

FCC RF Test Report

APPLICANT : Meru Networks Inc.
EQUIPMENT : Multi Radio 802.11a/b/g/n Wireless LAN Access Point
BRAND NAME : Meru Networks Inc.
MODEL NAME : AP302, AP310, AP311, AP320
FCC ID : RE7-AP300
STANDARD : FCC Part 15 Subpart E
CLASSIFICATION : Unlicensed National Information Infrastructure (UNII)

The product was received on Jul. 29, 2010 and completely tested on Sep. 09, 2010. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.4-2003 and shown 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:



Anderson Chiu / Deputy Manager



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
FR9D2415-03B	Rev. 01	Initial issue of report	Sep. 09, 2010

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	$\leq 17, 24, 30$ dBm (depend on band)	Pass	-
3.3	15.407(a)	A9.2	Power Spectral Density	$\leq 4, 11, 17$ dBm (depend on band)	Pass	-
3.4	15.407(b)	A9.3	Frequency Band Edges	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	-
3.5	15.407(b)	A9.3	Spurious Emission	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	-
3.6	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 4.2 dB at 15.198 MHz
3.7	15.407(b)	A9.3	Transmitter Radiated Emission	$\leq -17, -27$ dBm (depend on band)&15.209(a)	Pass	Under limit 1.02 dB at 5150 MHz
3.8	15.407(b)	A9.3	Peak Excursion Ratio	≤ 13 dB	Pass	-
3.9	15.407(c)	A9.5	Automatically Discontinue Transmission	Discontinue Transmission	Pass	-
3.10	15.407(g)	A9.5	Frequency Stability	Within Operation Band	Pass	-
3.11	15.203 & 15.407(a)	A9.2	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Meru Networks Inc.

894 Ross Drive Sunnyvale, CA 94089 USA

1.2 Manufacturer

Universal Scientific Industrial (Shanghai)

No. 1558, Zhang Dong Road, Zhangjiang Hi-Tech Park, Shanghai 201203, P.R. China

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	Multi Radio 802.11a/b/g/n Wireless LAN Access Point
Brand Name	Meru Networks Inc.
Model Name	AP302, AP310, AP311, AP320
FCC ID	RE7-AP300
Tx/Rx Frequency Range	5150 MHz ~ 5250 MHz
Maximum Output Power to Antenna	802.11a : 11.85 dBm / 0.015 W 802.11n (BW 20MHz) : 11.04 dBm / 0.013 W 802.11n (BW 40MHz) : 8.23 dBm / 0.007 W
HW Version	AP300
SW Version	3.6.1-41
Type of Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
EUT Stage	Production Unit

Antenna Information		
Antenna 1	Model Name	M6060060MO13620O
	Antenna Type	Dipole Antenna
	Antenna Gain	6 dBi for WLAN (2.4G) ; 6 dBi for WLAN (5G)
Antenna 2	Model Name	M6060070MP13620
	Antenna Type	Patch Antenna
	Antenna Gain	6 dBi for WLAN (2.4G) ; 7 dBi for WLAN (5G)

Remark:

1. For other wireless features of this EUT, test report will be issued separately.
2. This test report recorded only product characteristics and test results of Unlicensed National Information Infrastructure (UNII).
3. The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1 st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH07-HY	TW1022/4086B-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 Public Notice DA 02-2138, (Measurement Guidelines of UNII)
- ANSI C63.4-2003
- IC RSS-210 Issued 7

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 (DoC), recorded in a separate test report.

1.6 Ancillary Equipment List

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	AC Adapter	UMEC	UP0251P-05PA	N/A	N/A	Unshielded, 1.8 m
2.	POE	PHIHONG	POE20U-560(G)	N/A	N/A	N/A
3.	Notebook	DELL	Vostro 1510	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

2.1 Carrier Frequency Channel

802.11a and 802.11n (BW 20MHz) Carrier Frequency Channel					
Channel	Freq. (MHz)	Channel	Freq. (MHz)	Channel	Freq. (MHz)
36	5180	40	5200	44	5220

Remark: The channel 48 (5240MHz) was disabled by manufacturer.

802.11n (BW 40MHz) Carrier Frequency Channel			
Channel	Freq. (MHz)	Channel	Freq. (MHz)
38	5190	44	5220

Remark: The channel 46 (5230MHz) was disabled by manufacturer.

2.2 Pre-Scanned RF Power

Preliminary RF power output tests were performed in different data rate and recorded the in the following table:

Channel	Frequency	Chain	5GHz 802.11a Pre-Scanned RF Power (dBm)							
			Data Rate							
			6 Mbps	9 Mbps	12 Mbps	18 Mbps	24 Mbps	36 Mbps	48 Mbps	54 Mbps
CH 36	5180 MHz	A	14.40	14.32	14.32	14.29	14.27	14.23	14.20	14.20
CH 40	5200 MHz	A	14.68	14.66	14.63	14.59	14.57	14.55	14.51	14.53
CH 44	5220 MHz	A	14.58	14.50	14.44	14.39	14.29	14.41	14.39	14.37
CH 36	5180 MHz	B	14.63	14.47	14.46	14.51	14.35	14.31	14.29	14.25
CH 40	5200 MHz	B	14.67	14.64	14.62	14.55	14.51	14.44	14.40	14.36
CH 44	5220 MHz	B	14.38	14.25	14.26	14.23	14.25	14.23	14.19	14.17
CH 36	5180 MHz	C	14.39	14.23	14.20	14.21	14.19	14.08	14.15	14.11
CH 40	5200 MHz	C	14.66	14.55	14.51	14.52	14.47	14.39	14.42	14.39
CH 44	5220 MHz	C	14.58	14.57	14.6	14.58	14.57	14.51	14.48	14.48

Channel	Frequency	Chain	5GHz 802.11n (BW 20MHz) Pre-Scanned RF Power (dBm)							
			Data Rate							
			6.5 Mbps	13 Mbps	19.5 Mbps	26 Mbps	39 Mbps	52 Mbps	58.5 Mbps	65 Mbps
CH 36	5180 MHz	A+B+C	14.78	14.68	14.63	14.57	14.50	14.46	14.45	14.40
CH 40	5200 MHz	A+B+C	14.75	14.63	14.64	14.61	14.52	14.50	14.47	14.44
CH 44	5220 MHz	A+B+C	14.78	14.64	14.61	14.53	14.46	14.29	14.30	14.28
Channel	Frequency	Chain	13 Mbps	26 Mbps	39 Mbps	52 Mbps	78 Mbps	104 Mbps	117 Mbps	130 Mbps
CH 36	5180 MHz	A+B+C	14.59	14.50	14.45	14.45	14.31	14.35	14.28	14.26
CH 40	5200 MHz	A+B+C	14.58	14.52	14.45	14.43	14.37	14.32	14.27	14.25
CH 44	5220 MHz	A+B+C	14.43	14.35	14.30	14.26	14.16	14.13	14.07	14.06

Channel	Frequency	Chain	5GHz 802.11n (BW 40MHz) Pre-Scanned RF Power (dBm)							
			Data Rate							
			13.5 Mbps	27 Mbps	40.5 Mbps	54 Mbps	81 Mbps	108 Mbps	121.5 Mbps	135.0 Mbps
CH 38	5190 MHz	A+B+C	11.20	10.71	10.81	10.75	10.67	10.62	10.59	10.57
CH 44	5220 MHz	A+B+C	11.87	11.72	11.65	11.59	11.49	11.45	11.43	11.40
Channel	Frequency	Chain	27 Mbps	54 Mbps	81 Mbps	108 Mbps	162 Mbps	216 Mbps	243 Mbps	270 Mbps
CH 38	5190 MHz	A+B+C	10.83	10.80	10.63	10.70	10.59	10.51	10.50	10.52
CH 44	5220 MHz	A+B+C	11.72	11.67	11.60	11.54	11.42	11.37	11.32	11.33

Remark:

1. For WLAN RF power, the pre-scanned RF power was measured by power meter.
2. Chain A+B+C was tested by combiner, and the chain A, B and C was tested individually and calculated with the formula of $10 \cdot \log(10^{(chain A/10)} + 10^{(chain B/10)} + 10^{(chain C/10)})$.
3. The EUT is programmed to transmit signals continuously for all testing.
4. The data rates of WLAN 802.11a/n were set in 6Mbps for 802.11a, 6.5Mbps for 802.11n (BW 20MHz), 13.5Mbps for 802.11n (BW 40MHz) for all the test cases due to the highest RF output power.

2.3 Test Mode

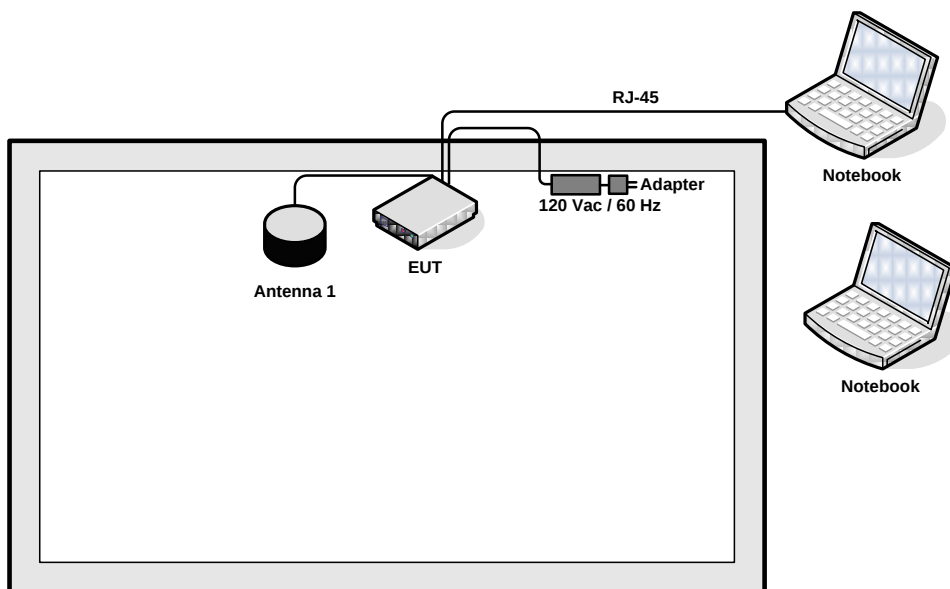
The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction (150 kHz to 30 MHz), radiation (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

Test Cases	
Test Item	802.11a/n (Modulation : OFDM)
Conducted TCs	■ Mode 1: 802.11a_CH36_5180 MHz ■ Mode 2: 802.11a_CH40_5200 MHz ■ Mode 3: 802.11a_CH44_5220 MHz ■ Mode 4: 802.11n_CH36_5180 MHz (BW 20M) ■ Mode 5: 802.11n_CH40_5200 MHz (BW 20M) ■ Mode 6: 802.11n_CH44_5220 MHz (BW 20M) ■ Mode 7: 802.11n_CH38_5190 MHz (BW 40M) ■ Mode 8: 802.11n_CH44_5220 MHz (BW 40M)
Radiated TCs	■ Mode 1: 802.11a_CH36_5180 MHz + WLAN 1 + Antenna 1 ■ Mode 2: 802.11a_CH40_5200 MHz + WLAN 1 + Antenna 1 ■ Mode 3: 802.11a_CH44_5220 MHz + WLAN 1 + Antenna 1 ■ Mode 4: 802.11n_CH36_5180 MHz (BW 20M) + WLAN 1 + Antenna 1 ■ Mode 5: 802.11n_CH40_5200 MHz (BW 20M) + WLAN 1 + Antenna 1 ■ Mode 6: 802.11n_CH44_5220 MHz (BW 20M) + WLAN 1 + Antenna 1 ■ Mode 7: 802.11n_CH38_5190 MHz (BW 40M) + WLAN 1 + Antenna 1 ■ Mode 8: 802.11n_CH44_5220 MHz (BW 40M) + WLAN 1 + Antenna 1 ■ Mode 9: 802.11n_CH38_5190 MHz (BW 40M) + WLAN 2 + Antenna 1 ■ Mode 10: 802.11n_CH38_5190 MHz (BW 40M) + WLAN 1 + WLAN 2 + Antenna 1 ■ Mode 11: 802.11a_CH36_5180 MHz + WLAN 1 + Antenna 2 ■ Mode 12: 802.11a_CH40_5200 MHz + WLAN 1 + Antenna 2 ■ Mode 13: 802.11a_CH44_5220 MHz + WLAN 1 + Antenna 2 ■ Mode 14: 802.11n_CH36_5180 MHz (BW 20M) + WLAN 1 + Antenna 2 ■ Mode 15: 802.11n_CH40_5200 MHz (BW 20M) + WLAN 1 + Antenna 2 ■ Mode 16: 802.11n_CH44_5220 MHz (BW 20M) + WLAN 1 + Antenna 2 ■ Mode 17: 802.11n_CH38_5190 MHz (BW 40M) + WLAN 1 + Antenna 2 ■ Mode 18: 802.11n_CH44_5220 MHz (BW 40M) + WLAN 1 + Antenna 2 ■ Mode 19: 802.11n_CH38_5190 MHz (BW 40M) + WLAN 2 + Antenna 2 ■ Mode 20: 802.11n_CH38_5190 MHz (BW 40M) + WLAN 1 + WLAN 2 + Antenna 2
AC Conducted Emission	Mode 1 : WLAN 1 (5G) Link + WLAN 2 (5G) Link + LAN Link + Adapter + Antenna 1 Mode 2 : WLAN 1 (5G) Link + WLAN 2 (5G) Link + POE + LAN Link + Adapter + Antenna 2
Remark: 1. The worst case of AC conducted emission is mode 2; only the test data of it was reported. 2. The EUT has two modules which have the same design, and they can transmit simultaneously.	

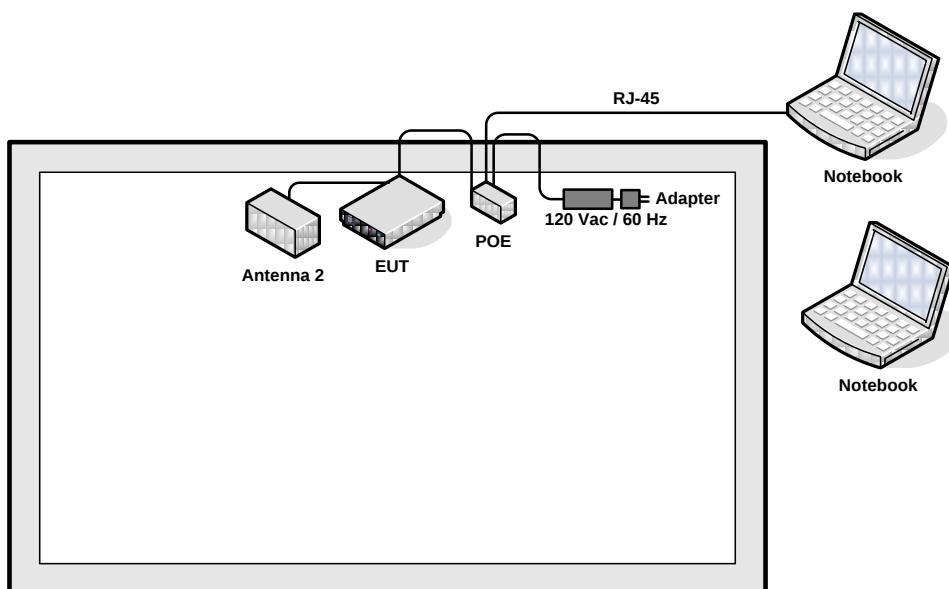
2.4 Connection Diagram of Test System

<Conduction Test>

EUT with Adapter Mode

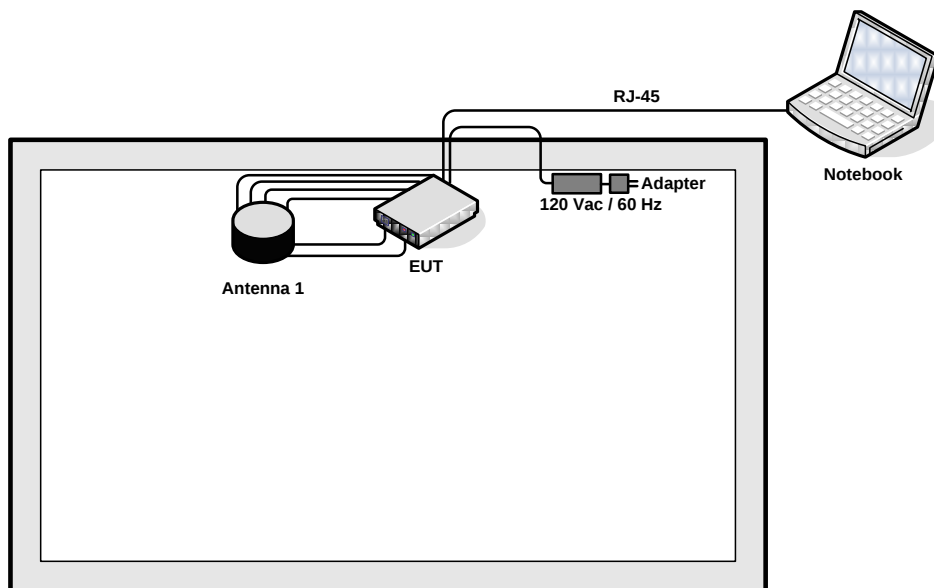


EUT with POE and Adapter Mode

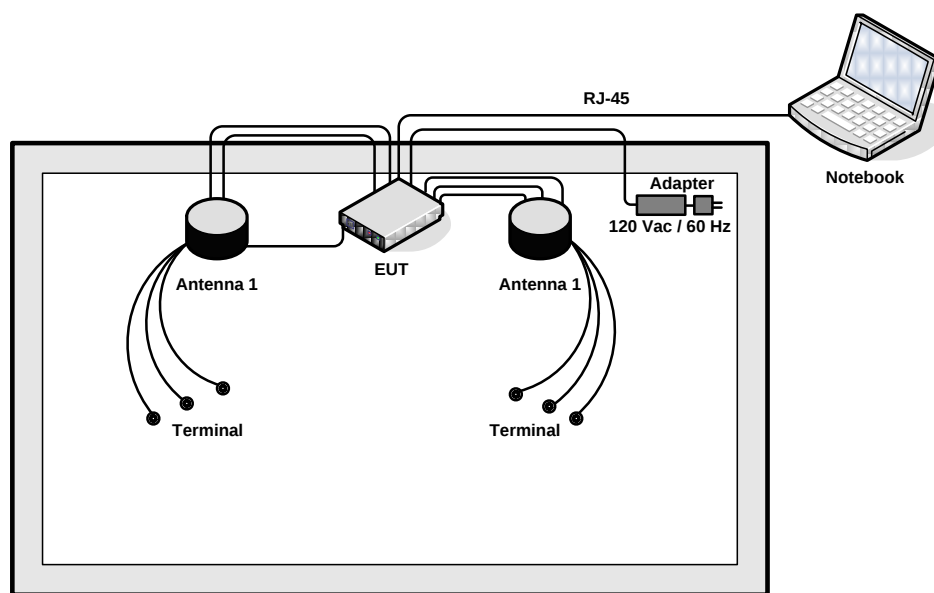


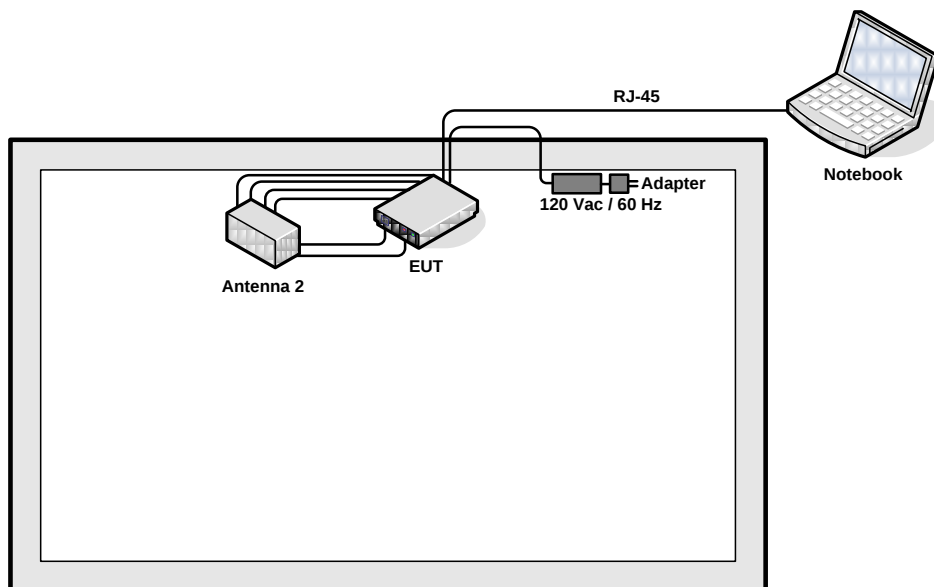
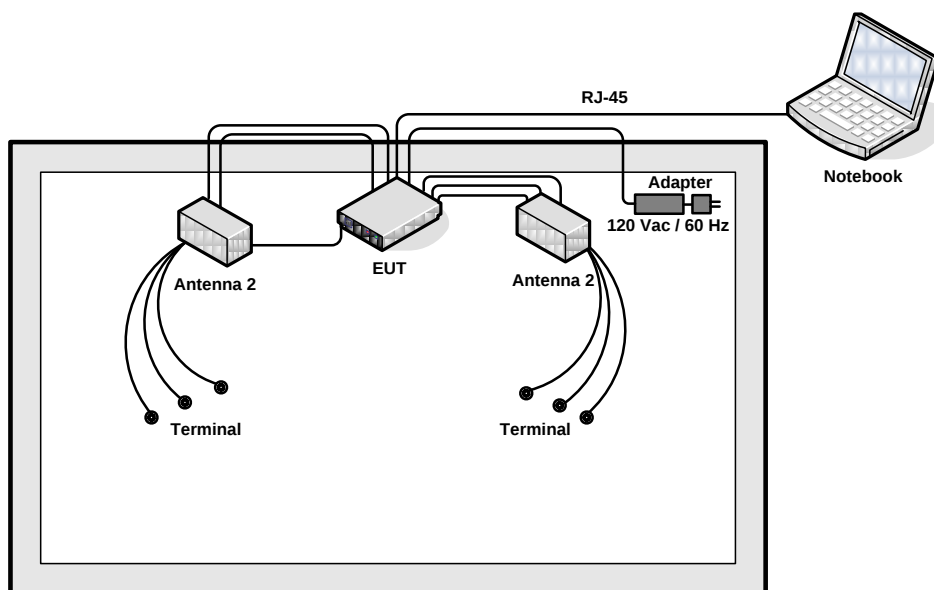
<Radiation Test>

EUT with Antenna 1



EUT with Antenna 1 + WLAN 1 + WLAN 2



EUT with Antenna 2

EUT with Antenna 2 + WLAN 1 + WLAN 2


2.5 RF Utility

The programmed RF Utility is installed in notebook to provide channel selection, power level, data rate and the application type. RF Utility can send transmitting signal for all testing. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

3 Test Result

3.1 26dB & 99% Bandwidth Measurement

3.1.1 Limit of 26dB & 99% Bandwidth

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.

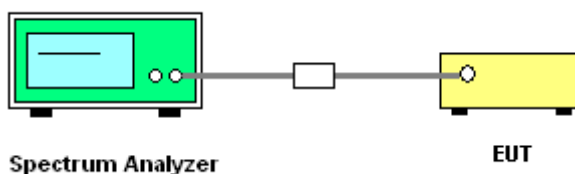
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC Public Notice DA 02-2138 (Measurement Guidelines of UNII).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Read RBW and repeat measurement as needed until the RBW/BW ratio is approximately 1%.
4. Use a RBW = approximately 1% of the emission bandwidth; Set the VBW > RBW; Use a peak detector.
5. Measure the maximum width of the emission that is 26 dB relative to the peak of the emission and 99% occupied bandwidth.

3.1.4 Test Setup



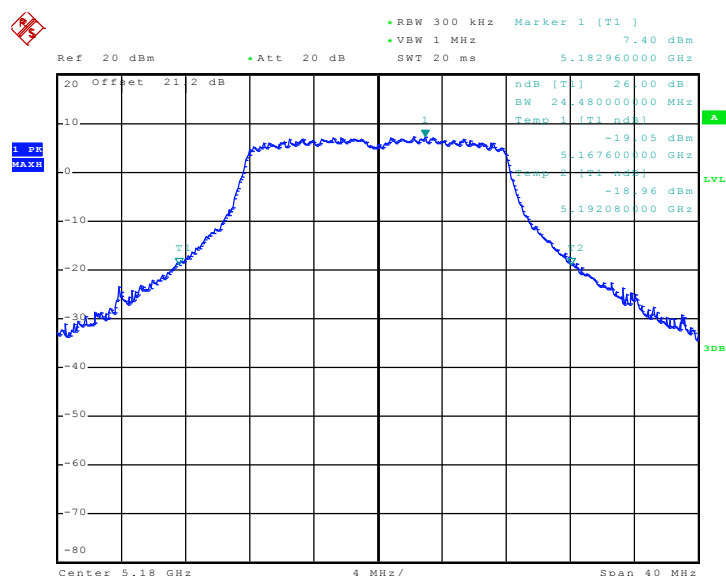


3.1.5 Test Result of 26dB Bandwidth

Test Mode :	Mode 1, 2, 3	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11a 26dB Bandwidth (MHz)	Pass/Fail
		Chain A	
36	5180	24.48	Pass
40	5200	24.48	Pass
44	5220	24.72	Pass

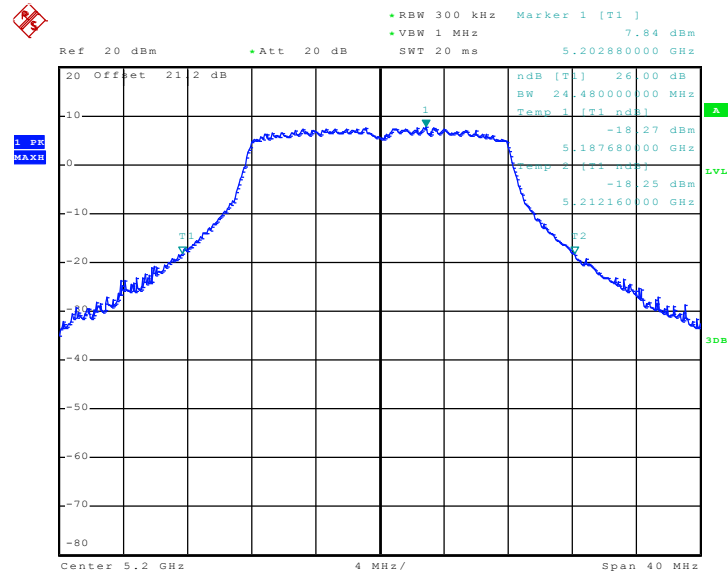
Mode 1 : 26dB Bandwidth Plot on 802.11a Channel 36 - Chain A



Date: 18.AUG.2010 02:53:21

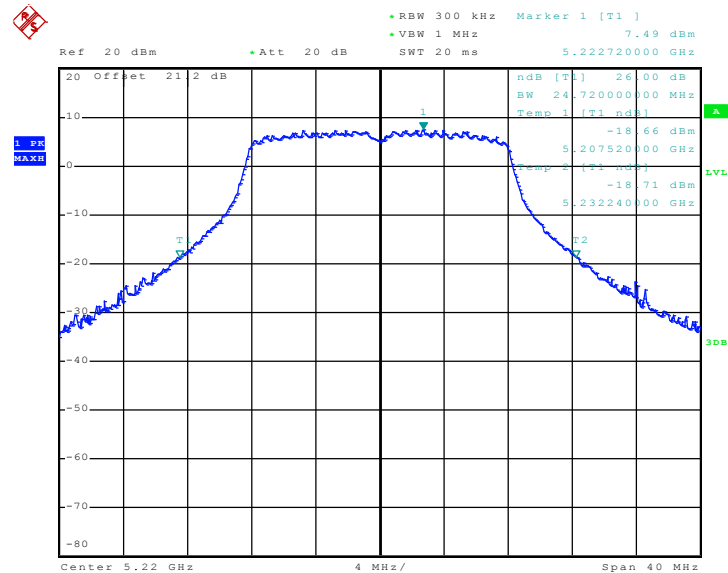


Mode 2 : 26dB Bandwidth Plot on 802.11a Channel 40 - Chain A



Date: 18.AUG.2010 03:21:35

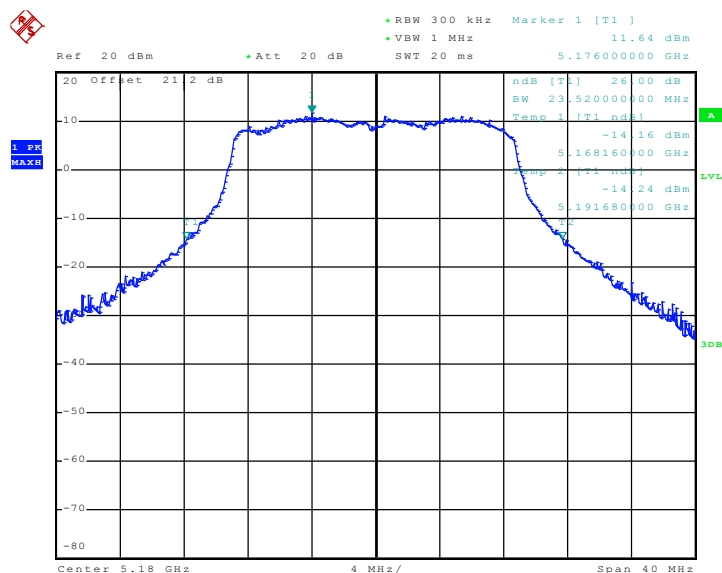
Mode 3 : 26dB Bandwidth Plot on 802.11a Channel 44 - Chain A



Date: 18.AUG.2010 03:22:41

Test Mode :	Mode 4, 5, 6	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 20MHz, 3Tx) 26dB Bandwidth (MHz)	Pass/Fail
		Chain A+B+C	
36	5180	23.52	Pass
40	5200	23.68	Pass
44	5220	23.44	Pass

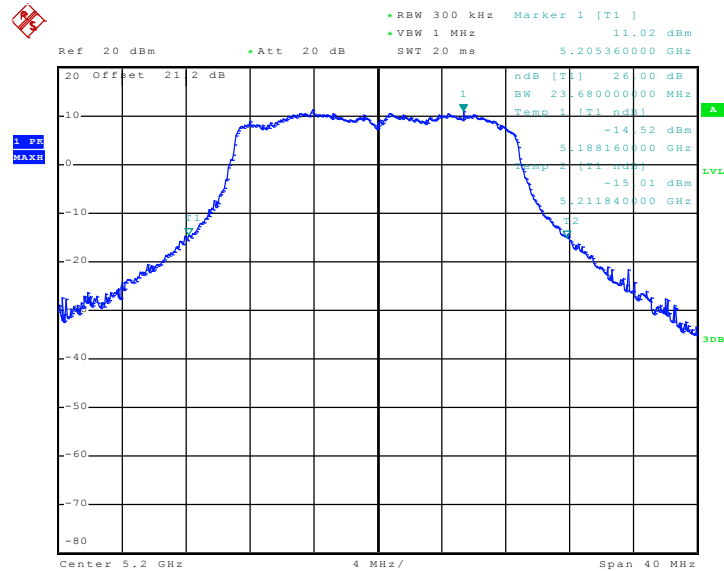
Mode 4 : 26dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 36
- Chain A+B+C


Date: 18.AUG.2010 04:49:02



Mode 5 : 26dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 40

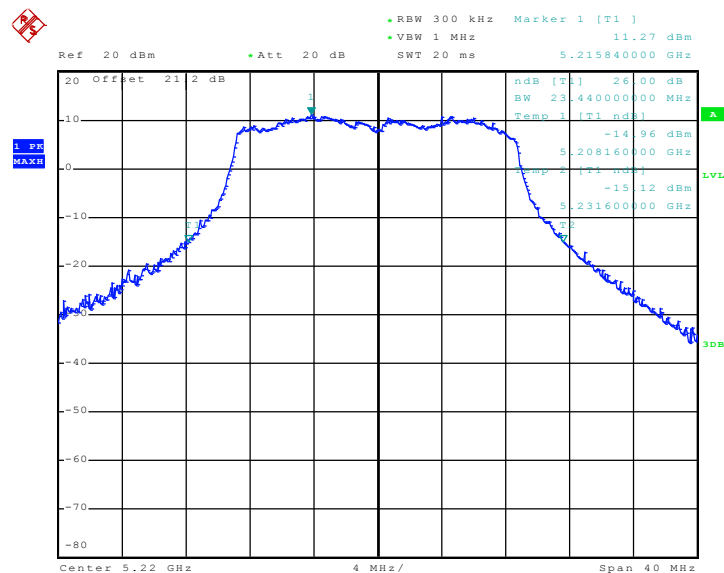
- Chain A+B+C



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Mode 6 : 26dB Bandwidth Plot on 802.11n (BW 20MHz) Channel 44

- Chain A+B+C



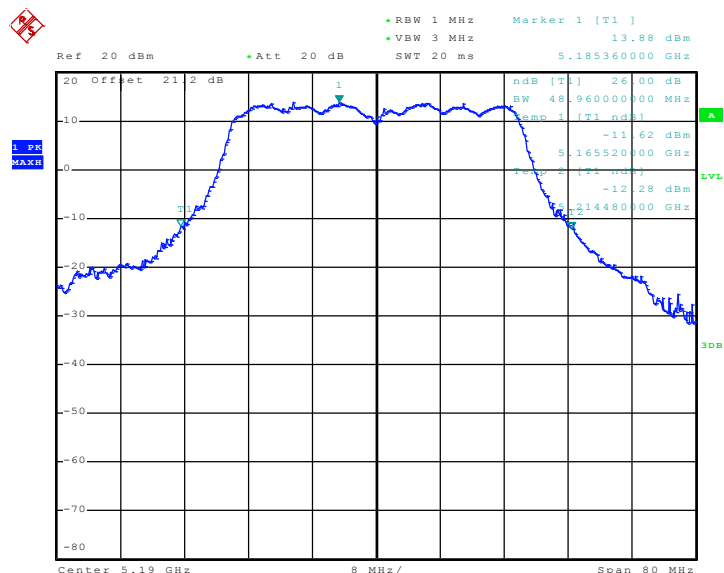
Date: 18.AUG.2010 04:46:35



Test Mode :	Mode 7, 8	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 40MHz, 3Tx) 26dB Bandwidth (MHz)	Pass/Fail
		Chain A+B+C	
38	5190	48.96	Pass
44	5220	47.84	Pass

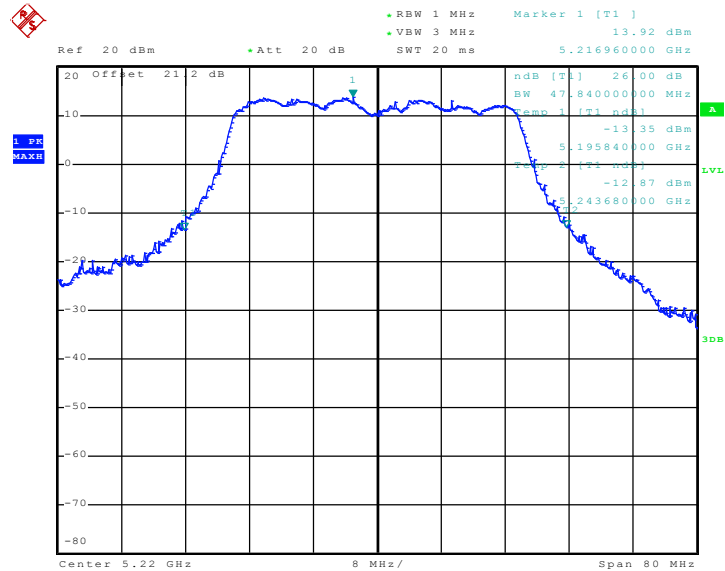
Mode 7 : 26 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 38 -
Chain A+B+C



Date: 18.AUG.2010 06:34:03



Mode 8 : 26 dB Bandwidth Plot on 802.11n (BW 40MHz) Channel 44 -
Chain A+B+C



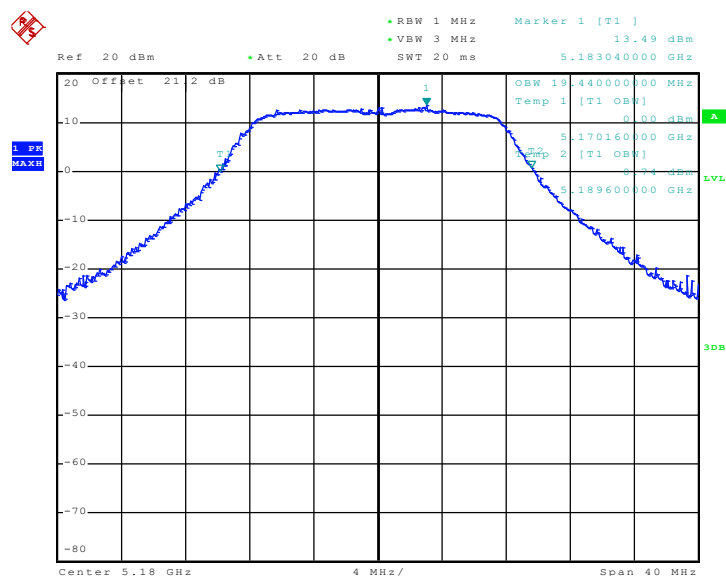
Date: 18.AUG.2010 06:35:01

3.1.6 Test Result of 99% Occupied Bandwidth

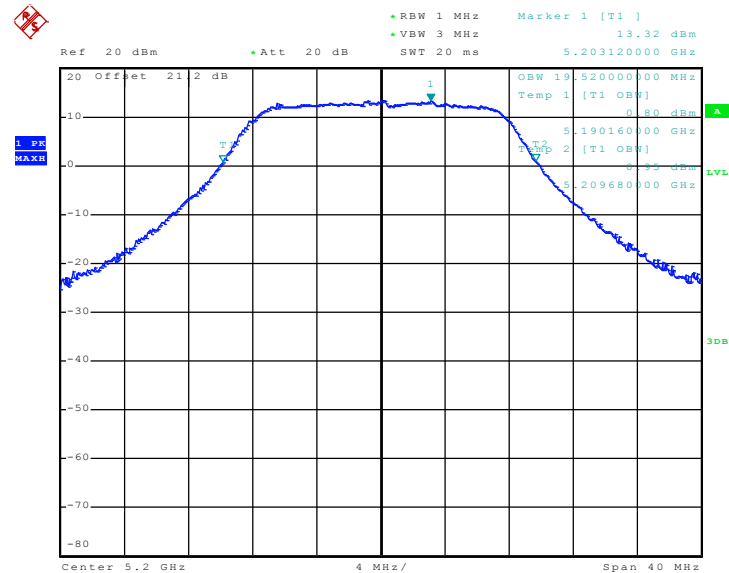
Test Mode :	Mode 1, 2, 3	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11a 99% Occupied Bandwidth (MHz)	Pass/Fail
		Chain A	
36	5180	19.44	Pass
40	5200	19.52	Pass
44	5220	19.44	Pass

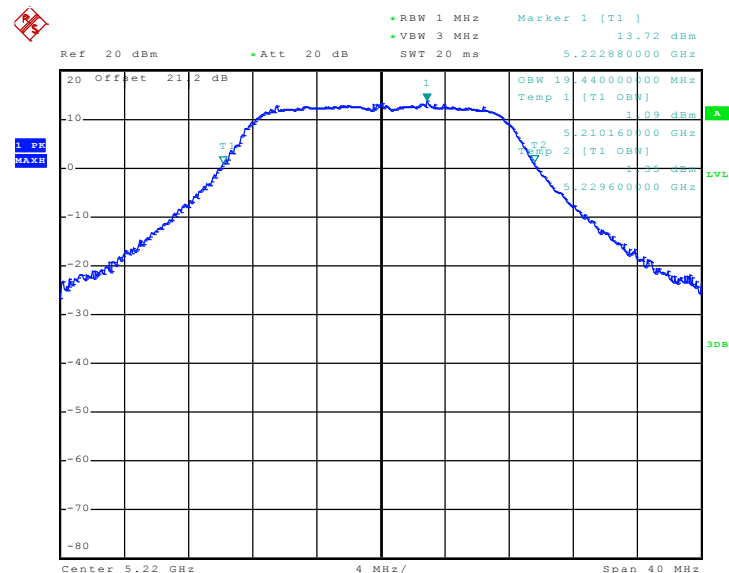
Mode 1 : 99% Occupied Bandwidth Plot on 802.11a Channel 36 - Chain A



Date: 18.AUG.2010 03:25:56

Mode 2 : 99% Occupied Bandwidth Plot on 802.11a Channel 40 -
Chain A


Date: 18.AUG.2010 03:25:13

Mode 3 : 99% Occupied Bandwidth Plot on 802.11a Channel 44 -
Chain A


Date: 18.AUG.2010 03:24:04

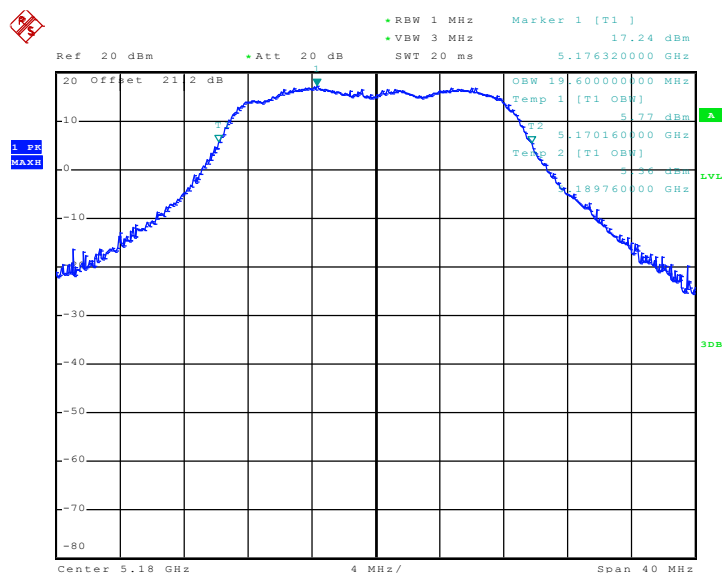


Test Mode :	Mode 4, 5, 6	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

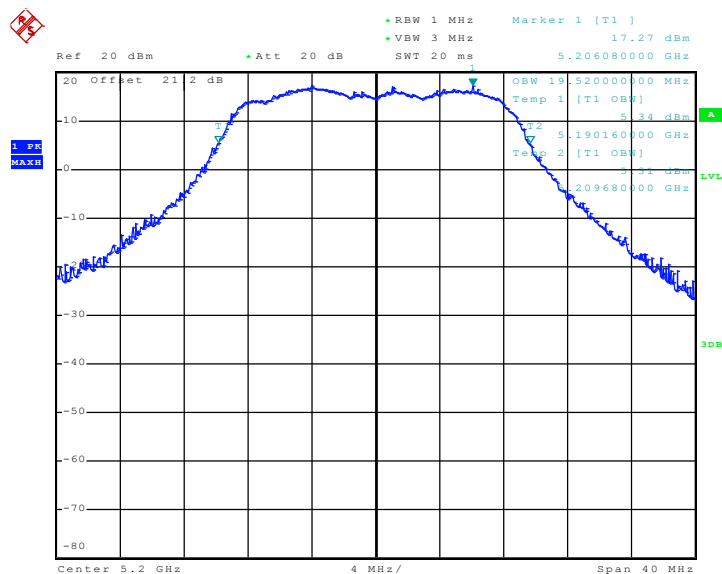
Channel	Frequency (MHz)	802.11n (BW 20MHz, 3Tx) 99% Occupied Bandwidth (MHz)	Pass/Fail
		Chain A+B+C	
36	5180	19.60	Pass
40	5200	19.52	Pass
44	5220	19.52	Pass

Mode 4 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)

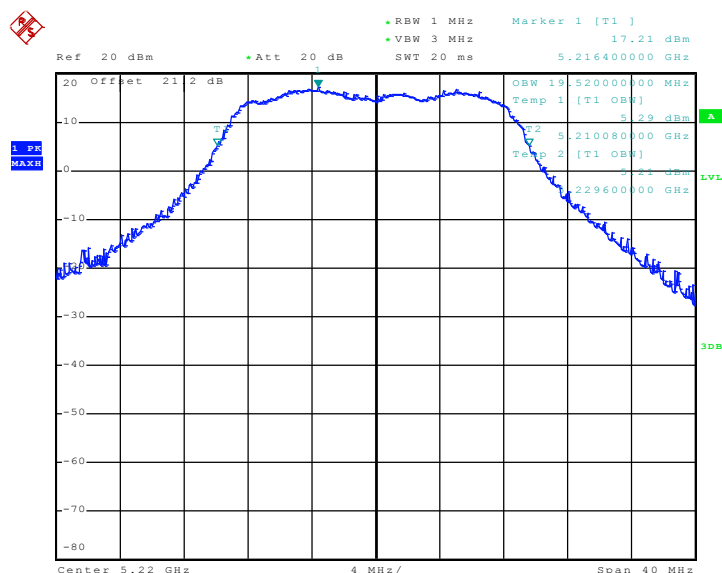
Channel 36 - Chain A+B+C



Date: 18.AUG.2010 05:00:32

Mode 5 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)
Channel 40 - Chain A+B+C


Date: 18.AUG.2010 05:01:23

Mode 6 : 99% Occupied Bandwidth Plot on 802.11n (BW 20MHz)
Channel 44 - Chain A+B+C


Date: 18.AUG.2010 05:02:03

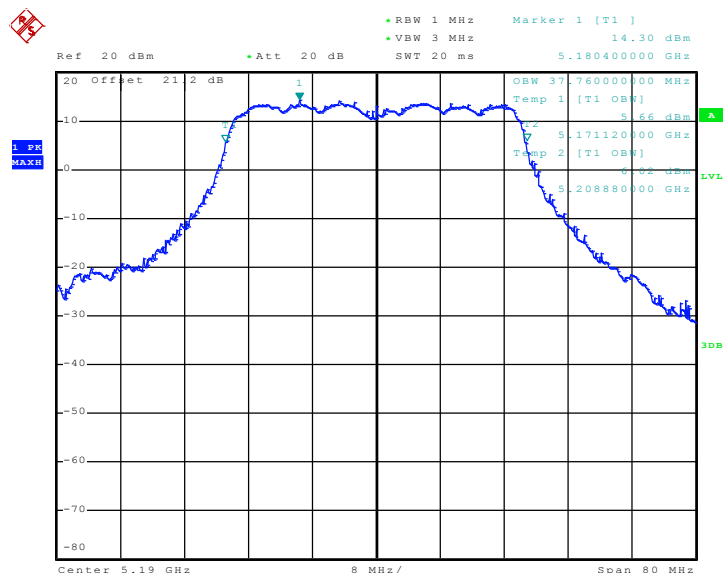


Test Mode :	Mode 7, 8	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 40MHz, 3Tx) 99% Occupied Bandwidth (MHz)	Pass/Fail
		Chain A+B+C	
38	5190	37.76	Pass
44	5220	37.60	Pass

Mode 7 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)

Channel 38 - Chain A+B+C

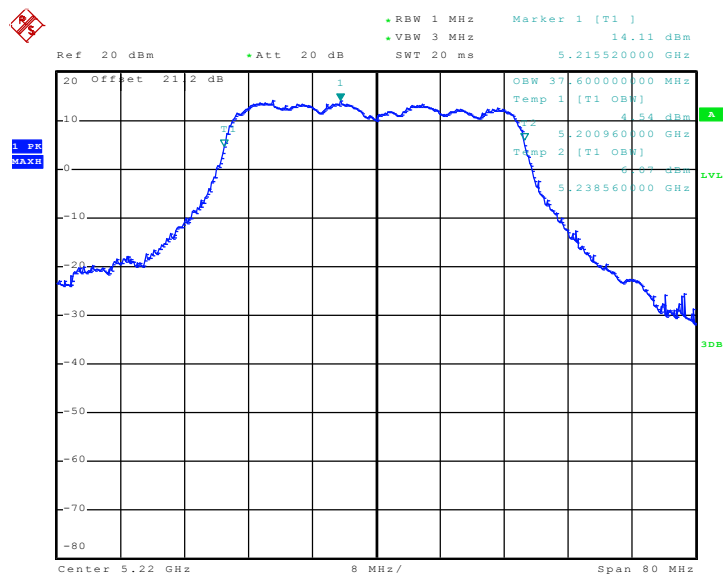


Date: 18.AUG.2010 06:48:29



Mode 8 : 99% Occupied Bandwidth Plot on 802.11n (BW 40MHz)

Channel 44 - Chain A+B+C



Date: 18.AUG.2010 06:47:38

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 $4 \text{ dBm} + 10\log B$, where B is the 26 dB emissions bandwidth in MHz. If transmitting antenna directional gain is greater than 6 dBi, the peak output power and power density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

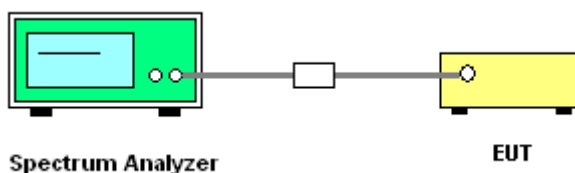
3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows FCC Public Notice DA 02-2138 (Measurement Guidelines of UNII).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Measure the power and record it.

3.2.4 Test Setup



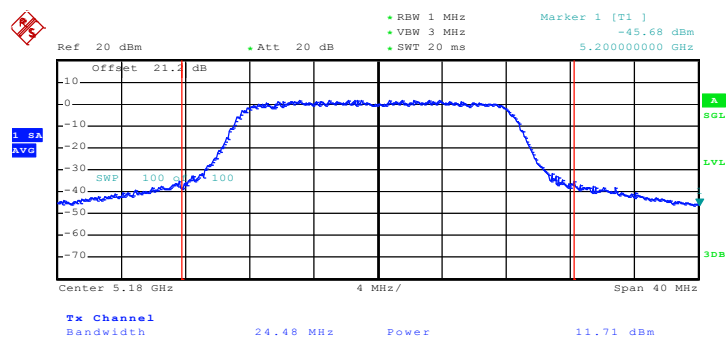
3.2.5 Test Result of Maximum Conducted Output Power

Test Mode :	Mode 1, 2, 3	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

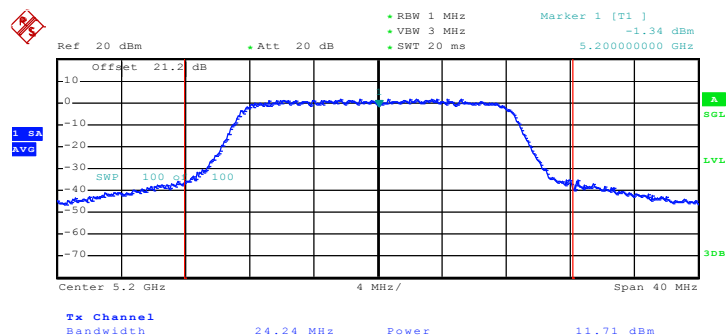
Channel	Frequency (MHz)	802.11a Measured Output Power (dBm)	Max. Limits (dBm)	Pass/Fail
		Chain A		
36	5180	11.71	16	Pass
40	5200	11.71	16	Pass
44	5220	11.85	16	Pass

Note: The maximum antenna gain is 7 dBi; therefore the limits are 16 dBm.

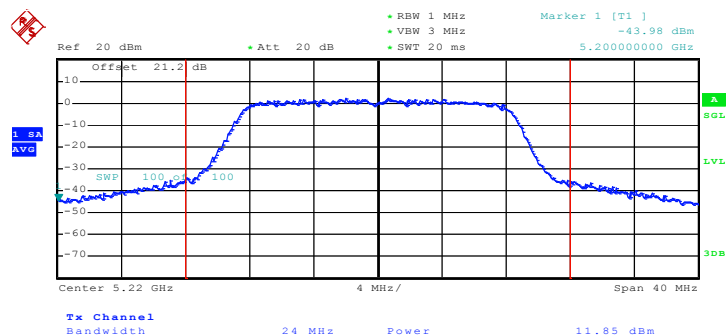
Mode 1 : Output Power Plot on 802.11a Channel 36 - Chain A



Date: 8.SEP.2010 21:56:23

Mode 2 : Output Power Plot on 802.11a Channel 40 - Chain A


Date: 8.SEP.2010 21:55:15

Mode 3 : Output Power Plot on 802.11a Channel 44 - Chain A


Date: 8.SEP.2010 21:52:48

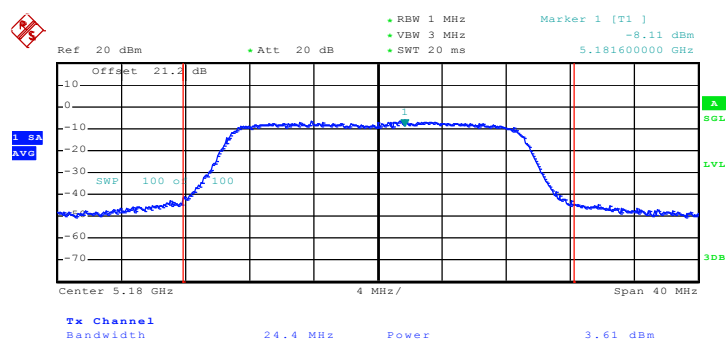
Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 20MHz, 3Tx) Measured Output Power (dBm)				Max. Limits (dBm)	Pass/Fail
		Chain A+B+C(A)	Chain A+B+C(B)	Chain A+B+C(C)	Chain A+B+C		
36	5180	3.61	7.25	7.08	11.04	16	Pass
40	5200	3.72	7.07	7.17	11.02	16	Pass
44	5220	3.05	6.60	7.25	10.75	16	Pass

Note:

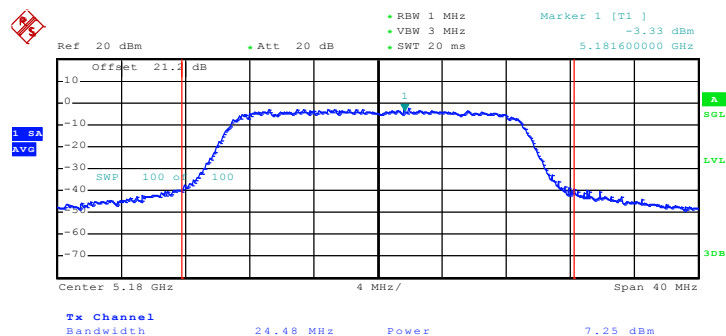
1. Chain A+B+C was tested by combiner, and the chain A, B and C was tested individually and calculated with the formula of $10 \cdot \log(10^{(A/10)} + 10^{(B/10)} + 10^{(C/10)})$.
2. The maximum antenna gain is 7 dBi; therefore the limits are 16 dBm.

Mode 4 : Output Power Plot on 802.11n (BW 20MHz) Channel 36 - Chain A+B+C(A)



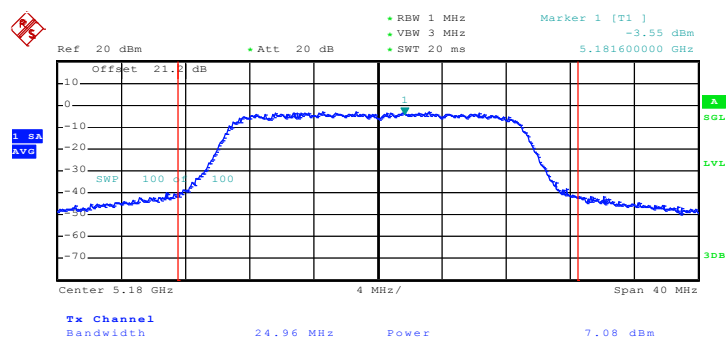
Date: 8.SEP.2010 21:28:48

Mode 4 : Output Power Plot on 802.11n (BW 20MHz) Channel 36 - Chain A+B+C(B)



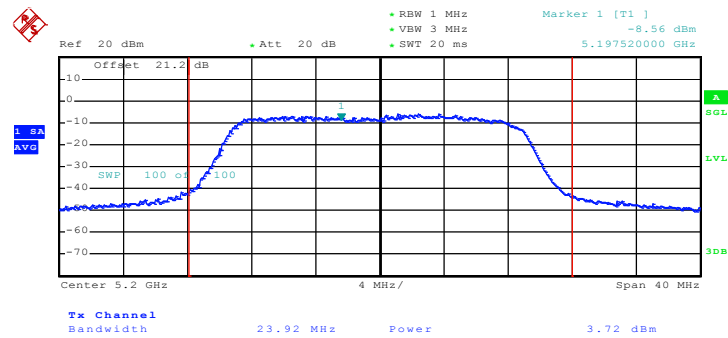
Date: 8.SEP.2010 21:30:27

Mode 4 : Output Power Plot on 802.11n (BW 20MHz) Channel 36 - Chain A+B+C(C)



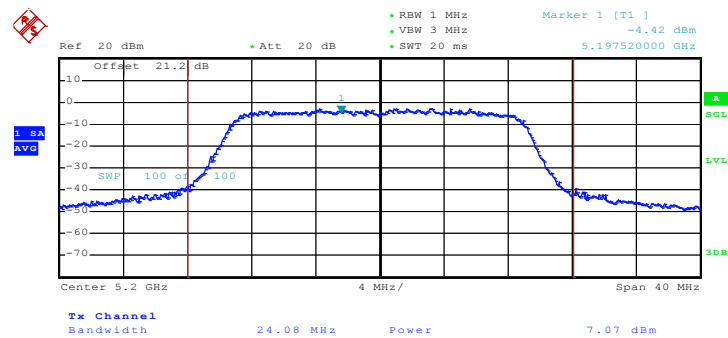
Date: 8.SEP.2010 21:31:47

**Mode 5 : Output Power Plot on 802.11n (BW 20MHz) Channel 40 -
Chain A+B+C(A)**



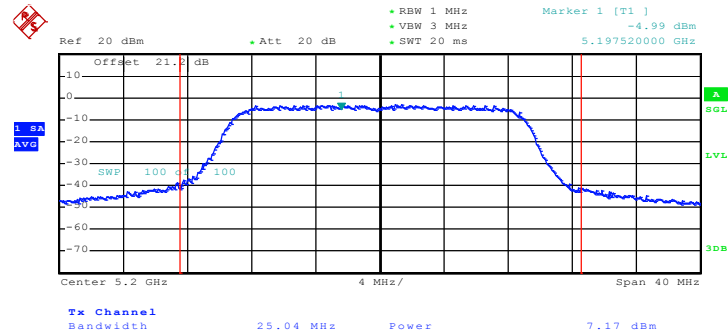
Date: 8.SEP.2010 21:37:37

**Mode 5 : Output Power Plot on 802.11n (BW 20MHz) Channel 40 -
Chain A+B+C(B)**



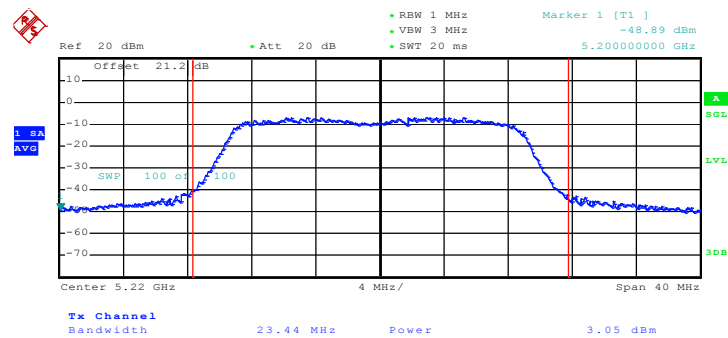
Date: 8.SEP.2010 21:36:26

Mode 5 : Output Power Plot on 802.11n (BW 20MHz) Channel 40 - Chain A+B+C(C)



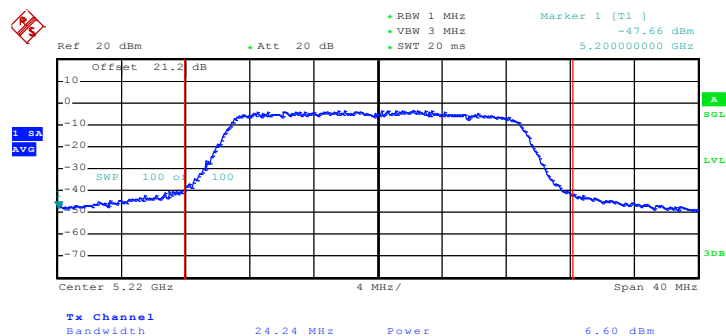
Date: 8.SEP.2010 21:35:26

Mode 6 : Output Power Plot on 802.11n (BW 20MHz) Channel 44 - Chain A+B+C(A)



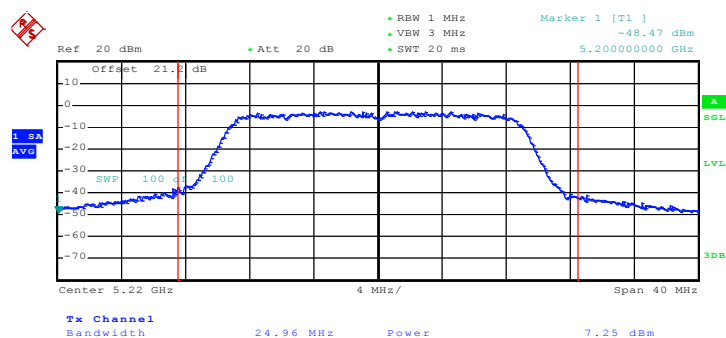
Date: 8.SEP.2010 21:39:56

**Mode 6 : Output Power Plot on 802.11n (BW 20MHz) Channel 44 -
Chain A+B+C(B)**



Date: 8.SEP.2010 21:41:08

**Mode 6 : Output Power Plot on 802.11n (BW 20MHz) Channel 44 -
Chain A+B+C(C)**



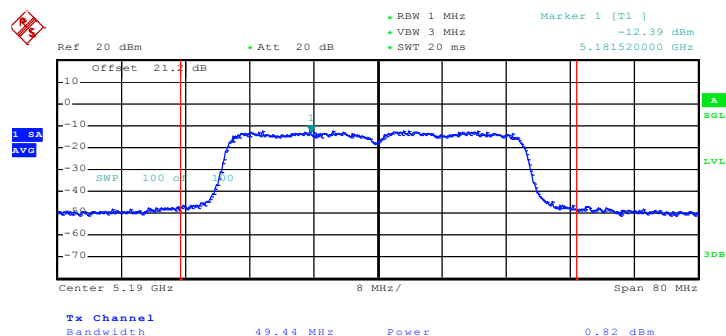
Date: 8.SEP.2010 21:48:20

Test Mode :	Mode 7, 8	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 40MHz, 3Tx) Measured Output Power (dBm)				Max. Limits (dBm)	Pass/Fail
		Chain A+B+C(A)	Chain A+B+C(B)	Chain A+B+C(C)	Chain A+B+C		
38	5190	0.82	4.07	4.20	8.06	16	Pass
44	5220	0.50	4.11	4.71	8.23	16	Pass

Note:

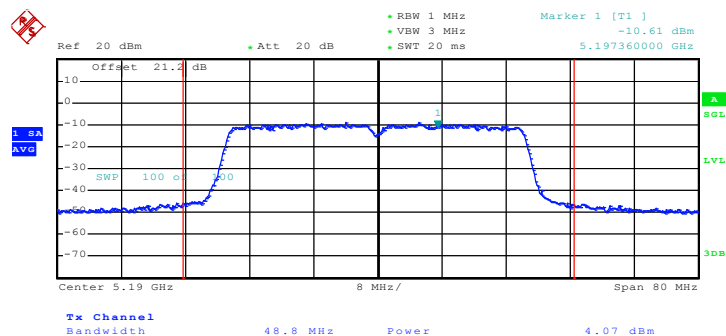
1. Chain A+B+C was tested by combiner, and the chain A, B and C was tested individually and calculated with the formula of $10 \cdot \text{LOG} (10^{\text{(chain A/10)}} + 10^{\text{(chain B/10)}} + 10^{\text{(chain C/10)}})$.
2. The maximum antenna gain is 7 dBi; therefore the limits are 16 dBm.

Mode 7 : Output Power Plot on 802.11n (BW 40MHz) Channel 38 - Chain A+B+C(A)


Date: 8.SEP.2010 21:08:41

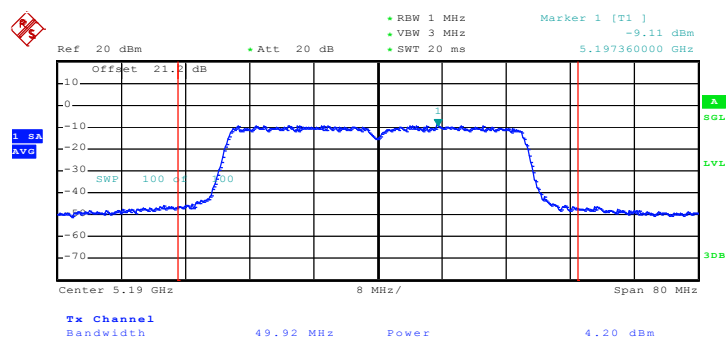


Mode 7 : Output Power Plot on 802.11n (BW 40MHz) Channel 38 -
Chain A+B+C(B)



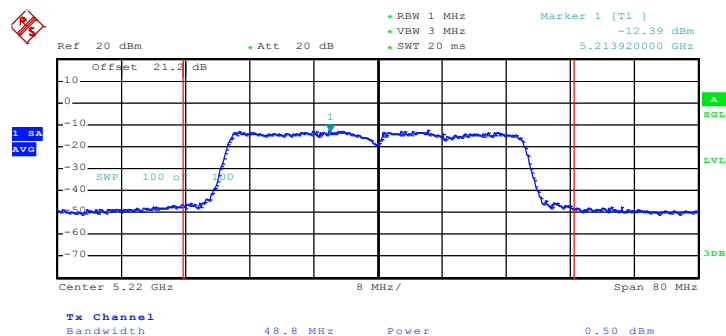
Date: 8.SEP.2010 21:07:13

Mode 7 : Output Power Plot on 802.11n (BW 40MHz) Channel 38 -
Chain A+B+C(C)



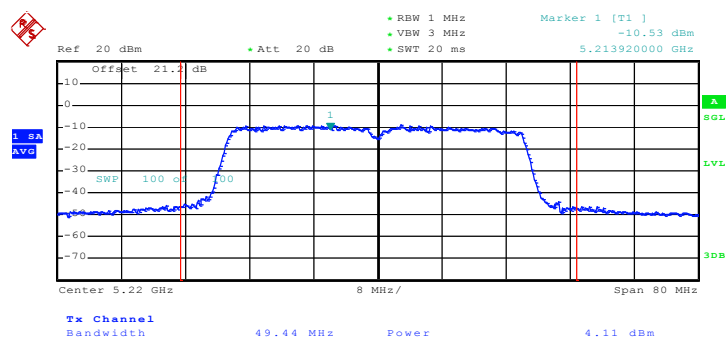
Date: 8.SEP.2010 21:05:37

Mode 8 : Output Power Plot on 802.11n (BW 40MHz) Channel 44 - Chain A+B+C(A)



Date: 8.SEP.2010 21:10:52

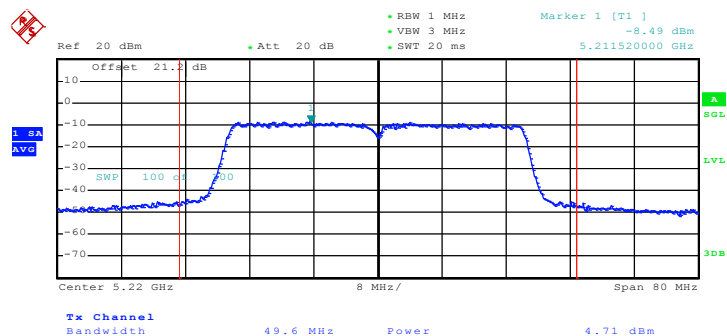
Mode 8 : Output Power Plot on 802.11n (BW 40MHz) Channel 44 - Chain A+B+C(B)



Date: 8.SEP.2010 21:12:31



Mode 8 : Output Power Plot on 802.11n (BW 40MHz) Channel 44 -
Chain A+B+C(C)



Date: 8.SEP.2010 21:13:43

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 1MHz 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.

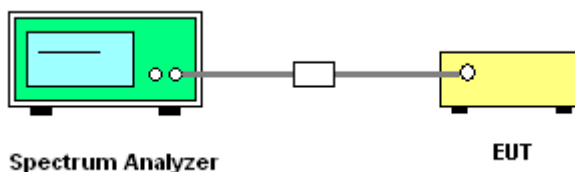
3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

The transmitter output is connected to the spectrum analyzer. According to the method 3 of DA-02-2138, the resolution bandwidth is set to 1 MHz, video bandwidth is 3MHz, trace average 100 traces in power averaging mode, and sample detection is used, and the analyzer is set for video averaging.

3.3.4 Test Setup



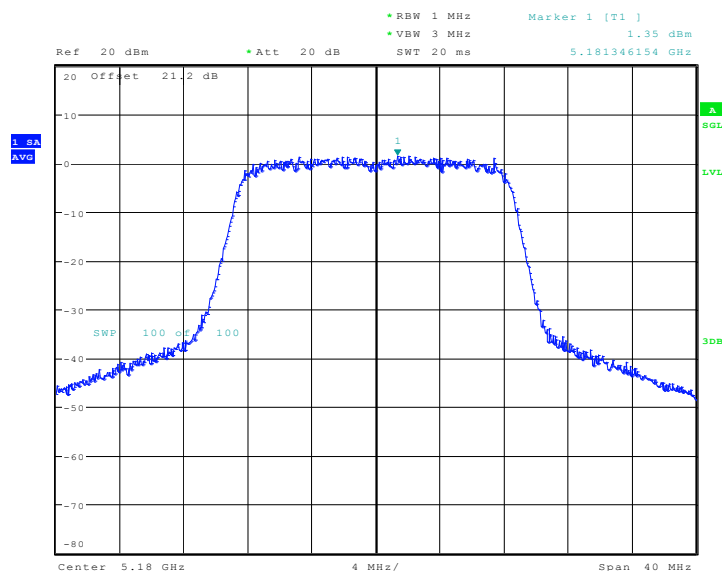
3.3.5 Test Result of Power Spectral Density

Test Mode :	Mode 1, 2, 3	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11a Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
		Chain A		
36	5180	1.35	3	Pass
40	5200	2.13	3	Pass
44	5220	1.80	3	Pass

Note: The maximum antenna gain is 7 dBi; therefore the limits are 3 dBm.

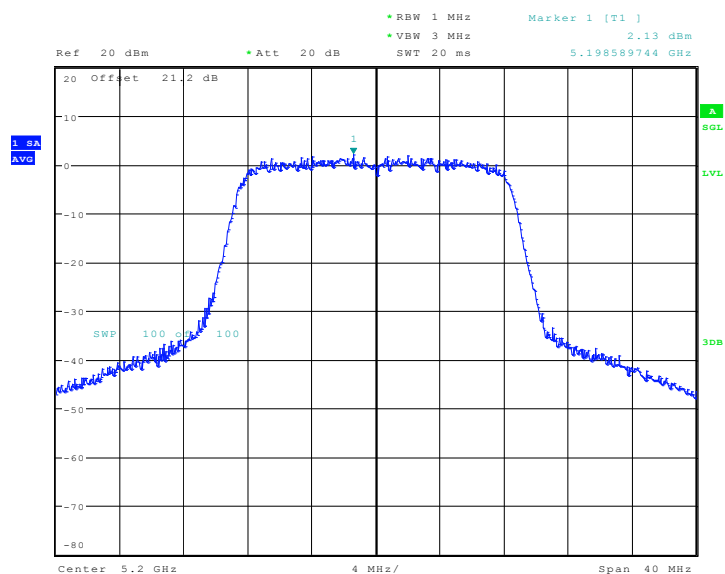
Mode 1 : PSD Plot on 802.11a Channel 36 - Chain A



Date: 15.AUG.2010 06:50:16

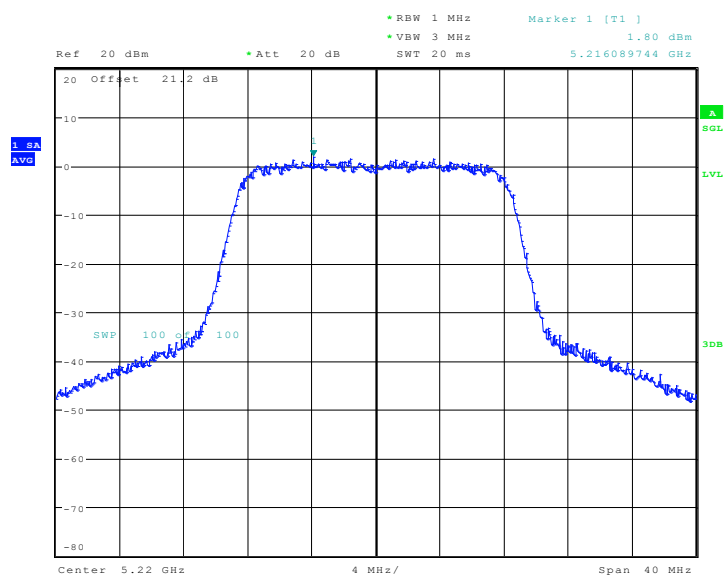


Mode 2 : PSD Plot on 802.11a Channel 40 - Chain A



Date: 15.AUG.2010 06:50:53

Mode 3 : PSD Plot on 802.11a Channel 44 - Chain A



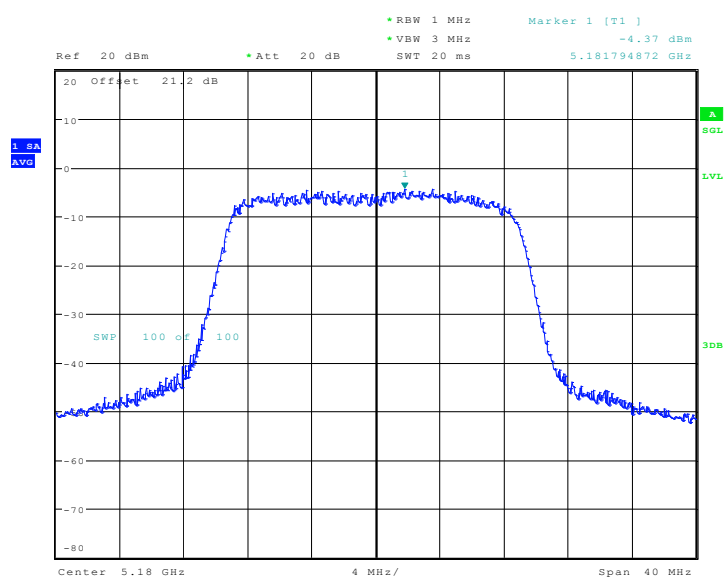
Date: 15.AUG.2010 06:51:36

Test Mode :	Mode 4, 5, 6	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 20MHz, 3Tx) Measured PSD (dBm)				Max. Limits (dBm)	Pass/Fail
		Chain A+B+C(A)	Chain A+B+C(B)	Chain A+B+C(C)	Chain A+B+C		
36	5180	-4.37	-1.05	-0.85	2.95	3	Pass
40	5200	-4.59	-1.57	-0.56	2.84	3	Pass
44	5220	-4.38	-1.47	-0.56	2.92	3	Pass

Note:

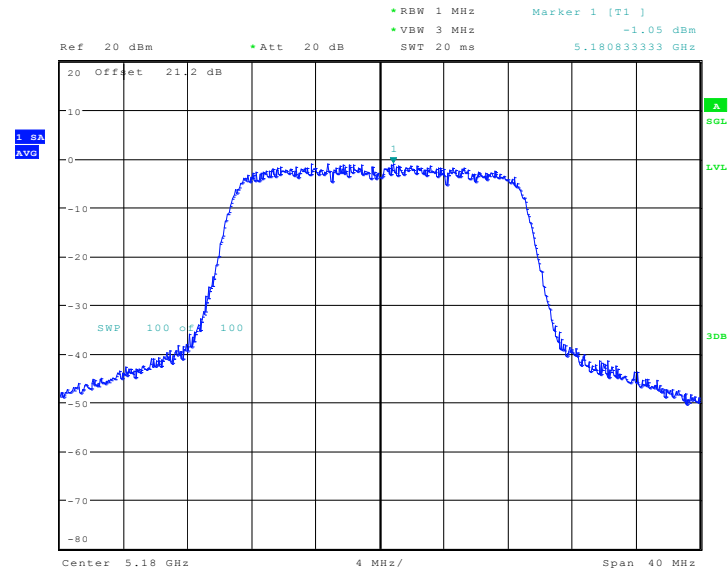
- Chain A+B+C was tested by combiner, and the chain A, B and C was tested individually and calculated with the formula of $10 \cdot \text{LOG} (10^{\text{chain A}/10} + 10^{\text{chain B}/10} + 10^{\text{chain C}/10})$.
- The maximum antenna gain is 7 dBi; therefore the limits are 3 dBm.

Mode 4 : PSD Plot on 802.11n (BW 20MHz) Channel 36 - Chain A+B+C(A)


Date: 15.AUG.2010 07:57:40

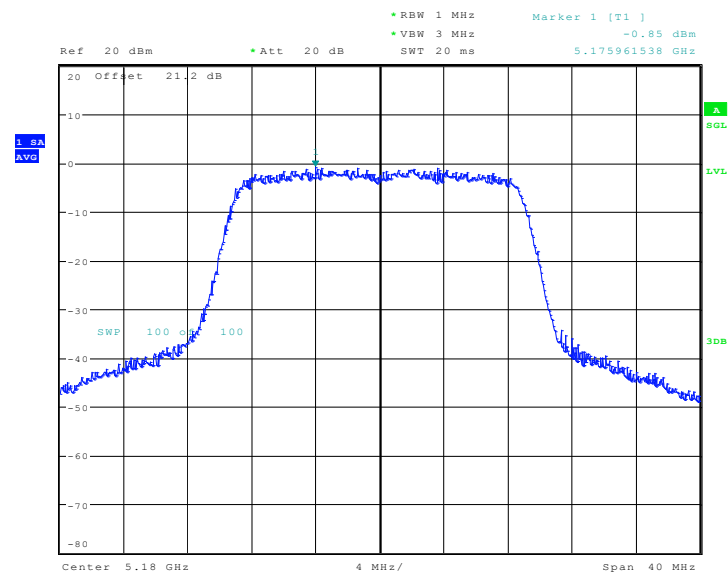


Mode 4 : PSD Plot on 802.11n (BW 20MHz) Channel 36 - Chain
A+B+C(B)



Date: 15.AUG.2010 07:58:40

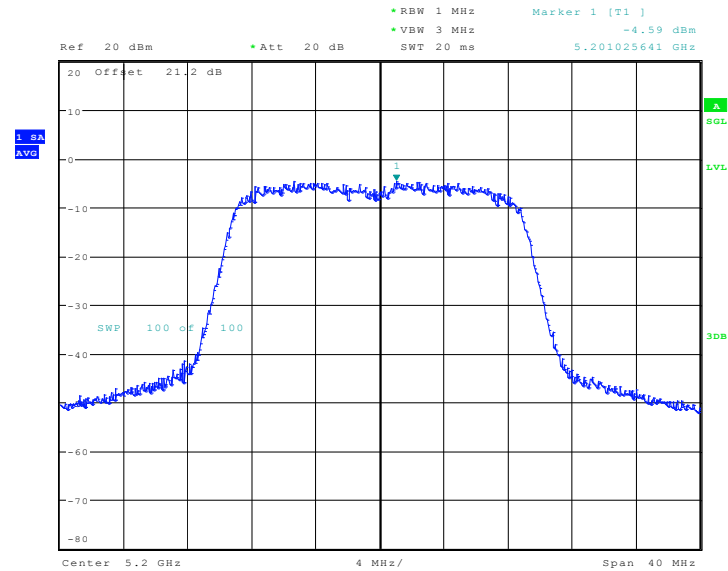
Mode 4 : PSD Plot on 802.11n (BW 20MHz) Channel 36 - Chain
A+B+C(C)



Date: 15.AUG.2010 07:59:43

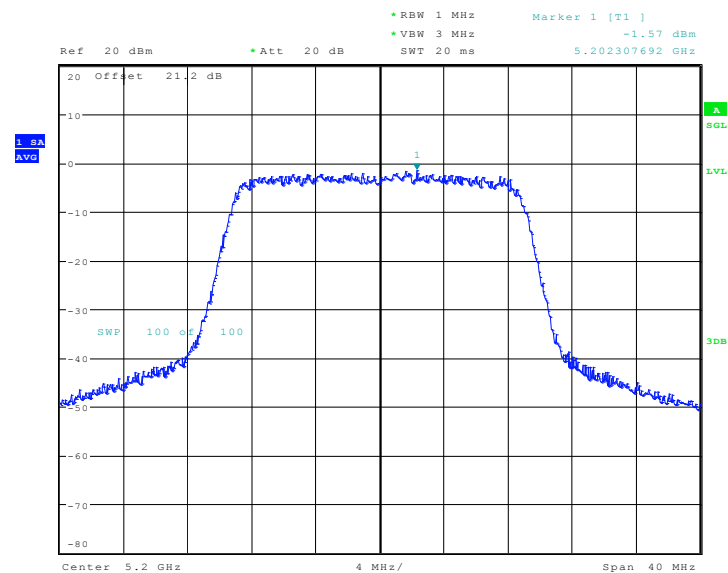


Mode 5 : PSD Plot on 802.11n (BW 20MHz) Channel 40 - Chain
A+B+C(A)



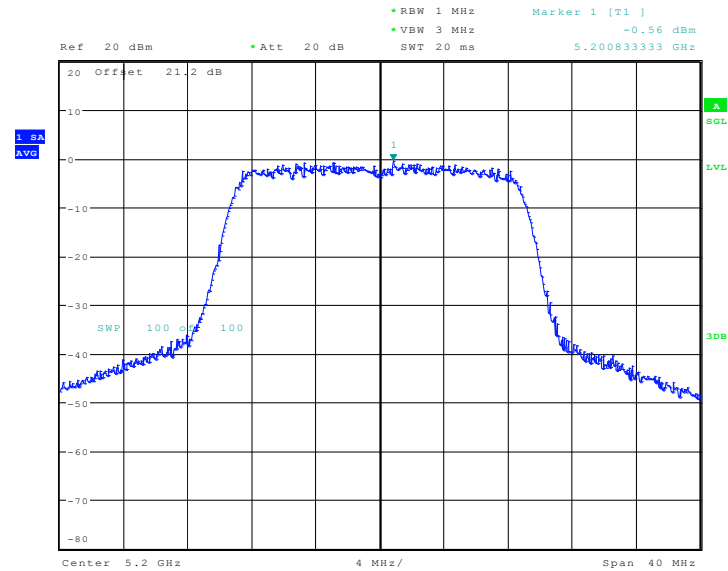
Date: 15.AUG.2010 07:57:03

Mode 5 : PSD Plot on 802.11n (BW 20MHz) Channel 40 - Chain
A+B+C(B)



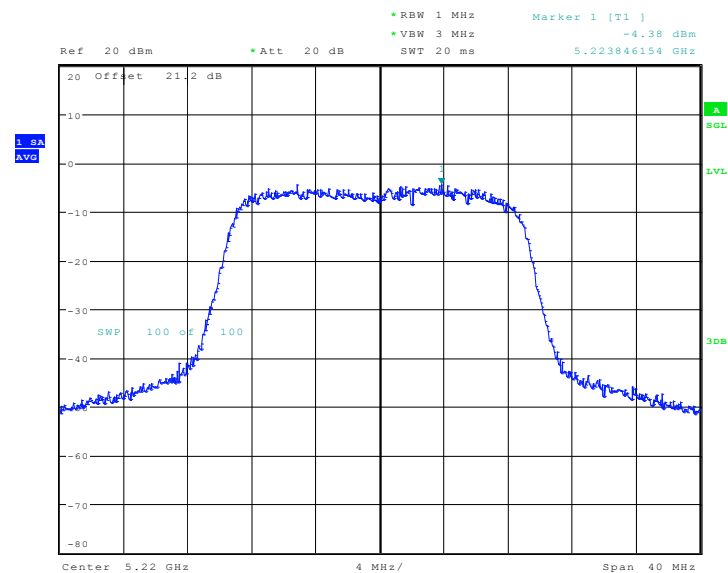
Date: 15.AUG.2010 07:55:57

Mode 5 : PSD Plot on 802.11n (BW 20MHz) Channel 40 - Chain A+B+C(C)



Date: 15.AUG.2010 07:55:04

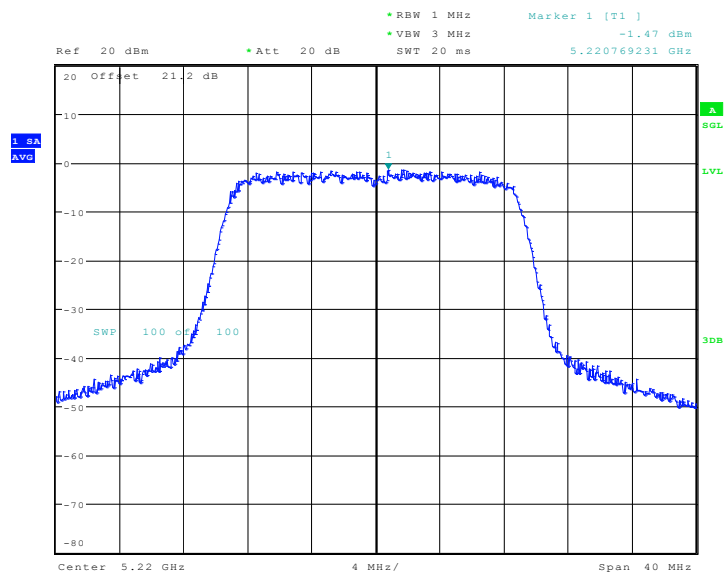
Mode 6 : PSD Plot on 802.11n (BW 20MHz) Channel 44 - Chain A+B+C(A)



Date: 15.AUG.2010 07:38:21

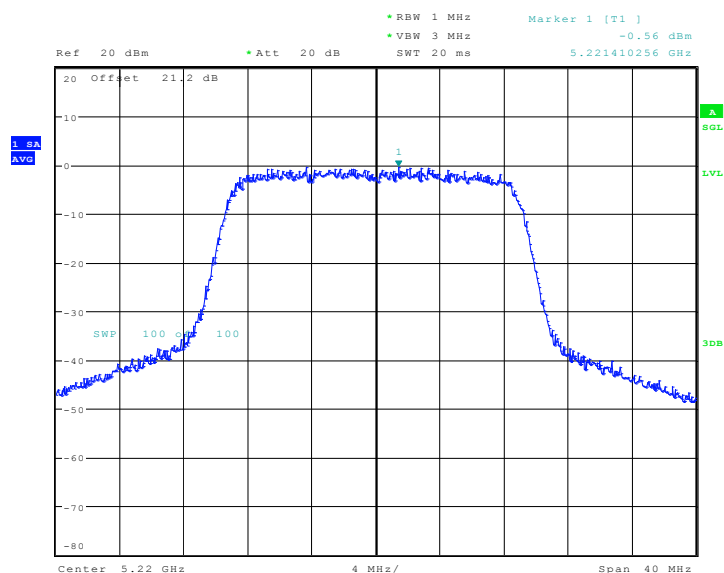


Mode 6 : PSD Plot on 802.11n (BW 20MHz) Channel 44 - Chain
A+B+C(B)



Date: 15.AUG.2010 07:40:20

Mode 6 : PSD Plot on 802.11n (BW 20MHz) Channel 44 - Chain
A+B+C(C)



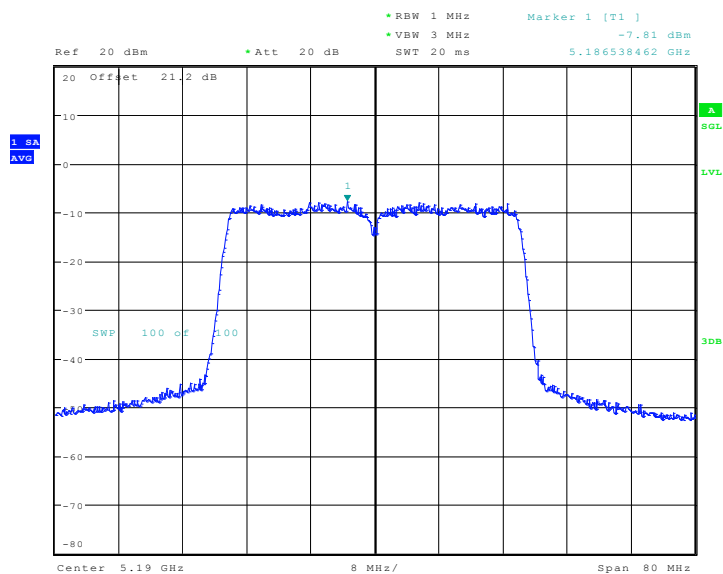
Date: 15.AUG.2010 07:42:37

Test Mode :	Mode 7, 8	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 40MHz, 3Tx) Measured PSD (dBm)				Max. Limits (dBm)	Pass/Fail
		Chain A+B+C(A)	Chain A+B+C(B)	Chain A+B+C(C)	Chain A+B+C		
38	5190	-7.81	-4.74	-4.47	-0.66	3	Pass
44	5220	-7.76	-4.44	-3.89	-0.29	3	Pass

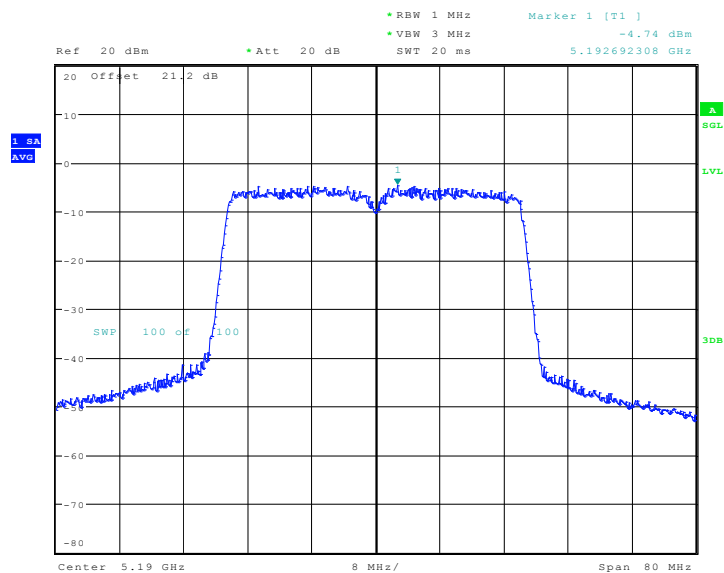
Note:

1. Chain A+B+C was tested by combiner, and the chain A, B and C was tested individually and calculated with the formula of $10 \cdot \text{LOG} (10^{\text{(chain A/10)}} + 10^{\text{(chain B/10)}} + 10^{\text{(chain C/10)}})$.
2. The maximum antenna gain is 7 dBi; therefore the limits are 3 dBm.

Mode 7 : PSD Plot on 802.11n (BW 40MHz) Channel 38 - Chain A+B+C(A)


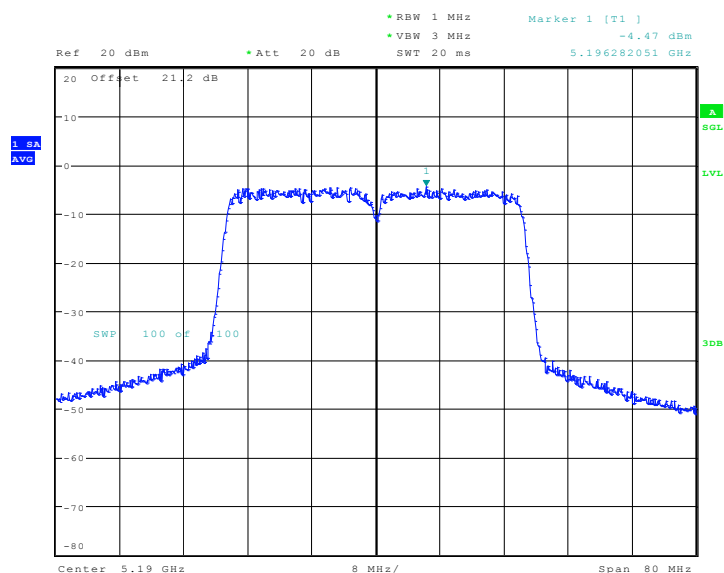
Date: 15.AUG.2010 08:10:57

Mode 7 : PSD Plot on 802.11n (BW 40MHz) Channel 38 - Chain A+B+C(B)



Date: 15.AUG.2010 08:09:51

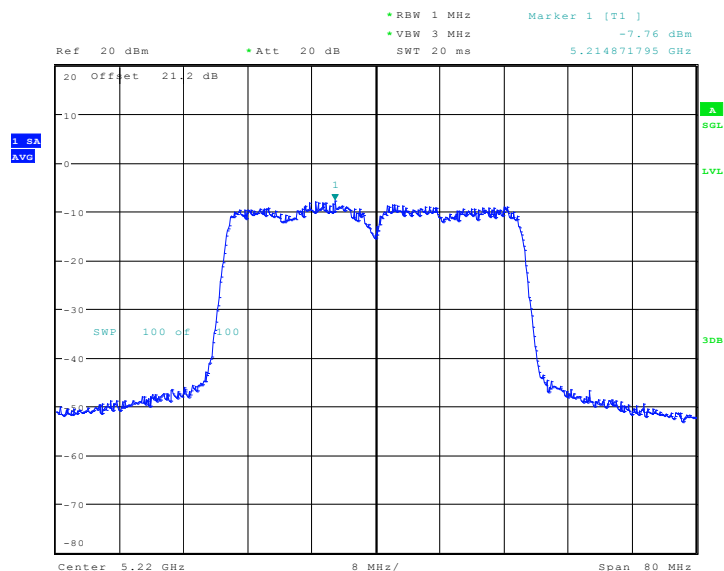
Mode 7 : PSD Plot on 802.11n (BW 40MHz) Channel 38 - Chain A+B+C(C)



Date: 15.AUG.2010 08:07:17

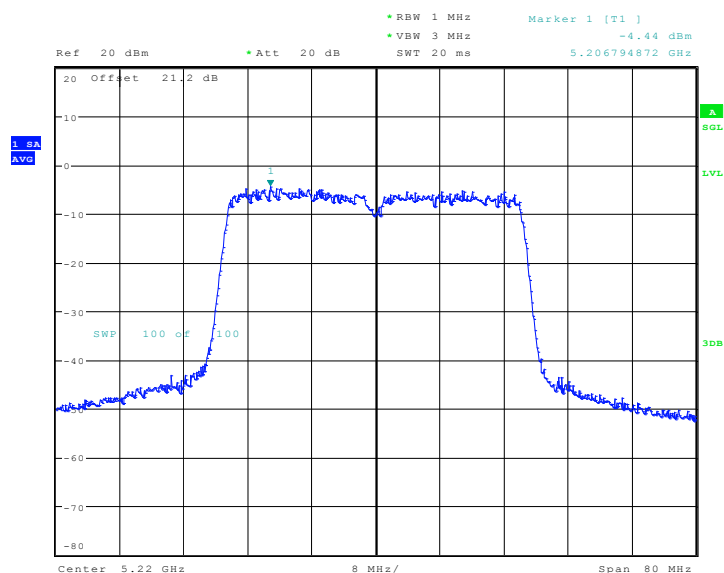


Mode 8 : PSD Plot on 802.11n (BW 40MHz) Channel 44 - Chain
A+B+C(A)



Date: 15.AUG.2010 08:11:31

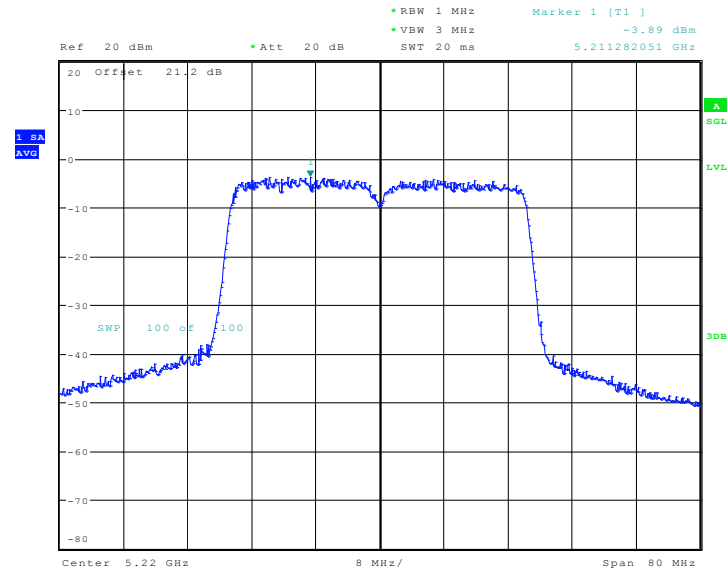
Mode 8 : PSD Plot on 802.11n (BW 40MHz) Channel 44 - Chain
A+B+C(B)



Date: 15.AUG.2010 08:09:16



Mode 8 : PSD Plot on 802.11n (BW 40MHz) Channel 44 - Chain
A+B+C(C)



Date: 15.AUG.2010 08:07:55

3.4 Band Edges Measurement

3.4.1 Limit of Band Edges

- (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 –27 dBm/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.
- (2) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

3.4.2 Measuring Instruments

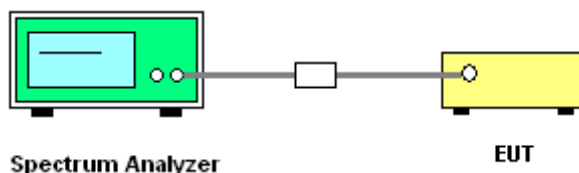
See list of measuring instruments of this test report.

3.4.3 Test Procedures

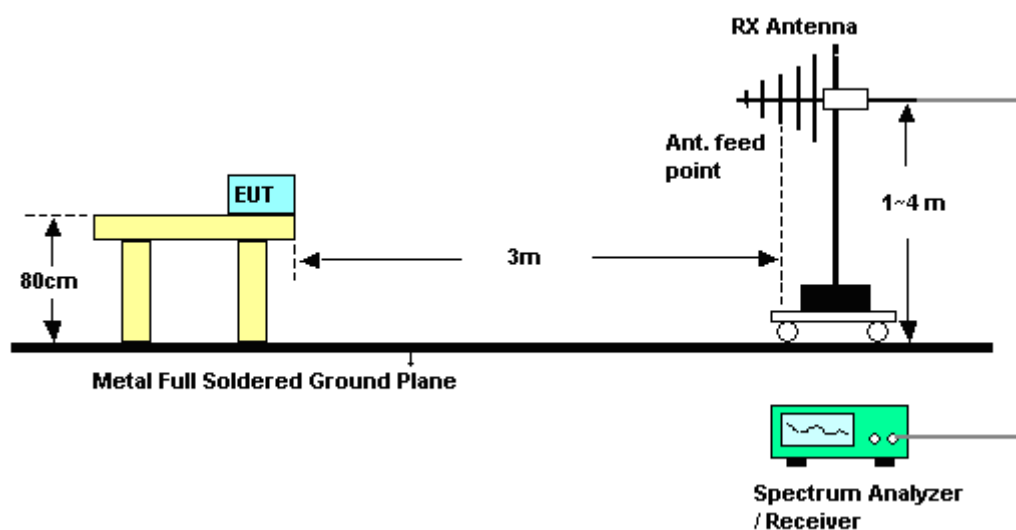
1. Set both RBW and VBW of spectrum analyzer to 1MHz with convenient frequency span including 1MHz bandwidth from band edge.
2. The band edges was measured and recorded.

3.4.4 Test Setup

<Conducted>



<Radiated>



3.4.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~48%
Test Channel :	36	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	51.16	-22.84	74	42.05	34.35	9.41	34.65	115	249	Peak
5150	39.13	-14.87	54	30.02	34.35	9.41	34.65	115	249	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	58.46	-15.54	74	49.35	34.35	9.41	34.65	100	57	Peak
5150	41.82	-12.18	54	32.71	34.35	9.41	34.65	100	57	Average

Test Mode :	Mode 3	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~48%
Test Channel :	44	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	50.79	-23.21	74	41.9	34.55	9.74	35.4	100	53	Peak
5350	39.2	-14.8	54	30.31	34.55	9.74	35.4	100	53	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	51.22	-22.78	74	42.33	34.55	9.74	35.4	100	58	Peak
5350	39.87	-14.13	54	30.98	34.55	9.74	35.4	100	58	Average



Test Mode :	Mode 4	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	36	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	50.47	-23.53	74	41.36	34.35	9.41	34.65	100	308	Peak
5150	39.47	-14.53	54	30.36	34.35	9.41	34.65	100	308	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	57.92	-16.08	74	48.81	34.35	9.41	34.65	100	181	Peak
5150	43.4	-10.6	54	34.29	34.35	9.41	34.65	100	181	Average

Test Mode :	Mode 6	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	44	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	50.88	-23.12	74	41.99	34.55	9.74	35.4	100	46	Peak
5350	39.08	-14.92	54	30.19	34.55	9.74	35.4	100	46	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	52.59	-21.41	74	43.7	34.55	9.74	35.4	100	181	Peak
5350	41.22	-12.78	54	32.33	34.55	9.74	35.4	100	181	Average



Test Mode :	Mode 7	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	38	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	58.03	-15.97	74	48.92	34.35	9.41	34.65	100	307	Peak
5150	41.96	-12.04	54	32.85	34.35	9.41	34.65	100	307	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	72.15	-1.85	74	63.04	34.35	9.41	34.65	100	179	Peak
5150	50.27	-3.73	54	41.16	34.35	9.41	34.65	100	179	Average

Test Mode :	Mode 8	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	44	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	50.8	-23.2	74	41.91	34.55	9.74	35.4	100	49	Peak
5350	39.15	-14.85	54	30.26	34.55	9.74	35.4	100	49	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	55.09	-18.91	74	46.2	34.55	9.74	35.4	100	178	Peak
5350	42.62	-11.38	54	33.73	34.55	9.74	35.4	100	178	Average



Test Mode :	Mode 9	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	38	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	63.71	-10.29	74	54.6	34.35	9.41	34.65	100	49	Peak
5150	43.8	-10.2	54	34.69	34.35	9.41	34.65	100	49	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	72.98	-1.02	74	63.87	34.35	9.41	34.65	100	173	Peak
5150	52.89	-1.11	54	43.78	34.35	9.41	34.65	100	173	Average

Test Mode :	Mode 10	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	38	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	54.68	-19.32	74	45.57	34.35	9.41	34.65	100	184	Peak
5150	41.3	-12.7	54	32.19	34.35	9.41	34.65	100	184	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	72.52	-1.48	74	63.41	34.35	9.41	34.65	100	163	Peak
5150	52.68	-1.32	54	43.57	34.35	9.41	34.65	100	163	Average



Test Mode :	Mode 11	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~48%
Test Channel :	36	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	50.9	-23.1	74	41.79	34.35	9.41	34.65	198	96	Peak
5150	39.35	-14.65	54	30.24	34.35	9.41	34.65	198	96	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	56.63	-17.37	74	47.52	34.35	9.41	34.65	113	360	Peak
5150	42.02	-11.98	54	32.91	34.35	9.41	34.65	113	360	Average

Test Mode :	Mode 13	Temperature :	23~24°C
Test Band :	802.11a	Relative Humidity :	45~48%
Test Channel :	44	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	49.74	-24.26	74	40.85	34.55	9.74	35.4	114	317	Peak
5350	38.94	-15.06	54	30.05	34.55	9.74	35.4	114	317	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	51.18	-22.82	74	42.29	34.55	9.74	35.4	100	7	Peak
5350	40.04	-13.96	54	31.15	34.55	9.74	35.4	100	7	Average



Test Mode :	Mode 14	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	36	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	50.81	-23.19	74	41.7	34.35	9.41	34.65	100	118	Peak
5150	39.29	-14.71	54	30.18	34.35	9.41	34.65	100	118	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	56.6	-17.4	74	47.49	34.35	9.41	34.65	100	350	Peak
5150	42.18	-11.82	54	33.07	34.35	9.41	34.65	100	350	Average

Test Mode :	Mode 16	Temperature :	23~24°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	45~48%
Test Channel :	44	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	50.55	-23.45	74	41.66	34.55	9.74	35.4	184	326	Peak
5350	39.03	-14.97	54	30.14	34.55	9.74	35.4	184	326	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	50.55	-23.45	74	41.66	34.55	9.74	35.4	120	351	Peak
5350	39.98	-14.02	54	31.09	34.55	9.74	35.4	120	351	Average

Test Mode :	Mode 17	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	38	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	56.1	-17.9	74	46.99	34.35	9.41	34.65	100	113	Peak
5150	40.64	-13.36	54	31.53	34.35	9.41	34.65	100	113	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	69.07	-4.93	74	59.96	34.35	9.41	34.65	100	353	Peak
5150	49.41	-4.59	54	40.3	34.35	9.41	34.65	100	353	Average

Test Mode :	Mode 18	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	44	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	50.82	-23.18	74	41.93	34.55	9.74	35.4	100	112	Peak
5350	39.1	-14.9	54	30.21	34.55	9.74	35.4	100	112	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5350	52.04	-21.96	74	43.15	34.55	9.74	35.4	137	355	Peak
5350	40.86	-13.14	54	31.97	34.55	9.74	35.4	137	355	Average



Test Mode :	Mode 19	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	38	Test Engineer :	Cona Huang

ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	58.44	-15.56	74	49.33	34.35	9.41	34.65	115	318	Peak
5150	40.4	-13.6	54	31.29	34.35	9.41	34.65	115	318	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	72.67	-1.33	74	63.56	34.35	9.41	34.65	100	353	Peak
5150	52.95	-1.05	54	43.84	34.35	9.41	34.65	100	353	Average

Test Mode :	Mode 20	Temperature :	23~24°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	45~48%
Test Channel :	38	Test Engineer :	Cona Huang

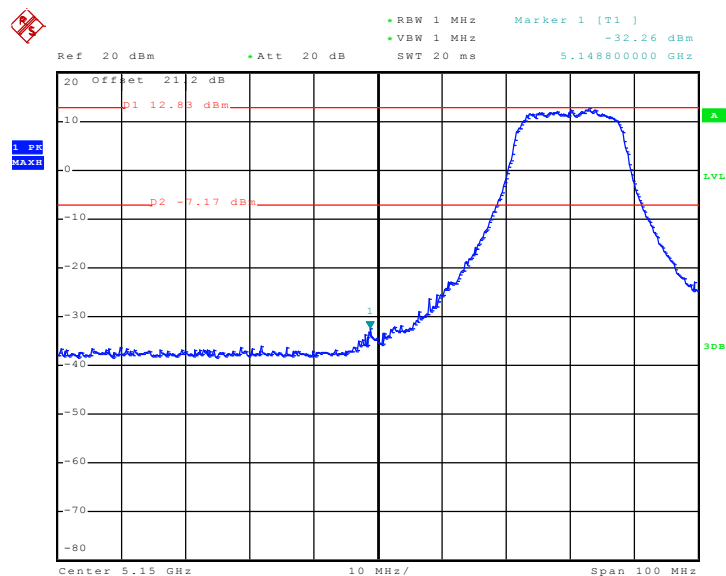
ANTENNA POLARITY : HORIZONTAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	52.68	-21.32	74	43.57	34.35	9.41	34.65	100	305	Peak
5150	40.45	-13.55	54	31.34	34.35	9.41	34.65	100	305	Average

ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
5150	70.45	-3.55	74	61.34	34.35	9.41	34.65	110	0	Peak
5150	52.24	-1.76	54	43.13	34.35	9.41	34.65	110	0	Average

3.4.6 Test Result of Conducted Band Edges

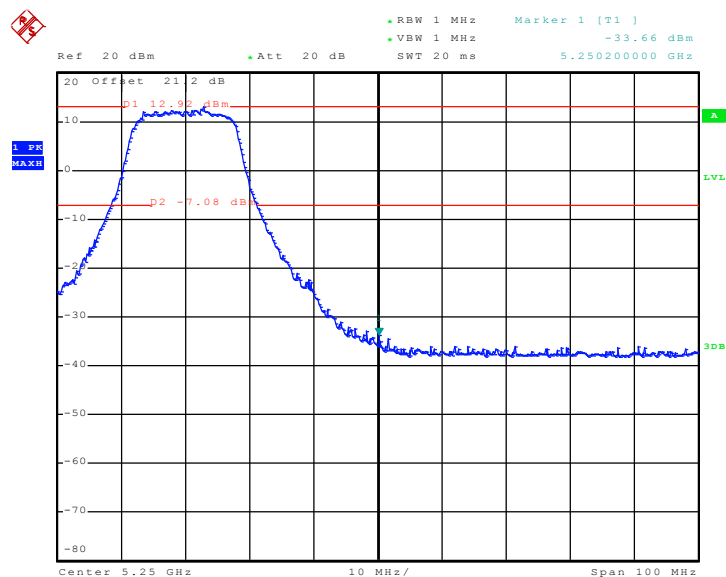
Test Mode :	Mode 1 and 3	Temperature :	25~27°C
Test Band :	802.11a	Relative Humidity :	48~51%
Test Channel :	36 and 44	Test Engineer :	Mac Lin

Mode 1 : Low Band Edge Plot on Channel 36 - Chain A



Date: 18.AUG.2010 03:40:57

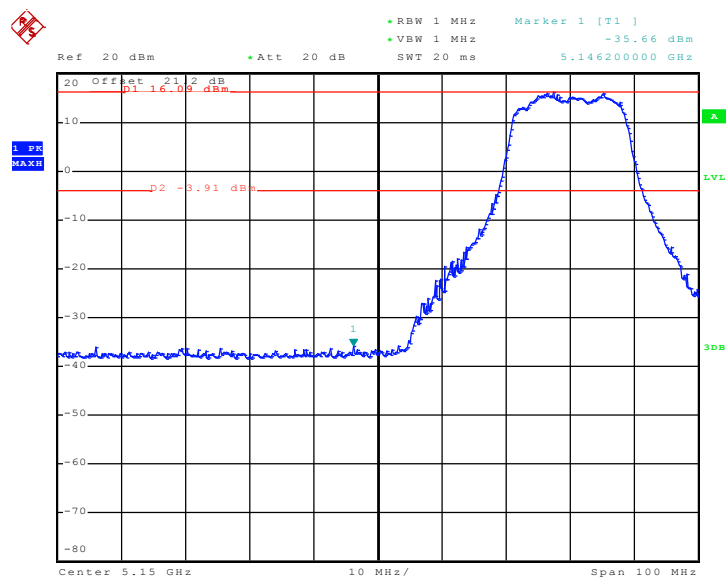
Mode 3 : High Band Edge Plot on Channel 44 - Chain A



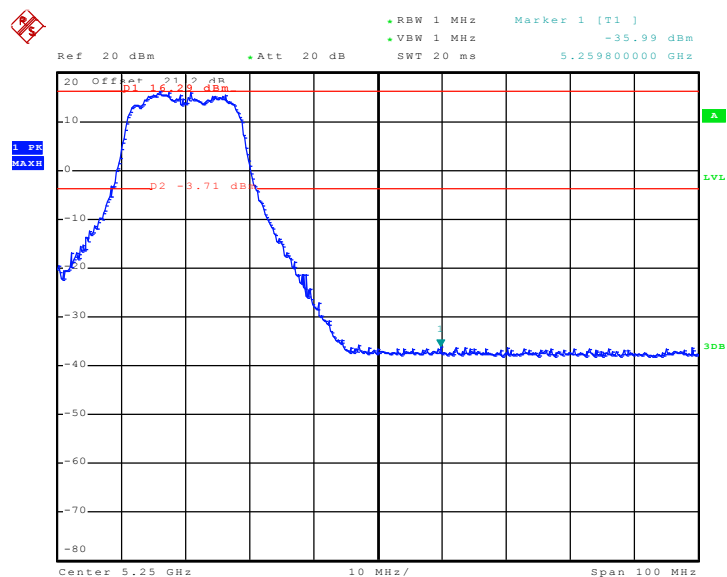
Date: 18.AUG.2010 03:42:31



Test Mode :	Mode 4 and 6	Temperature :	25~27°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	48~51%
Test Channel :	36 and 44	Test Engineer :	Mac Lin

Mode 4 : Low Band Edge Plot on Channel 36 - Chain A+B+C

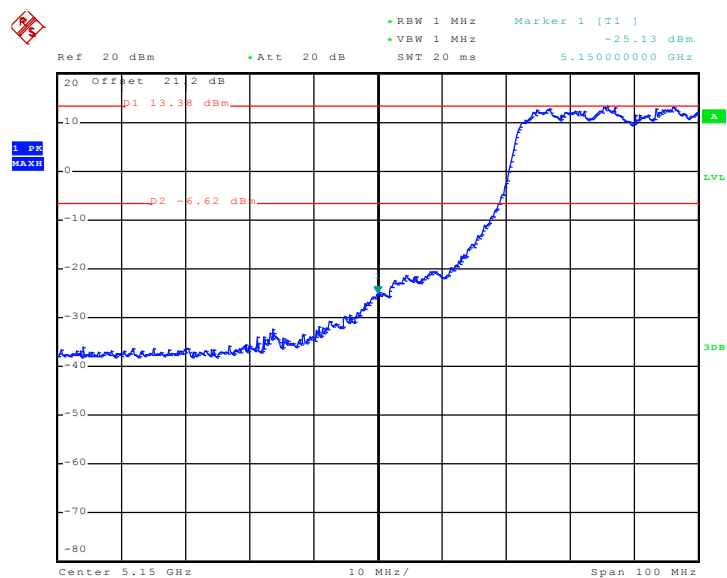
Date: 18.AUG.2010 04:51:02

Mode 6 : High Band Edge Plot on Channel 44 - Chain A+B+C

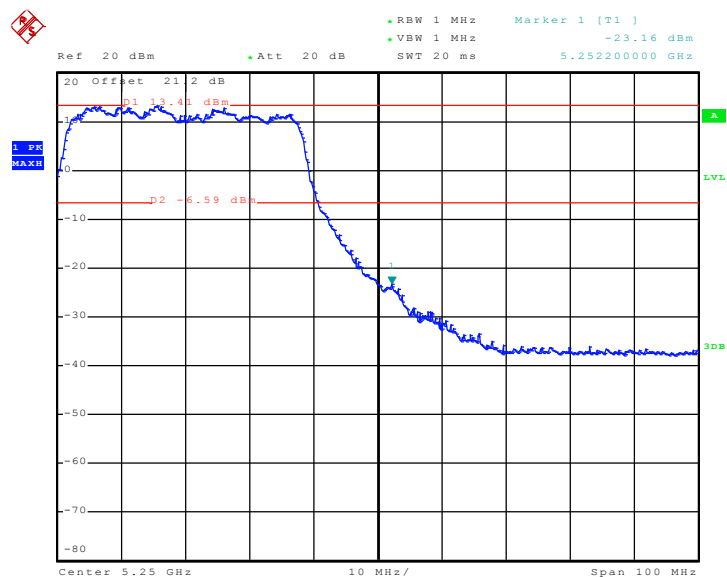
Date: 18.AUG.2010 04:53:47



Test Mode :	Mode 7 and 8	Temperature :	25~27°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	48~51%
Test Channel :	38 and 44	Test Engineer :	Mac Lin

Mode 7 : Low Band Edge Plot on Channel 38 - Chain A+B+C

Date: 18.AUG.2010 06:41:15

Mode 8 : High Band Edge Plot on Channel 44 - Chain A+B+C

Date: 18.AUG.2010 06:39:23

3.5 Spurious Emission

3.5.1 Limit of Spurious Emission Measurement

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 -27 dBm/MHz.

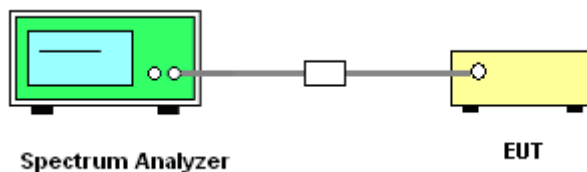
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = VBW = 1 MHz, Video bandwidth (VBW), scan from 30 MHz to 40 GHz.

3.5.4 Test Setup

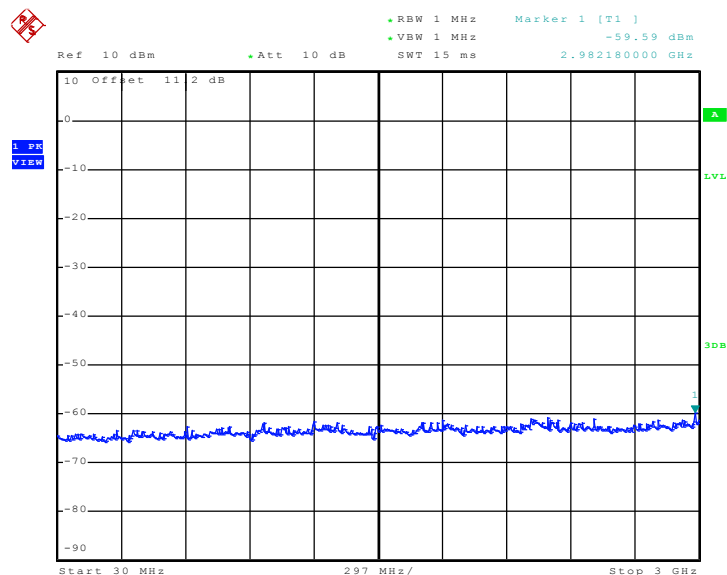


3.5.5 Test Result

Test Mode :	Mode 1, 2, 3	Temperature :	25~27°C
Test Band :	802.11a	Relative Humidity :	48~51%
Test Channel :	36, 40, 44	Test Engineer :	Mac Lin

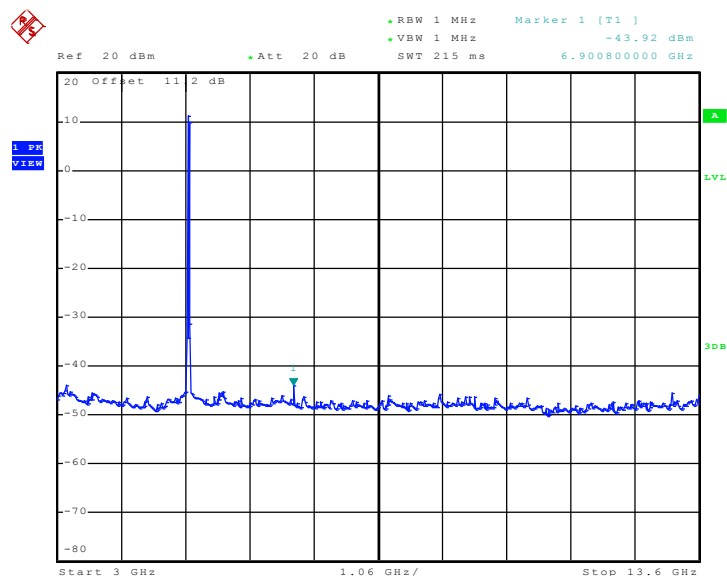
Channel	Frequency (MHz)	Chain	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	A	2982.18	-59.59	7.00	-52.59	-27
			6900.8	-43.92	7.00	-36.92	
			40000	-39.81	7.00	-32.81	
40	5200	A	35.94	-59.29	7.00	-52.29	-27
			3127.2	-44.39	7.00	-37.39	
			39894.4	-40.74	7.00	-33.74	
44	5220	A	30	-59.06	7.00	-52.06	-27
			3275.6	-44.37	7.00	-37.37	
			39947.2	-41.53	7.00	-34.53	

Mode 1: Conducted Spurious Emission Plot between 30 MHz ~ 3 GHz - Chain A



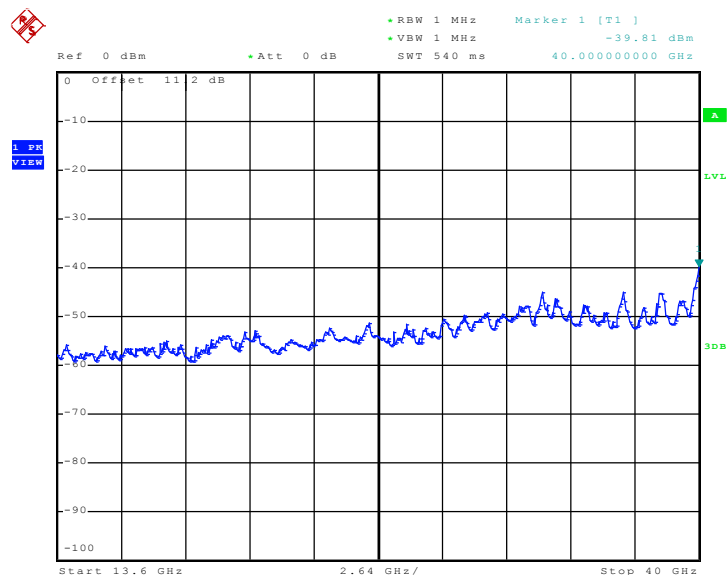
Date: 18.AUG.2010 04:09:13

Mode 1: Conducted Spurious Emission Plot between 3 GHz ~ 13.6 GHz - Chain A



Date: 18.AUG.2010 04:11:10

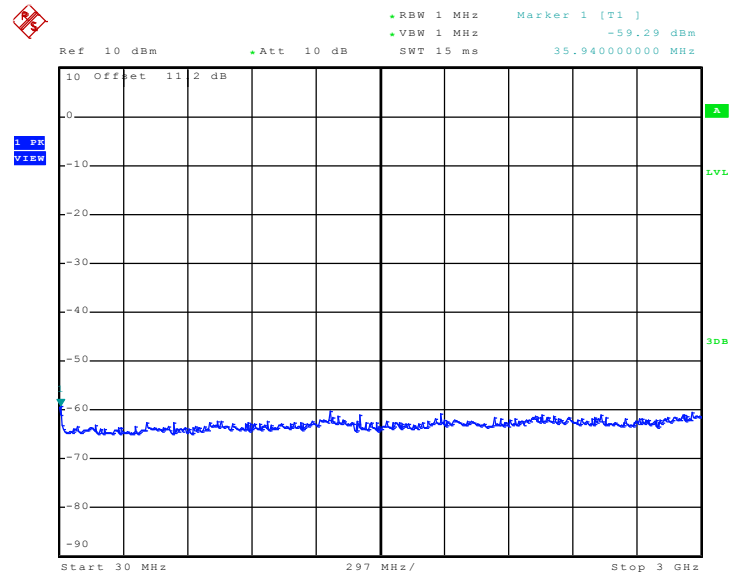
Mode 1: Conducted Spurious Emission Plot between 13.6 GHz ~ 40 GHz - Chain A



Date: 18.AUG.2010 04:17:45

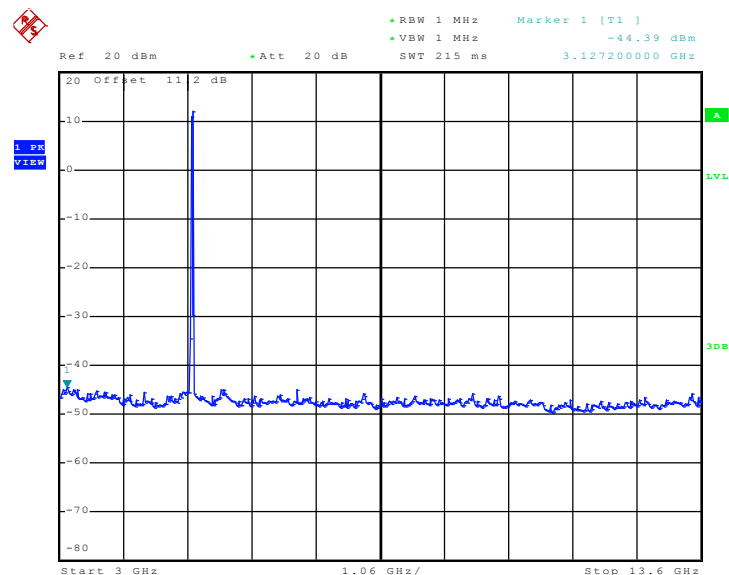


Mode 2: Conducted Spurious Emission Plot between
30 MHz ~ 3 GHz - Chain A



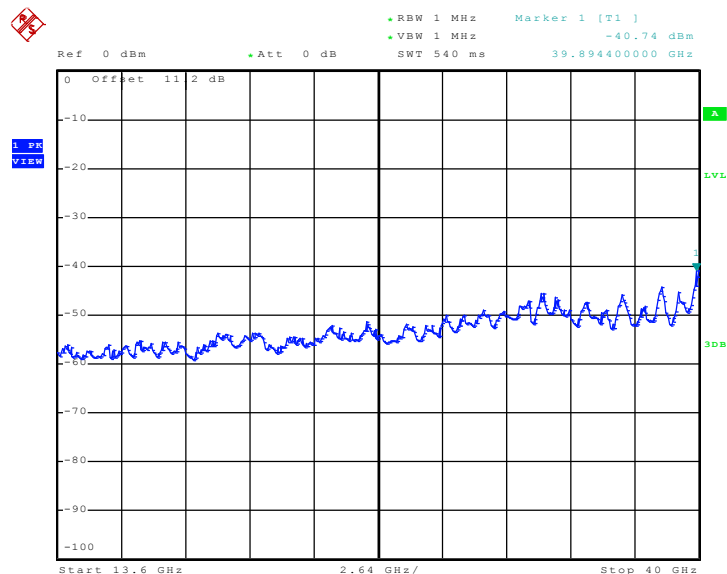
Date: 18.AUG.2010 04:08:31

Mode 2: Conducted Spurious Emission Plot between
3 GHz ~ 13.6 GHz - Chain A



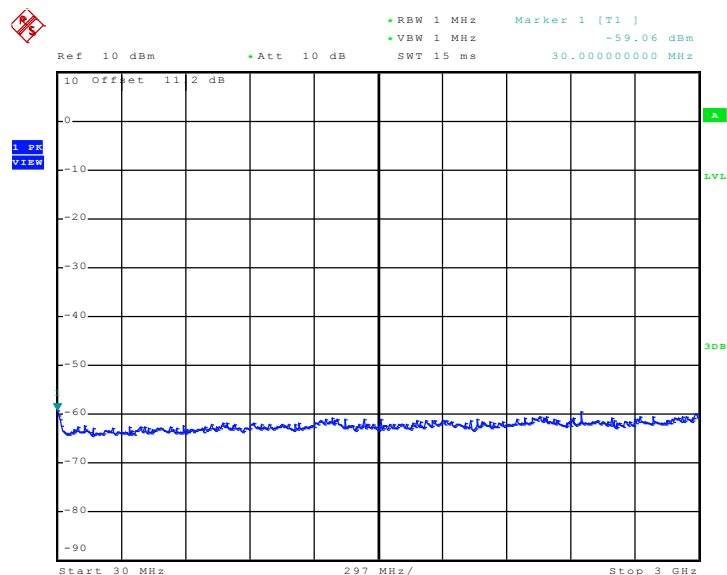
Date: 18.AUG.2010 04:13:08

**Mode 2: Conducted Spurious Emission Plot between
13.6 GHz ~ 40 GHz - Chain A**



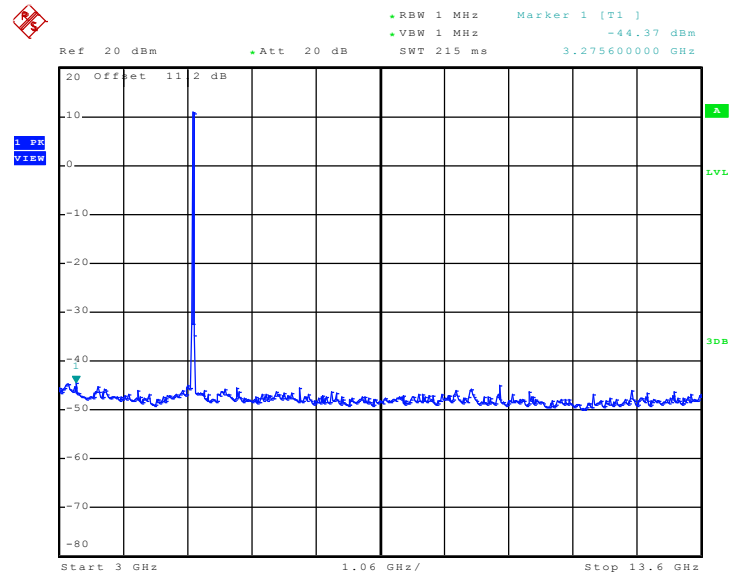
Date: 18.AUG.2010 04:17:07

**Mode 3: Conducted Spurious Emission Plot between
30 MHz ~ 3 GHz - Chain A**



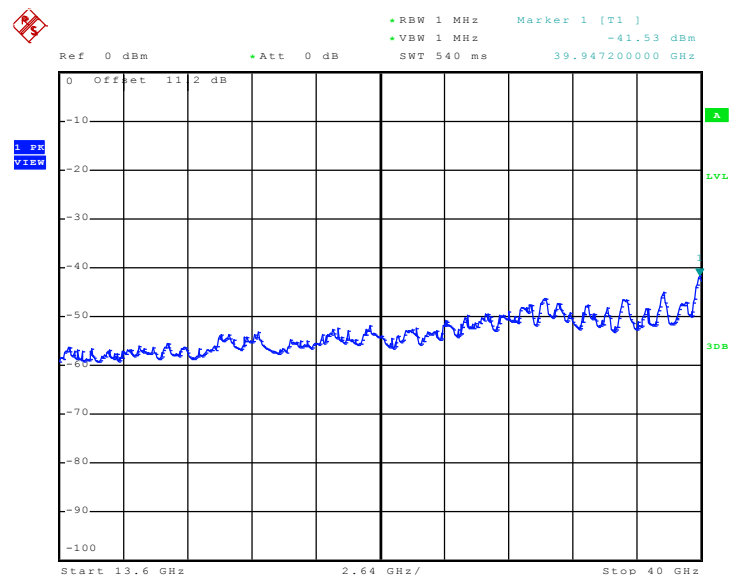
Date: 18.AUG.2010 04:06:39

Mode 3: Conducted Spurious Emission Plot between 3 GHz ~ 13.6 GHz - Chain A



Date: 18.AUG.2010 04:14:37

Mode 3: Conducted Spurious Emission Plot between 13.6 GHz ~ 40 GHz - Chain A

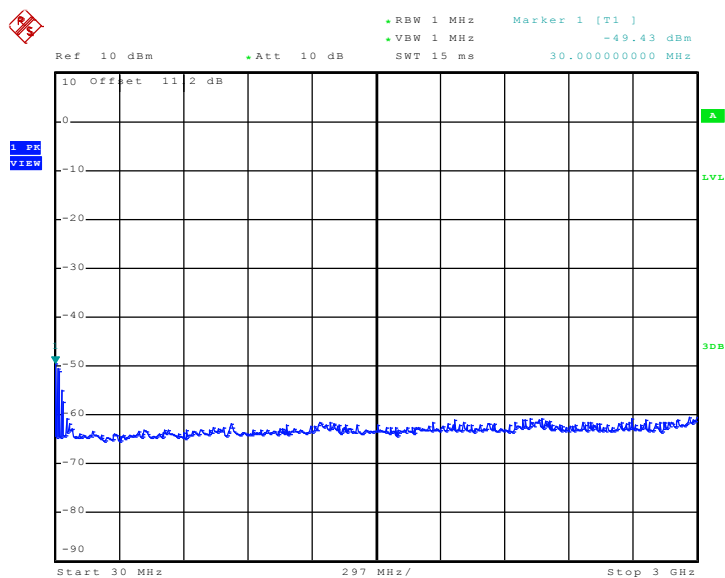


Date: 18.AUG.2010 04:16:14

Test Mode :	Mode 4, 5, 6	Temperature :	25~27°C
Test Band :	802.11n (BW 20MHz)	Relative Humidity :	48~51%
Test Channel :	36, 40, 44	Test Engineer :	Mac Lin

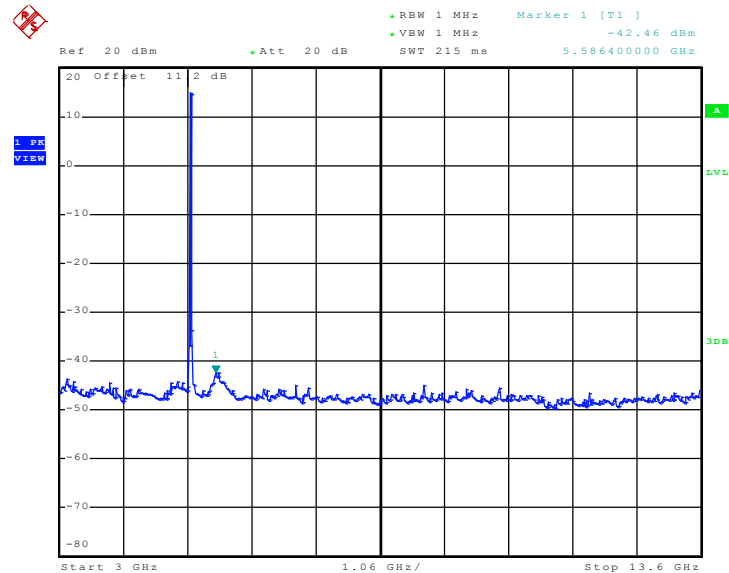
Channel	Frequency (MHz)	Chain	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
36	5180	A+B+C	30	-49.43	7.00	-42.43	-27
			5586.4	-42.46	7.00	-35.46	
			39947.2	-41.26	7.00	-34.26	
40	5200	A+B+C	30	-46.59	7.00	-39.59	-27
			4908	-42.75	7.00	-35.75	
			40000	-41.17	7.00	-34.17	
44	5220	A+B+C	35.94	-49.1	7.00	-42.1	-27
			5628.8	-43.11	7.00	-36.11	
			40000	-41.29	7.00	-34.29	

**Mode 4: Conducted Spurious Emission Plot between
30 MHz ~ 3 GHz - Chain A+B+C**



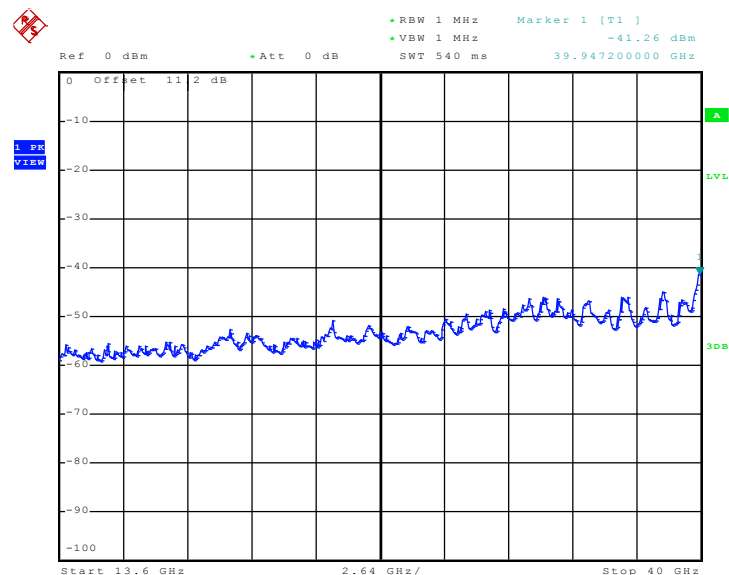
Date: 18.AUG.2010 04:33:27

**Mode 4: Conducted Spurious Emission Plot between
3 GHz ~ 13.6 GHz - Chain A+B+C**

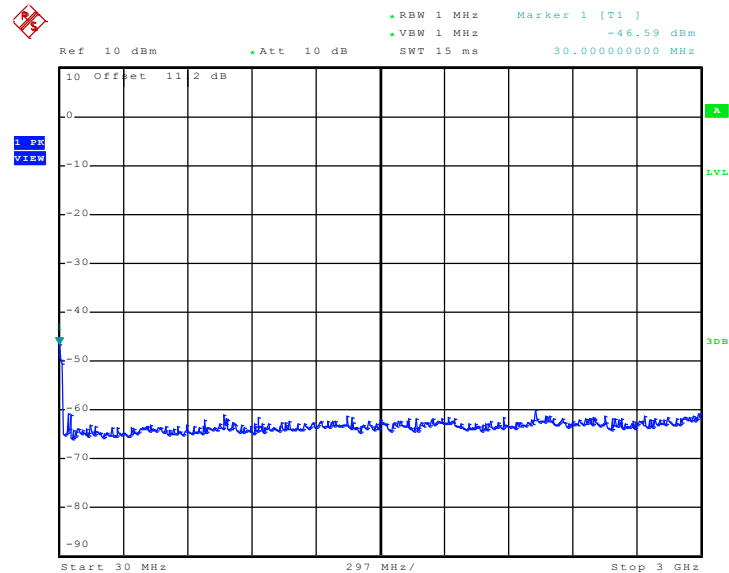


Date: 18.AUG.2010 04:39:30

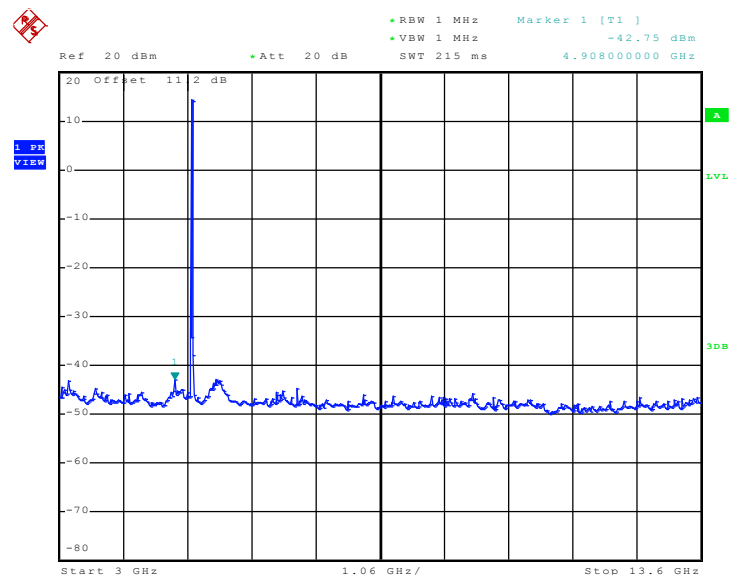
**Mode 4: Conducted Spurious Emission Plot between
13.6 GHz ~ 40 GHz - Chain A+B+C**



Date: 18.AUG.2010 04:40:38

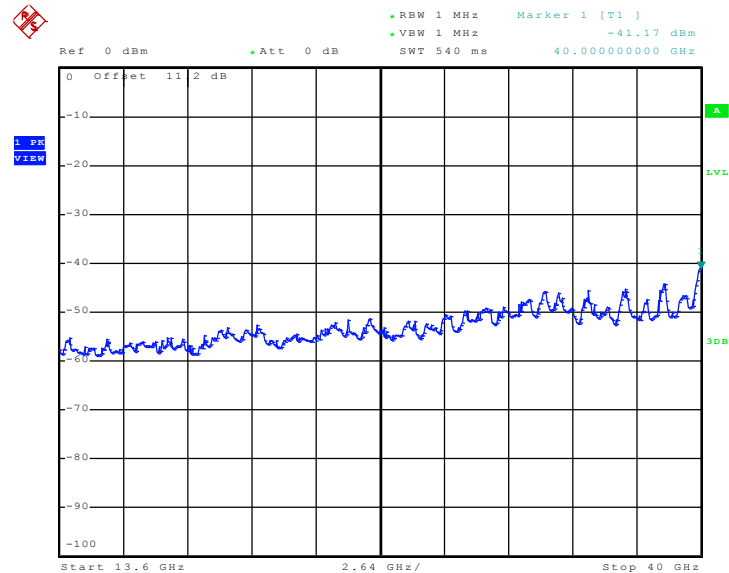
**Mode 5: Conducted Spurious Emission Plot between
30 MHz ~ 3 GHz - Chain A+B+C**


Date: 18.AUG.2010 04:34:41

**Mode 5: Conducted Spurious Emission Plot between
3 GHz ~ 13.6 GHz - Chain A+B+C**


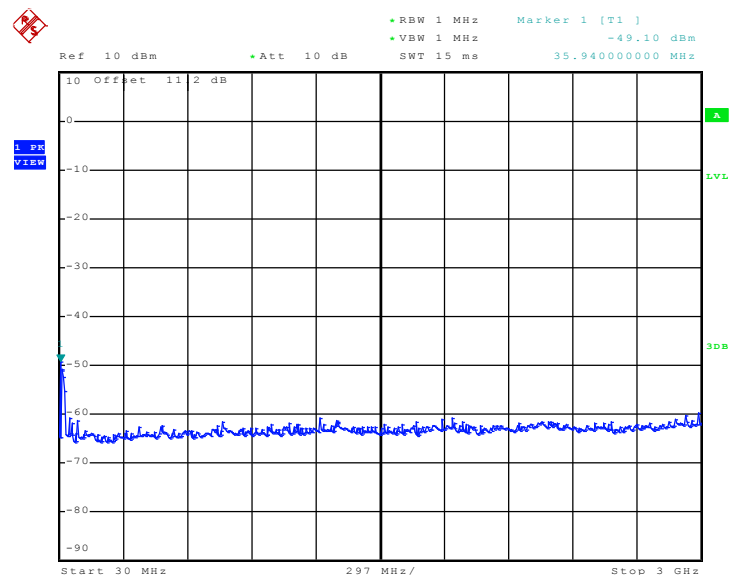
Date: 18.AUG.2010 04:38:08

Mode 5: Conducted Spurious Emission Plot between 13.6 GHz ~ 40 GHz - Chain A+B+C



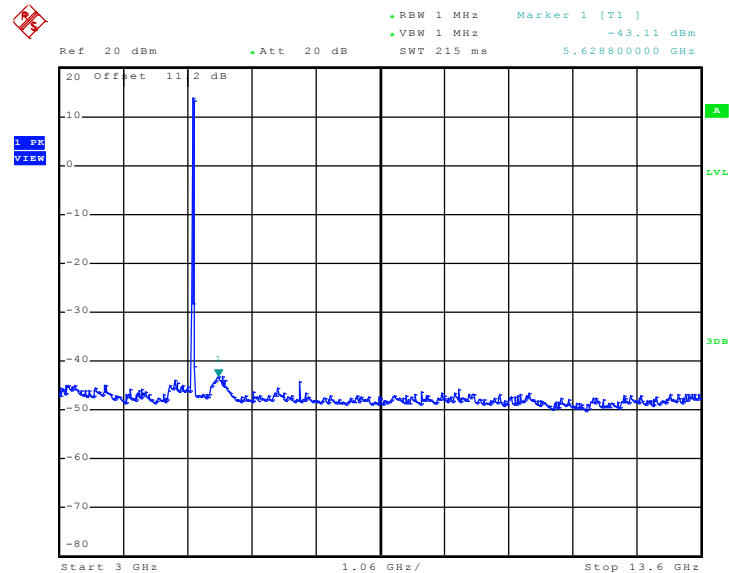
Date: 18.AUG.2010 04:41:35

Mode 6: Conducted Spurious Emission Plot between 30 MHz ~ 3 GHz - Chain A+B+C



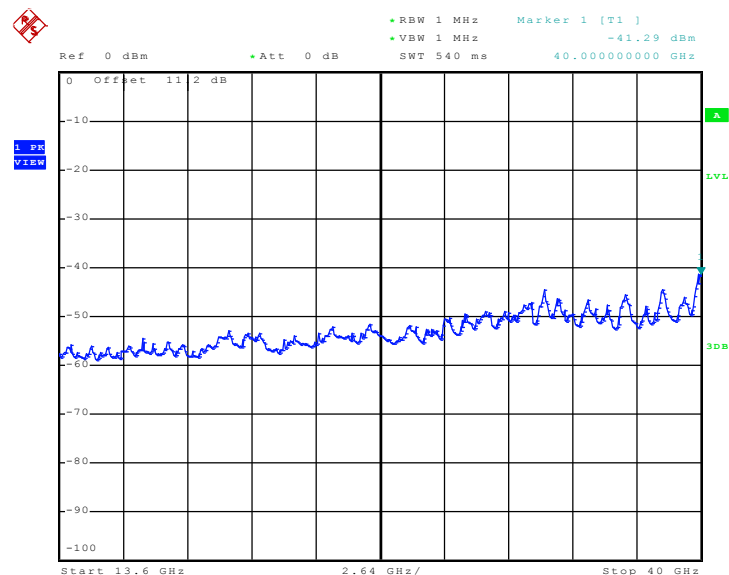
Date: 18.AUG.2010 04:35:36

**Mode 6: Conducted Spurious Emission Plot between
3 GHz ~ 13.6 GHz - Chain A+B+C**



Date: 18.AUG.2010 04:36:56

**Mode 6: Conducted Spurious Emission Plot between
13.6 GHz ~ 40 GHz - Chain A+B+C**

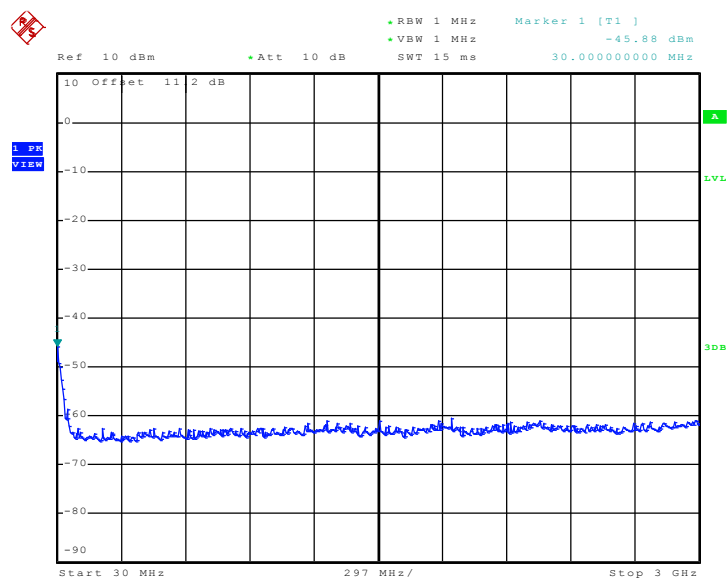


Date: 18.AUG.2010 04:42:36

Test Mode :	Mode 7, 8	Temperature :	25~27°C
Test Band :	802.11n (BW 40MHz)	Relative Humidity :	48~51%
Test Channel :	38, 44	Test Engineer :	Mac Lin

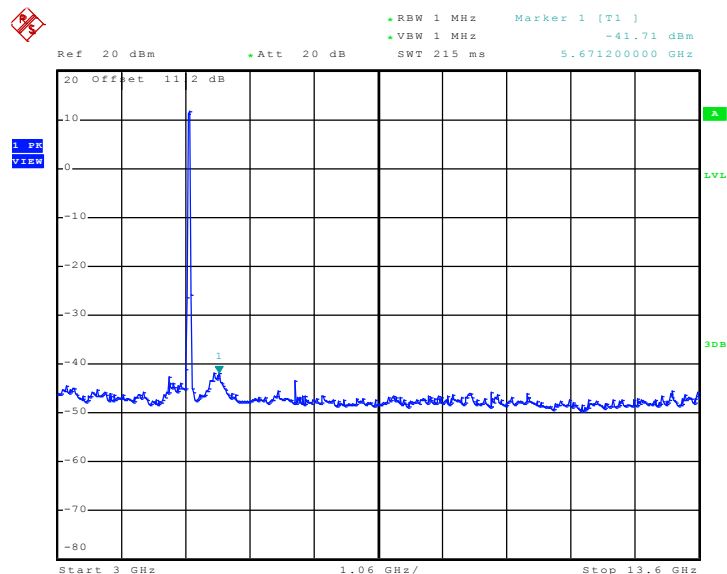
Channel	Frequency (MHz)	Chain	Frequency (MHz)	Level (dBm)	Antenna Gain (dBi)	EIRP Test Result (dBm)	Limit (dBm)
38	5190	A+B+C	30	-45.88	7.00	-38.88	-27
			5671.2	-41.71	7.00	-34.71	
			40000	-40.14	7.00	-33.14	
44	5220	A+B+C	30	-45.73	7.00	-38.73	-27
			5628.8	-41.68	7.00	-34.68	
			40000	-41.5	7.00	-34.5	

**Mode 7: Conducted Spurious Emission Plot between
30 MHz ~ 3 GHz - Chain A+B+C**



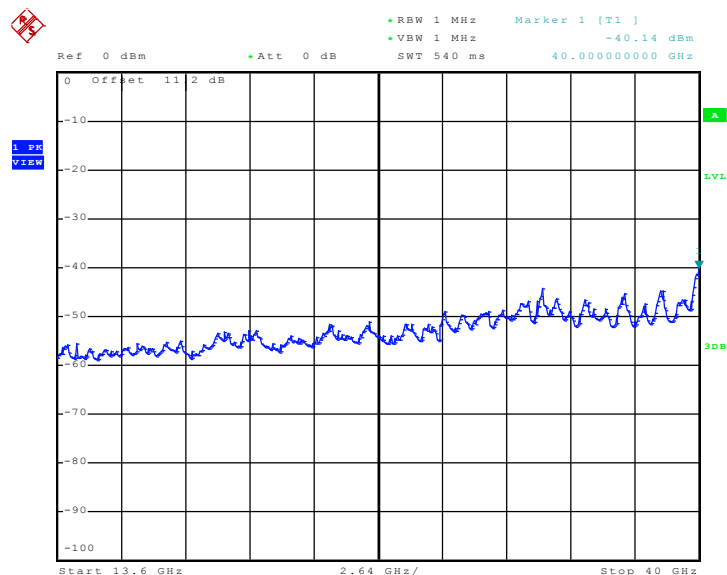
Date: 18.AUG.2010 06:59:56

Mode 7: Conducted Spurious Emission Plot between 3 GHz ~ 13.6 GHz - Chain A+B+C



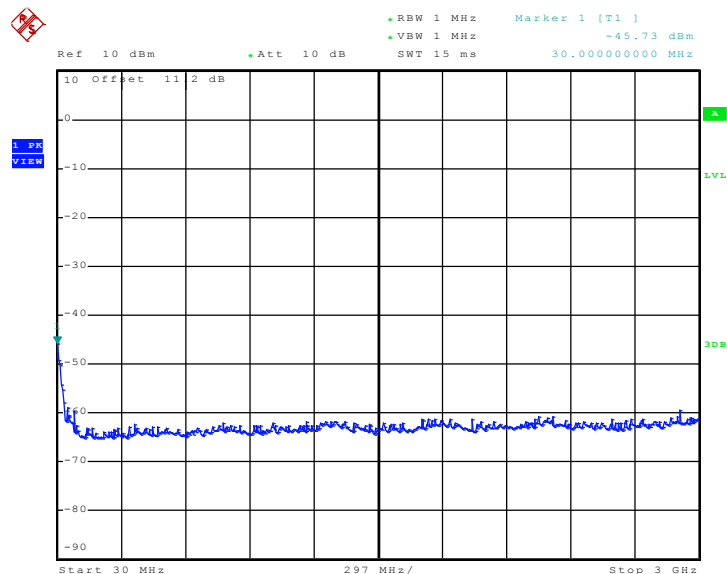
Date: 18.AUG.2010 06:56:33

Mode 7: Conducted Spurious Emission Plot between 13.6 GHz ~ 40 GHz - Chain A+B+C



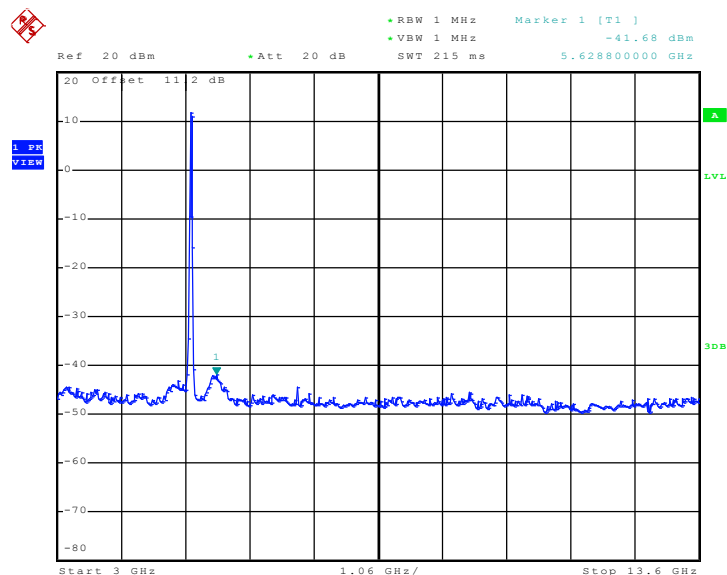
Date: 18.AUG.2010 06:57:35

Mode 8: Conducted Spurious Emission Plot between 30 MHz ~ 3 GHz - Chain A+B+C



Date: 18.AUG.2010 06:59:16

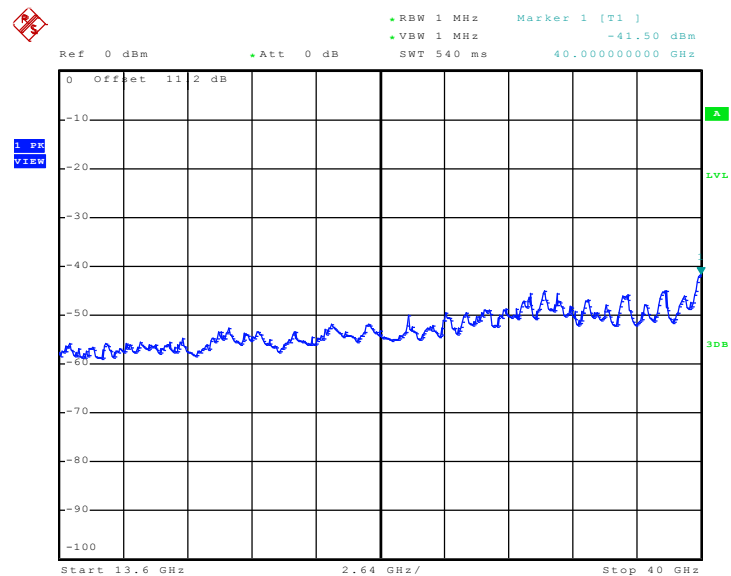
Mode 8: Conducted Spurious Emission Plot between 3 GHz ~ 13.6 GHz - Chain A+B+C



Date: 18.AUG.2010 06:55:41



Mode 8: Conducted Spurious Emission Plot between
13.6 GHz ~ 40 GHz - Chain A+B+C



Date: 18.AUG.2010 06:58:21

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.

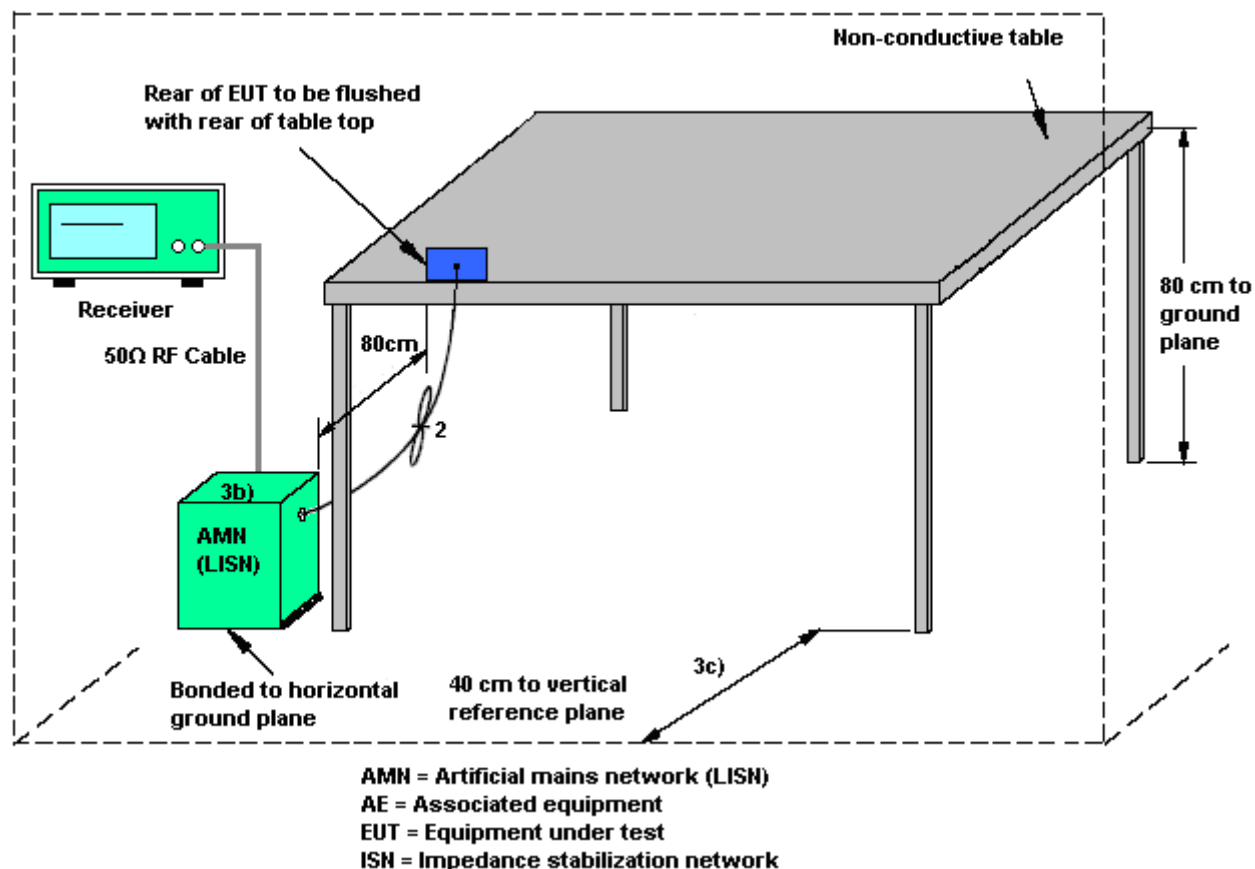
3.6.2 Measuring Instruments

See list of measuring instruments of this test report.

3.6.3 Test Procedures

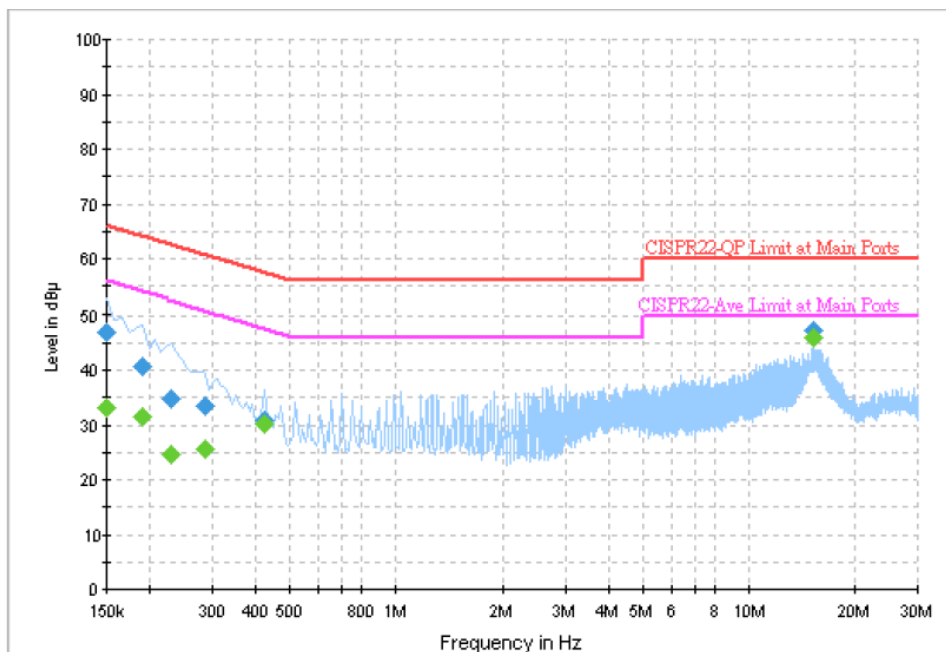
4. Please follow the guidelines in ANSI C63.4-2003.
5. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
6. Connect EUT to the power mains through a line impedance stabilization network (LISN).
7. All the support units are connecting to the other LISN.
8. The LISN provides 50 ohm coupling impedance for the measuring instrument.
9. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
10. Both sides of AC line were checked for maximum conducted interference.
11. The frequency range from 150 kHz to 30 MHz was searched.
12. 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 2	Temperature :	20~22℃
Test Engineer :	Novic Jiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Line
Function Type :	WLAN 1 (5G) Link + WLAN 2 (5G) Link + POE + LAN Link + Adapter + Antenna 2		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



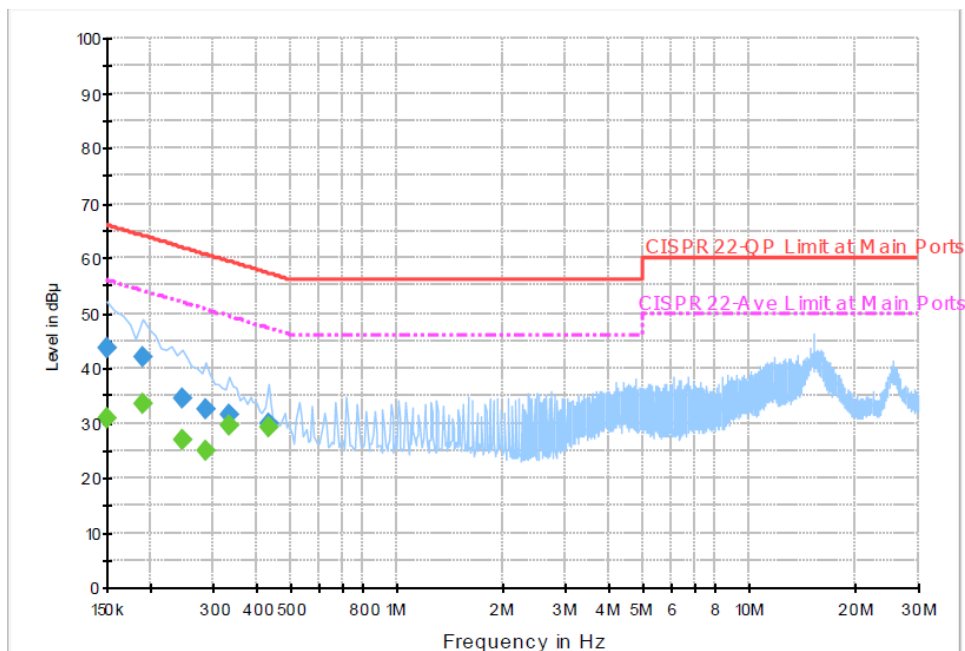
Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	47.0	Off	L1	19.5	19.0	66.0
0.190000	40.8	Off	L1	19.5	23.2	64.0
0.230000	34.9	Off	L1	19.5	27.5	62.4
0.286000	33.6	Off	L1	19.4	27.0	60.6
0.422000	30.7	Off	L1	19.4	26.7	57.4
15.198000	47.3	Off	L1	19.7	12.7	60.0

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	33.1	Off	L1	19.5	22.9	56.0
0.190000	31.4	Off	L1	19.5	22.6	54.0
0.230000	24.7	Off	L1	19.5	27.7	52.4
0.286000	25.7	Off	L1	19.4	24.9	50.6
0.422000	30.1	Off	L1	19.4	17.3	47.4
15.198000	45.8	Off	L1	19.7	4.2	50.0

Test Mode :	Mode 2	Temperature :	20~22℃
Test Engineer :	Novic Jiang	Relative Humidity :	42~44%
Test Voltage :	120Vac / 60Hz	Phase :	Neutral
Function Type :	WLAN 1 (5G) Link + WLAN 2 (5G) Link + POE + LAN Link + Adapter + Antenna 2		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		


Final Result 1

Frequency (MHz)	QuasiPeak (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	43.6	Off	N	19.5	22.4	66.0
0.190000	42.1	Off	N	19.5	21.9	64.0
0.246000	34.4	Off	N	19.5	27.5	61.9
0.286000	32.4	Off	N	19.4	28.2	60.6
0.334000	31.6	Off	N	19.5	27.8	59.4
0.430000	29.9	Off	N	19.4	27.4	57.3

Final Result 2

Frequency (MHz)	Average (dBμV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBμV)
0.150000	30.9	Off	N	19.5	25.1	56.0
0.190000	33.3	Off	N	19.5	20.7	54.0
0.246000	27.0	Off	N	19.5	24.9	51.9
0.286000	24.8	Off	N	19.4	25.8	50.6
0.334000	29.6	Off	N	19.5	19.8	49.4
0.430000	29.1	Off	N	19.4	18.2	47.3

3.7 Radiated Emission Measurement

3.7.1 Limit of Radiated Emission

Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in § 15.209.

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

- (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 –27 dBm/MHz.
- (2) 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.
- (3) 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.
- (4) The provisions of Section 15.205 Restricted bands of operation of this part apply to intentional radiators operating under this section.

3.7.2 Measuring Instruments

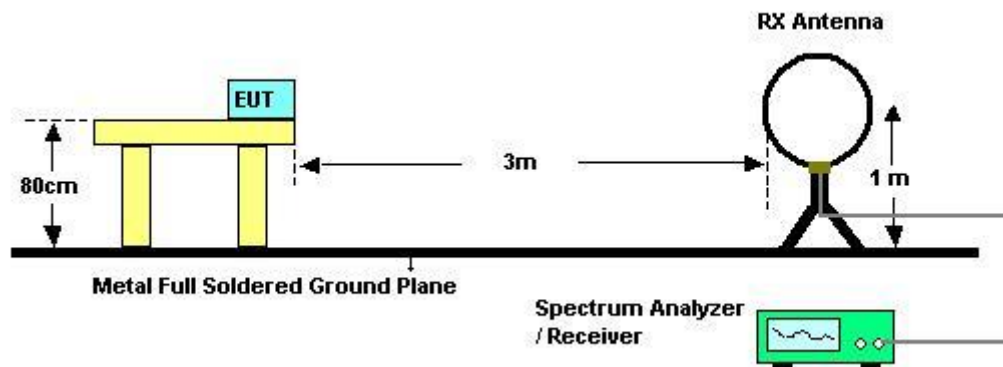
See list of measuring instruments of this test report.

3.7.3 Test Procedures

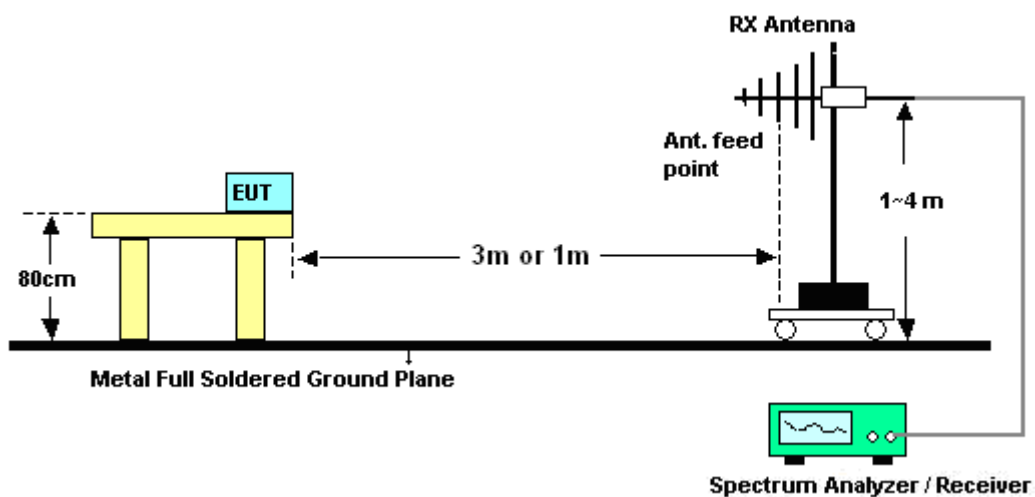
1. The testing follows the guidelines in FCC Public Notice DA 02-2138, (Measurement Guidelines of UNII)
2. The EUT was placed on a rotatable table top 0.8 meter above ground.
3. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest radiation.
5. 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.
6. 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.
7. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
8. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
9. 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 testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

3.7.4 Test Setup

For radiated emissions below 30MHz



For radiated emissions above 30MHz



3.7.5 Test Results of Radiated Emissions (9kHz ~ 30MHz)

Temperature	23~24°C	Humidity	45~48%
Test Engineer	Cona Huang		

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

The amplitude of spurious emissions that are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $40 \log (\text{specific distance} / \text{test distance})$ (dB);

Limit line = specific limits (dBuV) + distance extrapolation factor.

3.7.6 Test Result of Radiated Emission (30MHz ~ 25GHz)

Test Mode :	Mode 1	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	37.3	-2.7	40	59.19	8.96	0.68	31.53	124	297	Peak
117.21	24.41	-19.09	43.5	42.92	11.96	1.09	31.56	-	-	Peak
250.05	30.02	-15.98	46	47.13	12.77	1.53	31.41	-	-	Peak
430.9	18.76	-27.24	46	30.89	16.75	2.25	31.13	-	-	Peak
559.7	20.98	-25.02	46	30.07	19.3	2.58	30.97	-	-	Peak
825.7	26.82	-19.18	46	31.86	22.46	3.21	30.71	-	-	Peak
5150	39.13	-14.87	54	30.02	34.35	9.41	34.65	115	249	Average
5150	51.16	-22.84	74	42.05	34.35	9.41	34.65	115	249	Peak
5180	88.53	-	-	79.47	34.38	9.45	34.77	115	249	Average
5180	98.4	-	-	89.34	34.38	9.45	34.77	115	249	Peak
5350	50.51	-23.49	74	41.62	34.55	9.74	35.4	115	249	Peak
5350	38.72	-15.28	54	29.83	34.55	9.74	35.4	115	249	Average
8406	55.94	-18.06	74	43.06	36	10.97	34.09	124	318	Peak
8406	41.83	-12.17	54	28.95	36	10.97	34.09	124	318	Average

Test Mode :	Mode 1	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.57	-3.43	40	47.99	19.51	0.53	31.46	115	99	Peak
107.49	30.83	-12.67	43.5	50.28	11.06	1.04	31.55	-	-	Peak
176.61	26.6	-16.9	43.5	47.66	9.23	1.24	31.53	-	-	Peak
374.2	21.1	-24.9	46	34.82	15.44	2.09	31.25	-	-	Peak
624.1	31.43	-14.57	46	39.32	20.25	2.76	30.9	-	-	Peak
867	27.94	-18.06	46	32.51	22.86	3.29	30.72	-	-	Peak
5150	41.82	-12.18	54	32.71	34.35	9.41	34.65	100	57	Average
5150	58.46	-15.54	74	49.35	34.35	9.41	34.65	100	57	Peak
5180	100.37	-	-	91.31	34.38	9.45	34.77	100	57	Average
5180	110.37	-	-	101.31	34.38	9.45	34.77	100	57	Peak
5350	51.03	-22.97	74	42.14	34.55	9.74	35.4	100	57	Peak
5350	38.99	-15.01	54	30.1	34.55	9.74	35.4	100	57	Average
8380	56.23	-17.77	74	43.36	36	10.96	34.09	103	72	Peak
8380	42.69	-11.31	54	29.82	36	10.96	34.09	103	72	Average

Test Mode :	Mode 2	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.16	-1.84	40	60.05	8.96	0.68	31.53	144	299	Peak
126.93	27.43	-16.07	43.5	46.07	11.8	1.13	31.57	-	-	Peak
250.05	29.66	-16.34	46	46.77	12.77	1.53	31.41	-	-	Peak
374.2	26.98	-19.02	46	40.7	15.44	2.09	31.25	-	-	Peak
500.2	26.9	-19.1	46	37.34	18.18	2.45	31.07	-	-	Peak
831.3	26.42	-19.58	46	31.39	22.52	3.22	30.71	-	-	Peak
5150	50.41	-23.59	74	41.3	34.35	9.41	34.65	100	252	Peak
5150	39.47	-14.53	54	30.36	34.35	9.41	34.65	100	252	Average
5200	97.83	-	-	88.78	34.4	9.49	34.84	100	252	Peak
5200	84.88	-	-	75.83	34.4	9.49	34.84	100	252	Average
5350	52.19	-21.81	74	43.3	34.55	9.74	35.4	100	252	Peak
5350	39.1	-14.9	54	30.21	34.55	9.74	35.4	100	252	Average
8268	56.17	-17.83	74	43.35	36	10.92	34.1	130	227	Peak
8268	41.01	-12.99	54	28.19	36	10.92	34.1	130	227	Average

Test Mode :	Mode 2	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	36.19	-3.81	40	58.08	8.96	0.68	31.53	112	89	Peak
107.49	30.24	-13.26	43.5	49.69	11.06	1.04	31.55	-	-	Peak
262.2	21.27	-24.73	46	38.15	12.93	1.6	31.41	-	-	Peak
309.8	20.57	-25.43	46	36.39	13.72	1.79	31.33	-	-	Peak
556.9	22.8	-23.2	46	31.96	19.24	2.57	30.97	-	-	Peak
760.6	25.06	-20.94	46	31.01	21.67	3.08	30.7	-	-	Peak
5150	54.13	-19.87	74	45.02	34.35	9.41	34.65	114	61	Peak
5150	41.78	-12.22	54	32.67	34.35	9.41	34.65	114	61	Average
5200	109.32	-	-	100.27	34.4	9.49	34.84	114	61	Peak
5200	97.08	-	-	88.03	34.4	9.49	34.84	114	61	Average
5350	51.45	-22.55	74	42.56	34.55	9.74	35.4	114	61	Peak
5350	39.56	-14.44	54	30.67	34.55	9.74	35.4	114	61	Average
8428	56.31	-17.69	74	43.42	36	10.98	34.09	100	85	Peak
8428	42.57	-11.43	54	29.68	36	10.98	34.09	100	85	Average

Test Mode :	Mode 3	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.17	-1.83	40	60.06	8.96	0.68	31.53	138	311	Peak
92.37	19.76	-23.74	43.5	41.15	9.17	0.96	31.52	-	-	Peak
250.05	30.76	-15.24	46	47.87	12.77	1.53	31.41	-	-	Peak
374.2	27.45	-18.55	46	41.17	15.44	2.09	31.25	-	-	Peak
624.1	29.33	-16.67	46	37.22	20.25	2.76	30.9	-	-	Peak
962.9	31.37	-22.63	54	34.34	24.13	3.47	30.57	-	-	Peak
5150	39.39	-14.61	54	30.28	34.35	9.41	34.65	100	53	Average
5150	51.75	-22.25	74	42.64	34.35	9.41	34.65	100	53	Peak
5220	99.7	-	-	90.65	34.42	9.53	34.9	100	53	Peak
5220	89.44	-	-	80.39	34.42	9.53	34.9	100	53	Average
5350	50.79	-23.21	74	41.9	34.55	9.74	35.4	100	53	Peak
5350	39.2	-14.8	54	30.31	34.55	9.74	35.4	100	53	Average
8452	57.02	-16.98	74	44.13	36	10.98	34.09	121	96	Peak
8452	41.09	-12.91	54	28.2	36	10.98	34.09	121	96	Average

Test Mode :	Mode 3	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.7	-3.3	40	48.12	19.51	0.53	31.46	109	77	Peak
121.53	30.34	-13.16	43.5	48.64	12.15	1.11	31.56	-	-	Peak
257.34	22.49	-23.51	46	39.48	12.86	1.57	31.42	-	-	Peak
374.2	20.39	-25.61	46	34.11	15.44	2.09	31.25	-	-	Peak
595.4	27.35	-18.65	46	35.62	19.98	2.68	30.93	-	-	Peak
825.7	25.95	-20.05	46	30.99	22.46	3.21	30.71	-	-	Peak
5150	42.17	-11.83	54	33.06	34.35	9.41	34.65	100	58	Average
5150	52.59	-21.41	74	43.48	34.35	9.41	34.65	100	58	Peak
5220	110.84	-	-	101.79	34.42	9.53	34.9	100	58	Peak
5220	100.56	-	-	91.51	34.42	9.53	34.9	100	58	Average
5350	51.22	-22.78	74	42.33	34.55	9.74	35.4	100	58	Peak
5350	39.87	-14.13	54	30.98	34.55	9.74	35.4	100	58	Average
8436	56.92	-17.08	74	44.03	36	10.98	34.09	100	76	Peak
8436	42.29	-11.71	54	29.4	36	10.98	34.09	100	76	Average

Test Mode :	Mode 4	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	37.85	-2.15	40	59.74	8.96	0.68	31.53	130	322	Peak
132.6	25.8	-17.7	43.5	44.45	11.75	1.16	31.56	-	-	Peak
250.05	29.32	-16.68	46	46.43	12.77	1.53	31.41	-	-	Peak
374.2	27.34	-18.66	46	41.06	15.44	2.09	31.25	-	-	Peak
500.2	27.25	-18.75	46	37.69	18.18	2.45	31.07	-	-	Peak
800.5	25.68	-20.32	46	31	22.22	3.14	30.68	-	-	Peak
5150	39.47	-14.53	54	30.36	34.35	9.41	34.65	100	308	Average
5150	50.47	-23.53	74	41.36	34.35	9.41	34.65	100	308	Peak
5180	88.94	-	-	79.88	34.38	9.45	34.77	100	308	Average
5180	100.65	-	-	91.59	34.38	9.45	34.77	100	308	Peak
5350	50.64	-23.36	74	41.75	34.55	9.74	35.4	100	308	Peak
5350	39.02	-14.98	54	30.13	34.55	9.74	35.4	100	308	Average
8390	56.54	-17.46	74	43.67	36	10.96	34.09	112	338	Peak
8390	40.66	-13.34	54	27.79	36	10.96	34.09	112	338	Average

Test Mode :	Mode 4	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.77	-3.23	40	48.19	19.51	0.53	31.46	108	69	Peak
107.49	30.77	-12.73	43.5	50.22	11.06	1.04	31.55	-	-	Peak
183.9	26.13	-17.37	43.5	47.4	8.99	1.26	31.52	-	-	Peak
304.2	19.96	-26.04	46	35.92	13.59	1.78	31.33	-	-	Peak
564.6	24.73	-21.27	46	33.71	19.39	2.59	30.96	-	-	Peak
750.1	25.42	-20.58	46	31.54	21.52	3.06	30.7	-	-	Peak
5150	43.4	-10.6	54	34.29	34.35	9.41	34.65	100	181	Average
5150	57.92	-16.08	74	48.81	34.35	9.41	34.65	100	181	Peak
5180	102.77	-	-	93.71	34.38	9.45	34.77	100	181	Average
5180	115.31	-	-	106.25	34.38	9.45	34.77	100	181	Peak
5350	52.68	-21.32	74	43.79	34.55	9.74	35.4	100	181	Peak
5350	40.8	-13.2	54	31.91	34.55	9.74	35.4	100	181	Average
8302	57.01	-16.99	74	44.18	36	10.93	34.1	100	63	Peak
8302	41.08	-12.92	54	28.25	36	10.93	34.1	100	63	Average

Test Mode :	Mode 5	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.03	-1.97	40	59.92	8.96	0.68	31.53	123	300	Peak
121.53	27.92	-15.58	43.5	46.22	12.15	1.11	31.56	-	-	Peak
247.35	17.89	-28.11	46	35.35	12.42	1.53	31.41	-	-	Peak
309.8	21.49	-24.51	46	37.31	13.72	1.79	31.33	-	-	Peak
586.3	21.54	-24.46	46	30.02	19.81	2.65	30.94	-	-	Peak
805.4	24.57	-21.43	46	29.83	22.27	3.15	30.68	-	-	Peak
5150	39.35	-14.65	54	30.24	34.35	9.41	34.65	111	48	Average
5150	51.34	-22.66	74	42.23	34.35	9.41	34.65	111	48	Peak
5200	100.42	-	-	91.37	34.4	9.49	34.84	111	48	Peak
5200	89.12	-	-	80.07	34.4	9.49	34.84	111	48	Average
5350	50.6	-23.4	74	41.71	34.55	9.74	35.4	111	48	Peak
5350	39.04	-14.96	54	30.15	34.55	9.74	35.4	111	48	Average
8438	56.85	-17.15	74	43.96	36	10.98	34.09	115	54	Peak
8438	42.25	-11.75	54	29.36	36	10.98	34.09	115	54	Average

Test Mode :	Mode 5	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.8	-3.2	40	48.22	19.51	0.53	31.46	110	74	Peak
107.49	30.21	-13.29	43.5	49.66	11.06	1.04	31.55	-	-	Peak
182.82	26.36	-17.14	43.5	47.62	9	1.26	31.52	-	-	Peak
374.2	20.5	-25.5	46	34.22	15.44	2.09	31.25	-	-	Peak
578.6	24.98	-21.02	46	33.63	19.67	2.63	30.95	-	-	Peak
811.7	25.61	-20.39	46	30.8	22.33	3.17	30.69	-	-	Peak
5150	42.48	-11.52	54	33.37	34.35	9.41	34.65	100	180	Average
5150	53.58	-20.42	74	44.47	34.35	9.41	34.65	100	180	Peak
5200	114.75	-	-	105.7	34.4	9.49	34.84	100	180	Peak
5200	103.25	-	-	94.2	34.4	9.49	34.84	100	180	Average
5350	51.82	-22.18	74	42.93	34.55	9.74	35.4	100	180	Peak
5350	41.03	-12.97	54	32.14	34.55	9.74	35.4	100	180	Average
8374	56.64	-17.36	74	43.78	36	10.95	34.09	100	161	Peak
8374	43.67	-10.33	54	30.81	36	10.95	34.09	100	161	Average

Test Mode :	Mode 6	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.17	-1.83	40	60.06	8.96	0.68	31.53	125	320	Peak
116.67	23.35	-20.15	43.5	41.96	11.87	1.08	31.56	-	-	Peak
250.05	29.55	-16.45	46	46.66	12.77	1.53	31.41	-	-	Peak
374.2	26.85	-19.15	46	40.57	15.44	2.09	31.25	-	-	Peak
624.1	28.5	-17.5	46	36.39	20.25	2.76	30.9	-	-	Peak
831.3	26.49	-19.51	46	31.46	22.52	3.22	30.71	-	-	Peak
5150	39.35	-14.65	54	30.24	34.35	9.41	34.65	100	46	Average
5150	51.18	-22.82	74	42.07	34.35	9.41	34.65	100	46	Peak
5220	103.09	-	-	94.04	34.42	9.53	34.9	100	46	Peak
5220	90.22	-	-	81.17	34.42	9.53	34.9	100	46	Average
5350	50.88	-23.12	74	41.99	34.55	9.74	35.4	100	46	Peak
5350	39.08	-14.92	54	30.19	34.55	9.74	35.4	100	46	Average
8382	56.71	-17.29	74	43.84	36	10.96	34.09	143	188	Peak
8382	41.64	-12.36	54	28.77	36	10.96	34.09	143	188	Average

Test Mode :	Mode 6	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.86	-3.14	40	48.28	19.51	0.53	31.46	111	88	Peak
121.26	30.86	-12.64	43.5	49.16	12.15	1.11	31.56	-	-	Peak
261.66	22	-24	46	38.88	12.93	1.6	31.41	-	-	Peak
374.2	19.82	-26.18	46	33.54	15.44	2.09	31.25	-	-	Peak
595.4	27.53	-18.47	46	35.8	19.98	2.68	30.93	-	-	Peak
887.3	29.05	-16.95	46	33.38	23.06	3.32	30.71	-	-	Peak
5150	43	-11	54	33.89	34.35	9.41	34.65	100	181	Average
5150	55.01	-18.99	74	45.9	34.35	9.41	34.65	100	181	Peak
5220	115.42	-	-	106.37	34.42	9.53	34.9	100	181	Peak
5220	103.57	-	-	94.52	34.42	9.53	34.9	100	181	Average
5350	52.59	-21.41	74	43.7	34.55	9.74	35.4	100	181	Peak
5350	41.22	-12.78	54	32.33	34.55	9.74	35.4	100	181	Average
8324	56.2	-17.8	74	43.36	36	10.94	34.1	101	316	Peak
8324	42	-12	54	29.16	36	10.94	34.1	101	316	Average

Test Mode :	Mode 7	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.69	-1.31	40	60.58	8.96	0.68	31.53	132	336	Peak
121.53	28.01	-15.49	43.5	46.31	12.15	1.11	31.56	-	-	Peak
228.18	16.25	-29.75	46	36.14	10.08	1.47	31.44	-	-	Peak
374.2	27.53	-18.47	46	41.25	15.44	2.09	31.25	-	-	Peak
624.1	28.35	-17.65	46	36.24	20.25	2.76	30.9	-	-	Peak
839	26.83	-19.17	46	31.72	22.59	3.24	30.72	-	-	Peak
5150	41.96	-12.04	54	32.85	34.35	9.41	34.65	100	307	Average
5150	58.03	-15.97	74	48.92	34.35	9.41	34.65	100	307	Peak
5190	84.98	-	-	75.88	34.38	9.49	34.77	100	307	Average
5190	97.71	-	-	88.65	34.38	9.45	34.77	100	307	Peak
5350	50.34	-23.66	74	41.45	34.55	9.74	35.4	100	307	Peak
5350	39.01	-14.99	54	30.12	34.55	9.74	35.4	100	307	Average
8332	56.45	-17.55	74	43.6	36	10.95	34.1	115	289	Peak
8332	42.66	-11.34	54	29.81	36	10.95	34.1	115	289	Average

Test Mode :	Mode 7	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.58	-3.42	40	48	19.51	0.53	31.46	110	76	Peak
101.01	25.33	-18.17	43.5	45.44	10.43	1	31.54	-	-	Peak
280.29	20.83	-25.17	46	37.35	13.19	1.64	31.35	-	-	Peak
307.7	20.21	-25.79	46	36.08	13.67	1.79	31.33	-	-	Peak
589.8	26.25	-19.75	46	34.65	19.87	2.66	30.93	-	-	Peak
879.6	27.55	-18.45	46	31.97	22.98	3.31	30.71	-	-	Peak
5150	50.27	-3.73	54	41.16	34.35	9.41	34.65	100	179	Average
5150	72.15	-1.85	74	63.04	34.35	9.41	34.65	100	179	Peak
5190	98.42	-	-	89.32	34.38	9.49	34.77	100	179	Average
5190	111.47	-	-	102.41	34.38	9.45	34.77	100	179	Peak
5350	53.22	-20.78	74	44.33	34.55	9.74	35.4	100	179	Peak
5350	41.45	-12.55	54	32.56	34.55	9.74	35.4	100	179	Average
8380	56.2	-17.8	74	43.33	36	10.96	34.09	100	131	Peak
8380	43.12	-10.88	54	30.25	36	10.96	34.09	100	131	Average

Test Mode :	Mode 8	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.23	-1.77	40	60.12	8.96	0.68	31.53	126	340	Peak
124.5	28.02	-15.48	43.5	46.57	11.89	1.12	31.56	-	-	Peak
250.05	30.35	-15.65	46	47.46	12.77	1.53	31.41	-	-	Peak
318.9	19.59	-26.41	46	35.13	13.97	1.81	31.32	-	-	Peak
500.2	26.88	-19.12	46	37.32	18.18	2.45	31.07	-	-	Peak
856.5	28.59	-17.41	46	33.28	22.76	3.28	30.73	-	-	Peak
5150	39.6	-14.4	54	30.49	34.35	9.41	34.65	100	49	Average
5150	51.46	-22.54	74	42.35	34.35	9.41	34.65	100	49	Peak
5220	98.74	-	-	89.69	34.42	9.53	34.9	100	49	Peak
5220	85.61	-	-	76.56	34.42	9.53	34.9	100	49	Average
5350	50.8	-23.2	74	41.91	34.55	9.74	35.4	100	49	Peak
5350	39.15	-14.85	54	30.26	34.55	9.74	35.4	100	49	Average
8446	56.02	-17.98	74	43.13	36	10.98	34.09	122	306	Peak
8446	41.62	-12.38	54	28.73	36	10.98	34.09	122	306	Average

Test Mode :	Mode 8	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.61	-3.39	40	48.03	19.51	0.53	31.46	133	95	Peak
117.21	30.19	-13.31	43.5	48.7	11.96	1.09	31.56	-	-	Peak
265.17	21.31	-24.69	46	38.12	12.97	1.62	31.4	-	-	Peak
441.4	19.5	-26.5	46	31.37	16.97	2.28	31.12	-	-	Peak
609.4	29.16	-16.84	46	37.21	20.14	2.72	30.91	-	-	Peak
850.2	25.6	-20.4	46	30.36	22.7	3.27	30.73	-	-	Peak
5150	44.25	-9.75	54	35.14	34.35	9.41	34.65	100	178	Average
5150	56.94	-17.06	74	47.83	34.35	9.41	34.65	100	178	Peak
5220	111.62	-	-	102.57	34.4	9.49	34.84	100	178	Peak
5220	98.71	-	-	89.66	34.42	9.53	34.9	100	178	Average
5350	55.09	-18.91	74	46.2	34.55	9.74	35.4	100	178	Peak
5350	42.62	-11.38	54	33.73	34.55	9.74	35.4	100	178	Average
8380	56.7	-17.3	74	43.83	36	10.96	34.09	100	76	Peak
8380	42.5	-11.5	54	29.63	36	10.96	34.09	100	76	Average



Test Mode :	Mode 9	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	37.49	-2.51	40	59.38	8.96	0.68	31.53	125	326	Peak
125.85	27.66	-15.84	43.5	46.3	11.8	1.13	31.57	-	-	Peak
250.05	30.57	-15.43	46	47.68	12.77	1.53	31.41	-	-	Peak
307	21.91	-24.09	46	37.78	13.67	1.79	31.33	-	-	Peak
486.9	19.27	-26.73	46	30.03	17.9	2.4	31.06	-	-	Peak
624.1	28.18	-17.82	46	36.07	20.25	2.76	30.9	-	-	Peak
5150	43.8	-10.2	54	34.69	34.35	9.41	34.65	100	49	Average
5150	63.71	-10.29	74	54.6	34.35	9.41	34.65	100	49	Peak
5190	88.82	-	-	79.72	34.38	9.49	34.77	100	49	Average
5190	101.42	-	-	92.37	34.4	9.49	34.84	100	49	Peak
5350	50.34	-23.66	74	41.45	34.55	9.74	35.4	100	49	Peak
5350	39.07	-14.93	54	30.18	34.55	9.74	35.4	100	49	Average
8398	55.81	-18.19	74	42.94	36	10.96	34.09	124	276	Peak
8398	41.02	-12.98	54	28.15	36	10.96	34.09	124	276	Average

Test Mode :	Mode 9	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	1. 5190 MHz is Fundamental Signals which can be ignored. 2. 10380 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.35	-3.65	40	47.77	19.51	0.53	31.46	110	99	Peak
107.49	30.02	-13.48	43.5	49.47	11.06	1.04	31.55	-	-	Peak
184.71	25.56	-17.94	43.5	46.83	8.99	1.26	31.52	-	-	Peak
302.1	20.62	-25.38	46	36.63	13.54	1.78	31.33	-	-	Peak
500.2	28.76	-17.24	46	39.2	18.18	2.45	31.07	-	-	Peak
825.7	25.58	-20.42	46	30.62	22.46	3.21	30.71	-	-	Peak
5150	52.89	-1.11	54	43.78	34.35	9.41	34.65	100	173	Average
5150	72.98	-1.02	74	63.87	34.35	9.41	34.65	100	173	Peak
5190	100.23	-	-	91.13	34.38	9.49	34.77	100	173	Average
5190	113.44	-	-	104.39	34.4	9.49	34.84	100	173	Peak
5350	52.39	-21.61	74	43.5	34.55	9.74	35.4	100	173	Peak
5350	41.26	-12.74	54	32.37	34.55	9.74	35.4	100	173	Average
8452	56.18	-17.82	74	43.29	36	10.98	34.09	100	54	Peak
8452	42.07	-11.93	54	29.18	36	10.98	34.09	100	54	Average
10380	38.13	-55.31	93.44	70.11	-9.14	11.27	34.11	100	0	Peak

Test Mode :	Mode 10	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	37.89	-2.11	40	59.78	8.96	0.68	31.53	122	336	Peak
122.61	27.82	-15.68	43.5	46.21	12.06	1.11	31.56	-	-	Peak
250.05	29.24	-16.76	46	46.35	12.77	1.53	31.41	-	-	Peak
374.2	26.72	-19.28	46	40.44	15.44	2.09	31.25	-	-	Peak
589.8	22.49	-23.51	46	30.89	19.87	2.66	30.93	-	-	Peak
757.8	24.32	-21.68	46	30.32	21.63	3.07	30.7	-	-	Peak
5150	41.3	-12.7	54	32.19	34.35	9.41	34.65	100	184	Average
5150	54.68	-19.32	74	45.57	34.35	9.41	34.65	100	184	Peak
5190	86.15	-	-	77.05	34.38	9.49	34.77	100	184	Average
5190	99.82	-	-	90.72	34.38	9.49	34.77	100	184	Peak
5350	39	-15	54	30.11	34.55	9.74	35.4	100	184	Average
5350	50.4	-23.6	74	41.51	34.55	9.74	35.4	100	184	Peak
8372	56.22	-17.78	74	43.36	36	10.95	34.09	100	126	Peak
8372	41.88	-12.12	54	29.02	36	10.95	34.09	100	126	Average

Test Mode :	Mode 10	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.06	-3.94	40	47.48	19.51	0.53	31.46	109	77	Peak
91.02	24.36	-19.14	43.5	45.9	9.03	0.95	31.52	-	-	Peak
273.81	21.45	-24.55	46	38.08	13.09	1.64	31.36	-	-	Peak
461.7	19.18	-26.82	46	30.55	17.38	2.33	31.08	-	-	Peak
590.5	25.42	-20.58	46	33.8	19.89	2.66	30.93	-	-	Peak
827.8	25.65	-20.35	46	30.67	22.48	3.21	30.71	-	-	Peak
5150	52.68	-1.32	54	43.57	34.35	9.41	34.65	100	163	Average
5150	72.52	-1.48	74	63.41	34.35	9.41	34.65	100	163	Peak
5190	113.08	-	-	103.98	34.38	9.49	34.77	100	163	Peak
5190	100.12	-	-	91.02	34.38	9.49	34.77	100	163	Average
5350	41.97	-12.03	54	33.08	34.55	9.74	35.4	100	163	Average
5350	53.13	-20.87	74	44.24	34.55	9.74	35.4	100	163	Peak
8380	56.84	-17.16	74	43.97	36	10.96	34.09	100	68	Peak
8380	42.44	-11.56	54	29.57	36	10.96	34.09	100	68	Average



Test Mode :	Mode 11	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	37.52	-2.48	40	59.41	8.96	0.68	31.53	122	341	Peak
91.29	20.07	-23.43	43.5	41.61	9.03	0.95	31.52	-	-	Peak
186.33	20.66	-22.84	43.5	41.94	8.97	1.27	31.52	-	-	Peak
313.3	20.86	-25.14	46	36.56	13.82	1.8	31.32	-	-	Peak
500.2	26.3	-19.7	46	36.74	18.18	2.45	31.07	-	-	Peak
811	24.74	-21.26	46	29.94	22.32	3.17	30.69	-	-	Peak
5150	39.35	-14.65	54	30.24	34.35	9.41	34.65	198	96	Average
5150	50.9	-23.1	74	41.79	34.35	9.41	34.65	198	96	Peak
5180	86.85	-	-	77.79	34.38	9.45	34.77	198	96	Average
5180	97.39	-	-	88.33	34.38	9.45	34.77	198	96	Peak
5350	50.88	-23.12	74	41.99	34.55	9.74	35.4	198	96	Peak
5350	38.98	-15.02	54	30.09	34.55	9.74	35.4	198	96	Average
8204	54.11	-19.89	74	41.33	36	10.89	34.11	102	224	Peak
8204	40.31	-13.69	54	27.53	36	10.89	34.11	102	224	Average

Test Mode :	Mode 11	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	1. 5180 MHz is Fundamental Signals which can be ignored. 2. 10360 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	37.1	-2.9	40	48.52	19.51	0.53	31.46	113	89	Peak
119.37	30.52	-12.98	43.5	48.84	12.14	1.1	31.56	-	-	Peak
257.34	23.03	-22.97	46	40.02	12.86	1.57	31.42	-	-	Peak
374.2	19.81	-26.19	46	33.53	15.44	2.09	31.25	-	-	Peak
587	26.09	-19.91	46	34.57	19.81	2.65	30.94	-	-	Peak
742.4	24.05	-21.95	46	30.31	21.42	3.04	30.72	-	-	Peak
5150	42.02	-11.98	54	32.91	34.35	9.41	34.65	113	360	Average
5150	56.63	-17.37	74	47.52	34.35	9.41	34.65	113	360	Peak
5180	97.25	-	-	88.19	34.38	9.45	34.77	113	360	Average
5180	109.81	-	-	100.75	34.38	9.45	34.77	113	360	Peak
5350	50.79	-23.21	74	41.9	34.55	9.74	35.4	113	360	Peak
5350	39.53	-14.47	54	30.64	34.55	9.74	35.4	113	360	Average
8110	53.98	-20.02	74	41.24	36	10.86	34.12	100	125	Peak
8110	39.67	-14.33	54	26.93	36	10.86	34.12	100	125	Average
10360	38.7	-51.11	89.81	70.68	-9.17	11.31	34.12	100	0	Peak

Test Mode :	Mode 12	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.86	-1.14	40	60.75	8.96	0.68	31.53	122	340	Peak
92.37	25.17	-18.33	43.5	46.56	9.17	0.96	31.52	-	-	Peak
170.13	24.58	-18.92	43.5	45.2	9.67	1.23	31.52	-	-	Peak
427.4	21.09	-24.91	46	33.3	16.69	2.24	31.14	-	-	Peak
584.9	27.7	-18.3	46	36.21	19.78	2.65	30.94	-	-	Peak
959.4	32.82	-13.18	46	35.85	24.07	3.47	30.57	-	-	Peak
5150	39.29	-14.71	54	30.18	34.35	9.41	34.65	200	97	Average
5150	51.23	-22.77	74	42.12	34.35	9.41	34.65	200	97	Peak
5200	86.09	-	-	77.04	34.4	9.49	34.84	200	97	Average
5200	97.09	-	-	88.04	34.4	9.49	34.84	200	97	Peak
5350	49.71	-24.29	74	40.82	34.55	9.74	35.4	200	97	Peak
5350	38.97	-15.03	54	30.08	34.55	9.74	35.4	200	97	Average
8176	53.91	-20.09	74	41.14	36	10.88	34.11	100	16	Peak
8176	40.79	-13.21	54	28.02	36	10.88	34.11	100	16	Average

Test Mode :	Mode 12	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	1. 5200 MHz is Fundamental Signals which can be ignored. 2. 10400 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.56	-3.44	40	47.98	19.51	0.53	31.46	100	46	Peak
120.45	29.56	-13.94	43.5	47.79	12.23	1.1	31.56	-	-	Peak
191.73	23.01	-20.49	43.5	44.32	8.9	1.29	31.5	-	-	Peak
374.2	20.89	-25.11	46	34.61	15.44	2.09	31.25	-	-	Peak
596.1	28.87	-17.13	46	37.11	20	2.68	30.92	-	-	Peak
764.1	25.37	-20.63	46	31.26	21.72	3.08	30.69	-	-	Peak
5150	51.79	-22.21	74	42.68	34.35	9.41	34.65	126	360	Peak
5150	41.3	-12.7	54	32.19	34.35	9.41	34.65	126	360	Average
5200	109.02	-	-	99.97	34.4	9.49	34.84	126	360	Peak
5200	98.99	-	-	89.94	34.4	9.49	34.84	126	360	Average
5350	50.42	-23.58	74	41.53	34.55	9.74	35.4	126	360	Peak
5350	39.43	-14.57	54	30.54	34.55	9.74	35.4	126	360	Average
8196	53.78	-20.22	74	41	36	10.89	34.11	100	168	Peak
8196	41.57	-12.43	54	28.79	36	10.89	34.11	100	168	Average
10400	38.59	-50.43	89.02	70.58	-9.12	11.24	34.11	100	0	Peak

Test Mode :	Mode 13	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
45.93	30.92	-9.08	40	51.34	10.43	0.66	31.51	130	263	Peak
123.15	29.59	-13.91	43.5	48.05	11.98	1.12	31.56	-	-	Peak
183.9	21.95	-21.55	43.5	43.22	8.99	1.26	31.52	-	-	Peak
335.7	18.34	-27.66	46	33.36	14.41	1.87	31.3	-	-	Peak
579.3	25.24	-20.76	46	33.89	19.67	2.63	30.95	-	-	Peak
755.7	24.17	-21.83	46	30.2	21.6	3.07	30.7	-	-	Peak
5150	50.3	-23.7	74	41.19	34.35	9.41	34.65	114	317	Peak
5150	39.18	-14.82	54	30.07	34.35	9.41	34.65	114	317	Average
5220	97.35	-	-	88.3	34.42	9.53	34.9	114	317	Peak
5220	86.23	-	-	77.18	34.42	9.53	34.9	114	317	Average
5350	49.74	-24.26	74	40.85	34.55	9.74	35.4	114	317	Peak
5350	38.94	-15.06	54	30.05	34.55	9.74	35.4	114	317	Average
8074	53.97	-20.03	74	41.24	36	10.85	34.12	100	126	Peak
8074	40.5	-13.5	54	27.77	36	10.85	34.12	100	126	Average

Test Mode :	Mode 13	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	1. 5220 MHz is Fundamental Signals which can be ignored. 2. 10440 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.3	-1.7	40	60.19	8.96	0.68	31.53	106	57	Peak
107.49	30.2	-13.3	43.5	49.65	11.06	1.04	31.55	-	-	Peak
263.82	21.96	-24.04	46	38.79	12.96	1.61	31.4	-	-	Peak
374.2	20.58	-25.42	46	34.3	15.44	2.09	31.25	-	-	Peak
624.1	32.86	-13.14	46	40.75	20.25	2.76	30.9	-	-	Peak
816.6	26.05	-19.95	46	31.19	22.38	3.18	30.7	-	-	Peak
5150	53.11	-20.89	74	44	34.35	9.41	34.65	100	7	Peak
5150	41.34	-12.66	54	32.23	34.35	9.41	34.65	100	7	Average
5220	110.44	-	-	101.39	34.42	9.53	34.9	100	7	Peak
5220	98.83	-	-	89.78	34.42	9.53	34.9	100	7	Average
5350	51.18	-22.82	74	42.29	34.55	9.74	35.4	100	7	Peak
5350	40.04	-13.96	54	31.15	34.55	9.74	35.4	100	7	Average
8248	54.25	-19.75	74	41.45	36	10.91	34.11	100	59	Peak
8248	40.6	-13.4	54	27.8	36	10.91	34.11	100	59	Average
10440	37.68	-52.76	90.44	69.63	-9.07	11.21	34.09	100	0	Peak

Test Mode :	Mode 14	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5180 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.06	-1.94	40	59.94	8.96	0.68	31.53	113	54	Peak
124.77	27.65	-15.85	43.5	46.28	11.81	1.12	31.56	-	-	Peak
250.05	30.77	-15.23	46	47.88	12.77	1.53	31.41	-	-	Peak
453.3	18.4	-27.6	46	29.98	17.2	2.31	31.09	-	-	Peak
624.1	27.31	-18.69	46	35.2	20.25	2.76	30.9	-	-	Peak
954.5	32.74	-13.26	46	35.85	24	3.46	30.57	-	-	Peak
5150	50.81	-23.19	74	41.7	34.35	9.41	34.65	100	118	Peak
5150	39.29	-14.71	54	30.18	34.35	9.41	34.65	100	118	Average
5180	86.49	-	-	77.43	34.38	9.45	34.77	100	118	Average
5180	97.65	-	-	88.59	34.38	9.45	34.77	100	118	Peak
5350	38.98	-15.02	54	30.09	34.55	9.74	35.4	100	118	Average
5350	50.79	-23.21	74	41.9	34.55	9.74	35.4	100	118	Peak
8202	53.83	-20.17	74	41.05	36	10.89	34.11	100	105	Peak
8202	40.05	-13.95	54	27.27	36	10.89	34.11	100	105	Average

Test Mode :	Mode 14	Temperature :	23~24°C
Test Channel :	36	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	1. 5180 MHz is Fundamental Signals which can be ignored. 2. 10360 MHz is not within a restricted band.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.3	-3.7	40	47.72	19.51	0.53	31.46	120	311	Peak
107.49	29.11	-14.39	43.5	48.56	11.06	1.04	31.55	-	-	Peak
257.34	22.18	-23.82	46	39.17	12.86	1.57	31.42	-	-	Peak
310.5	20.4	-25.6	46	36.19	13.74	1.79	31.32	-	-	Peak
562.5	22.04	-23.96	46	31.07	19.35	2.59	30.97	-	-	Peak
831.3	24.67	-21.33	46	29.64	22.52	3.22	30.71	-	-	Peak
5150	56.6	-17.4	74	47.49	34.35	9.41	34.65	100	350	Peak
5150	42.18	-11.82	54	33.07	34.35	9.41	34.65	100	350	Average
5180	113.8	-	-	104.69	34.37	9.45	34.71	100	350	Peak
5180	101.6	-	-	92.54	34.38	9.45	34.77	100	350	Average
5350	39.94	-14.06	54	31.05	34.55	9.74	35.4	100	350	Average
5350	51.3	-22.7	74	42.41	34.55	9.74	35.4	100	350	Peak
8182	53.93	-20.07	74	41.16	36	10.88	34.11	100	109	Peak
8182	40.09	-13.91	54	27.32	36	10.88	34.11	100	109	Average
10360	38.01	-55.79	93.8	69.99	-9.17	11.31	34.12	100	0	Peak

Test Mode :	Mode 15	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.51	-1.49	40	60.4	8.96	0.68	31.53	118	320	Peak
122.34	27.84	-15.66	43.5	46.23	12.06	1.11	31.56	-	-	Peak
265.17	21.35	-24.65	46	38.16	12.97	1.62	31.4	-	-	Peak
374.2	26.63	-19.37	46	40.35	15.44	2.09	31.25	-	-	Peak
573.7	21.52	-24.48	46	30.28	19.57	2.62	30.95	-	-	Peak
764.1	25.31	-20.69	46	31.2	21.72	3.08	30.69	-	-	Peak
5150	51.09	-22.91	74	41.98	34.35	9.41	34.65	100	112	Peak
5150	39.2	-14.8	54	30.09	34.35	9.41	34.65	100	112	Average
5200	98.49	-	-	89.44	34.4	9.49	34.84	100	112	Peak
5200	87.72	-	-	78.67	34.4	9.49	34.84	100	112	Average
5350	50.35	-23.65	74	41.46	34.55	9.74	35.4	100	112	Peak
5350	38.97	-15.03	54	30.08	34.55	9.74	35.4	100	112	Average
8124	53.73	-20.27	74	40.99	36	10.86	34.12	100	155	Peak
8124	40.12	-13.88	54	27.38	36	10.86	34.12	100	155	Average

Test Mode :	Mode 15	Temperature :	23~24°C
Test Channel :	40	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5200 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.71	-1.29	40	60.6	8.96	0.68	31.53	109	97	Peak
107.49	30.37	-13.13	43.5	49.82	11.06	1.04	31.55	-	-	Peak
162.57	29.99	-13.51	43.5	50.12	10.17	1.22	31.52	-	-	Peak
304.9	21.02	-24.98	46	36.98	13.59	1.78	31.33	-	-	Peak
593.3	28.48	-17.52	46	36.8	19.94	2.67	30.93	-	-	Peak
897.8	29.81	-16.19	46	34.01	23.16	3.34	30.7	-	-	Peak
5150	52.42	-21.58	74	43.31	34.35	9.41	34.65	123	351	Peak
5150	40.87	-13.13	54	31.76	34.35	9.41	34.65	123	351	Average
5200	113.69	-	-	104.64	34.4	9.49	34.84	123	351	Peak
5200	100.97	-	-	91.92	34.4	9.49	34.84	123	351	Average
5350	52.11	-21.89	74	43.22	34.55	9.74	35.4	123	351	Peak
5350	40.2	-13.8	54	31.31	34.55	9.74	35.4	123	351	Average
8238	54.21	-19.79	74	41.41	36	10.91	34.11	100	164	Peak
8238	40.3	-13.7	54	27.5	36	10.91	34.11	100	164	Average

Test Mode :	Mode 16	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.36	36.87	-3.13	40	58.76	8.96	0.68	31.53	123	332	Peak
127.74	28.55	-14.95	43.5	47.19	11.79	1.14	31.57	-	-	Peak
259.5	21.36	-24.64	46	38.28	12.91	1.59	31.42	-	-	Peak
310.5	21.74	-24.26	46	37.53	13.74	1.79	31.32	-	-	Peak
624.1	28.27	-17.73	46	36.16	20.25	2.76	30.9	-	-	Peak
830.6	26.85	-19.15	46	31.83	22.51	3.22	30.71	-	-	Peak
5150	50.43	-23.57	74	41.32	34.35	9.41	34.65	184	326	Peak
5150	39.26	-14.74	54	30.15	34.35	9.41	34.65	184	326	Average
5220	87.69	-	-	78.64	34.42	9.53	34.9	184	326	Average
5220	99.96	-	-	90.91	34.42	9.53	34.9	184	326	Peak
5350	50.55	-23.45	74	41.66	34.55	9.74	35.4	184	326	Peak
5350	39.03	-14.97	54	30.14	34.55	9.74	35.4	184	326	Average
8198	53.26	-20.74	74	40.48	36	10.89	34.11	110	150	Peak
8198	40.15	-13.85	54	27.37	36	10.89	34.11	110	150	Average



Test Mode :	Mode 16	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
30	36.39	-3.61	40	47.81	19.51	0.53	31.46	115	299	Peak
118.83	30.07	-13.43	43.5	48.39	12.14	1.1	31.56	-	-	Peak
174.18	24.52	-18.98	43.5	45.48	9.32	1.24	31.52	-	-	Peak
310.5	19.78	-26.22	46	35.57	13.74	1.79	31.32	-	-	Peak
624.1	31.57	-14.43	46	39.46	20.25	2.76	30.9	-	-	Peak
965	33.27	-20.73	54	36.2	24.16	3.48	30.57	-	-	Peak
5150	40.47	-13.53	54	31.36	34.35	9.41	34.65	120	351	Average
5150	50.43	-23.57	74	41.32	34.35	9.41	34.65	120	351	Peak
5220	112.96	-	-	103.91	34.42	9.53	34.9	120	351	Peak
5220	100.93	-	-	91.88	34.42	9.53	34.9	120	351	Average
5350	50.55	-23.45	74	41.66	34.55	9.74	35.4	120	351	Peak
5350	39.98	-14.02	54	31.09	34.55	9.74	35.4	120	351	Average
8124	53.88	-20.12	74	41.14	36	10.86	34.12	100	188	Peak
8124	40.04	-13.96	54	27.3	36	10.86	34.12	100	188	Average

Test Mode :	Mode 17	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
47.55	33.09	-6.91	40	54.49	9.45	0.67	31.52	120	144	Peak
92.64	25.41	-18.09	43.5	46.66	9.32	0.96	31.53	-	-	Peak
194.43	17.26	-26.24	43.5	38.59	8.86	1.3	31.49	-	-	Peak
424.6	18.65	-27.35	46	30.93	16.63	2.23	31.14	-	-	Peak
624.1	28.82	-17.18	46	36.71	20.25	2.76	30.9	-	-	Peak
951.7	32.23	-13.77	46	35.38	23.96	3.46	30.57	-	-	Peak
5150	40.64	-13.36	54	31.53	34.35	9.41	34.65	100	113	Average
5150	56.1	-17.9	74	46.99	34.35	9.41	34.65	100	113	Peak
5190	97.56	-	-	88.51	34.4	9.49	34.84	100	113	Peak
5190	83.27	-	-	74.17	34.38	9.49	34.77	100	113	Average
5350	51.76	-22.24	74	42.87	34.55	9.74	35.4	100	113	Peak
5350	39.02	-14.98	54	30.13	34.55	9.74	35.4	100	113	Average
8132	53.28	-20.72	74	40.54	36	10.86	34.12	100	201	Peak
8132	40.36	-13.64	54	27.62	36	10.86	34.12	100	201	Average

Test Mode :	Mode 17	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.6	-1.4	40	60.49	8.96	0.68	31.53	100	344	Peak
105.33	29.03	-14.47	43.5	48.67	10.88	1.03	31.55	-	-	Peak
250.05	28.12	-17.88	46	45.23	12.77	1.53	31.41	-	-	Peak
374.2	21.15	-24.85	46	34.87	15.44	2.09	31.25	-	-	Peak
609.4	30.33	-15.67	46	38.38	20.14	2.72	30.91	-	-	Peak
825.7	26.56	-19.44	46	31.6	22.46	3.21	30.71	-	-	Peak
5150	69.07	-4.93	74	59.96	34.35	9.41	34.65	100	353	Peak
5150	49.41	-4.59	54	40.3	34.35	9.41	34.65	100	353	Average
5190	109.76	-	-	100.7	34.38	9.45	34.77	100	353	Peak
5190	96.37	-	-	87.27	34.38	9.49	34.77	100	353	Average
5350	40.29	-13.71	54	31.4	34.55	9.74	35.4	100	353	Average
5350	52.05	-21.95	74	43.16	34.55	9.74	35.4	100	353	Peak
8168	53.64	-20.36	74	40.87	36	10.88	34.11	100	52	Peak
8168	40.8	-13.2	54	28.03	36	10.88	34.11	100	52	Average

Test Mode :	Mode 18	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
51.06	34.39	-5.61	40	57.45	7.77	0.71	31.54	120	133	Peak
93.18	23.9	-19.6	43.5	45.15	9.32	0.96	31.53	-	-	Peak
266.25	21.28	-24.72	46	38.05	13	1.62	31.39	-	-	Peak
315.4	21.03	-24.97	46	36.68	13.87	1.8	31.32	-	-	Peak
548.5	24.84	-21.16	46	34.17	19.1	2.55	30.98	-	-	Peak
962.9	32.23	-21.77	54	35.2	24.13	3.47	30.57	-	-	Peak
5150	50.78	-23.22	74	41.67	34.35	9.41	34.65	100	112	Peak
5150	39.42	-14.58	54	30.31	34.35	9.41	34.65	100	112	Average
5220	96.61	-	-	87.56	34.42	9.53	34.9	100	112	Peak
5220	83.18	-	-	74.13	34.42	9.53	34.9	100	112	Average
5350	50.82	-23.18	74	41.93	34.55	9.74	35.4	100	112	Peak
5350	39.1	-14.9	54	30.21	34.55	9.74	35.4	100	112	Average
8198	53.54	-20.46	74	40.76	36	10.89	34.11	100	148	Peak
8198	39.9	-14.1	54	27.12	36	10.89	34.11	100	148	Average

Test Mode :	Mode 18	Temperature :	23~24°C
Test Channel :	44	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5220 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
52.41	34.55	-5.45	40	57.81	7.57	0.71	31.54	116	91	Peak
119.37	30.37	-13.13	43.5	48.69	12.14	1.1	31.56	-	-	Peak
258.42	22.43	-23.57	46	39.39	12.88	1.58	31.42	-	-	Peak
374.2	20.89	-25.11	46	34.61	15.44	2.09	31.25	-	-	Peak
659.8	23.63	-22.37	46	31.1	20.53	2.86	30.86	-	-	Peak
808.9	24.96	-21.04	46	30.19	22.3	3.16	30.69	-	-	Peak
5150	53.75	-20.25	74	44.64	34.35	9.41	34.65	137	355	Peak
5150	42.15	-11.85	54	33.04	34.35	9.41	34.65	137	355	Average
5220	97.43	-	-	88.38	34.42	9.53	34.9	137	355	Average
5220	110.3	-	-	101.25	34.42	9.53	34.9	137	355	Peak
5350	52.04	-21.96	74	43.15	34.55	9.74	35.4	137	355	Peak
5350	40.86	-13.14	54	31.97	34.55	9.74	35.4	137	355	Average
8192	53.97	-20.03	74	41.19	36	10.89	34.11	100	167	Peak
8192	40.51	-13.49	54	27.73	36	10.89	34.11	100	167	Average



Test Mode :	Mode 19	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
42.69	30.33	-9.67	40	49.01	12.18	0.64	31.5	122	351	Peak
92.37	24.01	-19.49	43.5	45.4	9.17	0.96	31.52	-	-	Peak
197.94	17.41	-26.09	43.5	38.77	8.82	1.31	31.49	-	-	Peak
491.8	19.73	-26.27	46	30.38	18	2.42	31.07	-	-	Peak
584.9	25.76	-20.24	46	34.27	19.78	2.65	30.94	-	-	Peak
794.2	25.84	-20.16	46	31.25	22.14	3.13	30.68	-	-	Peak
5150	58.44	-15.56	74	49.33	34.35	9.41	34.65	115	318	Peak
5150	40.4	-13.6	54	31.29	34.35	9.41	34.65	115	318	Average
5190	96.31	-	-	87.25	34.38	9.45	34.77	115	318	Peak
5190	84.91	-	-	75.81	34.38	9.49	34.77	115	318	Average
5350	38.99	-15.01	54	30.1	34.55	9.74	35.4	115	318	Average
5350	50.71	-23.29	74	41.82	34.55	9.74	35.4	115	318	Peak
8134	53.18	-20.82	74	40.44	36	10.86	34.12	101	228	Peak
8134	40.35	-13.65	54	27.61	36	10.86	34.12	101	228	Average

Test Mode :	Mode 19	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
32.97	32.88	-7.12	40	45.95	17.84	0.56	31.47	108	74	Peak
91.02	25.24	-18.26	43.5	46.78	9.03	0.95	31.52	-	-	Peak
274.62	20.85	-25.15	46	37.46	13.11	1.64	31.36	-	-	Peak
309.8	21.57	-24.43	46	37.39	13.72	1.79	31.33	-	-	Peak
564.6	22.4	-23.6	46	31.38	19.39	2.59	30.96	-	-	Peak
804	24.21	-21.79	46	29.48	22.26	3.15	30.68	-	-	Peak
5150	72.67	-1.33	74	63.56	34.35	9.41	34.65	100	353	Peak
5150	52.95	-1.05	54	43.84	34.35	9.41	34.65	100	353	Average
5190	113.23	-	-	104.17	34.38	9.45	34.77	100	353	Peak
5190	100.68	-	-	91.58	34.38	9.49	34.77	100	353	Average
5350	42.24	-11.76	54	33.35	34.55	9.74	35.4	100	353	Average
5350	54.09	-19.91	74	45.2	34.55	9.74	35.4	100	353	Peak
8198	53.37	-20.63	74	40.59	36	10.89	34.11	100	263	Peak
8198	40.16	-13.84	54	27.38	36	10.89	34.11	100	263	Average

Test Mode :	Mode 20	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Horizontal
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.49	-1.51	40	60.38	8.96	0.68	31.53	110	300	Peak
92.37	25.72	-17.78	43.5	47.11	9.17	0.96	31.52	-	-	Peak
130.98	31.44	-12.06	43.5	50.09	11.77	1.15	31.57	-	-	Peak
315.4	20.77	-25.23	46	36.42	13.87	1.8	31.32	-	-	Peak
430.9	19.54	-26.46	46	31.67	16.75	2.25	31.13	-	-	Peak
676.6	24.48	-21.52	46	31.77	20.66	2.89	30.84	-	-	Peak
5150	52.68	-21.32	74	43.57	34.35	9.41	34.65	100	305	Peak
5150	40.45	-13.55	54	31.34	34.35	9.41	34.65	100	305	Average
5190	82.33	-	-	73.23	34.38	9.49	34.77	100	305	Average
5190	95.89	-	-	86.79	34.38	9.49	34.77	100	305	Peak
5350	50.77	-23.23	74	41.88	34.55	9.74	35.4	100	305	Peak
5350	39.35	-14.65	54	30.46	34.55	9.74	35.4	100	305	Average
8150	55.97	-18.03	74	43.21	36	10.87	34.11	100	138	Peak
8150	41.67	-12.33	54	28.91	36	10.87	34.11	100	138	Average

Test Mode :	Mode 20	Temperature :	23~24°C
Test Channel :	38	Relative Humidity :	45~48%
Test Engineer :	Cona Huang	Polarization :	Vertical
Remark :	5190 MHz is Fundamental Signals which can be ignored.		

Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
48.9	38.53	-1.47	40	60.41	8.96	0.68	31.53	119	88	Peak
107.49	29.76	-13.74	43.5	49.21	11.06	1.04	31.55	-	-	Peak
187.41	24.32	-19.18	43.5	45.61	8.96	1.27	31.52	-	-	Peak
374.2	20.95	-25.05	46	34.67	15.44	2.09	31.25	-	-	Peak
584.2	27.27	-18.73	46	35.81	19.76	2.64	30.94	-	-	Peak
764.1	25.34	-20.66	46	31.23	21.72	3.08	30.69	-	-	Peak
5150	52.24	-1.76	54	43.13	34.35	9.41	34.65	110	0	Average
5150	70.45	-3.55	74	61.34	34.35	9.41	34.65	110	0	Peak
5190	100.03	-	-	90.93	34.38	9.49	34.77	110	0	Average
5190	113.75	-	-	104.65	34.38	9.49	34.77	110	0	Peak
5350	40.36	-13.64	54	31.47	34.55	9.74	35.4	110	0	Average
5350	52.59	-21.41	74	43.7	34.55	9.74	35.4	110	0	Peak
8316	56.02	-17.98	74	43.18	36	10.94	34.1	100	44	Peak
8316	42.03	-11.97	54	29.19	36	10.94	34.1	100	44	Average

3.8 Peak Excursion Ratio Measurement

3.8.1 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.

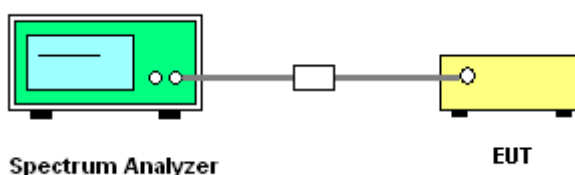
3.8.2 Measuring Instruments

See list of measuring instruments of this test report.

3.8.3 Test Procedures

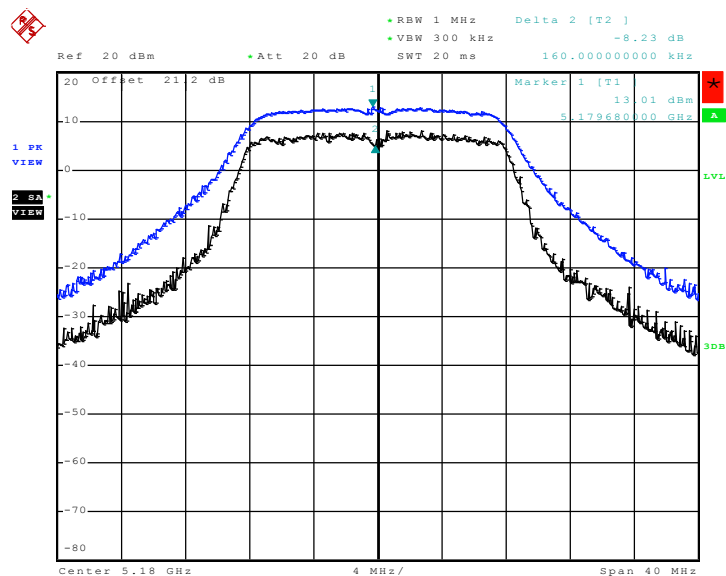
1. The transmitter output is connected to the spectrum analyzer.
2. The resolution bandwidth is set to and maintained at 1 MHz. The video bandwidth is set to 3 MHz.
3. Trace A is set peak detector and to Max Hold, then to View. Then the detector is readjusted to sample detector, max hold to run for 60 seconds, and the signal under this measurement condition is captured in Trace B in Accordance with the method 3 of DA-02-2138.
4. The difference between the traces is investigated. The marker is placed at the frequency, which shows the largest difference. The amplitude delta between the traces at this frequency is the peak excursion.

3.8.4 Test Setup

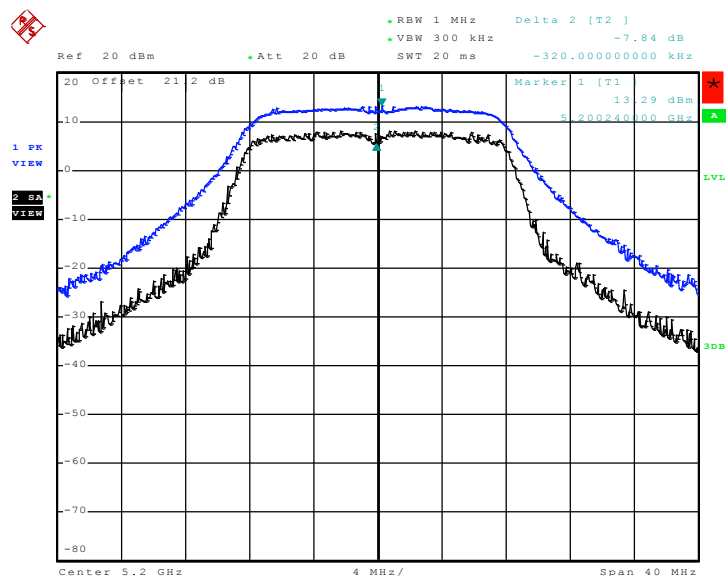


3.8.5 Test Result of Peak Excursion Ratio

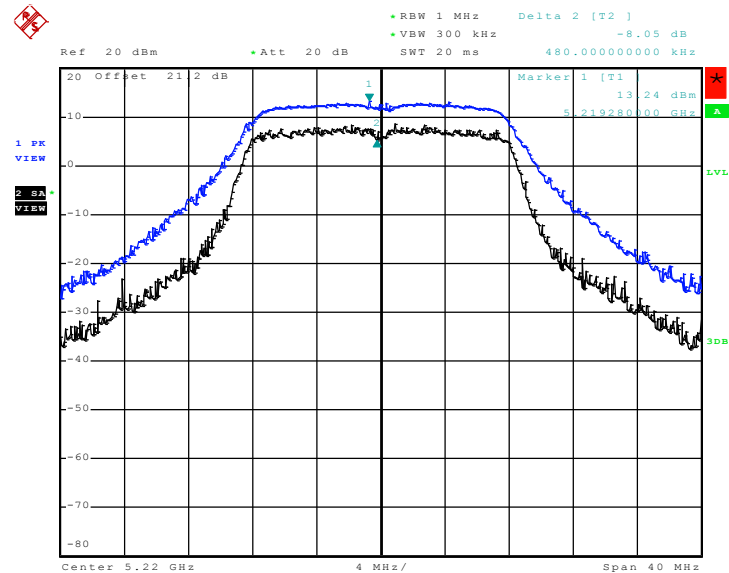
Test Mode :	Mode 1~8	Temperature :	25~27°C
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Mode 1 :
Peak Excursion Ratio Plot on 802.11a Channel 36 - Chain A


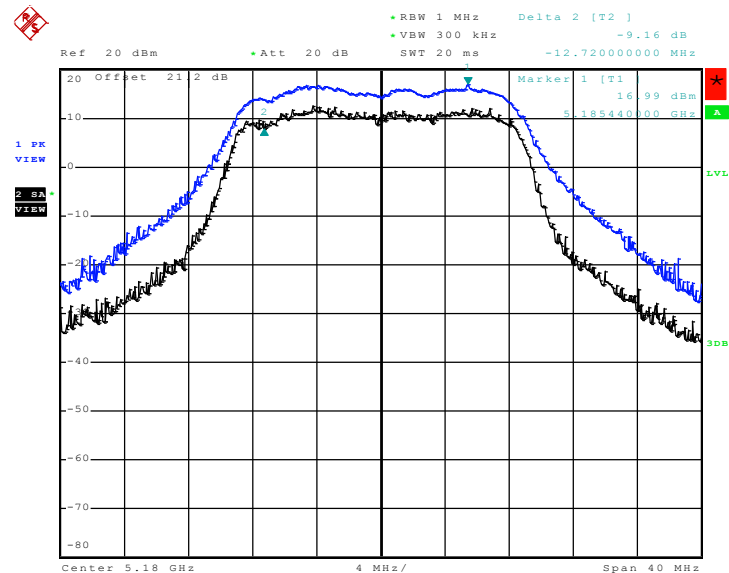
Date: 18.AUG.2010 03:54:19

Mode 2 :
Peak Excursion Ratio Plot on 802.11a Channel 40 - Chain A


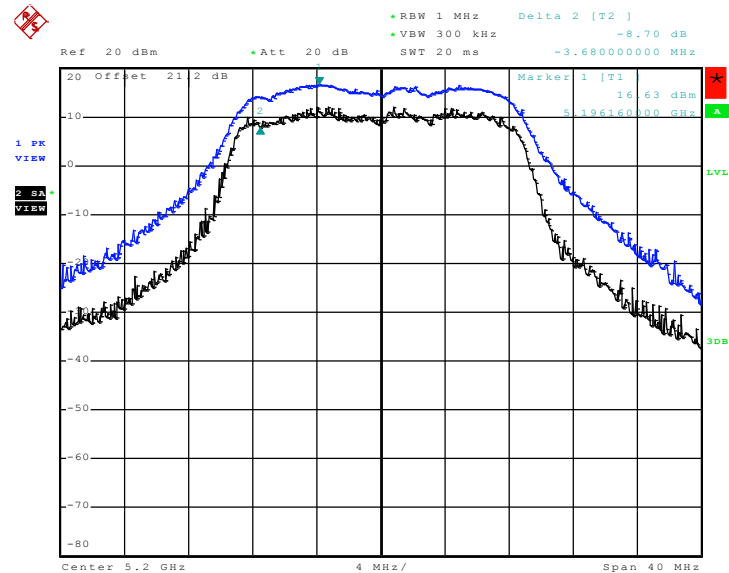
Date: 18.AUG.2010 03:56:17

Mode 3 :
Peak Excursion Ratio Plot on 802.11a Channel 44 - Chain A


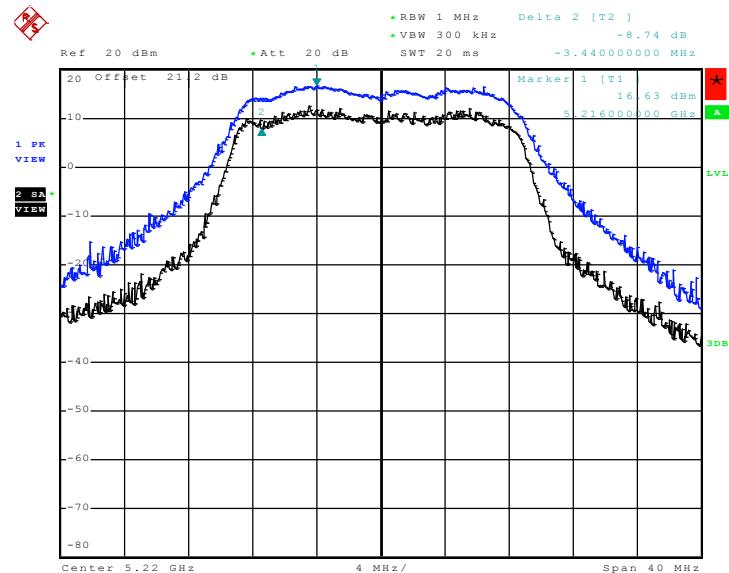
Date: 18.AUG.2010 03:58:18

Mode 4 : Peak Excursion Ratio Plot on 802.11n (BW 20MHz)
Channel 36 - Chain A+B+C


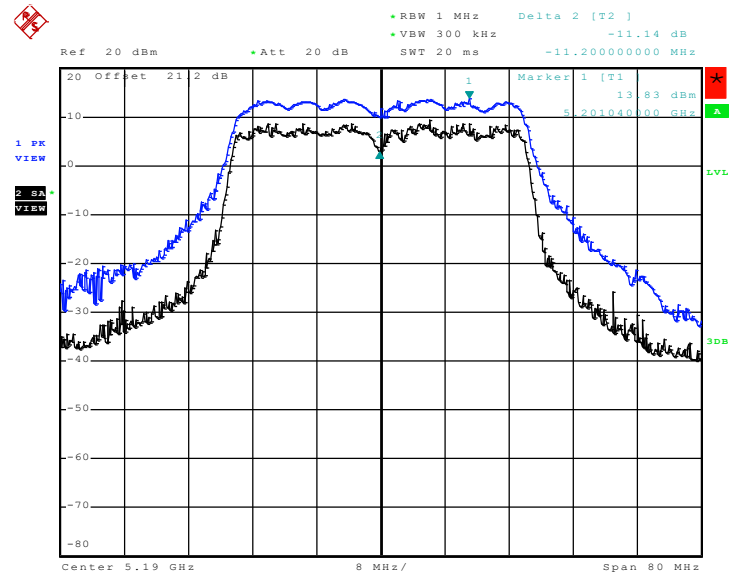
Date: 18.AUG.2010 05:11:02

Mode 5 : Peak Excursion Ratio Plot on 802.11n (BW 20MHz)
Channel 40 - Chain A+B+C


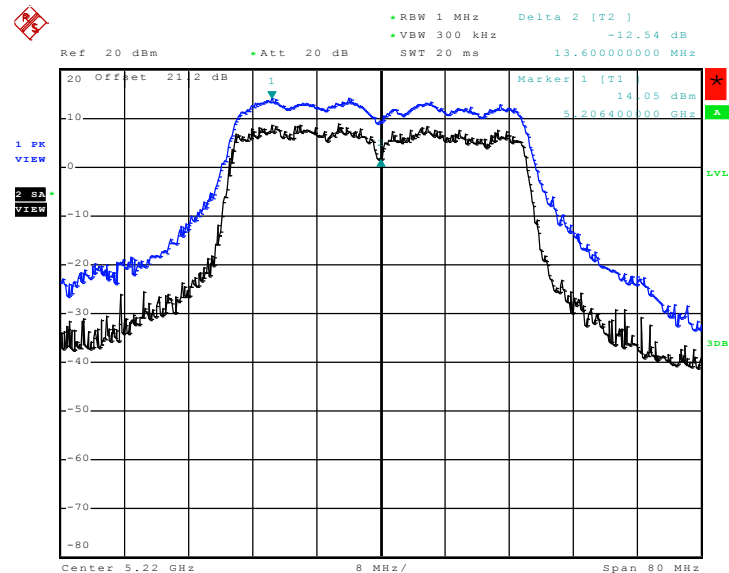
Date: 18.AUG.2010 05:07:31

Mode 6 : Peak Excursion Ratio Plot on 802.11n (BW 20MHz)
Channel 44 - Chain A+B+C


Date: 18.AUG.2010 05:05:18

Mode 7 : Peak Excursion Ratio Plot on 802.11n (BW 40MHz)
Channel 38 - Chain A+B+C


Date: 18.AUG.2010 06:51:37

Mode 8 : Peak Excursion Ratio Plot on 802.11n (BW 40MHz)
Channel 44 - Chain A+B+C


Date: 18.AUG.2010 06:53:00

3.9 Automatically Discontinue Transmission

3.9.1 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.

3.9.2 Measuring Instruments

See list of measuring instruments of this test report.

3.9.3 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.

3.10 Frequency Stability Measurement

3.10.1 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.

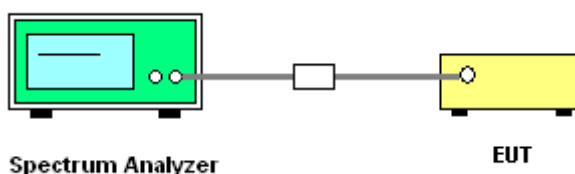
3.10.2 Measuring Instruments

See list of measuring instruments of this test report.

3.10.3 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.

3.10.4 Test Setup



3.10.5 Test Result of Frequency Stability

Test Mode :	Mode 1, 2, 3	Temperature :	25~27℃
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11a		
		Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.64	5188.28	-7.72
40	5200	5191.64	5208.28	-7.69
44	5220	5211.64	5228.28	-7.66

Test Mode :	Mode 4, 5, 6	Temperature :	25~27℃
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 20MHz)		
		Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
36	5180	5171.04	5188.84	-11.58
40	5200	5191.04	5208.76	-19.23
44	5220	5211.04	5228.76	-19.16

Test Mode :	Mode 7, 8	Temperature :	25~27℃
Test Engineer :	Mac Lin	Relative Humidity :	48~51%

Channel	Frequency (MHz)	802.11n (BW 40MHz)		
		Low Frequency (Fl)	High Frequency (Fh)	Frequency Stability (ppm)
38	5190	5171.60	5208.24	-15.41
44	5220	5201.60	5238.24	-15.33



3.11 Antenna Requirements

3.11.1 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.

3.11.2 Antenna Connected Construction

The antennas type used in this product is Dipole Antenna and Patch Antenna without connector and it is considered to meet antenna requirement of FCC.

3.11.3 Antenna Gain

The antenna gain is more than 6 dBi. Therefore, it is must to reduce maximum peak output power limit.

4 List of Measuring Equipments

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Due Date	Remark
Spectrum Analyzer	R&S	FSP30	101329	9kHz~30GHz	Apr. 26, 2010	Apr. 25, 2011	Conducted (TH02-HY)
Power Meter	Anritsu	ML2495A	0932001	N/A	Sep. 17, 2009	Sep. 16, 2010	Conducted (TH02-HY)
Power Sensor	Anritsu	MA2411B	0846202	N/A	Sep. 10, 2009	Sep. 09, 2010	Conducted (TH02-HY)
EMI Test Receive	R&S	ESU	100211	9KHz – 2.75GHz	May 28, 2010	May 27, 2011	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100081	9kHz~30MHz	Nov. 30, 2009	Nov. 29, 2010	Conduction (CO05-HY)
Two-LISN	R&S	ENV216	11-100080	9kHz~30MHz	Nov. 23, 2009	Nov. 22, 2010	Conduction (CO05-HY)
AC Power Source	APC	APC-1000W	N/A	N/A	N/A	N/A	Conduction (CO05-HY)
Bilog Antenna	SCHAFFNER	CBL6111C	2726	30MHz ~ 1GHz	Oct. 31, 2009	Oct. 30, 2010	Radiation (03CH07-HY)
Spectrum Analyzer	R&S	FSP	101067	9KHz ~ 30GHz	Dec. 04, 2009	Dec. 03, 2010	Radiation (03CH07-HY)
Double Ridge Horn Antenna	ESCO	3117	00075962	1GHz ~ 18GHz	Aug. 20, 2009	Aug. 19, 2010	Radiation (03CH07-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	15GHz- 40GHz	Oct. 14, 2009	Oct. 13, 2010	Radiation (03CH07-HY)
Pre Amplifier	Agilent	8449B	3008A02362	1GHz~ 26.5GHz	Dec.09,2009	Dec. 08, 2010	Radiation (03CH07-HY)
Pre Amplifier	COM-POWER	PA-103A	161241	10-1000MHz.32 dB.GAIN	Mar. 27, 2010	Mar. 26, 2011	Radiation (03CH07-HY)
Loop Antenna	R&S	HFH2-Z2	860004/001	9 kHz~30 MHz	Jul. 29, 2010	Jul. 28, 2011	Radiation (03CH07-HY)

5 Uncertainty of Evaluation

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.10	Normal (k=2)	0.05
Cable Loss	0.10	Normal (k=2)	0.05
AMN Insertion Loss	2.50	Rectangular	0.63
Receiver Specification	1.50	Rectangular	0.43
Site Imperfection	1.39	Rectangular	0.80
Mismatch	+0.34 / -0.35	U-Shape	0.24
Combined Standard Uncertainty $U_c(y)$	1.13		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.26		

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

Contribution	Uncertainty of X_i		$u(X_i)$
	dB	Probability Distribution	
Receiver Reading	0.41	Normal (k=2)	0.21
Antenna Factor Calibration	0.83	Normal (k=2)	0.42
Cable Loss Calibration	0.25	Normal (k=2)	0.13
Pre-Amplifier Gain Calibration	0.27	Normal (k=2)	0.14
RCV/SPA Specification	2.50	Rectangular	0.72
Antenna Factor Interpolation for Frequency	1.00	Rectangular	0.29
Site Imperfection	1.43	Rectangular	0.83
Mismatch	+0.39 / -0.41	U-Shape	0.28
Combined Standard Uncertainty $U_c(y)$	1.27		
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	2.54		

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

Contribution	Uncertainty of X_i		$u(X_i)$	C_i	$C_i * u(X_i)$
	dB	Probability Distribution			
Receiver Reading	± 0.10	Normal (k=2)	0.10	1	0.10
Antenna Factor Calibration	± 1.70	Normal (k=2)	0.85	1	0.85
Cable Loss Calibration	± 0.50	Normal (k=2)	0.25	1	0.25
Receiver Correction	± 2.00	Rectangular	1.15	1	1.15
Antenna Factor Directional	± 1.50	Rectangular	0.87	1	0.87
Site Imperfection	± 2.80	Triangular	1.14	1	1.14
Mismatch Receiver VSWR $\Gamma_1 = 0.197$ Antenna VSWR $\Gamma_2 = 0.194$ Uncertainty = $20\text{Log}(1-\Gamma_1*\Gamma_2)$	+0.34 / -0.35	U-Shape	0.244	1	0.244
Combined Standard Uncertainty $U_c(y)$	2.36				
Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.72				



Appendix A. Photographs of EUT

Please refer to Sporton report number EP9D2415-03 as below.