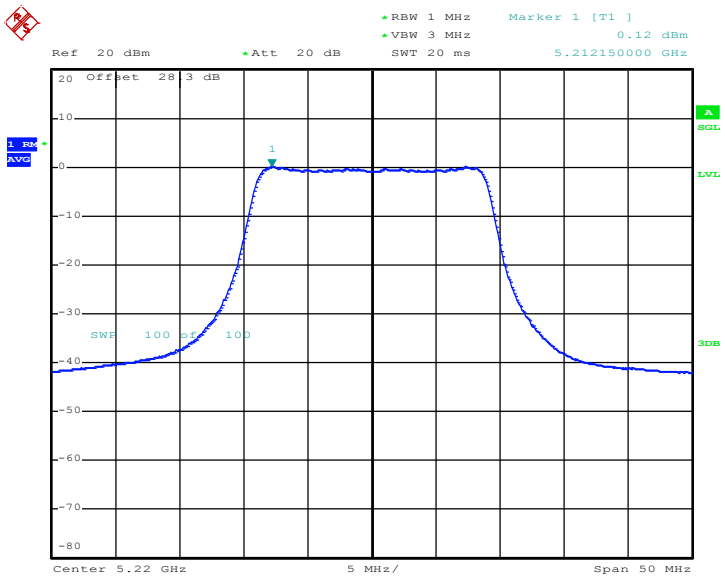
Note: Result of Final PSD equals to Measured PSD adds the duty factor.

PSD Plot on 802.11n HT20 channel 36



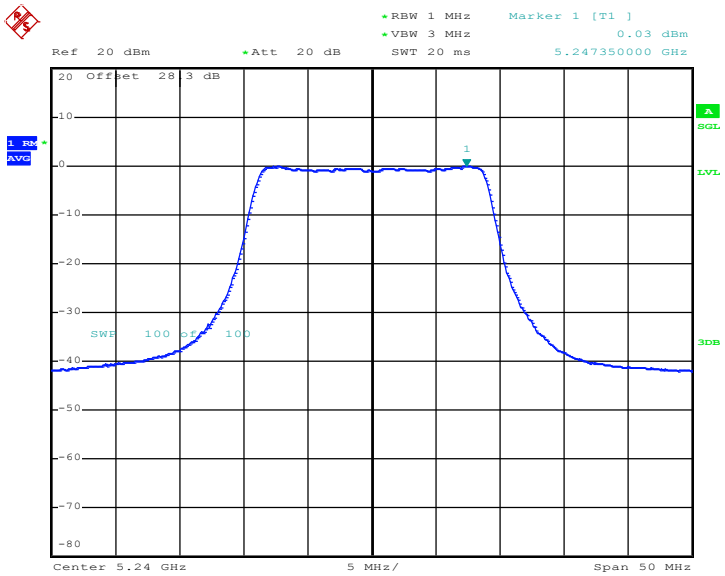
281609 15E PSD 802.11a_N20 5180 (ch36)
Date: 15.SEP.2012 01:36:07

PSD Plot on 802.11n HT20 Channel 44



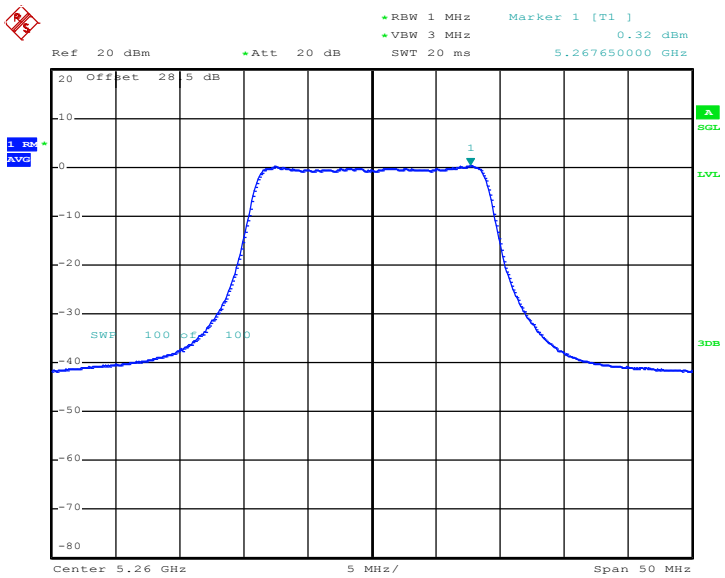
281609 15E PSD 802.11a_N20 5220 (ch44)
Date: 15.SEP.2012 01:34:32

PSD Plot on 802.11n HT20 Channel 48



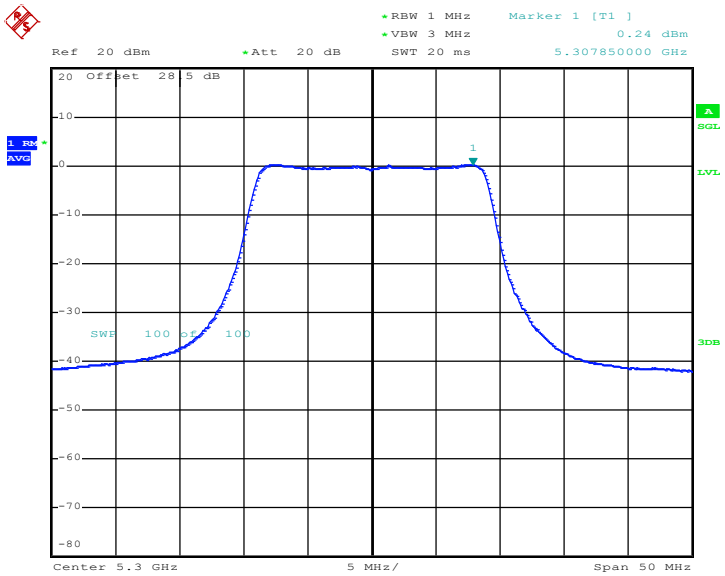
281609 15E PSD 802.11a_N20 5240 (ch48)
Date: 15.SEP.2012 01:33:16

PSD Plot on 802.11n HT20 Channel 52



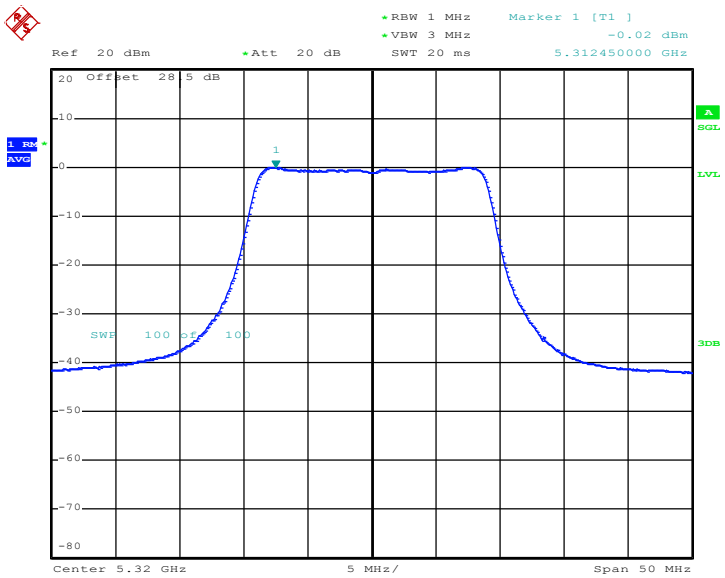
281609 15E PSD 802.11a_N20 5260 (ch52)
Date: 15.SEP.2012 01:31:28

PSD Plot on 802.11n HT20 Channel 60



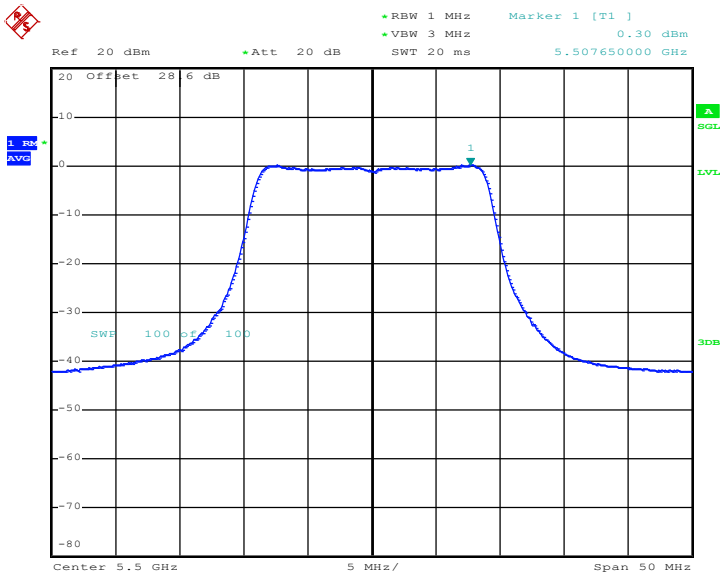
281609 15E PSD 802.11a_N20 5300 (ch60)
Date: 15.SEP.2012 01:29:20

PSD Plot on 802.11n HT20 Channel 64



281609 15E PSD 802.11a_N20 5320 (ch64)
Date: 15.SEP.2012 02:11:49

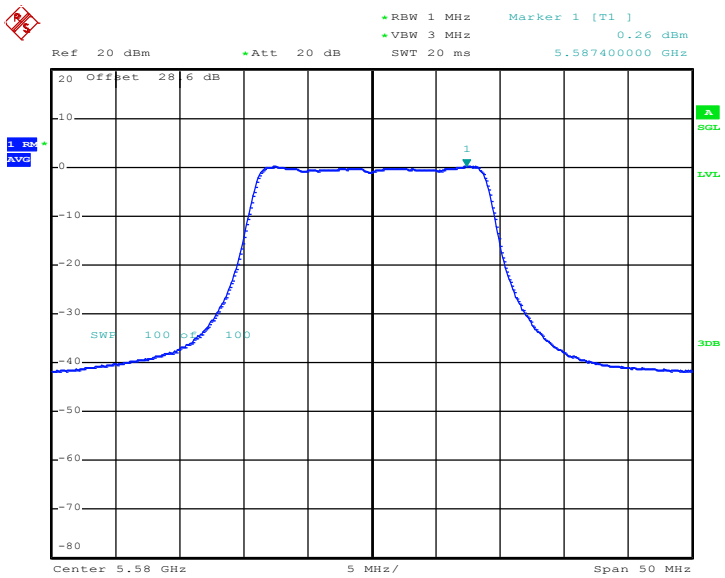
PSD Plot on 802.11n HT20 Channel 100



281609 15E PSD 802.11a_N20 5500 (ch100)

Date: 15.SEP.2012 01:25:57

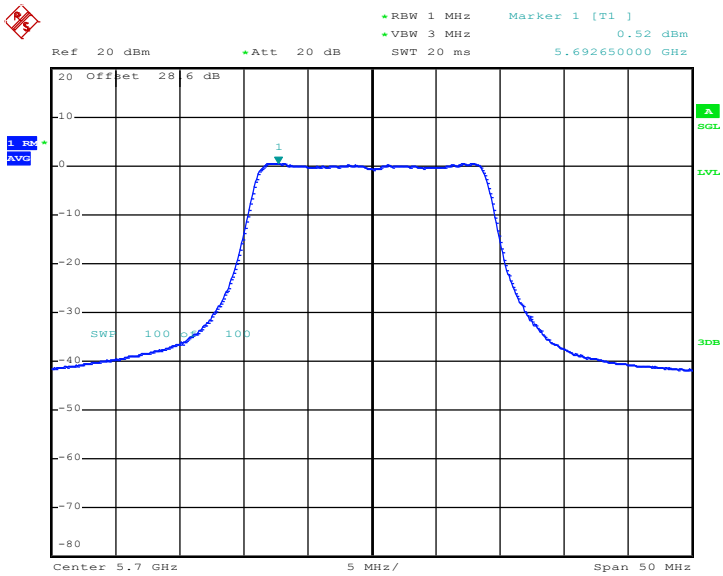
PSD Plot on 802.11n HT20 Channel 116



281609 15E PSD 802.11a_N20 5580

Date: 15.SEP.2012 01:24:43

PSD Plot on 802.11n HT20 Channel 140



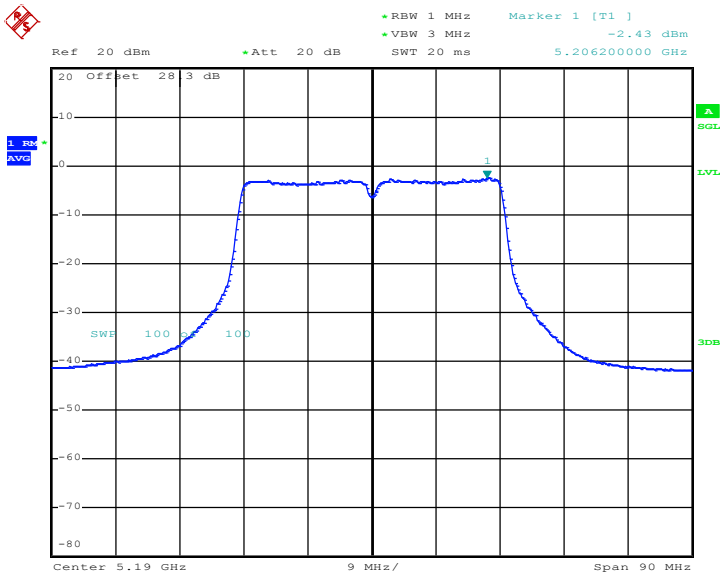
281609 15E PSD 802.11a_N20 5700 (ch140)
Date: 15.SEP.2012 01:23:16

Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%
Duty Cycle:	86.72%	Duty Factor:	0.62dB

Channel	Frequency (MHz)	802.11n HT40 PSD (dBm)		Max. Limits (dBm)	Pass/Fail
		Measured	Final		
38	5190	-2.430	-1.811	4	Pass
46	5230	-2.580	-1.961	4	Pass
54	5270	-2.320	-1.701	11	Pass
62	5310	-2.540	-1.921	11	Pass
102	5510	-2.530	-1.911	11	Pass
110	5550	-2.540	-1.921	11	Pass
134	5670	-2.100	-1.481	11	Pass

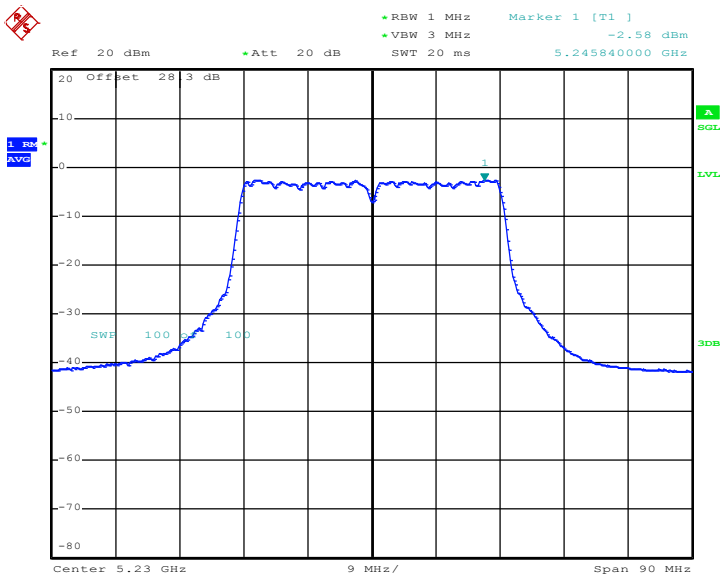
Note: Result of Final PSD equals to Measured PSD adds the duty factor.

PSD Plot on 802.11n HT40 Channel 38



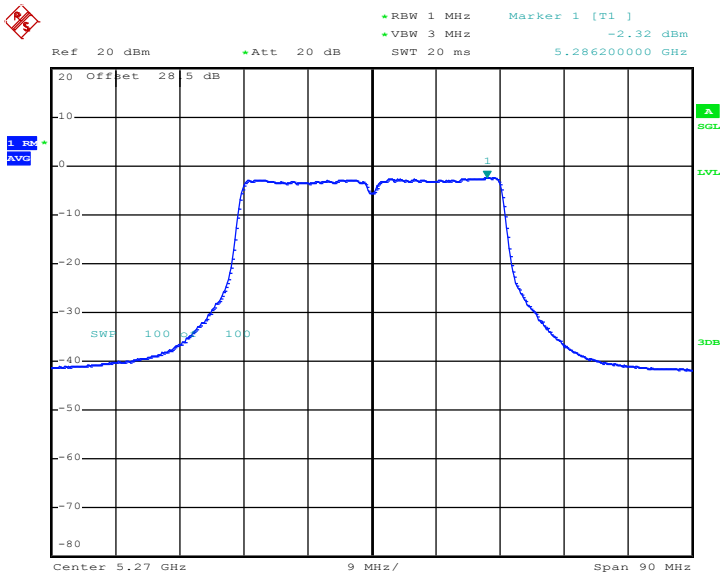
281609 15E PSD 802.11a_N40 5190 (ch38)
Date: 15.SEP.2012 01:39:51

PSD Plot on 802.11n HT40 Channel 46



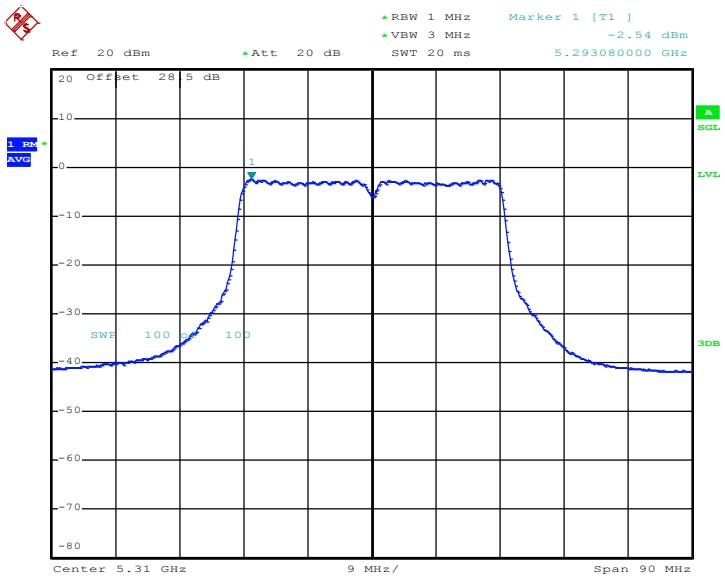
281609 15E PSD 802.11a_N40 5230 (ch46)
Date: 15.SEP.2012 01:41:41

PSD Plot on 802.11n HT40 Channel 54



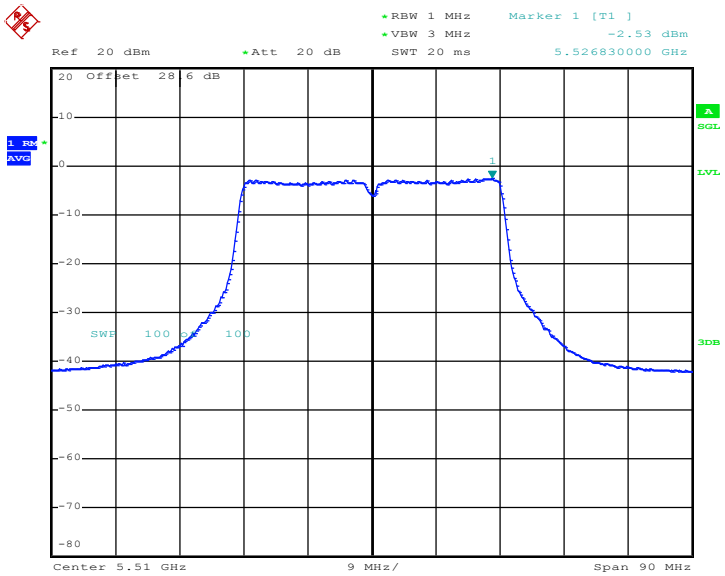
281609 15E PSD 802.11a_N40 5270 (ch54)
Date: 15.SEP.2012 01:44:44

PSD Plot on 802.11n HT40 Channel 62



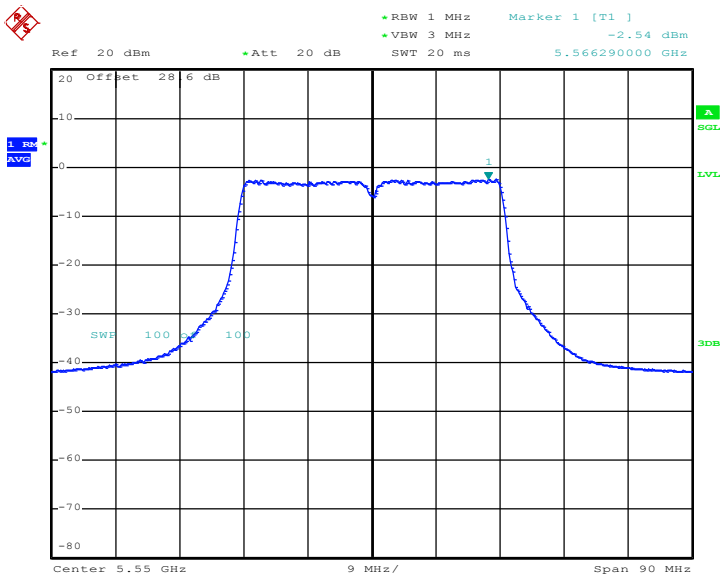
281609 15E PSD 802.11a_N40 5310 (ch62)
Date: 15.SEP.2012 01:46:52

PSD Plot on 802.11n HT40 Channel 102



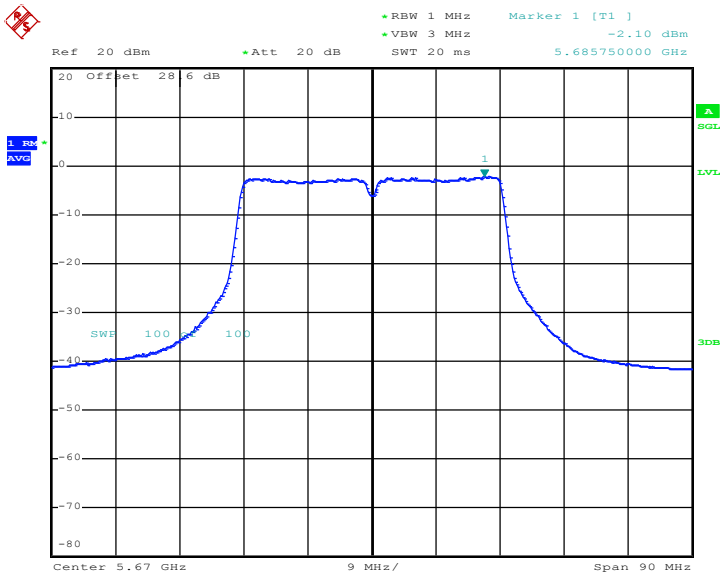
281609 15E PSD 802.11a_N40 5510 (ch102)
Date: 15.SEP.2012 01:48:33

PSD Plot on 802.11n HT40 Channel 110



281609 15E PSD 802.11a_N40 5550
Date: 15.SEP.2012 01:50:49

PSD Plot on 802.11n HT40 Channel 134



281609 15E PSD 802.11a_N40 5670 (ch134)
Date: 15.SEP.2012 01:52:19

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 v01r01.

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.

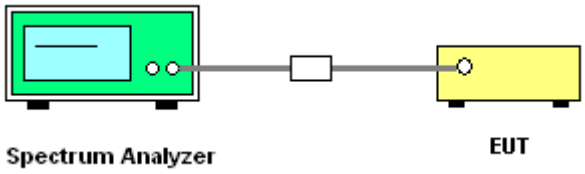
   *Detector = peak.

   *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.

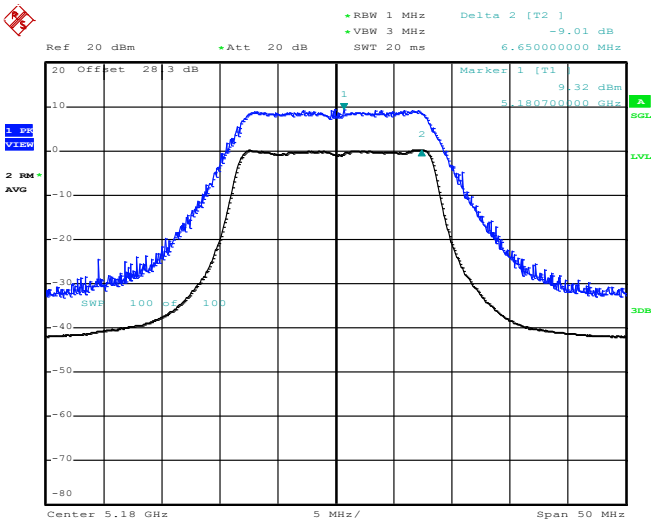
3.4.4 Test Setup



3.4.5 Test Result of Peak Excursion Ratio

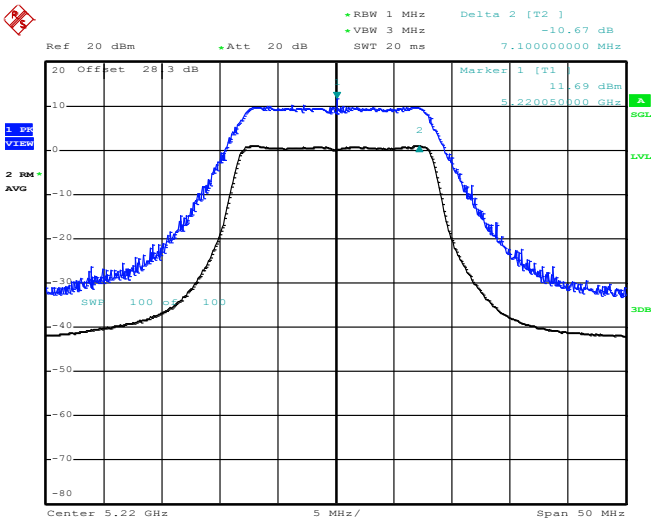
Test Mode :	802.11a	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11a Channel 36



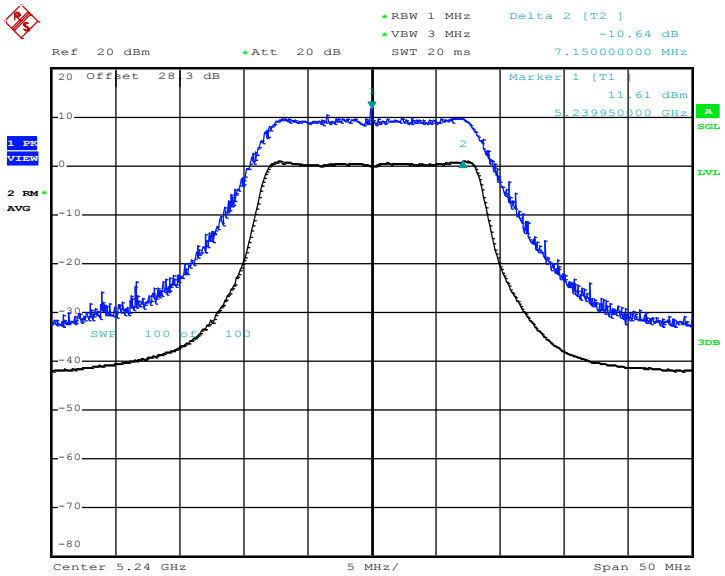
281609 15E PAR 802.11a 5180 (ch36)
Date: 15.SEP.2012 01:06:56

Peak Excursion Ratio Plot on 802.11a Channel 44



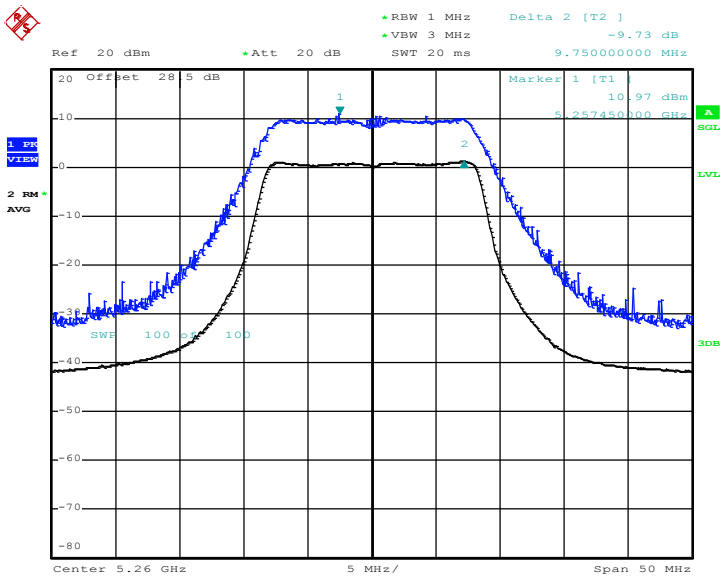
281609 15E PAR 802.11a 5220 (ch44)
Date: 15.SEP.2012 01:09:24

Peak Excursion Ratio Plot on 802.11a Channel 48



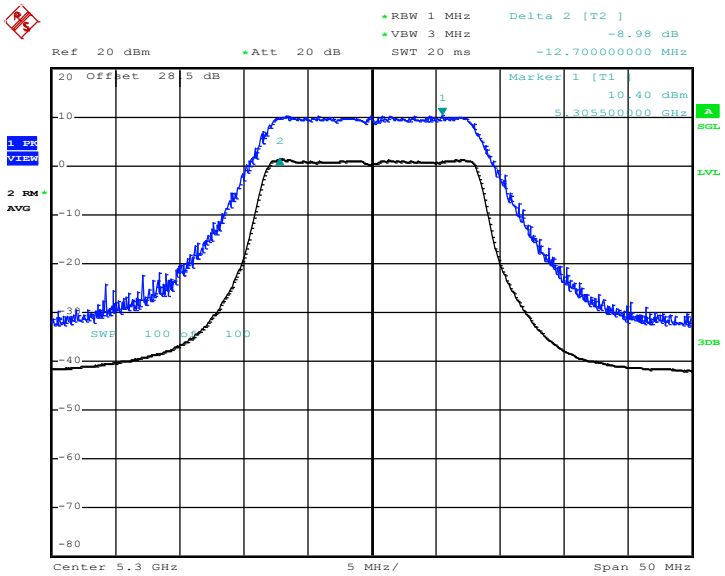
281609 15E PAR 802.11a 5240 (ch48)
Date: 15.SEP.2012 01:11:08

Peak Excursion Ratio Plot on 802.11a Channel 52



281609 15E PAR 802.11a 5260 (ch52)
Date: 15.SEP.2012 01:12:45

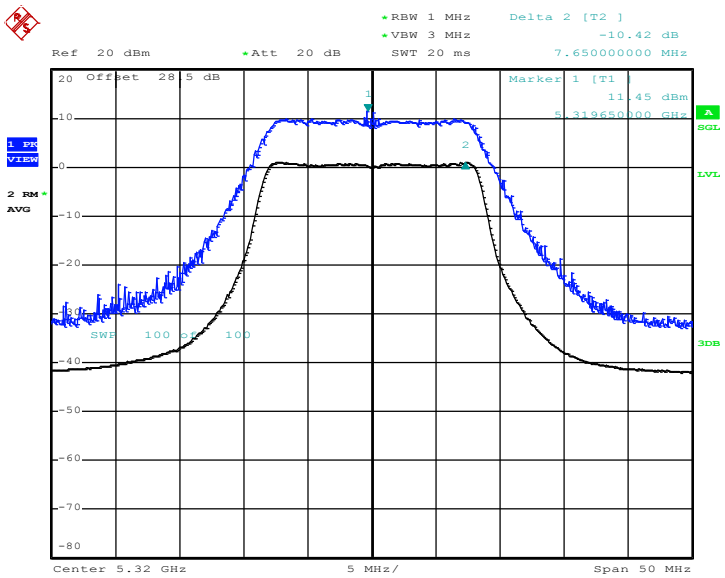
Peak Excursion Ratio Plot on 802.11a Channel 60



281609 15E PAR 802.11a 5300 (ch60)

Date: 15.SEP.2012 01:14:26

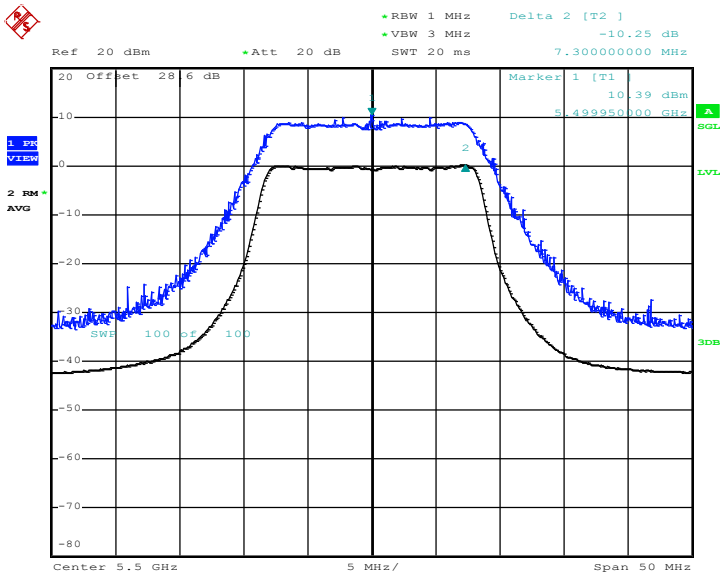
Peak Excursion Ratio Plot on 802.11a Channel 64



281609 15E PAR 802.11a 5320 (ch64)

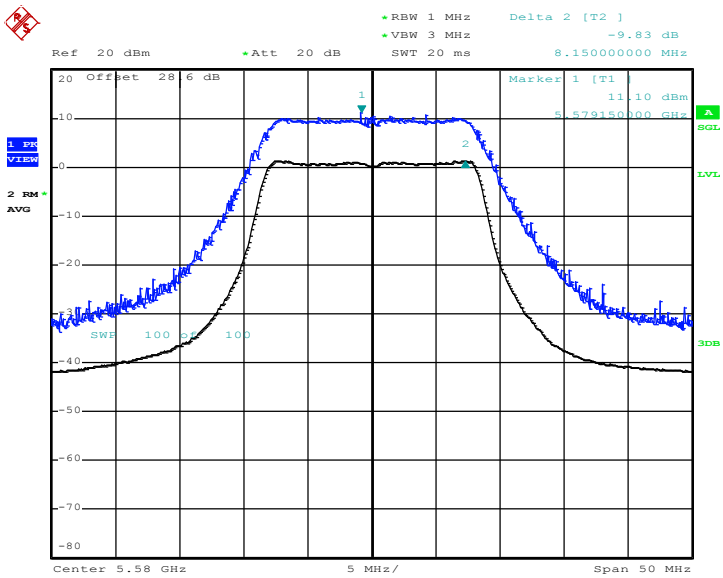
Date: 15.SEP.2012 01:16:00

Peak Excursion Ratio Plot on 802.11a Channel 100



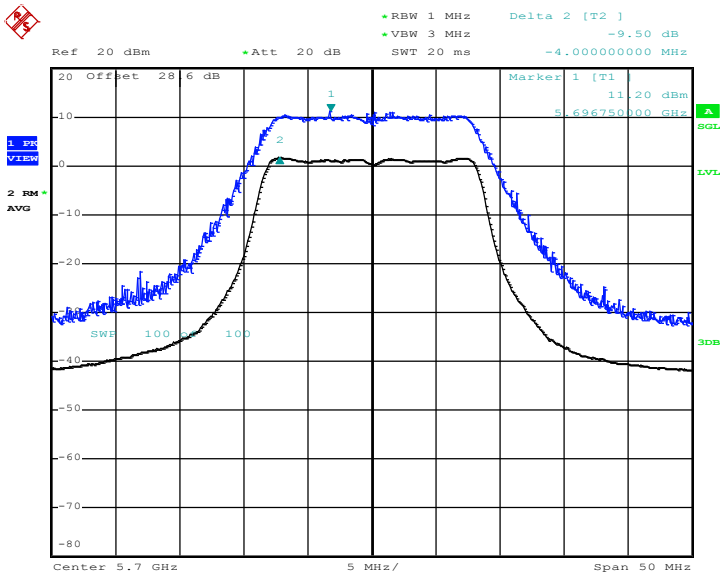
281609 15E PAR 802.11a 5500 (ch100)
Date: 15.SEP.2012 01:18:32

Peak Excursion Ratio Plot on 802.11a Channel 116



281609 15E PAR 802.11a 5580
Date: 15.SEP.2012 01:20:13

Peak Excursion Ratio Plot on 802.11a Channel 140

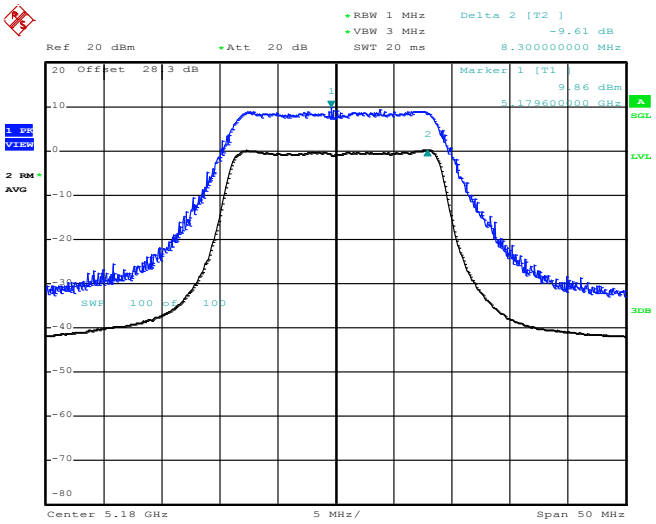


281609 15E PAR 802.11a 5700 (ch140)

Date: 15.SEP.2012 01:21:49

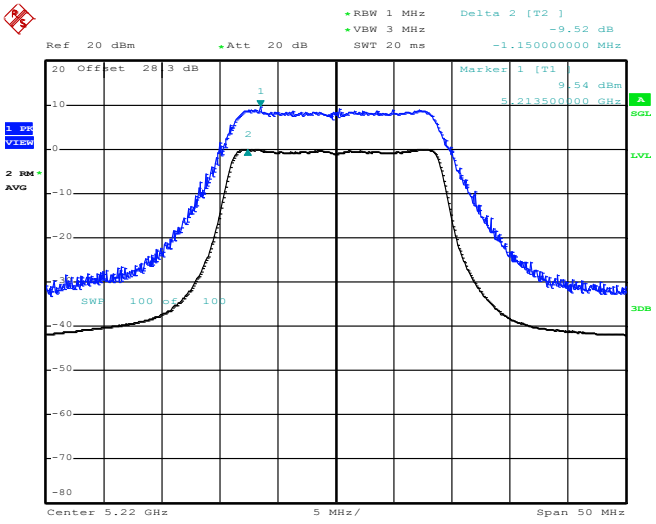
Test Mode :	802.11n HT20	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT20 Channel 36



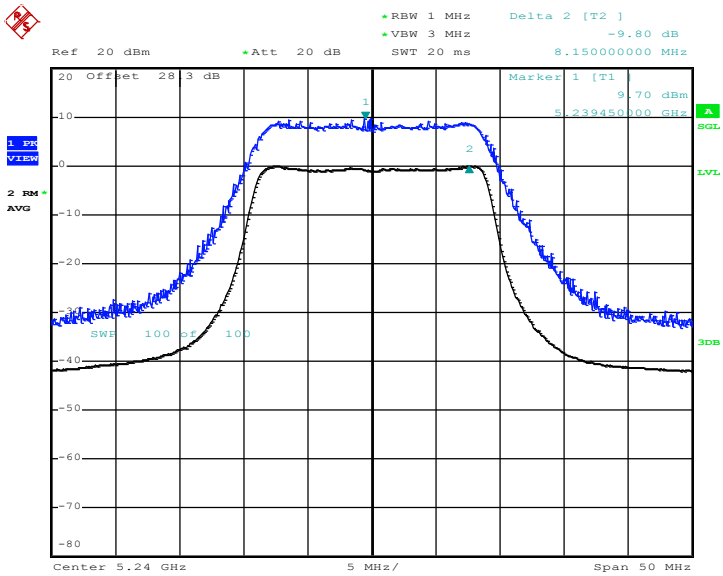
281609 15E PAR 802.11a_N20 5180 (ch36)
Date: 15.SEP.2012 01:37:00

Peak Excursion Ratio Plot on 802.11n HT20 Channel 44



281609 15E PAR 802.11a_N20 5220 (ch44)
Date: 15.SEP.2012 01:34:56

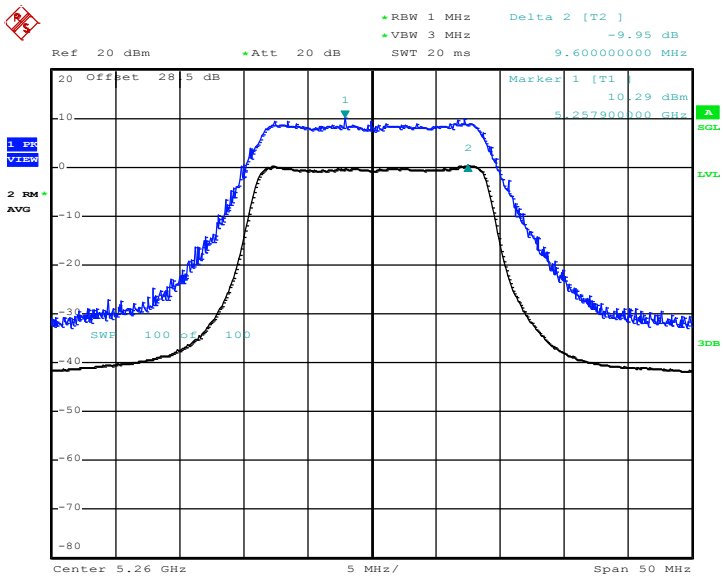
Peak Excursion Ratio Plot on 802.11n HT20 Channel 48



281609 15E PAR 802.11a_N20 5240 (ch48)

Date: 15.SEP.2012 01:33:37

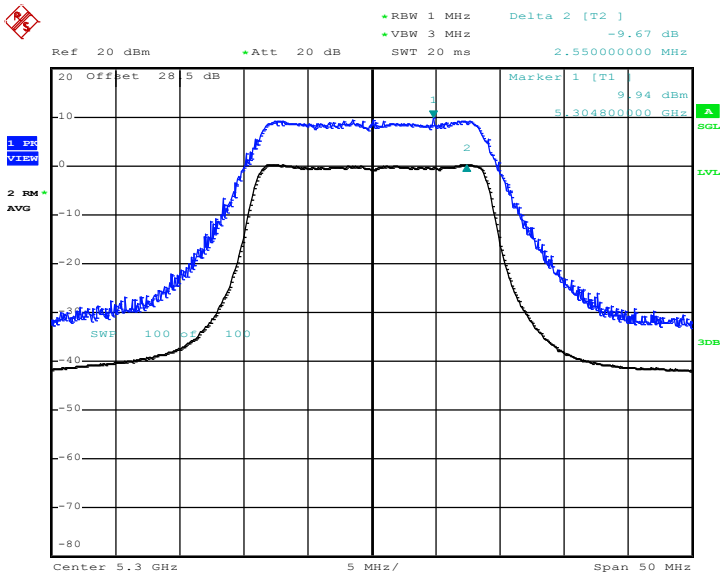
Peak Excursion Ratio Plot on 802.11n HT20 Channel 52



281609 15E PAR 802.11a_N20 5260 (ch52)

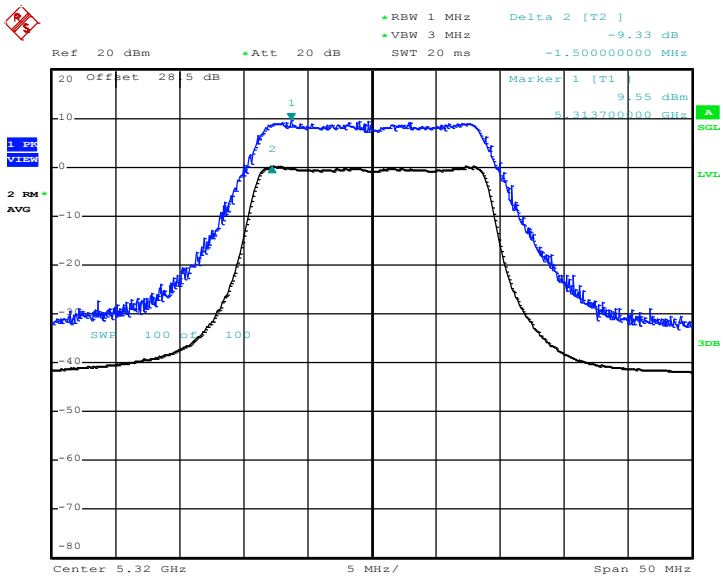
Date: 15.SEP.2012 01:31:48

Peak Excursion Ratio Plot on 802.11n HT20 Channel 60



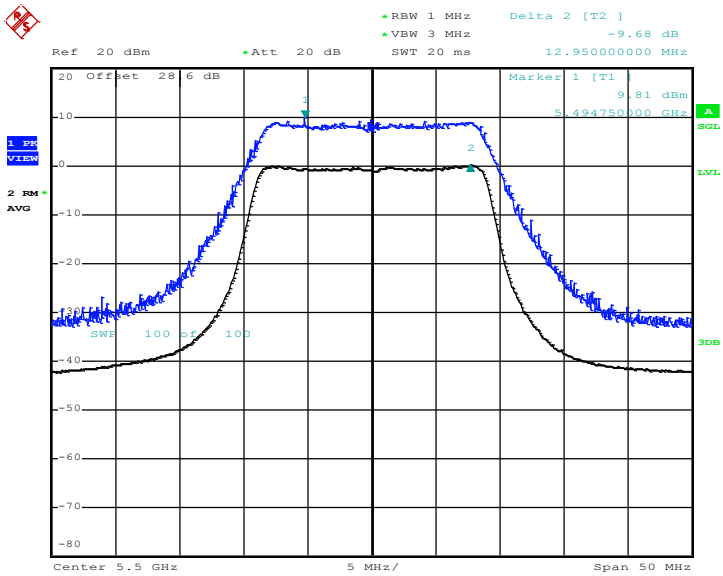
281609 15E PAR 802.11a_N20 5300 (ch60)
Date: 15.SEP.2012 01:29:46

Peak Excursion Ratio Plot on 802.11n HT20 Channel 64



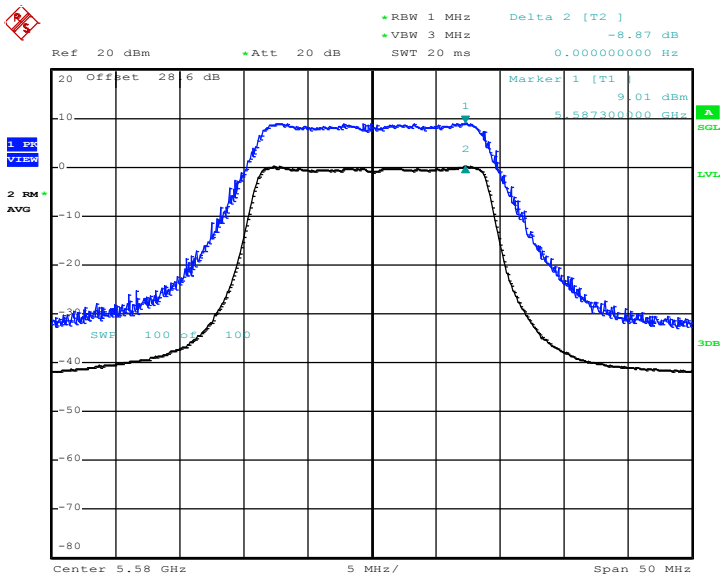
281609 15E PAR 802.11a_N20 5320 (ch64)
Date: 15.SEP.2012 01:27:44

Peak Excursion Ratio Plot on 802.11n HT20 Channel 100



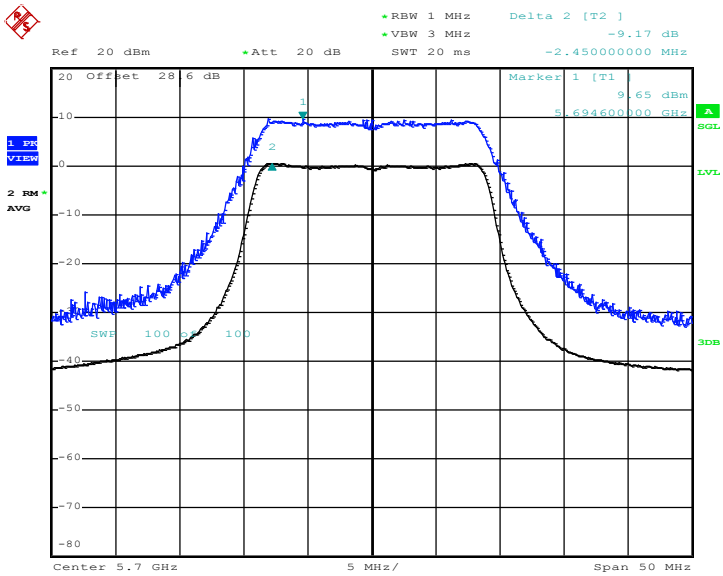
281609 15E PAR 802.11a_N20 5500 (ch100)
Date: 15.SEP.2012 01:26:17

Peak Excursion Ratio Plot on 802.11n HT20 Channel 116



281609 15E PAR 802.11a_N20 5580
Date: 15.SEP.2012 01:25:03

Peak Excursion Ratio Plot on 802.11n HT20 Channel 140

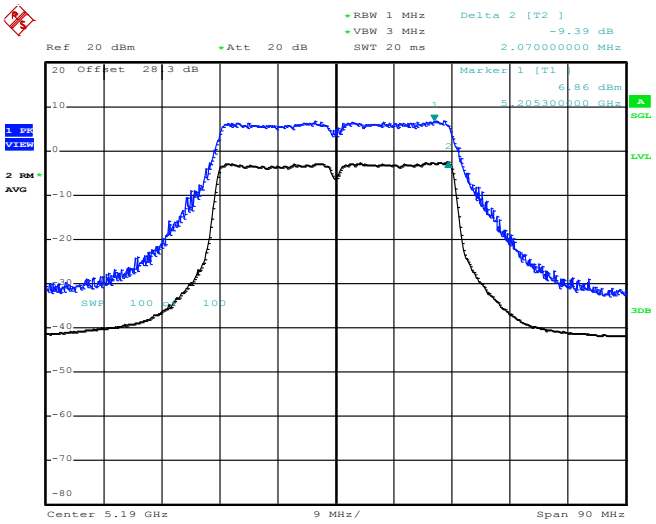


281609 15E PAR 802.11a_N20 5700 (ch140)

Date: 15.SEP.2012 01:23:39

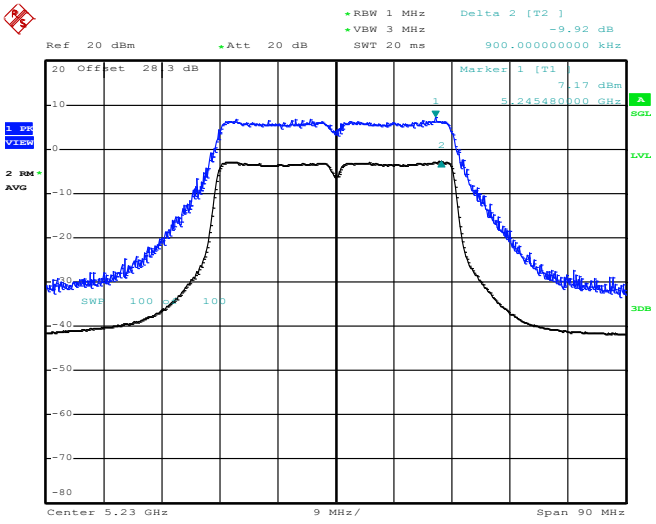
Test Mode :	802.11n HT40	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Peak Excursion Ratio Plot on 802.11n HT40 Channel 38



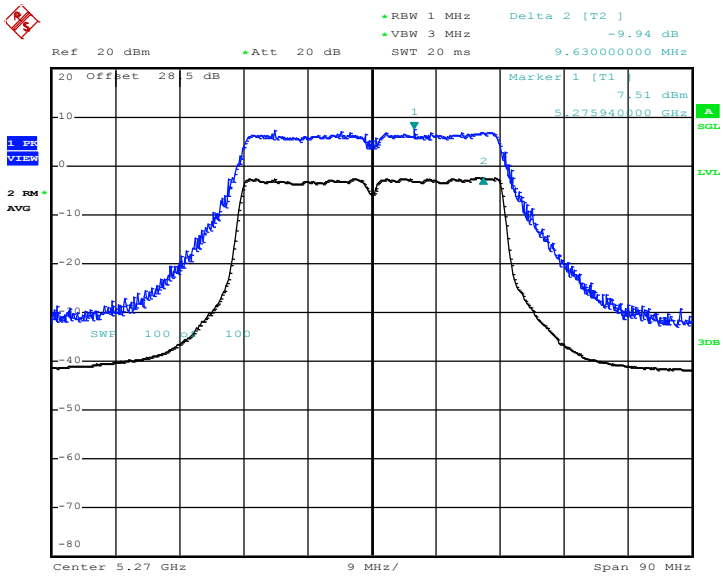
281609 15E PAR 802.11a_N40 5190 (ch38)
Date: 15.SEP.2012 01:40:13

Peak Excursion Ratio Plot on 802.11n HT40 Channel 46



281609 15E PAR 802.11a_N40 5230 (ch46)
Date: 15.SEP.2012 01:42:26

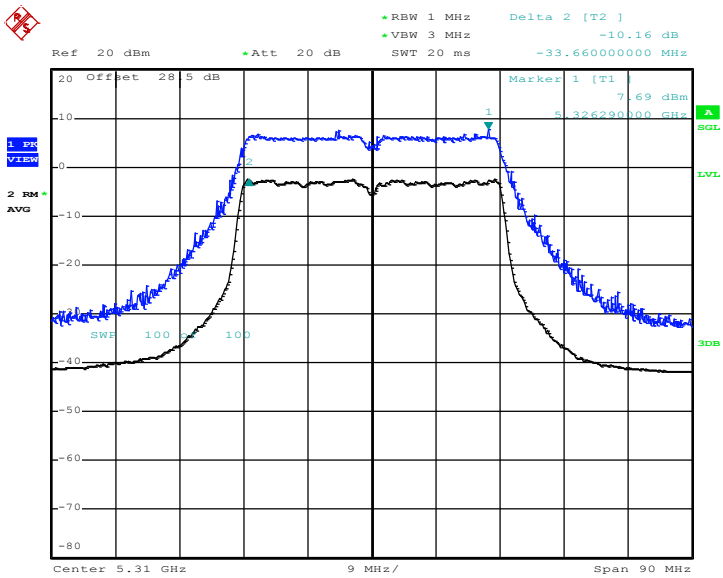
Peak Excursion Ratio Plot on 802.11n HT40 Channel 54



281609 15E PAR 802.11a_N40 5270 (ch54)

Date: 15.SEP.2012 01:45:10

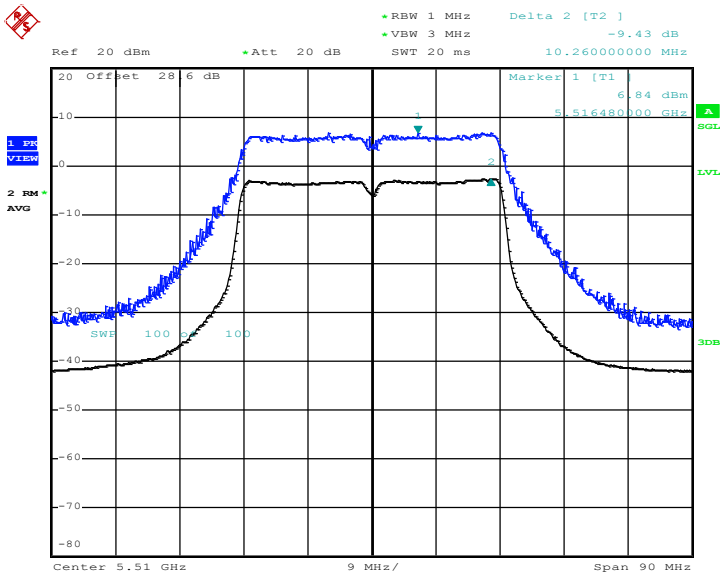
Peak Excursion Ratio Plot on 802.11n HT40 Channel 62



281609 15E PAR 802.11a_N40 5310 (ch62)

Date: 15.SEP.2012 01:47:15

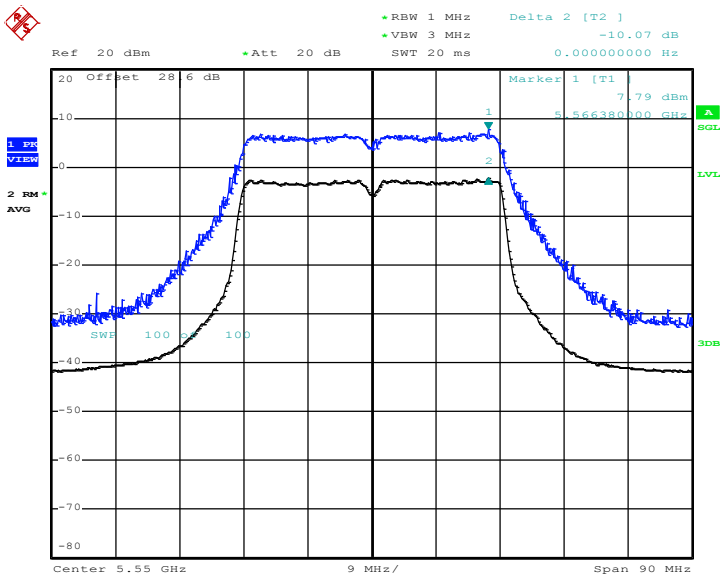
Peak Excursion Ratio Plot on 802.11n HT40 Channel 102



281609 15E PAR 802.11a_N40 5510 (ch102)

Date: 15.SEP.2012 01:48:55

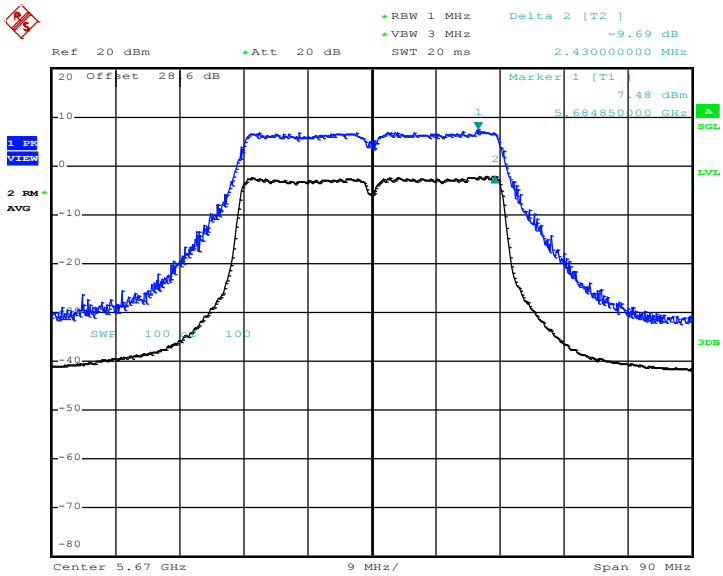
Peak Excursion Ratio Plot on 802.11n HT40 Channel 110



281609 15E PAR 802.11a_N40 5550

Date: 15.SEP.2012 01:51:11

Peak Excursion Ratio Plot on 802.11n HT40 Channel 134



281609 15E PAR 802.11a_N40 5670 (ch134)
Date: 15.SEP.2012 01:52:40

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 v01r01.

   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(ms)	1/T(KHz)	VBW Setting
802.11a	95.37	2.06	0.485	1KHz
802.11n HT20	95.07	1.93	0.518	1KHz
802.11n HT40	86.72	0.67	1.493	3KHz

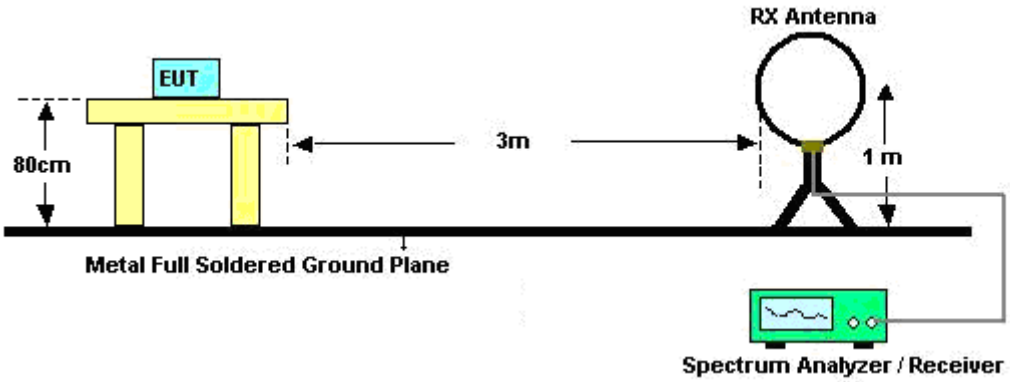
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The antenna is a broadband antenna and its height is adjusted between one meter and four meters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

polarization and vertical polarization of the antenna.

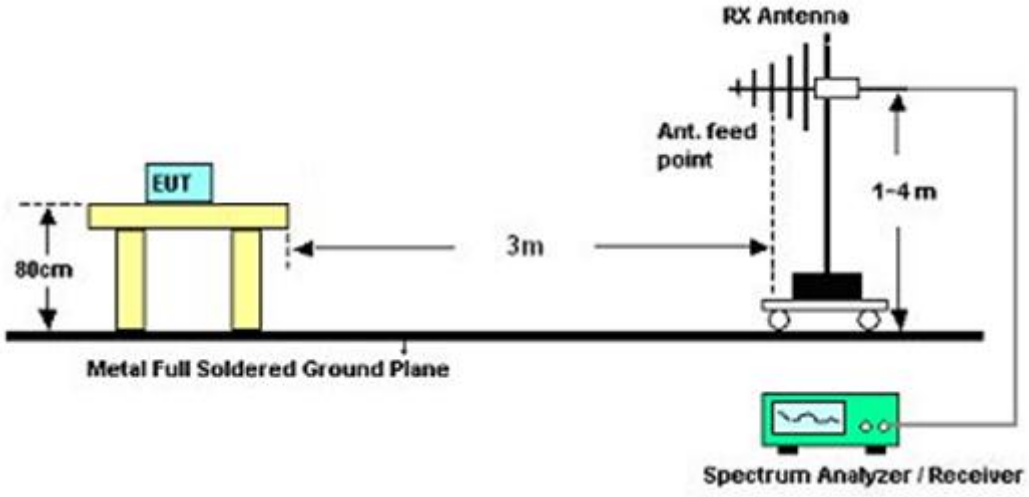
5. For each suspected emission, the EUT was arranged to its worst case and then adjust the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, 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

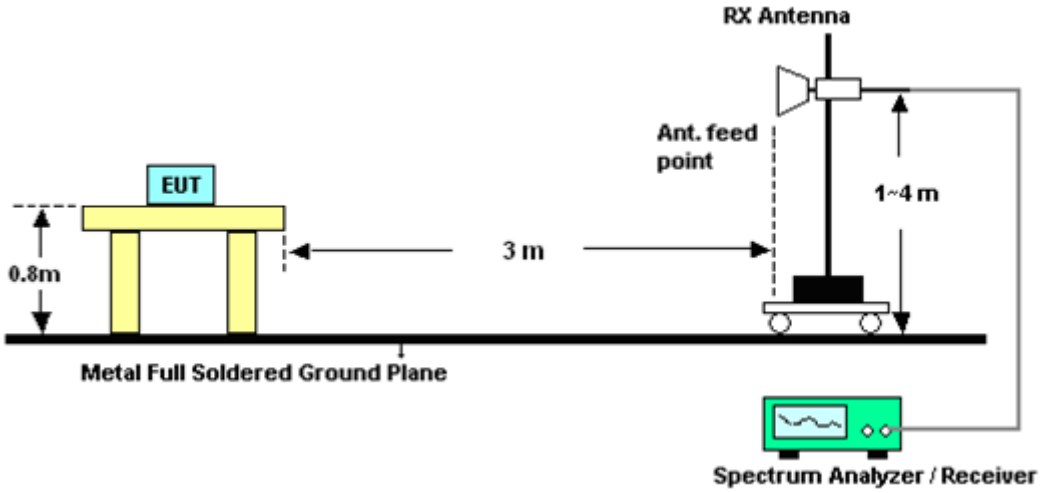
For radiated emissions below 30MHz



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

<For Sample 1>

Test Mode :	802.11a	**Temperature :**	30~31°C
Test Channel :	36	**Relative Humidity :**	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5139.6	55.12	-18.88	74	43.68	34.89	10.4	33.85	102	40	Peak
5147.2	44.58	-9.42	54	33.1	34.89	10.44	33.85	102	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5145.25	54.72	-19.28	74	43.24	34.89	10.44	33.85	114	259	Peak
5145.9	43.3	-10.7	54	31.82	34.89	10.44	33.85	114	259	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5130.3	54.6	-19.4	74	43.17	34.88	10.4	33.85	100	45	Peak
5149.25	43.23	-10.77	54	31.75	34.89	10.44	33.85	100	45	Average

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
5395.75	56.13	-17.87	74	44.14	35.04	10.79	33.84	100	45	Peak
5359.6	45.07	-8.93	54	33.15	35.01	10.75	33.84	100	45	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5125	56.26	-17.74	74	44.83	34.88	10.4	33.85	124	267	Peak
5147.65	42.97	-11.03	54	31.49	34.89	10.44	33.85	124	267	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
5399.25	54.85	-19.15	74	42.86	35.04	10.79	33.84	124	267	Peak
5373.6	43.6	-10.4	54	31.67	35.02	10.75	33.84	124	267	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5143.95	55.29	-18.71	74	43.81	34.89	10.44	33.85	100	42	Peak
5149.5	42.96	-11.04	54	31.48	34.89	10.44	33.85	100	42	Average

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
5395.3	55.58	-18.42	74	43.59	35.04	10.79	33.84	100	42	Peak
5362.3	43.95	-10.05	54	32.02	35.02	10.75	33.84	100	42	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	54.03	-19.97	74	42.55	34.89	10.44	33.85	125	267	Peak
5149.2	42.8	-11.2	54	31.32	34.89	10.44	33.85	125	267	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
5358	55.09	-18.91	74	43.17	35.01	10.75	33.84	125	267	Peak
5372.6	43.74	-10.26	54	31.81	35.02	10.75	33.84	125	267	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5359.25	56.64	-17.36	74	44.72	35.01	10.75	33.84	100	40	Peak
5360.95	44.97	-9.03	54	33.04	35.02	10.75	33.84	100	40	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5372.1	55.3	-18.7	74	43.37	35.02	10.75	33.84	100	271	Peak
5359.95	44.05	-9.95	54	32.13	35.01	10.75	33.84	100	271	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5441.76	56.93	-17.07	74	44.85	35.06	10.86	33.84	139	308	Peak
5470	54.81	-13.49	68.3	42.68	35.08	10.89	33.84	139	308	Peak
5455.44	45.57	-8.43	54	33.45	35.07	10.89	33.84	139	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
5459.36	56.28	-17.72	74	44.16	35.07	10.89	33.84	117	267	Peak
5470	54.44	-13.86	68.3	42.31	35.08	10.89	33.84	117	267	Peak
5455.36	44.12	-9.88	54	32	35.07	10.89	33.84	117	267	Average

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.99	-12.31	68.3	43.08	35.41	11.34	33.84	101	43	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	53.65	-14.65	68.3	40.74	35.41	11.34	33.84	103	268	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5117.05	55.48	-18.52	74	44.06	34.87	10.4	33.85	101	46	Peak
5148.4	44.44	-9.56	54	32.96	34.89	10.44	33.85	101	46	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5112	54.76	-19.24	74	43.37	34.87	10.37	33.85	102	268	Peak
5148.45	43.18	-10.82	54	31.7	34.89	10.44	33.85	102	268	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	54.77	-19.23	74	43.29	34.89	10.44	33.85	100	44	Peak
5149.3	42.83	-11.17	54	31.35	34.89	10.44	33.85	100	44	Average

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
5358.5	55.54	-18.46	74	43.62	35.01	10.75	33.84	100	44	Peak
5387.25	43.82	-10.18	54	31.84	35.03	10.79	33.84	100	44	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5133	54.56	-19.44	74	43.13	34.88	10.4	33.85	100	262	Peak
5150	42.74	-11.26	54	31.26	34.89	10.44	33.85	100	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
5398.75	55.78	-18.22	74	43.79	35.04	10.79	33.84	100	262	Peak
5360.95	43.62	-10.38	54	31.69	35.02	10.75	33.84	100	262	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5145.5	54.75	-19.25	74	43.27	34.89	10.44	33.85	100	33	Peak
5120.8	43.08	-10.92	54	31.66	34.87	10.4	33.85	100	33	Average

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
5397	55.95	-18.05	74	43.96	35.04	10.79	33.84	100	33	Peak
5374.45	43.96	-10.04	54	32.03	35.02	10.75	33.84	100	33	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5147.25	55.52	-18.48	74	44.04	34.89	10.44	33.85	100	270	Peak
5124.3	42.91	-11.09	54	31.48	34.88	10.4	33.85	100	270	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
5384.9	55.53	-18.47	74	43.55	35.03	10.79	33.84	100	270	Peak
5398.95	43.86	-10.14	54	31.87	35.04	10.79	33.84	100	270	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5393.9	56.17	-17.83	74	44.19	35.03	10.79	33.84	100	34	Peak
5358.85	44.8	-9.2	54	32.88	35.01	10.75	33.84	100	34	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5355.35	55.97	-18.03	74	44.08	35.01	10.72	33.84	100	272	Peak
5385.7	43.97	-10.03	54	31.99	35.03	10.79	33.84	100	272	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5442.96	55.33	-18.67	74	43.25	35.06	10.86	33.84	100	315	Peak
5470	52.33	-15.97	68.3	40.2	35.08	10.89	33.84	100	315	Peak
5455.68	44.31	-9.69	54	32.19	35.07	10.89	33.84	100	315	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
5442.4	55.6	-18.4	74	43.52	35.06	10.86	33.84	100	267	Peak
5470	52.33	-15.97	68.3	40.2	35.08	10.89	33.84	100	267	Peak
5456.08	44.1	-9.9	54	31.98	35.07	10.89	33.84	100	267	Average

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	55.8	-12.5	68.3	42.89	35.41	11.34	33.84	100	38	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5725	52.71	-15.59	68.3	39.8	35.41	11.34	33.84	100	282	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	38	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5146.95	59.56	-14.44	74	48.08	34.89	10.44	33.85	100	293	Peak
5149.85	47.94	-6.06	54	36.46	34.89	10.44	33.85	100	293	Average

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
5396.3	56.13	-17.87	74	44.14	35.04	10.79	33.84	100	293	Peak
5374.7	44.59	-9.41	54	32.66	35.02	10.75	33.84	100	293	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5149.65	56.5	-17.5	74	45.02	34.89	10.44	33.85	100	272	Peak
5149.2	44.9	-9.1	54	33.42	34.89	10.44	33.85	100	272	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
5381.9	54.84	-19.16	74	42.86	35.03	10.79	33.84	100	272	Peak
5397.8	44.73	-9.27	54	32.74	35.04	10.79	33.84	100	272	Average

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	46	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5119.75	54.15	-19.85	74	42.73	34.87	10.4	33.85	100	38	Peak
5149.5	44	-10	54	32.52	34.89	10.44	33.85	100	38	Average

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
5370.85	56.98	-17.02	74	45.05	35.02	10.75	33.84	100	38	Peak
5385.85	45.22	-8.78	54	33.24	35.03	10.79	33.84	100	38	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5112.1	54.48	-19.52	74	43.09	34.87	10.37	33.85	100	275	Peak
5136.15	43.65	-10.35	54	32.22	34.88	10.4	33.85	100	275	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
5397.2	56.21	-17.79	74	44.22	35.04	10.79	33.84	100	275	Peak
5396.75	44.6	-9.4	54	32.61	35.04	10.79	33.84	100	275	Average

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	54	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5124.55	54.73	-19.27	74	43.3	34.88	10.4	33.85	100	35	Peak
5149.3	43.9	-10.1	54	32.42	34.89	10.44	33.85	100	35	Average

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
5360.15	55.75	-18.25	74	43.83	35.01	10.75	33.84	100	35	Peak
5357.4	45.15	-8.85	54	33.23	35.01	10.75	33.84	100	35	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
5148.65	54.96	-19.04	74	43.48	34.89	10.44	33.85	100	264	Peak
5148.8	43.63	-10.37	54	32.15	34.89	10.44	33.85	100	264	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
5397.2	55.84	-18.16	74	43.85	35.04	10.79	33.84	100	264	Peak
5360.35	44.54	-9.46	54	32.62	35.01	10.75	33.84	100	264	Average

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	62	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5109.75	54.68	-19.32	74	43.29	34.87	10.37	33.85	100	37	Peak
5146.2	44.43	-9.57	54	32.95	34.89	10.44	33.85	100	37	Average

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
5350	57.28	-16.72	74	45.39	35.01	10.72	33.84	100	37	Peak
5350.25	48.01	-5.99	54	36.12	35.01	10.72	33.84	100	37	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
5124.2	53.94	-20.06	74	42.51	34.88	10.4	33.85	100	279	Peak
5136	43.71	-10.29	54	32.28	34.88	10.4	33.85	100	279	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
5351.85	55.63	-18.37	74	43.74	35.01	10.72	33.84	100	279	Peak
5354.3	45.51	-8.49	54	33.62	35.01	10.72	33.84	100	279	Average

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	102	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5448.24	57.27	-16.73	74	45.18	35.07	10.86	33.84	104	35	Peak
5470	56.87	-11.43	68.3	44.74	35.08	10.89	33.84	104	35	Peak
5455.92	46	-8	54	33.88	35.07	10.89	33.84	104	35	Average
5725	53.61	-14.69	68.3	40.7	35.41	11.34	33.84	104	35	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5453.84	56.18	-17.82	74	44.06	35.07	10.89	33.84	120	274	Peak
5470	53.63	-14.67	68.3	41.5	35.08	10.89	33.84	120	274	Peak
5455.04	44.87	-9.13	54	32.75	35.07	10.89	33.84	120	274	Average
5725	53.02	-15.28	68.3	40.11	35.41	11.34	33.84	120	274	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	134	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5451.76	56.19	-17.81	74	44.1	35.07	10.86	33.84	102	38	Peak
5470	52.31	-15.99	68.3	40.18	35.08	10.89	33.84	102	38	Peak
5443.12	44.67	-9.33	54	32.59	35.06	10.86	33.84	102	38	Average
5725	54.05	-14.25	68.3	41.14	35.41	11.34	33.84	102	38	Peak

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5431.52	55.47	-18.53	74	43.39	35.06	10.86	33.84	105	267	Peak
5470	51.09	-17.21	68.3	38.96	35.08	10.89	33.84	105	267	Peak
5440.56	44.51	-9.49	54	32.43	35.06	10.86	33.84	105	267	Average
5725	53.1	-15.2	68.3	40.19	35.41	11.34	33.84	105	267	Peak

<For Sample 2>

Test Mode :	802.11n HT40	**Temperature :**	30~31°C
Test Channel :	62	**Relative Humidity :**	42~43%
Test Engineer :	Kai Wang and Ivan Chiang		

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5116.75	56.6	-17.4	74	45.18	34.87	10.4	33.85	134	42	Peak
5148.4	45.33	-8.67	54	33.85	34.89	10.44	33.85	134	42	Average

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
5352.5	63.31	-10.69	74	51.42	35.01	10.72	33.84	134	42	Peak
5350.8	49.99	-4.01	54	38.1	35.01	10.72	33.84	134	42	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5129.9	56.95	-17.05	74	45.52	34.88	10.4	33.85	101	267	Peak
5128.7	45.13	-8.87	54	33.7	34.88	10.4	33.85	101	267	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
5351.05	60.1	-13.9	74	48.21	35.01	10.72	33.84	101	267	Peak
5350.15	47.38	-6.62	54	35.49	35.01	10.72	33.84	101	267	Average

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

<For Sample 1>

Test Mode :	802.11a	**Temperature :**	30~31°C
Test Channel :	36	**Relative Humidity :**	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	**Polarization :**	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	93.65	-	-	82.12	34.91	10.47	33.85	102	40	Average
5180	102.93	-	-	91.4	34.91	10.47	33.85	102	40	Peak

Test Mode :	802.11a	**Temperature :**	30~31°C
Test Channel :	36	**Relative Humidity :**	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	**Polarization :**	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	90.39	-	-	78.86	34.91	10.47	33.85	114	259	Average
5180	99.45	-	-	87.93	34.9	10.47	33.85	114	259	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	95.51	-	-	83.89	34.93	10.54	33.85	100	45	Average
5220	104.72	-	-	93.1	34.93	10.54	33.85	100	45	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	91.15	-	-	79.53	34.93	10.54	33.85	113	263	Average
5220	100.38	-	-	88.75	34.94	10.54	33.85	113	263	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5240	96.26	-	-	84.59	34.94	10.58	33.85	100	45	Average
5240	105.48	-	-	93.81	34.94	10.58	33.85	100	45	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5240	91.43	-	-	79.76	34.94	10.58	33.85	124	267	Average
5240	100.6	-	-	88.91	34.95	10.58	33.84	124	267	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	96.54	-	-	84.81	34.96	10.61	33.84	100	42	Average
5260	105.74	-	-	94.01	34.96	10.61	33.84	100	42	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	91.38	-	-	79.65	34.96	10.61	33.84	125	267	Average
5260	101	-	-	89.27	34.96	10.61	33.84	125	267	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5300	95.31	-	-	82.78	35.24	11.13	33.84	100	42	Average
5300	104.4	-	-	92.61	34.98	10.65	33.84	100	42	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5300	91.07	-	-	79.28	34.98	10.65	33.84	134	270	Average
5300	100.14	-	-	88.35	34.98	10.65	33.84	134	270	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	94.53	-	-	82.7	34.99	10.68	33.84	100	40	Average
5320	103.68	-	-	91.85	34.99	10.68	33.84	100	40	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	90.92	-	-	79.09	34.99	10.68	33.84	100	271	Average
5320	100.02	-	-	88.19	34.99	10.68	33.84	100	271	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	93.37	-	-	81.15	35.1	10.96	33.84	139	308	Average
5500	102.53	-	-	90.31	35.1	10.96	33.84	139	308	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	88.78	-	-	76.56	35.1	10.96	33.84	117	267	Average
5500	98.63	-	-	86.41	35.1	10.96	33.84	117	267	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	95.13	-	-	82.68	35.2	11.09	33.84	103	41	Average
5580	104.38	-	-	91.93	35.2	11.09	33.84	103	41	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	91.09	-	-	78.64	35.2	11.09	33.84	192	267	Average
5580	100.26	-	-	87.85	35.2	11.05	33.84	192	267	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	95.43	-	-	82.6	35.37	11.3	33.84	101	43	Average
5700	104.87	-	-	92.04	35.37	11.3	33.84	101	43	Peak

Test Mode :	802.11a	Temperature :	30~31°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	91.11	-	-	78.28	35.37	11.3	33.84	103	268	Average
5700	100.39	-	-	87.56	35.37	11.3	33.84	103	268	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	93.4	-	-	81.87	34.91	10.47	33.85	101	46	Average
5180	103.02	-	-	91.49	34.91	10.47	33.85	101	46	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	36	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5180 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5180	89.89	-	-	78.36	34.91	10.47	33.85	102	268	Average
5180	99.27	-	-	87.74	34.91	10.47	33.85	102	268	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	92.82	-	-	81.2	34.93	10.54	33.85	100	42	Average
5220	102.14	-	-	90.52	34.93	10.54	33.85	100	42	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	44	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5220 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5220	88.63	-	-	77.01	34.93	10.54	33.85	100	266	Average
5220	97.81	-	-	86.19	34.93	10.54	33.85	100	266	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5240	92.76	-	-	81.09	34.94	10.58	33.85	100	44	Average
5240	101.94	-	-	90.27	34.94	10.58	33.85	100	44	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	48	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5240 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5240	87.2	-	-	75.53	34.94	10.58	33.85	100	262	Average
5240	96.98	-	-	85.31	34.94	10.58	33.85	100	262	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	92.01	-	-	80.28	34.96	10.61	33.84	100	33	Average
5260	101.44	-	-	89.71	34.96	10.61	33.84	100	33	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	52	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5260 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5260	86.85	-	-	75.12	34.96	10.61	33.84	100	270	Average
5260	96.1	-	-	84.37	34.96	10.61	33.84	100	270	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5300	92.05	-	-	80.26	34.98	10.65	33.84	100	36	Average
5300	101.46	-	-	89.67	34.98	10.65	33.84	100	36	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	60	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5300 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5300	88.24	-	-	76.45	34.98	10.65	33.84	100	263	Average
5300	98.18	-	-	86.39	34.98	10.65	33.84	100	263	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	93.25	-	-	81.42	34.99	10.68	33.84	100	34	Average
5320	102.54	-	-	90.71	34.99	10.68	33.84	100	34	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	64	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5320 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5320	89.39	-	-	77.56	34.99	10.68	33.84	100	272	Average
5320	98.51	-	-	86.68	34.99	10.68	33.84	100	272	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	89.64	-	-	77.42	35.1	10.96	33.84	100	315	Average
5500	99.23	-	-	87.01	35.1	10.96	33.84	100	315	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	100	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5500 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5500	87.26	-	-	75.04	35.1	10.96	33.84	100	267	Average
5500	97.81	-	-	85.59	35.1	10.96	33.84	100	267	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	89.67	-	-	77.22	35.2	11.09	33.84	100	315	Average
5580	99.19	-	-	86.74	35.2	11.09	33.84	100	315	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	116	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5580 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5580	86.98	-	-	74.53	35.2	11.09	33.84	100	21	Average
5580	96.78	-	-	84.33	35.2	11.09	33.84	100	21	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	93.66	-	-	80.83	35.37	11.3	33.84	100	38	Average
5700	103.05	-	-	90.22	35.37	11.3	33.84	100	38	Peak

Test Mode :	802.11n HT20	Temperature :	30~31°C
Test Channel :	140	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5700 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5700	86.22	-	-	73.39	35.37	11.3	33.84	100	282	Average
5700	95.45	-	-	82.62	35.37	11.3	33.84	100	282	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	38	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5190 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5190	89.52	-	-	77.95	34.91	10.51	33.85	100	293	Average
5190	98.97	-	-	87.4	34.91	10.51	33.85	100	293	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	38	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5190 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5190	85.36	-	-	73.79	34.91	10.51	33.85	100	272	Average
5190	95.7	-	-	84.13	34.91	10.51	33.85	100	272	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	46	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5230 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5230	92.28	-	-	80.65	34.94	10.54	33.85	100	38	Average
5230	101.34	-	-	89.71	34.94	10.54	33.85	100	38	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	46	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5230 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5230	86.81	-	-	75.18	34.94	10.54	33.85	100	275	Average
5230	95.49	-	-	83.86	34.94	10.54	33.85	100	275	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	54	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5270	92.53	-	-	80.8	34.96	10.61	33.84	100	35	Average
5270	101.79	-	-	90.06	34.96	10.61	33.84	100	35	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	54	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5270 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5270	87.83	-	-	76.1	34.96	10.61	33.84	100	264	Average
5270	96.62	-	-	84.89	34.96	10.61	33.84	100	264	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	62	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
41.88	31.95	-8.05	40	51.36	11.54	0.75	31.7	100	138	Peak
115.86	30.49	-13.01	43.5	49.19	11.82	1.19	31.71	-	-	Peak
144.75	33.88	-9.62	43.5	53.49	10.77	1.32	31.7	-	-	Peak
331.5	20.01	-25.99	46	35.87	13.74	1.99	31.59	-	-	Peak
639.5	22.74	-23.26	46	32.75	19.2	2.79	32	-	-	Peak
882.4	24.48	-21.52	46	32.24	20.63	3.32	31.71	-	-	Peak
5310	92.98	-	-	81.15	34.99	10.68	33.84	100	37	Average
5310	102.14	-	-	90.31	34.99	10.68	33.84	100	37	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	62	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (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	34.83	-5.17	40	47.11	18.8	0.64	31.72	100	214	Peak
51.87	33.46	-6.54	40	56.53	7.8	0.82	31.69	-	-	Peak
115.86	27.52	-15.98	43.5	46.22	11.82	1.19	31.71	-	-	Peak
350.4	18.96	-27.04	46	34.17	14.3	2.05	31.56	-	-	Peak
692	24.56	-21.44	46	34.77	18.92	2.87	32	-	-	Peak
931.4	26.2	-19.8	46	33.43	20.71	3.36	31.3	-	-	Peak
5310	88.8	-	-	76.97	34.99	10.68	33.84	100	279	Average
5310	98.24	-	-	86.41	34.99	10.68	33.84	100	279	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	102	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5510	90.87	-	-	78.65	35.1	10.96	33.84	104	35	Average
5510	100.46	-	-	88.22	35.12	10.96	33.84	104	35	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	102	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5510 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5510	86.97	-	-	74.75	35.1	10.96	33.84	120	274	Average
5510	96.78	-	-	84.5	35.12	11	33.84	120	274	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	110	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5550 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5550	90.94	-	-	78.56	35.17	11.05	33.84	114	32	Average
5550	99.59	-	-	87.21	35.17	11.05	33.84	114	32	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	110	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5550 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5550	87.77	-	-	75.39	35.17	11.05	33.84	107	273	Average
5550	96.2	-	-	83.82	35.17	11.05	33.84	107	273	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	134	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Horizontal
Remark :	1. 5670 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5670	91.87	-	-	79.11	35.34	11.26	33.84	102	38	Average
5670	101	-	-	88.3	35.32	11.22	33.84	102	38	Peak

Test Mode :	802.11n HT40	Temperature :	30~31°C
Test Channel :	134	Relative Humidity :	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	Polarization :	Vertical
Remark :	1. 5670 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBµV/m)	Over Limit (dB)	Limit Line (dBµV/m)	Read Level (dBµV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5670	88.65	-	-	75.89	35.34	11.26	33.84	105	267	Average
5670	97.81	-	-	85.09	35.34	11.22	33.84	105	267	Peak

<For Sample 2>

Test Mode :	802.11n HT40	**Temperature :**	30~31°C
Test Channel :	62	**Relative Humidity :**	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	**Polarization :**	Horizontal
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
52.95	30.14	-9.86	40	53.43	7.5	0.82	31.61	-	-	Peak
123.15	34.43	-9.07	43.5	52.64	11.84	1.24	31.29	-	-	Peak
211.44	34.48	-9.02	43.5	55.14	8.92	1.58	31.16	100	248	Peak
445.6	20.79	-25.21	46	32.89	16.7	2.3	31.1	-	-	Peak
676.6	22.37	-23.63	46	31.95	19.1	2.85	31.53	-	-	Peak
788.6	23.78	-22.22	46	32.52	19.9	3.06	31.7	-	-	Peak
5310	93.39	-	-	81.56	34.99	10.68	33.84	134	42	Average
5310	102.77	-	-	90.94	34.99	10.68	33.84	134	42	Peak

Test Mode :	802.11n HT40	**Temperature :**	30~31°C
Test Channel :	62	**Relative Humidity :**	42~43%
Test Engineer :	Kai Wang and Ivan Chiang	**Polarization :**	Vertical
Remark :	1. 5310 MHz is fundamental signal which can be ignored. 2. All other emission found more than 20dB below limit line is not reported.		

Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30.27	34.35	-5.65	40	46.46	18.8	0.64	31.55	100	116	Peak
54.57	33.95	-6.05	40	57.47	7.2	0.83	31.55	-	-	Peak
111.54	29.82	-13.68	43.5	48.1	11.8	1.16	31.24	-	-	Peak
387.5	20.4	-25.6	46	34.41	15.24	2.15	31.4	-	-	Peak
661.2	25.15	-20.85	46	34.39	19.18	2.82	31.24	-	-	Peak
895.7	26.59	-19.41	46	33.98	20.7	3.36	31.45	-	-	Peak
5310	89.35	-	-	77.52	34.99	10.68	33.84	101	267	Average
5310	98.83	-	-	87	34.99	10.68	33.84	101	267	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.

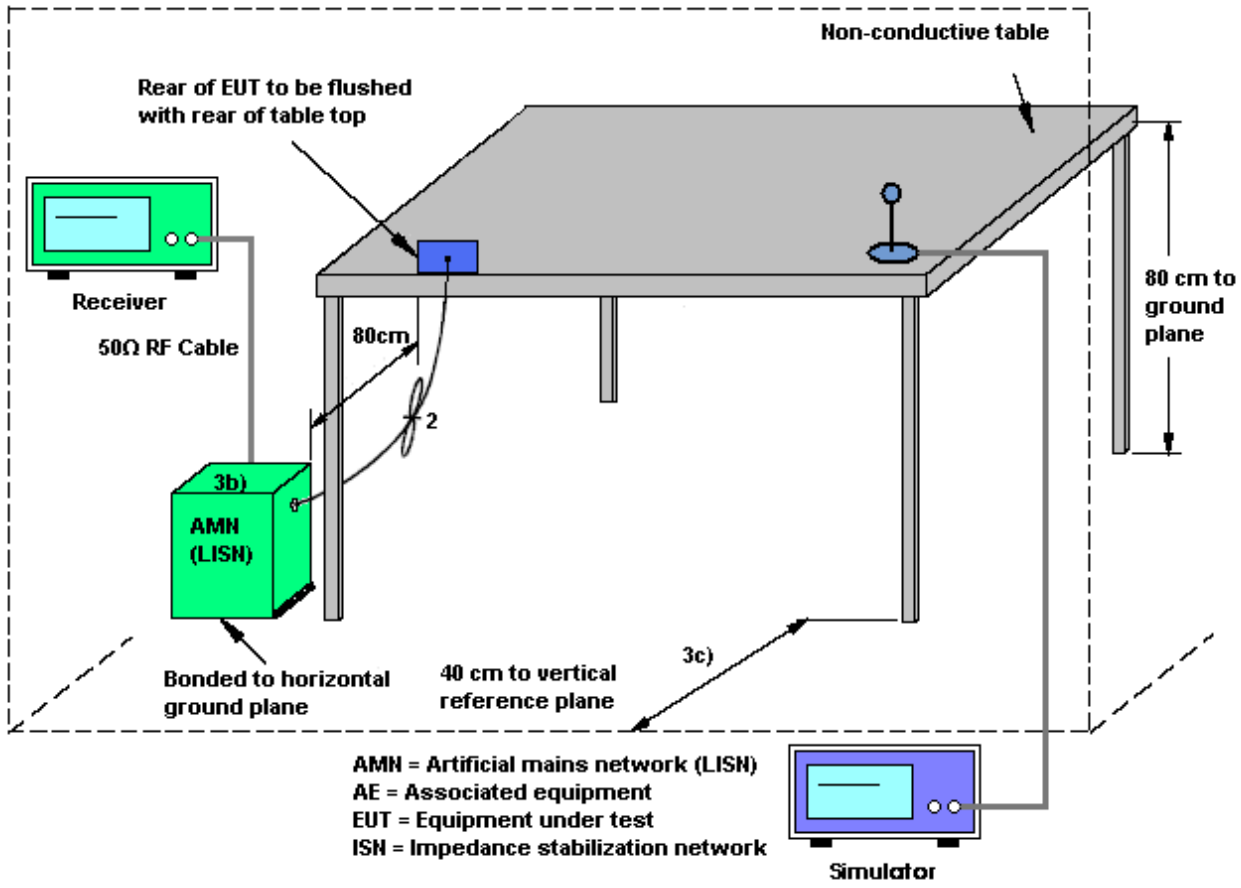
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

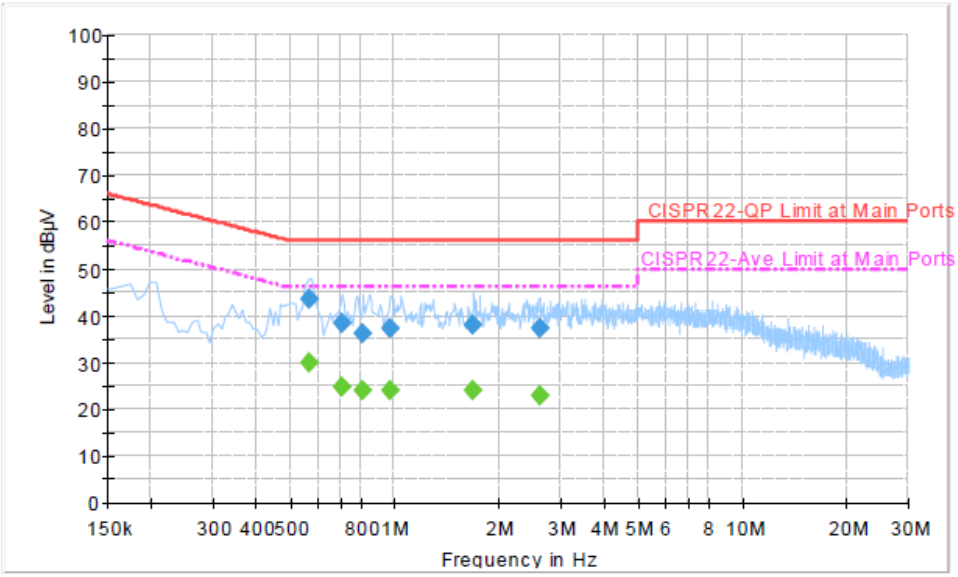
1. The testing follows the guidelines in ANSI C63.4-2003 and ANSI C63.10-2009 test site requirement.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a 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 :**	20~21℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	46~47%
Test Voltage :	120Vac / 60Hz	**Phase :**	Line
Function Type :	CDMA2000 BC15 Idle + Bluetooth Link + WLAN (5G) Link + MPEG4 + 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.		



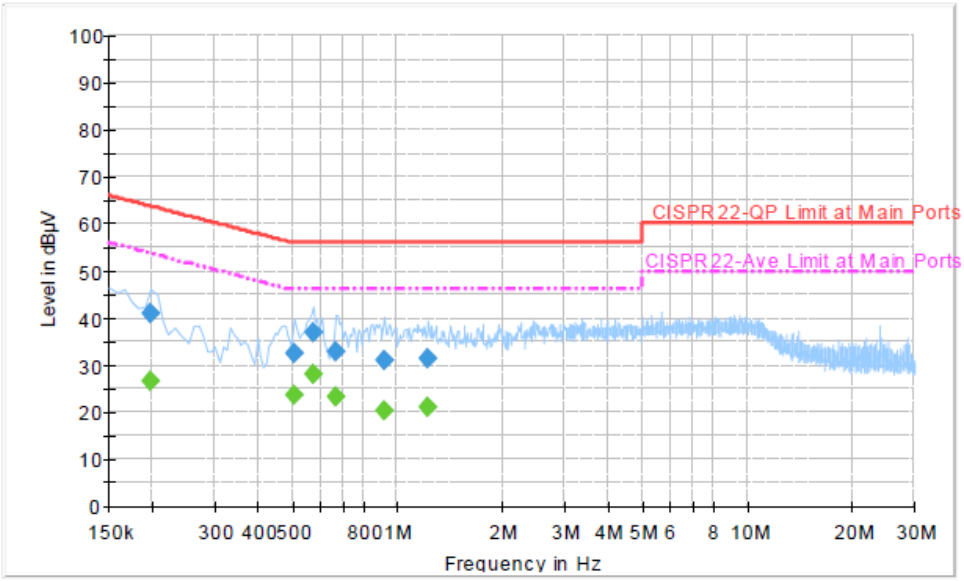
Final Result : QuasiPeak

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.566000	43.5	Off	L1	19.4	12.5	56.0
0.710000	38.4	Off	L1	19.5	17.6	56.0
0.814000	36.3	Off	L1	19.5	19.7	56.0
0.974000	37.2	Off	L1	19.4	18.8	56.0
1.686000	37.9	Off	L1	19.5	18.1	56.0
2.606000	37.1	Off	L1	19.6	18.9	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.566000	29.7	Off	L1	19.4	16.3	46.0
0.710000	24.6	Off	L1	19.5	21.4	46.0
0.814000	23.8	Off	L1	19.5	22.2	46.0
0.974000	23.9	Off	L1	19.4	22.1	46.0
1.686000	23.9	Off	L1	19.5	22.1	46.0
2.606000	22.8	Off	L1	19.6	23.2	46.0

Test Mode :	Mode 1	**Temperature :**	20~21℃
Test Engineer :	Kai-Chun Chu	**Relative Humidity :**	46~47%
Test Voltage :	120Vac / 60Hz	**Phase :**	Neutral
Function Type :	CDMA2000 BC15 Idle + Bluetooth Link + WLAN (5G) Link + MPEG4 + 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)
0.198000	40.8	Off	N	19.3	22.9	63.7
0.510000	32.6	Off	N	19.4	23.4	56.0
0.574000	36.8	Off	N	19.4	19.2	56.0
0.670000	32.9	Off	N	19.5	23.1	56.0
0.918000	30.9	Off	N	19.4	25.1	56.0
1.222000	31.5	Off	N	19.5	24.5	56.0

Final Result : Average

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.198000	26.7	Off	N	19.3	27.0	53.7
0.510000	23.6	Off	N	19.4	22.4	46.0
0.574000	27.9	Off	N	19.4	18.1	46.0
0.670000	23.1	Off	N	19.5	22.9	46.0
0.918000	20.2	Off	N	19.4	25.8	46.0
1.222000	20.9	Off	N	19.5	25.1	46.0

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.

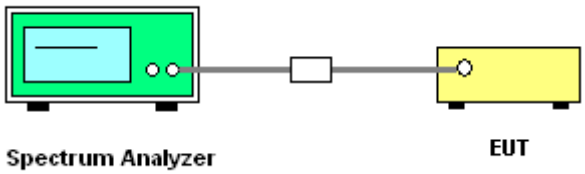
3.7.2 Measuring Instruments

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 :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.70	5188.30	0.00
44	5220	5211.70	5228.30	0.00
48	5240	5231.75	5248.25	0.00
52	5260	5251.75	5268.30	4.75
60	5300	5291.70	5308.30	0.00
64	5320	5311.70	5328.30	0.00
100	5500	5491.70	5508.30	0.00
116	5580	5571.75	5588.30	4.48
140	5700	5691.70	5708.30	0.00

Test Mode :	802.11n HT-20	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.10	5188.90	0.00
44	5220	5211.10	5228.90	0.00
48	5240	5231.10	5248.90	0.00
52	5260	5251.10	5268.90	0.00
60	5300	5291.10	5308.90	0.00
64	5320	5311.10	5328.90	0.00
100	5500	5491.10	5508.90	0.00
116	5580	5571.10	5588.90	0.00
140	5700	5691.10	5708.90	0.00

Test Mode :	802.11n HT-40	Temperature :	24~26℃
Test Engineer :	Book Lin	Relative Humidity :	45~49%

Channel	Frequency (MHz)	Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
38	5190	5171.82	5208.36	17.34
46	5230	5211.73	5248.27	0.00
54	5270	5251.73	5288.27	0.00
62	5310	5291.73	5328.27	0.00
102	5510	5491.73	5528.27	0.00
134	5670	5531.73	5568.27	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	Sep. 01, 2012 ~ Sep. 27, 2012	Jun. 05, 2013	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	1132003	300MHz~40GHz	Aug. 14, 2012	Sep. 01, 2012 ~ Sep. 27, 2012	Aug. 13, 2013	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	1126017	300MHz~40GHz	Aug. 14, 2012	Sep. 01, 2012 ~ Sep. 27, 2012	Aug. 13, 2013	Conducted (TH02-HY)
EMI Test Receiver	R&S	ESCS 30	100356	9KHz ~ 2.75GHz	Oct. 27, 2011	Sep. 18, 2012	Oct. 26, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9KHz ~ 30MHz	Dec. 09, 2011	Sep. 18, 2012	Dec. 08, 2012	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9KHz ~ 30MHz	Dec. 06, 2011	Sep. 18, 2012	Dec. 05, 2012	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	Sep. 18, 2012	N/A	Conduction (CO05-HY)
System Simulator	R&S	CMU200	117995	N/A	Jul. 28, 2011	Sep. 18, 2012	Jul. 27, 2013	Conduction (CO05-HY)
Spectrum Analyzer	Agilent	E4408B	MY44211030	9KHz ~ 26.5GHz	Nov. 23, 2011	Sep. 21, 2012 ~ Sep. 27, 2012	Nov. 22, 2012	Radiation (03CH06-HY)
Spectrum Analyzer	R&S	FSP30	101352	9KHz-30GHz	Nov. 03, 2011	Sep. 21, 2012 ~ Sep. 27, 2012	Nov. 02, 2012	Radiation (03CH06-HY)
EMI Test Receiver	R&S	ESVS10	834468/003	20MHz ~ 1000MHz	May 04, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	May. 03, 2013	Radiation (03CH06-HY)
Bilog Antenna	SCHAFFNER	CBL6112B	2885	30MHz ~ 2GHz	Oct. 22, 2011	Sep. 21, 2012 ~ Sep. 27, 2012	Oct. 21, 2012	Radiation (03CH06-HY)
Double Ridge Horn Antenna	EMCO	3117	00066583	1GHz ~ 18GHz	Aug. 01, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	Jul. 31, 2013	Radiation (03CH06-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz ~ 40GHz	Oct. 20, 2011	Sep. 21, 2012 ~ Sep. 27, 2012	Oct. 19, 2012	Radiation (03CH06-HY)
Preamplifier	Agilent	8449B	3008A01917	1GHz ~ 26.5GHz	Apr. 13, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	Apr. 12, 2013	Radiation (03CH06-HY)
Amplifier	Agilent	310N	186713	9KHz ~ 1GHz	Apr. 11, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	Apr. 10, 2013	Radiation (03CH06-HY)
Pre Amplifier	EMCI	EMC051845	SN980048	1GHz ~ 18GHz	Jul. 21, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	Jul. 20, 2013	Radiation (03CH06-HY)
Pre Amplifier	MITEQ	AMF-7D-00101800-30-10P	159087	1GHz~18GHz	Feb. 27, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	Feb. 26, 2013	Radiation (03CH06-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9KHz ~ 30MHz	Jul. 03, 2012	Sep. 21, 2012 ~ Sep. 27, 2012	Jul. 02, 2014	Radiation (03CH06-HY)

5 Uncertainty of Evaluation

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

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

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

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

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

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