FCC Test Report

EQUIPMENT	:	**WLAN Module**
BRAND NAME	:	**Getac**
MODEL NAME	:	**WiFi Link 5300**
FCC ID	:	**MAU035**
STANDARD	:	**FCC Part 15 Subpart C §15.247**
CLASSIFICATION	:	**Digital Transmission System (DTS)**
APPLICANT	:	**Mitac Technology Corp**

No. 1, R&D 2nd RD., HsinChu Science-Based Industrial Park, HsinChu, Taiwan, R.O.C.

The product sample received on Nov. 21, 2008 and completely tested on Jan. 04, 2009. 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 the compliance with the applicable technical standards.

The EUT was installed into GETAC laptop PC, brand name: GETAC / model name : V100, during test.

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: Roy Wu / Manager

Testing Laboratory 1190

TABLE OF CONTENTS

SUMMARY OF TEST RESULT

Report Section	FCC Rule	IC Rule	Description	Limit	Result	Remark
3.1	15.247(a)(2)	A8.2(a)	6dB Bandwidth	≥ 0.5MHz	Pass	-
3.2	15.247(b)	A8.4	Power Output	≤ 30dBm	Pass	-
3.3	15.247(d)	A8.5	Frequency Band Edges	≤ 20dBc	Pass	-
3.4	15.247(d)	A8.5	Spurious Emission	< 20 dBc	Pass	-
3.5	15.247(e)	A8.2(b)	Power Spectral Density	≤ 8dBm	Pass	-
3.6	15.207	Gen 7.2.2	AC Conducted Emission	15.207(a)	Pass	Under limit 15.7 dB at 0.286 MHz
3.7	15.247(d)	A8.5	Transmitter Radiated Emission	15.209(a) & 15.247(d)	Pass	Under limit 7.90 dB at 79.680 MHz
3.8	15.203 & 15.247(b)	A8.4	Antenna Requirement	N/A	Pass	-

REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR8N2104A	Rev. 01	Initial issue of report	Jan. 17, 2009

1 General Description

1.1 Applicant

Mitac Technology Corp
No. 1, R&D 2nd RD., HsinChu Science-Based Industrial Park, HsinChu, Taiwan, R.O.C.

1.2 Manufacturer

1. **Mitac Technology Corp**
   No. 1, R&D 2nd RD., HsinChu Science-Based Industrial Park, HsinChu, Taiwan, R.O.C.
2. **Getac Technology (Kunshan) Co., Ltd**
   No. 269, 2nd Road, Export Processing Zone, Changjiang South Road, Kunshan, Jiangsu, P.R.C. 215300

1.3 Feature of Equipment Under Test

Product Feature & Specification	
Equipment	WLAN Module
Brand Name	Getac
Model Name	WiFi Link 5300
Tx/Rx Frequency Range	802.11b/g : 2400 MHz ~ 2483.5 MHz 802.11a : 5725 MHz ~ 5850 MHz
Channel Spacing	802.11b/g : 5 MHz 802.11a : 20 MHz
Maximum Output Power to Antenna	802.11b : 17.62 dBm 802.11g : 16.83 dBm 802.11n : 17.36 dBm (BW 20M, 3Tx) 802.11n : 21.02 dBm (BW 40M, 3Tx) 802.11a : 16.17 dBm 802.11n : 19.44 dBm (BW 20M, 2Tx) 802.11n : 18.61 dBm (BW 40M, 3Tx)
Antenna Type	802.11b/g : PIFA Antenna with gain 1.29 dBi 802.11a : PIFA Antenna with gain 2.79 dBi
Type of Modulation	802.11b : DSSS 802.11g/a : OFDM
EUT Stage	Identical Prototype

The specification of laptop PC, V100 :

Parts		Specifications
CPU		Intel® SU9400 Core 2 Duo ULV 1.4 GHz processor 800 MHz FSB (Front Side Bus), Thermal specifications 10 W
Cache Memory		3 MB L2 cache
Chipset	NorthBridge	Intel® GS45
	SouthBridge	ICH9M (small form factor)
BIOS		4 MB EEPROM, system and VGA BIOS, G-sensor support, Plug-and-Play, ACPI 2.0 capability, boot from SATA/LAN/USB devices (e.g., DVD Combo / DVD Dual / Flash / floppy drives), light sensor for LCD panel and keyboard backlight brightness control support, computrace

The more details information, please find the user manual.

1.4 Testing Site

Test Site	SPORTON INTERNATIONAL INC.		
Test Site Location	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL: +886-3-3273456 / FAX: +886-3-3284978		
Test Site No.	Sporton Site No.		FCC/IC Registration No.
	CO05-HY	03CH06HY	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 C §15.247
- FCC KDB Publication No. 558074 (Measurement Guidelines of DTS)
- ANSI C63.4-2003
- IC RSS-210 Issue 7 Annex 8

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.	WLAN AP	SMC	SMC-100	HEDWG4005ACC	N/A	Unshielded, 1.8 m
2.	WLAN AP	D-Link	DWL-7100AP	KA22003040018-1	N/A	Unshielded, 1.8 m
3.	Notebook	HP	Presario V3000	N/A	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
4.	LCD Monitor	lenovo	6135-AB1	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
5.	Earphone + Mic	Sampo	EK-Y652CS	FCC DoC	Shielded, 1.8 m	N/A
6.	Earphone + Mic	Kolin	Kit-7460E	FCC DoC	Unshielded, 1.6 m	N/A
7.	Bluetooth Earphone	Cellink	BTHS-6025-F	PQY-4710874200357	N/A	N/A
8.	(RS-232) Mouse	State	MS-303	FCC DoC	Shielded, 1.3 m	N/A
9.	i-Pod	Apple	A1199	FCC DoC	Shielded, 1.0 m	N/A
10.	Exchange	Sun Moon Star	SMS-4 PLUS	95180108	Shielded, 1.6 m	N/A

2 Test Configuration of Equipment Under Test

2.1 Pre-Scanned RF Power

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

802.11b

Channel	Frequency (MHz)	RF Power (dBm)		
		1 Mbps		
		Chain A	Chain B	Chain C
01	2412	17.50	17.27	17.50
06	2437	16.82	16.73	**17.62**
11	2462	16.63	16.61	17.18

802.11g

Channel	Frequency (MHz)	RF Power (dBm)		
		6 Mbps		
		Chain A	Chain B	Chain C
01	2412	12.29	**16.83**	11.96
06	2437	15.63	15.38	15.63
11	2462	14.96	13.39	13.00

802.11n (BW 20M, SISO)

Channel	Frequency (MHz)	RF Power (dBm)		
		HT0		
		Chain A	Chain B	Chain C
01	2412	10.47	10.40	11.37
06	2437	15.18	14.78	15.96
11	2462	12.04	11.83	12.18

802.11n (BW 20M, 2Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT8				
		Combination	Chain A	Chain B	Chain C	Total
01	2412	A+B	14.02	14.21	-	17.13
06	2437	A+B	13.80	13.90	-	16.86
11	2462	A+B	13.33	13.54	-	16.45
01	2412	A+C	11.61	-	12.62	15.15
06	2437	A+C	12.54	-	13.48	16.05
11	2462	A+C	12.60	-	13.57	16.12
01	2412	B+C	-	12.48	13.16	15.84
06	2437	B+C	-	13.79	14.09	16.95
11	2462	B+C	-	13.48	14.41	16.98

802.11n (BW 20M, 3Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT16				
		Combination	Chain A	Chain B	Chain C	Total
01	2412	A+B+C	11.99	12.00	12.69	17.01
06	2437	A+B+C	12.40	12.03	13.24	**17.36**
11	2462	A+B+C	12.26	11.96	12.73	17.10

802.11n (BW 40M, SISO)

Channel	Frequency (MHz)	RF Power (dBm)		
		HT0		
		Chain A	Chain B	Chain C
03	2422	12.51	12.60	11.60
06	2437	12.44	13.06	13.70
09	2452	13.63	13.94	13.44

802.11n (BW 40M, 2Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT8				
		Combination	Chain A	Chain B	Chain C	Total
03	2422	A+B	12.01	11.90	-	14.97
06	2437	A+B	15.97	15.91	-	18.95
09	2452	A+B	12.89	12.51	-	15.71
03	2422	A+C	12.30	-	12.55	15.44
06	2437	A+C	16.41	-	16.58	19.51
09	2452	A+C	13.05	-	13.52	16.30
03	2422	B+C	-	10.68	11.11	13.91
06	2437	B+C	-	15.86	16.19	19.04
09	2452	B+C	-	12.39	13.67	16.09

802.11n (BW 40M, 3Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT16				
		Combination	Chain A	Chain B	Chain C	Total
03	2422	A+B+C	9.13	9.19	9.49	14.04
06	2437	A+B+C	16.14	15.69	16.83	**21.02**
09	2452	A+B+C	11.12	11.10	12.12	16.24

802.11a

Channel	Frequency (MHz)	RF Power (dBm)		
		6 Mbps		
		Chain A	Chain B	Chain C
149	5745	15.54	16.01	15.75
157	5785	15.62	16.03	15.81
165	5825	15.91	15.68	**16.17**

802.11n (BW 20M, SISO)

Channel	Frequency (MHz)	RF Power (dBm)		
		HT0		
		Chain A	Chain B	Chain C
149	5745	15.85	16.16	15.94
157	5785	15.79	15.50	15.23
165	5825	16.28	15.58	15.07

802.11n (BW 20M, 2Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT8				
		Combination	Chain A	Chain B	Chain C	Total
149	5745	A+B	14.03	14.07	-	17.06
157	5785	A+B	14.56	14.21	-	17.40
165	5825	A+B	14.30	14.11	-	17.22
149	5745	A+C	13.86	-	14.16	17.02
157	5785	A+C	14.78	-	14.02	17.43
165	5825	A+C	14.03	-	13.81	16.93
149	5745	B+C	-	16.38	16.48	**19.44**
157	5785	B+C	-	16.45	16.23	19.35
165	5825	B+C	-	16.46	16.27	19.38

802.11n (BW 20M, 3Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT16				
		Combination	Chain A	Chain B	Chain C	Total
149	5745	A+B+C	13.17	13.77	14.06	18.45
157	5785	A+B+C	14.40	14.43	14.38	19.17
165	5825	A+B+C	14.29	14.27	14.41	19.09

802.11n (BW 40M, SISO)

Channel	Frequency (MHz)	RF Power (dBm)		
		HT0		
		Chain A	Chain B	Chain C
151	5755	14.97	15.11	14.43
159	5795	14.73	14.31	14.10

802.11n (BW 40M, 2Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT8				
		Combination	Chain A	Chain B	Chain C	Total
151	5755	A+B	15.35	14.99	-	18.18
159	5795	A+B	15.14	15.20	-	18.18
151	5755	A+C	13.78	-	13.75	16.78
159	5795	A+C	14.76	-	14.44	17.61
151	5755	B+C	-	13.61	13.78	16.71
159	5795	B+C	-	13.75	13.54	16.66

802.11n (BW 40M, 3Tx)

Channel	Frequency (MHz)	RF Power (dBm)				
		HT16				
		Combination	Chain A	Chain B	Chain C	Total
151	5755	A+B+C	13.57	13.92	14.01	**18.61**
159	5795	A+B+C	13.47	13.57	14.05	18.48

Remark:

1. The highest RF output power chain was chosen to completely test for all test cases, and was marked in bold word as shown above table, meanwhile, the highest RF output power of 11n modes also used a combiner for PSD, Spurious.
2. The EUT is programmed to transmit signal continuously for all testing.
3. SISO stands for only one chain transmit signals.
   2Tx stands for two chains transmit signals at the same time.
   3Tx stands for three chains transmit signals at the same time.

2.2 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). Pre-scanned tests, X,Y,Z in three orthogonal panels, were conducted to determine the final configuration from all possible combinations, laptop / tablet modes. Radiated band edge measurements were chosen from the highest RF output power of each chain individually and, for the n (HT-20/HT-40) modes, 2Tx (chain A+B, chain A+C, chain B+C) and 3Tx (chain A+B+C) active. The worst case modes for legacy mode, and n modes, were chosen from the highest RF output power chain, and the signal level of fundamental carrier for full radiated test measurements. The following table are showing the total pre-scanned test modes, and the worst case modes which are only recorded in this report.

For conducted test cases, the high, middle, low channels of legacy modes (802.11abg), and 802.11n mode (SISO, MIMO) were tested respectively by choosing the highest RF output power chain, and data rate from preliminary testing as shown in section 2.1.

For the 6dB bandwidth at MIMO mode, the mode 10,11,12 (low, mid., high channel,40M, 3Tx), and mode 16,17,18 (low, mid., high 20M, 2Tx) were tested on individual chain A, B, and C, and additionally tested with a combiner due to the maximum output power choosing from preliminary testing.

For the power spectral density and conducted spurious emissions, the individual chain A, B, and C was tested at the test mode 11, (middle channel,40M, 3Tx), and the individual chain B, and C was tested at the test mode 17, (middle channel,20M, 2Tx) due to the maximum output power choosing from preliminary testing.

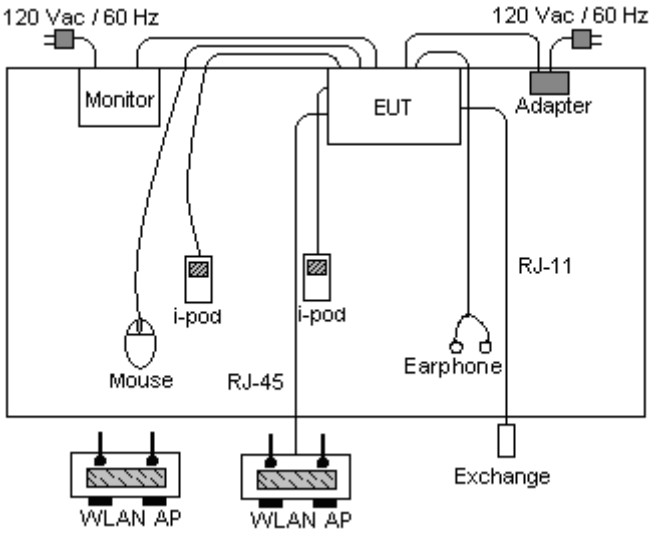
Test Cases		
Test Item	Modulation	
	802.11b/g/n	802.11a/n
Conducted TCs	■ Mode 1: 802.11b_CH01_2412 MHz ■ Mode 2: 802.11b_CH06_2437 MHz ■ Mode 3: 802.11b_CH11_2462 MHz ■ Mode 4: 802.11g_CH01_2412 MHz ■ Mode 5: 802.11g_CH06_2437 MHz ■ Mode 6: 802.11g_CH11_2462 MHz ■ Mode 7: 802.11n (20M, 3Tx)_CH01_2412 MHz ■ Mode 8: 802.11n (20M, 3Tx)_CH06_2437 MHz ■ Mode 9: 802.11n (20M, 3Tx)_CH11_2462 MHz ■ Mode 10: 802.11n (40M, 3Tx)_CH03_2422 MHz ■ Mode 11: 802.11n (40M, 3Tx)_CH06_2437 MHz ■ Mode 12: 802.11n (40M, 3Tx)_CH09_2452 MHz	■ Mode 13: 802.11a_CH149_5745 MHz ■ Mode 14: 802.11a_CH157_5785 MHz ■ Mode 15: 802.11a_CH165_5825 MHz ■ Mode 16: 802.11n (20M, 2Tx)_CH149_5745 MHz ■ Mode 17: 802.11n (20M, 2Tx)_CH157_5785 MHz ■ Mode 18: 802.11n (20M, 2Tx)_CH165_5825 MHz ■ Mode 19: 802.11n (40M, 3Tx)_CH151_5755 MHz ■ Mode 20: 802.11n (40M, 3Tx)_CH159_5795 MHz
Radiated TCs	■ Mode 1: 802.11b_CH01_2412 MHz ■ Mode 2: 802.11b_CH06_2437 MHz ■ Mode 3: 802.11b_CH11_2462 MHz ■ Mode 4: 802.11g_CH01_2412 MHz ■ Mode 5: 802.11g_CH06_2437 MHz ■ Mode 6: 802.11g_CH11_2462 MHz ■ Mode 7: 802.11n (20M, SISO)_CH01_2412 MHz ■ Mode 8: 802.11n (20M, SISO)_CH06_2437 MHz ■ Mode 9: 802.11n (20M, SISO)_CH11_2462 MHz ■ Mode 10: 802.11n (20M, 2Tx)_CH01_2412 MHz ■ Mode 11: 802.11n (20M, 2Tx)_CH06_2437 MHz ■ Mode 12: 802.11n (20M, 2Tx)_CH11_2462 MHz ■ Mode 13: 802.11n (20M, 3Tx)_CH01_2412 MHz ■ Mode 14: 802.11n (20M, 3Tx)_CH06_2437 MHz ■ Mode 15: 802.11n (20M, 3Tx)_CH11_2462 MHz ■ Mode 16: 802.11n (40M, SISO)_CH03_2422 MHz ■ Mode 17: 802.11n (40M, SISO)_CH06_2437 MHz ■ Mode 18: 802.11n (40M, SISO)_CH09_2452 MHz ■ Mode 19: 802.11n (40M, 2Tx)_CH03_2422 MHz ■ Mode 20: 802.11n (40M, 2Tx)_CH06_2437 MHz ■ Mode 21: 802.11n (40M, 2Tx)_CH09_2452 MHz ■ Mode 22: 802.11n (40M, 3Tx)_CH03_2422 MHz ■ Mode 23: 802.11n (40M, 3Tx)_CH06_2437 MHz ■ Mode 24: 802.11n (40M, 3Tx)_CH09_2452 MHz	■ Mode 25: 802.11a_CH149_5745 MHz ■ Mode 26: 802.11a_CH157_5785 MHz ■ Mode 27: 802.11a_CH165_5825 MHz ■ Mode 28: 802.11n (20M, SISO)_CH149_5745 MHz ■ Mode 29: 802.11n (20M, SISO)_CH157_5785 MHz ■ Mode 30: 802.11n (20M, SISO)_CH165_5825 MHz ■ Mode 31: 802.11n (20M, 2Tx)_CH149_5745 MHz ■ Mode 32: 802.11n (20M, 2Tx)_CH157_5785 MHz ■ Mode 33: 802.11n (20M, 2Tx)_CH165_5825 MHz ■ Mode 34: 802.11n (20M, 3Tx)_CH149_5745 MHz ■ Mode 35: 802.11n (20M, 3Tx)_CH157_5785 MHz ■ Mode 36: 802.11n (20M, 3Tx)_CH165_5825 MHz ■ Mode 37: 802.11n (40M, SISO)_CH151_5755 MHz ■ Mode 38: 802.11n (40M, SISO)_CH159_5795 MHz ■ Mode 39: 802.11n (40M, 2Tx)_CH151_5755 MHz ■ Mode 40: 802.11n (40M, 2Tx)_CH159_5795 MHz ■ Mode 41: 802.11n (40M, 3Tx)_CH151_5755 MHz ■ Mode 42: 802.11n (40M, 3Tx)_CH159_5795 MHz
AC Conducted Emission	Mode 1 : WLAN Link + Adapter	

Remark:

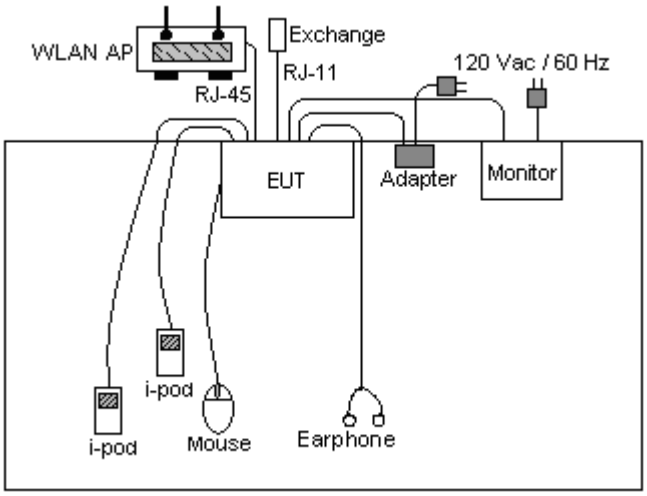
1. Test modes 1 ~ 3, 22 ~ 24 and 34 ~ 36 were tested for radiated emission < 1GHz, because those modes were the worst cases of spurious radiated emission above 1 GHz.
2. SISO stands for only one chain transmit signals.
   2Tx stands for two chains transmit signals at the same time.
   3TX stands for three chains transmit signals at the same time.

2.3 Connection Diagram of Test System

<Conducted Emission>



<Radiated Emission>



2.4 RF Utility

The programmed RF Utility is installed in EUT 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 6dB Bandwidth Measurement

3.1.1 Limit of 6dB Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

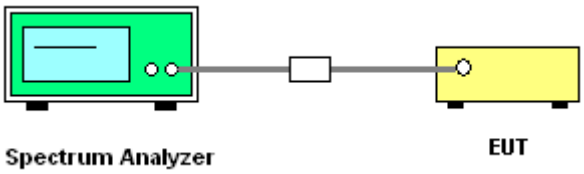
3.1.2 Measuring Instruments

See list of measuring instruments of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. In order to make an accurate measurement, set the span greater than RBW. The 6 dB bandwidth must be greater than 500 kHz.
4. The marker-delta reading at this point is the 6 dB bandwidth of the emission.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Test Mode :	Mode 1, 2, 3 (Chain C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	12.04	0.5	Pass
06	2437	12.04	0.5	Pass
11	2462	12.04	0.5	Pass

Test Mode :	Mode 4, 5, 6 (Chain B)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	15.88	0.5	Pass
06	2437	15.76	0.5	Pass
11	2462	15.12	0.5	Pass

Test Mode :	Mode 7, 8, 9 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
01	2412	16.72	0.5	Pass
06	2437	16.96	0.5	Pass
11	2462	16.92	0.5	Pass

Test Mode :	Mode 10, 11, 12 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)				6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		A+B+C	A	B	C		
03	2422 MHz	35.20	36.32	36.40	36.16	0.5	Pass
06	2437 MHz	35.20	36.32	36.32	36.40	0.5	Pass
09	2452 MHz	35.20	36.32	36.32	36.16	0.5	Pass

Note: Chain A+B+C was tested by combiner, and the chain A, B, and C was tested individually.

Test Mode :	Mode 13, 14, 15 (Chain C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
149	5745	16.36	0.5	Pass
157	5785	16.36	0.5	Pass
165	5825	16.36	0.5	Pass

Test Mode :	Mode 16, 17, 18 (Chain B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)			6dB Bandwidth Min. Limit (MHz)	Pass/Fail
		B+C	B	C		
149	5745	17.60	17.64	17.64	0.5	Pass
157	5785	17.60	17.64	17.64	0.5	Pass
165	5825	17.60	17.64	17.64	0.5	Pass

Note: Chain B+C was tested by combiner, and the chain B and C was tested individually.

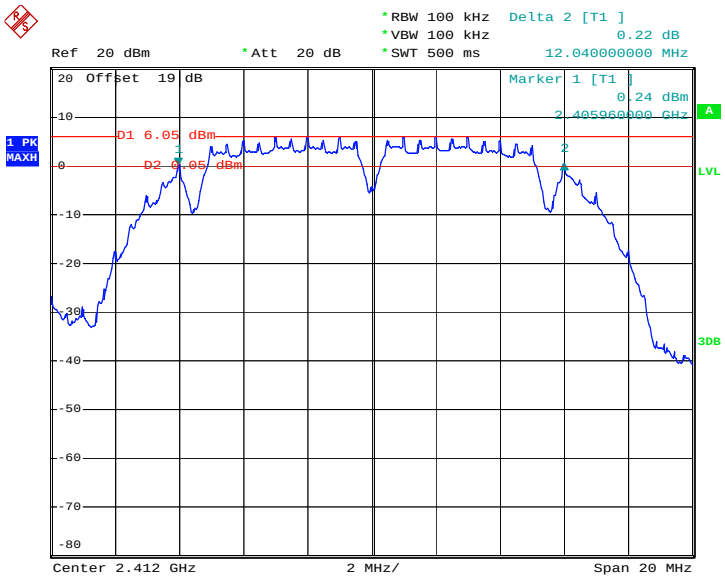
Test Mode :	Mode 19, 20 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	6dB Bandwidth (MHz)	6dB Bandwidth Min. Limit (MHz)	Pass/Fail
151	5755	34.48	0.5	Pass
159	5795	34.48	0.5	Pass

3.1.6 Test Result of 6dB Bandwidth Plots

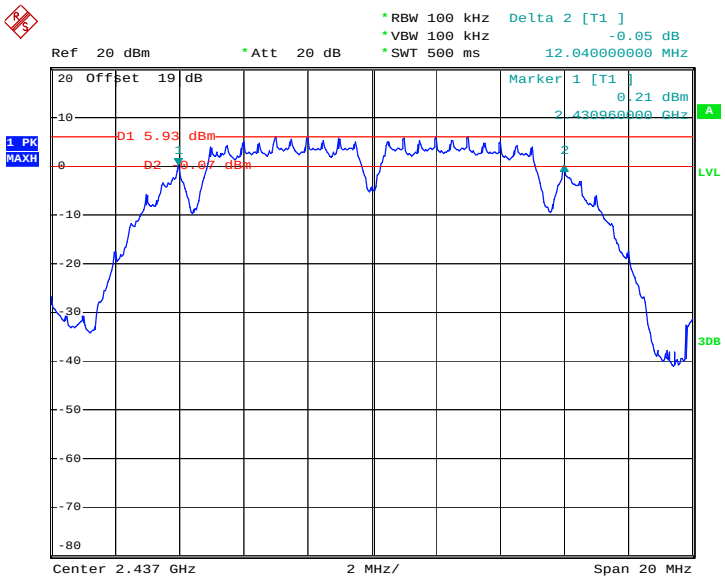
Mode 1 : 6 dB Bandwidth Plot on 802.11b Channel 01

Chain C



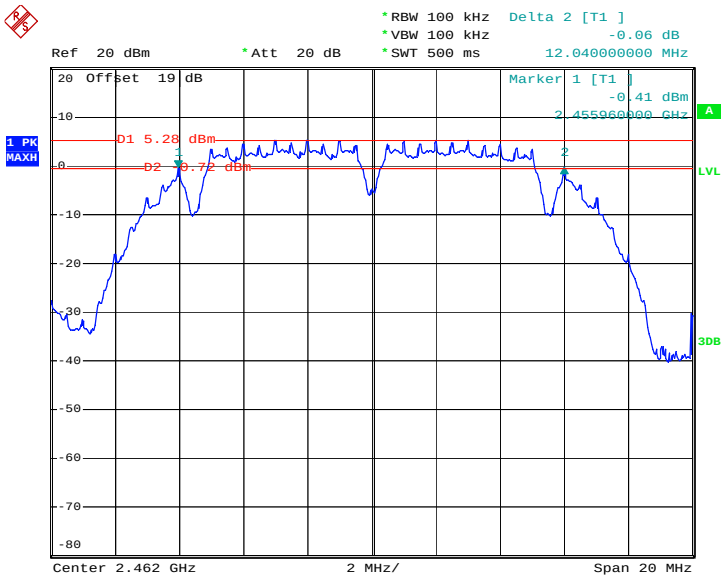
Mode 2 : 6 dB Bandwidth Plot on 802.11b Channel 06

Chain C



Mode 3 : 6 dB Bandwidth Plot on 802.11b Channel 11

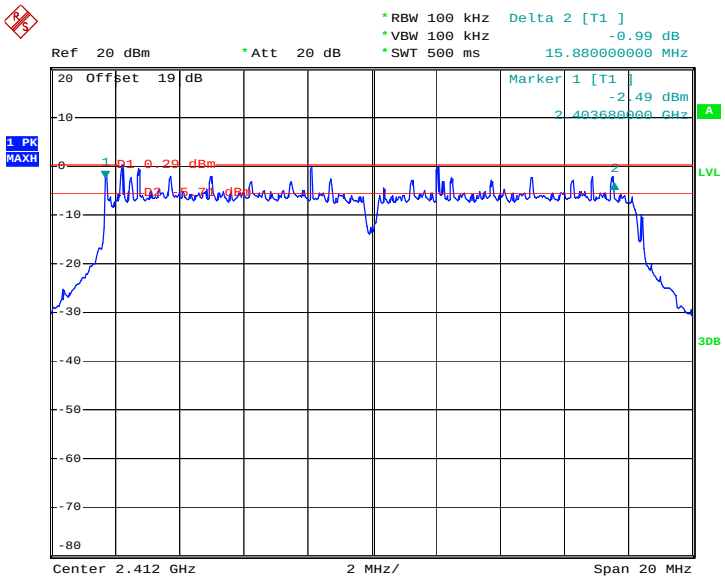
Chain C



Date: 5.DEC.2008 09:57:08

Mode 4 : 6 dB Bandwidth Plot on 802.11g Channel 01

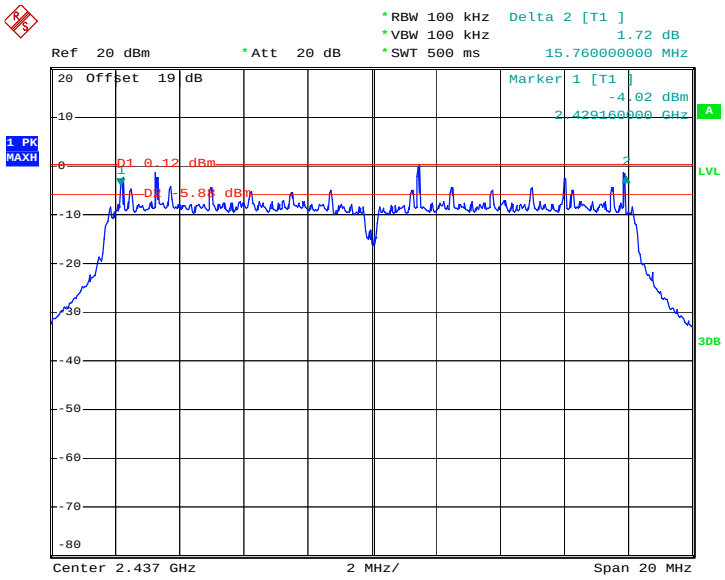
Chain B



Date: 3.DEC.2008 20:14:22

Mode 5 : 6 dB Bandwidth Plot on 802.11g Channel 06

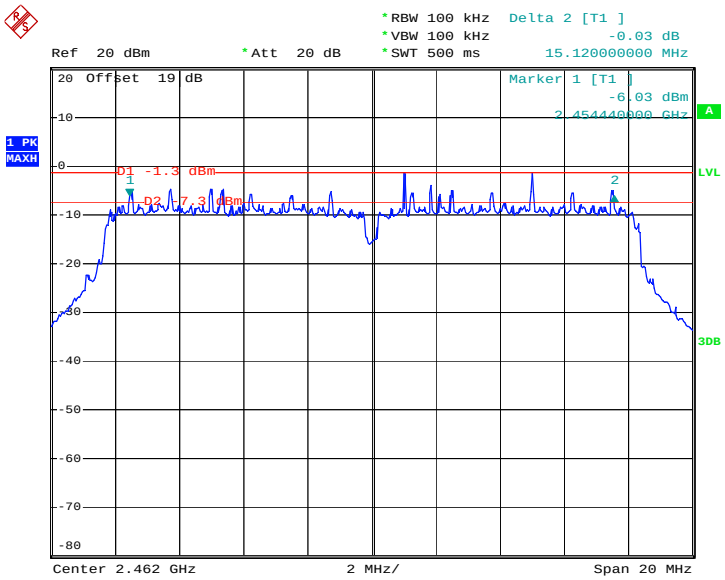
Chain B



Date: 3.DEC.2008 20:16:45

Mode 6 : 6 dB Bandwidth Plot on 802.11g Channel 11

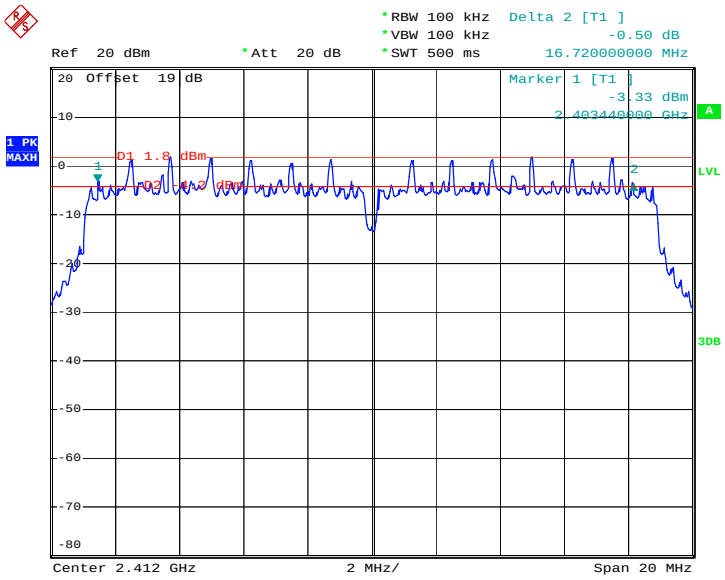
Chain B



Date: 4.DEC.2008 22:03:42

Mode 7 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 01

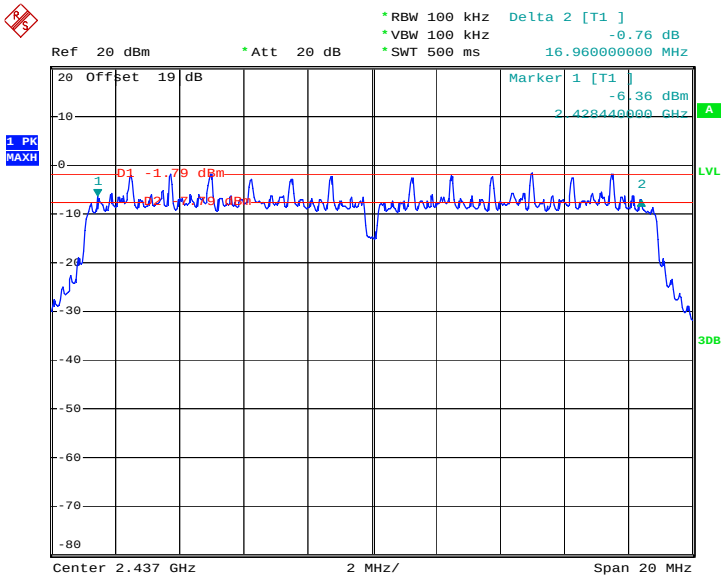
Chain A+B+C



Date: 4.DEC.2008 22:11:21

Mode 8 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 06

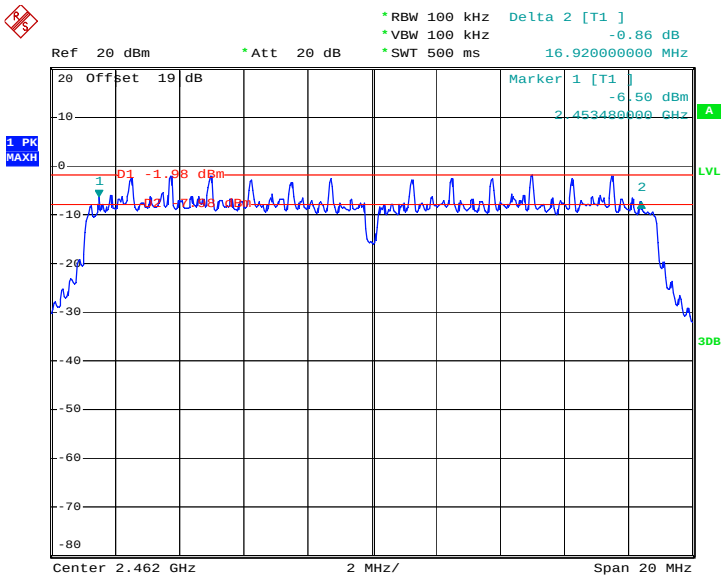
Chain A+B+C



Date: 3.DEC.2008 21:14:19

Mode 9 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 11

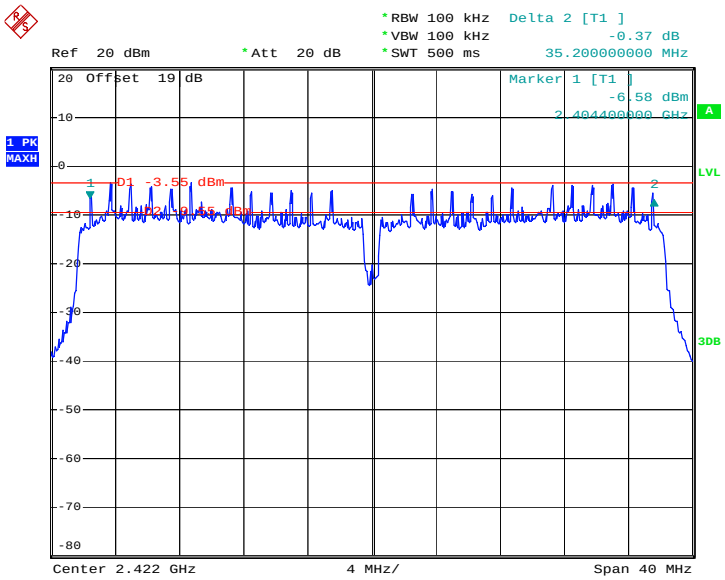
Chain A+B+C



Date: 3.DEC.2008 21:15:41

Mode 10 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 03

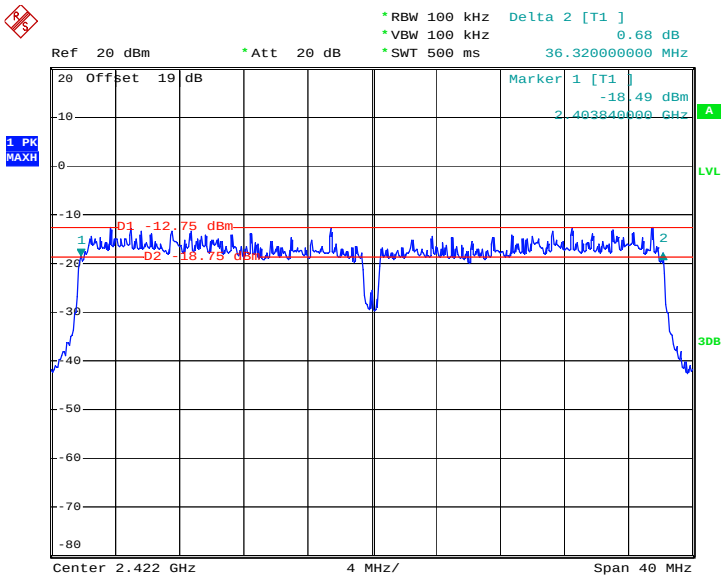
Chain A+B+C



Date: 4.DEC.2008 22:34:26

Mode 10 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 03

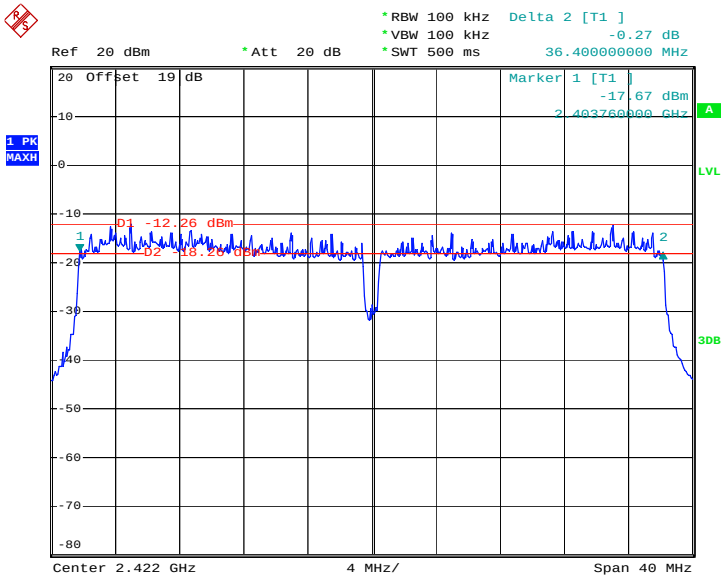
Chain A of Chain A+B+C



Date: 16.JAN.2009 10:43:48

Mode 10 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 03

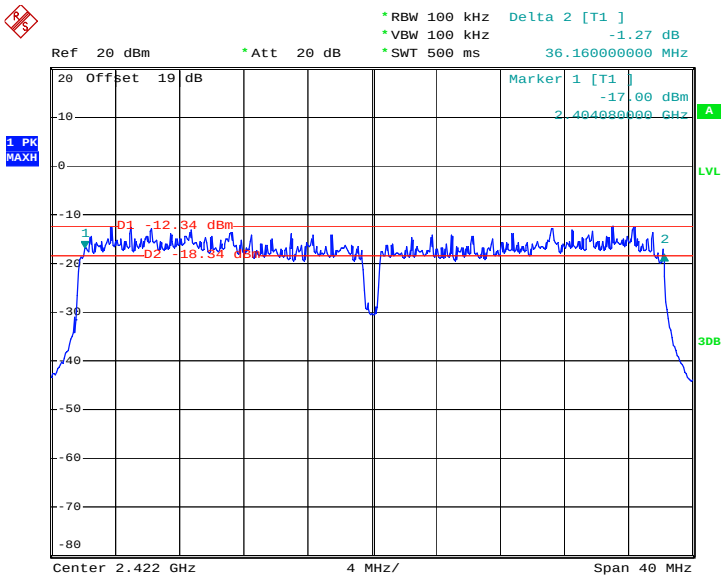
Chain B of Chain A+B+C



Date: 16.JAN.2009 10:45:42

Mode 10 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 03

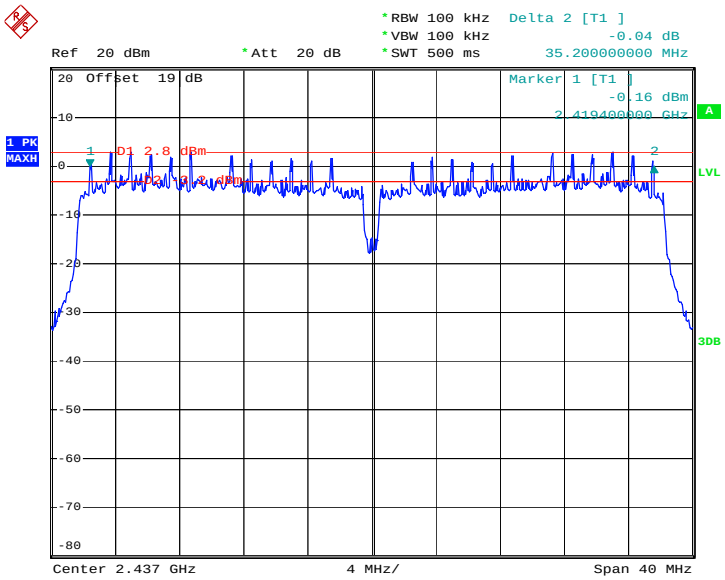
Chain C of Chain A+B+C



Date: 16.JAN.2009 10:47:38

Mode 11 : 6 dB Bandwidth Plot on802.11n(40M) Channel 06

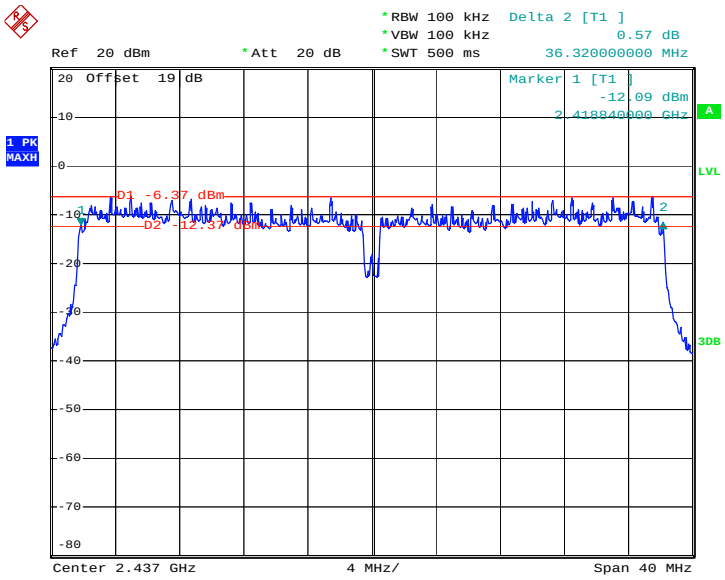
Chain A+B+C



Date: 4.DEC.2008 22:36:28

Mode 11 : 6 dB Bandwidth Plot on802.11n(40M) Channel 06

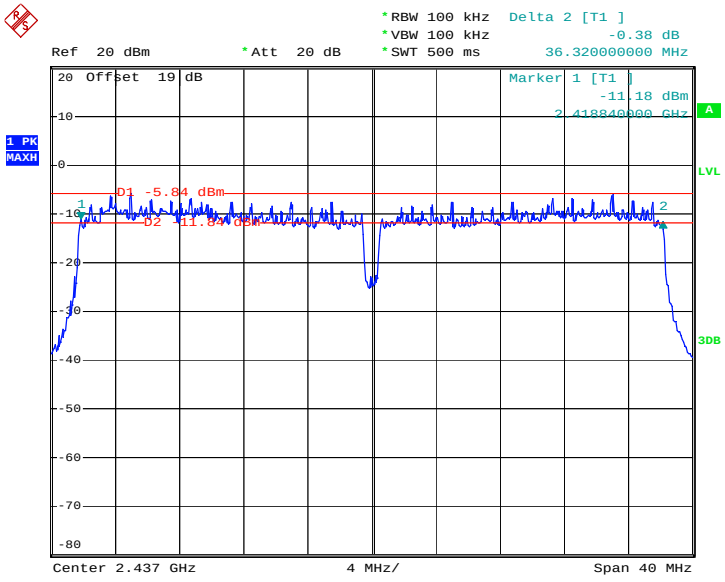
Chain A of Chain A+B+C



Date: 16.JAN.2009 10:52:36

Mode 11 : 6 dB Bandwidth Plot on802.11n(40M) Channel 06

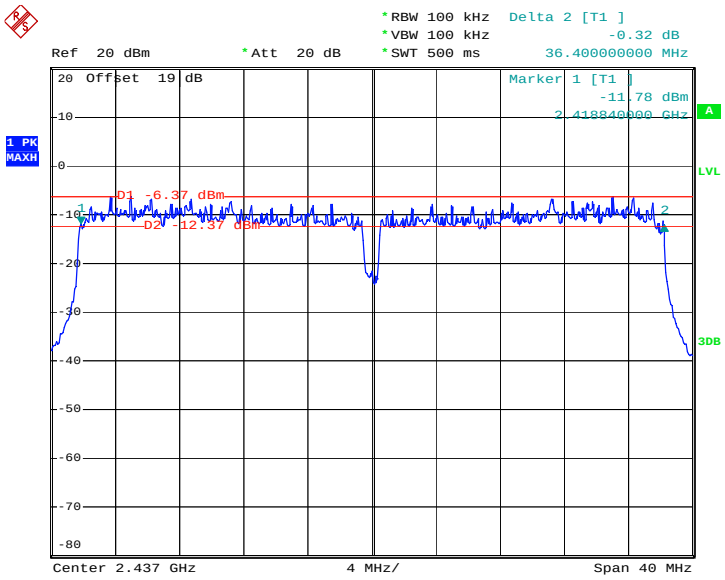
Chain B of Chain A+B+C



Date: 16.JAN.2009 10:51:09

Mode 11 : 6 dB Bandwidth Plot on802.11n(40M) Channel 06

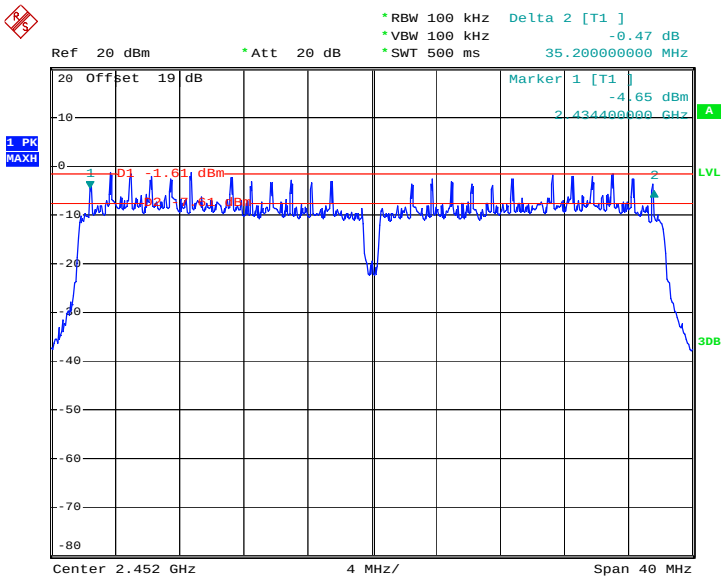
Chain C of Chain A+B+C



Date: 16.JAN.2009 10:49:45

Mode 12 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 09

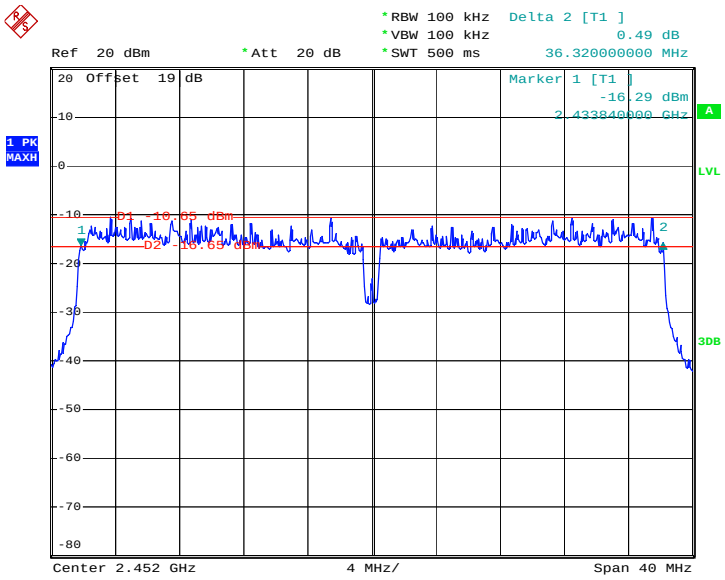
Chain A+B+C



Date: 4.DEC.2008 22:37:52

Mode 12 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 09

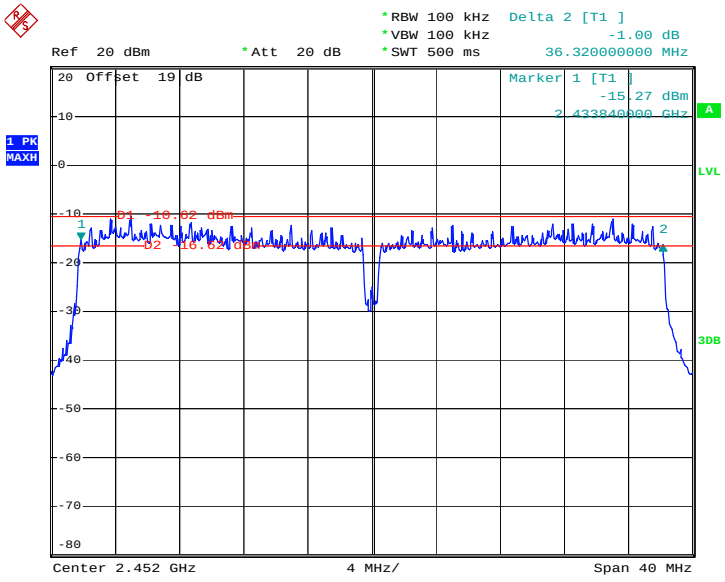
Chain A of Chain A+B+C



Date: 16.JAN.2009 11:01:50

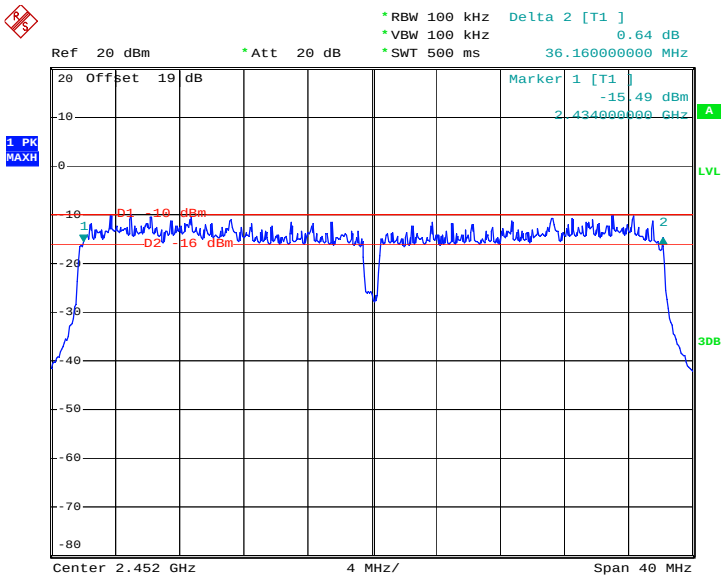
Mode 12 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 09

Chain B of Chain A+B+C



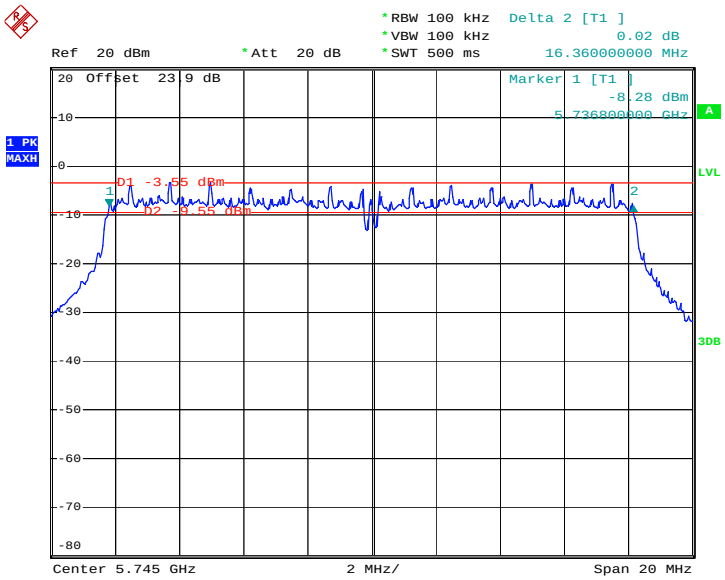
Date: 16.JAN.2009 11:04:04

Mode 12 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 09 Chain C of Chain A+B+C



Date: 16.JAN.2009 11:06:16

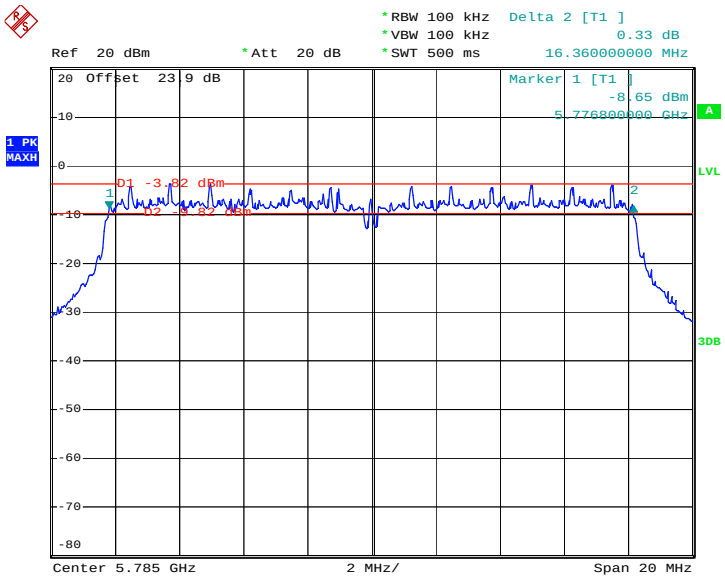
Mode 13 : 6 dB Bandwidth Plot on 802.11a Channel 149 Chain C



Date: 5.DEC.2008 18:51:18

Mode 14 : 6 dB Bandwidth Plot on 802.11a Channel 157

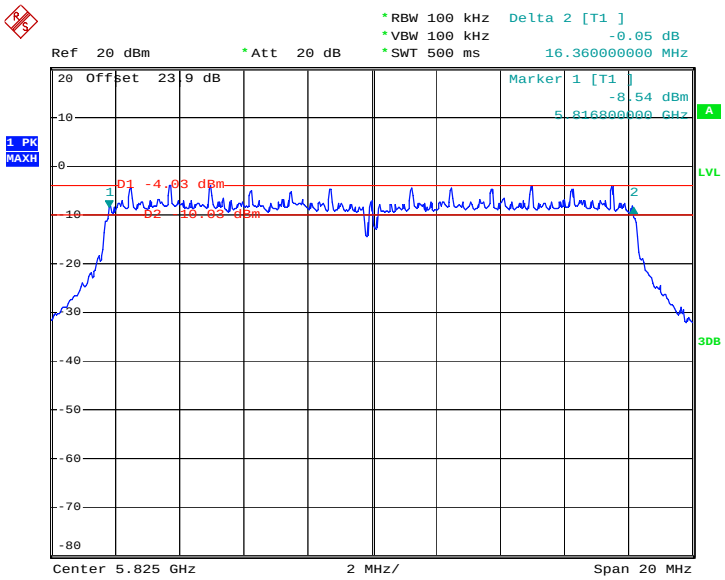
Chain C



Date: 5.DEC.2008 18:56:40

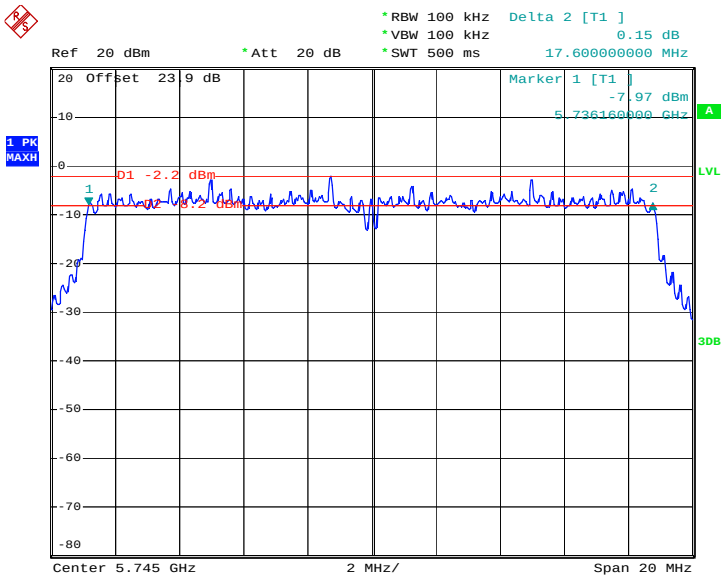
Mode 15 : 6 dB Bandwidth Plot on 802.11a Channel 165

Chain C



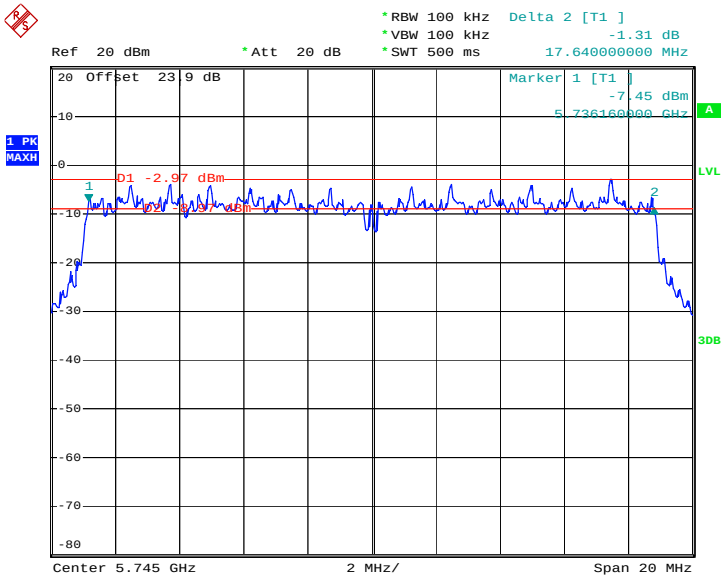
Date: 5.DEC.2008 18:58:43

Mode 16 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 149 Chain B+C



Date: 5.DEC.2008 19:39:36

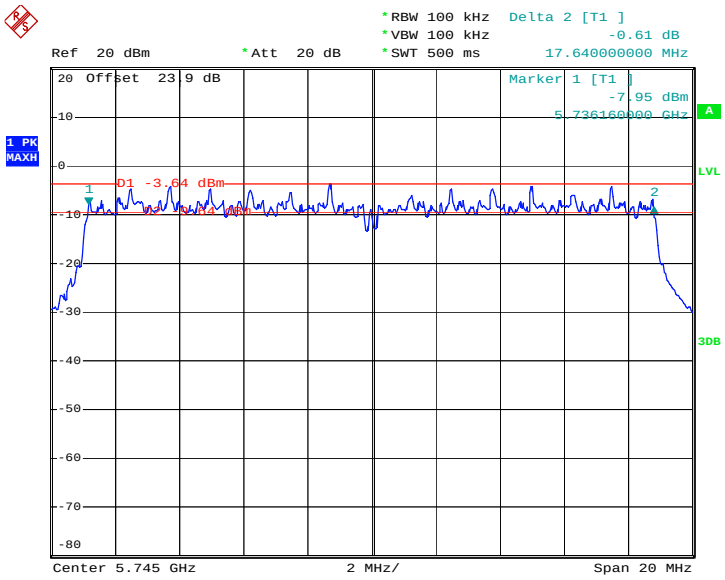
Mode 16 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 149 Chain B of Chain B+C



Date: 16.JAN.2009 13:25:28

Mode 16 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 149

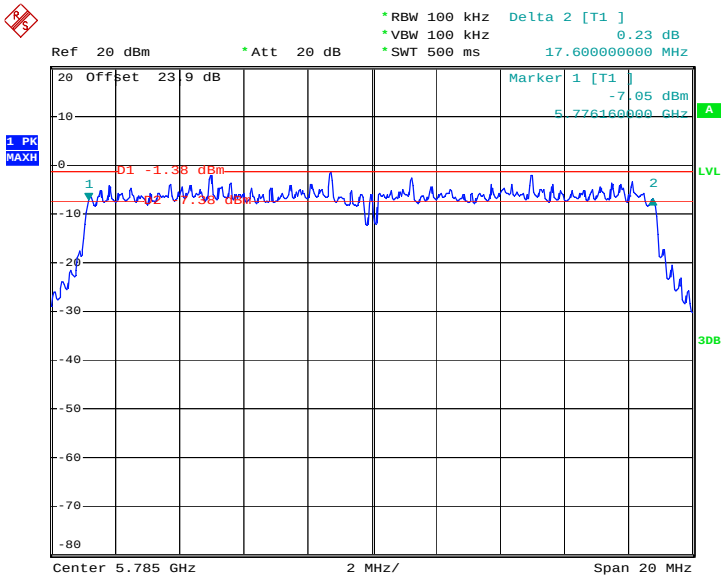
Chain C of Chain B+C



Date: 16.JAN.2009 13:23:58

Mode 17 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 157

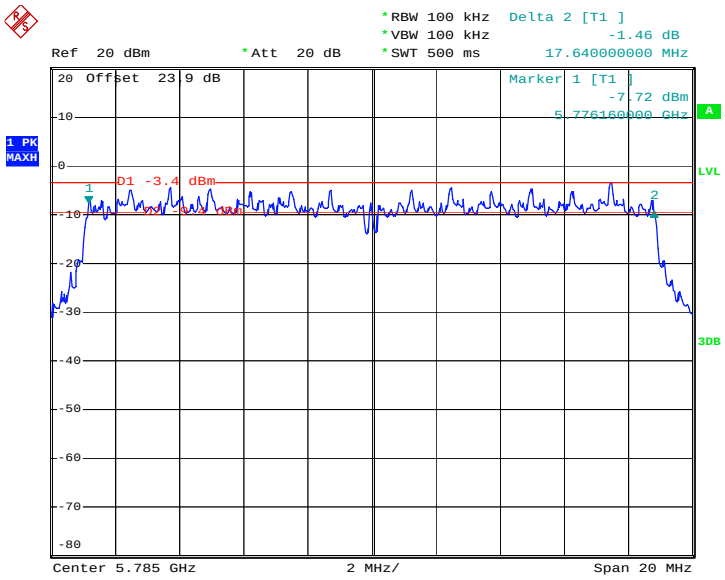
Chain B+C



Date: 5.DEC.2008 19:46:38

Mode 17 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 157

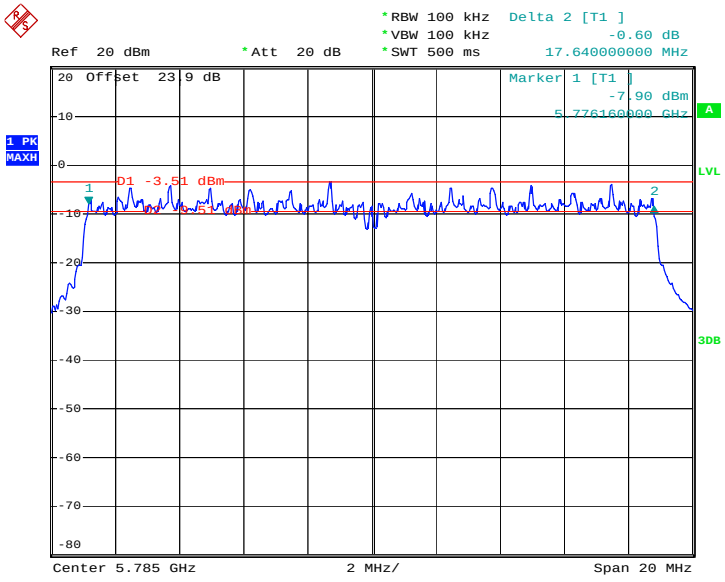
Chain B of Chain B+C



Date: 16.JAN.2009 13:22:06

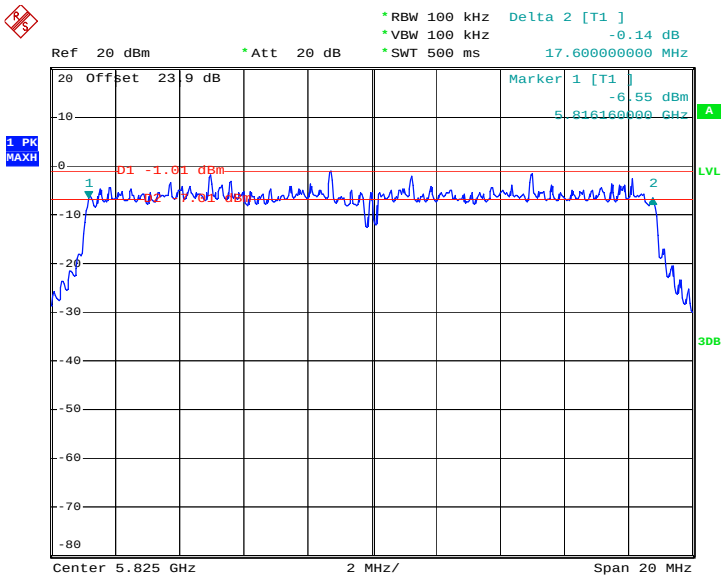
Mode 17 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 157

Chain C of Chain B+C



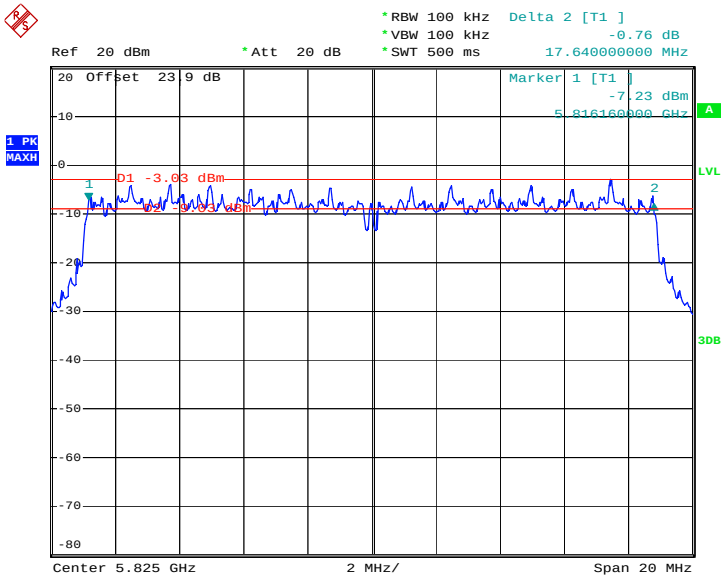
Date: 16.JAN.2009 13:23:14

Mode 18 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 165 Chain B+C



Date: 5.DEC.2008 19:48:21

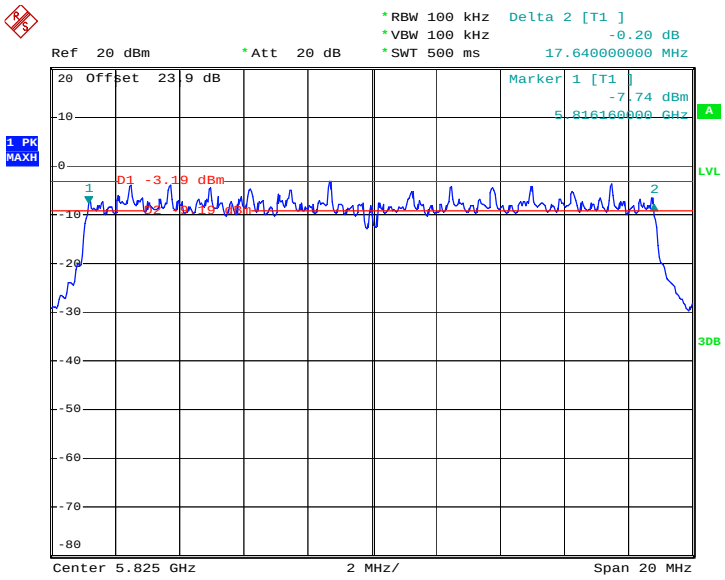
Mode 18 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 165 Chain B of Chain B+C



Date: 16.JAN.2009 13:21:04

Mode 18 : 6 dB Bandwidth Plot on 802.11n(20M) Channel 165

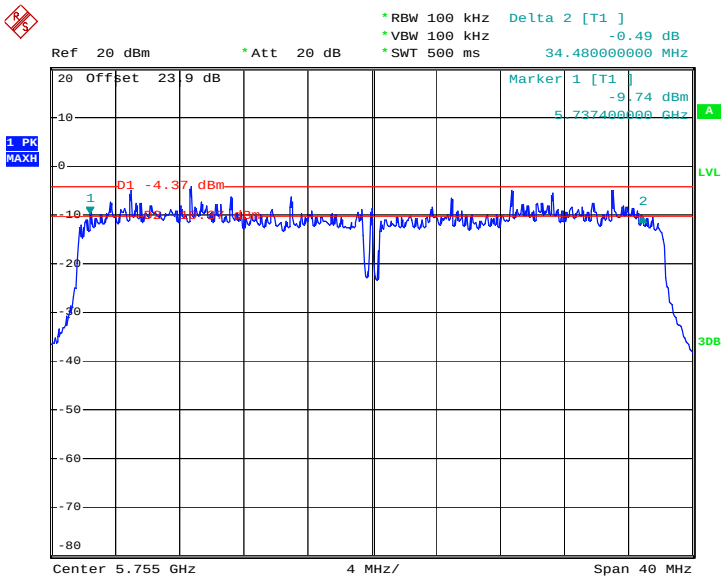
Chain C of Chain B+C



Date: 16.JAN.2009 13:20:08

Mode 19 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 151

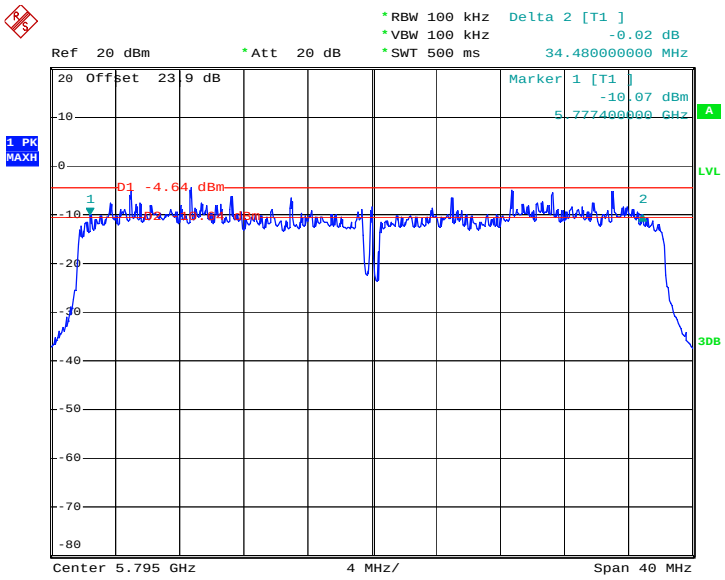
Chain A+B+C



Date: 5.DEC.2008 20:17:54

Mode 20 : 6 dB Bandwidth Plot on 802.11n(40M) Channel 159

Chain A+B+C



Date: 5.DEC.2008 20:19:47

3.2 Power Output Measurement

3.2.1 Limit of Power Output

For systems using digital modulation in the 2400-2483.5MHz and 5725-5850 MHz, the limit for peak output power is 30dBm. If transmitting antenna of directional gain greater than 6dBi are used the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

3.2.2 Measuring Instruments

See list of measuring instruments of this test report.

3.2.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Measure the power by spectrum analyzer.

3.2.4 Test Setup

3.2.5 Test Result of Power Output

Test Mode :	Mode 1, 2, 3 (Chain C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	17.50	30	Pass
06	2437	17.62	30	Pass
11	2462	17.18	30	Pass

Test Mode :	Mode 4, 5, 6 (Chain B)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	16.83	30	Pass
06	2437	15.38	30	Pass
11	2462	13.39	30	Pass

Test Mode :	Mode 7, 8, 9 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	17.01	30	Pass
06	2437	17.36	30	Pass
11	2462	17.10	30	Pass

Test Mode :	Mode 10, 11, 12 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
03	2422	14.04	30	Pass
06	2437	21.02	30	Pass
09	2452	16.24	30	Pass

Test Mode :	Mode 13, 14, 15 (Chain C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	15.75	30	Pass
157	5785	15.81	30	Pass
165	5825	16.17	30	Pass

Test Mode :	Mode 16, 17, 18 (Chain B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

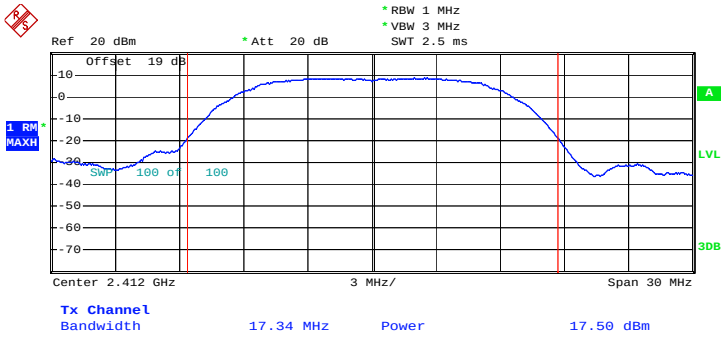
Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	19.44	30	Pass
157	5785	19.35	30	Pass
165	5825	19.38	30	Pass

Test Mode :	Mode 19, 20 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured Power Output (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	18.61	30	Pass
159	5795	18.48	30	Pass

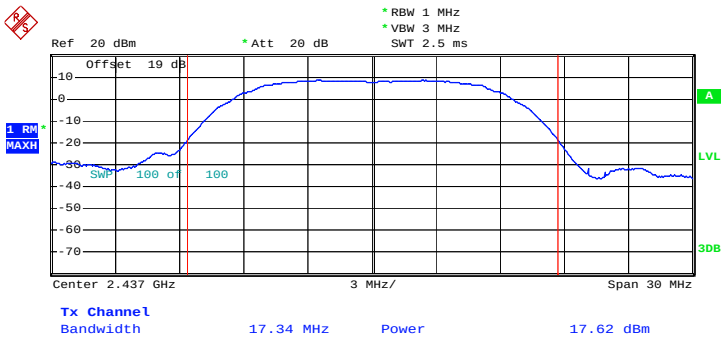
3.2.6 Test Result of Power Output Plots

Mode 1 : Channel Power Plot on 802.11b Channel 01



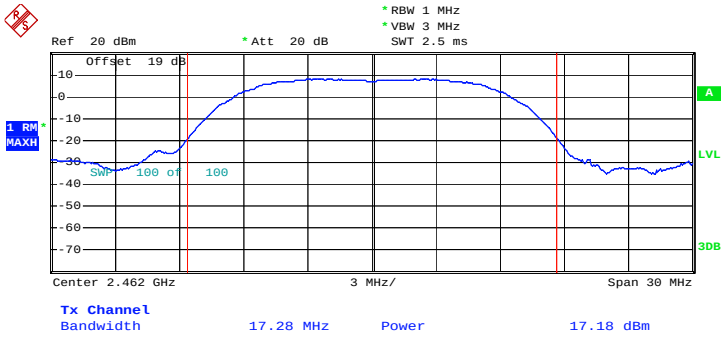
Date: 25.NOV.2008 09:42:32

Mode 2 : Channel Power Plot on 802.11b Channel 06



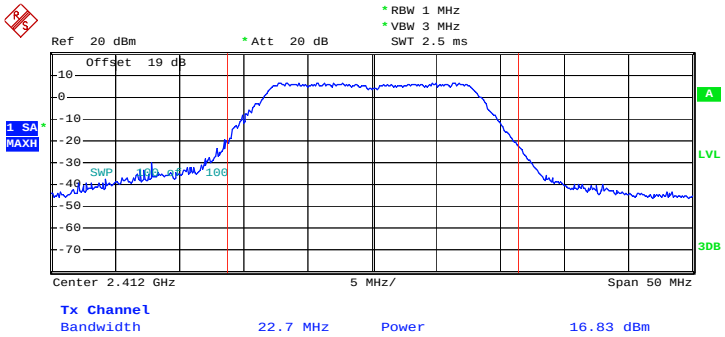
Date: 25.NOV.2008 09:41:58

Mode 3 : Channel Power Plot on 802.11b Channel 11



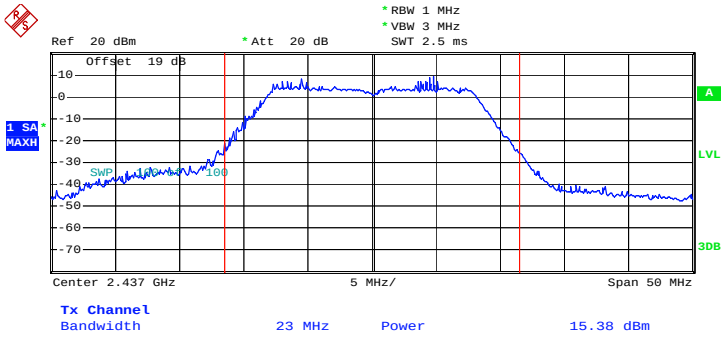
Date: 25.NOV.2008 09:41:10

Mode 4 : Channel Power Plot on 802.11g Channel 01



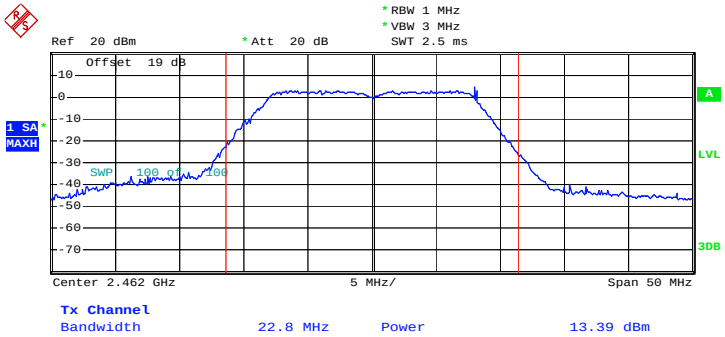
Date: 25.NOV.2008 08:36:52

Mode 5 : Channel Power Plot on 802.11g Channel 06



Date: 25.NOV.2008 09:48:55

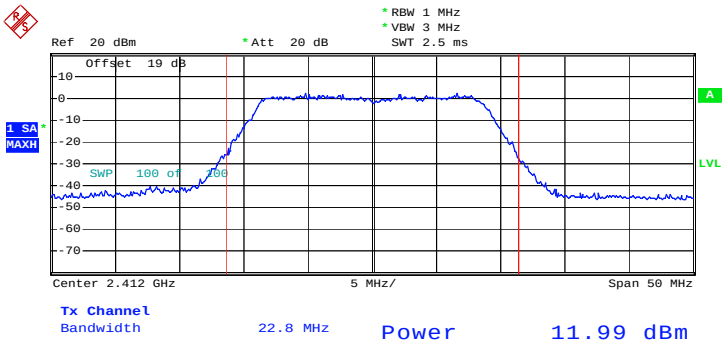
Mode 6 : Channel Power Plot on 802.11g Channel 11



Date: 25.NOV.2008 08:43:12

Mode 7 : Channel Power Plot on 802.11n(20M) Channel 01_Chain A+B+C

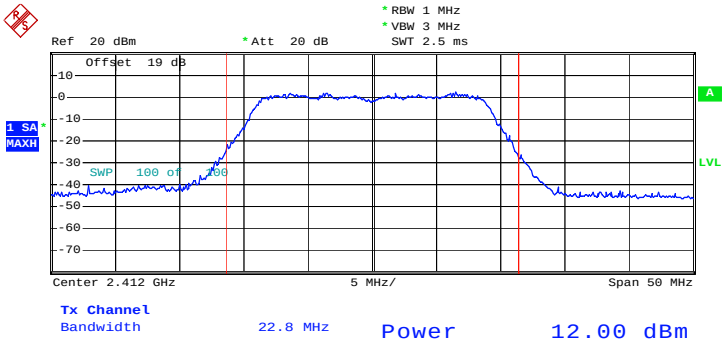
Chain A



2nd comment ...

Date: 31.DEC.2008 16:37:29

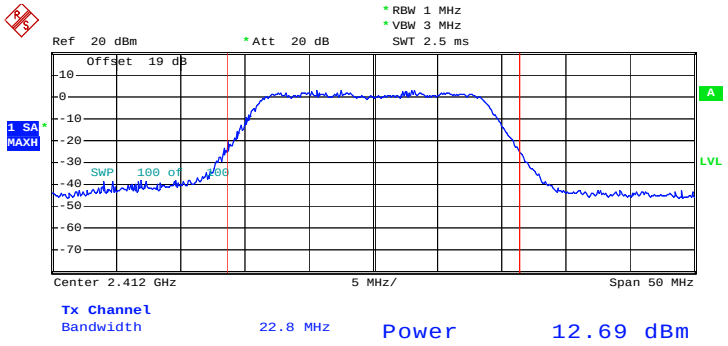
Chain B



2nd comment ...

Date: 31.DEC.2008 16:38:33

Chain C

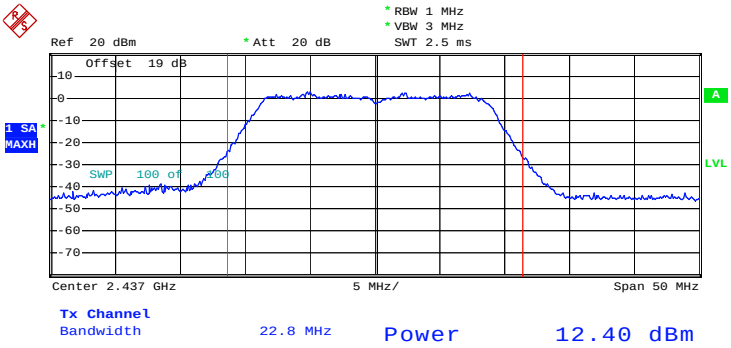


2nd comment ...

Date: 31.DEC.2008 16:39:20

Mode 8 : Channel Power Plot on 802.11n(20M) Channel 06_Chain A+B+C

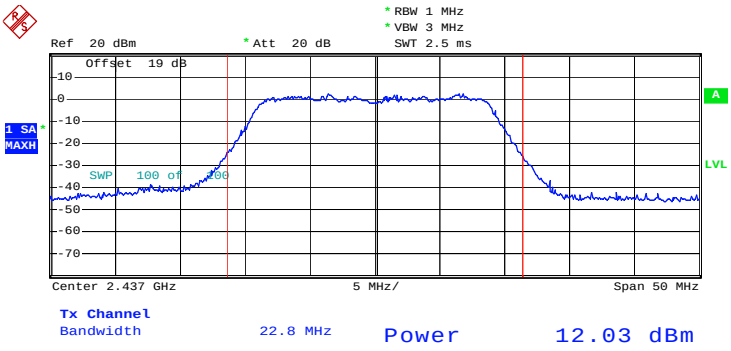
Chain A



2nd comment ...

Date: 31.DEC.2008 16:41:57

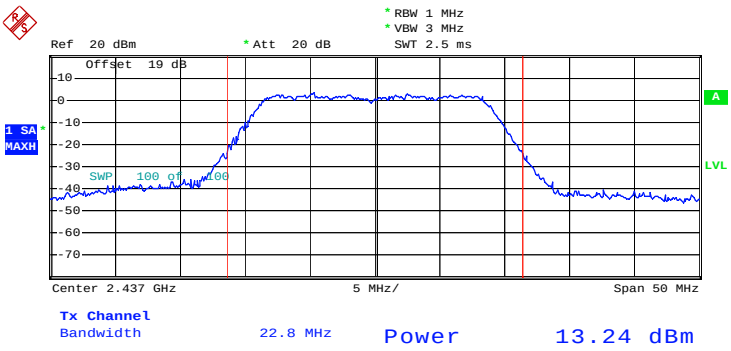
Chain B



2nd comment ...

Date: 31.DEC.2008 16:41:04

Chain C

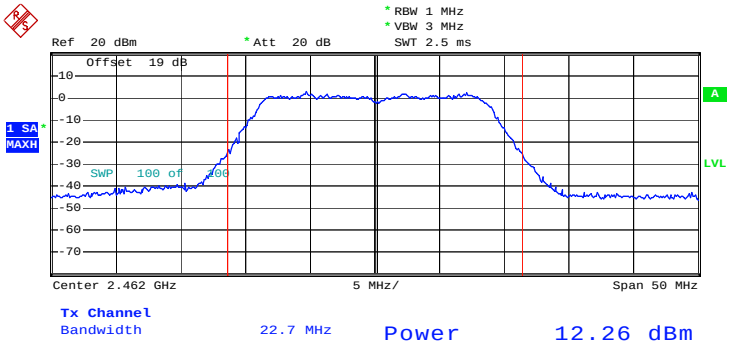


2nd comment ...

Date: 31.DEC.2008 16:40:19

Mode 9 : Channel Power Plot on 802.11n(20M) Channel 11_Chain A+B+C

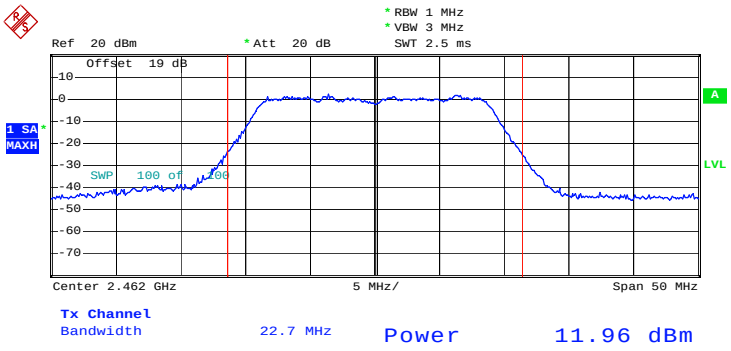
Chain A



2nd comment ...

Date: 31.DEC.2008 16:43:14

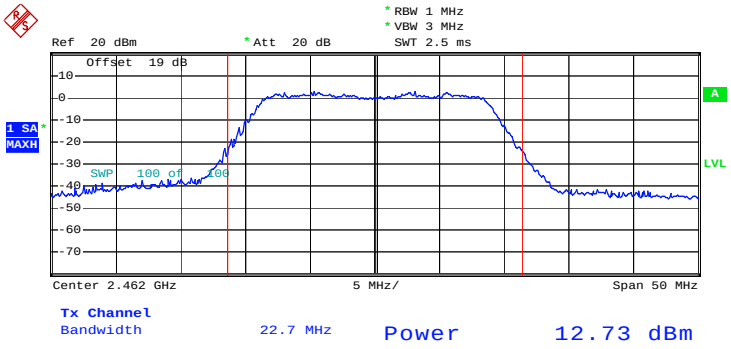
Chain B



2nd comment ...

Date: 31.DEC.2008 16:44:48

Chain C

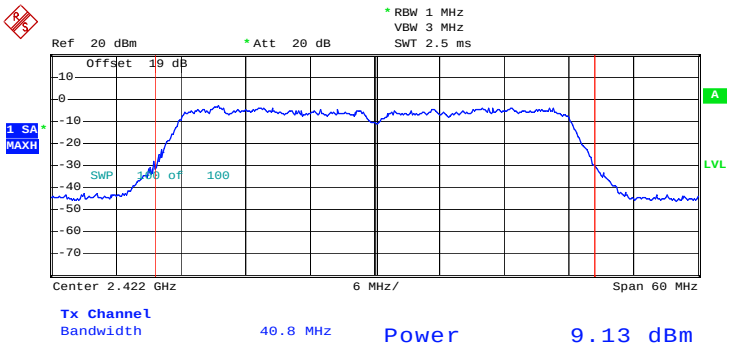


2nd comment ...

Date: 31.DEC.2008 16:45:51

Mode 10 : Channel Power Plot on 802.11n(40M) Channel 03_Chain A+B+C

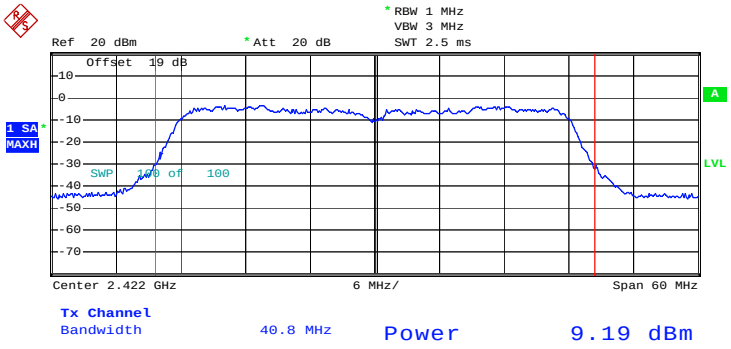
Chain A



2nd comment ...

Date: 31.DEC.2008 20:43:35

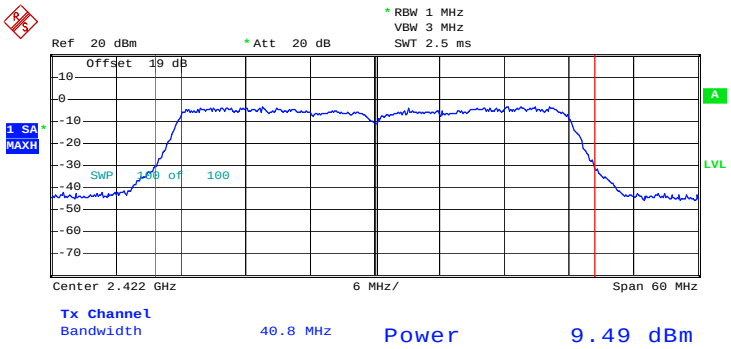
Chain B



2nd comment ...

Date: 31.DEC.2008 20:42:45

Chain C

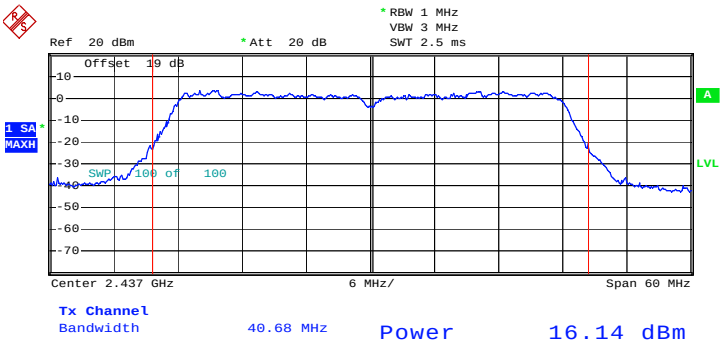


2nd comment ...

Date: 31.DEC.2008 20:44:28

Mode 11 : Channel Power Plot on 802.11n(40M) Channel 06_Chain A+B+C

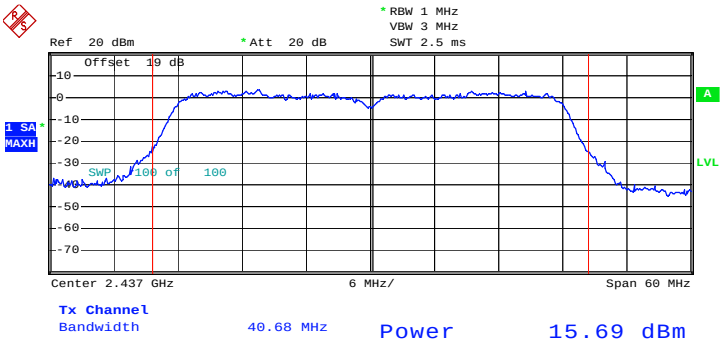
Chain A



2nd comment ...

Date: 31.DEC.2008 20:58:01

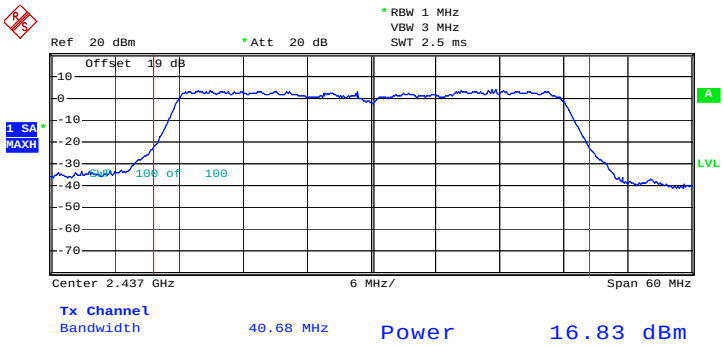
Chain B



2nd comment ...

Date: 31.DEC.2008 20:59:06

Chain C

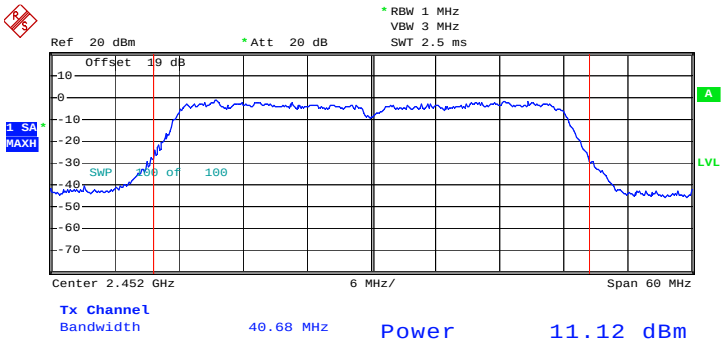


2nd comment ...

Date: 31.DEC.2008 20:55:54

Mode 12 : Channel Power Plot on 802.11n(40M) Channel 09_Chain A+B+C

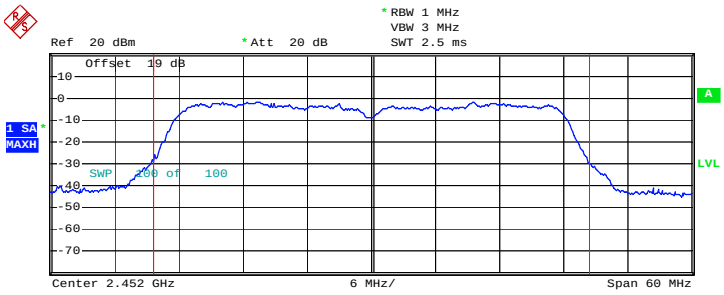
Chain A



2nd comment ...

Date: 31.DEC.2008 21:03:32

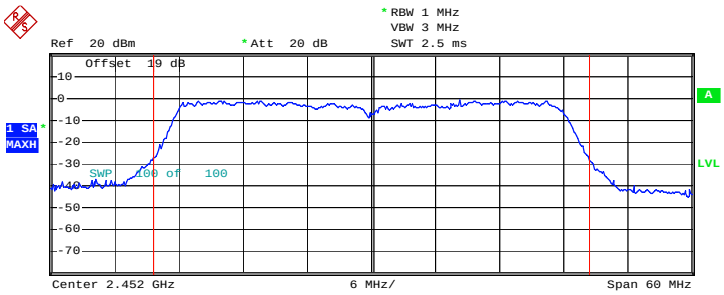
Chain B



2nd comment ...

Date: 31.DEC.2008 21:02:23

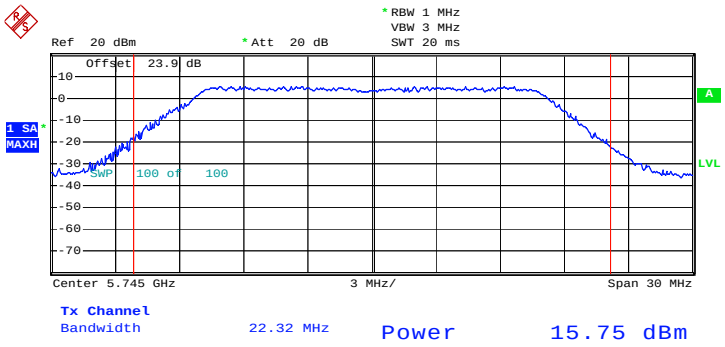
Chain C



2nd comment ...

Date: 31.DEC.2008 21:04:54

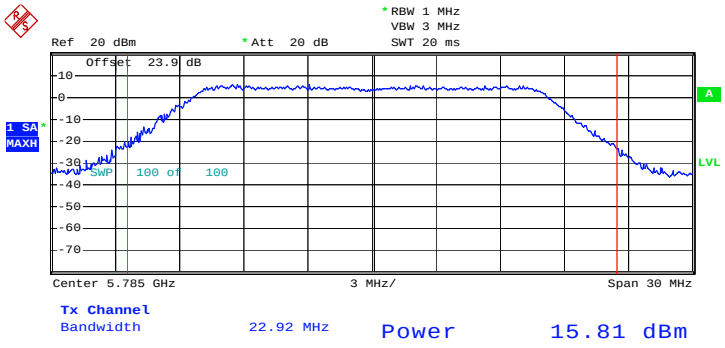
Mode 13 : Channel Power Plot on 802.11a Channel 149



2nd comment ...

Date: 28.NOV.2008 18:11:54

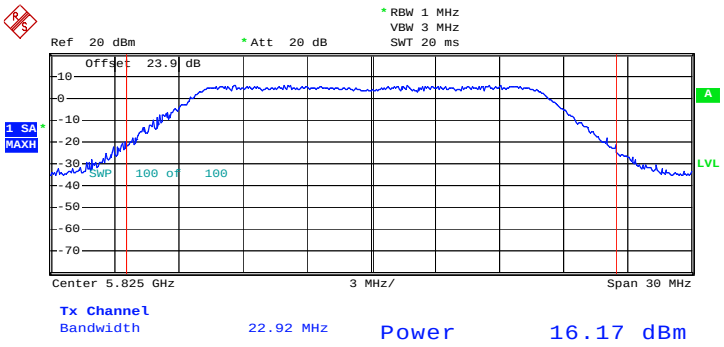
Mode 14 : Channel Power Plot on 802.11a Channel 157



2nd comment ...

Date: 28.NOV.2008 18:17:22

Mode 15 : Channel Power Plot on 802.11a Channel 165

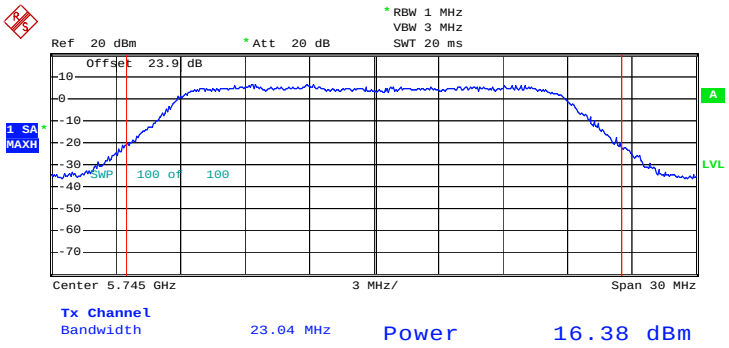


2nd comment ...

Date: 28.NOV.2008 18:19:51

Mode 16 : Channel Power Plot on 802.11n(20M) Channel 149_Chain B+C

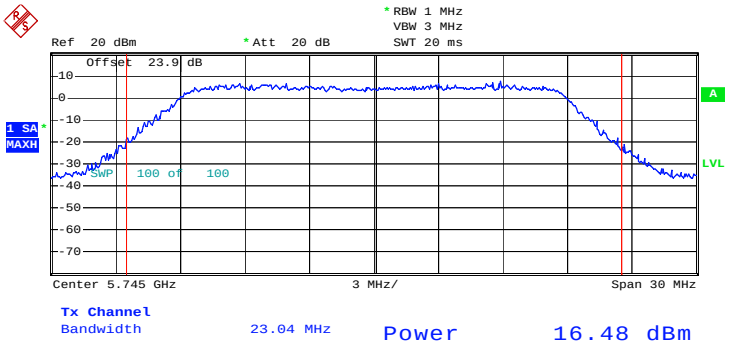
Chain B



2nd comment ...

Date: 31.DEC.2008 21:46:25

Chain C

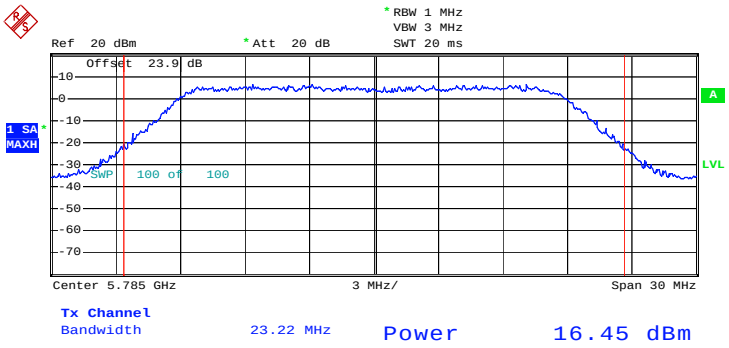


2nd comment ...

Date: 31.DEC.2008 21:45:16

Mode 17 : Channel Power Plot on 802.11n(20M) Channel 157_Chain B+C

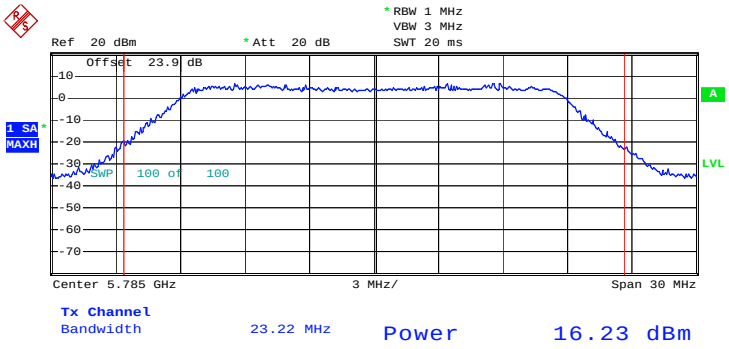
Chain B



2nd comment ...

Date: 1.JAN.2009 16:33:47

Chain C

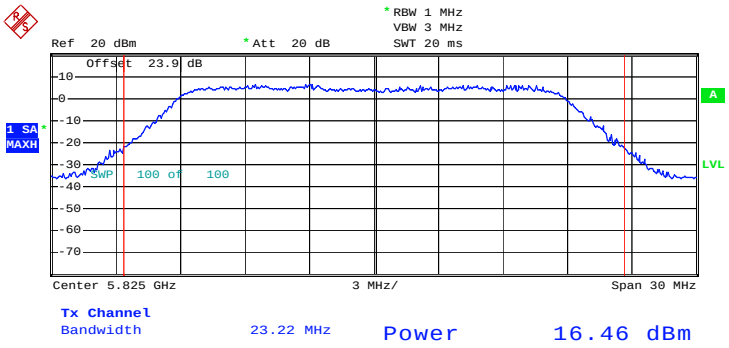


2nd comment ...

Date: 1.JAN.2009 16:32:16

Mode 18 : Channel Power Plot on 802.11n(20M) Channel 165_Chain B+C

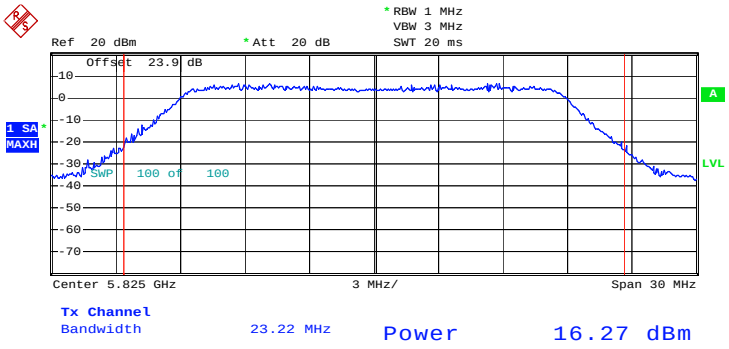
Chain B



2nd comment ...

Date: 1.JAN.2009 16:34:59

Chain C

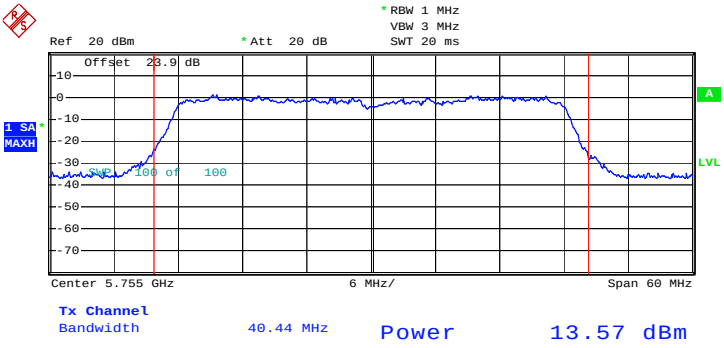


2nd comment ...

Date: 1.JAN.2009 16:36:07

Mode 19 : Channel Power Plot on 802.11n(40M) Channel 151_Chain A+B+C

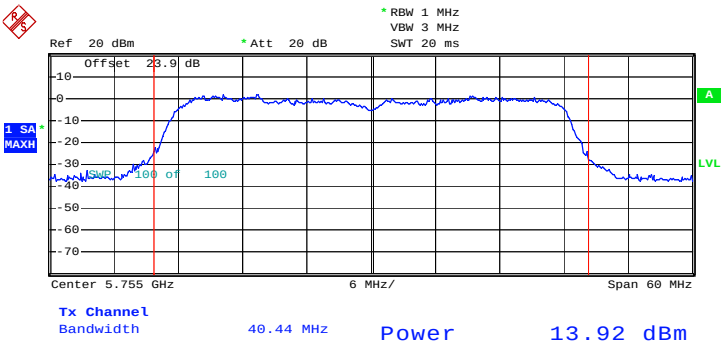
Chain A



2nd comment ...

Date: 1.JAN.2009 17:29:20

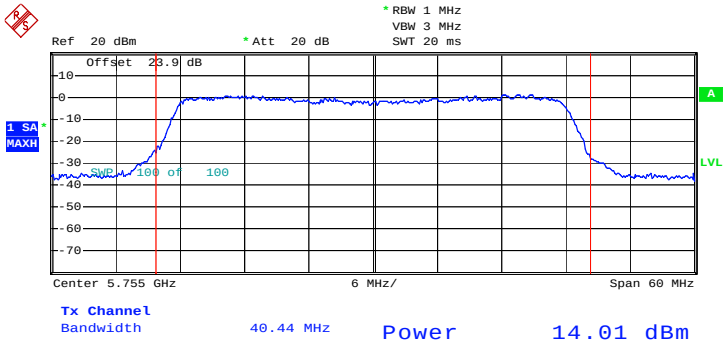
Chain B



2nd comment ...

Date: 1.JAN.2009 17:30:11

Chain C

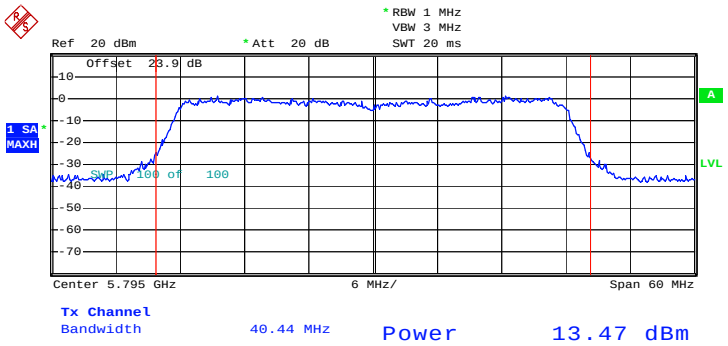


2nd comment ...

Date: 1.JAN.2009 17:31:14

Mode 20 : Channel Power Plot on 802.11n(40M) Channel 159_Chain A+B+C

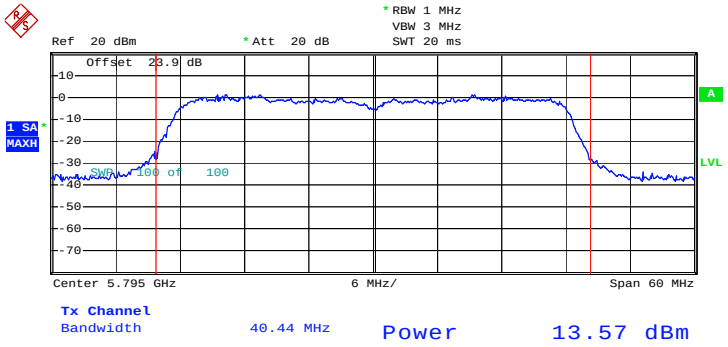
Chain A



2nd comment ...

Date: 1.JAN.2009 17:35:57

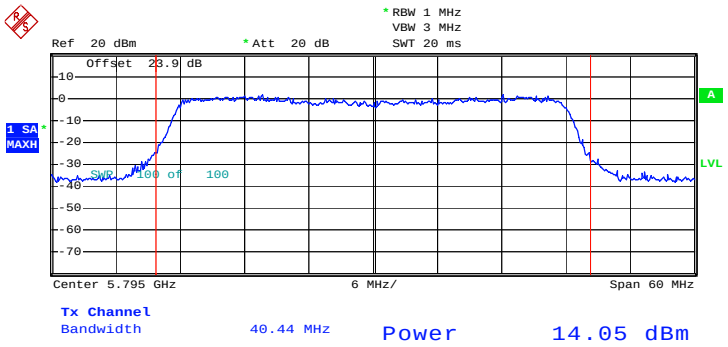
Chain B



2nd comment ...

Date: 1.JAN.2009 17:32:51

Chain C



2nd comment ...

Date: 1.JAN.2009 17:31:50

3.3 Band Edges Measurement

3.3.1 Limit of Band Edges

In any 100 kHz bandwidth outside the intentional radiation frequency band, the radio frequency power shall be at least 20 dB below the highest level of the radiated power. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB.

3.3.2 Measuring Instruments

See list of measuring instruments of this test report.

3.3.3 Test Procedures

1. The testing follows the guidelines in ANSI C63.4-2003 and FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. Conducted emission test: Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. Band edge emissions must be at least 20 dB below the highest emission level within the authorized band as measured with a 100 kHz RBW. Note: If the output power of this device was measured by power meter, the attenuation under this paragraph shall be 30 dB instead of 20 dB.
3. Radiated emission test: Apply to band edge emissions that fall in the restricted bands listed in FCC Section 15.205. The maximum permitted average field strength is listed in FCC Section 15.209. A pre-amp is necessary for this measurement. For measurements above 1 GHz, set RBW = 1MHz, VBW = 10 Hz, Sweep=Auto. If the emission is pulsed, modify the unit for continuous operation; use the settings shown above, then correct the reading by subtracting the peak-average correction factor, derived from the appropriate duty cycle calculation as in FCC Section 15.35(b) and (c).

3.3.4 Test Setup

3.3.5 Test Result of Radiated Band Edges

Test Mode :	Mode 1	Temperature :	23~26°C
Test Channel :	01	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2350.66	45.92	-28.08	74.00	46.42	31.91	3.86	36.27	100	0	Peak
2350.66	33.08	-20.92	54.00	33.58	31.91	3.86	36.27	196	360	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
2385.81	46.52	-27.48	74.00	46.90	31.98	3.92	36.28	100	0	Peak
2385.81	34.82	-19.18	54.00	35.20	31.98	3.92	36.28	104	72	Average

Test Mode :	Mode 3	Temperature :	23~26°C
Test Channel :	11	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2499.05	46.93	-27.07	74.00	47.08	32.10	4.05	36.30	100	0	Peak
2499.05	33.64	-20.36	54.00	33.79	32.10	4.05	36.30	129	357	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
2499.62	47.15	-26.85	74.00	47.30	32.10	4.05	36.30	100	0	Peak
2499.62	32.74	-21.26	54.00	32.89	32.10	4.05	36.30	100	51	Average

Test Mode :	Mode 4	Temperature :	23~26°C
Test Channel :	01	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2389.99	58.94	-15.06	74.00	59.32	31.98	3.92	36.28	100	0	Peak
2389.99	41.41	-12.59	54.00	41.79	31.98	3.92	36.28	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
2389.61	55.70	-18.30	74.00	56.08	31.98	3.92	36.28	100	0	Peak
2389.61	37.38	-16.62	54.00	37.76	31.98	3.92	36.28	100	326	Average

Test Mode :	Mode 6	Temperature :	23~26°C
Test Channel :	11	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2483.50	56.07	-17.93	74.00	56.24	32.08	4.05	36.30	100	0	Peak
2483.50	40.31	-13.69	54.00	40.48	32.08	4.05	36.30	100	298	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
2483.50	53.23	-20.77	74.00	53.40	32.08	4.05	36.30	100	0	Peak
2483.50	37.17	-16.83	54.00	37.34	32.08	4.05	36.30	100	331	Average

Test Mode :	Mode 7	Temperature :	23~26°C
Test Channel :	01	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2323.49	43.32	-30.68	74.00	43.87	31.89	3.82	36.27	100	0	Peak
2323.49	28.76	-25.24	54.00	29.31	31.89	3.82	36.27	162	360	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
2319.69	43.19	-30.81	74.00	43.74	31.89	3.82	36.27	100	0	Peak
2319.69	28.93	-25.07	54.00	29.48	31.89	3.82	36.27	100	343	Average

Test Mode :	Mode 9	Temperature :	23~26°C
Test Channel :	11	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2496.01	43.54	-30.46	74.00	43.69	32.10	4.05	36.30	100	0	Peak
2496.01	29.76	-24.24	54.00	29.91	32.10	4.05	36.30	103	356	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
2496.77	43.19	-30.81	74.00	43.34	32.10	4.05	36.30	100	0	Peak
2496.77	29.53	-24.47	54.00	29.68	32.10	4.05	36.30	106	31	Average

Test Mode :	Mode 10	Temperature :	23~26°C
Test Channel :	01	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2389.42	53.49	-20.51	74.00	53.87	31.98	3.92	36.28	100	0	Peak
2389.42	35.93	-18.07	54.00	36.31	31.98	3.92	36.28	118	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
2389.99	50.17	-23.83	74.00	50.55	31.98	3.92	36.28	100	0	Peak
2389.99	34.00	-20.00	54.00	34.38	31.98	3.92	36.28	100	327	Average

Test Mode :	Mode 12	Temperature :	23~26°C
Test Channel :	11	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2483.85	51.31	-22.69	74.00	51.48	32.08	4.05	36.30	100	0	Peak
2483.85	35.22	-18.78	54.00	35.39	32.08	4.05	36.30	130	246	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
2483.50	48.99	-25.01	74.00	49.16	32.08	4.05	36.30	100	0	Peak
2483.50	33.42	-20.58	54.00	33.59	32.08	4.05	36.30	100	324	Average

Test Mode :	Mode 13	Temperature :	23~26°C
Test Channel :	01	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2390.00	55.81	-18.19	74.00	56.19	31.98	3.92	36.28	100	0	Peak
2390.00	36.90	-17.10	54.00	37.28	31.98	3.92	36.28	100	298	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
2389.61	51.66	-22.34	74.00	52.04	31.98	3.92	36.28	100	0	Peak
2389.61	35.32	-18.68	54.00	35.70	31.98	3.92	36.28	100	276	Average

Test Mode :	Mode 15	Temperature :	23~26°C
Test Channel :	11	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2483.50	47.20	-26.80	74.00	47.37	32.08	4.05	36.30	100	0	Peak
2483.50	33.78	-20.22	54.00	33.95	32.08	4.05	36.30	116	297	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
2483.50	46.97	-27.03	74.00	47.14	32.08	4.05	36.30	100	0	Peak
2483.50	32.93	-21.07	54.00	33.10	32.08	4.05	36.30	100	281	Average

Test Mode :	Mode 16	Temperature :	23~26°C
Test Channel :	03	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2389.42	55.91	-18.09	74.00	56.29	31.98	3.92	36.28	100	0	Peak
2389.42	39.12	-14.88	54.00	39.50	31.98	3.92	36.28	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
2389.42	50.91	-23.09	74.00	51.29	31.98	3.92	36.28	100	0	Peak
2389.42	35.60	-18.40	54.00	35.98	31.98	3.92	36.28	100	279	Average

Test Mode :	Mode 18	Temperature :	23~26°C
Test Channel :	09	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2486.89	54.73	-19.27	74.00	54.90	32.08	4.05	36.30	100	0	Peak
2486.89	39.56	-14.44	54.00	39.73	32.08	4.05	36.30	105	253	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
2488.22	51.34	-22.67	74.00	51.48	32.10	4.05	36.30	100	0	Peak
2488.22	36.20	-17.81	54.00	36.34	32.10	4.05	36.30	100	326	Average

Test Mode :	Mode 19	Temperature :	23~26°C
Test Channel :	03	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2383.34	42.89	-31.11	74.00	43.32	31.96	3.89	36.28	100	0	Peak
2383.34	29.56	-24.44	54.00	29.96	31.96	3.92	36.28	100	360	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
2311.33	43.46	-30.54	74.00	43.84	31.98	3.92	36.28	100	0	Peak
2311.33	29.57	-24.43	54.00	30.14	31.87	3.82	36.26	100	339	Average

Test Mode :	Mode 21	Temperature :	23~26°C
Test Channel :	09	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2496.01	44.32	-29.68	74.00	44.47	32.10	4.05	36.30	100	0	Peak
2496.01	29.99	-24.01	54.00	30.14	32.10	4.05	36.30	106	360	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
2493.73	44.04	-29.96	74.00	44.19	32.10	4.05	36.30	100	0	Peak
2493.73	29.89	-24.11	54.00	30.04	32.10	4.05	36.30	100	338	Average

Test Mode :	Mode 22	Temperature :	23~26°C
Test Channel :	03	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2385.62	51.04	-22.96	74.00	51.42	31.98	3.92	36.28	100	0	Peak
2385.62	36.29	-17.71	54.00	36.67	31.98	3.92	36.28	100	299	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
2389.99	47.16	-26.84	74.00	47.54	31.98	3.92	36.28	100	0	Peak
2389.99	33.59	-20.41	54.00	33.97	31.98	3.92	36.28	100	328	Average

Test Mode :	Mode 24	Temperature :	23~26°C
Test Channel :	09	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
2483.85	50.27	-23.73	74.00	50.44	32.08	4.05	36.30	100	0	Peak
2483.85	35.52	-18.48	54.00	35.69	32.08	4.05	36.30	100	309	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
2484.61	48.33	-25.67	74.00	48.50	32.08	4.05	36.30	100	0	Peak
2484.61	34.43	-19.57	54.00	34.60	32.08	4.05	36.30	100	283	Average

Test Mode :	Mode 25	Temperature :	23~26°C
Test Channel :	149	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5614.00	49.28	-24.72	74.00	44.38	34.74	6.28	36.13	100	0	Peak
5614.00	36.06	-17.94	54.00	31.16	34.74	6.28	36.13	102	10	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
5692.00	49.72	-24.28	74.00	44.62	34.87	6.37	36.14	100	0	Peak
5692.00	36.66	-17.34	54.00	31.56	34.87	6.37	36.14	100	127	Average

Note: 5614MHz, and 5692MHz, signal are not in a restricted band.

Test Mode :	Mode 27	Temperature :	23~26°C
Test Channel :	165	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6748.00	50.32	-23.68	74.00	44.10	35.60	6.97	36.35	100	0	Peak
6748.00	37.20	-16.80	54.00	30.98	35.60	6.97	36.35	100	5	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
6534.00	50.86	-23.14	74.00	44.79	35.51	6.86	36.31	100	0	Peak
6534.00	36.86	-17.14	54.00	30.79	35.51	6.86	36.31	112	72	Average

Note: 6748MHz, and 6534MHz, signal are not in a restricted band.

Test Mode :	Mode 28	Temperature :	23~26°C
Test Channel :	149	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5398.00	47.44	-26.56	74.00	42.83	34.58	6.12	36.10	100	0	Peak
5398.00	33.92	-20.08	54.00	29.32	34.58	6.12	36.10	101	300	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
5398.00	47.32	-26.68	74.00	42.72	34.58	6.12	36.10	100	0	Peak
5398.00	33.87	-20.13	54.00	29.27	34.58	6.12	36.10	100	142	Average

Test Mode :	Mode 30	Temperature :	23~26°C
Test Channel :	165	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6894.00	49.87	-24.13	74.00	43.54	35.66	7.04	36.38	100	0	Peak
6894.00	35.68	-18.32	54.00	29.36	35.66	7.04	36.38	100	63	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
6646.00	49.97	-24.03	74.00	43.83	35.56	6.91	36.33	100	0	Peak
6646.00	35.94	-18.06	54.00	29.80	35.56	6.91	36.33	175	216	Average

Note: 6894MHz, and 6646MHz, signal is not in a restricted band.

Test Mode :	Mode 31	Temperature :	23~26°C
Test Channel :	149	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5700.00	48.05	-25.95	74.00	42.96	34.87	6.37	36.14	100	0	Peak
5700.00	34.32	-19.68	54.00	29.22	34.87	6.37	36.14	108	8	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
5396.00	48.33	-25.67	74.00	43.73	34.58	6.12	36.10	100	0	Peak
5396.00	34.22	-19.78	54.00	29.62	34.58	6.12	36.10	100	61	Average

Note: 5700MHz, signal is not in a restricted band.

Test Mode :	Mode 33	Temperature :	23~26°C
Test Channel :	165	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6622.00	50.21	-23.79	74.00	44.09	35.55	6.90	36.32	100	0	Peak
6622.00	35.95	-18.05	54.00	29.82	35.55	6.90	36.32	100	18	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
6876.00	50.10	-23.90	74.00	43.80	35.65	7.03	36.37	100	0	Peak
6876.00	35.77	-18.23	54.00	29.46	35.65	7.03	36.37	100	73	Average

Note: 6622MHz, and 6876MHz, signal are not in a restricted band.

Test Mode :	Mode 34	Temperature :	23~26°C
Test Channel :	149	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5580.00	49.20	-24.80	74.00	44.36	34.70	6.26	36.12	100	0	Peak
5580.00	35.39	-18.61	54.00	30.55	34.70	6.26	36.12	102	14	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
5372.00	49.72	-24.28	74.00	45.13	34.57	6.11	36.10	100	0	Peak
5372.00	35.69	-18.31	54.00	31.11	34.57	6.11	36.10	103	72	Average

Note: 5580MHz, signal is not in a restricted band.

Test Mode :	Mode 36	Temperature :	23~26°C
Test Channel :	165	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6700.00	50.67	-23.33	74.00	44.49	35.58	6.95	36.34	100	0	Peak
6700.00	37.21	-16.79	54.00	31.03	35.58	6.95	36.34	102	7	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
6702.00	50.88	-23.12	74.00	44.70	35.58	6.95	36.34	100	0	Peak
6702.00	37.09	-16.91	54.00	30.91	35.58	6.95	36.34	123	73	Average

Note: 6700MHz, and 6702MHz, signal are not in a restricted band.

Test Mode :	Mode 37	Temperature :	23~26°C
Test Channel :	151	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5574.00	47.95	-26.05	74.00	43.11	34.70	6.26	36.12	100	0	Peak
5574.00	33.95	-20.05	54.00	29.11	34.70	6.26	36.12	100	16	Average

Note: 5574MHz, signal is not in a restricted band.

Test Mode :	Mode 38	Temperature :	23~26°C
Test Channel :	159	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6828.00	48.98	-25.02	74.00	42.71	35.63	7.01	36.37	100	0	Peak
6828.00	35.35	-18.65	54.00	29.08	35.63	7.01	36.37	178	14	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
6390.00	48.87	-25.13	74.00	42.88	35.45	6.80	36.28	100	0	Peak
6390.00	34.97	-19.03	54.00	28.99	35.45	6.80	36.28	138	322	Average

Note: 6828MHz, and 6390MHz, signal are not in a restricted band.

Test Mode :	Mode 39	Temperature :	23~26°C
Test Channel :	151	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5204.00	47.97	-26.03	74.00	43.52	34.54	6.01	36.10	100	0	Peak
5204.00	33.77	-20.23	54.00	29.32	34.54	6.01	36.10	160	348	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
5238.00	48.01	-25.99	74.00	43.52	34.55	6.04	36.10	100	0	Peak
5238.00	33.90	-20.1	54.00	29.42	34.55	6.04	36.10	101	327	Average

Note: 5204MHz, and 5238MHz, signal are not in a restricted band.

Test Mode :	Mode 40	Temperature :	23~26°C
Test Channel :	159	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6622.00	50.50	-23.50	74.00	44.37	35.55	6.90	36.32	100	0	Peak
6622.00	35.97	-18.03	54.00	29.84	35.55	6.90	36.32	178	19	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
6804.00	50.51	-23.49	74.00	44.26	35.62	6.99	36.36	100	0	Peak
6804.00	35.74	-18.26	54.00	29.49	35.62	6.99	36.36	108	326	Average

Note: 6622MHz, and 6804MHz, signal are not in a restricted band.

Test Mode :	Mode 41	Temperature :	23~26°C
Test Channel :	151	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
5518.00	49.34	-24.66	74.00	44.63	34.62	6.19	36.11	100	0	Peak
5518.00	35.21	-18.79	54.00	30.50	34.62	6.19	36.11	102	8	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
5534.00	49.49	-24.51	74.00	44.74	34.65	6.21	36.11	100	0	Peak
5534.00	35.41	-18.59	54.00	30.66	34.65	6.21	36.11	103	73	Average

Note: 5518MHz, and 5534MHz, signal are not in a restricted band.

Test Mode :	Mode 42	Temperature :	23~26°C
Test Channel :	159	Relative Humidity :	42~49%
Test Engineer :	Mac Lin, Andrew Hsiao and Sun Wang		

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
6870.00	51.10	-22.90	74.00	44.80	35.64	7.03	36.37	100	0	Peak
6870.00	36.86	-17.14	54.00	30.56	35.64	7.03	36.37	127	58	Average

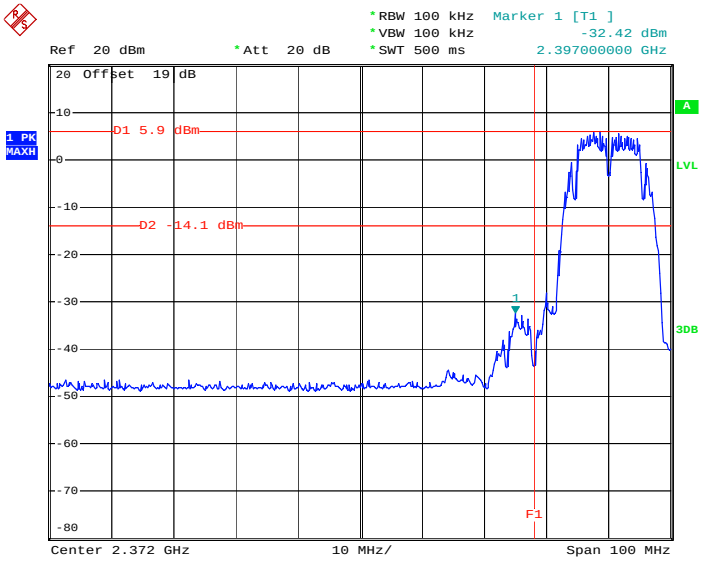
ANTENNA POLARITY : VERTICAL										
Frequency (MHz)	Level (dBuV/m)	Over Limit (dB)	Limit Line (dBuV/m)	Read Level (dBuV)	Antenna Factor (dB)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Remark
6876.00	50.99	-23.01	74.00	44.68	35.65	7.03	36.37	100	0	Peak
6876.00	36.89	-17.11	54.00	30.58	35.65	7.03	36.37	102	73	Average

Note: 6870MHz, and 6876MHz, signal are not in a restricted band.

3.3.6 Test Result of Conducted Band Edges

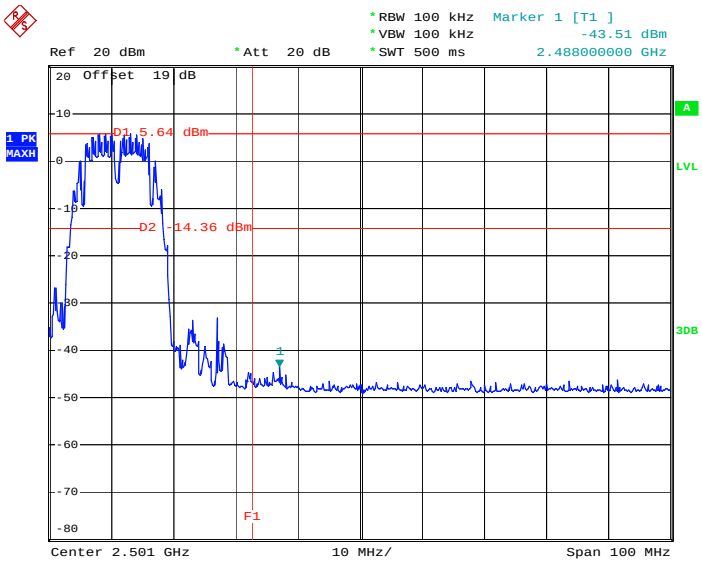
Test Mode :	Mode 1 and 3 (Chain C)	**Temperature :**	24~25℃
Test Channel :	01 and 11	**Relative Humidity :**	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

Low Band Edge Plot on 802.11b Channel 01



Date: 3.DEC.2008 22:05:40

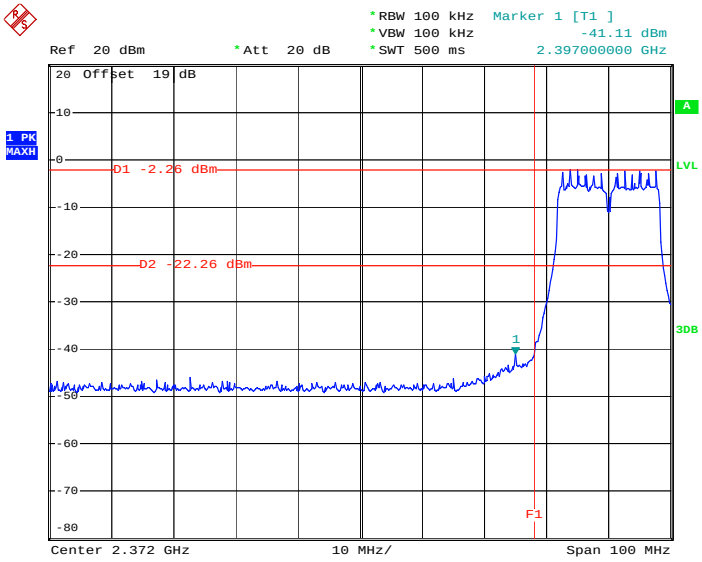
High Band Edge Plot on 802.11b Channel 11



Date: 3.DEC.2008 21:58:28

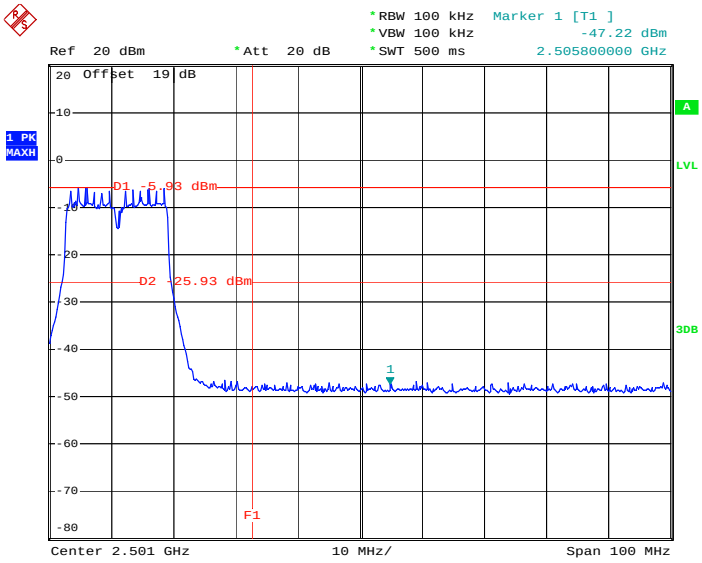
Test Mode :	Mode 4 and 6 (Chain B)	**Temperature :**	24~25℃
Test Channel :	01 and 11	**Relative Humidity :**	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

Low Band Edge Plot on 802.11g Channel 01



Date: 3.DEC.2008 20:22:00

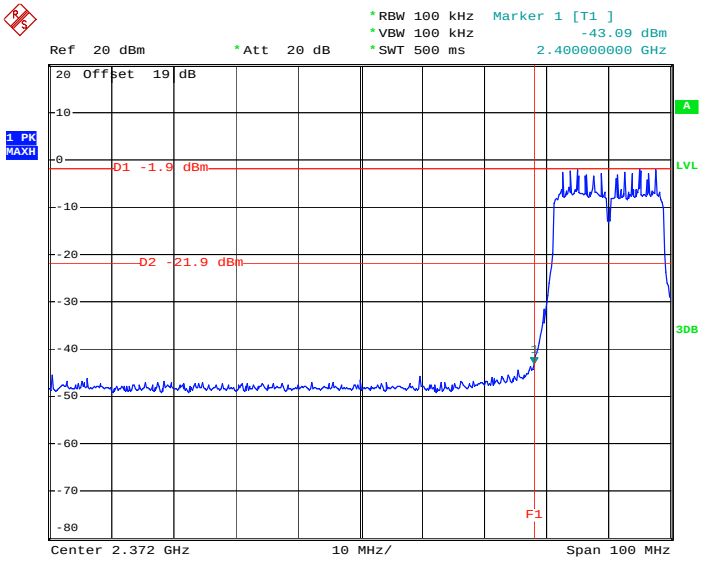
High Band Edge Plot on 802.11g Channel 11



Date: 3.DEC.2008 22:16:53

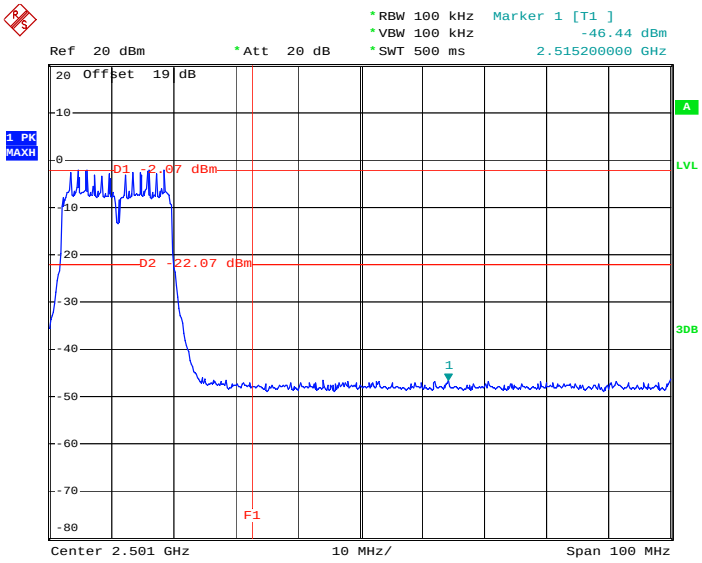
Test Mode :	Mode 7 and 9 (Chain A+B+C)	Temperature :	24~25℃
Test Channel :	01 and 11	Relative Humidity :	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

Low Band Edge Plot on 802.11n(20M) Channel 01_3Tx



Date: 3.DEC.2008 21:19:52

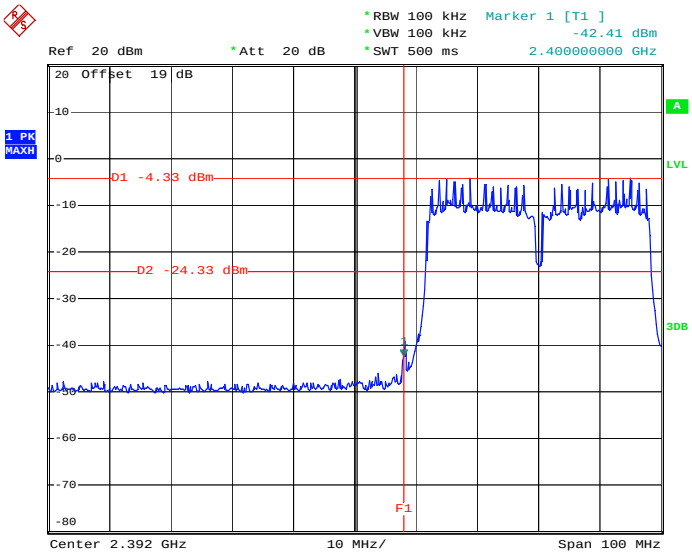
High Band Edge Plot on 802.11n(20M) Channel 11_3Tx



Date: 3.DEC.2008 21:18:24

Test Mode :	Mode 10 and 12 (Chain A+B+C)	**Temperature :**	24~25℃
Test Channel :	03 and 09	**Relative Humidity :**	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

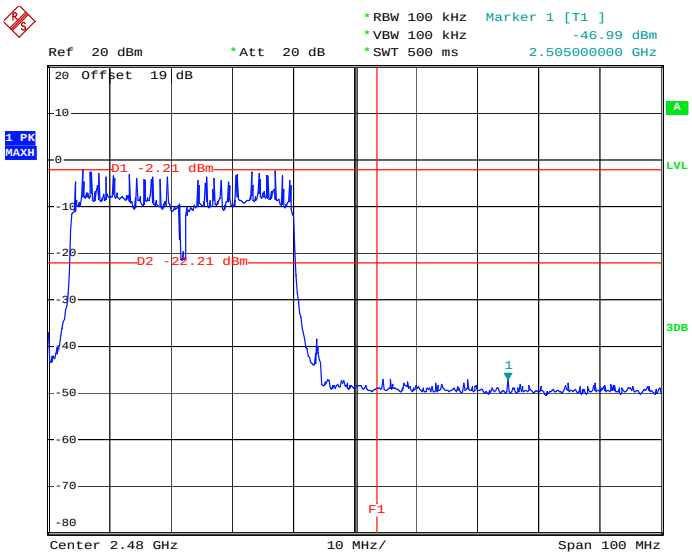
Low Band Edge Plot on 802.11n(40M) Channel 03_3Tx



2nd comment ...

Date: 2.DEC.2008 14:23:27

High Band Edge Plot on 802.11n(40M) Channel 09_3Tx

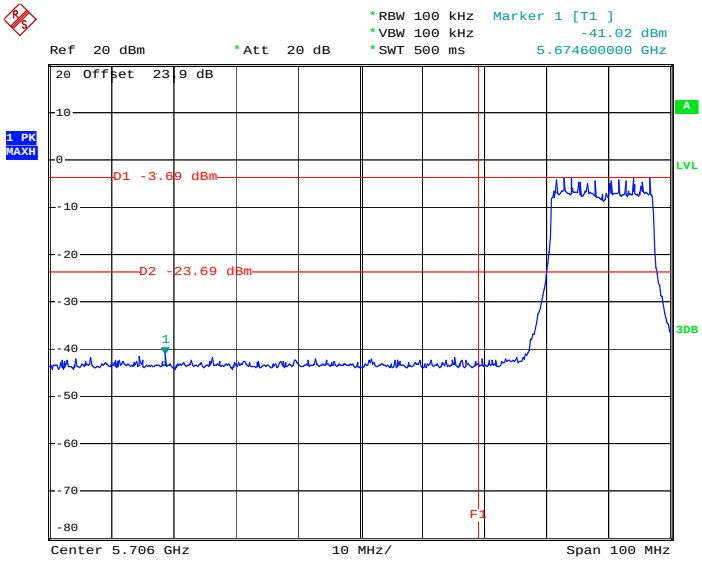


2nd comment ...

Date: 2.DEC.2008 14:26:23

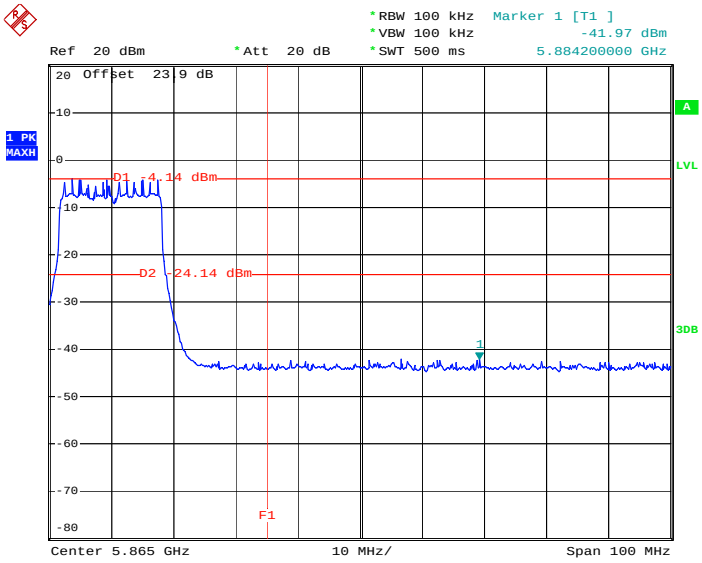
Test Mode :	Mode 13 and 15 (Chain C)	Temperature :	24~25℃
Test Channel :	149 and 165	Relative Humidity :	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

Low Band Edge Plot on 802.11a Channel 149



Date: 5.DEC.2008 19:01:17

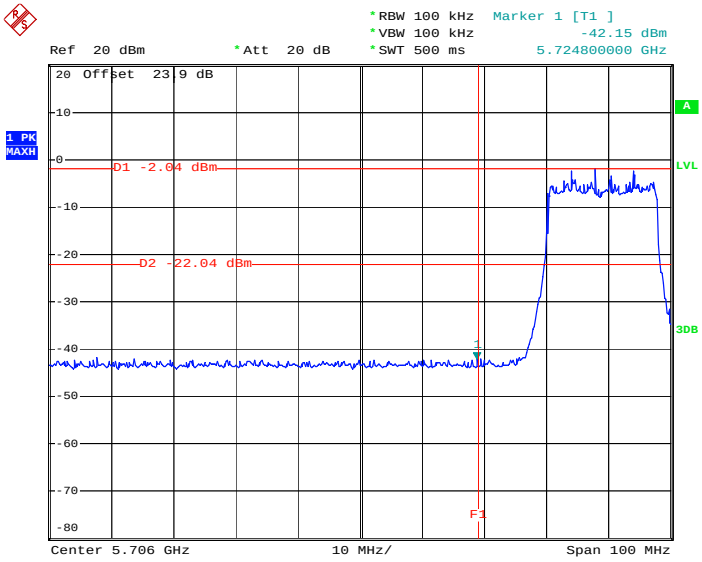
High Band Edge Plot on 802.11a Channel 165



Date: 5.DEC.2008 19:02:57

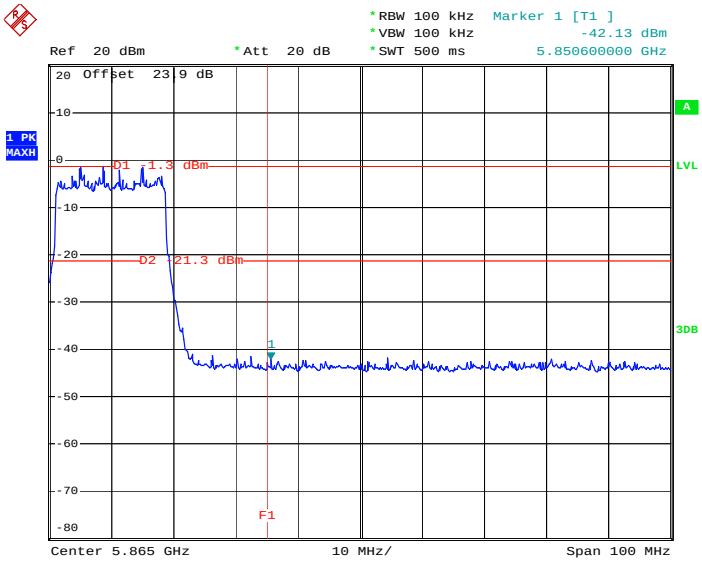
Test Mode :	Mode 16 and 18 (Chain B+C)	Temperature :	24~25℃
Test Channel :	149 and 165	Relative Humidity :	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

Low Band Edge Plot on 802.11n(20M) Channel 149_2Tx



Date: 5.DEC.2008 19:53:02

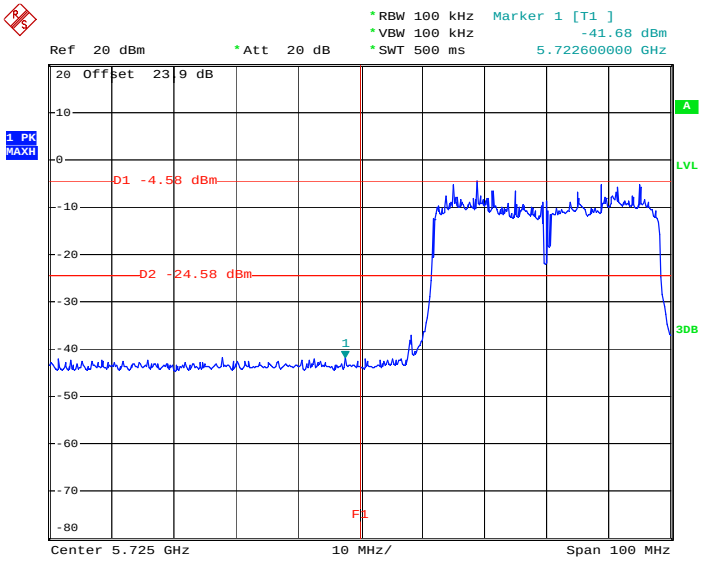
High Band Edge Plot on 802.11n(20M) Channel 165_2Tx



Date: 5.DEC.2008 19:50:48

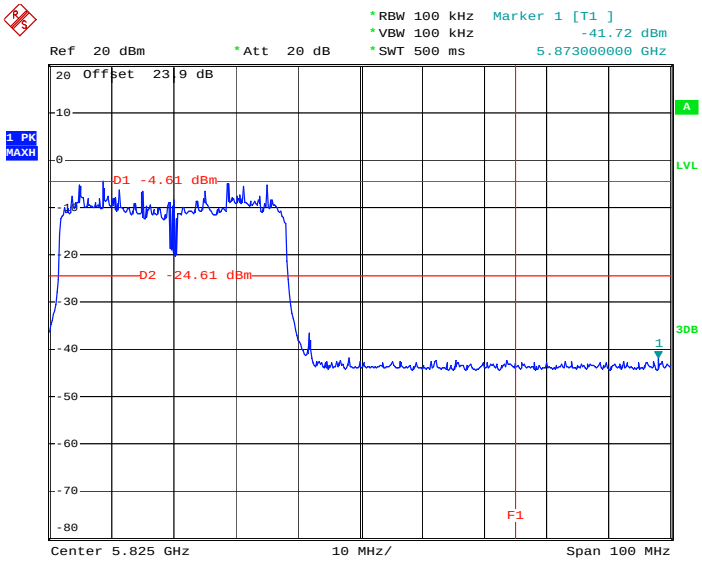
Test Mode :	Mode 19 and 20 (Chain A+B+C)	**Temperature :**	24~25℃
Test Channel :	151 and 159	**Relative Humidity :**	37~38%
Test Engineer :	Ken Hsu and Eric Huang		

Low Band Edge Plot on 802.11n(40M) Channel 151_3Tx



Date: 5.DEC.2008 20:27:31

High Band Edge Plot on 802.11n(40M) Channel 159_3Tx



Date: 5.DEC.2008 20:25:53

3.4 Spurious Emission

3.4.1 Limit of Spurious Emission Measurement

All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band.

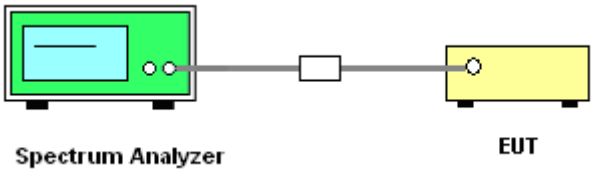
3.4.2 Measuring Instruments

See list of measuring instruments of this test report.

3.4.3 Test Procedure

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set RBW = 100 kHz, Video bandwidth (VBW) > RBW, scan up through 10th harmonic. All harmonics/spurs must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100 kHz RBW.

3.4.4 Test Setup

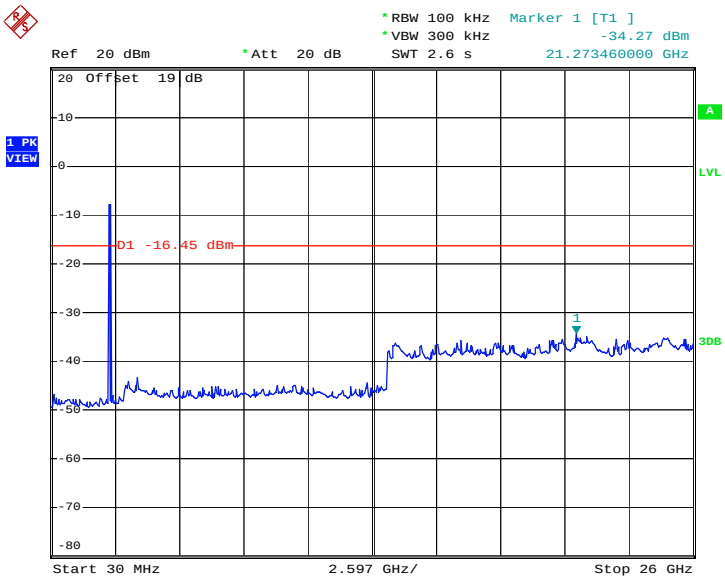


3.4.5 Test Result

Test Mode :	Mode 10, 11, 12 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Mode 10 : Spurious Emission Plot on channel 3 between 30 MHz~26 GHz

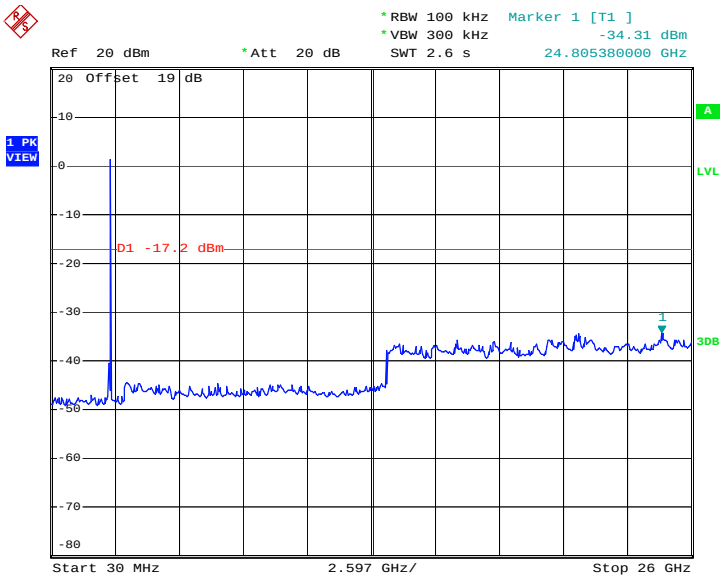
Chain A+B+C (with combiner)



Date: 18.JAN.2009 17:48:40

Mode 11 : Spurious Emission Plot on channel 6 between 30 MHz~26 GHz

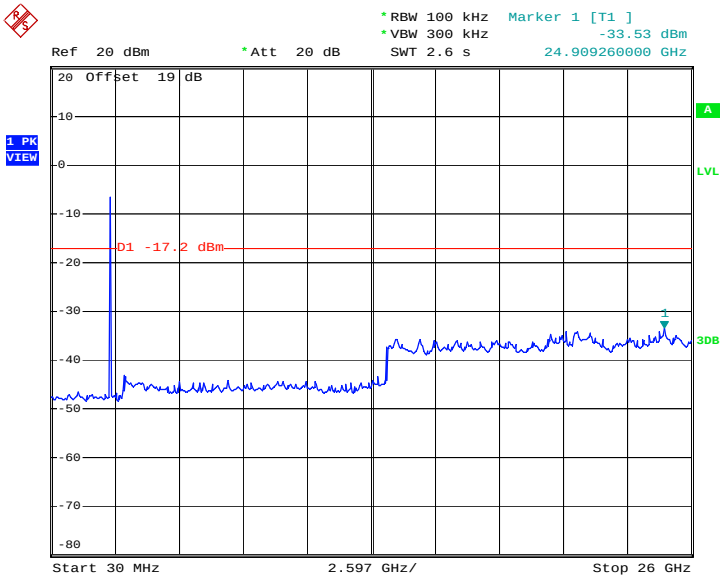
Chain A+B+C (with combiner)



Date: 18.JAN.2009 14:52:42

Mode 11 : Spurious Emission Plot on channel 6 between 30 MHz~26 GHz

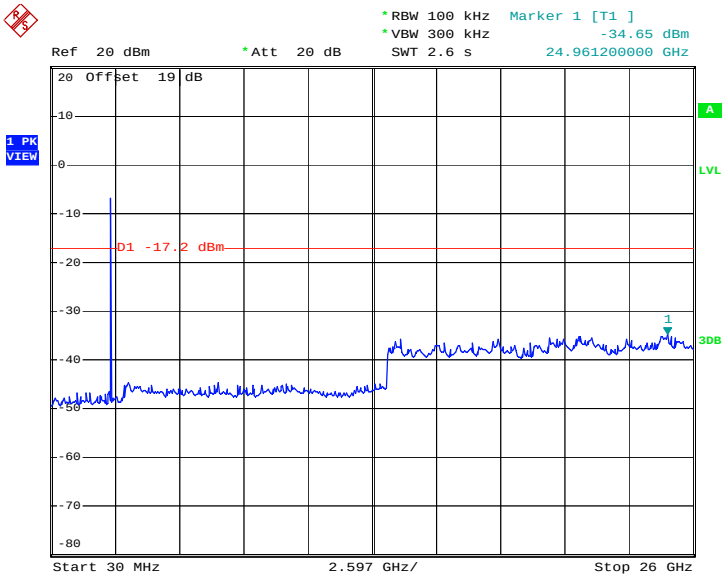
Chain A of Chain A+B+C (without combiner)



Date: 18.JAN.2009 14:34:09

Mode 11 : Spurious Emission Plot on channel 6 between 30 MHz~26 GHz

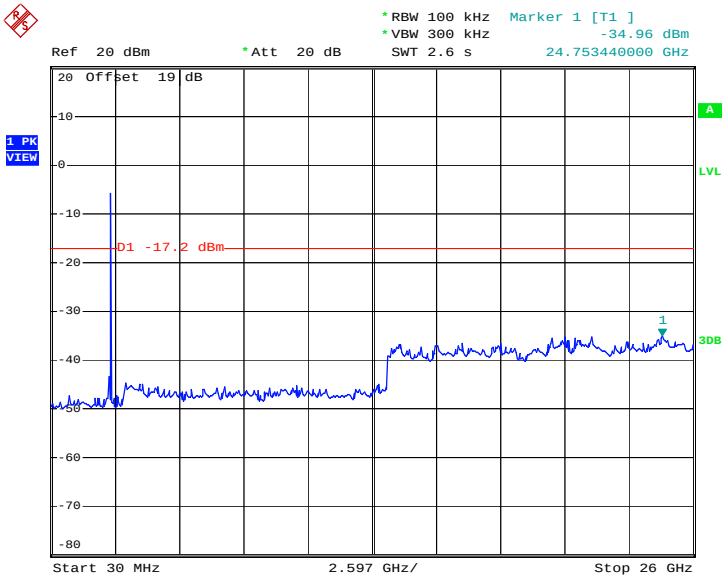
Chain B of Chain A+B+C (without combiner)



Date: 18.JAN.2009 14:35:18

Mode 11 : Spurious Emission Plot on channel 6 between 30 MHz~26 GHz

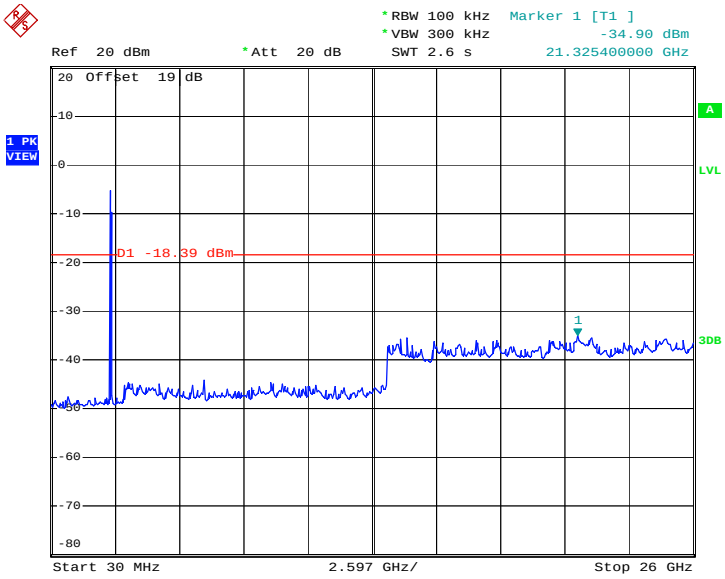
Chain C of Chain A+B+C (without combiner)



Date: 18.JAN.2009 14:36:11

Mode 12 : Spurious Emission Plot on channel 9 between 30 MHz~26 GHz

Chain A+B+C (with combiner)

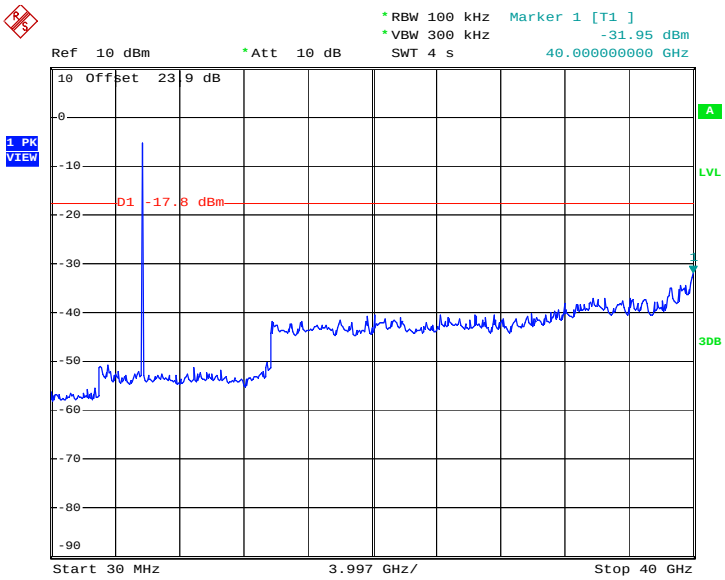


Date: 18.JAN.2009 17:49:51

Test Mode :	Mode 16, 17 18 (Chain B+C)	**Temperature :**	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	**Relative Humidity :**	37~38%

Mode 16 : Spurious Emission Plot on channel 149 between 30 MHz~40 GHz

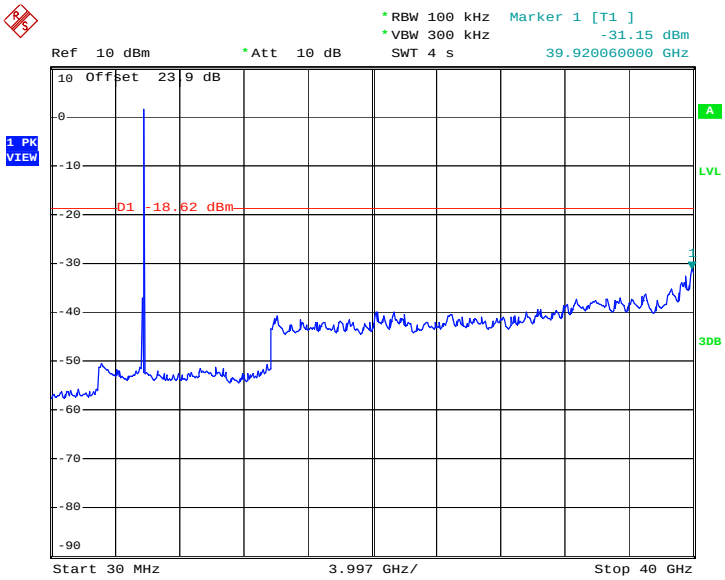
Chain B+C (with combiner)



Date: 18.JAN.2009 18:08:44

Mode 17 : Spurious Emission Plot on channel 157 between 30 MHz~40 GHz

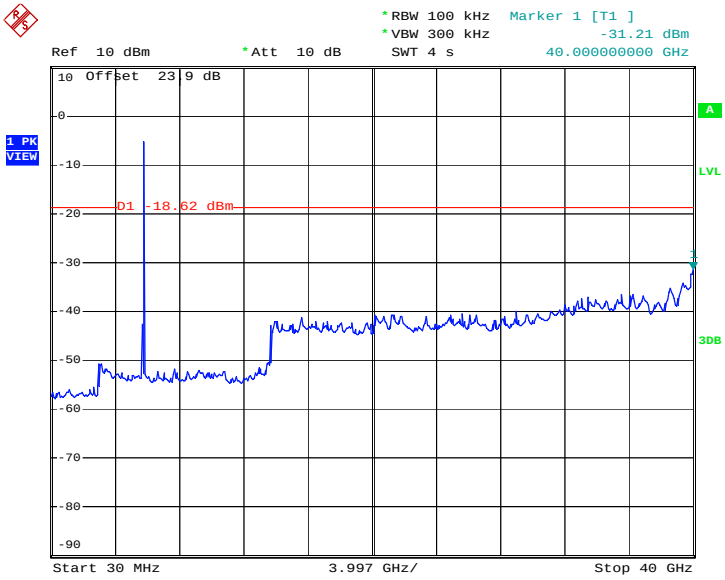
Chain B+C (with combiner)



Date: 18.JAN.2009 15:11:19

Mode 17 : Spurious Emission Plot on channel 157 between 30 MHz~40 GHz

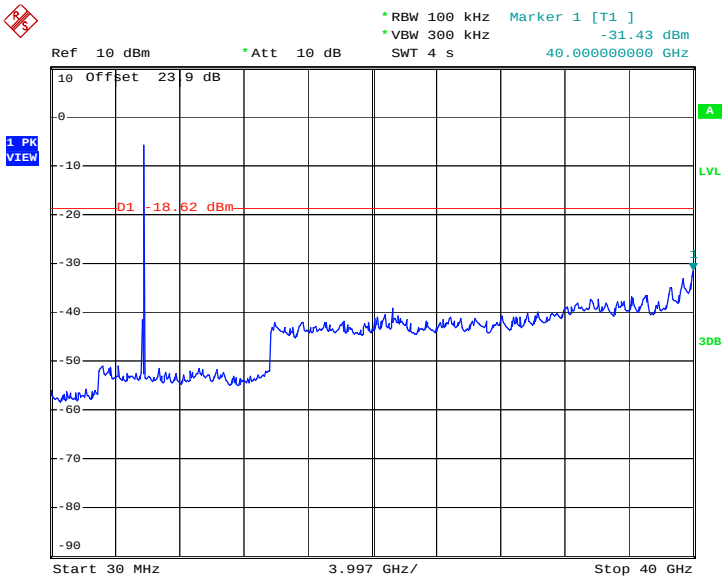
Chain B of Chain B+C (without combiner)



Date: 18.JAN.2009 15:07:26

Mode 17 : Spurious Emission Plot on channel 157 between 30 MHz~40 GHz

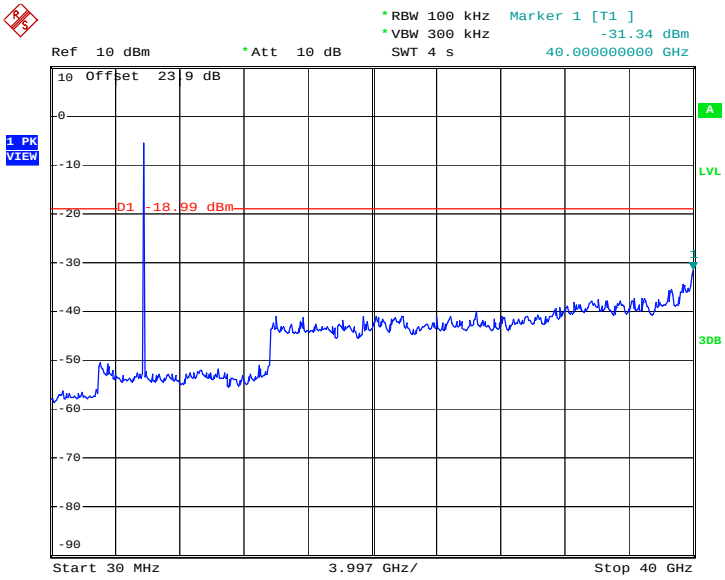
Chain C of Chain B+C (without combiner)



Date: 18.JAN.2009 15:08:59

Mode 18 : Spurious Emission Plot on channel 165 between 30 MHz~40 GHz

Chain B+C (with combiner)



Date: 18.JAN.2009 18:09:46

Power Spectral Density Measurement

3.4.6 Limit of Power Spectral Density

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

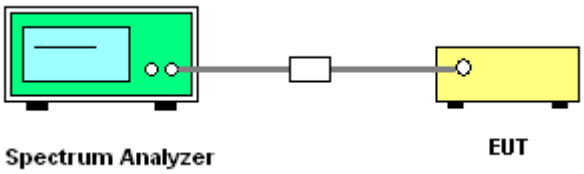
3.4.7 Measuring Instruments

See list of measuring instruments of this test report.

3.4.8 Test Procedures

1. The test follows FCC KDB Publication No. 558074 (Measurement Guidelines of DTS).
2. The RF output of EUT was connected to the spectrum analyzer by a low loss cable.
3. Take the measured data from spectrum analyzer.

3.4.9 Test Setup



3.4.10 Test Result of Power Spectral Density

Test Mode :	Mode 1, 2, 3 (Chain C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-8.89	8	Pass
06	2437	-9.87	8	Pass
11	2462	-9.29	8	Pass

Test Mode :	Mode 4, 5, 6 (Chain B)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-14.50	8	Pass
06	2437	-15.18	8	Pass
11	2462	-16.65	8	Pass

Test Mode :	Mode 7, 8, 9 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
01	2412	-17.80	8	Pass
06	2437	-17.33	8	Pass
11	2462	-16.84	8	Pass

Test Mode :	Mode 10, 11, 12 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)				Max. Limits (dBm)	Pass/Fail
		A+B+C	A	B	C		
03	2422	-25.28	-	-	-	8	Pass
06	2437	-18.54	-24.27	-26.67	-25.71	8	Pass
09	2452	-23.51	-	-	-	8	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*LOG(10^(chain A/10)+10^(chain B/10)+10^(chain C/10))=-20.67(dBm) .The channel 06 was chosen for testing due to the maximum output power when preliminary testing.

Test Mode :	Mode 13, 14, 15 (Chain C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
149	5745	-10.23	8	Pass
157	5785	-10.50	8	Pass
165	5825	-10.13	8	Pass

Test Mode :	Mode 16, 17, 18 (Chain B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)			Max. Limits (dBm)	Pass/Fail
		B+C	B	C		
149	5745	-9.38	-	-	8	Pass
157	5785	-8.41	-10.71	-13.20	8	Pass
165	5825	-8.53	-	-	8	Pass

Note: Chain B+C was tested by combiner, and the chain B and C was tested individually and calculated with the formula of 10*LOG(10^(chain B/10)+10^(chain C/10))=-8.77(dBm) . The channel 157 was chosen for testing due to the maximum output power when preliminary testing.

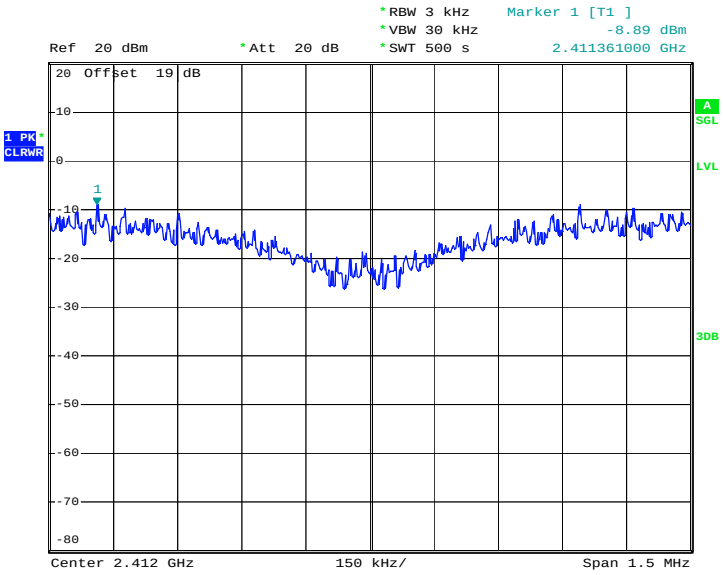
Test Mode :	Mode 19, 20 (Chain A+B+C)	Temperature :	24~25℃
Test Engineer :	Ken Hsu and Eric Huang	Relative Humidity :	37~38%

Channel	Frequency (MHz)	Measured PSD (dBm)	Max. Limits (dBm)	Pass/Fail
151	5755	-10.09	8	Pass
159	5795	-9.35	8	Pass

3.4.11 Test Result of Power Spectral Density Plots

Mode 1 : PSD Plot on 802.11b Channel 01

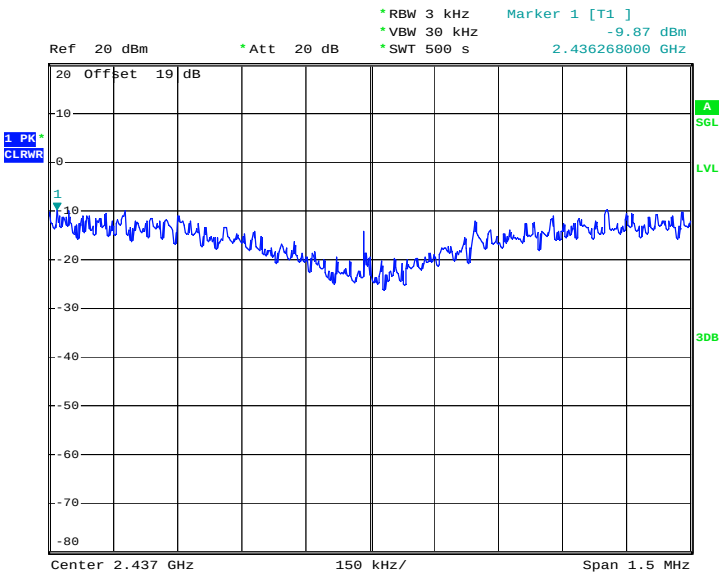
Chain C



Date: 1.DEC.2008 07:47:27

Mode 2 : PSD Plot on 802.11b Channel 06

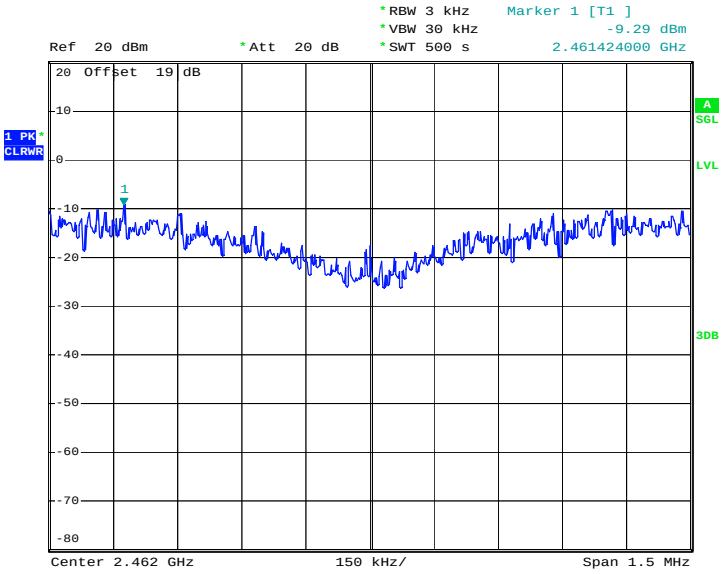
Chain C



Date: 1.DEC.2008 07:56:25

Mode 3 : PSD Plot on 802.11b Channel 11

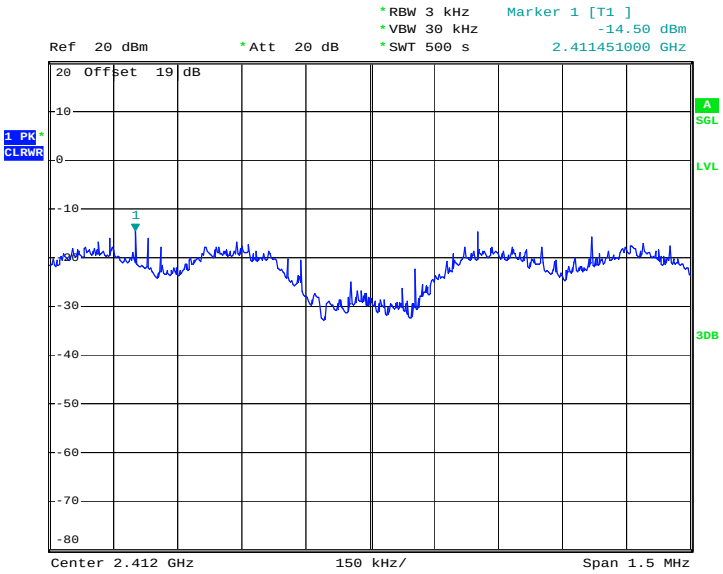
Chain C



Date: 1.DEC.2008 08:06:23

Mode 4 : PSD Plot on 802.11g Channel 01

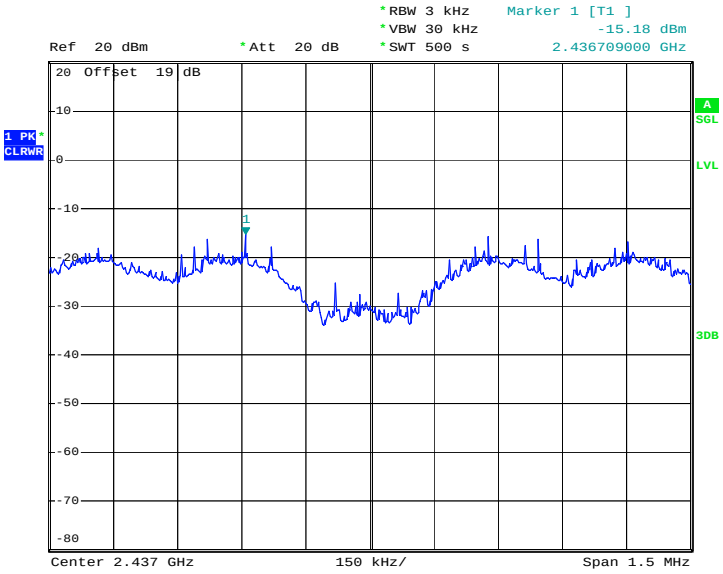
Chain B



Date: 1.DEC.2008 08:17:00

Mode 5 : PSD Plot on 802.11g Channel 06

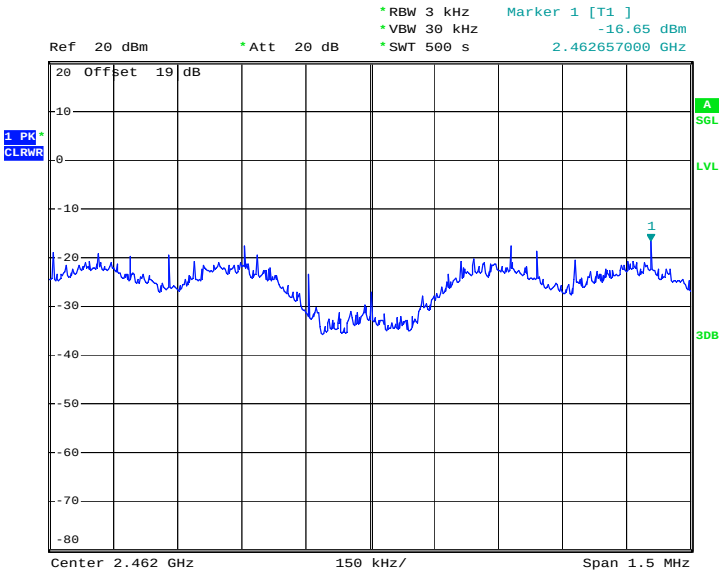
Chain B



Date: 1.DEC.2008 08:27:03

Mode 6 : PSD Plot on 802.11g Channel 11

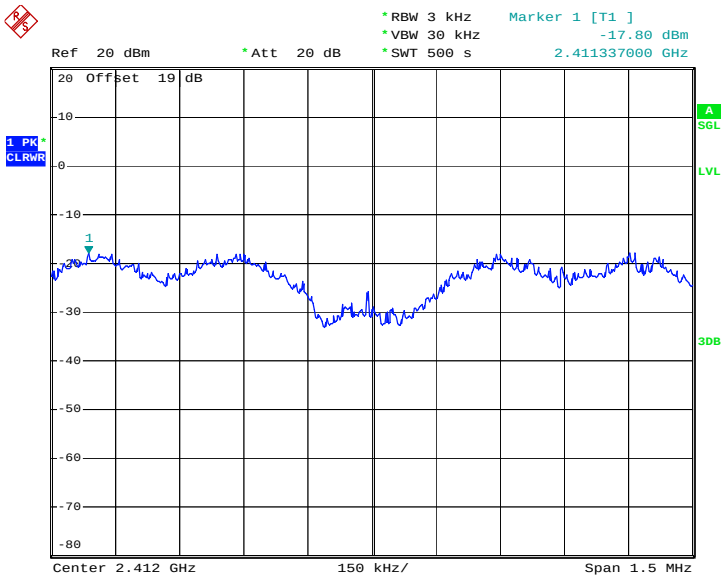
Chain B



Date: 1.DEC.2008 08:36:30

Mode 7 : PSD Plot on 802.11n(20M) Channel 01

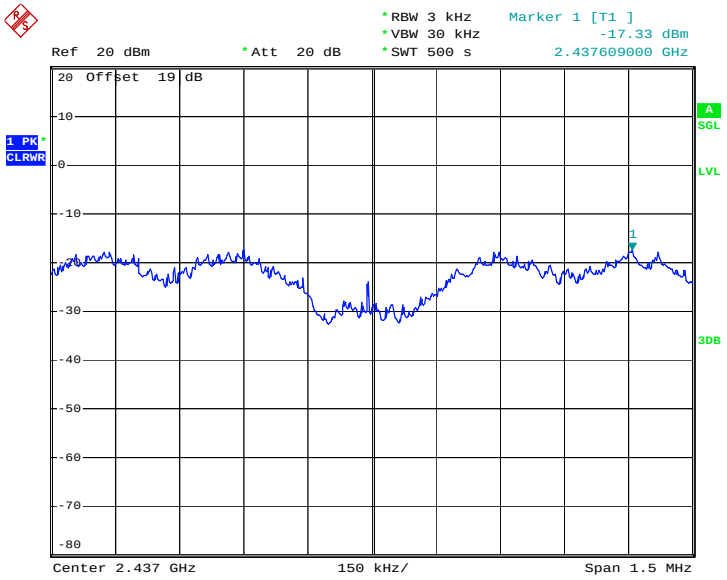
Chain A+B+C



Date: 5.DEC.2008 00:10:45

Mode 8 : PSD Plot on 802.11 n(20M) Channel 06

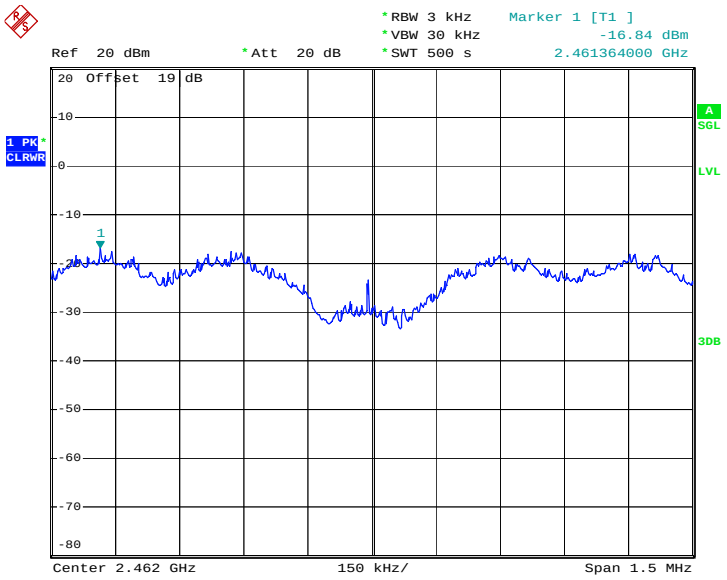
Chain A+B+C



Date: 5.DEC.2008 00:23:57

Mode 9 : PSD Plot on 802.11 n(20M) Channel 11

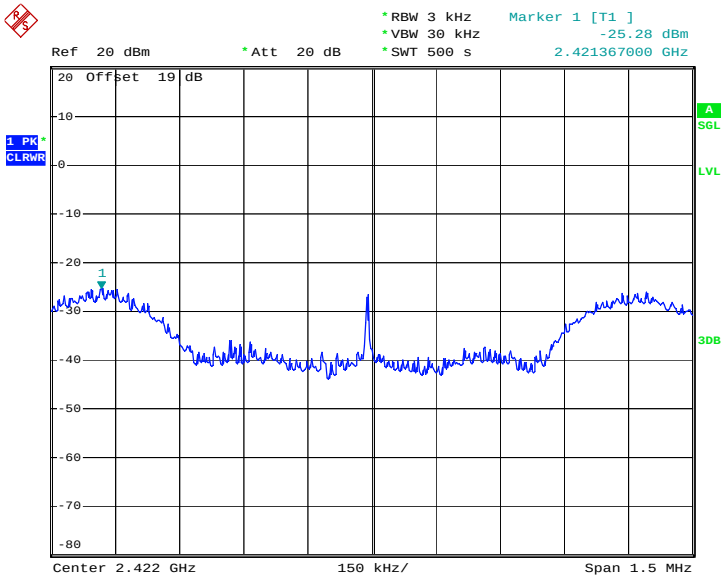
Chain A+B+C



Date: 5.DEC.2008 00:34:16

Mode 10 : PSD Plot on 802.11n(40M) Channel 03

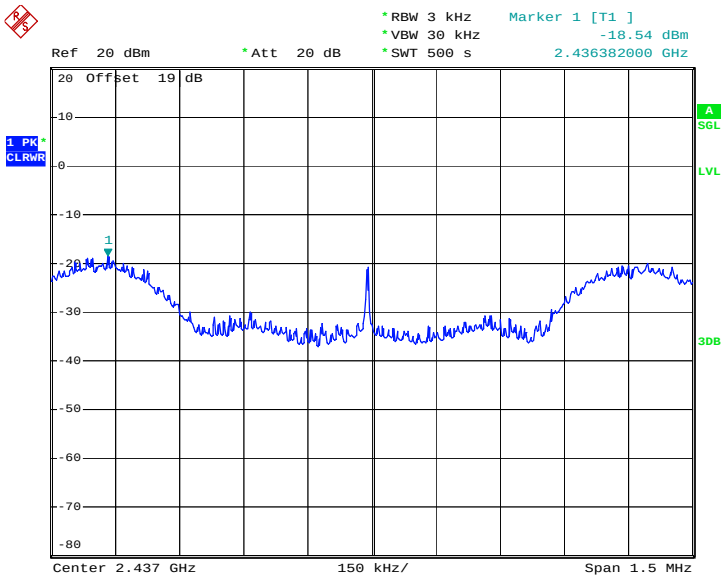
Chain A+B+C



Date: 5.DEC.2008 10:26:56

Mode 11 : PSD Plot on 802.11n(40M) Channel 06

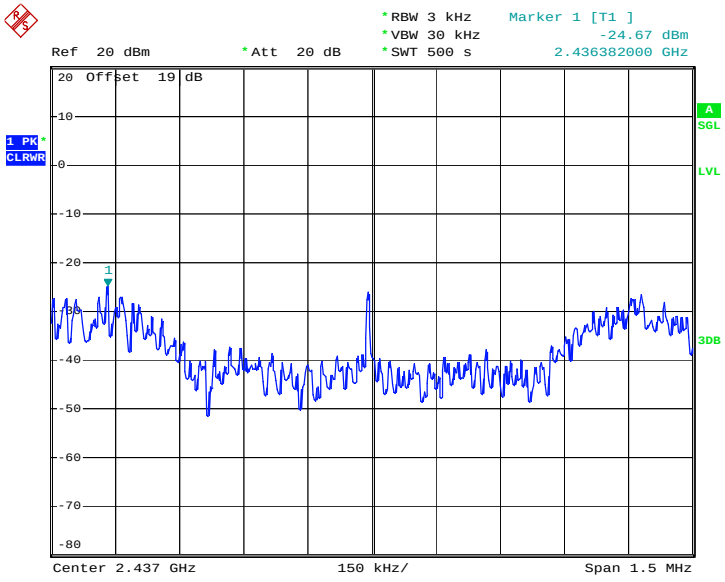
Chain A+B+C (with combiner)



Date: 5.DEC.2008 10:37:21

Mode 11 : PSD Plot on 802.11n(40M) Channel 06

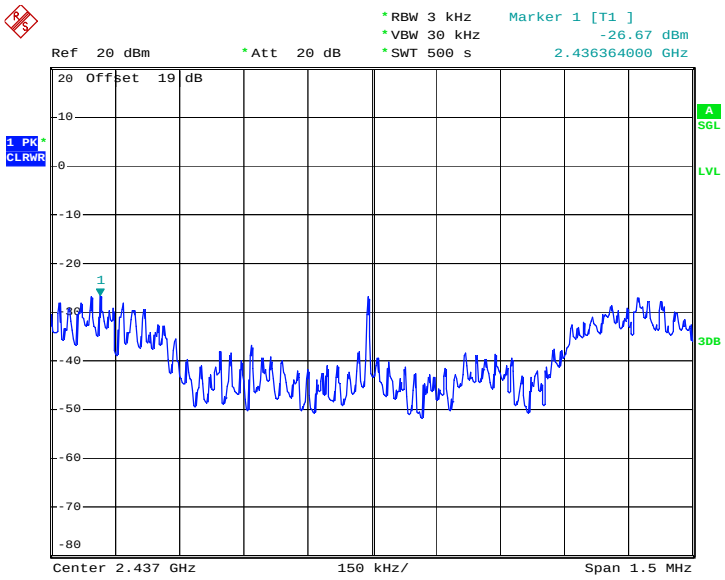
Chain A of Chain A+B+C (without combiner)



Date: 16.JAN.2009 16:45:35

Mode 11 : PSD Plot on 802.11n(40M) Channel 06

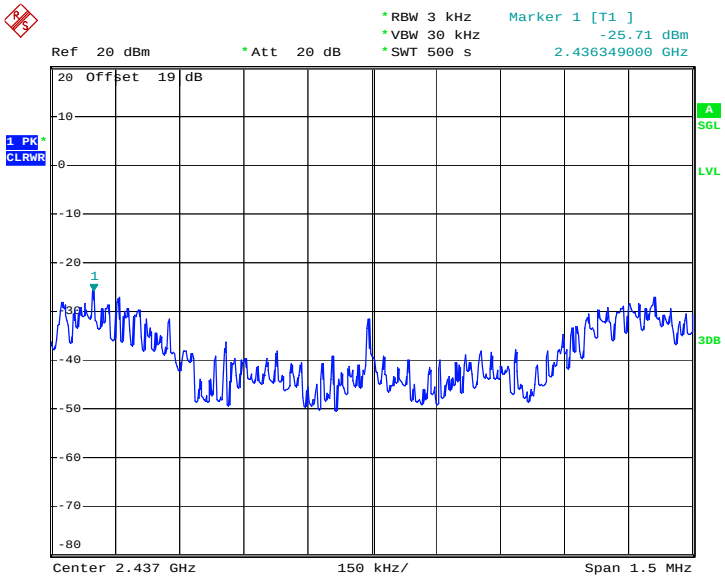
Chain B of Chain A+B+C (without combiner)



Date: 16.JAN.2009 16:58:24

Mode 11 : PSD Plot on 802.11n(40M) Channel 06

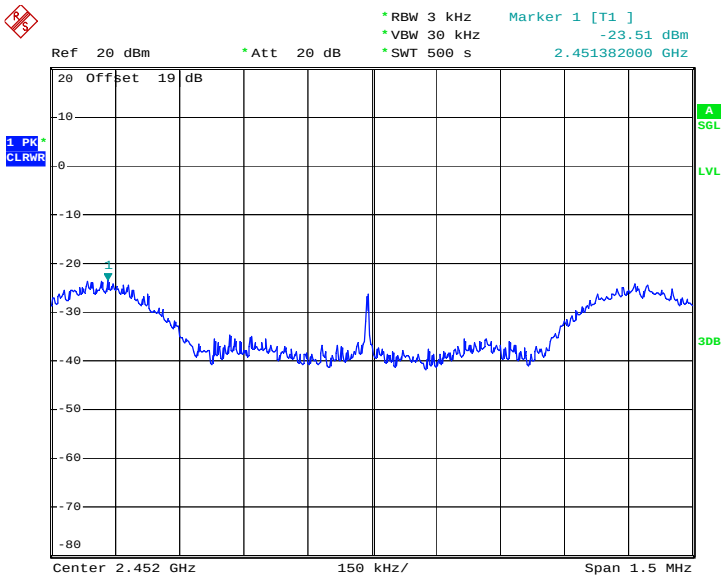
Chain C of Chain A+B+C (without combiner)



Date: 16.JAN.2009 17:07:55

Mode 12 : PSD Plot on 802.11n(40M) Channel 09

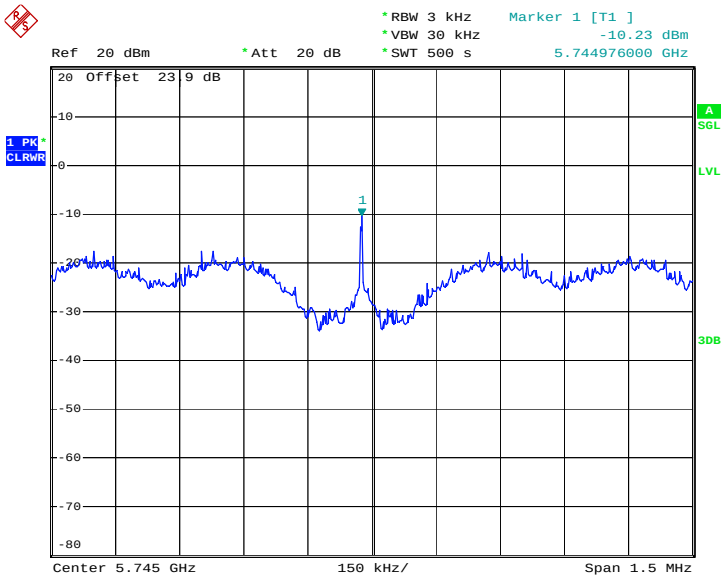
Chain A+B+C



Date: 5.DEC.2008 10:51:43

Mode 13 : PSD Plot on 802.11a Channel 149

Chain C

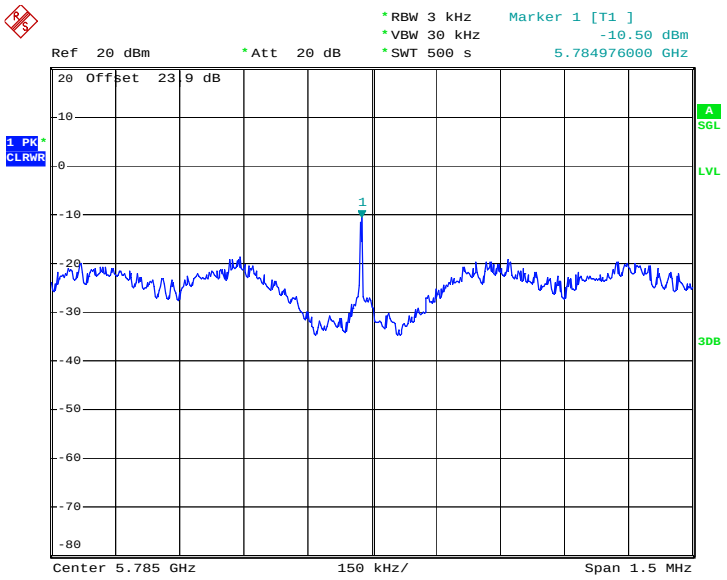


2nd comment ...

Date: 2.DEC.2008 15:23:55

Mode 14 : PSD Plot on 802.11a Channel 157

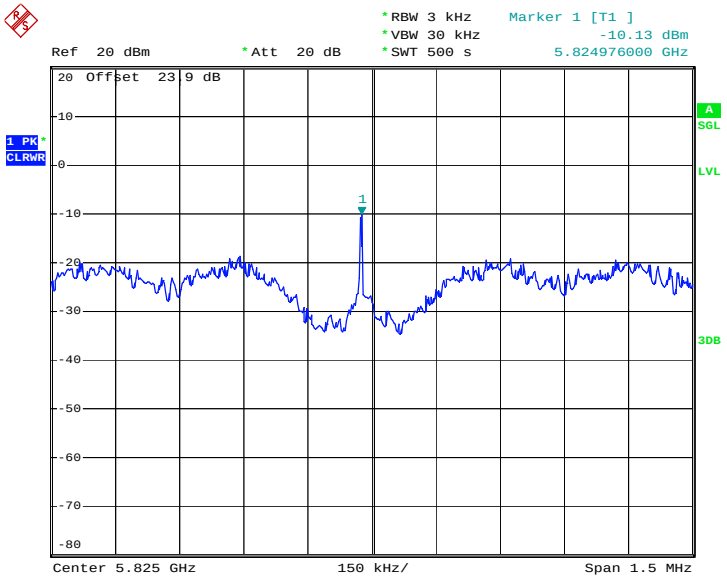
Chain C



Date: 5.DEC.2008 21:41:42

Mode 15 : PSD Plot on 802.11a Channel 165

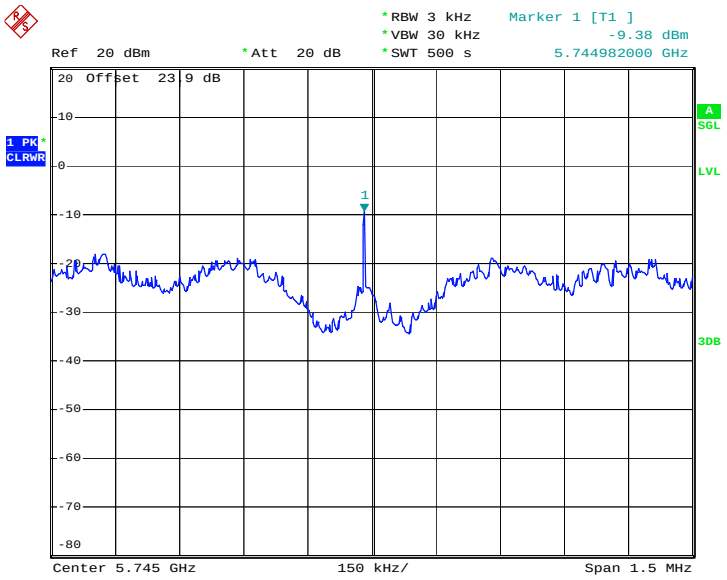
Chain C



Date: 5.DEC.2008 21:51:43

Mode 16 : PSD Plot on 802.11n(20M) Channel 149

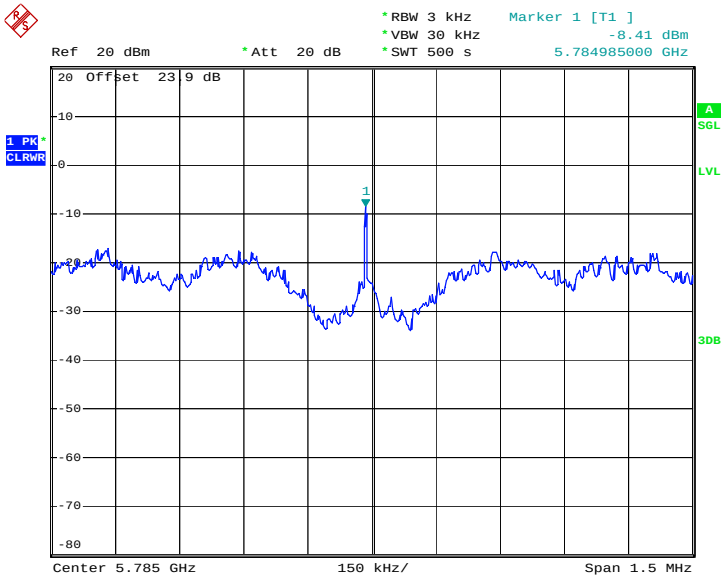
Chain B+C



Date: 5.DEC.2008 22:13:57

Mode 17 : PSD Plot on 802.11n(20M) Channel 157

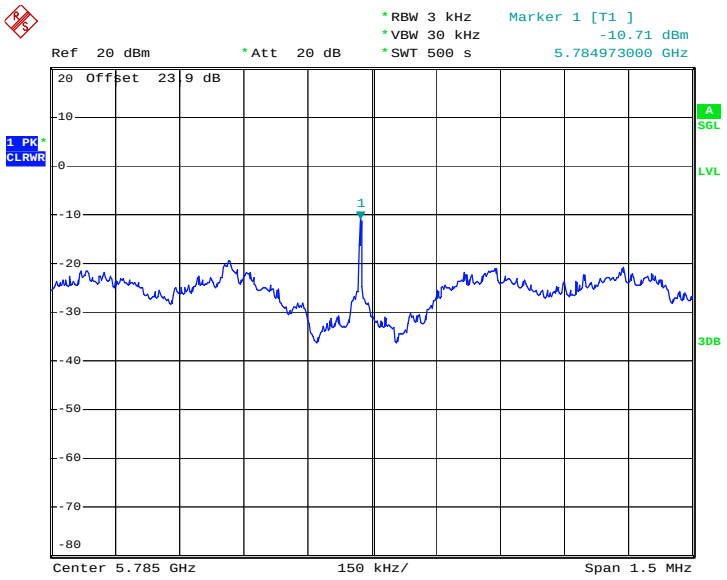
Chain B+C (with combiner)



Date: 5.DEC.2008 21:12:08

Mode 17 : PSD Plot on 802.11n(20M) Channel 157

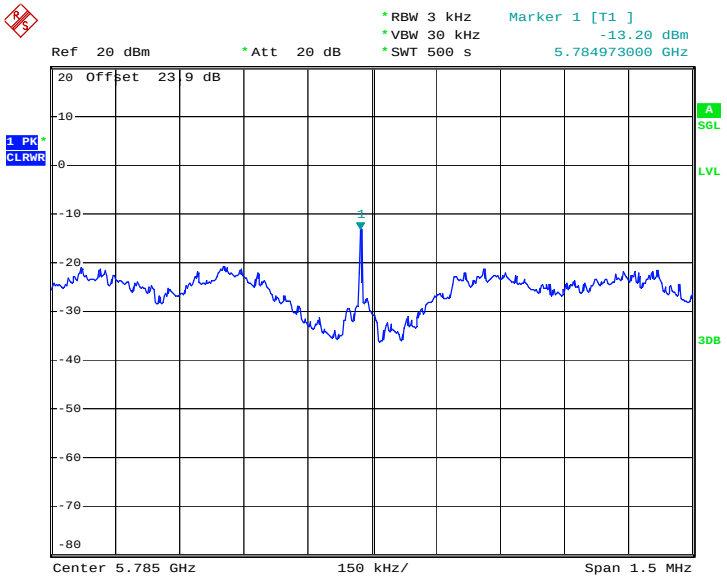
Chain B of Chain B+C (without combiner)



Date: 18.JAN.2009 13:50:04

Mode 17 : PSD Plot on 802.11n(20M) Channel 157

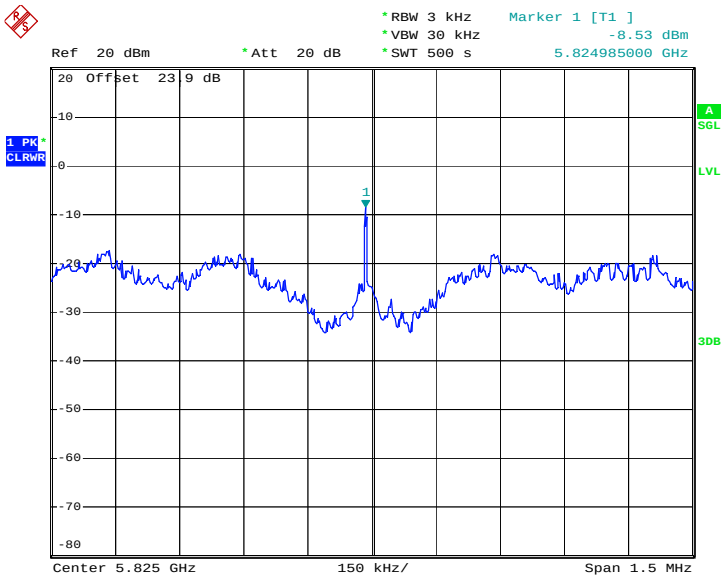
Chain C of Chain B+C (without combiner)



Date: 18.JAN.2009 13:58:53

Mode 18 : PSD Plot on 802.11n(20M)Channel 165

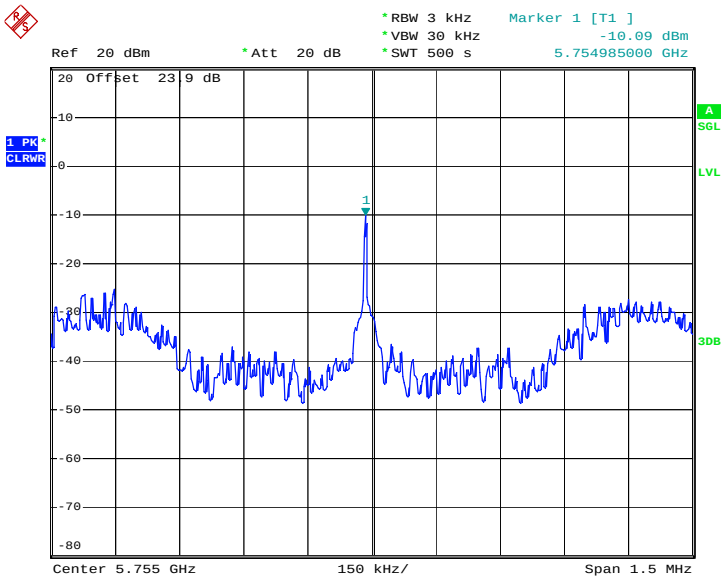
Chain B+C



Date: 5.DEC.2008 21:21:40

Mode 19 : PSD Plot on 802.11n(40M) Channel 151

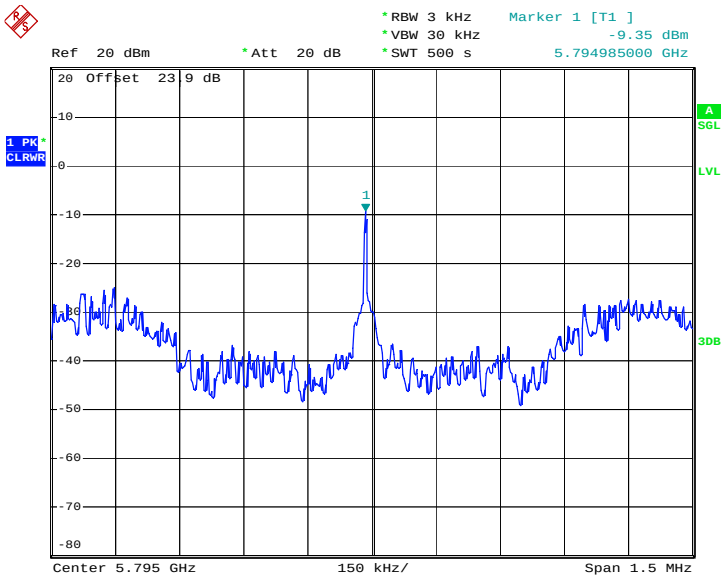
Chain A+B+C



Date: 5.DEC.2008 20:41:15

Mode 20 : PSD Plot on 802.11n(40M)Channel 159

Chain A+B+C



Date: 5.DEC.2008 20:54:26

3.5 AC Conducted Emission Measurement

3.5.1 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.

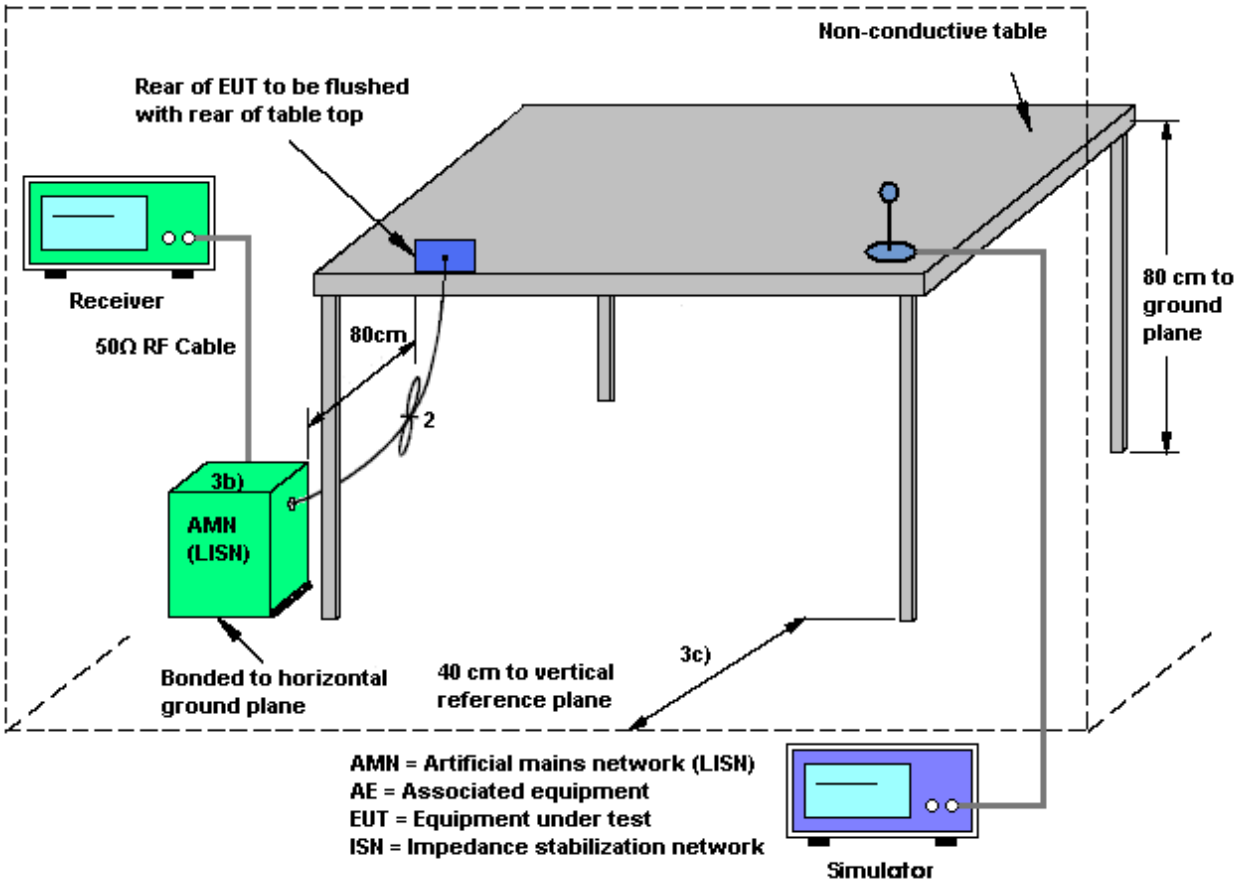
3.5.2 Measuring Instruments

See list of measuring instruments of this test report.

3.5.3 Test Procedures

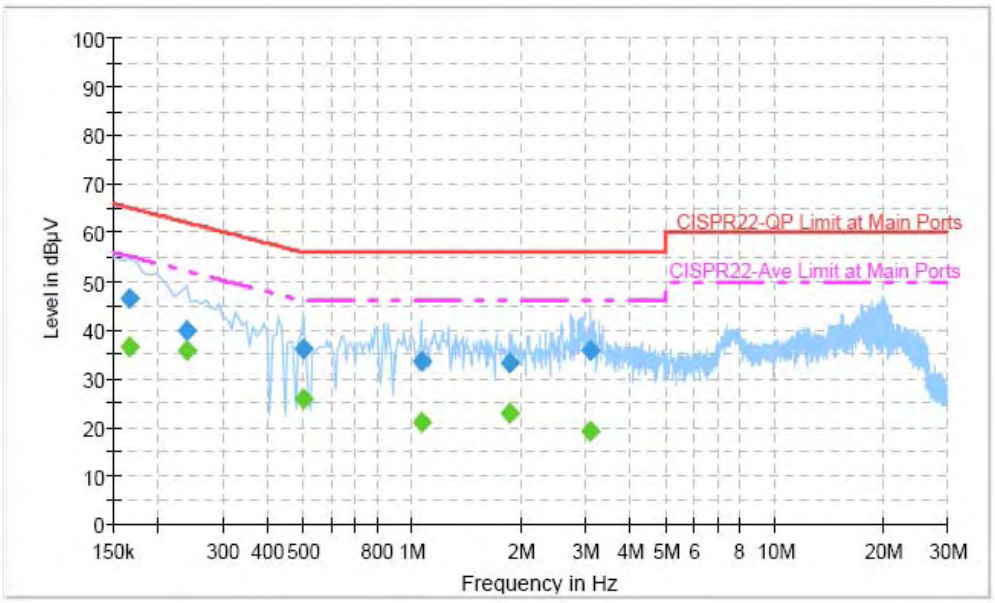
1. The testing follows the guidelines in ANSI C63.4-2003.
2. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
3. Connect EUT to the power mains through a line impedance stabilization network (LISN).
4. All the support units are connecting to the other LISN.
5. The LISN provides 50 ohm coupling impedance for the measuring instrument.
6. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
7. Both sides of AC line were checked for maximum conducted interference.
8. The frequency range from 150 kHz to 30 MHz was searched.
9. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

3.5.4 Test Setup



3.5.5 Test Result of AC Conducted Emission

Test Mode :	Mode 1	**Temperature :**	24~25℃
Test Engineer :	Cona Huang	**Relative Humidity :**	37~38%
		Phase :	Line
Function Type :	WLAN Link + Adapter		
Remark :	All emissions not reported here are more than 10 dB below the prescribed limit.		



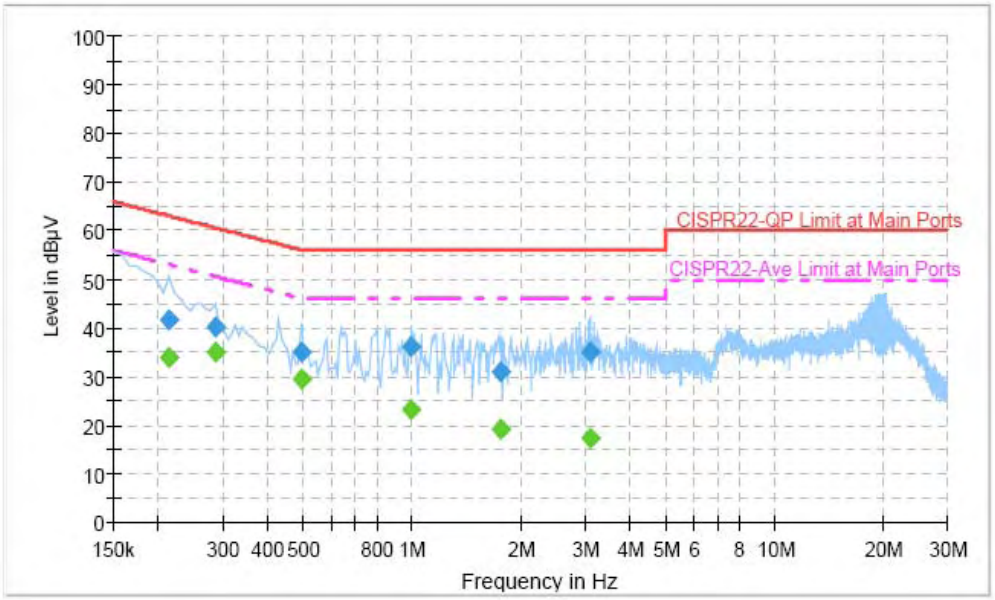
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	46.4	Off	L1	19.3	18.8	65.2
0.238000	40.0	Off	L1	19.4	22.2	62.2
0.502000	36.1	Off	L1	19.3	19.9	56.0
1.062000	33.5	Off	L1	19.4	22.5	56.0
1.862000	33.3	Off	L1	19.4	22.7	56.0
3.102000	35.8	Off	L1	19.5	20.2	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.166000	36.4	Off	L1	19.3	18.8	55.2
0.238000	35.8	Off	L1	19.4	16.4	52.2
0.502000	26.0	Off	L1	19.3	20.0	46.0
1.062000	20.9	Off	L1	19.4	25.1	46.0
1.862000	23.1	Off	L1	19.4	22.9	46.0
3.102000	19.3	Off	L1	19.5	26.7	46.0

Test Mode :	Mode 1	**Temperature :**	24~25℃
Test Engineer :	Cona Huang	**Relative Humidity :**	37~38%
		Phase :	Neutral
Function Type :	WLAN Link + Adapter		
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)
0.214000	41.9	Off	N	19.4	21.1	63.0
0.286000	40.2	Off	N	19.3	20.4	60.6
0.494000	35.0	Off	N	19.3	21.1	56.1
0.998000	36.3	Off	N	19.4	19.7	56.0
1.758000	30.9	Off	N	19.5	25.1	56.0
3.094000	35.0	Off	N	19.5	21.0	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.214000	33.9	Off	N	19.4	19.1	53.0
0.286000	34.9	Off	N	19.3	15.7	50.6
0.494000	29.4	Off	N	19.3	16.7	46.1
0.998000	23.2	Off	N	19.4	22.8	46.0
1.758000	19.2	Off	N	19.5	26.8	46.0
3.094000	17.2	Off	N	19.5	28.8	46.0