SPORTON International Inc.
No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.
Ph: 886-3-656-9065 / FAX: 886-3-656-9085 / www.sporton.com.tw

FCC RADIO TEST REPORT

Applicant's company	**Proxim Wireless Corporation**
Applicant Address	1561 Buckeye Drive, Milpitas, CA 95035, USA
FCC ID	**HZB-XB92WLE**
Manufacturer's company	**Proxim Wireless Corporation**
Manufacturer Address	1561 Buckeye Drive, Milpitas, CA 95035, USA

Product Name	802.11 a/n PCIe Module
Brand Name	Proxim
Model No.	XB92HP
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Received Date	Apr. 29, 2013
Final Test Date	Aug. 23, 2013
Submission Type	Class II Change
Operating Mode	Master / Client (with radar detection function) / Client (without radar detection function)

Statement

Test result included is for the IEEE 802.11n and IEEE 802.11a (5250 ~ 5350MHz / 5470 ~ 5725MHz) of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2009**, **47 CFR FCC Part 15 Subpart E, KDB 789033 D01 v01r03, KDB 662911 D01 v02**.

The test equipment used to perform the test is calibrated and traceable to NML/ROC.

Testing Laboratory
1190

Table of Contents

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR342910-01	Rev. 01	Initial issue of report	Sep. 06, 2013

Certificate No.: CB10205329

1. CERTIFICATE OF COMPLIANCE

Product Name	:	802.11 a/n PCIe Module
Brand Name	:	Proxim
Model No.	:	XB92HP
Applicant	:	Proxim Wireless Corporation
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Apr. 29, 2013 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen

Sam Chen

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	14.33 dB
4.2	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.3	15.407(a)	Maximum Conducted Output Power	Complies	0.03 dB
4.4	15.407(a)	Power Spectral Density	Complies	0.06 dB
4.5	15.407(a)	Peak Excursion	Complies	1.82 dB
4.6	15.407(b)	Radiated Emissions	Complies	0.05 dB
4.7	15.407(b)	Band Edge Emissions	Complies	0.01 dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	15.203	Antenna Requirements	Complies	-

Note: This is limited module approval application, and the module (Model number: XB92HP) will be limited to install in (Proxim / Tsunami 800 series product).

3. GENERAL INFORMATION

3.1. Product Details

IEEE 802.11n

Items	Description
Product Type	WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From host system
Modulation	see the below table for IEEE 802.11n
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	see the below table for IEEE 802.11n
Frequency Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	11 for 20MHz bandwidth ; 4 for 40MHz bandwidth
Channel Band Width (99%)	Mode 1 (Ant. 1): MCS0 (20MHz): 18.56 MHz ; MCS0 (40MHz): 36.80 MHz Mode 2 (Ant. 2): MCS0 (20MHz): 18.56 MHz ; MCS0 (40MHz): 36.80 MHz Mode 3 (Ant. 3): MCS0 (20MHz): 18.72 MHz ; MCS0 (40MHz): 36.80 MHz
Maximum Conducted Output Power	Mode 1 (Ant. 1): Band 2: MCS0 (20MHz): 13.93 dBm ; MCS0 (40MHz): 13.95 dBm Band 3: MCS0 (20MHz): 13.95 dBm ; MCS0 (40MHz): 13.93 dBm Mode 2 (Ant. 2): Band 2: MCS0 (20MHz): 21.89 dBm ; MCS0 (40MHz): 17.96 dBm Band 3: MCS0 (20MHz): 19.75 dBm ; MCS0 (40MHz): 20.85 dBm Mode 3 (Ant. 3): Band 2: MCS0 (20MHz): 21.89 dBm ; MCS0 (40MHz): 18.27 dBm Band 3: MCS0 (20MHz): 21.52 dBm ; MCS0 (40MHz): 20.80 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

IEEE 802.11a

Items	Description
Product Type	WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From host system
Modulation	OFDM for IEEE 802.11a
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	OFDM (6/9/12/18/24/36/48/54)
Frequency Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	11
Channel Band Width (99%)	Mode 1 (Ant. 1): 17.44 MHz Mode 2 (Ant. 2): 17.28 MHz Mode 3 (Ant. 3): 17.44 MHz
Maximum Conducted Output Power	Mode 1 (Ant. 1): Band 2: 13.87 dBm ; Band 3: 13.97 dBm Mode 2 (Ant. 2): Band 2: 21.12 dBm ; Band 3: 19.93 dBm Mode 3 (Ant. 3): Band 2: 21.71 dBm ; Band 3: 21.35 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Antenna and Band width

Antenna	Two (TX)	
Band width Mode	20 MHz	40 MHz
IEEE 802.11a	V	X
IEEE 802.11n	V	V

IEEE 11n Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	2	MCS 0-15
802.11n (HT40)	2	MCS 0-15
Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). Then EUT support HT20 and HT40. Note 2: Modulation modes consist of below configuration: HT20/HT40: IEEE 802.11n		

3.2. Accessories

N/A

3.3. Table for Filed Antenna

Ant.	Brand	Model No.	Type	Connector	Gain (dBi)	Attenuator (dBi)	Cable Loss	True Gain (dBi)
1	MARS	MA-WA55-30	Panel	N Type	30	12	2	16
2	MARS	MA-WB55-20	Sector	N Type	20	10	2	8
3	MARS	MA-WO55-10NH	Omni	N Type	10	-	2	8
4	Grand-Tek	GTT-AC-05-001	Panel	MMCX type	16	-	-	16

Note: 1. Ant. 1: 12dB attenuator was added in front of antenna port due to simulate the real cable use.

2. Ant. 2: 10dB attenuator was added in front of antenna port due to simulate the real cable use.

Ant.	5250~5350 MHz (Band 2)	5470~5725 MHz (Band 3)
1	V	V
2	V	V
3	V	V
4	V	V

Note: The EUT has total antennas amounted to four sets.

Because Ant. 1 and Ant. 4 are the same type antennas, only the higher gain antenna “Ant. 1” was tested and recorded in the report.

For IEEE 802.11a/n mode (2TX/2RX)

Chain 1 and Chain 2 could transmit/receive simultaneously.

3.4. Table for Carrier Frequencies

The EUT has two bandwidth system.

For 20MHz bandwidth systems, use Channel 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140.

For 40MHz bandwidth systems, use Channel 62, 102, 110, 134.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5250~5350 MHz Band 2	56	5280 MHz	62	5310 MHz
	60	5300 MHz	64	5320 MHz
5470~5725 MHz Band 3	100	5500 MHz	116	5580 MHz
	102	5510 MHz	132	5660 MHz
	104	5520 MHz	134	5670 MHz
	108	5540 MHz	136	5680 MHz
	110	5550 MHz	140	5700 MHz
	112	5560 MHz		

3.5. Table for Product Information

Items	Description	
Communication Mode	☒ IP Based (Load Based)	☐ Frame Based
TPC Function	☒ With TPC	☐ Without TPC
Weather Band (5600~5650MHz)	☐ With 5600~5650MHz	☒ Without 5600~5650MHz
Beamforming Function	☐ With beamforming	☒ Without beamforming

3.6. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode		Data Rate	Channel	Chain
AC Power Conducted Emission	CTX		-	-	-
Max. Conducted Output Power	11n 20MHz	Band 2-3	MCS0	56/60/64/100/116/140	1+2
	11n 40MHz	Band 2-3	MCS0	62/102/110/134	1+2
	11a/BPSK	Band 2-3	6Mbps	56/60/64/100/116/140	1+2
Power Spectral Density	11n 20MHz	Band 2-3	MCS0	56/60/64/100/116/140	1+2
	11n 40MHz	Band 2-3	MCS0	62/102/110/134	1+2
	11a/BPSK	Band 2-3	6Mbps	56/60/64/100/116/140	1+2
26dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	11n 20MHz	Band 2-3	MCS0	56/60/64/100/116/140	1+2
	11n 40MHz	Band 2-3	MCS0	62/102/110/134	1+2
	11a/BPSK	Band 2-3	6Mbps	56/60/64/100/116/140	1+2
Peak Excursion	11n 20MHz	Band 2-3	MCS0	56/60/64/100/116/140	1+2
	11n 40MHz	Band 2-3	MCS0	62/102/110/134	1+2
	11a/BPSK	Band 2-3	6Mbps	56/60/64/100/116/140	1+2
Radiated Emission Below 1GHz	CTX		-	-	-
Radiated Emission Above 1GHz	11n 20MHz	Band 2-3	MCS0	56/60/64/100/116/140	1+2
	11n 40MHz	Band 2-3	MCS0	62/102/110/134	1+2
	11a/BPSK	Band 2-3	6Mbps	56/60/64/100/116/140	1+2
Band Edge Emission	11n 20MHz	Band 2-3	MCS0	56/60/64/100/140	1+2
	11n 40MHz	Band 2-3	MCS0	62/102/110/134	1+2
	11a/BPSK	Band 2-3	6Mbps	56/60/64/100/140	1+2
Frequency Stability	Un-modulation		-	60/100	N/A

The following test modes were performed for all tests:

For AC Power Line Conducted Emissions and Radiated Emissions below 1GHz tests:

Mode. EUT + Ant. 1

For others tests:

Mode 1. EUT + Ant. 1

Mode 2. EUT + Ant. 2

Mode 3. EUT + Ant. 3

All test results were recorded in the report.

Note: The antennas are placed by cross-polarization during operating, therefore no array gain issue will be considered.

3.7. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File No.	VCCI Reg. No
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

Please refer section 6 for Test Site Address.

3.8. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR342910

Below is the table for the change of the product with respect to the original one.

Modifications	Performance Checking
Add Band 2 and Band 3 (5250~5350 MHz, 5470~5725 MHz) for this device	1. AC Power Line Conducted Emissions 2. 26dB Spectrum Bandwidth 3. Maximum Conducted Output Power 4. Power Spectral Density 5. Peak Excursion 6. Radiated Emissions 7. Band Edge Emissions 8. Frequency Stability

3.9. Table for Supporting Units

For Test Site No: 03CH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6220	D2A62L1989V5
Fixture	Bplus Technology Co., Ltd.	PE3B	N/A
Power Supply	Gwinstek	GPC-6030D	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6430	QDS-BRCM1049LE
Fixture	Bplus Technology Co., Ltd.	PE3B	N/A
Power Supply	Gwinstek	GPC-6030D	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1330	E2KWM3945ABG
Fixture	Bplus Technology Co., Ltd.	PE3B	N/A
Power Supply	Gwinstek	GPC-6030D	N/A

3.10. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. 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.

Power Parameters of IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n					
Frequency	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
MCS0 20MHz	7.5	7	8	6.5	9	8

Power Parameters of IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n			
Frequency	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0 40MHz	7	6.5	8	7

Power Parameters of IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n					
Frequency	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	7.5	7	8	6.5	9	8.5

Power Parameters of IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n					
Frequency	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
MCS0 20MHz	12.5	14.5	13.5	12.5	13.5	12.5

Power Parameters of IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n			
Frequency	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0 40MHz	10	8.5	13.5	12

Power Parameters of IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n					
Frequency	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	12.5	14	13.5	13.5	13	13

Power Parameters of IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n					
Frequency	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
MCS0 20MHz	14	14.5	13	13.5	15	13.5

Power Parameters of IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2

Test Software Version	ART Rev 0.9 BUILD #27 ART_11n			
Frequency	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0 40MHz	10.5	10	13	13.5

Power Parameters of IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2

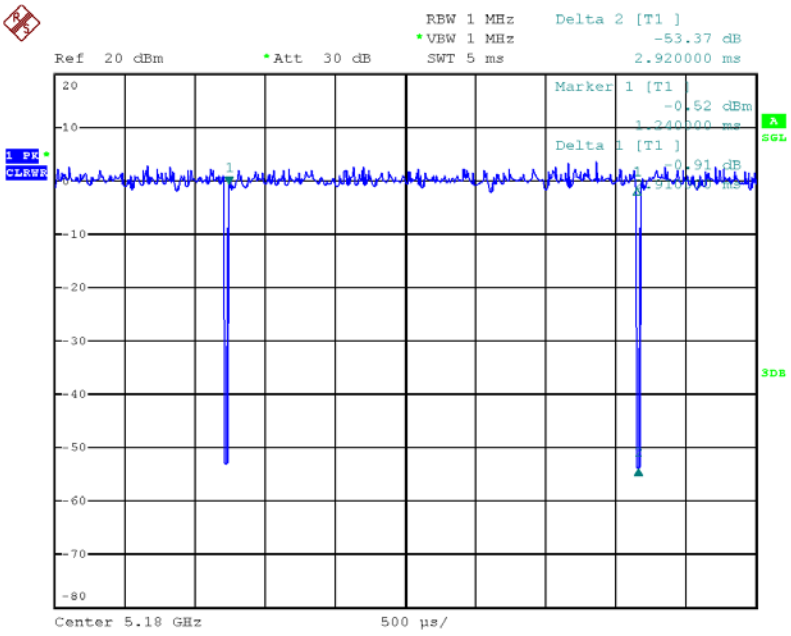
Test Software Version	ART Rev 0.9 BUILD #27 ART_11n					
Frequency	5280 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	14.5	14.5	13.5	14	15	14

3.11. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

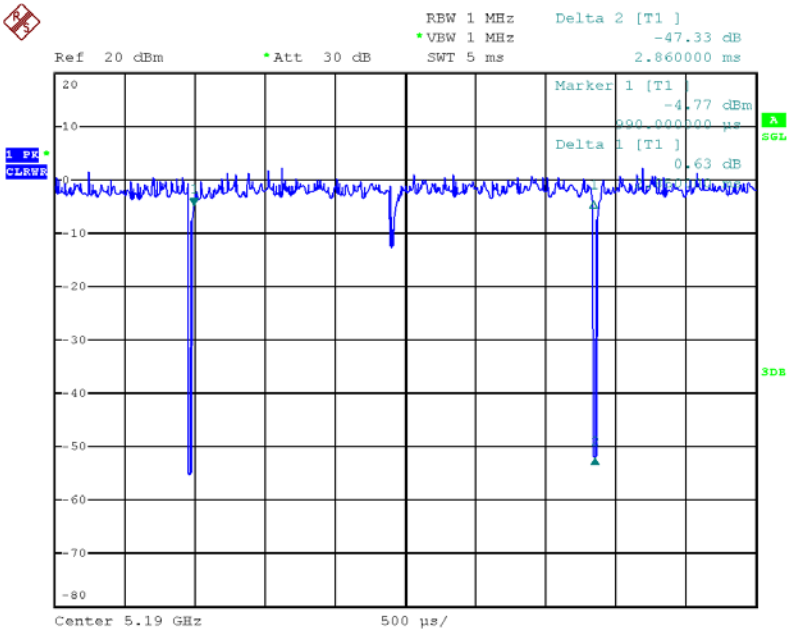
3.12. Duty Cycle

IEEE 802.11n MCS0 20MHz / Chain 1 + Chain 2



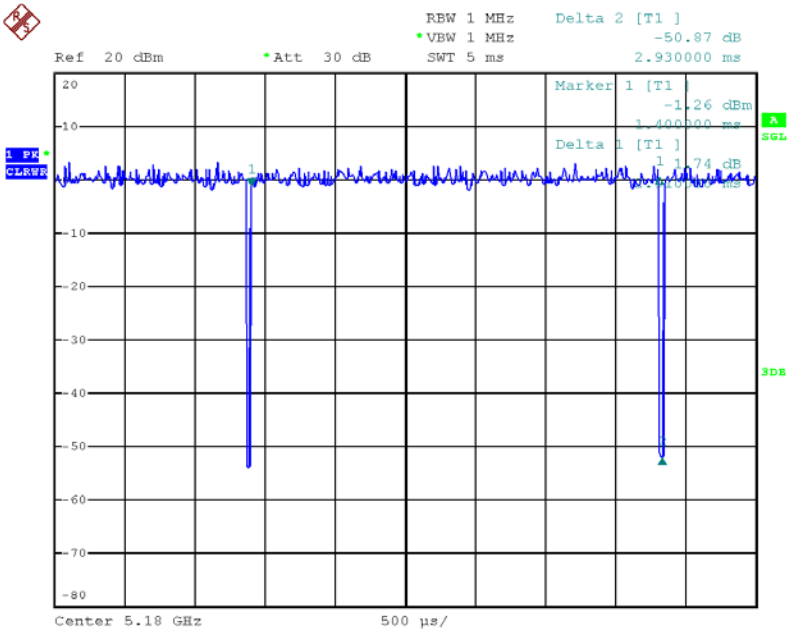
Date: 23.MAY.2013 04:51:27

IEEE 802.11n MCS0 40MHz / Chain 1 + Chain 2



Date: 23.MAY.2013 04:53:14

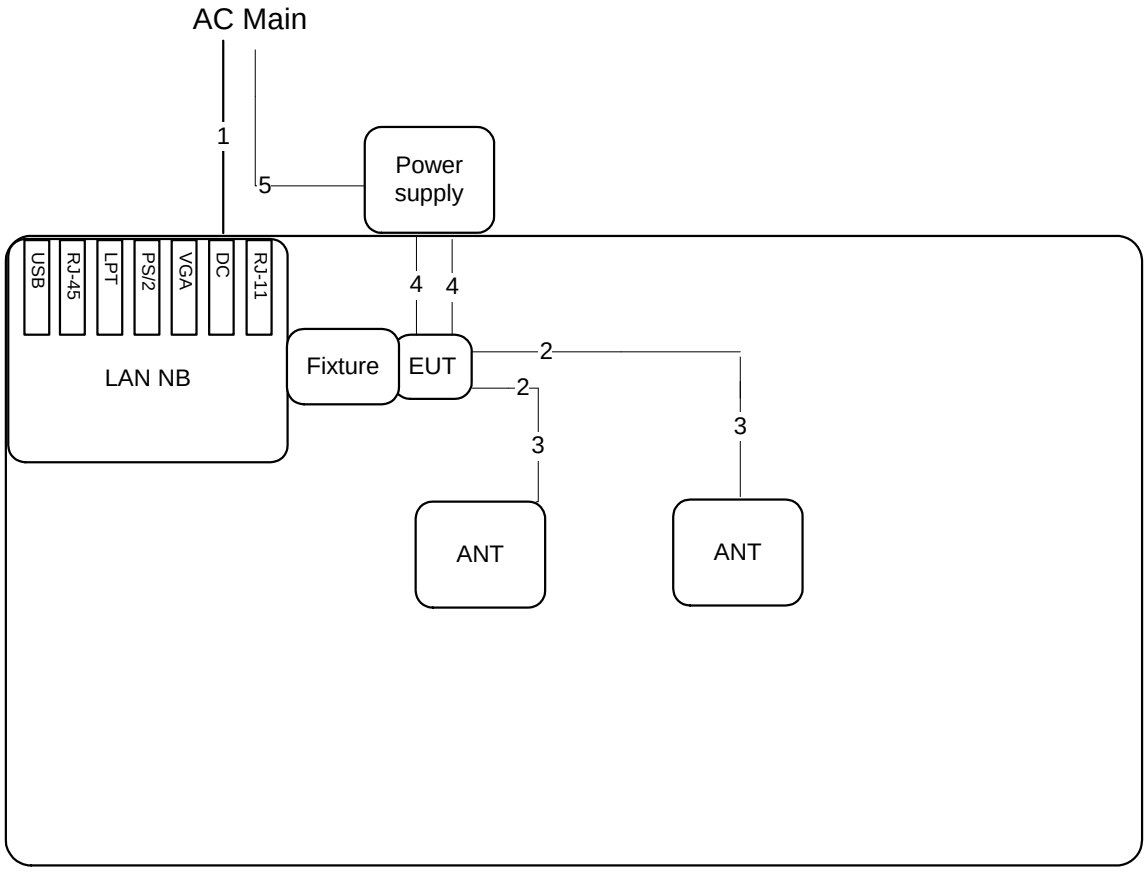
IEEE 802.11a / Chain 1 + Chain 2



Date: 23.MAY.2013 04:52:04

3.13. Test Configurations

3.13.1. AC Power Line Conduction Emissions and Radiation Emissions Test Configuration



Item	Connection	Shielded	Length
1	AC Power cable	No	1.8m
2	Ant Cable	No	0.17m
3	Ant Cable	No	1.0m
4	Power supply cable	No	1.1m
5	AC Power cable	No	1.8m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product that is designed to connect to the 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 below limits table.

Frequency (MHz)	QP Limit (dBuV)	AV Limit (dBuV)
0.15~0.5	66~56	56~46
0.5~5	56	46
5~30	60	50

4.1.2. Measuring Instruments and Setting

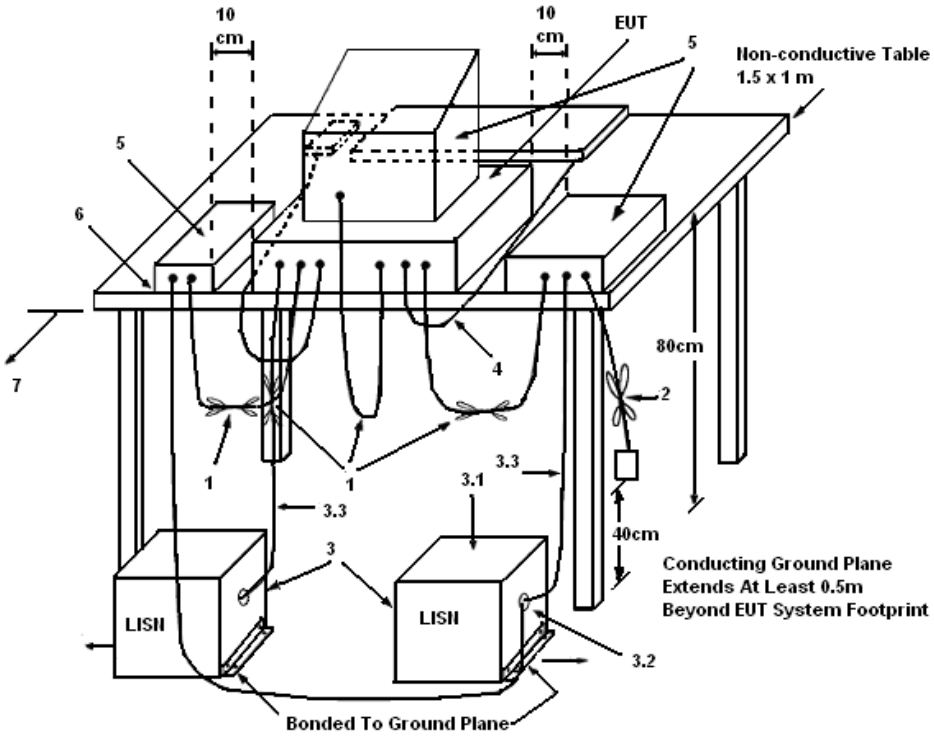
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

4.1.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT or host of EUT has to be placed 0.4 meter far from the conducting wall of the shielding room and at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT or host of EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connected to the other LISNs. The LISN should provide 50uH/50ohms coupling impedance.
4. The frequency range from 150 kHz to 30 MHz was searched.
5. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. The measurement has to be done between each power line and ground at the power terminal.

4.1.4. Test Setup Layout



LEGEND:

(1) Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

(2) I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

(3) EUT connected to one LISN. Unused LISN measuring port connectors shall be terminated in 50 Ω. LISN can be placed on top of, or immediately beneath, reference ground plane.

(3.1) All other equipment powered from additional LISN(s).

(3.2) Multiple outlet strip can be used for multiple power cords of non-EUT equipment.

(3.3) LISN at least 80 cm from nearest part of EUT chassis.

(4) Cables of hand-operated devices, such as keyboards, mice, etc., shall be placed as for normal use.

(5) Non-EUT components of EUT system being tested.

(6) Rear of EUT, including peripherals, shall all be aligned and flush with rear of tabletop.

(7) Rear of tabletop shall be 40 cm removed from a vertical conducting plane that is bonded to the ground plane.

4.1.5. Test Deviation

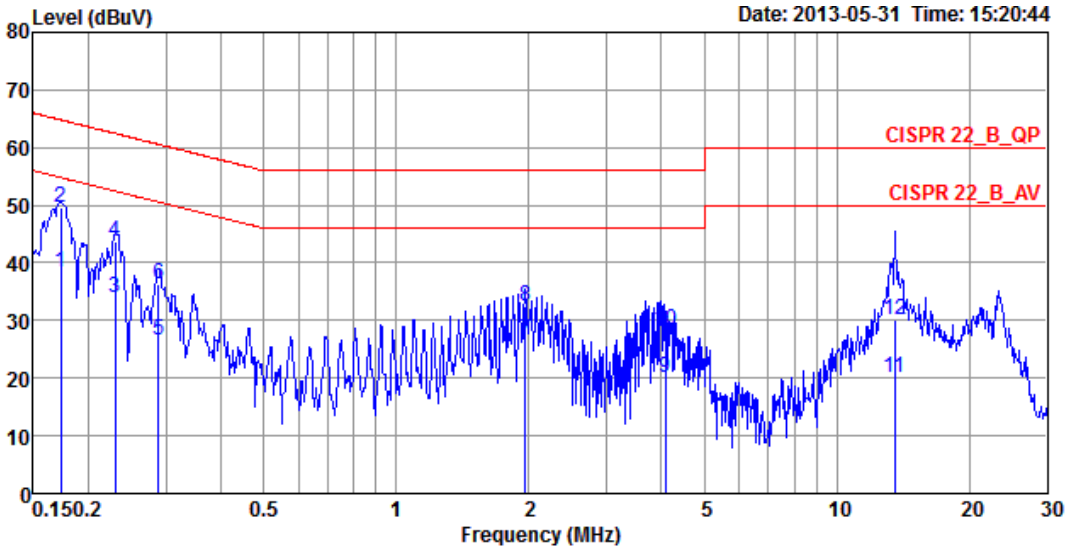
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was placed on the test table and programmed in normal function.

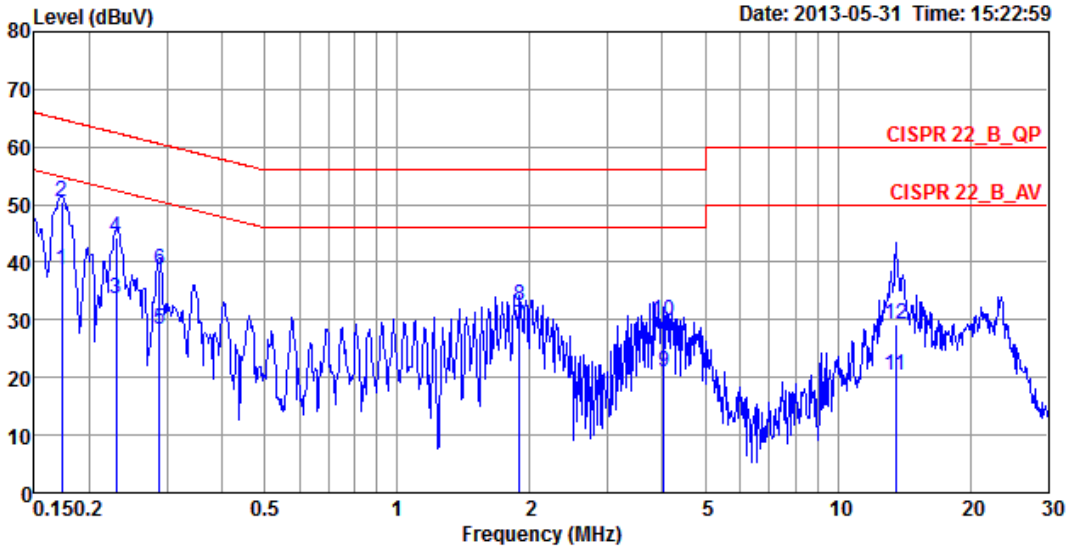
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	25°C	Humidity	49%
Test Engineer	Ryo Fan	Phase	Line
Configuration	CTX	Test Mode	EUT + Ant. 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 av	0.17	38.43	-16.38	54.81	38.16	0.22	0.05	Average
2	0.17	49.48	-15.33	64.81	49.21	0.22	0.05	QP
3	0.23	33.86	-18.58	52.44	33.58	0.21	0.07	Average
4	0.23	43.71	-18.73	62.44	43.43	0.21	0.07	QP
5	0.29	26.65	-23.94	50.59	26.38	0.21	0.06	Average
6	0.29	36.30	-24.29	60.59	36.03	0.21	0.06	QP
7	1.96	26.62	-19.38	46.00	26.29	0.25	0.08	Average
8	1.96	32.49	-23.51	56.00	32.16	0.25	0.08	QP
9	4.08	20.10	-25.90	46.00	19.68	0.29	0.13	Average
10	4.08	28.27	-27.73	56.00	27.85	0.29	0.13	QP
11	13.55	19.93	-30.07	50.00	19.24	0.56	0.13	Average
12	13.55	29.97	-30.03	60.00	29.28	0.56	0.13	QP

Temperature	25°C	Humidity	49%
Test Engineer	Ryo Fan	Phase	Neutral
Configuration	CTX	Test Mode	EUT + Ant. 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1 av	0.17	38.67	-16.14	54.81	38.54	0.08	0.05	Average
2	0.17	50.48	-14.33	64.81	50.35	0.08	0.05	QP
3	0.23	33.62	-18.82	52.44	33.48	0.07	0.07	Average
4	0.23	44.15	-18.29	62.44	44.01	0.07	0.07	QP
5	0.29	28.33	-22.26	50.59	28.19	0.08	0.06	Average
6	0.29	38.71	-21.88	60.59	38.57	0.08	0.06	QP
7	1.90	28.96	-17.04	46.00	28.76	0.12	0.08	Average
8	1.90	32.54	-23.46	56.00	32.34	0.12	0.08	QP
9	4.03	20.86	-25.14	46.00	20.58	0.15	0.13	Average
10	4.03	29.93	-26.07	56.00	29.65	0.15	0.13	QP
11	13.55	20.46	-29.54	50.00	19.95	0.38	0.13	Average
12	13.55	29.29	-30.71	60.00	28.78	0.38	0.13	QP

Note:

Level = Read Level + LISN Factor + Cable Loss

4.2. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.2.1. Limit

No restriction limits.

4.2.2. Measuring Instruments and Setting

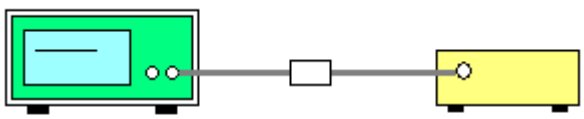
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

26dB Bandwidth	
Spectrum Parameters	**Setting**
Attenuation	Auto
Span Frequency	> 26dB Bandwidth
RBW	Approximately 1% of the emission bandwidth
VBW	VBW > RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto
99% Occupied Bandwidth	
Spectrum Parameters	**Setting**
Span	1.5 times to 5.0 times the OBW
RBW	1 % to 5 % of the OBW
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold

4.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. Measure the maximum width of the emission that is 26 dB down from the peak of the emission. Compare this with the RBW setting of the analyzer. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is approximately 1%.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of 26dB Bandwidth and 99% Occupied Bandwidth

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11n
Test Mode	Mode 1. EUT + Ant. 1		

Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
56	5280 MHz	25.92	18.56
60	5300 MHz	26.24	18.56
64	5320 MHz	25.60	18.56
100	5500 MHz	25.76	18.56
116	5580 MHz	24.96	18.56
140	5700 MHz	25.76	18.56

Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
62	5310 MHz	45.76	36.80
102	5510 MHz	44.80	36.80
110	5550 MHz	44.80	36.48
134	5670 MHz	45.12	36.48

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11a
Test Mode	Mode 1. EUT + Ant. 1		

Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
56	5280 MHz	24.00	17.44
60	5300 MHz	24.64	17.28
64	5320 MHz	24.48	17.28
100	5500 MHz	24.00	17.28
116	5580 MHz	24.00	17.44
140	5700 MHz	24.00	17.44

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11n
Test Mode	Mode 2. EUT + Ant. 2		

Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
56	5280 MHz	25.12	18.56
60	5300 MHz	26.72	18.56
64	5320 MHz	25.76	18.56
100	5500 MHz	24.80	18.40
116	5580 MHz	25.44	18.56
140	5700 MHz	25.92	18.56

Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
62	5310 MHz	46.72	36.48
102	5510 MHz	46.08	36.48
110	5550 MHz	64.64	36.48
134	5670 MHz	52.80	36.80

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11a
Test Mode	Mode 2. EUT + Ant. 2		

Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
56	5280 MHz	24.16	17.28
60	5300 MHz	25.76	17.28
64	5320 MHz	23.84	17.12
100	5500 MHz	24.16	17.28
116	5580 MHz	25.92	17.28
140	5700 MHz	24.32	17.28

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11n
Test Mode	Mode 3. EUT + Ant. 3		

Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
56	5280 MHz	24.64	18.56
60	5300 MHz	26.72	18.56
64	5320 MHz	24.80	18.56
100	5500 MHz	25.76	18.40
116	5580 MHz	26.72	18.72
140	5700 MHz	24.80	18.72

Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2

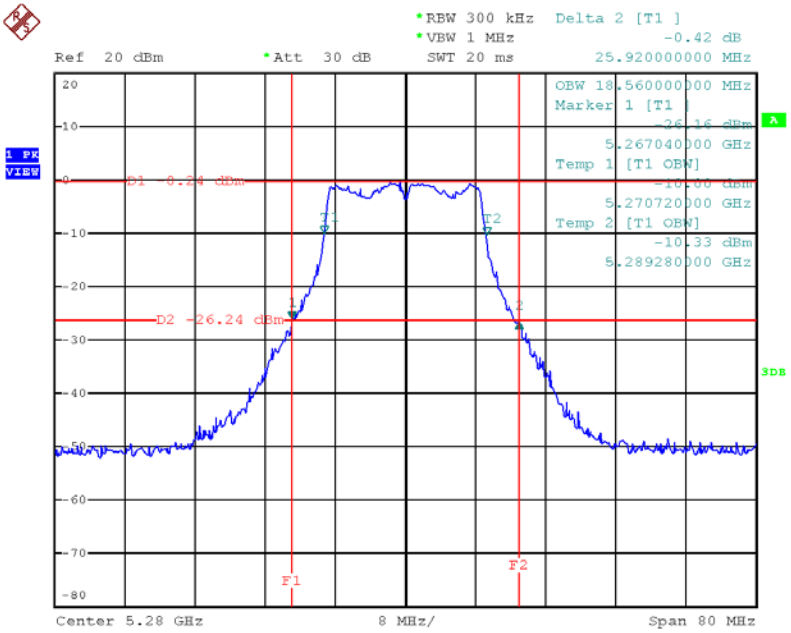
Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
62	5310 MHz	46.40	36.48
102	5510 MHz	46.08	36.48
110	5550 MHz	55.36	36.80
134	5670 MHz	60.16	36.48

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Mode	Mode 3. EUT + Ant. 3		

Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2

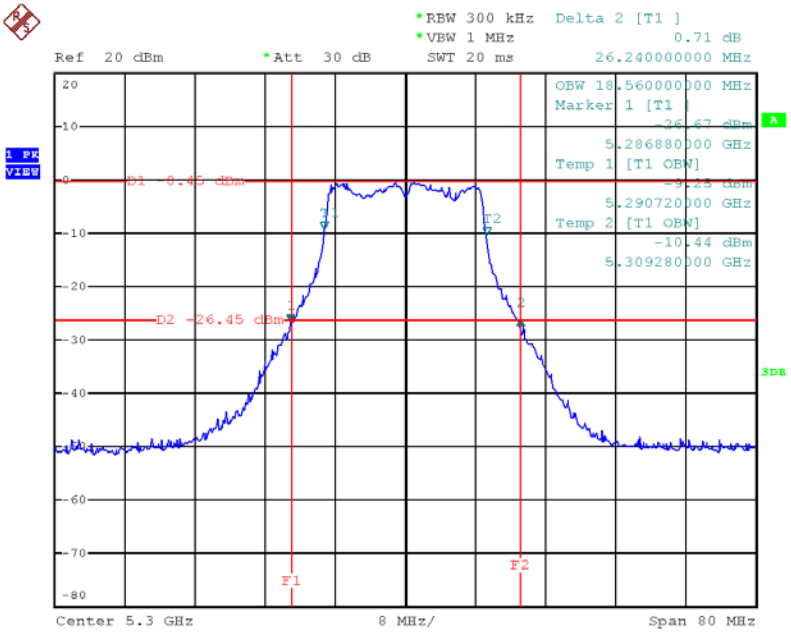
Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
56	5280 MHz	25.92	17.28
60	5300 MHz	24.16	17.28
64	5320 MHz	23.84	17.12
100	5500 MHz	23.84	17.28
116	5580 MHz	25.60	17.44
140	5700 MHz	24.64	17.44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / / Ant. 1 / Chain 1 + Chain 2 / 5280 MHz



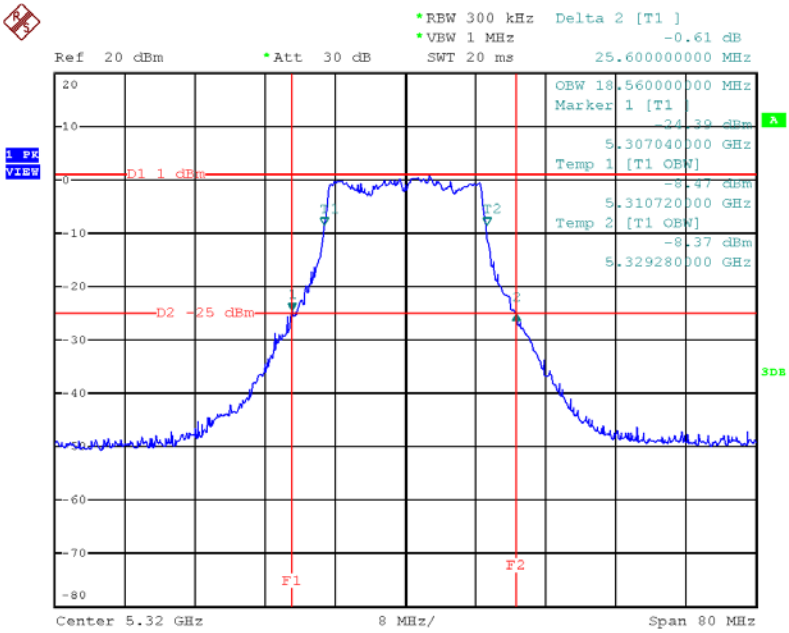
Date: 23.AUG.2013 00:37:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5300 MHz



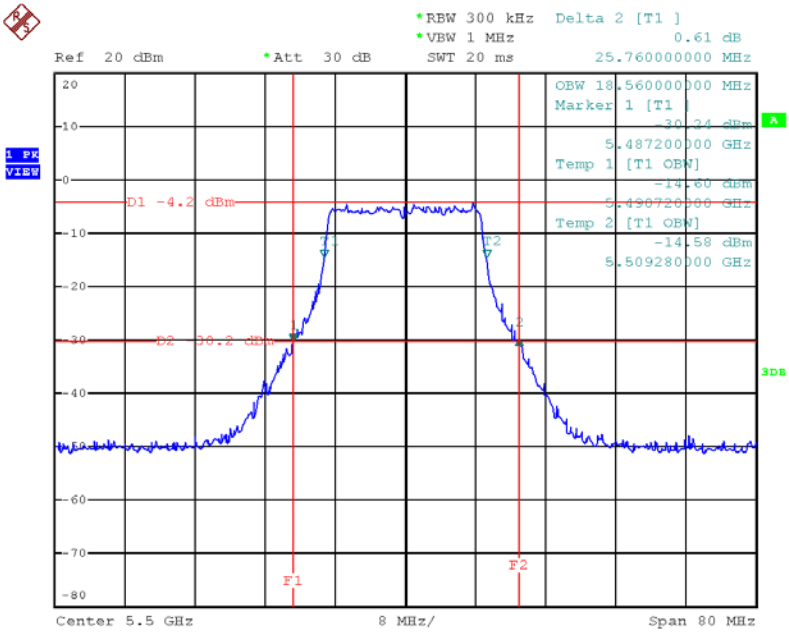
Date: 23.AUG.2013 00:35:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5320 MHz



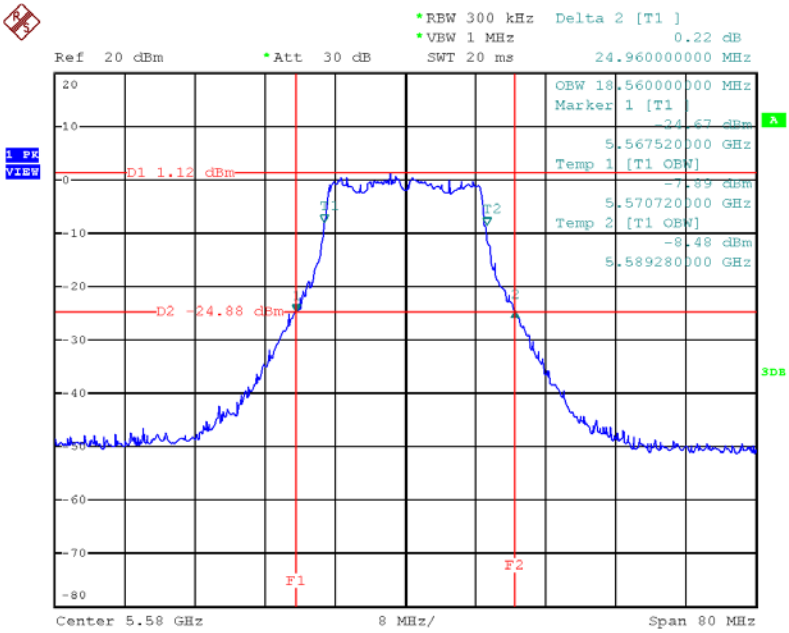
Date: 23.AUG.2013 00:33:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5500 MHz



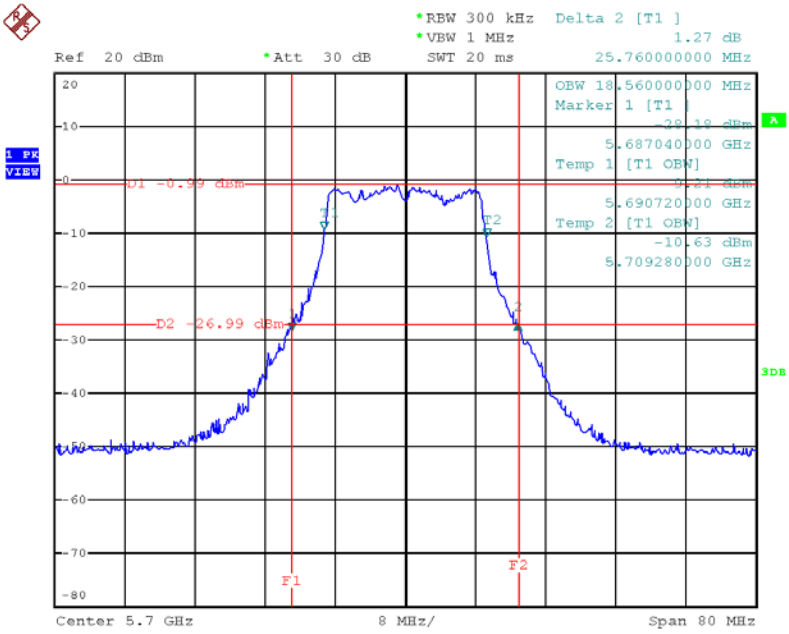
Date: 23.AUG.2013 00:31:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5580 MHz



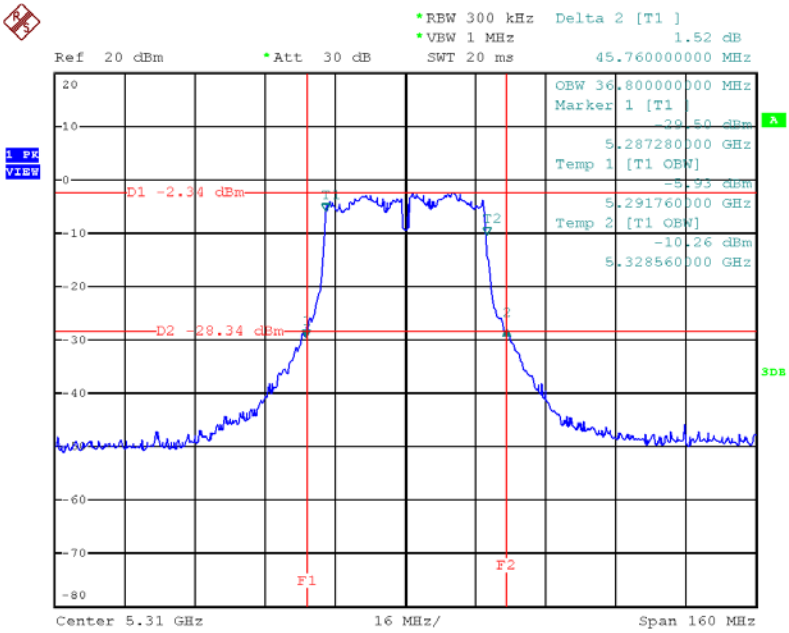
Date: 23.AUG.2013 00:28:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5700 MHz

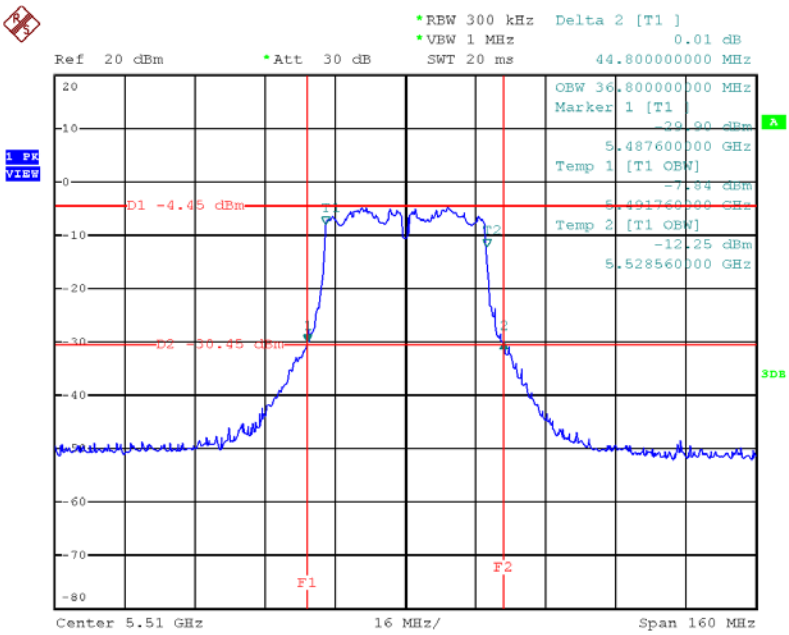


Date: 23.AUG.2013 00:26:39

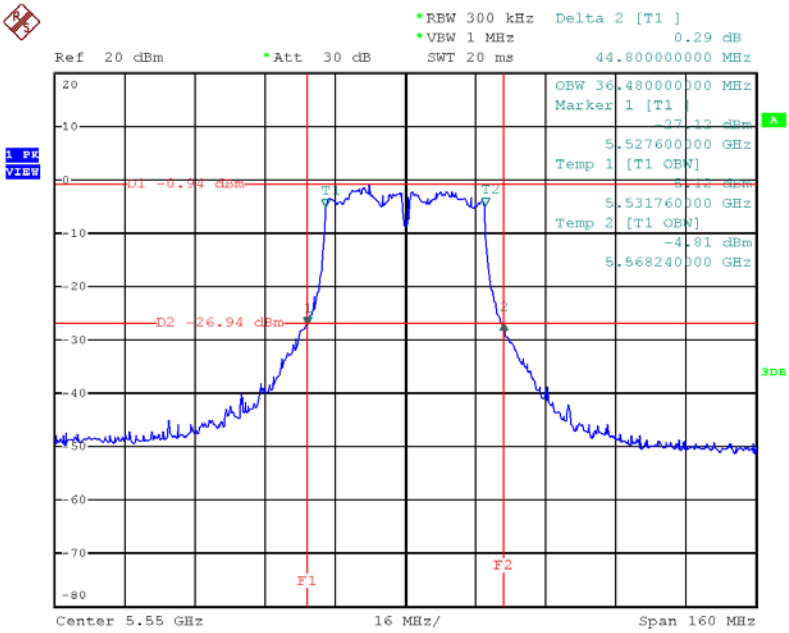
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2 / 5310 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2 / 5510 MHz

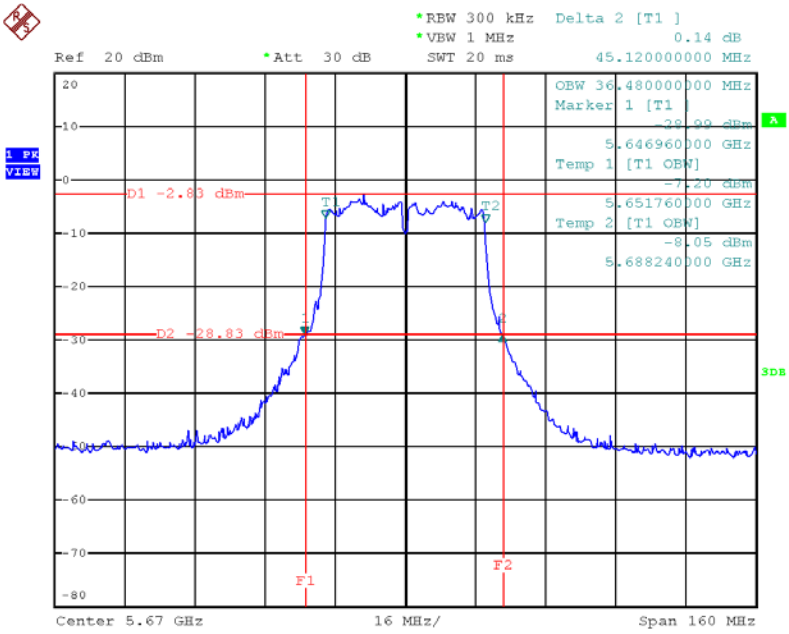


26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2 / 5550 MHz



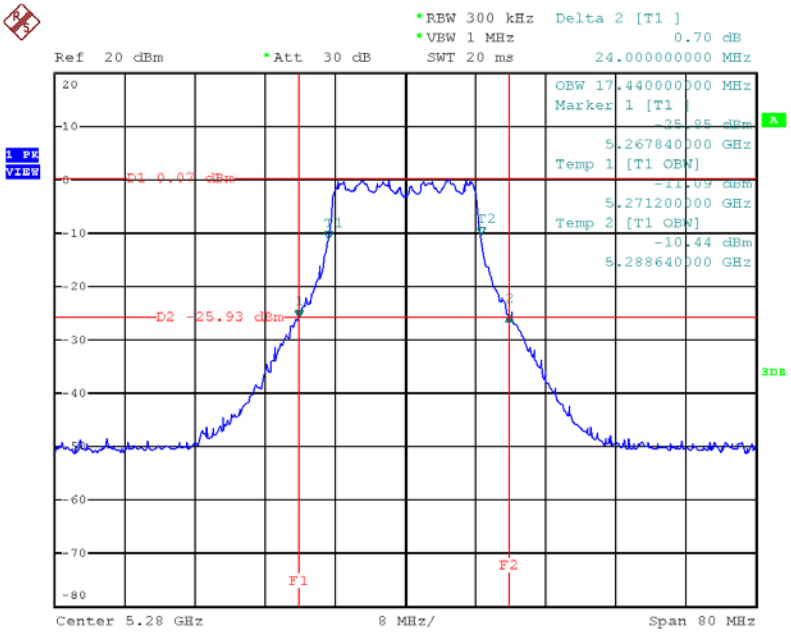
Date: 23.AUG.2013 00:47:02

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2 / 5670 MHz



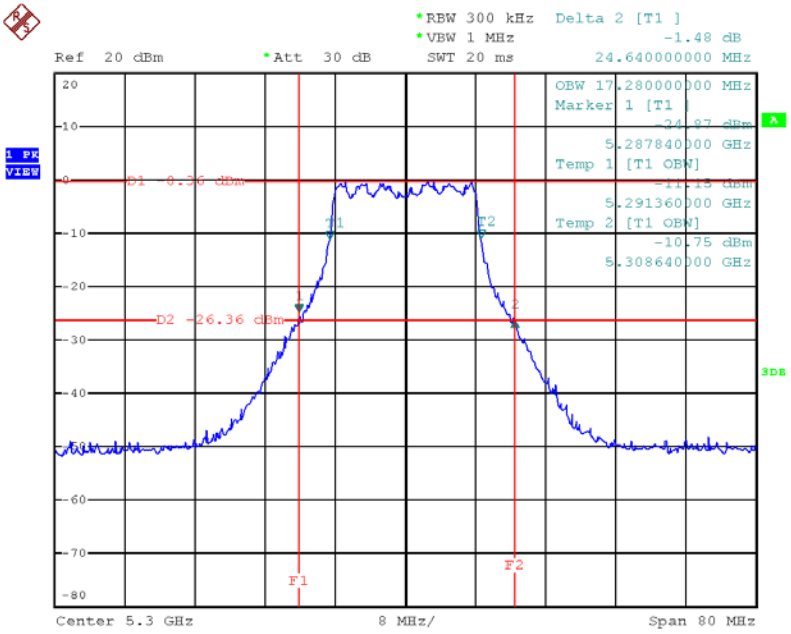
Date: 23.AUG.2013 00:49:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5280 MHz



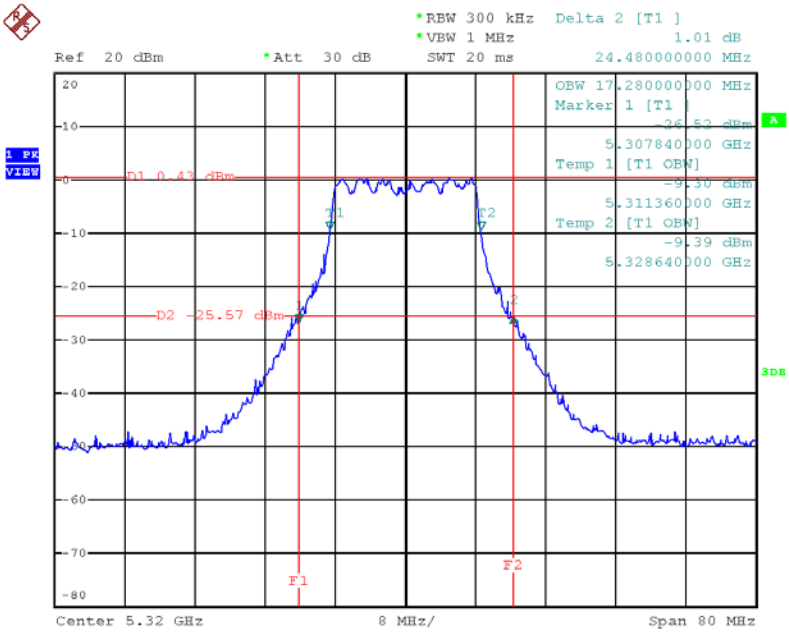
Date: 23.AUG.2013 00:08:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5300 MHz



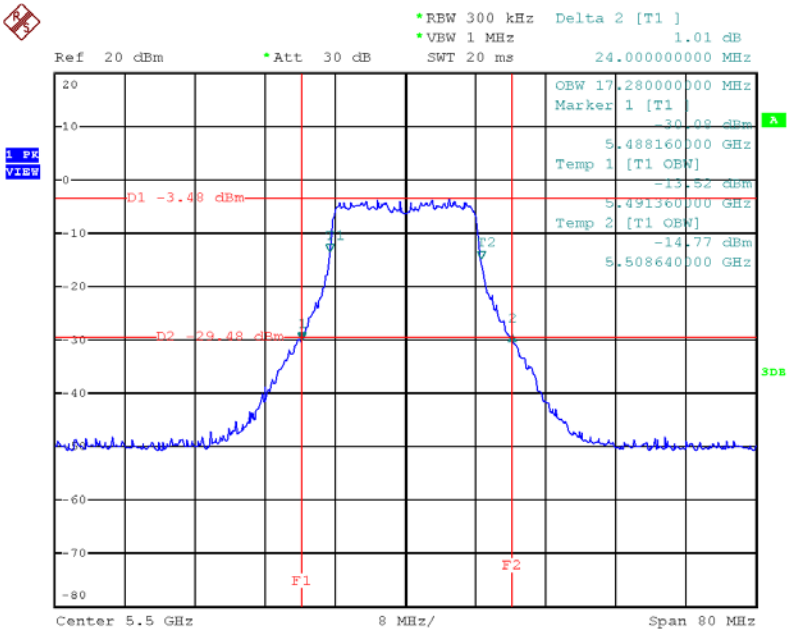
Date: 23.AUG.2013 00:12:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5320 MHz



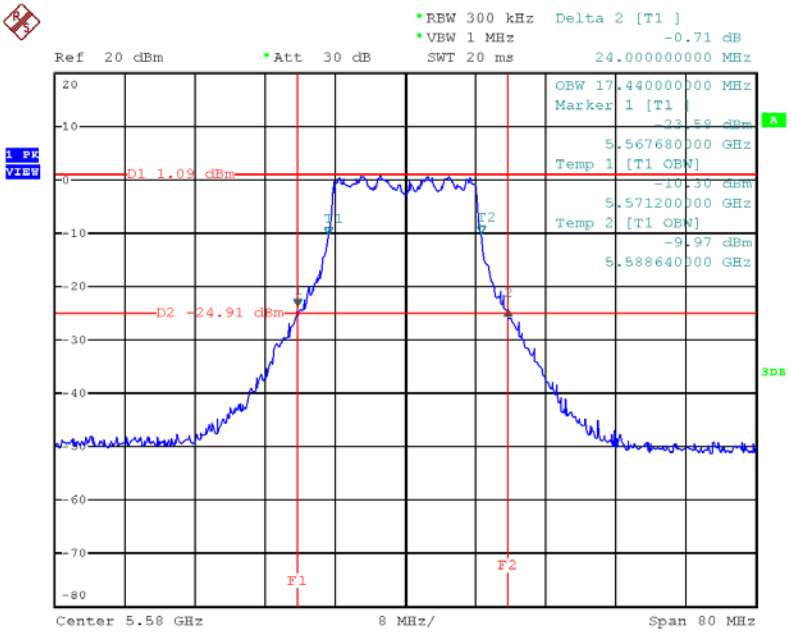
Date: 23.AUG.2013 00:14:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5500 MHz



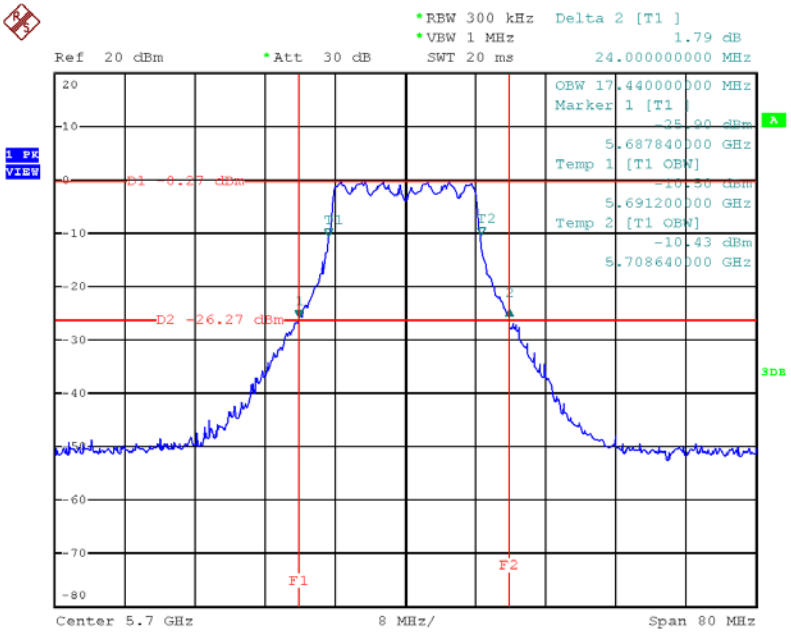
Date: 23.AUG.2013 00:17:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5580 MHz



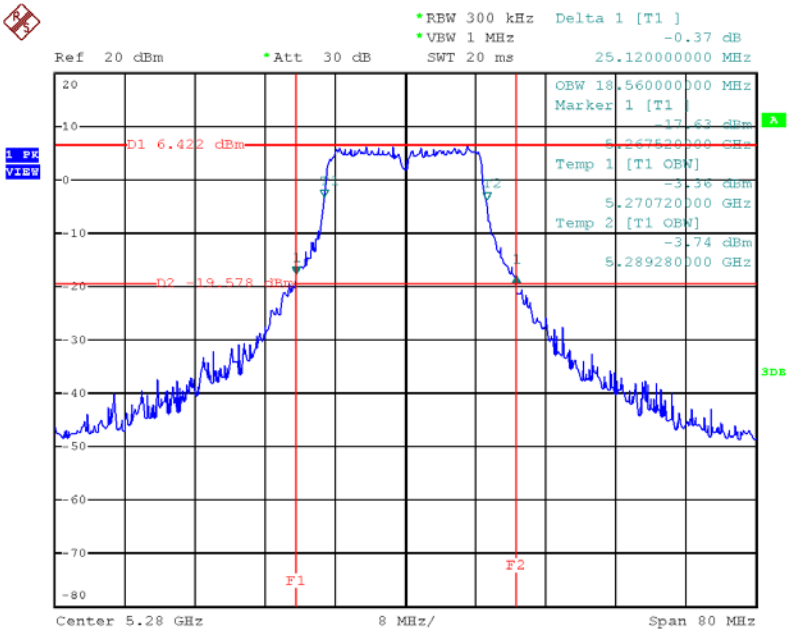
Date: 23.AUG.2013 00:19:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5700 MHz



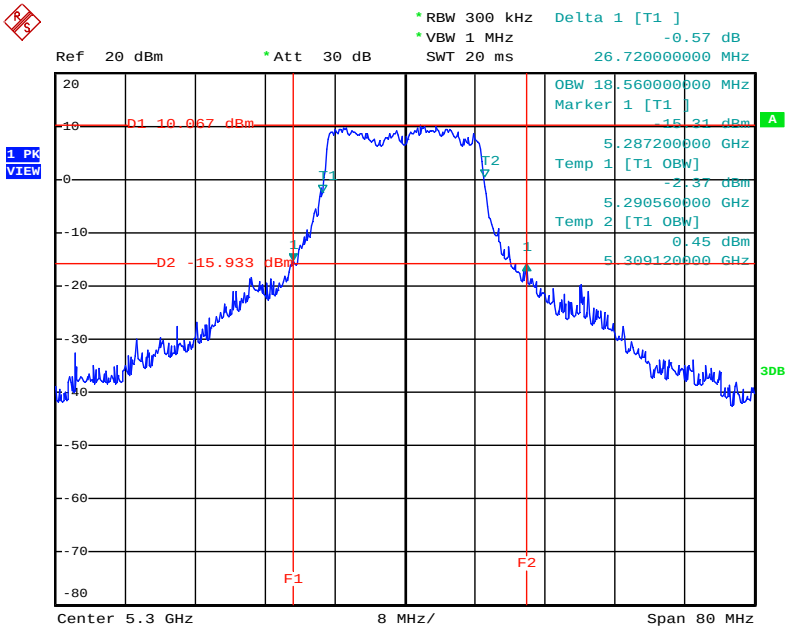
Date: 23.AUG.2013 00:23:29

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / / Ant. 2 / Chain 1 + Chain 2 / 5280 MHz



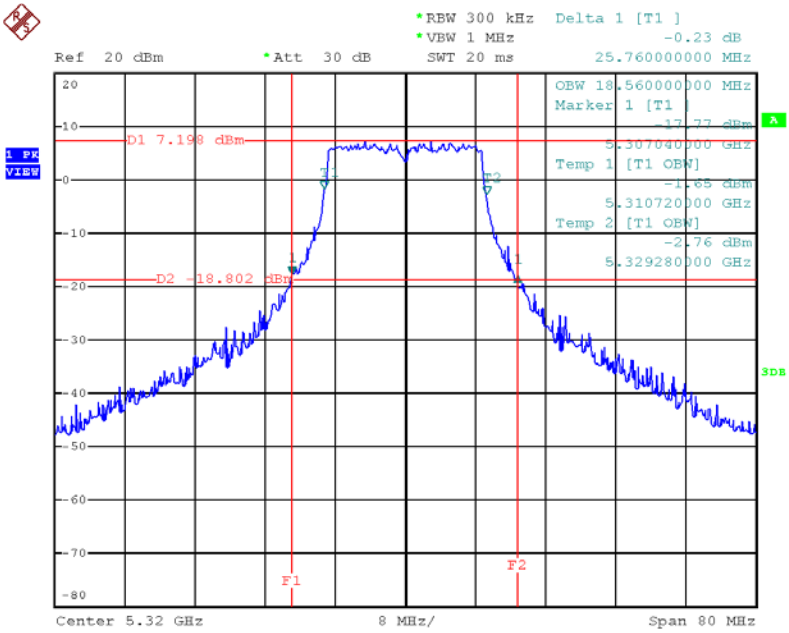
Date: 20.AUG.2013 17:21:54

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5300 MHz



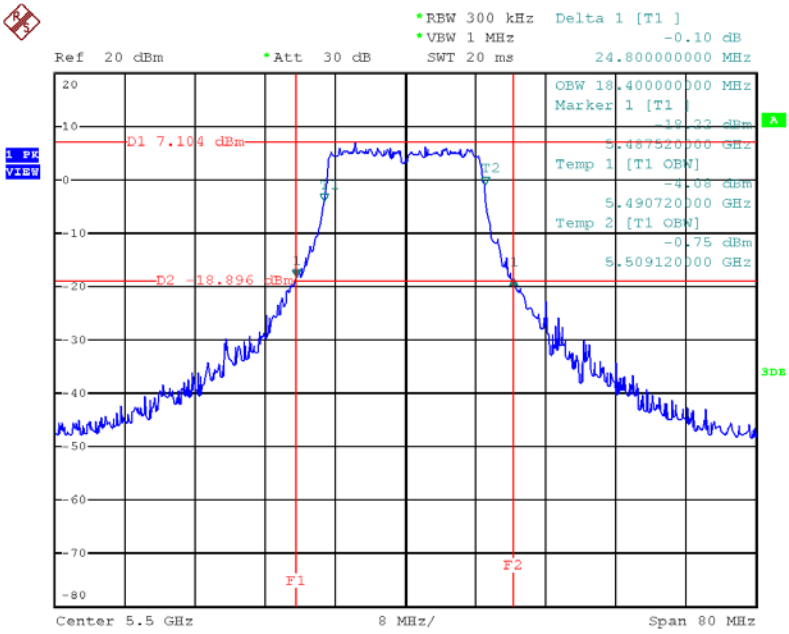
Date: 20.AUG.2013 13:05:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5320 MHz



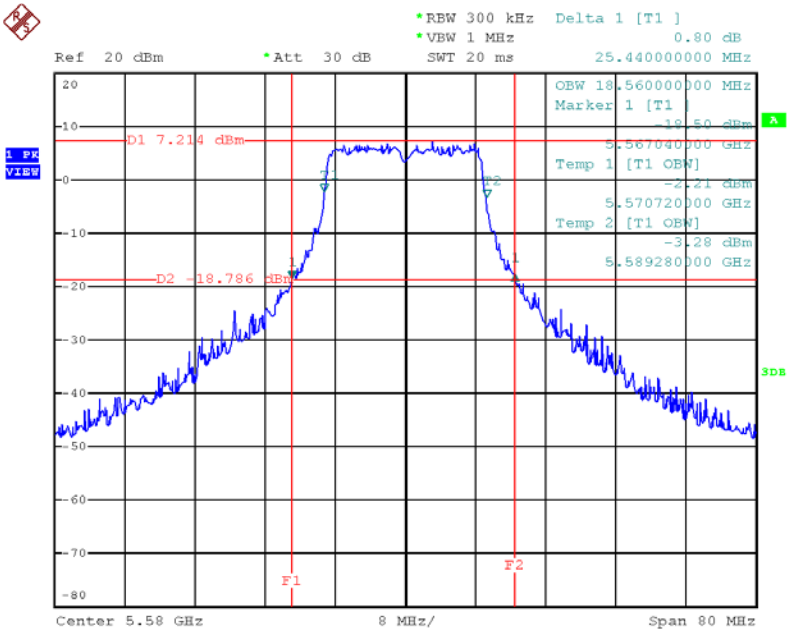
Date: 20.AUG.2013 17:20:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5500 MHz



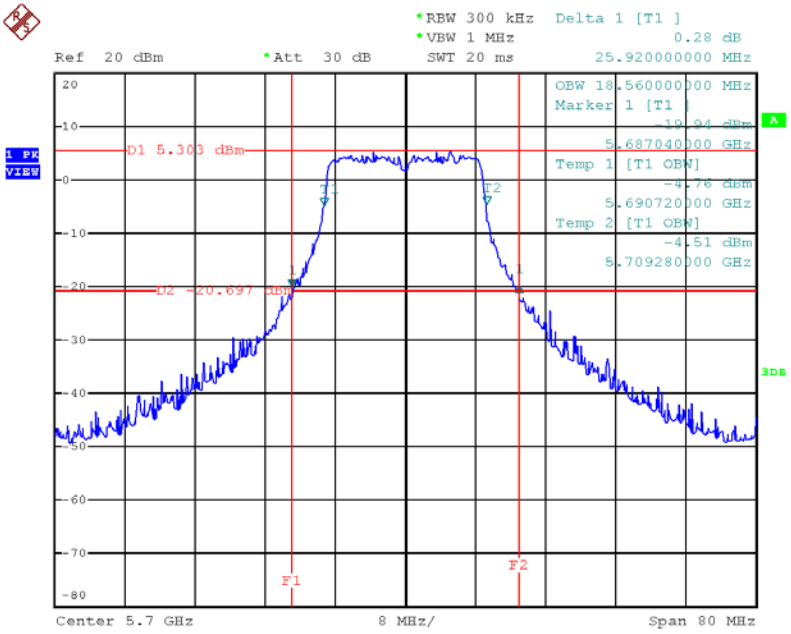
Date: 20.AUG.2013 17:19:25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5580 MHz



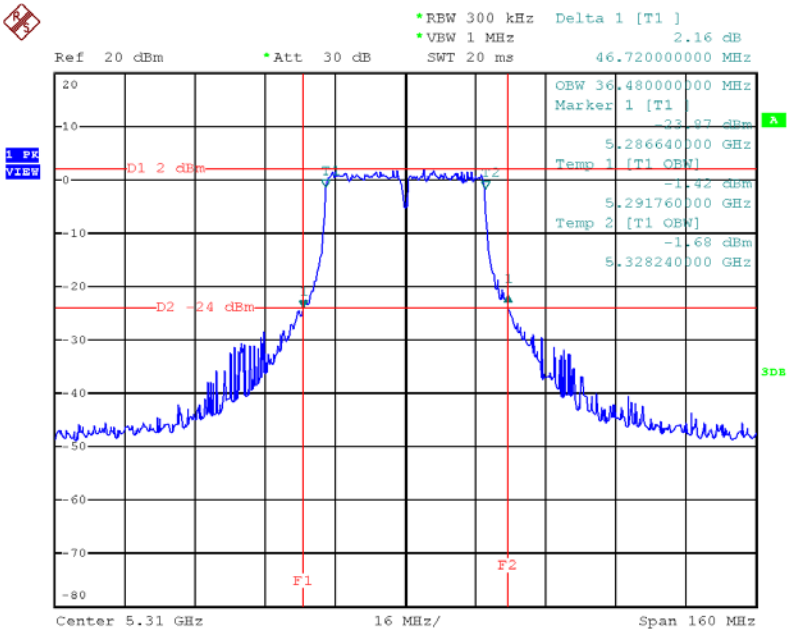
Date: 20.AUG.2013 17:18:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5700 MHz



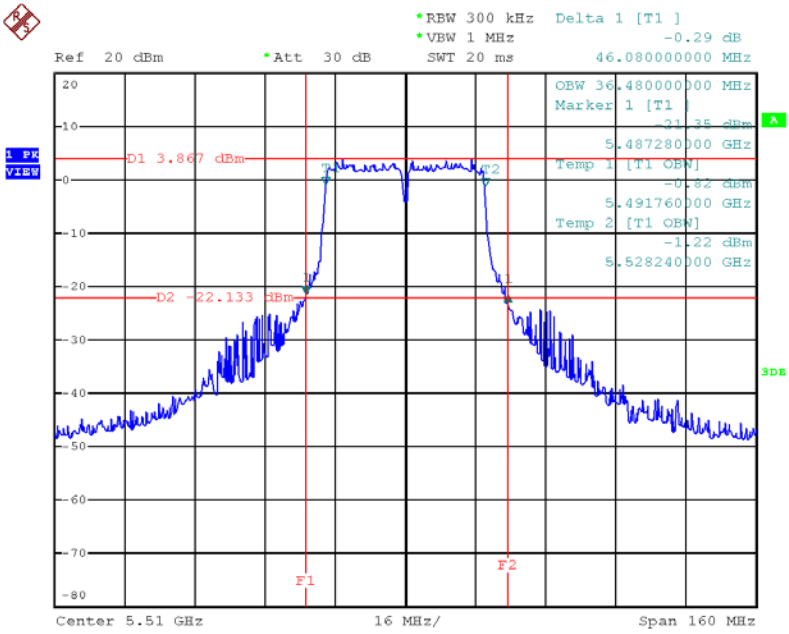
Date: 20.AUG.2013 17:17:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2 / 5310 MHz



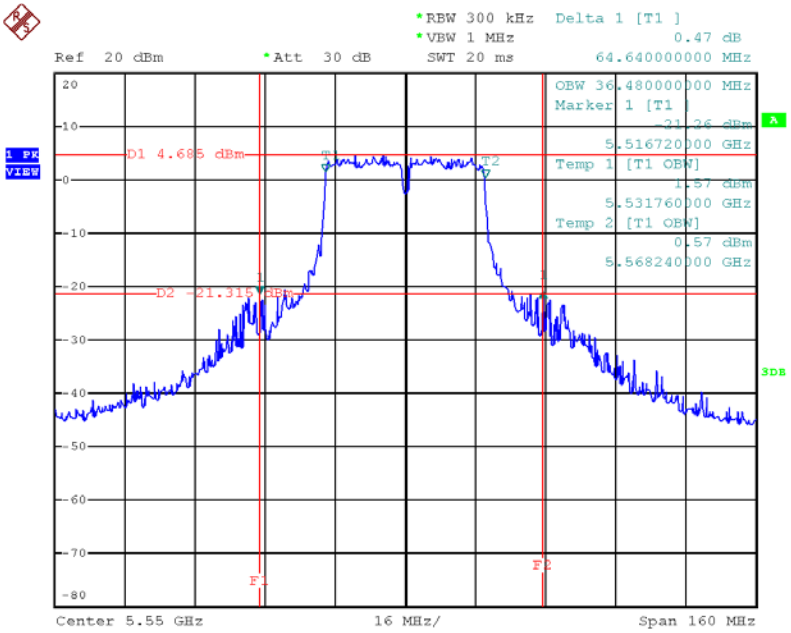
Date: 20.AUG.2013 17:23:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2 / 5510 MHz



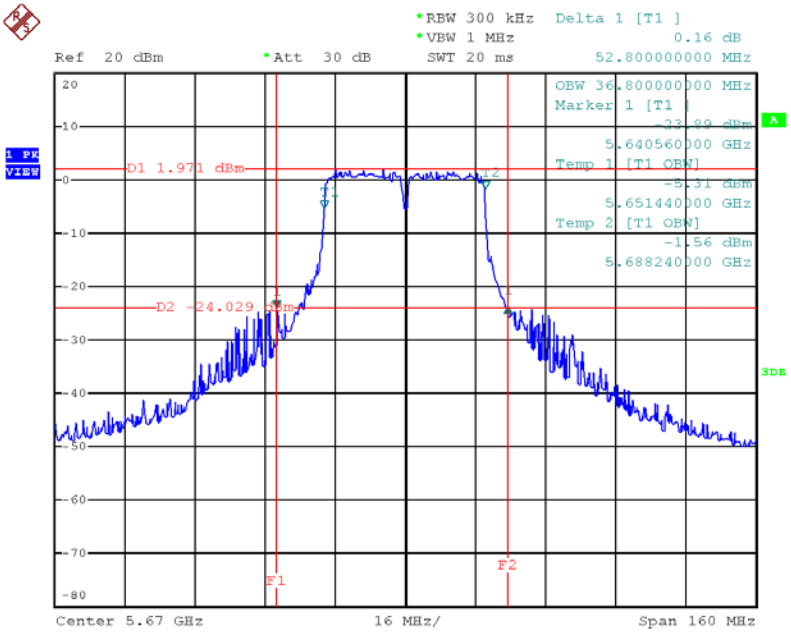
Date: 20.AUG.2013 17:24:29

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2 / 5550 MHz



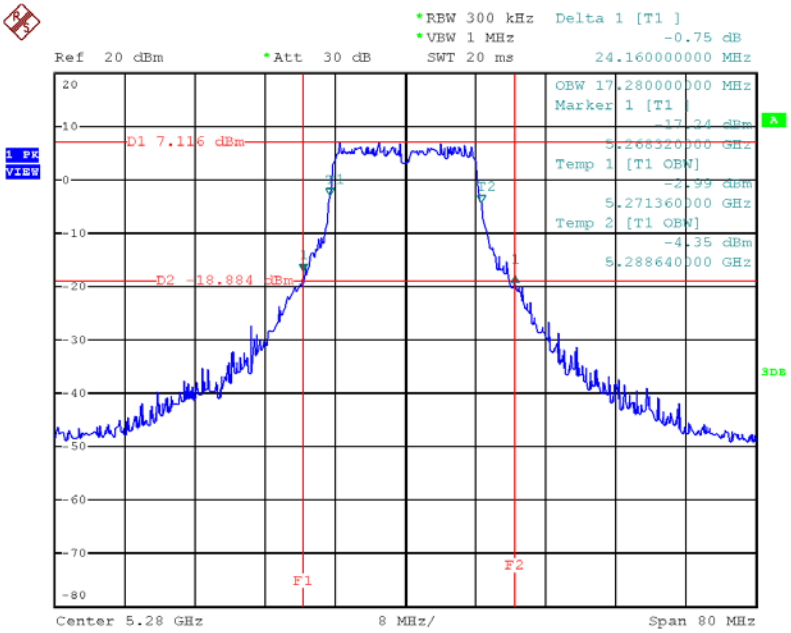
Date: 20.AUG.2013 17:25:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2 / 5670 MHz



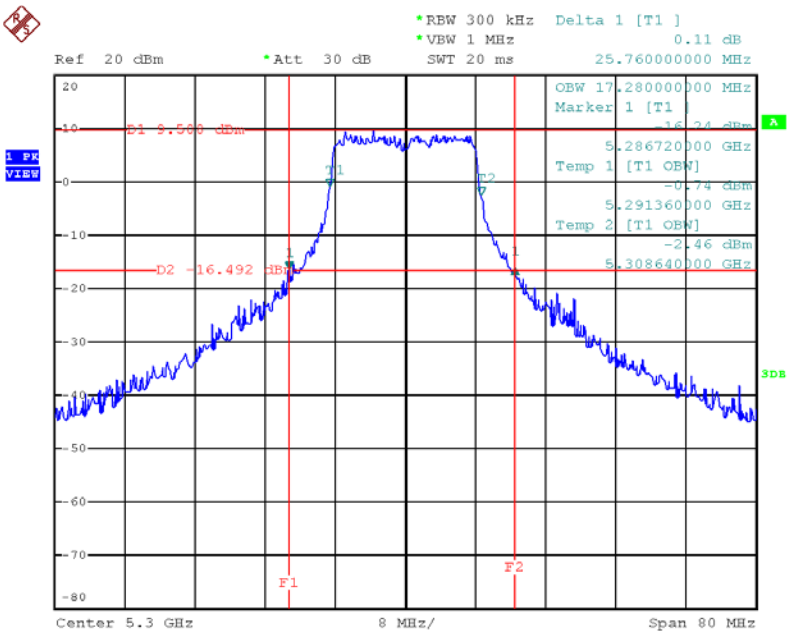
Date: 20.AUG.2013 17:26:30

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5280 MHz



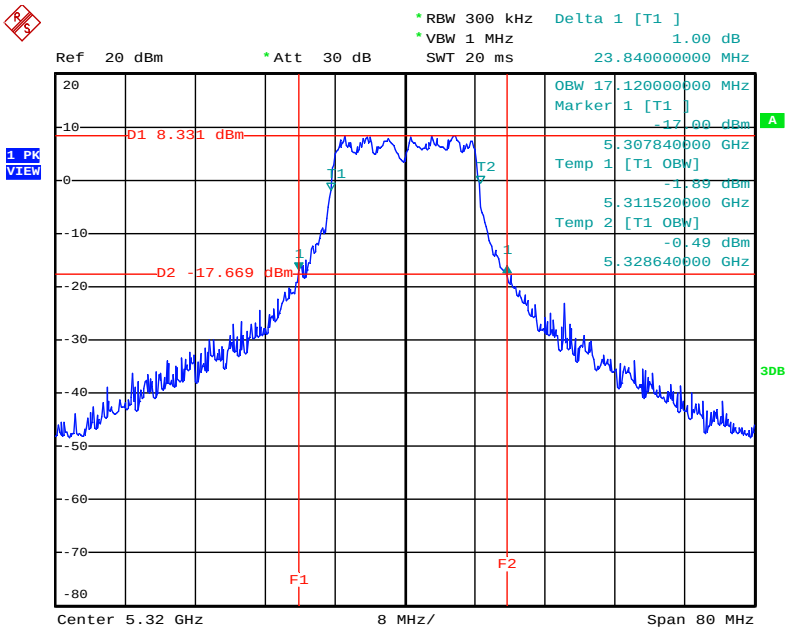
Date: 20.AUG.2013 17:09:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5300 MHz



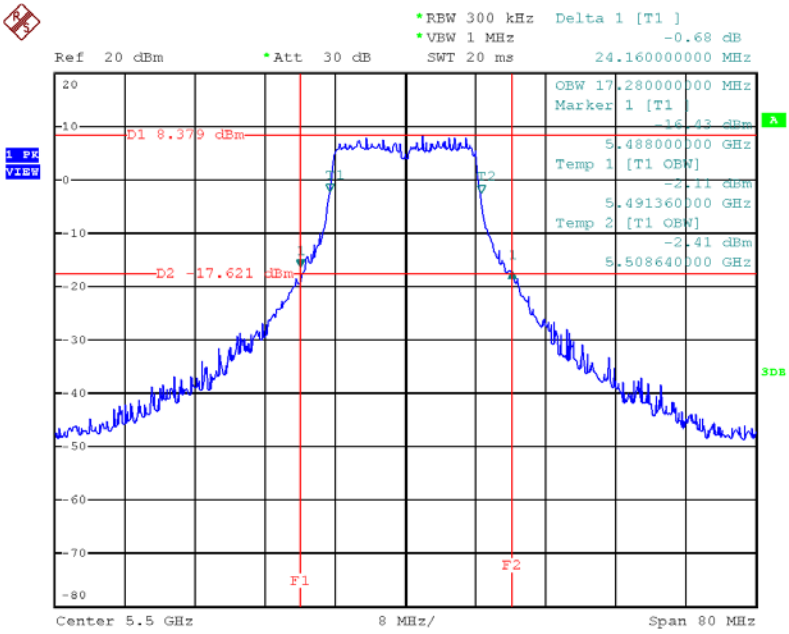
Date: 20.AUG.2013 17:11:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5320 MHz



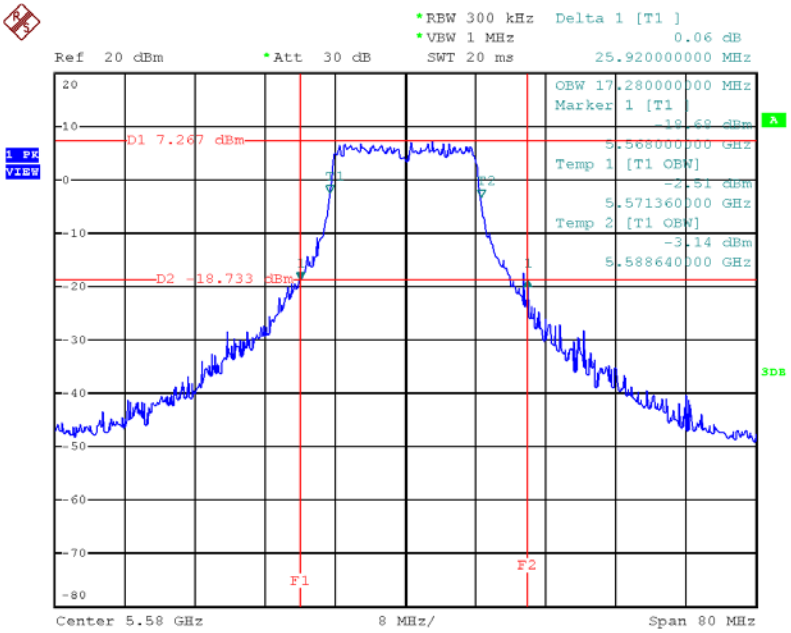
Date: 20.AUG.2013 13:15:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5500 MHz



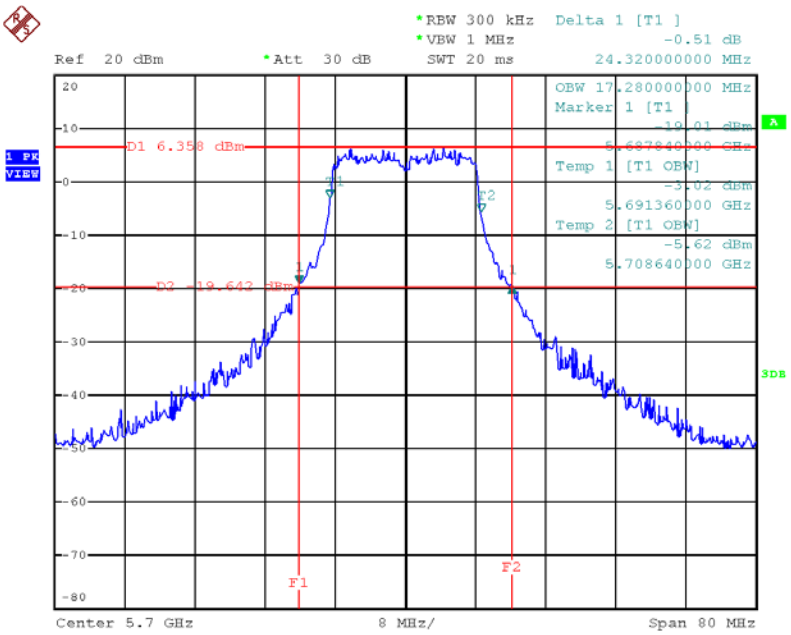
Date: 20.AUG.2013 17:14:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5580 MHz



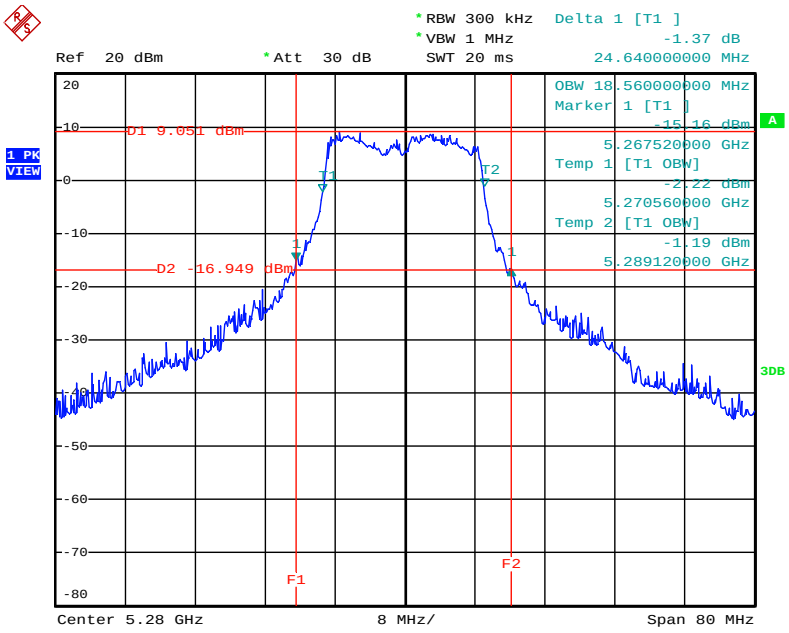
Date: 20.AUG.2013 17:15:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5700 MHz



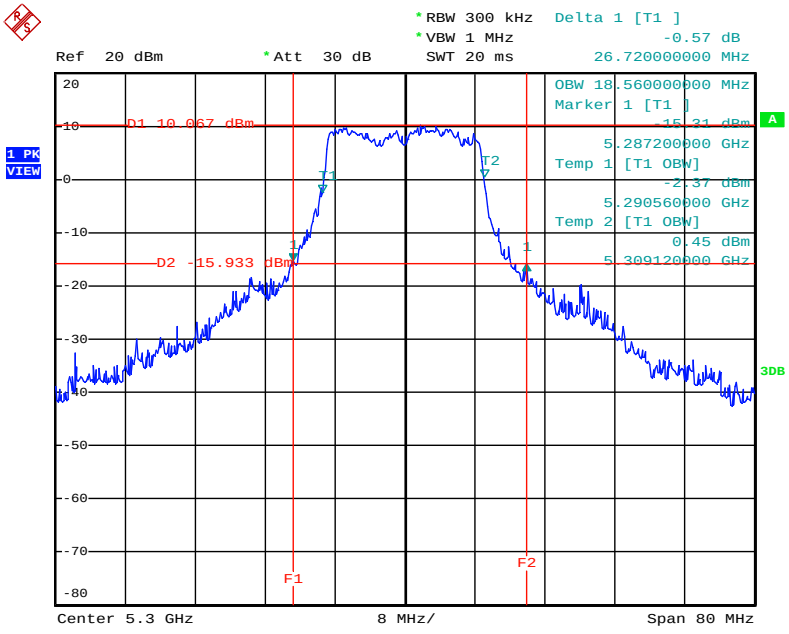
Date: 20.AUG.2013 17:16:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / / Ant. 3 / Chain 1 + Chain 2 / 5280 MHz



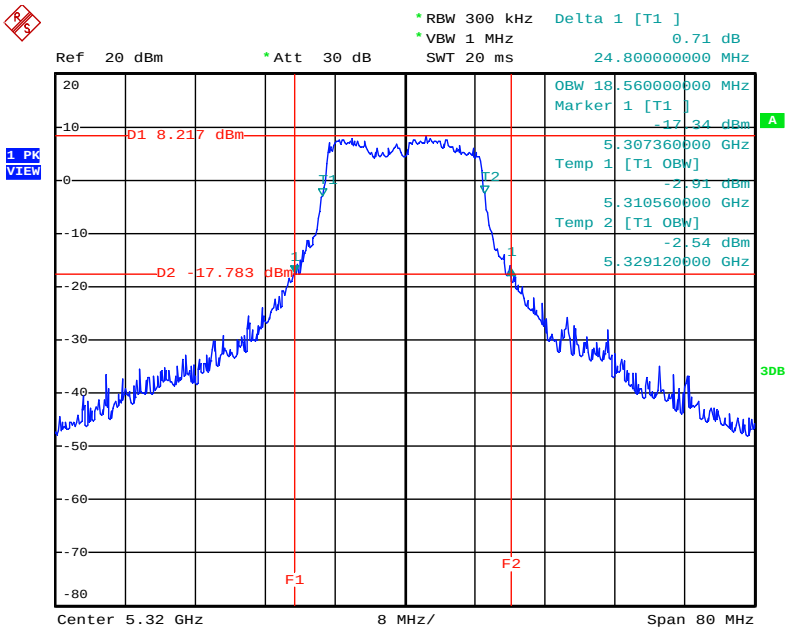
Date: 20.AUG.2013 13:09:00

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5300 MHz



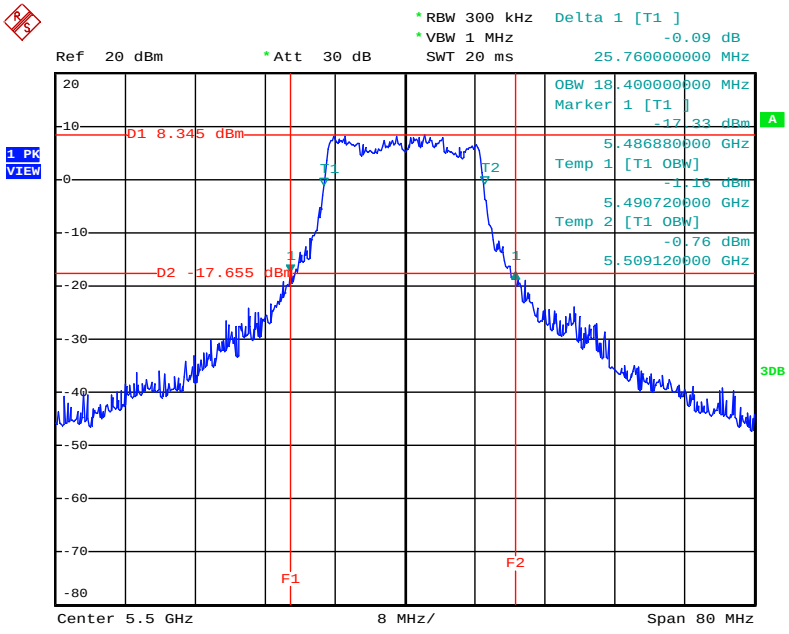
Date: 20.AUG.2013 13:05:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5320 MHz



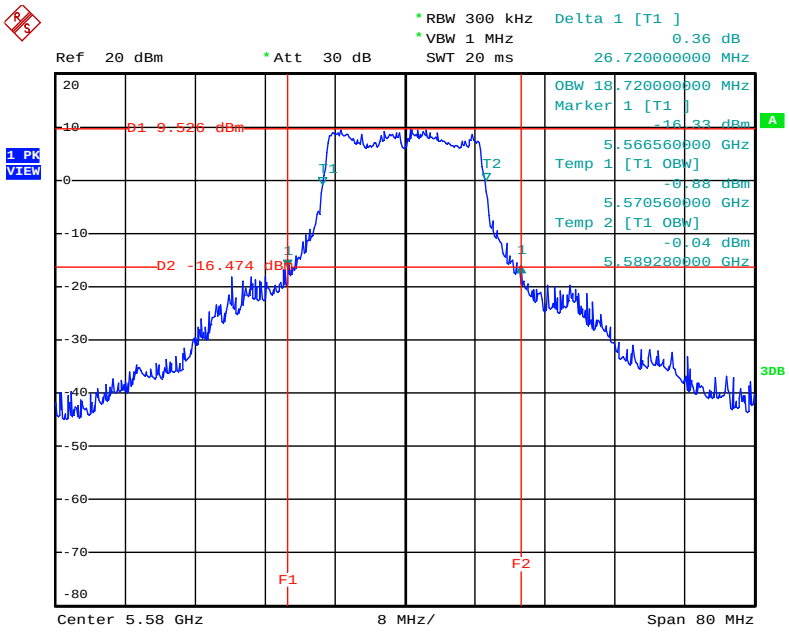
Date: 20.AUG.2013 13:03:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5500 MHz



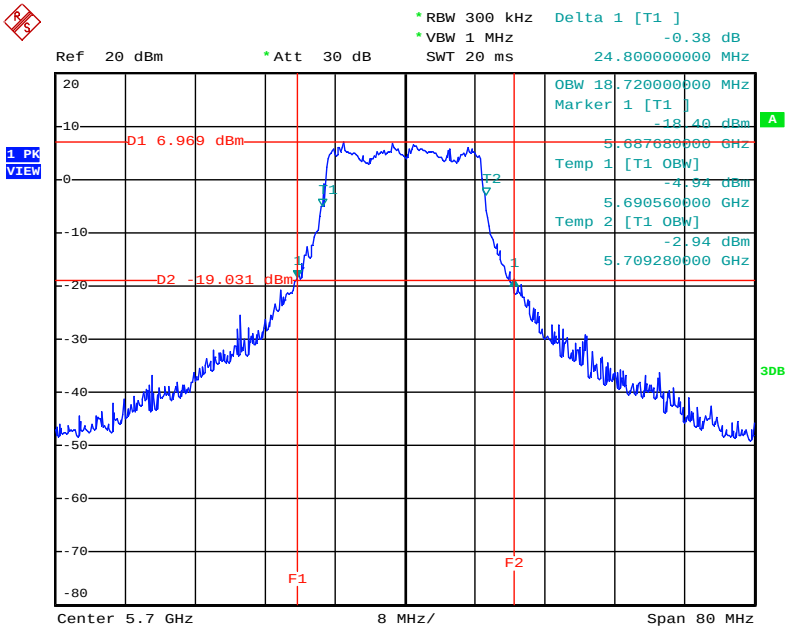
Date: 20.AUG.2013 13:03:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5580 MHz



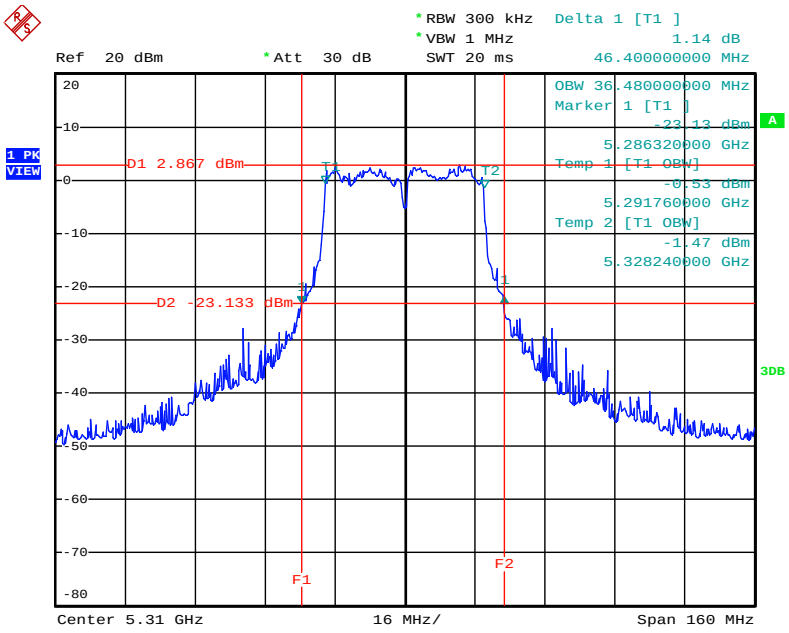
Date: 20.AUG.2013 13:02:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5700 MHz



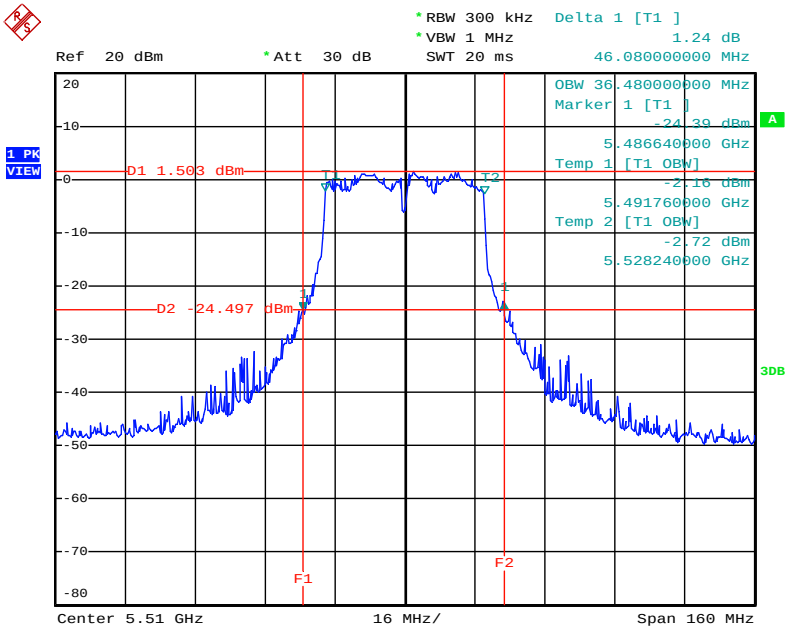
Date: 20.AUG.2013 13:01:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2 / 5310 MHz



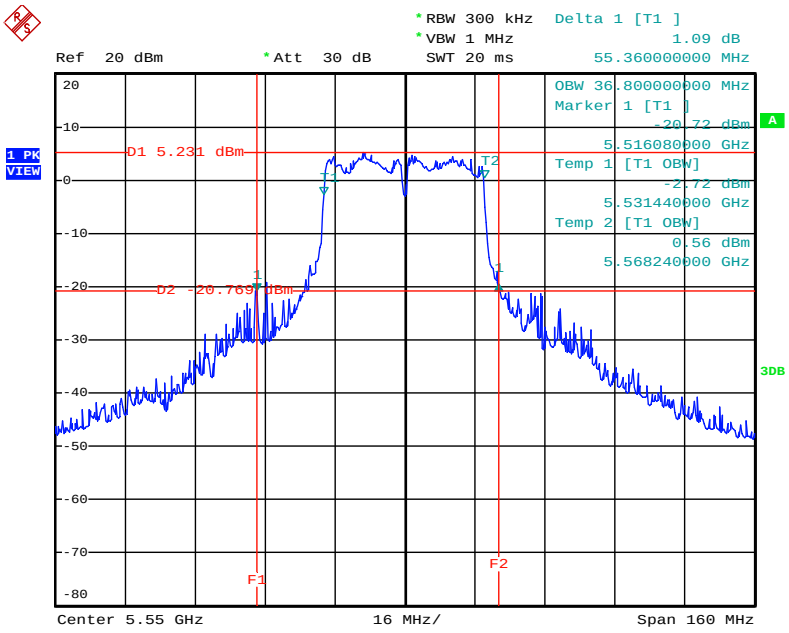
Date: 20.AUG.2013 13:20:51

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2 / 5510 MHz



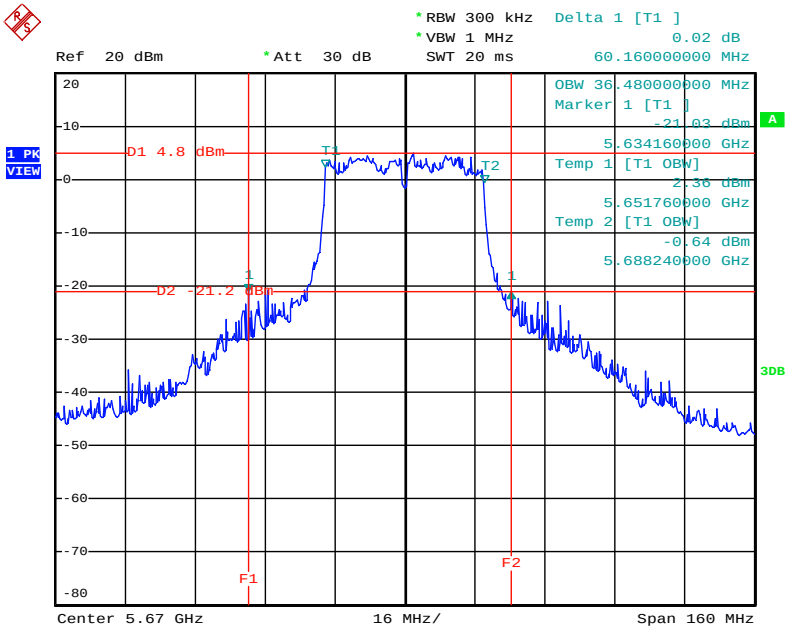
Date: 20.AUG.2013 13:22:10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2 / 5550 MHz



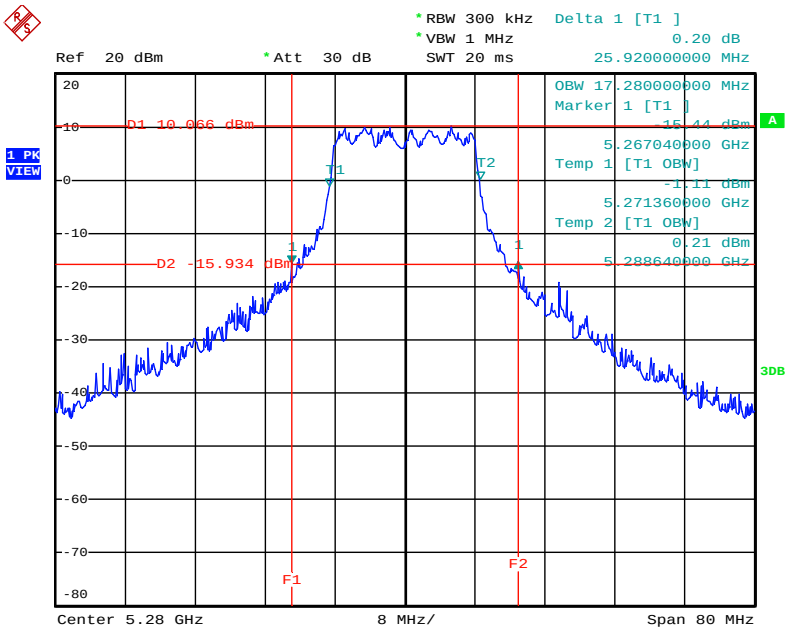
Date: 20.AUG.2013 13:22:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2 / 5670 MHz



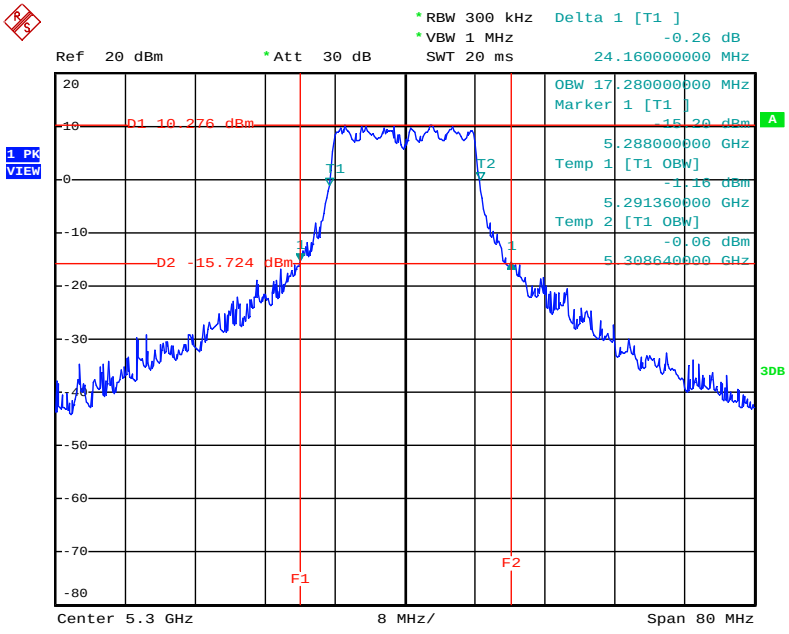
Date: 20.AUG.2013 13:23:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5280 MHz



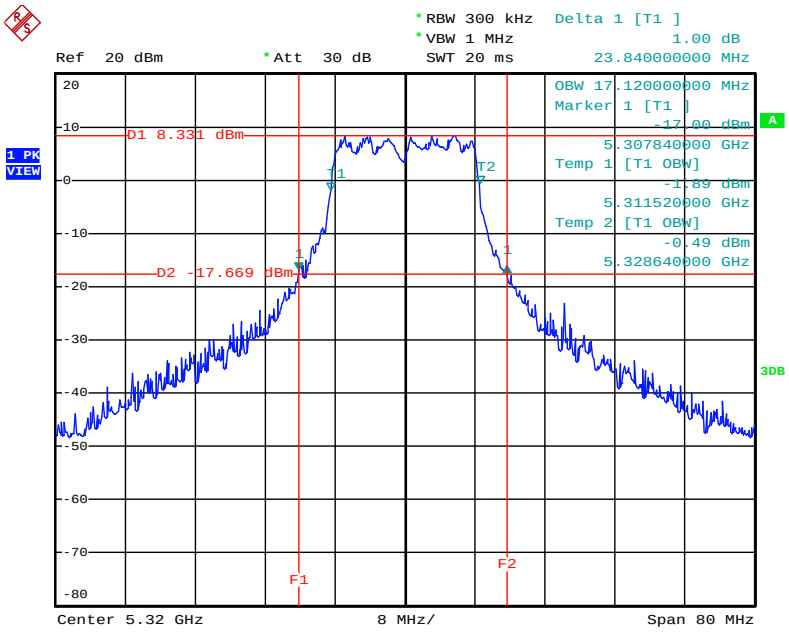
Date: 20.AUG.2013 12:58:42

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5300 MHz



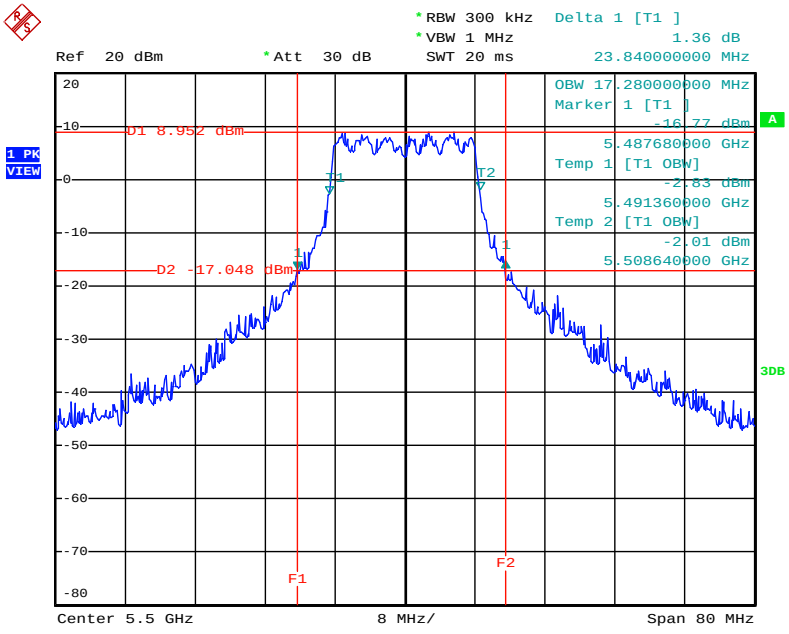
Date: 20.AUG.2013 12:59:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5320 MHz



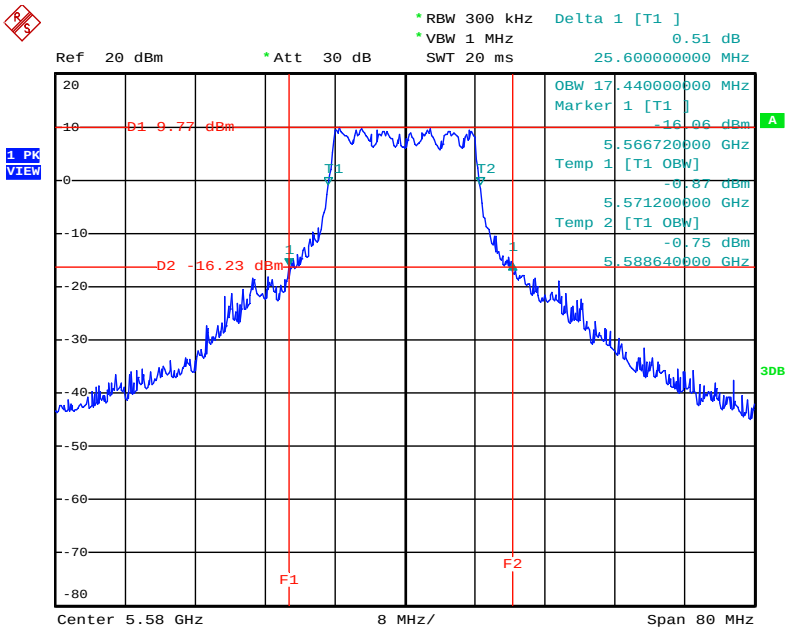
Date: 20.AUG.2013 13:15:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5500 MHz



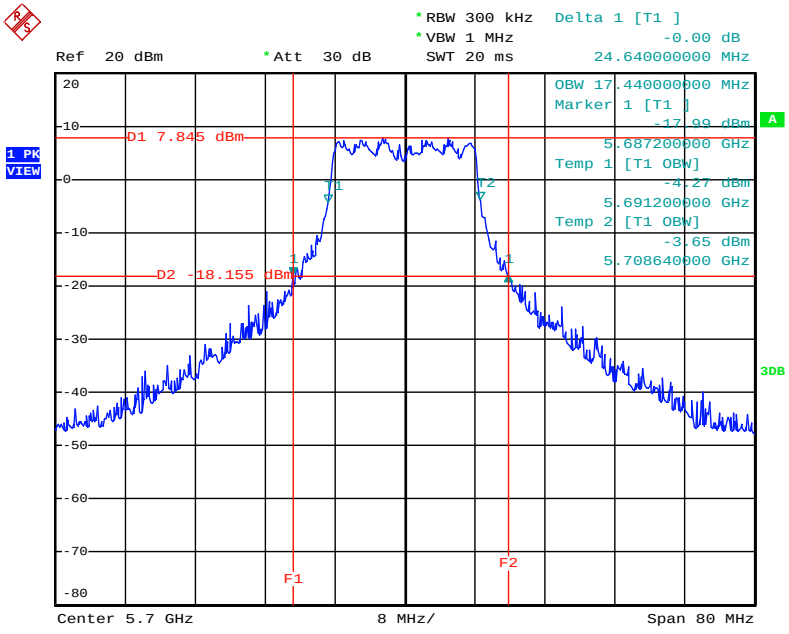
Date: 20.AUG.2013 12:59:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5580 MHz



Date: 20.AUG.2013 13:00:16

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5700 MHz



Date: 20.AUG.2013 13:00:45

4.3. Maximum Conducted Output Power Measurement

4.3.1. Limit

For the 5.25-5.35 GHz and 5.470-5.725 GHz bands, the maximum conducted output power over the frequency bands of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B, where B is the 26-dB emission bandwidth in MHz. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the peak power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

4.3.2. Measuring Instruments and Setting

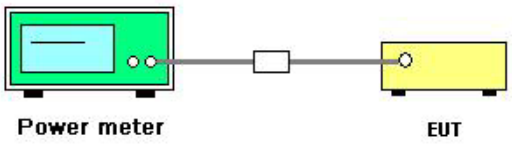
The following table is the setting of the peak power meter.

Power Meter Parameter	Setting
Bandwidth	50MHz bandwidth is greater than the EUT emission bandwidth
Detector	AVERAGE

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB 789033 D01 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E,section (E) Maximum conducted output power =>(3) Method PM (Measurement using an RF average power meter) Multiple antenna systems was performed in accordance with KDB 662911 D01 v02 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
3. When measuring maximum conducted output power with multiple antenna systems,add every result of the values by mathematic formula.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Maximum Conducted Output Power

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11n
Test Date	Aug. 22, 2013	Test Mode	Mode 1. EUT + Ant. 1

Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
56	5280 MHz	10.35	11.05	13.72	14.00	Complies
60	5300 MHz	9.88	11.08	13.53	14.00	Complies
64	5320 MHz	10.53	11.28	13.93	14.00	Complies
100	5500 MHz	4.97	9.99	11.18	14.00	Complies
116	5580 MHz	9.60	11.96	13.95	14.00	Complies
140	5700 MHz	10.25	10.83	13.56	14.00	Complies

Note: Antenna true gain =16dBi >6dBi, so power limit= 24 – (16 – 6) = 14dBm.

Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
62	5310 MHz	10.36	11.45	13.95	14.00	Complies
102	5510 MHz	4.78	11.02	11.95	14.00	Complies
110	5550 MHz	9.81	11.81	13.93	14.00	Complies
134	5670 MHz	10.01	11.19	13.65	14.00	Complies

Note: Antenna true gain =16dBi >6dBi, so power limit= 24 – (16 – 6) = 14dBm.

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11a
Test Date	Aug. 22, 2013	Test Mode	Mode 1. EUT + Ant. 1

Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
56	5280 MHz	10.31	11.08	13.72	14.00	Complies
60	5300 MHz	9.82	11.70	13.87	14.00	Complies
64	5320 MHz	10.48	11.21	13.87	14.00	Complies
100	5500 MHz	4.92	10.12	11.27	14.00	Complies
116	5580 MHz	9.84	11.82	13.95	14.00	Complies
140	5700 MHz	10.89	11.02	13.97	14.00	Complies

Note: Antenna true gain =16dBi >6dBi, so power limit= 24 – (16 – 6) = 14dBm.

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11n
Test Date	Aug. 19, 2013	Test Mode	Mode 2. EUT + Ant. 2

Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
56	5280 MHz	15.90	15.98	18.95	22.00	Complies
60	5300 MHz	18.74	19.01	21.89	22.00	Complies
64	5320 MHz	17.54	16.91	20.25	22.00	Complies
100	5500 MHz	15.67	16.27	18.99	22.00	Complies
116	5580 MHz	16.32	17.12	19.75	22.00	Complies
140	5700 MHz	14.80	15.45	18.15	22.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 24 – (8 – 6) = 22dBm.

Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
62	5310 MHz	14.88	15.01	17.96	22.00	Complies
102	5510 MHz	11.16	13.12	15.26	22.00	Complies
110	5550 MHz	17.40	18.23	20.85	22.00	Complies
134	5670 MHz	15.55	16.07	18.83	22.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 24 – (8 – 6) = 22dBm.

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11a
Test Date	Aug. 19, 2013	Test Mode	Mode 2. EUT + Ant. 2

Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
56	5280 MHz	15.90	15.93	18.93	22.00	Complies
60	5300 MHz	18.05	18.16	21.12	22.00	Complies
64	5320 MHz	17.66	16.98	20.34	22.00	Complies
100	5500 MHz	16.78	17.05	19.93	22.00	Complies
116	5580 MHz	15.66	16.28	18.99	22.00	Complies
140	5700 MHz	15.46	15.82	18.65	22.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 24 – (8 – 6) = 22dBm.

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11n
Test Date	Aug. 20, 2013	Test Mode	Mode 3. EUT + Ant. 3

Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
56	5280 MHz	17.60	17.38	20.50	22.00	Complies
60	5300 MHz	18.74	19.01	21.89	22.00	Complies
64	5320 MHz	16.99	16.45	19.74	22.00	Complies
100	5500 MHz	16.83	17.05	19.95	22.00	Complies
116	5580 MHz	17.92	19.03	21.52	22.00	Complies
140	5700 MHz	15.94	16.60	19.29	22.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 24 – (8 – 6) = 22dBm.

Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
62	5310 MHz	15.27	15.24	18.27	22.00	Complies
102	5510 MHz	13.70	14.62	17.19	22.00	Complies
110	5550 MHz	17.00	17.44	20.24	22.00	Complies
134	5670 MHz	17.32	18.21	20.80	22.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 24 – (8 – 6) = 22dBm.

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Date	Aug. 20, 2013	Test Mode	Mode 3. EUT + Ant. 3

Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2

Channel	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 1	Chain 2	Total		
56	5280 MHz	18.56	18.08	21.34	22.00	Complies
60	5300 MHz	18.61	18.79	21.71	22.00	Complies
64	5320 MHz	17.66	16.98	20.34	22.00	Complies
100	5500 MHz	17.37	17.39	20.39	22.00	Complies
116	5580 MHz	17.74	18.87	21.35	22.00	Complies
140	5700 MHz	16.50	17.33	19.95	22.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 24 – (8 – 6) = 22dBm.

4.4. Power Spectral Density Measurement

4.4.1. Limit

The power spectral density is defined as the highest level of power in dBm per MHz generated by the transmitter within the power envelope. The following table is power spectral density limits and decrease power density limit rule refer to section 4.3.1.

Frequency Range	Power Spectral Density limit (dBm/MHz)
5.25-5.35 GHz	11
5.470-5.725 GHz	11

4.4.2. Measuring Instruments and Setting

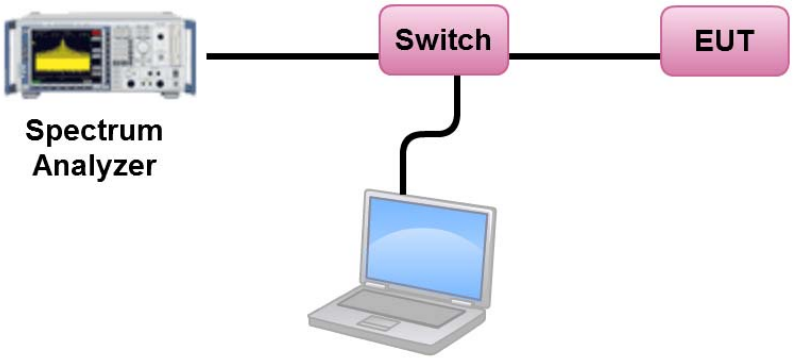
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1000 kHz
VBW	3000 kHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB 789033 D01 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - Part 15, Subpart E,section (C) Maximum conducted output power => (d) Method SA-2 (trace averaging across on and off times of the EUT transmissions, followed by duty cycle correction).
3. Multiple antenna systems was performed in accordance KDB 662911 D01 v02 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs.
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Power Spectral Density

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11n
Test Date	Aug. 22, 2013	Test Mode	Mode 1. EUT + Ant. 1

Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
56	5280 MHz	0.32	1.00	Complies
60	5300 MHz	-0.25	1.00	Complies
64	5320 MHz	0.90	1.00	Complies
100	5500 MHz	-3.64	1.00	Complies
116	5580 MHz	0.83	1.00	Complies
140	5700 MHz	-0.18	1.00	Complies

Note: Antenna true gain =16dBi >6dBi, so power limit= 11 – (16 – 6) = 1dBm.

Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
62	5310 MHz	-2.39	1.00	Complies
102	5510 MHz	-4.78	1.00	Complies
110	5550 MHz	-2.02	1.00	Complies
134	5670 MHz	-3.12	1.00	Complies

Note: Antenna true gain =16dBi >6dBi, so power limit= 11 – (16 – 6) = 1dBm.

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11a
Test Date	Aug. 22, 2013	Test Mode	Mode 1. EUT + Ant. 1

Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
56	5280 MHz	0.46	1.00	Complies
60	5300 MHz	0.55	1.00	Complies
64	5320 MHz	0.94	1.00	Complies
100	5500 MHz	-3.19	1.00	Complies
116	5580 MHz	0.88	1.00	Complies
140	5700 MHz	0.90	1.00	Complies

Note: Antenna true gain =16dBi >6dBi, so power limit= 11 – (16 – 6) = 1dBm.

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11n
Test Date	Aug. 19, 2013	Test Mode	Mode 2. EUT + Ant. 2

Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
56	5280 MHz	5.62	9.00	Complies
60	5300 MHz	8.47	9.00	Complies
64	5320 MHz	6.76	9.00	Complies
100	5500 MHz	5.56	9.00	Complies
116	5580 MHz	6.19	9.00	Complies
140	5700 MHz	4.08	9.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 11 – (8 – 6) = 9dBm.

Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
62	5310 MHz	1.30	9.00	Complies
102	5510 MHz	-1.44	9.00	Complies
110	5550 MHz	4.40	9.00	Complies
134	5670 MHz	1.75	9.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 11 – (8 – 6) = 9dBm.

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11a
Test Date	Aug. 19, 2013	Test Mode	Mode 2. EUT + Ant. 2

Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
56	5280 MHz	6.05	9.00	Complies
60	5300 MHz	8.08	9.00	Complies
64	5320 MHz	6.59	9.00	Complies
100	5500 MHz	6.79	9.00	Complies
116	5580 MHz	5.80	9.00	Complies
140	5700 MHz	4.73	9.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 11 – (8 – 6) = 9dBm.

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11n
Test Date	Aug. 20, 2013	Test Mode	Mode 3. EUT + Ant. 3

Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
56	5280 MHz	7.47	9.00	Complies
60	5300 MHz	8.47	9.00	Complies
64	5320 MHz	6.15	9.00	Complies
100	5500 MHz	6.45	9.00	Complies
116	5580 MHz	7.94	9.00	Complies
140	5700 MHz	5.02	9.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 11 – (8 – 6) = 9dBm.

Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
62	5310 MHz	1.72	9.00	Complies
102	5510 MHz	0.58	9.00	Complies
110	5550 MHz	3.74	9.00	Complies
134	5670 MHz	3.52	9.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 11 – (8 – 6) = 9dBm.

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Date	Aug. 20, 2013	Test Mode	Mode 3. EUT + Ant. 3

Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2

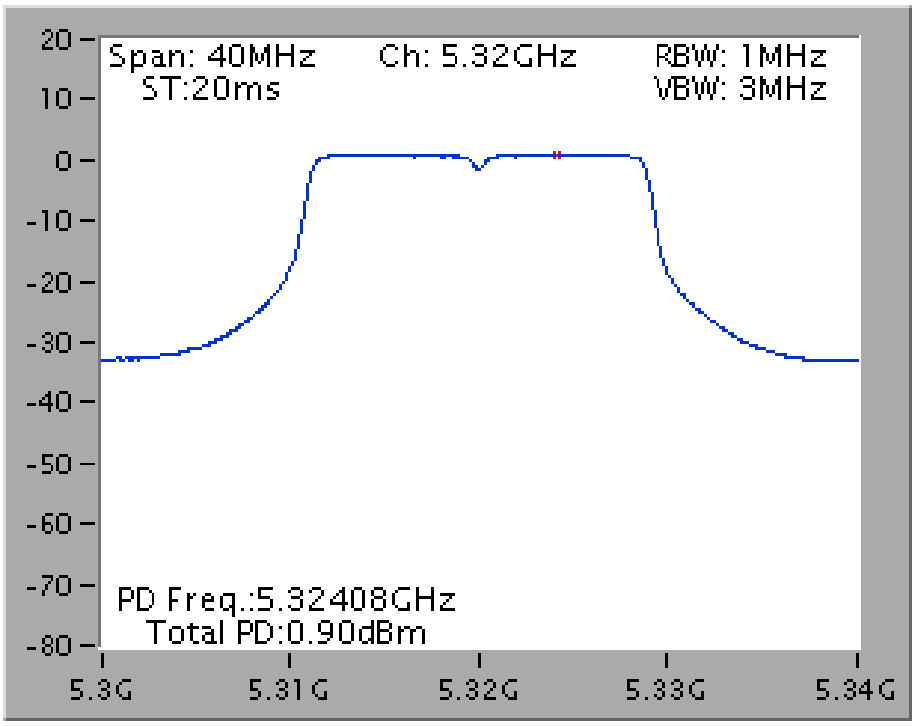
Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
56	5280 MHz	7.94	9.00	Complies
60	5300 MHz	8.41	9.00	Complies
64	5320 MHz	6.59	9.00	Complies
100	5500 MHz	6.89	9.00	Complies
116	5580 MHz	7.94	9.00	Complies
140	5700 MHz	5.72	9.00	Complies

Note: Antenna true gain =8dBi >6dBi, so power limit= 11 – (8 – 6) = 9dBm.

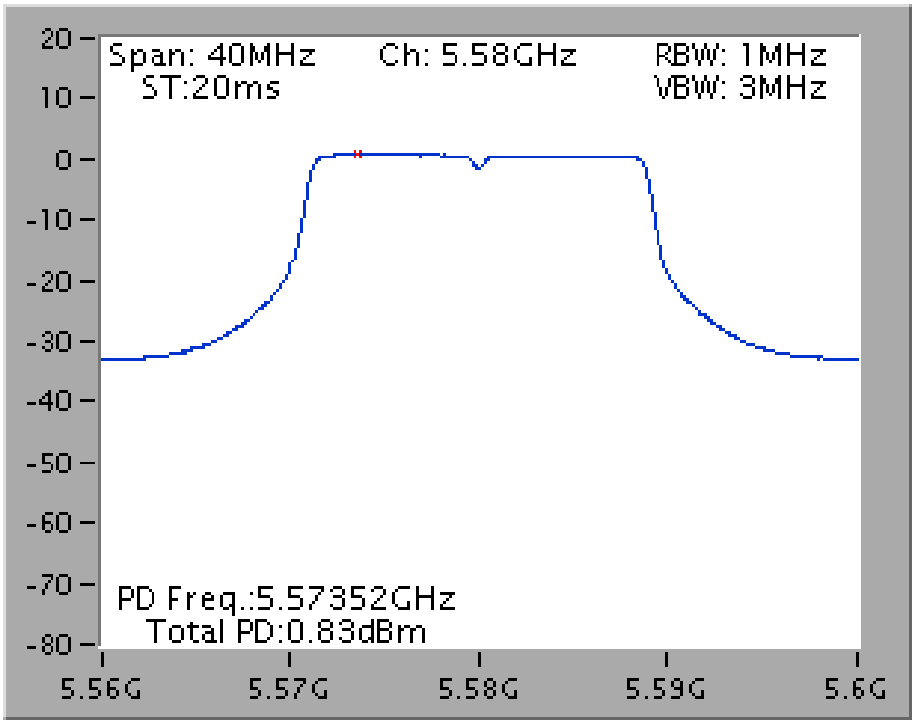
Note: All the test values were listed in the report.

For plots, only the channel with worse result was shown.

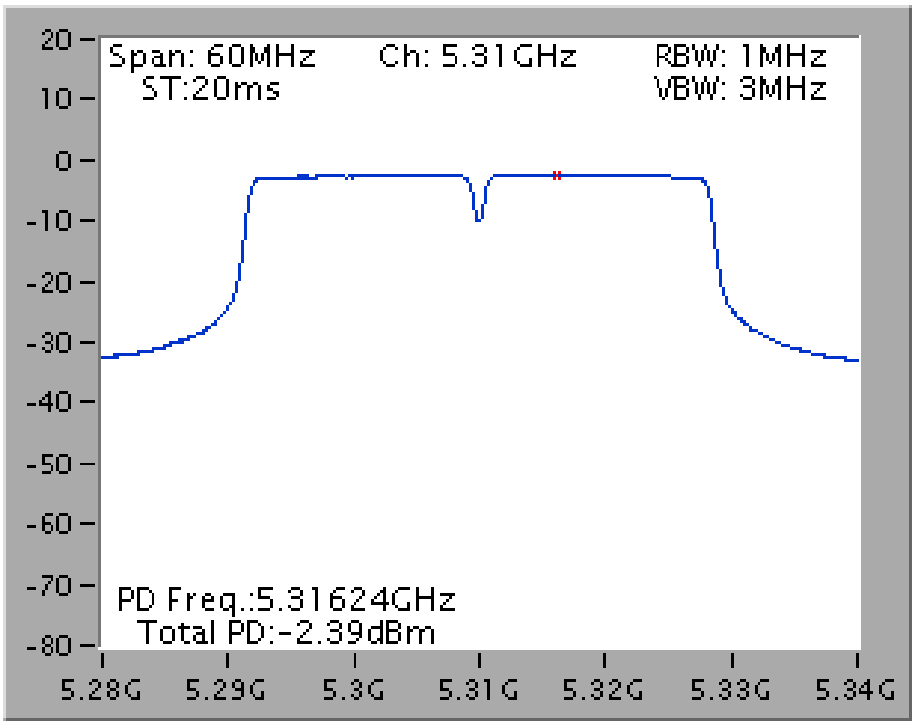
Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5320 MHz



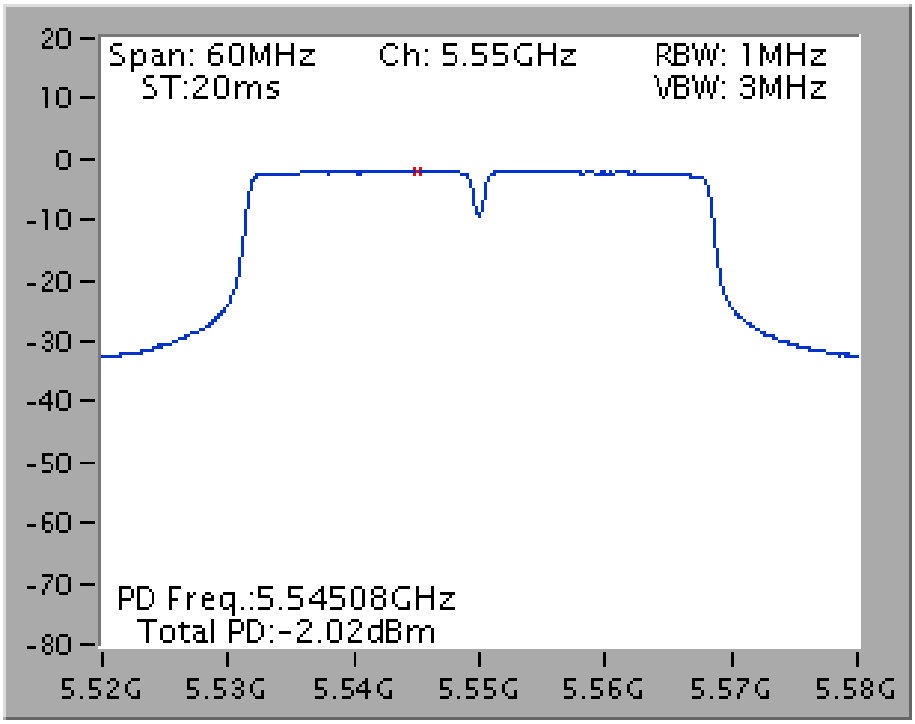
Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 1 / Chain 1 + Chain 2 / 5580 MHz



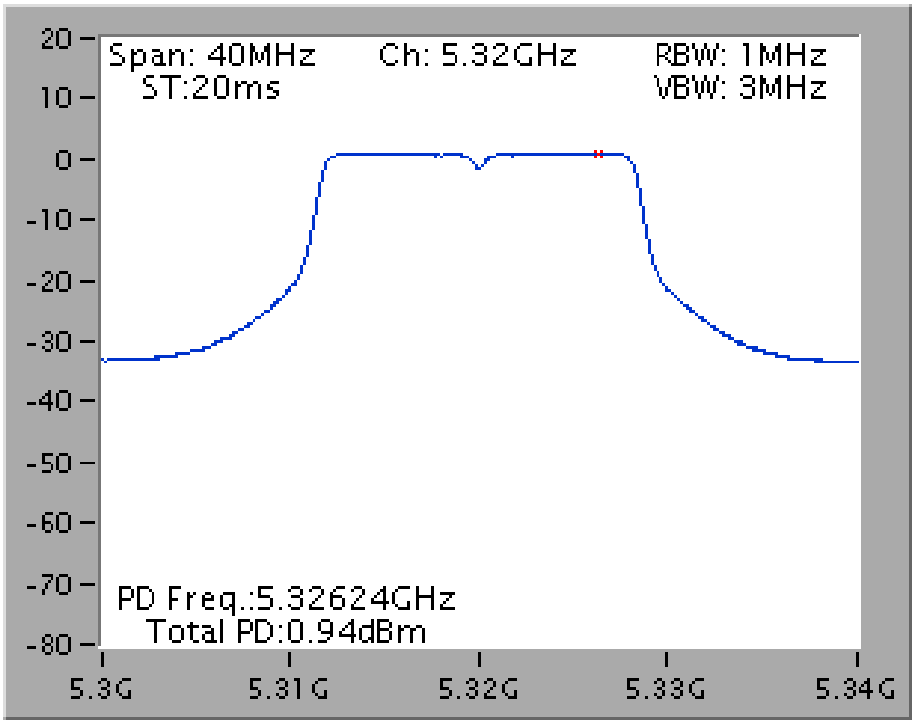
Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2 / 5310 MHz



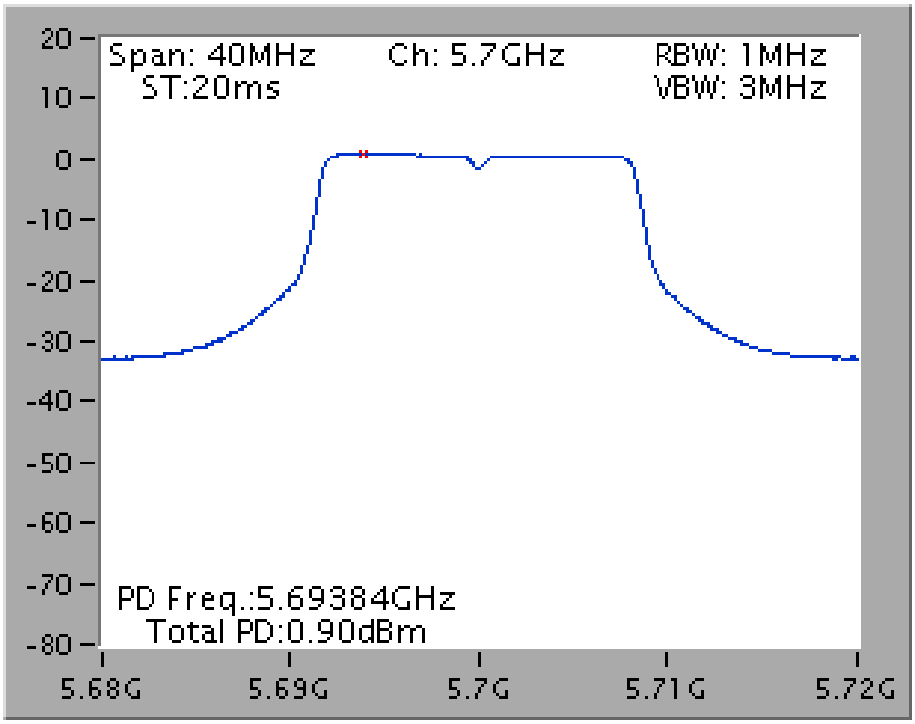
Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 1 / Chain 1 + Chain 2 / 5550 MHz



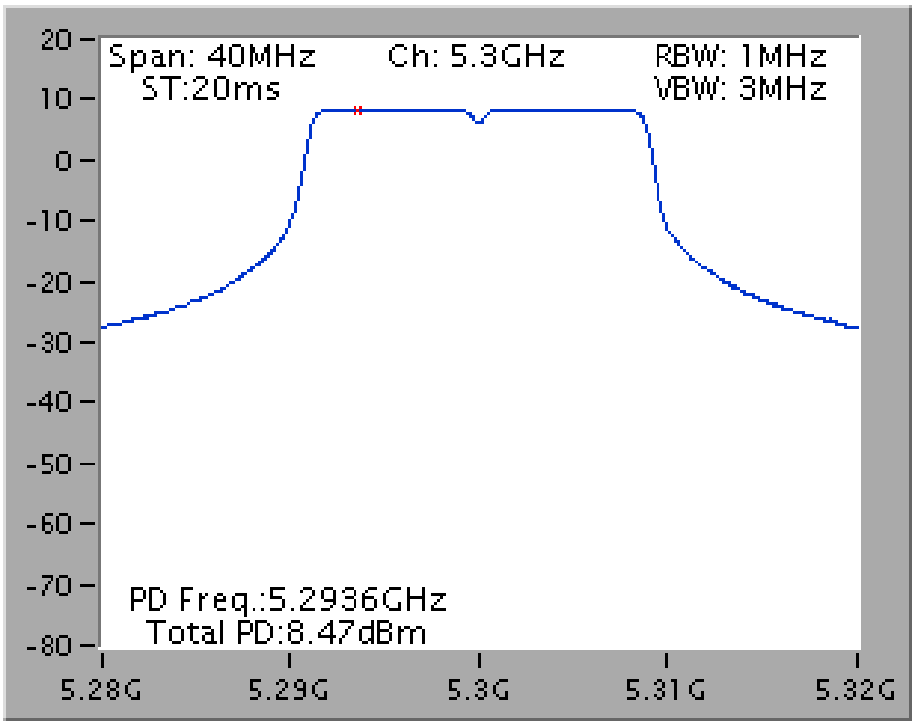
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5320 MHz



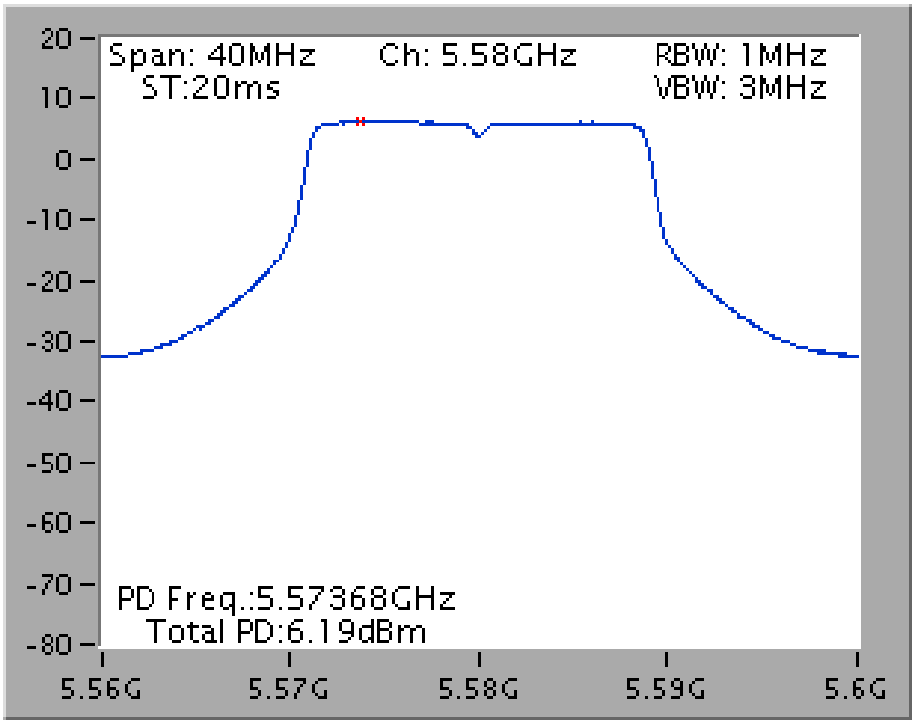
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 5700 MHz



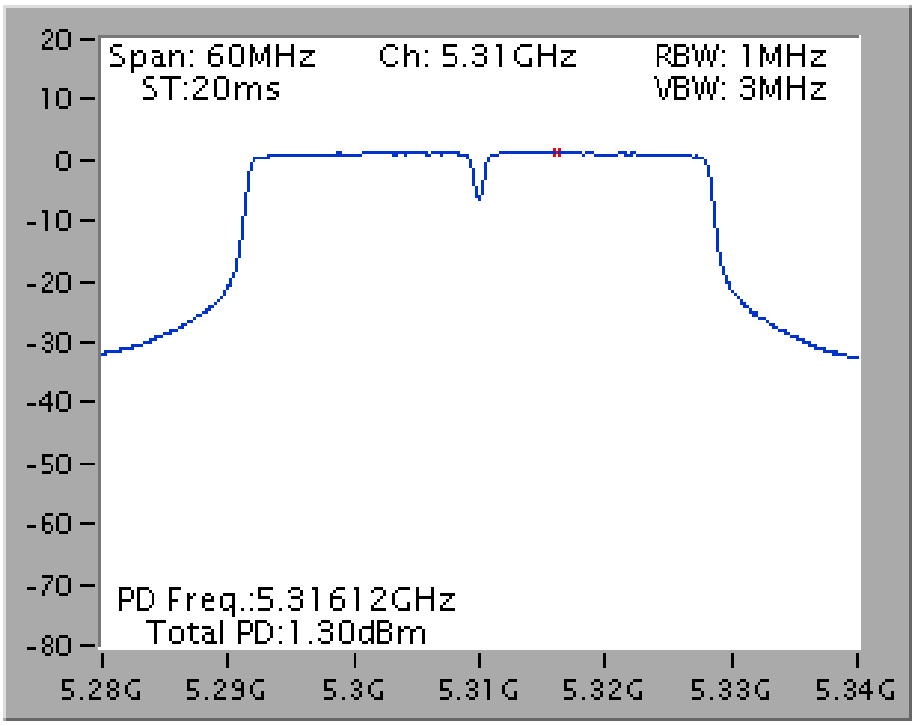
Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5300 MHz



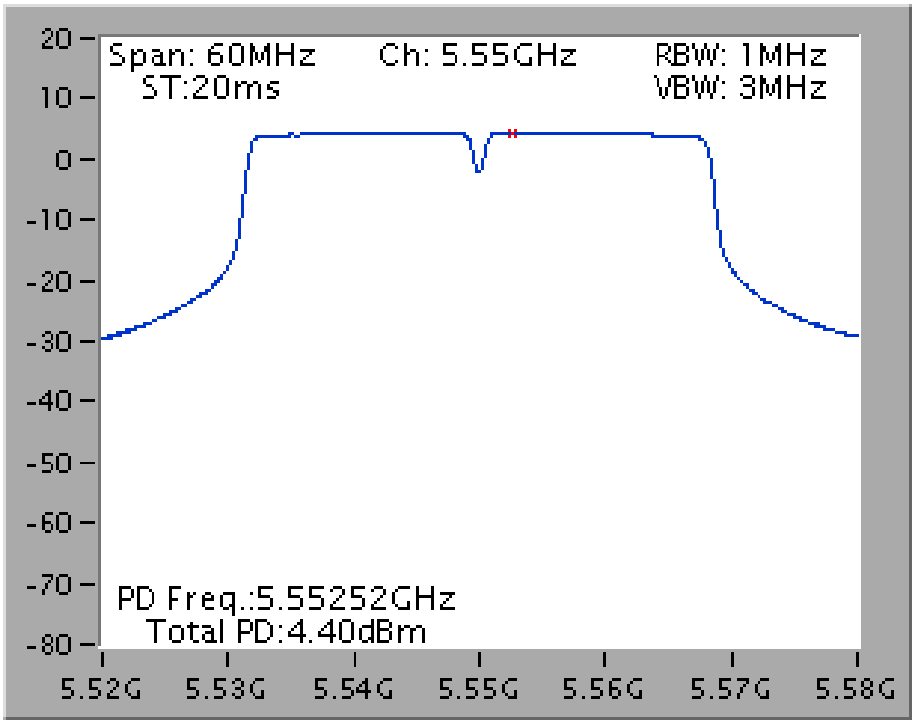
Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 2 / Chain 1 + Chain 2 / 5580 MHz



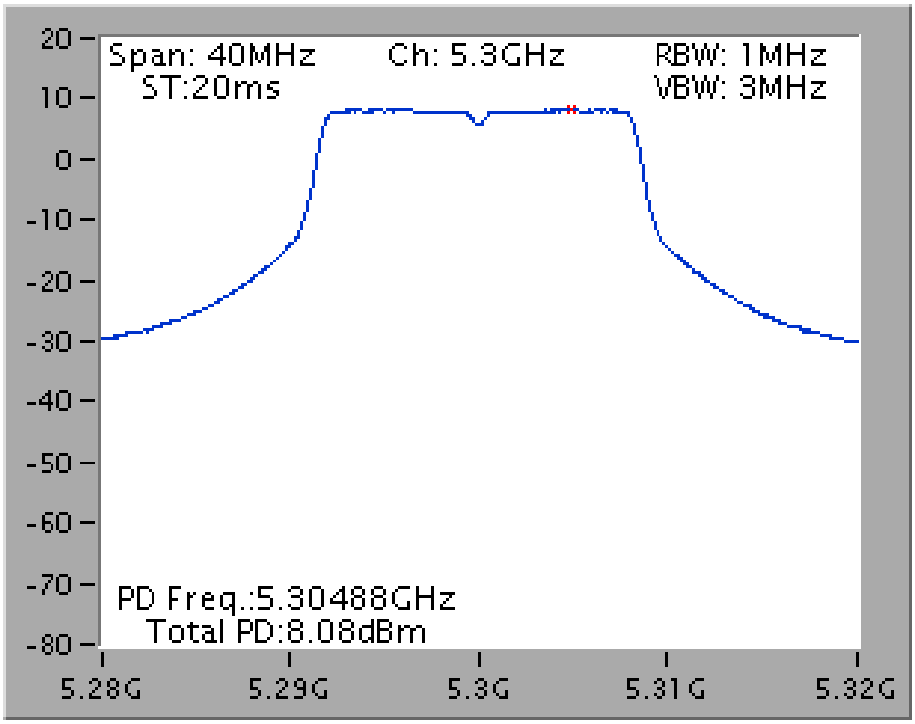
Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2 / 5310 MHz



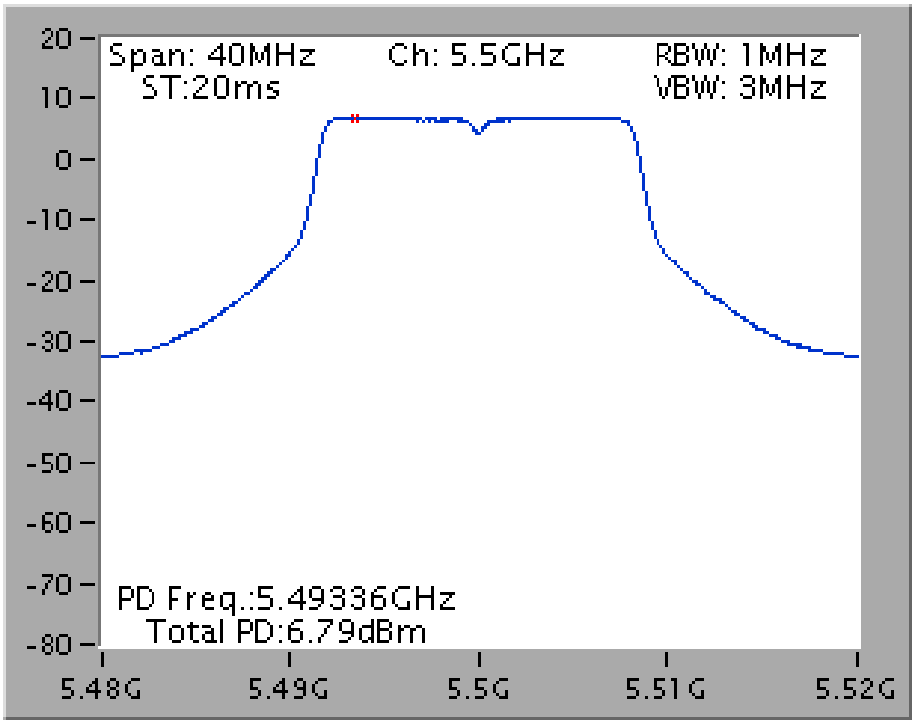
Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 2 / Chain 1 + Chain 2 / 5550 MHz



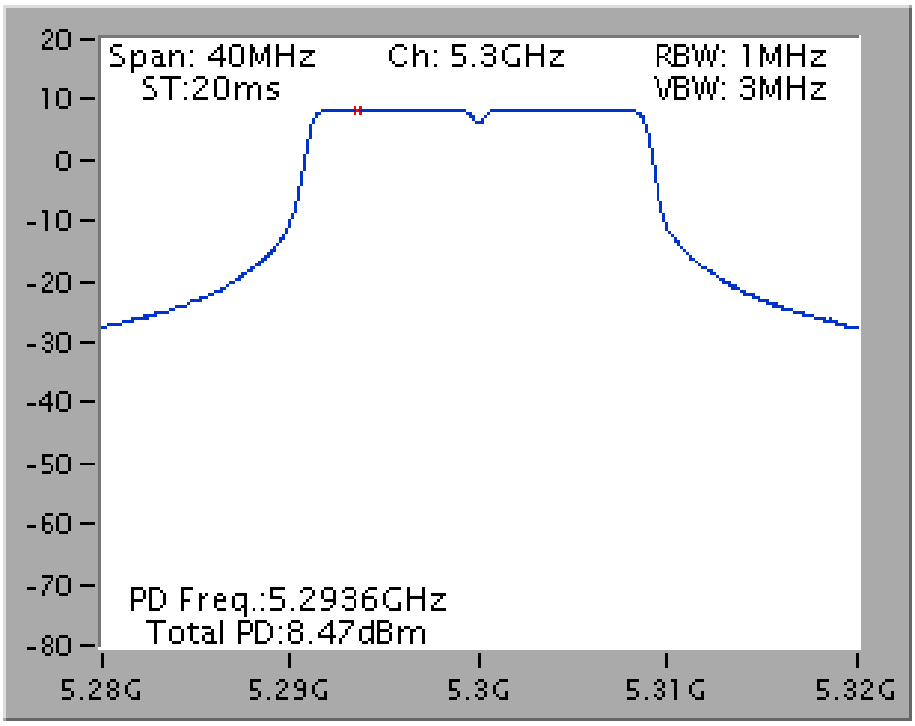
Power Density Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5300 MHz



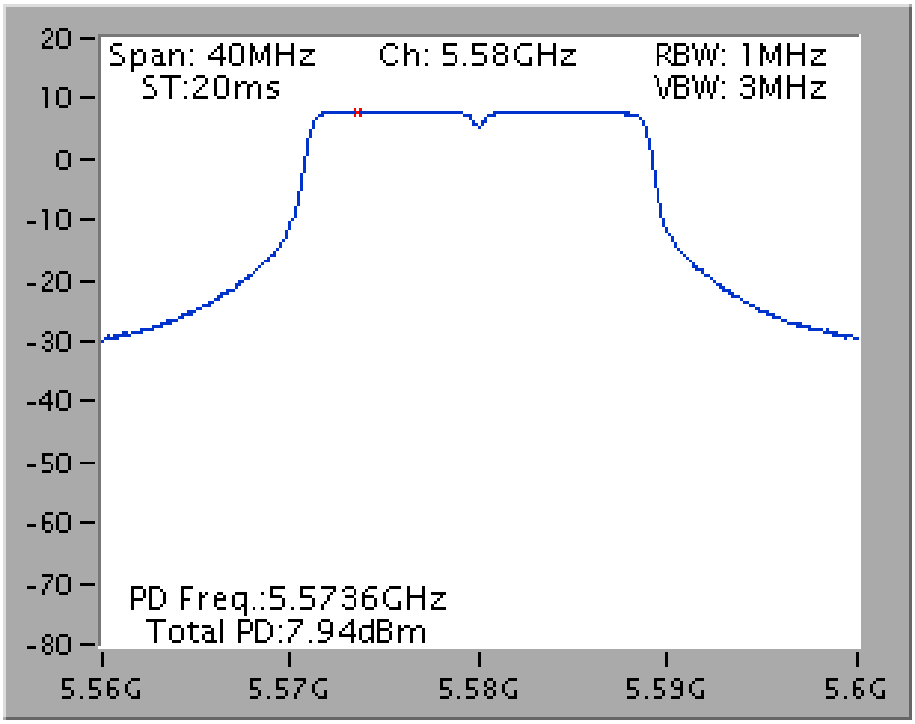
Power Density Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 5500 MHz



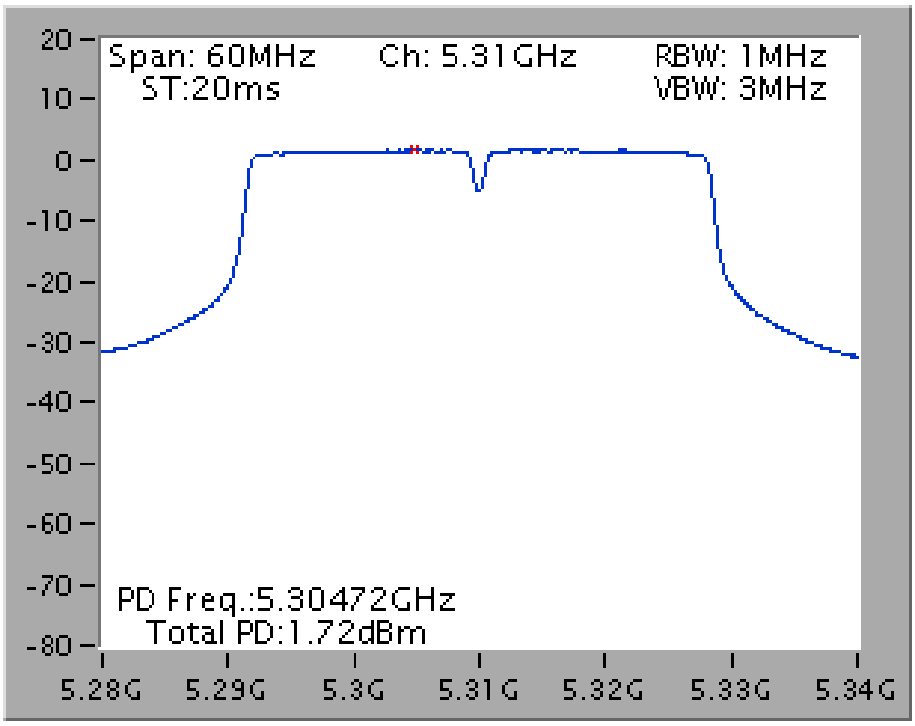
Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5300 MHz



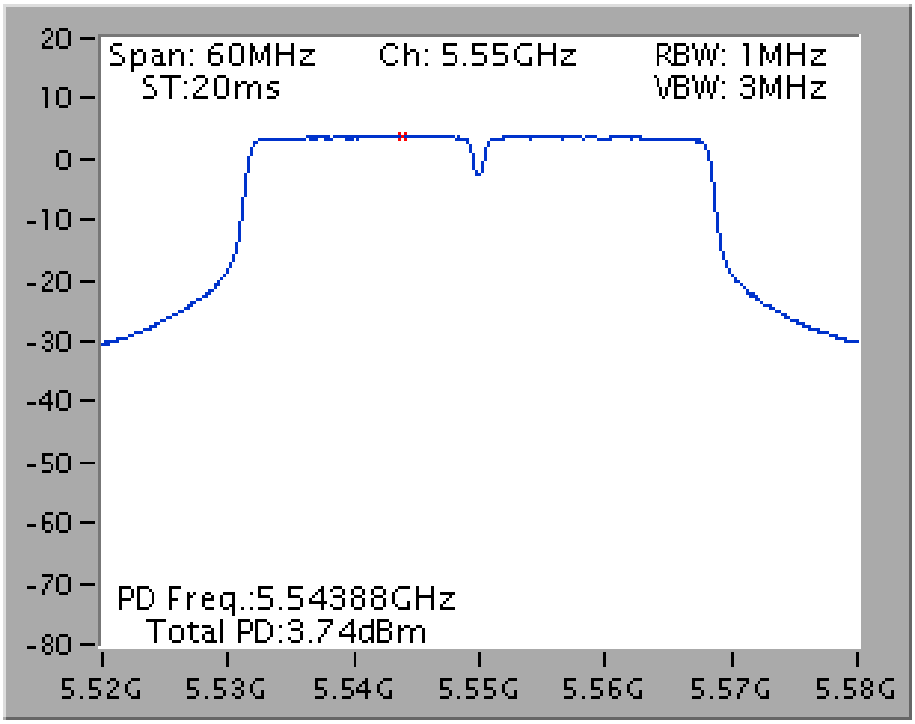
Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / Ant. 3 / Chain 1 + Chain 2 / 5580 MHz



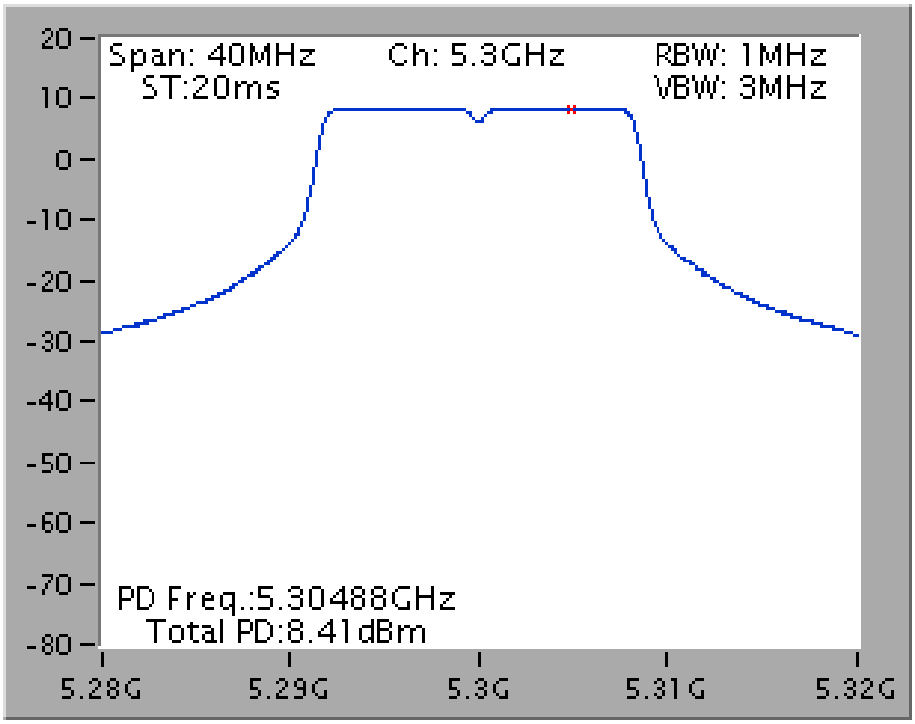
Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2 / 5310 MHz



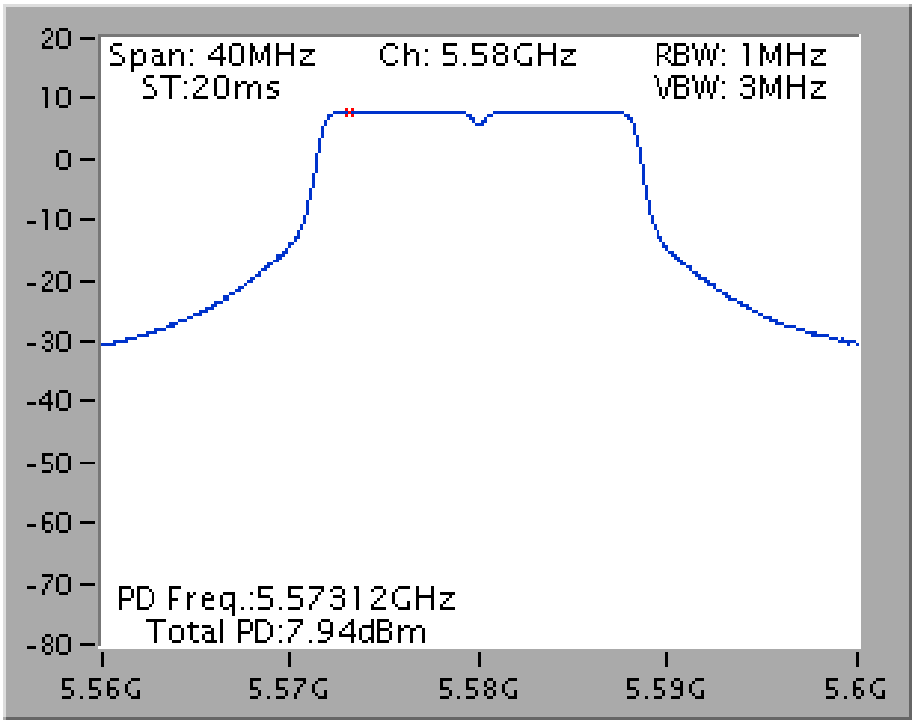
Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / Ant. 3 / Chain 1 + Chain 2 / 5550 MHz



Power Density Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5300 MHz



Power Density Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / 5580 MHz



4.5. Peak Excursion Measurement

4.5.1. Limit

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

4.5.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1MHz (Peak Trace) / 1MHz (Average Trace)
VBW	≥ 3MHz (Peak Trace) / ≥ 3MHz (Average Trace)
Detector	Peak (Peak Trace) / RMS (Average Trace)
Trace	Trace: Max hold (Peak Trace) / Trace Average Sweep Count 100 (Average Trace)
Sweep Time	AUTO

4.5.3. Test Procedures

1. Trace A, Set RBW =1MHz, VBW = 3MHz, Span >26dB bandwidth, Max. hold.
2. Delta Mark trace A Maximum frequency and trace B same frequency.
3. Repeat the above procedure until measurements for all frequencies were complete.
4. Testing each modulation mode on a single channel in single operating band at single output port. All signal types need test (DSSS, OFDM). All modulation types need test (BPSK, QPSK, 16-QAM, 64-QAM). All bandwidth modes need test.

4.5.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.4.4.

4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Peak Excursion

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11n
Test Mode	Mode 1. EUT + Ant. 1		

Configuration IEEE 802.11n 20MHz / Ant. 1 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (MCS0)	5320 MHz	9.34	13	Complies
QPSK (MCS1)	5320 MHz	9.82	13	Complies
16QAM (MCS3)	5320 MHz	10.62	13	Complies
64QAM (MCS5)	5320 MHz	10.51	13	Complies
BPSK (MCS0)	5580 MHz	9.36	13	Complies
QPSK (MCS1)	5580 MHz	9.71	13	Complies
16QAM (MCS3)	5580 MHz	10.82	13	Complies
64QAM (MCS5)	5580 MHz	10.45	13	Complies

Configuration IEEE 802.11n 40MHz / Ant. 1 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (MCS0)	5310 MHz	9.22	13	Complies
QPSK (MCS1)	5310 MHz	10.16	13	Complies
16QAM (MCS3)	5310 MHz	10.52	13	Complies
64QAM (MCS5)	5310 MHz	10.44	13	Complies
BPSK (MCS0)	5550 MHz	9.40	13	Complies
QPSK (MCS1)	5550 MHz	10.23	13	Complies
16QAM (MCS3)	5550 MHz	10.25	13	Complies
64QAM (MCS5)	5550 MHz	10.91	13	Complies

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Configurations	IEEE 802.11a
Test Mode	Mode 1. EUT + Ant. 1		

Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (6Mbps)	5320 MHz	9.04	13	Complies
QPSK (12Mbps)	5320 MHz	10.07	13	Complies
16QAM (24Mbps)	5320 MHz	11.18	13	Complies
64QAM (48Mbps)	5320 MHz	10.25	13	Complies
BPSK (6Mbps)	5700 MHz	9.27	13	Complies
QPSK (12Mbps)	5700 MHz	9.80	13	Complies
16QAM (24Mbps)	5700 MHz	10.51	13	Complies
64QAM (48Mbps)	5700 MHz	10.14	13	Complies

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11n
Test Mode	Mode 2. EUT + Ant. 2		

Configuration IEEE 802.11n 20MHz / Ant. 2 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (MCS0)	5300 MHz	9.29	13	Complies
QPSK (MCS1)	5300 MHz	9.97	13	Complies
16QAM (MCS3)	5300 MHz	9.57	13	Complies
64QAM (MCS5)	5300 MHz	10.48	13	Complies
BPSK (MCS0)	5580 MHz	9.71	13	Complies
QPSK (MCS1)	5580 MHz	9.63	13	Complies
16QAM (MCS3)	5580 MHz	9.58	13	Complies
64QAM (MCS5)	5580 MHz	10.37	13	Complies

Configuration IEEE 802.11n 40MHz / Ant. 2 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (MCS0)	5310 MHz	9.70	13	Complies
QPSK (MCS1)	5310 MHz	10.37	13	Complies
16QAM (MCS3)	5310 MHz	10.79	13	Complies
64QAM (MCS5)	5310 MHz	10.38	13	Complies
BPSK (MCS0)	5550 MHz	9.03	13	Complies
QPSK (MCS1)	5550 MHz	10.14	13	Complies
16QAM (MCS3)	5550 MHz	10.55	13	Complies
64QAM (MCS5)	5550 MHz	10.35	13	Complies

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Configurations	IEEE 802.11a
Test Mode	Mode 2. EUT + Ant. 2		

Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (6Mbps)	5300 MHz	8.98	13	Complies
QPSK (12Mbps)	5300 MHz	10.16	13	Complies
16QAM (24Mbps)	5300 MHz	10.44	13	Complies
64QAM (48Mbps)	5300 MHz	9.43	13	Complies
BPSK (6Mbps)	5500 MHz	8.92	13	Complies
QPSK (12Mbps)	5500 MHz	9.73	13	Complies
16QAM (24Mbps)	5500 MHz	10.71	13	Complies
64QAM (48Mbps)	5500 MHz	9.85	13	Complies

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11n
Test Mode	Mode 3. EUT + Ant. 3		

Configuration IEEE 802.11n 20MHz / Ant. 3 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (MCS0)	5300 MHz	9.29	13	Complies
QPSK (MCS1)	5300 MHz	9.97	13	Complies
16QAM (MCS3)	5300 MHz	9.57	13	Complies
64QAM (MCS5)	5300 MHz	10.48	13	Complies
BPSK (MCS0)	5580 MHz	10.20	13	Complies
QPSK (MCS1)	5580 MHz	10.07	13	Complies
16QAM (MCS3)	5580 MHz	9.41	13	Complies
64QAM (MCS5)	5580 MHz	10.00	13	Complies

Configuration IEEE 802.11n 40MHz / Ant. 3 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (MCS0)	5310 MHz	9.54	13	Complies
QPSK (MCS1)	5310 MHz	9.86	13	Complies
16QAM (MCS3)	5310 MHz	10.38	13	Complies
64QAM (MCS5)	5310 MHz	10.69	13	Complies
BPSK (MCS0)	5670 MHz	9.20	13	Complies
QPSK (MCS1)	5670 MHz	10.34	13	Complies
16QAM (MCS3)	5670 MHz	10.75	13	Complies
64QAM (MCS5)	5670 MHz	10.25	13	Complies

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Mode	Mode 3. EUT + Ant. 3		

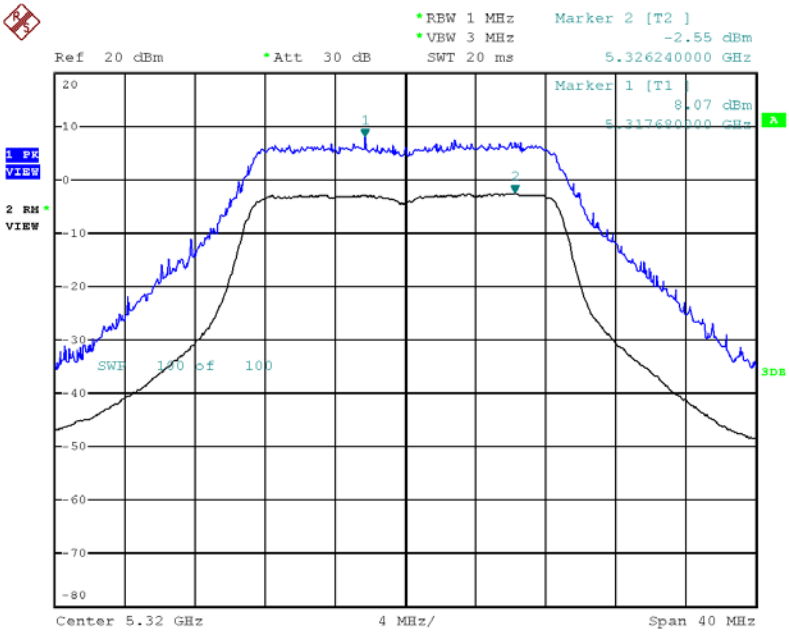
Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BPSK (6Mbps)	5300 MHz	10.59	13	Complies
QPSK (12Mbps)	5300 MHz	10.03	13	Complies
16QAM (24Mbps)	5300 MHz	10.15	13	Complies
64QAM (48Mbps)	5300 MHz	10.05	13	Complies
BPSK (6Mbps)	5580 MHz	10.39	13	Complies
QPSK (12Mbps)	5580 MHz	9.73	13	Complies
16QAM (24Mbps)	5580 MHz	10.20	13	Complies
64QAM (48Mbps)	5580 MHz	9.72	13	Complies

Note: All the test values were listed in the report.

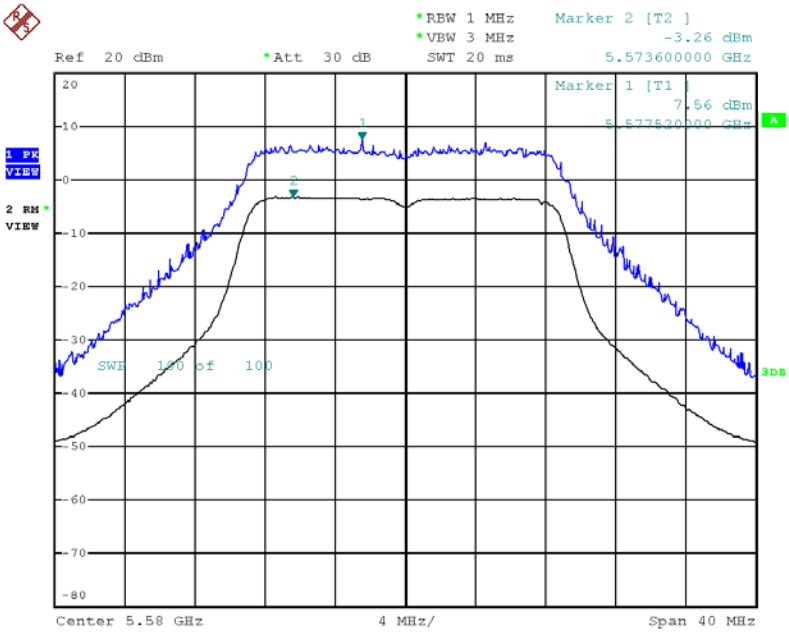
For plots, only the modulation with worse result was shown.

Peak Excursion Plot on Configuration IEEE 802.11n 20MHz / Ant. 1 / Chain 1 + Chain 2 / 16QAM (MCS3) / 5320 MHz



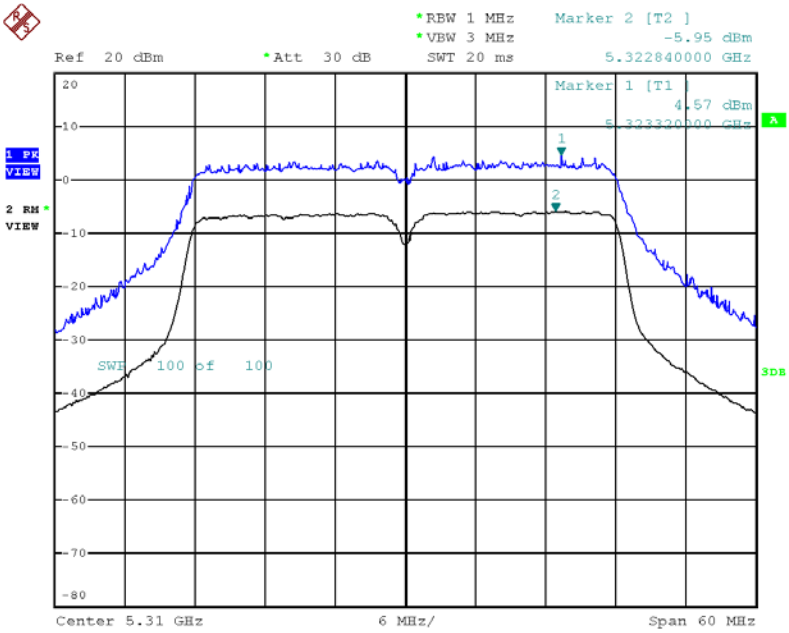
Date: 23.AUG.2013 02:36:01

Peak Excursion Plot on Configuration IEEE 802.11n 20MHz / Ant. 1 / Chain 1 + Chain 2 / 16QAM (MCS3) / 5580 MHz



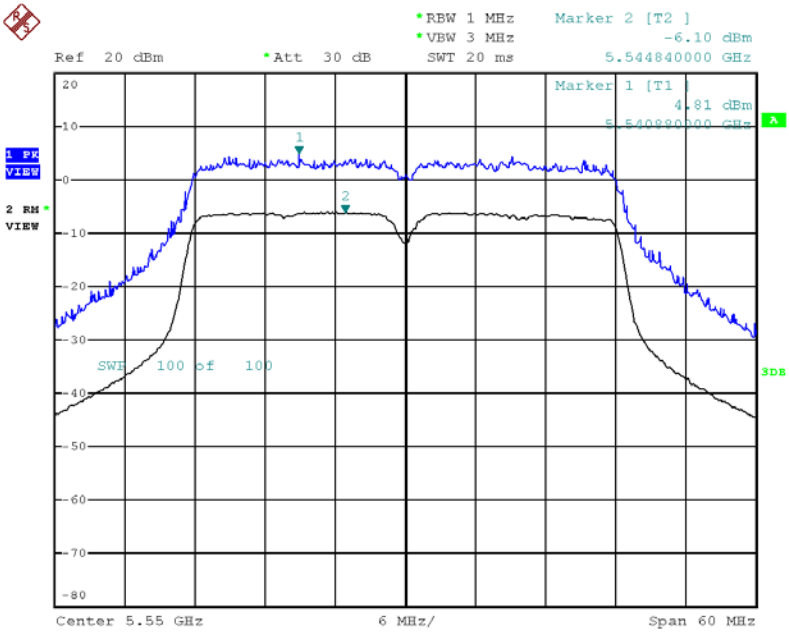
Date: 23.AUG.2013 02:30:06

Peak Excursion Plot on Configuration IEEE 802.11n 40MHz / Ant. 1 / Chain 1 + Chain 2 / 16QAM (MCS3) / 5310 MHz



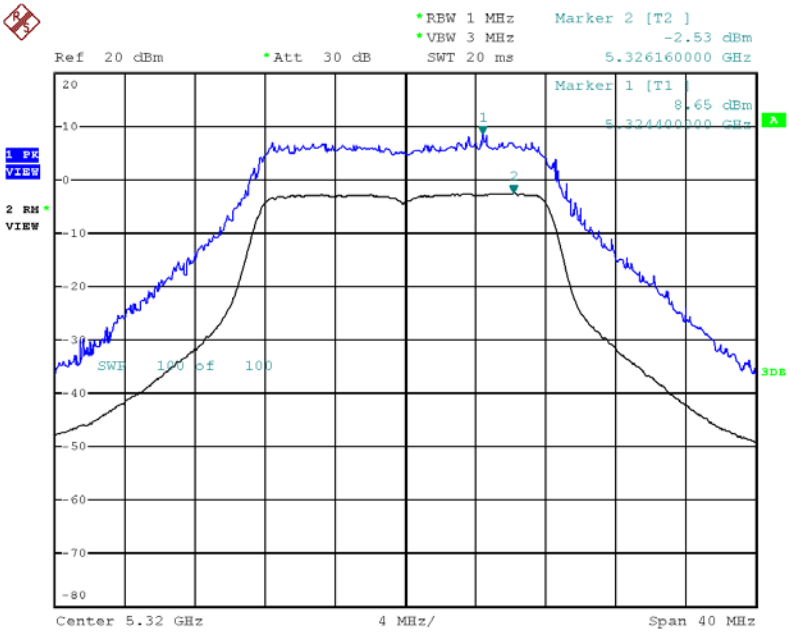
Date: 23.AUG.2013 02:43:54

Peak Excursion Plot on Configuration IEEE 802.11n 40MHz / Ant. 1 / Chain 1 + Chain 2 / 64QAM (MCS5) / 5550 MHz



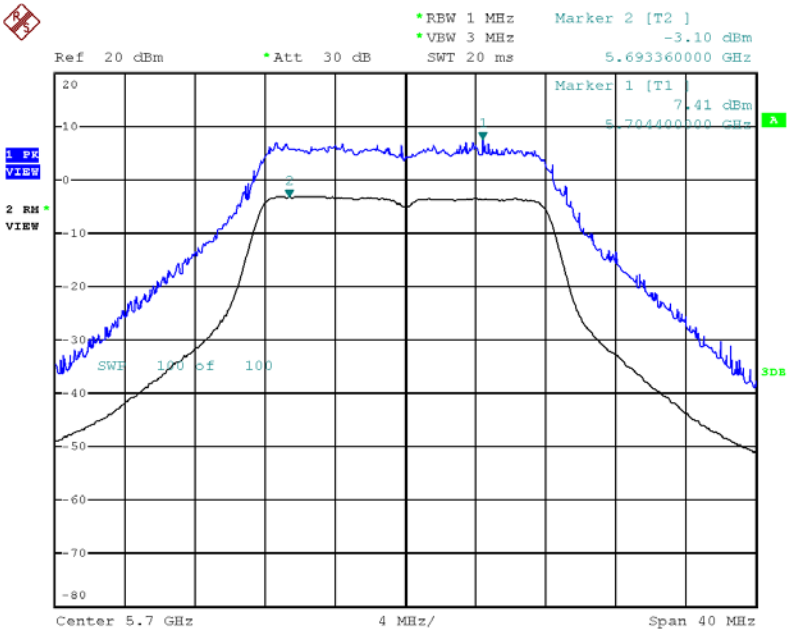
Date: 23.AUG.2013 02:49:20

Peak Excursion Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 16QAM (24Mbps) / 5320 MHz



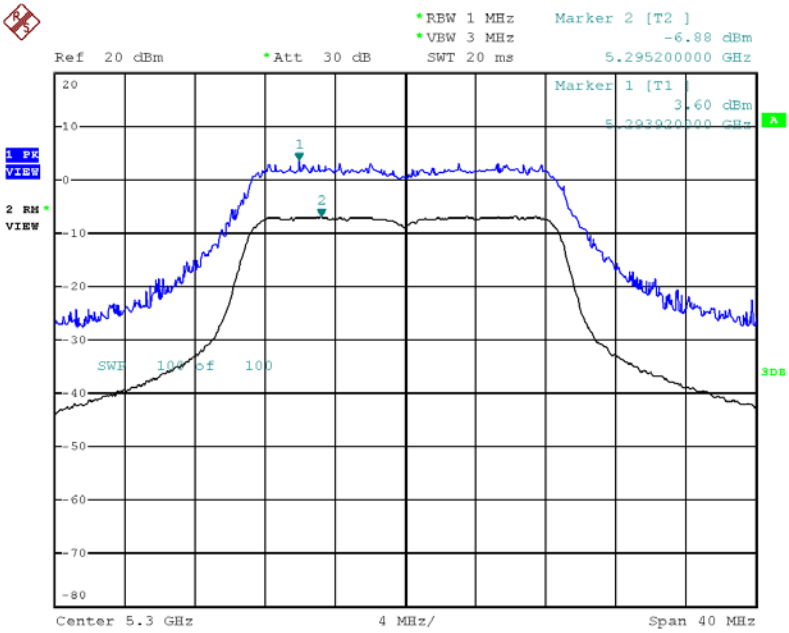
Date: 23.AUG.2013 02:16:18

Peak Excursion Plot on Configuration IEEE 802.11a / Ant. 1 / Chain 1 + Chain 2 / 16QAM (24Mbps) / 5700 MHz



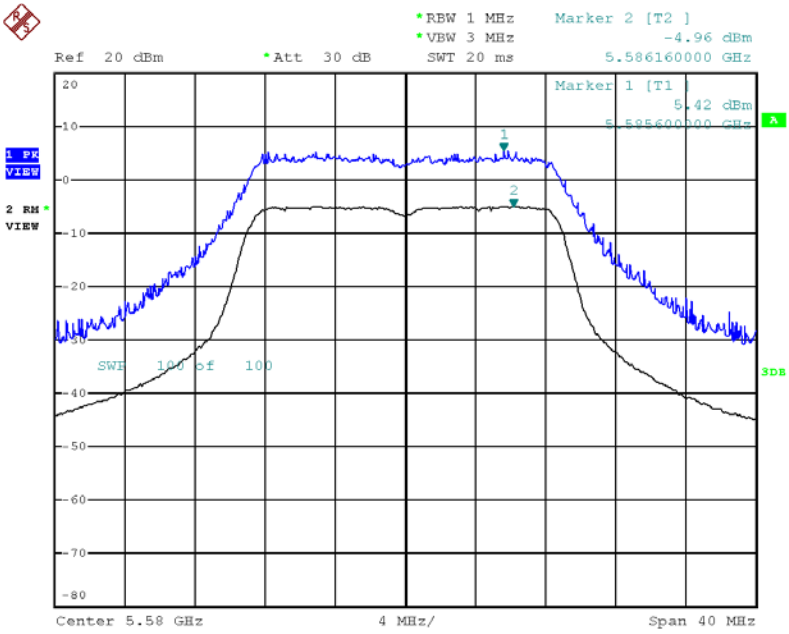
Date: 23.AUG.2013 02:21:05

Peak Excursion Plot on Configuration IEEE 802.11n 20MHz / Ant. 2 / Chain 1 + Chain 2 / 64QAM (MCS5) / 5300 MHz



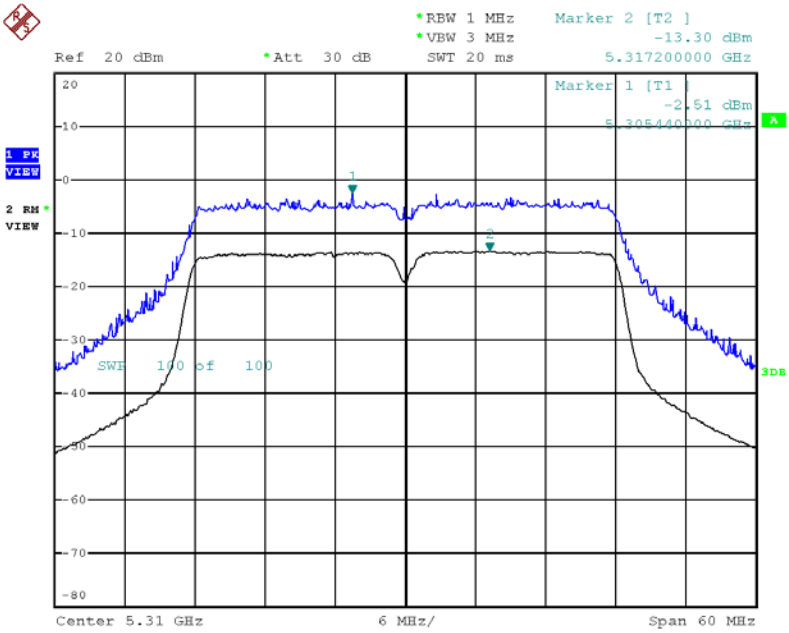
Date: 20.AUG.2013 04:42:35

Peak Excursion Plot on Configuration IEEE 802.11n 20MHz / Ant. 2 / Chain 1 + Chain 2 / 64QAM (MCS5) / 5580 MHz



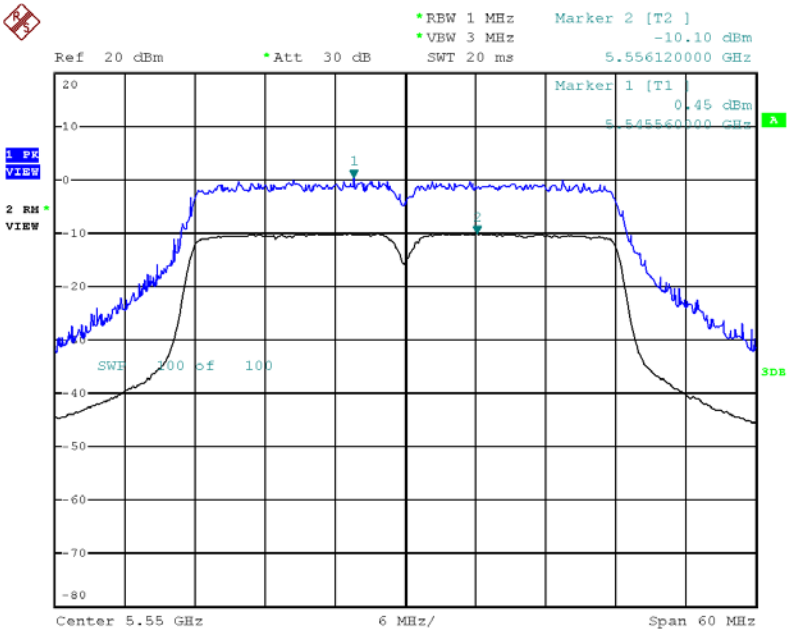
Date: 20.AUG.2013 04:46:54

Peak Excursion Plot on Configuration IEEE 802.11n 40MHz / Ant. 2 / Chain 1 + Chain 2 / 16QAM (MCS3) / 5310 MHz



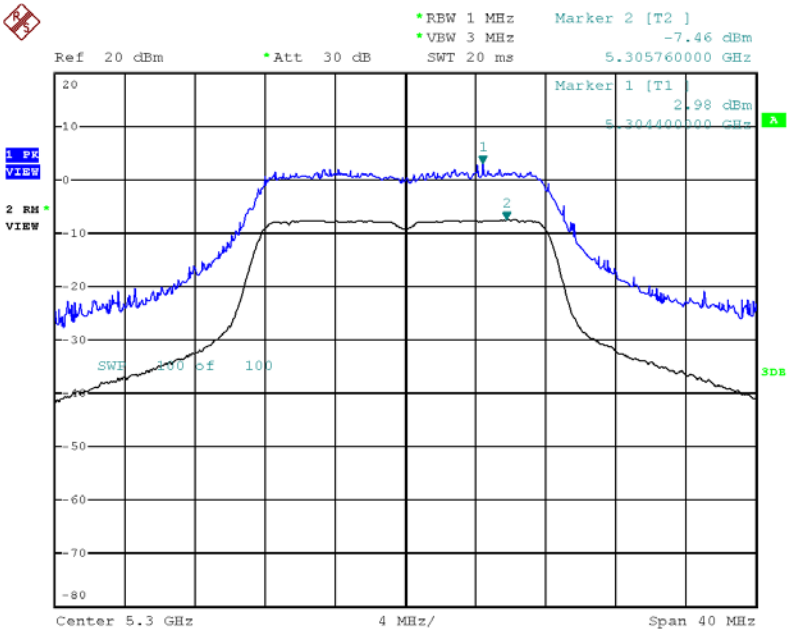
Date: 20.AUG.2013 04:54:01

Peak Excursion Plot on Configuration IEEE 802.11n 40MHz / Ant. 2 / Chain 1 + Chain 2 / 16QAM (MCS3) / 5550 MHz



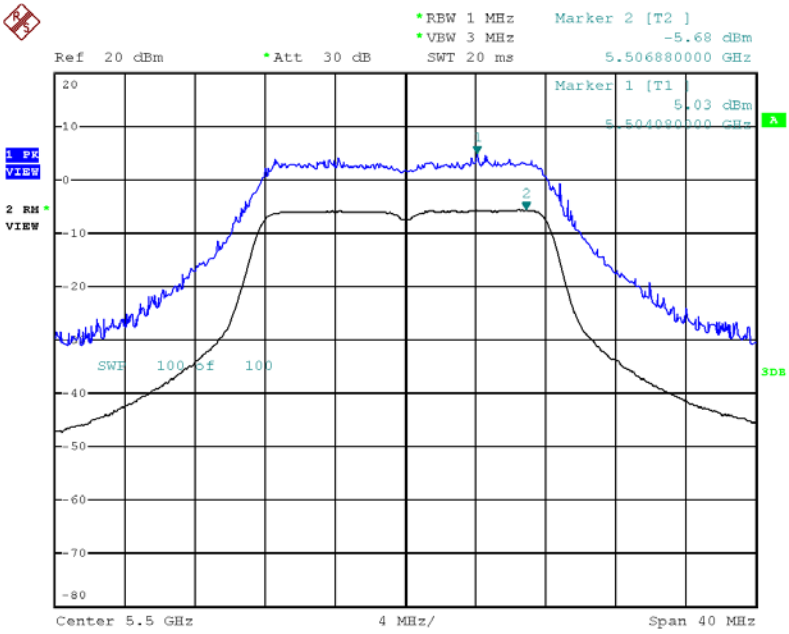
Date: 20.AUG.2013 05:00:31

Peak Excursion Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 16QAM (24Mbps) / 5300 MHz



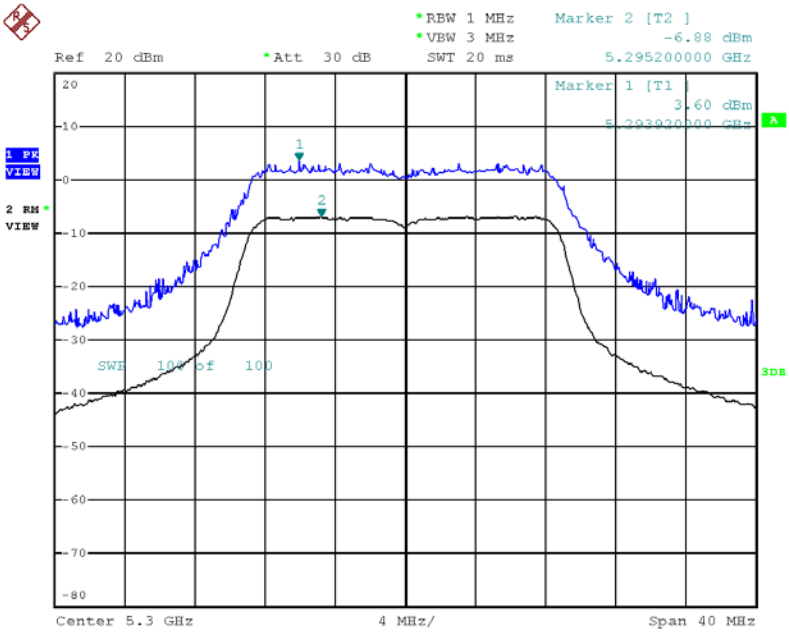
Date: 20.AUG.2013 04:29:04

Peak Excursion Plot on Configuration IEEE 802.11a / Ant. 2 / Chain 1 + Chain 2 / 16QAM (24Mbps) / 5500 MHz



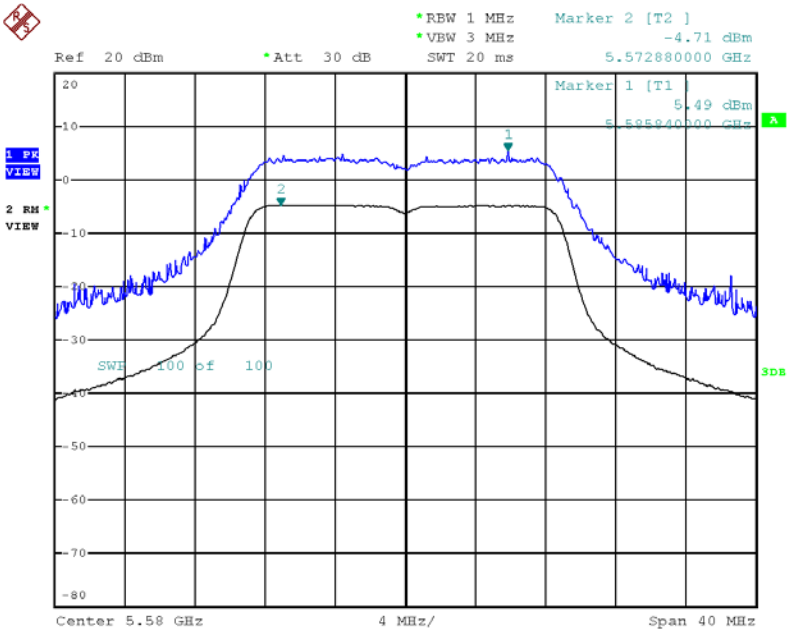
Date: 20.AUG.2013 04:35:06

Peak Excursion Plot on Configuration IEEE 802.11n 20MHz / Ant. 3 / Chain 1 + Chain 2 / 64QAM (MCS5) / 5300 MHz



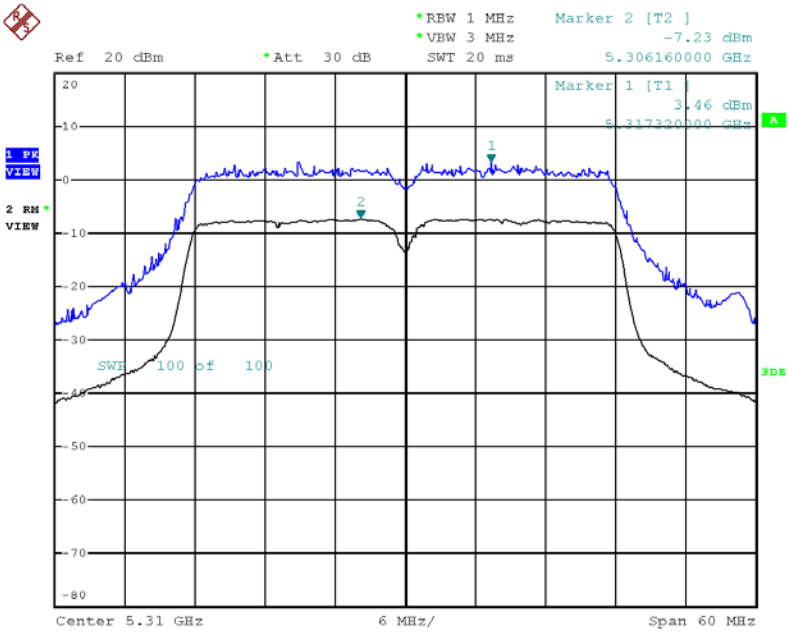
Date: 20.AUG.2013 04:42:35

Peak Excursion Plot on Configuration IEEE 802.11n 20MHz / Ant. 3 / Chain 1 + Chain 2 / BPSK (MCS0) / 5580 MHz



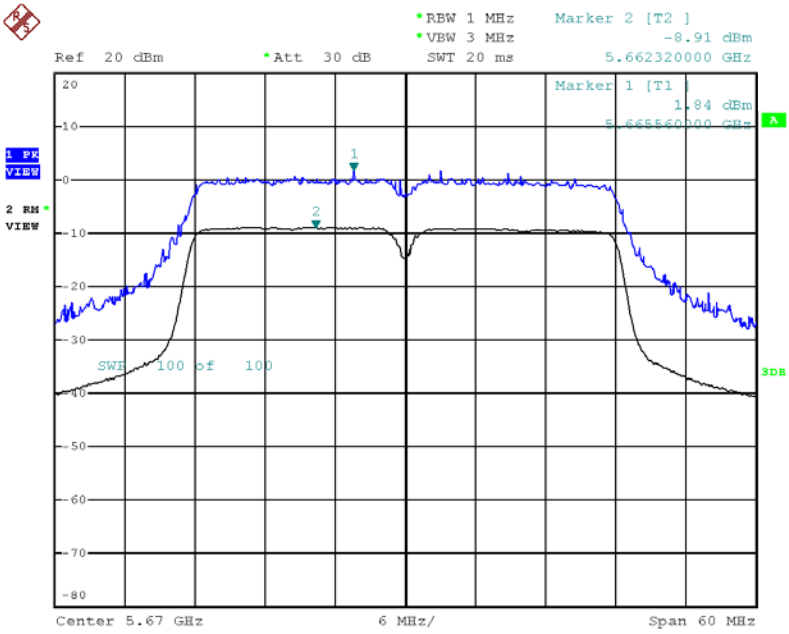
Date: 20.AUG.2013 14:47:18

Peak Excursion Plot on Configuration IEEE 802.11n 40MHz / Ant. 3 / Chain 1 + Chain 2 / 64QAM (MCS5) / 5310 MHz



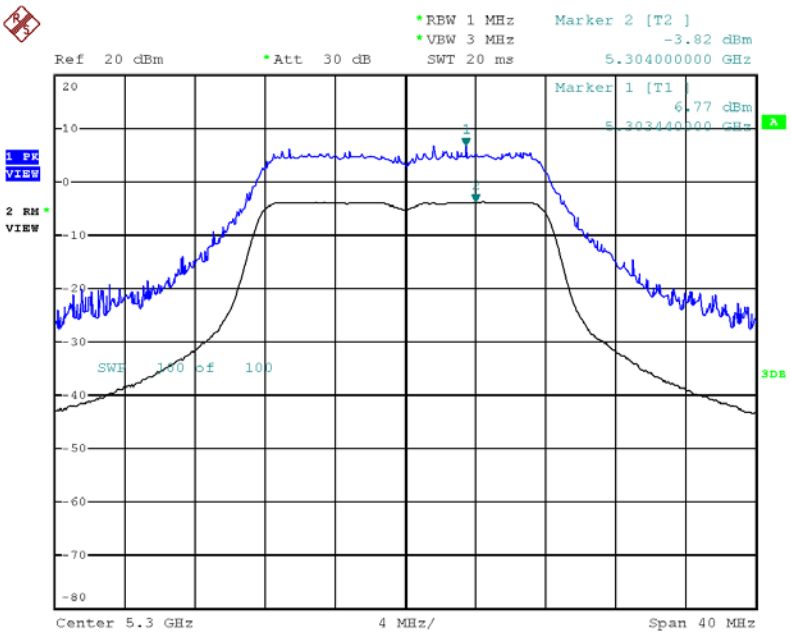
Date: 20.AUG.2013 14:58:30

Peak Excursion Plot on Configuration IEEE 802.11n 40MHz / Ant. 3 / Chain 1 + Chain 2 / 16QAM (MCS3) / 5670 MHz



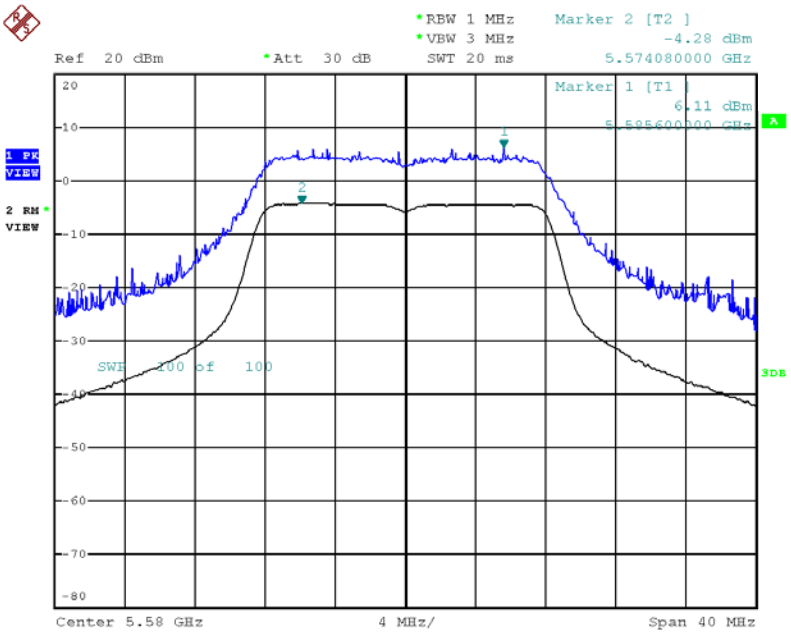
Date: 20.AUG.2013 15:02:19

Peak Excursion Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / BPSK (6Mbps) / 5300 MHz



Date: 20.AUG.2013 14:39:59

Peak Excursion Plot on Configuration IEEE 802.11a / Ant. 3 / Chain 1 + Chain 2 / BPSK (6Mbps) / 5580 MHz



Date: 20.AUG.2013 14:45:45

4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed a -27dBm peak limit or average 54dBuV/m and peak 74dBuV/m limits. For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed a -27dBm peak limit or average 54dBuV/m and peak 74dBuV/m limits In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.6.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

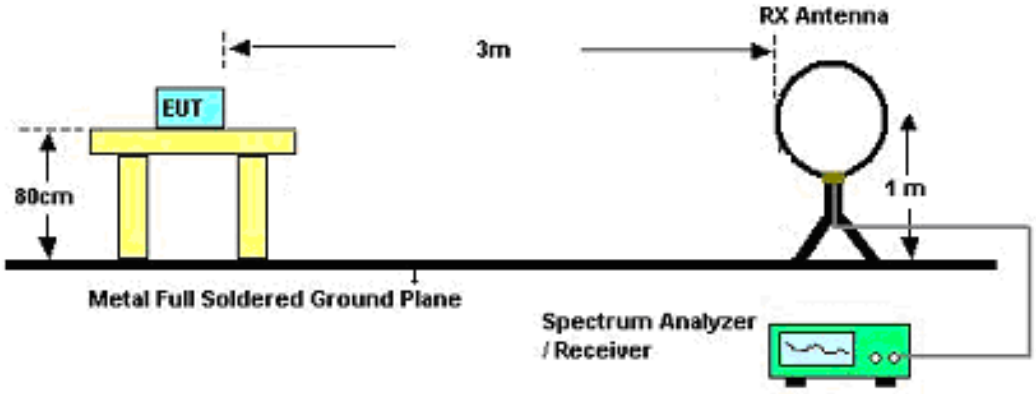
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

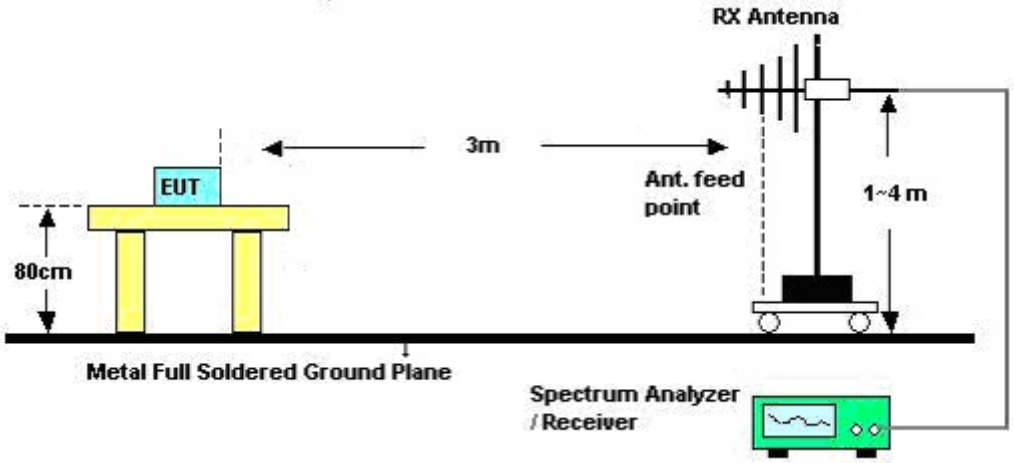
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.6.4. Test Setup Layout

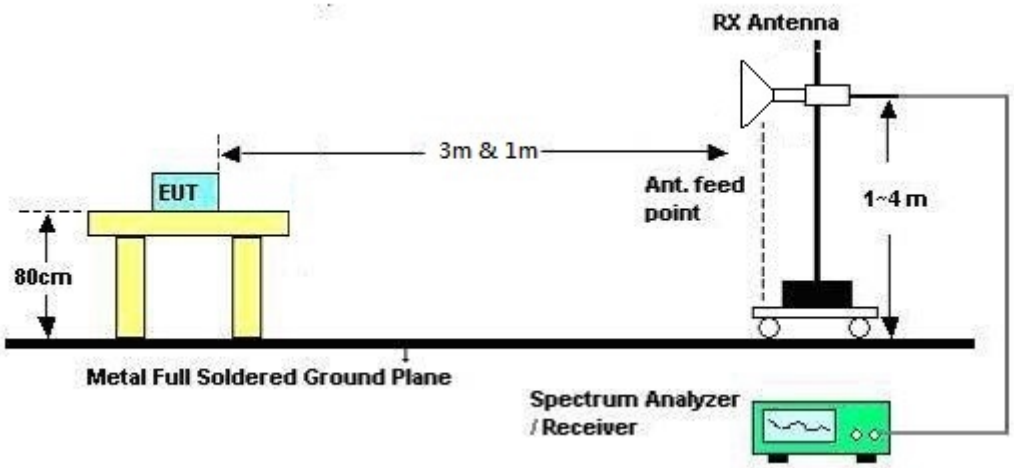
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.6.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	25°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	CTX
Test Date	May 22, 2013		

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

Note:

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

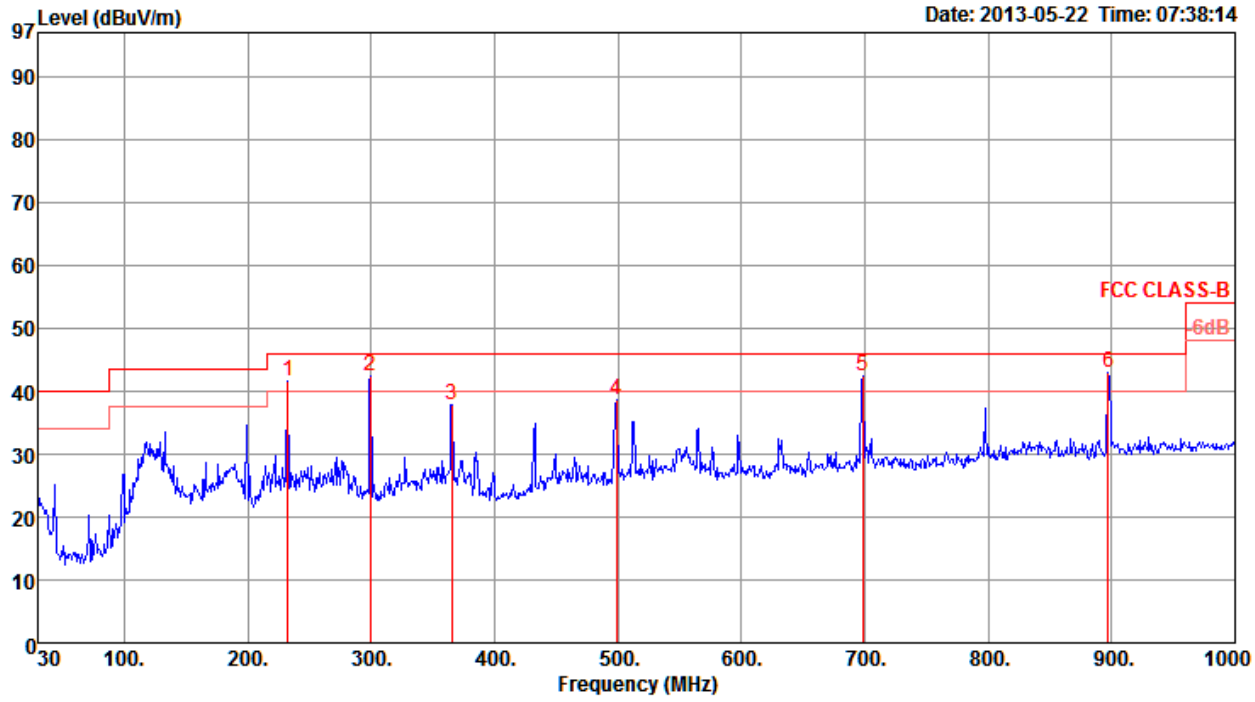
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

4.6.8. Results of Radiated Emissions (30MHz~1GHz)

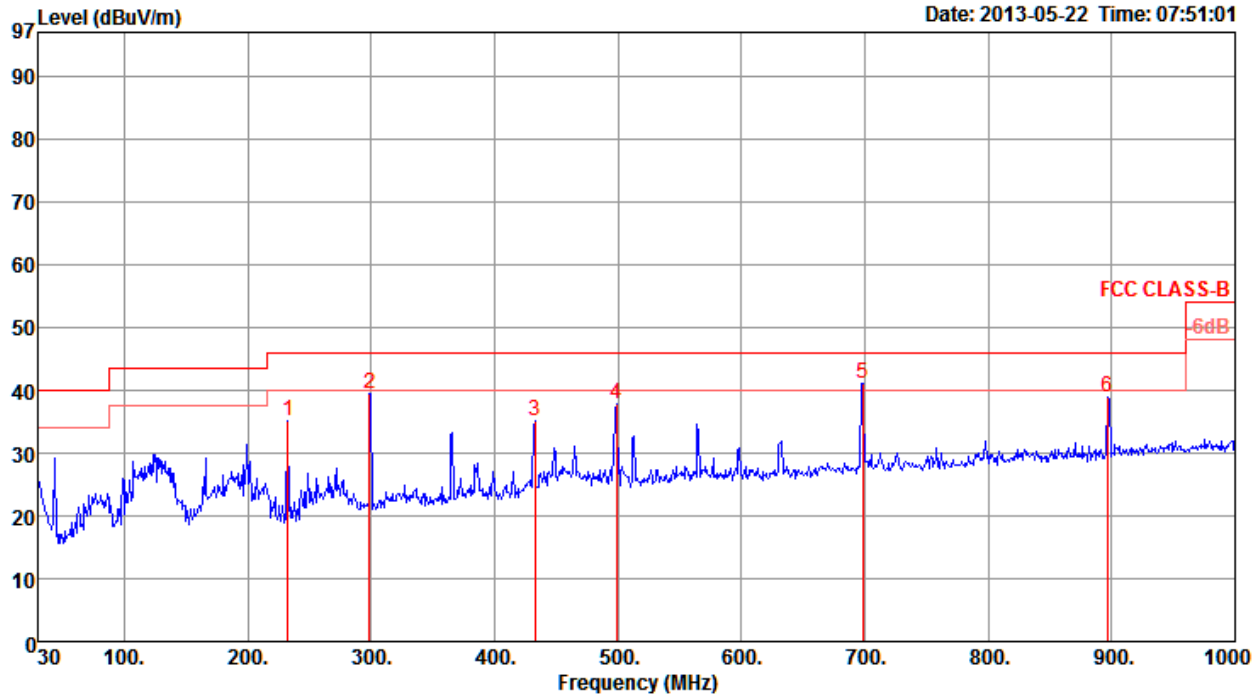
Temperature	25°C	Humidity	56%
Test Engineer	Jim Huang	Configurations	CTX
Test Mode	EUT + Ant. 1		

Horizontal



		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	!	232.73	41.70	46.00	-4.30	54.88	2.29	27.01	11.54	Peak	0	100	HORIZONTAL
2	!	299.66	42.48	46.00	-3.52	53.00	2.51	26.83	13.80	Peak	0	100	HORIZONTAL
3		365.62	37.90	46.00	-8.10	46.55	2.86	27.19	15.68	Peak	0	100	HORIZONTAL
4		498.51	38.67	46.00	-7.33	45.45	3.38	27.93	17.77	Peak	0	100	HORIZONTAL
5	!	698.33	42.45	46.00	-3.55	45.42	4.15	27.10	19.98	Peak	0	100	HORIZONTAL
6	p	897.18	42.88	46.00	-3.12	43.65	4.58	26.83	21.48	Peak	0	100	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	232.73	35.07	46.00	-10.93	48.25	2.29	27.01	11.54	Peak	0	400	VERTICAL
2	298.69	39.53	46.00	-6.47	50.05	2.51	26.83	13.80	Peak	0	400	VERTICAL
3	432.55	35.08	46.00	-10.92	42.81	3.15	27.71	16.83	Peak	0	400	VERTICAL
4	498.51	37.86	46.00	-8.14	44.64	3.38	27.93	17.77	Peak	0	400	VERTICAL
5 p	698.33	41.15	46.00	-4.85	44.12	4.15	27.10	19.98	Peak	0	400	VERTICAL
6	896.21	38.86	46.00	-7.14	39.64	4.58	26.84	21.48	Peak	0	400	VERTICAL

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.6.9. Results for Radiated Emissions (1GHz~40GHz)

Temperature	25°C	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 56 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.95	49.78	54.00	-4.22	48.40	3.32	33.09	35.03	Average	111	177	HORIZONTAL
2	4839.95	61.17	74.00	-12.83	59.79	3.32	33.09	35.03	Peak	111	177	HORIZONTAL
3	15849.49	37.40	54.00	-16.60	29.37	6.14	37.34	35.45	Average	100	319	HORIZONTAL
4	15849.62	50.28	74.00	-23.72	42.25	6.14	37.34	35.45	Peak	100	319	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.83	66.63	74.00	-7.37	65.25	3.32	33.09	35.03	Peak	112	190	VERTICAL
2	4839.91	53.91	54.00	-0.09	52.53	3.32	33.09	35.03	Average	112	190	VERTICAL
3	15839.78	38.37	54.00	-15.63	30.31	6.14	37.36	35.44	Average	100	57	VERTICAL
4	15841.92	51.29	74.00	-22.71	43.23	6.14	37.36	35.44	Peak	100	57	VERTICAL

Temperature	25°C	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 60 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.96	48.75	54.00	-5.25	47.37	3.32	33.09	35.03	Average	100	168	HORIZONTAL
2	4840.13	61.56	74.00	-12.44	60.18	3.32	33.09	35.03	Peak	100	168	HORIZONTAL
3	10600.10	49.16	54.00	-4.84	41.19	5.01	38.38	35.42	Average	113	286	HORIZONTAL
4	10600.74	65.17	74.00	-8.83	57.20	5.01	38.38	35.42	Peak	113	286	HORIZONTAL
5	15895.74	58.25	74.00	-15.75	50.25	6.15	37.29	35.44	Peak	140	284	HORIZONTAL
6	15898.37	41.32	54.00	-12.68	33.32	6.15	37.29	35.44	Average	140	284	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.95	53.73	54.00	-0.27	52.35	3.32	33.09	35.03	Average	122	184	VERTICAL
2	4839.97	67.17	74.00	-6.83	65.79	3.32	33.09	35.03	Peak	122	184	VERTICAL
3	10599.94	47.77	54.00	-6.23	39.80	5.01	38.38	35.42	Average	115	280	VERTICAL
4	10600.64	63.65	74.00	-10.35	55.68	5.01	38.38	35.42	Peak	115	280	VERTICAL
5	15901.06	42.23	54.00	-11.77	34.23	6.15	37.29	35.44	Average	100	289	VERTICAL
6	15903.56	60.45	74.00	-13.55	52.45	6.15	37.29	35.44	Peak	100	289	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 64 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.92	51.32	54.00	-2.68	49.75	3.35	33.23	35.01	Average	100	168	HORIZONTAL
2	4920.18	63.71	74.00	-10.29	62.14	3.35	33.23	35.01	Peak	100	168	HORIZONTAL
3	10639.90	44.96	54.00	-9.04	36.97	5.01	38.37	35.39	Average	100	286	HORIZONTAL
4	10640.29	60.47	74.00	-13.53	52.48	5.01	38.37	35.39	Peak	100	286	HORIZONTAL
5	15961.99	50.80	74.00	-23.20	42.86	6.15	37.23	35.44	Peak	100	1	HORIZONTAL
6	15969.04	37.87	54.00	-16.13	29.94	6.15	37.22	35.44	Average	100	1	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.96	53.84	54.00	-0.16	52.24	3.35	33.26	35.01	Average	121	185	VERTICAL
2	4927.99	68.03	74.00	-5.97	66.43	3.35	33.26	35.01	Peak	121	185	VERTICAL
3	10639.84	42.43	54.00	-11.57	34.44	5.01	38.37	35.39	Average	100	284	VERTICAL
4	10640.58	57.07	74.00	-16.93	49.08	5.01	38.37	35.39	Peak	100	284	VERTICAL
5	15954.42	50.98	74.00	-23.02	43.04	6.15	37.23	35.44	Peak	100	295	VERTICAL
6	15962.66	38.01	54.00	-15.99	30.07	6.15	37.23	35.44	Average	100	295	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 100 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.61	59.82	74.00	-14.18	58.25	3.35	33.23	35.01	Peak	100	167	HORIZONTAL
2	4919.94	48.42	54.00	-5.58	46.85	3.35	33.23	35.01	Average	100	167	HORIZONTAL
3	10999.90	40.79	54.00	-13.21	32.56	5.01	38.32	35.10	Average	154	50	HORIZONTAL
4	11000.32	55.31	74.00	-18.69	47.08	5.01	38.32	35.10	Peak	154	50	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.94	53.11	54.00	-0.89	51.51	3.35	33.26	35.01	Average	121	184	VERTICAL
2	4928.16	67.12	74.00	-6.88	65.52	3.35	33.26	35.01	Peak	121	184	VERTICAL
3	10999.46	53.44	74.00	-20.56	45.23	5.01	38.30	35.10	Peak	100	269	VERTICAL
4	10999.58	39.28	54.00	-14.72	31.07	5.01	38.30	35.10	Average	100	269	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 116 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.96	49.80	54.00	-4.20	48.20	3.35	33.26	35.01	Average	100	169	HORIZONTAL
2	4928.21	63.86	74.00	-10.14	62.26	3.35	33.26	35.01	Peak	100	169	HORIZONTAL
3	11160.06	47.85	54.00	-6.15	39.51	5.04	38.47	35.17	Average	157	49	HORIZONTAL
4	11160.32	62.73	74.00	-11.27	54.39	5.04	38.47	35.17	Peak	157	49	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.94	53.84	54.00	-0.16	52.24	3.35	33.26	35.01	Average	118	185	VERTICAL
2	4928.23	68.58	74.00	-5.42	66.98	3.35	33.26	35.01	Peak	118	185	VERTICAL
3	11154.84	46.60	54.00	-7.40	38.27	5.04	38.45	35.16	Average	100	278	VERTICAL
4	11157.12	65.51	74.00	-8.49	57.18	5.04	38.45	35.16	Peak	100	278	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 140 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.94	51.17	54.00	-2.83	49.60	3.35	33.23	35.01	Average	100	169	HORIZONTAL
2	4919.98	63.82	74.00	-10.18	62.25	3.35	33.23	35.01	Peak	100	169	HORIZONTAL
3	11399.81	45.50	54.00	-8.50	36.95	5.10	38.70	35.25	Average	101	49	HORIZONTAL
4	11401.06	60.44	74.00	-13.56	51.89	5.10	38.70	35.25	Peak	101	49	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.92	53.95	54.00	-0.05	52.35	3.35	33.26	35.01	Average	119	184	VERTICAL
2	4928.36	69.22	74.00	-4.78	67.62	3.35	33.26	35.01	Peak	119	184	VERTICAL
3	11394.65	47.52	54.00	-6.48	38.99	5.10	38.68	35.25	Average	171	287	VERTICAL
4	11395.35	63.09	74.00	-10.91	54.56	5.10	38.68	35.25	Peak	171	287	VERTICAL

Temperature	25°C	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11nMCS0 40MHz CH 62 / Chain 1 + Chain 2
Test Date	Aug. 15, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.80	58.74	74.00	-15.26	57.36	3.32	33.09	35.03	Peak	100	360	HORIZONTAL
2	4839.92	45.94	54.00	-8.06	44.56	3.32	33.09	35.03	Average	100	360	HORIZONTAL
3	10619.68	40.63	54.00	-13.37	32.66	5.01	38.38	35.42	Average	120	284	HORIZONTAL
4	10620.74	54.75	74.00	-19.25	46.78	5.01	38.38	35.42	Peak	120	284	HORIZONTAL
5	15923.14	50.39	74.00	-23.61	42.41	6.15	37.27	35.44	Peak	100	213	HORIZONTAL
6	15938.30	37.65	54.00	-16.35	29.69	6.15	37.25	35.44	Average	100	213	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.87	65.35	74.00	-8.65	63.97	3.32	33.09	35.03	Peak	107	8	VERTICAL
2	4839.92	52.46	54.00	-1.54	51.08	3.32	33.09	35.03	Average	107	8	VERTICAL
3	10619.90	39.66	54.00	-14.34	31.69	5.01	38.38	35.42	Average	120	46	VERTICAL
4	10620.83	54.04	74.00	-19.96	46.07	5.01	38.38	35.42	Peak	120	46	VERTICAL
5	15922.05	50.43	74.00	-23.57	42.45	6.15	37.27	35.44	Peak	100	168	VERTICAL
6	15937.66	37.69	54.00	-16.31	29.73	6.15	37.25	35.44	Average	100	168	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 102 / Chain 1 + Chain 2
Test Date	Aug. 15, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.96	47.39	54.00	-6.61	46.01	3.32	33.09	35.03	Average	100	359	HORIZONTAL
2	4839.98	58.59	74.00	-15.41	57.21	3.32	33.09	35.03	Peak	100	359	HORIZONTAL
3	11020.06	40.98	54.00	-13.02	32.74	5.02	38.33	35.11	Average	127	36	HORIZONTAL
4	11020.67	56.29	74.00	-17.71	48.05	5.02	38.33	35.11	Peak	127	36	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.98	53.79	54.00	-0.21	52.41	3.32	33.09	35.03	Average	111	9	VERTICAL
2	4840.16	66.44	74.00	-7.56	65.06	3.32	33.09	35.03	Peak	111	9	VERTICAL
3	11020.10	41.80	54.00	-12.20	33.57	5.02	38.32	35.11	Average	100	30	VERTICAL
4	11020.67	56.54	74.00	-17.46	48.31	5.02	38.32	35.11	Peak	100	30	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 110 / Chain 1 + Chain 2
Test Date	Aug. 15, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.90	60.75	74.00	-13.25	59.37	3.32	33.09	35.03	Peak	100	359	HORIZONTAL
2	4839.96	47.36	54.00	-6.64	45.98	3.32	33.09	35.03	Average	100	359	HORIZONTAL
3	11099.84	48.67	54.00	-5.33	40.38	5.03	38.40	35.14	Average	127	39	HORIZONTAL
4	11100.67	63.57	74.00	-10.43	55.28	5.03	38.40	35.14	Peak	127	39	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.89	66.54	74.00	-7.46	65.16	3.32	33.09	35.03	Peak	108	7	VERTICAL
2	4840.01	53.18	54.00	-0.82	51.80	3.32	33.09	35.03	Average	108	7	VERTICAL
3	11093.59	48.11	54.00	-5.89	39.82	5.03	38.40	35.14	Average	161	294	VERTICAL
4	11095.54	62.64	74.00	-11.36	54.35	5.03	38.40	35.14	Peak	161	294	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 134 / Chain 1 + Chain 2
Test Date	Aug. 15, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.64	61.10	74.00	-12.90	59.72	3.32	33.09	35.03	Peak	100	1	HORIZONTAL
2	4839.99	47.94	54.00	-6.06	46.56	3.32	33.09	35.03	Average	100	1	HORIZONTAL
3	11340.00	48.39	54.00	-5.61	39.92	5.08	38.63	35.24	Average	100	49	HORIZONTAL
4	11340.71	63.83	74.00	-10.17	55.35	5.09	38.63	35.24	Peak	100	49	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.93	66.60	74.00	-7.40	65.22	3.32	33.09	35.03	Peak	112	8	VERTICAL
2	4839.97	53.26	54.00	-0.74	51.88	3.32	33.09	35.03	Average	112	8	VERTICAL
3	11339.84	50.99	54.00	-3.01	42.52	5.08	38.63	35.24	Average	112	285	VERTICAL
4	11340.64	66.08	74.00	-7.92	57.60	5.09	38.63	35.24	Peak	112	285	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 56 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.94	49.32	54.00	-4.68	47.94	3.32	33.09	35.03	Average	112	178	HORIZONTAL
2	4839.95	63.56	74.00	-10.44	62.18	3.32	33.09	35.03	Peak	112	178	HORIZONTAL
3	15838.85	50.27	74.00	-23.73	42.21	6.14	37.36	35.44	Peak	100	25	HORIZONTAL
4	15839.20	37.98	54.00	-16.02	29.92	6.14	37.36	35.44	Average	100	25	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.86	68.23	74.00	-5.77	66.85	3.32	33.09	35.03	Peak	118	191	VERTICAL
2	4839.95	53.93	54.00	-0.07	52.55	3.32	33.09	35.03	Average	118	191	VERTICAL
3	15839.58	38.80	54.00	-15.20	30.74	6.14	37.36	35.44	Average	100	50	VERTICAL
4	15840.54	52.30	74.00	-21.70	44.24	6.14	37.36	35.44	Peak	100	50	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 60 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.94	61.60	74.00	-12.40	60.22	3.32	33.09	35.03	Peak	108	177	HORIZONTAL
2	4839.98	49.00	54.00	-5.00	47.62	3.32	33.09	35.03	Average	108	177	HORIZONTAL
3	10599.84	46.75	54.00	-7.25	38.78	5.01	38.38	35.42	Average	127	284	HORIZONTAL
4	10604.81	60.80	74.00	-13.20	52.83	5.01	38.38	35.42	Peak	127	284	HORIZONTAL
5	15897.15	38.94	54.00	-15.06	30.94	6.15	37.29	35.44	Average	100	47	HORIZONTAL
6	15904.71	54.53	74.00	-19.47	46.53	6.15	37.29	35.44	Peak	100	47	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4839.96	53.72	54.00	-0.28	52.34	3.32	33.09	35.03	Average	116	189	VERTICAL
2	4840.19	67.16	74.00	-6.84	65.78	3.32	33.09	35.03	Peak	116	189	VERTICAL
3	10599.65	45.89	54.00	-8.11	37.92	5.01	38.38	35.42	Average	125	286	VERTICAL
4	10599.71	59.43	74.00	-14.57	51.46	5.01	38.38	35.42	Peak	125	286	VERTICAL
5	15899.04	40.81	54.00	-13.19	32.81	6.15	37.29	35.44	Average	100	300	VERTICAL
6	15901.38	59.70	74.00	-14.30	51.70	6.15	37.29	35.44	Peak	100	300	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 64 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.95	51.13	54.00	-2.87	49.56	3.35	33.23	35.01	Average	109	177	HORIZONTAL
2	4919.96	63.27	74.00	-10.73	61.70	3.35	33.23	35.01	Peak	109	177	HORIZONTAL
3	10639.74	58.31	74.00	-15.69	50.32	5.01	38.37	35.39	Peak	125	284	HORIZONTAL
4	10639.81	45.16	54.00	-8.84	37.17	5.01	38.37	35.39	Average	125	284	HORIZONTAL
5	15959.68	38.46	54.00	-15.54	30.52	6.15	37.23	35.44	Average	100	224	HORIZONTAL
6	15967.40	51.30	74.00	-22.70	43.37	6.15	37.22	35.44	Peak	100	224	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.46	68.08	74.00	-5.92	66.48	3.35	33.26	35.01	Peak	116	191	VERTICAL
2	4927.89	53.38	54.00	-0.62	51.78	3.35	33.26	35.01	Average	116	191	VERTICAL
3	10635.74	57.18	74.00	-16.82	49.19	5.01	38.37	35.39	Peak	101	46	VERTICAL
4	10639.87	43.49	54.00	-10.51	35.50	5.01	38.37	35.39	Average	101	46	VERTICAL
5	15962.50	39.03	54.00	-14.97	31.09	6.15	37.23	35.44	Average	100	67	VERTICAL
6	15969.26	53.33	74.00	-20.67	45.40	6.15	37.22	35.44	Peak	100	67	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 100 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.95	48.26	54.00	-5.74	46.69	3.35	33.23	35.01	Average	100	177	HORIZONTAL
2	4919.96	59.72	74.00	-14.28	58.15	3.35	33.23	35.01	Peak	100	177	HORIZONTAL
3	11001.51	56.25	74.00	-17.75	48.02	5.01	38.32	35.10	Peak	122	49	HORIZONTAL
4	11001.73	41.92	54.00	-12.08	33.69	5.01	38.32	35.10	Average	122	49	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4928.01	53.65	54.00	-0.35	52.05	3.35	33.26	35.01	Average	115	192	VERTICAL
2	4928.12	68.35	74.00	-5.65	66.75	3.35	33.26	35.01	Peak	115	192	VERTICAL
3	10998.46	56.25	74.00	-17.75	48.04	5.01	38.30	35.10	Peak	125	40	VERTICAL
4	10999.81	42.59	54.00	-11.41	34.38	5.01	38.30	35.10	Average	125	40	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 116 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.99	50.29	54.00	-3.71	48.72	3.35	33.23	35.01	Average	101	177	HORIZONTAL
2	4920.09	63.00	74.00	-11.00	61.43	3.35	33.23	35.01	Peak	101	177	HORIZONTAL
3	11160.93	49.25	54.00	-4.75	40.91	5.04	38.47	35.17	Average	131	42	HORIZONTAL
4	11161.76	64.11	74.00	-9.89	55.76	5.05	38.47	35.17	Peak	131	42	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.43	68.47	74.00	-5.53	66.87	3.35	33.26	35.01	Peak	118	191	VERTICAL
2	4927.97	53.59	54.00	-0.41	51.99	3.35	33.26	35.01	Average	118	191	VERTICAL
3	11158.75	65.07	74.00	-8.93	56.73	5.04	38.47	35.17	Peak	114	286	VERTICAL
4	11159.10	51.13	54.00	-2.87	42.79	5.04	38.47	35.17	Average	114	286	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 140 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4919.91	63.28	74.00	-10.72	61.71	3.35	33.23	35.01	Peak	100	171	HORIZONTAL
2	4919.97	50.02	54.00	-3.98	48.45	3.35	33.23	35.01	Average	100	171	HORIZONTAL
3	11400.10	49.01	54.00	-4.99	40.46	5.10	38.70	35.25	Average	112	49	HORIZONTAL
4	11405.74	62.59	74.00	-11.41	54.04	5.10	38.70	35.25	Peak	112	49	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4927.88	67.41	74.00	-6.59	65.81	3.35	33.26	35.01	Peak	112	193	VERTICAL
2	4927.95	53.49	54.00	-0.51	51.89	3.35	33.26	35.01	Average	112	193	VERTICAL
3	11398.30	65.66	74.00	-8.34	57.11	5.10	38.70	35.25	Peak	169	286	VERTICAL
4	11398.81	50.86	54.00	-3.14	42.31	5.10	38.70	35.25	Average	169	286	VERTICAL

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 56 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15839.87	57.42	74.00	-16.58	44.48	10.80	37.67	35.53	Peak	100	48	HORIZONTAL
2	15840.25	44.53	54.00	-9.47	31.59	10.80	37.67	35.53	Average	100	48	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15839.57	58.29	74.00	-15.71	45.35	10.80	37.67	35.53	Peak	100	203	VERTICAL
2	15839.98	45.09	54.00	-8.91	32.15	10.80	37.67	35.53	Average	100	203	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 60 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.50	43.74	54.00	-10.26	30.34	8.64	39.90	35.14	Average	126	311	HORIZONTAL
2	10600.50	55.95	74.00	-18.05	42.55	8.64	39.90	35.14	Peak	126	311	HORIZONTAL
3	15897.20	46.78	54.00	-7.22	33.93	10.81	37.56	35.52	Average	127	94	HORIZONTAL
4	15902.00	59.65	74.00	-14.35	46.80	10.81	37.56	35.52	Peak	127	94	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.20	47.62	54.00	-6.38	34.22	8.64	39.90	35.14	Average	100	142	VERTICAL
2	10600.20	59.86	74.00	-14.14	46.46	8.64	39.90	35.14	Peak	100	142	VERTICAL
3	15895.10	47.80	54.00	-6.20	34.92	10.81	37.59	35.52	Average	114	244	VERTICAL
4	15904.80	62.98	74.00	-11.02	50.13	10.81	37.56	35.52	Peak	114	244	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 64 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10632.90	53.81	74.00	-20.19	40.38	8.66	39.86	35.09	Peak	121	360	HORIZONTAL
2	10638.90	42.29	54.00	-11.71	28.86	8.66	39.86	35.09	Average	121	360	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10636.20	59.04	74.00	-14.96	45.61	8.66	39.86	35.09	Peak	100	141	VERTICAL
2	10638.70	45.37	54.00	-8.63	31.94	8.66	39.86	35.09	Average	100	141	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 100 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10999.10	58.78	74.00	-15.22	45.15	8.93	39.50	34.80	Peak	126	60	HORIZONTAL
2	11000.20	46.24	54.00	-7.76	32.61	8.93	39.50	34.80	Average	126	60	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10998.90	61.65	74.00	-12.35	48.02	8.93	39.50	34.80	Peak	150	327	VERTICAL
2	10999.30	48.98	54.00	-5.02	35.35	8.93	39.50	34.80	Average	150	327	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 116 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11160.40	48.63	54.00	-5.37	34.98	9.04	39.50	34.89	Average	123	59	HORIZONTAL
2	11161.60	62.59	74.00	-11.41	48.94	9.04	39.50	34.89	Peak	123	59	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11158.90	53.76	54.00	-0.24	40.11	9.04	39.50	34.89	Average	123	293	VERTICAL
2	11159.50	67.76	74.00	-6.24	54.11	9.04	39.50	34.89	Peak	123	293	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 140 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11395.70	61.37	74.00	-12.63	47.72	9.19	39.50	35.04	Peak	164	302	HORIZONTAL
2	11399.40	48.63	54.00	-5.37	34.98	9.19	39.50	35.04	Average	40	302	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11399.30	47.66	54.00	-6.34	34.01	9.19	39.50	35.04	Average	100	178	VERTICAL
2	11401.60	60.24	74.00	-13.76	46.59	9.19	39.50	35.04	Peak	100	178	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 62 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10616.80	41.54	54.00	-12.46	28.13	8.65	39.88	35.12	Average	100	321	HORIZONTAL
2	10622.56	53.74	74.00	-20.26	40.33	8.65	39.88	35.12	Peak	100	321	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10616.40	43.41	54.00	-10.59	30.00	8.65	39.88	35.12	Average	111	155	VERTICAL
2	10624.08	55.03	74.00	-18.97	41.62	8.65	39.88	35.12	Peak	111	155	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 102 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11020.02	42.71	54.00	-11.29	29.08	8.94	39.50	34.81	Average	130	60	HORIZONTAL
2	11020.05	55.24	74.00	-18.76	41.61	8.94	39.50	34.81	Peak	130	60	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11019.84	44.91	54.00	-9.09	31.28	8.94	39.50	34.81	Average	127	304	VERTICAL
2	11039.92	57.23	74.00	-16.77	43.60	8.96	39.50	34.83	Peak	127	304	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 110 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11101.28	48.49	54.00	-5.51	34.86	8.99	39.50	34.86	Average	132	59	HORIZONTAL
2	11101.36	62.50	74.00	-11.50	48.87	8.99	39.50	34.86	Peak	132	59	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11094.72	68.73	74.00	-5.27	55.10	8.99	39.50	34.86	Peak	125	287	VERTICAL
2	11096.88	53.95	54.00	-0.05	40.32	8.99	39.50	34.86	Average	125	287	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 134 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11339.68	45.48	54.00	-8.52	31.83	9.14	39.50	34.99	Average	151	102	HORIZONTAL
2	11342.32	58.19	74.00	-15.81	44.56	9.14	39.50	35.01	Peak	151	102	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11336.80	50.14	54.00	-3.86	36.49	9.14	39.50	34.99	Average	128	292	VERTICAL
2	11338.00	64.30	74.00	-9.70	50.65	9.14	39.50	34.99	Peak	128	292	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 56 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15839.77	57.68	74.00	-16.32	44.74	10.80	37.67	35.53	Peak	100	165	HORIZONTAL
2	15840.39	44.67	54.00	-9.33	31.73	10.80	37.67	35.53	Average	100	165	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15839.77	45.31	54.00	-8.69	32.37	10.80	37.67	35.53	Average	100	306	VERTICAL
2	15840.32	57.17	74.00	-16.83	44.23	10.80	37.67	35.53	Peak	100	306	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 60 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10599.95	54.30	74.00	-19.70	40.90	8.64	39.90	35.14	Peak	119	270	HORIZONTAL
2	10599.98	41.85	54.00	-12.15	28.45	8.64	39.90	35.14	Average	119	270	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10594.90	59.25	74.00	-14.75	45.86	8.62	39.91	35.14	Peak	100	142	VERTICAL
2	10599.60	47.06	54.00	-6.94	33.66	8.64	39.90	35.14	Average	100	142	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 64 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10640.02	42.34	54.00	-11.66	28.91	8.66	39.86	35.09	Average	124	278	HORIZONTAL
2	10640.06	56.07	74.00	-17.93	42.64	8.66	39.86	35.09	Peak	124	278	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10638.90	57.81	74.00	-16.19	44.38	8.66	39.86	35.09	Peak	100	142	VERTICAL
2	10639.50	46.00	54.00	-8.00	32.57	8.66	39.86	35.09	Average	100	142	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 100 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11000.30	59.11	74.00	-14.89	45.48	8.93	39.50	34.80	Peak	126	60	HORIZONTAL
2	11000.40	45.84	54.00	-8.16	32.21	8.93	39.50	34.80	Average	126	60	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10995.40	61.46	74.00	-12.54	47.83	8.93	39.50	34.80	Peak	150	324	VERTICAL
2	10999.90	48.14	54.00	-5.86	34.51	8.93	39.50	34.80	Average	150	324	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 116 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.50	62.79	74.00	-11.21	49.14	9.04	39.50	34.89	Peak	124	82	HORIZONTAL
2	11160.10	49.37	54.00	-4.63	35.72	9.04	39.50	34.89	Average	124	82	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11158.30	68.76	74.00	-5.24	55.11	9.04	39.50	34.89	Peak	123	292	VERTICAL
2	11158.90	53.09	54.00	-0.91	39.44	9.04	39.50	34.89	Average	123	292	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 140 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.60	61.71	74.00	-12.29	48.06	9.19	39.50	35.04	Peak	124	20	HORIZONTAL
2	11400.70	48.69	54.00	-5.31	35.04	9.19	39.50	35.04	Average	124	20	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.90	64.53	74.00	-9.47	50.88	9.19	39.50	35.04	Peak	131	312	VERTICAL
2	11401.50	49.41	54.00	-4.59	35.76	9.19	39.50	35.04	Average	131	312	VERTICAL

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 56 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15837.80	45.95	54.00	-8.05	34.61	7.96	35.05	38.43	Average	214	140	HORIZONTAL
2	15839.90	63.59	74.00	-10.41	52.25	7.96	35.05	38.43	Peak	214	140	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15839.70	48.18	54.00	-5.82	36.84	7.96	35.05	38.43	Average	210	127	VERTICAL
2	15841.80	65.26	74.00	-8.74	53.92	7.96	35.05	38.43	Peak	210	127	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 60 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.50	45.50	54.00	-8.50	32.10	8.64	39.90	35.14	Average	100	194	HORIZONTAL
2	10600.60	59.41	74.00	-14.59	46.01	8.64	39.90	35.14	Peak	100	194	HORIZONTAL
3	15900.80	49.42	54.00	-4.58	36.57	10.81	37.56	35.52	Average	100	120	HORIZONTAL
4	15901.00	66.07	74.00	-7.93	53.22	10.81	37.56	35.52	Peak	100	120	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.80	47.39	54.00	-6.61	33.99	8.64	39.90	35.14	Average	100	7	VERTICAL
2	10600.80	61.45	74.00	-12.55	48.05	8.64	39.90	35.14	Peak	100	7	VERTICAL
3	15899.90	52.10	54.00	-1.90	39.25	10.81	37.56	35.52	Average	119	135	VERTICAL
4	15900.30	67.63	74.00	-6.37	54.78	10.81	37.56	35.52	Peak	119	135	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 64 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.71	54.35	74.00	-19.65	40.92	8.66	39.86	35.09	Peak	115	189	HORIZONTAL
2	10640.07	41.49	54.00	-12.51	28.06	8.66	39.86	35.09	Average	115	189	HORIZONTAL
3	15959.72	59.03	74.00	-14.97	46.24	10.82	37.48	35.51	Peak	124	112	HORIZONTAL
4	15959.97	45.63	54.00	-8.37	32.84	10.82	37.48	35.51	Average	124	112	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10637.70	56.00	74.00	-18.00	42.57	8.66	39.86	35.09	Peak	145	2	VERTICAL
2	10639.80	43.10	54.00	-10.90	29.67	8.66	39.86	35.09	Average	145	2	VERTICAL
3	15950.10	63.17	74.00	-10.83	50.39	10.81	37.48	35.51	Peak	111	133	VERTICAL
4	15961.10	46.87	54.00	-7.13	34.08	10.82	37.48	35.51	Average	111	133	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 100 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11000.64	60.91	74.00	-13.09	47.28	8.93	39.50	34.80	Peak	101	215	HORIZONTAL
2	11001.72	46.08	54.00	-7.92	32.45	8.93	39.50	34.80	Average	101	215	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11000.00	50.09	54.00	-3.91	36.46	8.93	39.50	34.80	Average	146	123	VERTICAL
2	11001.64	64.84	74.00	-9.16	51.21	8.93	39.50	34.80	Peak	146	123	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 116 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11160.00	52.74	54.00	-1.26	39.09	9.04	39.50	34.89	Average	100	222	HORIZONTAL
2	11160.90	66.54	74.00	-7.46	52.89	9.04	39.50	34.89	Peak	100	222	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11157.20	67.45	74.00	-6.55	53.81	9.03	39.50	34.89	Peak	101	79	VERTICAL
2	11159.90	53.84	54.00	-0.16	40.19	9.04	39.50	34.89	Average	101	79	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 140 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.10	47.77	54.00	-6.23	34.12	9.19	39.50	35.04	Average	101	216	HORIZONTAL
2	11400.50	61.90	74.00	-12.10	48.25	9.19	39.50	35.04	Peak	101	216	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11399.77	48.21	54.00	-5.79	34.56	9.19	39.50	35.04	Average	103	77	VERTICAL
2	11400.36	62.33	74.00	-11.67	48.68	9.19	39.50	35.04	Peak	103	77	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11nMCS0 40MHz CH 62 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10619.53	53.52	74.00	-20.48	40.11	8.65	39.88	35.12	Peak	100	309	HORIZONTAL
2	10619.76	40.51	54.00	-13.49	27.10	8.65	39.88	35.12	Average	100	309	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10619.99	41.32	54.00	-12.68	27.91	8.65	39.88	35.12	Average	100	120	VERTICAL
2	10620.05	54.52	74.00	-19.48	41.11	8.65	39.88	35.12	Peak	100	120	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 102 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11020.70	58.14	74.00	-15.86	44.51	8.94	39.50	34.81	Peak	107	220	HORIZONTAL
2	11021.20	43.93	54.00	-10.07	30.30	8.94	39.50	34.81	Average	107	220	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11018.50	46.62	54.00	-7.38	32.99	8.94	39.50	34.81	Average	146	123	VERTICAL
2	11018.80	61.47	74.00	-12.53	47.84	8.94	39.50	34.81	Peak	146	123	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 110 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11098.80	62.08	74.00	-11.92	48.45	8.99	39.50	34.86	Peak	101	217	HORIZONTAL
2	11101.20	48.90	54.00	-5.10	35.27	8.99	39.50	34.86	Average	101	217	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11098.10	63.31	74.00	-10.69	49.68	8.99	39.50	34.86	Peak	107	81	VERTICAL
2	11098.40	49.37	54.00	-4.63	35.74	8.99	39.50	34.86	Average	107	81	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 134 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11338.70	48.79	54.00	-5.21	35.14	9.14	39.50	34.99	Average	100	218	HORIZONTAL
2	11339.60	63.94	74.00	-10.06	50.29	9.14	39.50	34.99	Peak	100	218	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11341.30	63.10	74.00	-10.90	49.45	9.14	39.50	34.99	Peak	101	78	VERTICAL
2	11341.80	48.59	54.00	-5.41	34.94	9.14	39.50	34.99	Average	101	78	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 56 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15833.00	64.64	74.00	-9.36	53.30	7.96	35.05	38.43	Peak	169	155	HORIZONTAL
2	15841.00	48.28	54.00	-5.72	36.94	7.96	35.05	38.43	Average	169	155	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	15839.40	49.39	54.00	-4.61	38.05	7.96	35.05	38.43	Average	214	155	VERTICAL
2	15845.00	67.59	74.00	-6.41	56.25	7.96	35.05	38.43	Peak	214	155	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 60 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10599.00	59.00	74.00	-15.00	45.60	8.64	39.90	35.14	Peak	119	195	HORIZONTAL
2	10599.80	46.25	54.00	-7.75	32.85	8.64	39.90	35.14	Average	119	195	HORIZONTAL
3	10604.00	45.18	54.00	-8.82	31.76	8.64	39.90	35.12	Average	137	195	HORIZONTAL
4	10605.60	58.65	74.00	-15.35	45.23	8.64	39.90	35.12	Peak	137	195	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.60	47.22	54.00	-6.78	33.82	8.64	39.90	35.14	Average	100	7	VERTICAL
2	10600.60	62.79	74.00	-11.21	49.39	8.64	39.90	35.14	Peak	100	7	VERTICAL
3	15903.39	53.14	54.00	-0.86	40.29	10.81	37.56	35.52	Average	107	133	VERTICAL
4	15903.60	69.75	74.00	-4.25	56.90	10.81	37.56	35.52	Peak	107	133	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 64 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10640.01	41.53	54.00	-12.47	28.10	8.66	39.86	35.09	Average	100	81	HORIZONTAL
2	10640.01	53.18	74.00	-20.82	39.75	8.66	39.86	35.09	Peak	100	81	HORIZONTAL
3	15951.10	60.34	74.00	-13.66	47.56	10.81	37.48	35.51	Peak	108	113	HORIZONTAL
4	15958.10	45.91	54.00	-8.09	33.12	10.82	37.48	35.51	Average	108	113	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.70	44.91	54.00	-9.09	31.48	8.66	39.86	35.09	Average	129	320	VERTICAL
2	10639.70	56.72	74.00	-17.28	43.29	8.66	39.86	35.09	Peak	129	320	VERTICAL
3	15959.20	62.96	74.00	-11.04	50.17	10.82	37.48	35.51	Peak	110	144	VERTICAL
4	15959.50	47.24	54.00	-6.76	34.45	10.82	37.48	35.51	Average	110	144	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 100 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10996.10	60.76	74.00	-13.24	47.13	8.93	39.50	34.80	Peak	100	214	HORIZONTAL
2	11000.00	46.62	54.00	-7.38	32.99	8.93	39.50	34.80	Average	100	214	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10998.50	63.81	74.00	-10.19	50.18	8.93	39.50	34.80	Peak	149	124	VERTICAL
2	10999.80	51.21	54.00	-2.79	37.58	8.93	39.50	34.80	Average	149	124	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 116 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.90	52.36	54.00	-1.64	38.71	9.04	39.50	34.89	Average	107	216	HORIZONTAL
2	11165.80	66.53	74.00	-7.47	52.89	9.04	39.50	34.90	Peak	107	216	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11158.20	66.45	74.00	-7.55	52.80	9.04	39.50	34.89	Peak	111	80	VERTICAL
2	11159.80	53.46	54.00	-0.54	39.81	9.04	39.50	34.89	Average	111	80	VERTICAL

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 140 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11399.90	50.62	54.00	-3.38	36.97	9.19	39.50	35.04	Average	103	221	HORIZONTAL
2	11400.40	63.90	74.00	-10.10	50.25	9.19	39.50	35.04	Peak	103	221	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11401.50	49.30	54.00	-4.70	35.65	9.19	39.50	35.04	Average	104	77	VERTICAL
2	11405.70	62.72	74.00	-11.28	49.07	9.19	39.50	35.04	Peak	104	77	VERTICAL

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.7. Band Edge Emissions Measurement

4.7.1. Limit

For transmitters operating in the 5.15-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed a -27dBm peak limit or average 54dBuV/m and peak 74dBuV/m limits. For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.470-5.725 GHz band shall not exceed a -27dBm peak limit or average 54dBuV/m and peak 74dBuV/m limits. In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

4.7.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for Peak

4.7.3. Test Procedures

1. The test procedure is the same as section 4.6.3, only the frequency range investigated is limited to 100MHz around bandedges.

4.7.4. Test Setup Layout

This test setup layout is the same as that shown in section 4.6.4.

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

Temperature	25°C	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 56, 60, 64 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Channel 56

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5250.00	53.60	54.00	-0.40	16.29	3.46	33.85	0.00	Average	112	190	VERTICAL
2	5250.00	67.32	74.00	-6.68	30.01	3.46	33.85	0.00	Peak	112	190	VERTICAL
3	5277.76	115.23			77.88	3.47	33.88	0.00	Peak	112	190	VERTICAL
4	5278.72	104.62			67.27	3.47	33.88	0.00	Average	112	190	VERTICAL

Item 3, 4 are the fundamental frequency at 5280 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5294.55	108.12			70.74	3.47	33.91	0.00	Average	122	184	VERTICAL
2	5295.51	118.23			80.85	3.47	33.91	0.00	Peak	122	184	VERTICAL
3	5394.23	65.56	74.00	-8.44	27.97	3.50	34.09	0.00	Peak	122	184	VERTICAL
4	5399.68	53.29	54.00	-0.71	15.66	3.51	34.12	0.00	Average	122	184	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5322.72	115.83			78.37	3.49	33.97	0.00	Peak	121	185	VERTICAL
2	5323.05	105.71			68.25	3.49	33.97	0.00	Average	121	185	VERTICAL
3	5350.00	53.73	54.00	-0.27	16.21	3.49	34.03	0.00	Average	121	185	VERTICAL
4	5351.44	70.71	74.00	-3.29	33.19	3.49	34.03	0.00	Peak	121	185	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 100, 140 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	53.36	54.00	-0.64	15.63	3.52	34.21	0.00	Average	121	184	VERTICAL
2	5460.00	65.89	74.00	-8.11	28.16	3.52	34.21	0.00	Peak	121	184	VERTICAL
3	5470.00	53.93	54.00	-0.07	16.17	3.52	34.24	0.00	Average	121	184	VERTICAL
4	5470.00	65.44	74.00	-8.56	27.68	3.52	34.24	0.00	Peak	121	184	VERTICAL
5	5500.48	99.49			61.70	3.53	34.26	0.00	Peak	121	184	VERTICAL
6	5502.56	88.68			50.86	3.54	34.28	0.00	Average	121	184	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5694.71	105.12			67.19	3.59	34.34	0.00	Average	119	184	VERTICAL
2	5695.83	115.36			77.43	3.59	34.34	0.00	Peak	119	184	VERTICAL
3	5725.00	53.42	54.00	-0.58	15.48	3.60	34.34	0.00	Average	119	184	VERTICAL
4	5725.00	67.59	74.00	-6.41	29.65	3.60	34.34	0.00	Peak	119	184	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 62 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5315.45	109.02			71.57	3.48	33.97	0.00	Peak	107	8	VERTICAL
2	5317.37	98.55			61.10	3.48	33.97	0.00	Average	107	8	VERTICAL
3	5350.00	53.36	54.00	-0.64	15.84	3.49	34.03	0.00	Average	107	8	VERTICAL
4	5351.28	71.18	74.00	-2.82	33.66	3.49	34.03	0.00	Peak	107	8	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	25°C	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 102, 110, 134 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5455.83	53.11	54.00	-0.89	15.38	3.52	34.21	0.00	Average	111	9	VERTICAL
2	5459.68	65.54	74.00	-8.46	27.81	3.52	34.21	0.00	Peak	111	9	VERTICAL
3	5468.40	66.85	74.00	-7.15	29.09	3.52	34.24	0.00	Peak	111	9	VERTICAL
4	5470.00	53.72	54.00	-0.28	15.96	3.52	34.24	0.00	Average	111	9	VERTICAL
5	5501.03	104.39			66.59	3.54	34.26	0.00	Peak	111	9	VERTICAL
6	5502.95	93.75			55.93	3.54	34.28	0.00	Average	111	9	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	53.46	54.00	-0.54	15.73	3.52	34.21	0.00	Average	108	7	VERTICAL
2	5460.00	66.95	74.00	-7.05	29.22	3.52	34.21	0.00	Peak	108	7	VERTICAL
3	5470.00	53.80	54.00	-0.20	16.04	3.52	34.24	0.00	Average	108	7	VERTICAL
4	5470.00	66.19	74.00	-7.81	28.43	3.52	34.24	0.00	Peak	108	7	VERTICAL
5	5544.55	103.61			65.75	3.55	34.31	0.00	Average	108	7	VERTICAL
6	5553.21	114.62			76.76	3.55	34.31	0.00	Peak	108	7	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5658.78	103.86			65.94	3.59	34.33	0.00	Average	112	8	VERTICAL
2	5661.99	114.38			76.46	3.59	34.33	0.00	Peak	112	8	VERTICAL
3	5725.00	52.37	54.00	-1.63	14.43	3.60	34.34	0.00	Average	112	8	VERTICAL
4	5725.64	72.46	74.00	-1.54	34.52	3.60	34.34	0.00	Peak	112	8	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	25°C	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 56, 60, 64 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Channel 56

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5250.00	53.52	54.00	-0.48	16.21	3.46	33.85	0.00	Average	118	191	VERTICAL
2	5250.00	67.96	74.00	-6.04	30.65	3.46	33.85	0.00	Peak	118	191	VERTICAL
3	5273.59	105.16			67.81	3.47	33.88	0.00	Average	118	191	VERTICAL
4	5280.96	115.74			78.36	3.47	33.91	0.00	Peak	118	191	VERTICAL

Item 3, 4 are the fundamental frequency at 5280 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5302.56	120.12			82.70	3.48	33.94	0.00	Peak	116	189	VERTICAL
2	5306.73	108.80			71.38	3.48	33.94	0.00	Average	116	189	VERTICAL
3	5388.14	66.74	74.00	-7.26	29.15	3.50	34.09	0.00	Peak	116	189	VERTICAL
4	5395.83	52.46	54.00	-1.54	14.87	3.50	34.09	0.00	Average	116	189	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5324.17	117.45			79.99	3.49	33.97	0.00	Peak	116	191	VERTICAL
2	5327.21	106.52			69.06	3.49	33.97	0.00	Average	116	191	VERTICAL
3	5350.00	53.91	54.00	-0.09	16.39	3.49	34.03	0.00	Average	116	191	VERTICAL
4	5351.28	71.03	74.00	-2.97	33.51	3.49	34.03	0.00	Peak	116	191	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 100, 140 / Chain 1 + Chain 2
Test Date	Aug. 16, 2013	Test Mode	Mode 1. EUT + Ant. 1

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5455.90	53.68	54.00	-0.32	15.95	3.52	34.21	0.00	Average	115	192	VERTICAL
2	5460.00	66.22	74.00	-7.78	28.49	3.52	34.21	0.00	Peak	115	192	VERTICAL
3	5470.00	53.86	54.00	-0.14	16.10	3.52	34.24	0.00	Average	115	192	VERTICAL
4	5470.00	66.54	74.00	-7.46	28.78	3.52	34.24	0.00	Peak	115	192	VERTICAL
5	5500.00	93.57			55.78	3.53	34.26	0.00	Average	115	192	VERTICAL
6	5500.00	101.02			63.23	3.53	34.26	0.00	Peak	115	192	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5694.23	106.53			68.60	3.59	34.34	0.00	Average	112	193	VERTICAL
2	5705.13	116.98			79.04	3.60	34.34	0.00	Peak	112	193	VERTICAL
3	5725.00	53.43	54.00	-0.57	15.49	3.60	34.34	0.00	Average	112	193	VERTICAL
4	5727.08	72.06	74.00	-1.94	34.12	3.60	34.34	0.00	Peak	112	193	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 56, 60, 64 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Channel 56

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5249.20	71.04	74.00	-2.96	30.62	6.20	34.22	0.00	Peak	141	7	HORIZONTAL
2	5250.00	53.47	54.00	-0.53	13.05	6.20	34.22	0.00	Average	141	7	HORIZONTAL
3	5283.60	114.29			73.78	6.22	34.29	0.00	Peak	141	7	HORIZONTAL
4	5284.00	104.35			63.84	6.22	34.29	0.00	Average	141	7	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5280 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5292.80	107.04			66.52	6.23	34.29	0.00	Average	120	357	VERTICAL
2	5303.00	116.86			76.31	6.23	34.32	0.00	Peak	120	357	VERTICAL
3	5351.20	71.50	74.00	-2.50	30.82	6.26	34.42	0.00	Peak	120	357	VERTICAL
4	5404.20	52.10	54.00	-1.90	11.28	6.29	34.53	0.00	Average	120	357	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5323.60	108.37			67.77	6.24	34.36	0.00	Peak	145	5	HORIZONTAL
2	5326.00	97.76			57.16	6.24	34.36	0.00	Average	145	5	HORIZONTAL
3	5350.00	53.29	54.00	-0.71	12.61	6.26	34.42	0.00	Average	145	5	HORIZONTAL
4	5350.00	67.65	74.00	-6.35	26.97	6.26	34.42	0.00	Peak	145	5	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 100, 140 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	50.55	54.00	-3.45	9.59	6.33	34.63	0.00	Average	123	356	VERTICAL
2	5460.00	62.08	74.00	-11.92	21.12	6.33	34.63	0.00	Peak	123	356	VERTICAL
3	5469.60	68.97	74.00	-5.03	27.96	6.34	34.67	0.00	Peak	123	356	VERTICAL
4	5470.00	53.14	54.00	-0.86	12.13	6.34	34.67	0.00	Average	123	356	VERTICAL
5	5497.60	115.07			74.01	6.36	34.70	0.00	Peak	123	356	VERTICAL
6	5505.60	105.90			64.83	6.36	34.71	0.00	Average	123	356	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5705.60	103.20			61.90	6.44	34.86	0.00	Average	117	358	VERTICAL
2	5706.80	114.49			73.18	6.44	34.87	0.00	Peak	117	358	VERTICAL
3	5725.00	53.84	54.00	-0.16	12.50	6.45	34.89	0.00	Average	117	358	VERTICAL
4	5725.00	72.67	74.00	-1.33	31.33	6.45	34.89	0.00	Peak	117	358	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 62 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5301.60	110.60			70.05	6.23	34.32	0.00	Peak	120	357	VERTICAL
2	5303.60	99.39			58.84	6.23	34.32	0.00	Average	120	357	VERTICAL
3	5350.00	53.58	54.00	-0.42	12.90	6.26	34.42	0.00	Average	120	357	VERTICAL
4	5350.40	73.24	74.00	-0.76	32.56	6.26	34.42	0.00	Peak	120	357	VERTICAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	25°C	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 102, 110, 134 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5459.20	66.24	74.00	-7.76	25.28	6.33	34.63	0.00	Peak	120	357	VERTICAL
2	5460.00	50.66	54.00	-3.34	9.70	6.33	34.63	0.00	Average	120	357	VERTICAL
3	5469.20	73.20	74.00	-0.80	32.19	6.34	34.67	0.00	Peak	120	357	VERTICAL
4	5470.00	52.86	54.00	-1.14	11.85	6.34	34.67	0.00	Average	120	357	VERTICAL
5	5504.80	98.04			56.97	6.36	34.71	0.00	Average	120	357	VERTICAL
6	5507.20	109.04			67.97	6.36	34.71	0.00	Peak	120	357	VERTICAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	52.85	54.00	-1.15	11.89	6.33	34.63	0.00	Average	121	356	VERTICAL
2	5460.00	67.70	74.00	-6.30	26.74	6.33	34.63	0.00	Peak	121	356	VERTICAL
3	5470.00	53.03	54.00	-0.97	12.02	6.34	34.67	0.00	Average	121	356	VERTICAL
4	5470.00	66.67	74.00	-7.33	25.66	6.34	34.67	0.00	Peak	121	356	VERTICAL
5	5538.80	114.23			73.12	6.37	34.74	0.00	Peak	121	356	VERTICAL
6	5559.20	104.01			62.88	6.38	34.75	0.00	Average	121	356	VERTICAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5666.80	111.49			70.23	6.43	34.83	0.00	Peak	119	358	VERTICAL
2	5667.20	100.51			59.25	6.43	34.83	0.00	Average	119	358	VERTICAL
3	5725.00	53.18	54.00	-0.82	11.84	6.45	34.89	0.00	Average	119	358	VERTICAL
4	5728.20	69.85	74.00	-4.15	28.51	6.45	34.89	0.00	Peak	119	358	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 56, 60, 64 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Channel 56

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5250.00	53.18	54.00	-0.82	12.76	6.20	34.22	0.00	Average	120	357	VERTICAL
2	5250.00	69.00	74.00	-5.00	28.58	6.20	34.22	0.00	Peak	120	357	VERTICAL
3	5283.20	115.65			75.14	6.22	34.29	0.00	Peak	120	357	VERTICAL
4	5285.60	104.48			63.97	6.22	34.29	0.00	Average	120	357	VERTICAL

Item 3, 4 are the fundamental frequency at 5280 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5295.00	107.10			66.58	6.23	34.29	0.00	Average	121	359	VERTICAL
2	5306.00	117.24			76.69	6.23	34.32	0.00	Peak	121	359	VERTICAL
3	5394.00	64.97	74.00	-9.03	24.20	6.28	34.49	0.00	Peak	121	359	VERTICAL
4	5453.00	52.62	54.00	-1.38	11.66	6.33	34.63	0.00	Average	121	359	VERTICAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5321.40	116.56			75.96	6.24	34.36	0.00	Peak	120	355	VERTICAL
2	5324.80	104.48			63.88	6.24	34.36	0.00	Average	120	355	VERTICAL
3	5350.00	53.12	54.00	-0.88	12.44	6.26	34.42	0.00	Average	120	355	VERTICAL
4	5350.80	71.77	74.00	-2.23	31.09	6.26	34.42	0.00	Peak	120	355	VERTICAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 100, 140 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 2. EUT + Ant. 2

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	52.04	54.00	-1.96	11.08	6.33	34.63	0.00	Average	122	356	VERTICAL
2	5460.00	64.01	74.00	-9.99	23.05	6.33	34.63	0.00	Peak	122	356	VERTICAL
3	5468.80	73.83	74.00	-0.17	32.82	6.34	34.67	0.00	Peak	122	356	VERTICAL
4	5470.00	53.99	54.00	-0.01	12.98	6.34	34.67	0.00	Average	122	356	VERTICAL
5	5502.80	117.83			76.76	6.36	34.71	0.00	Peak	122	356	VERTICAL
6	5505.20	105.86			64.79	6.36	34.71	0.00	Average	122	356	VERTICAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5694.00	103.62			62.33	6.43	34.86	0.00	Average	120	358	VERTICAL
2	5697.80	115.52			74.23	6.43	34.86	0.00	Peak	120	358	VERTICAL
3	5725.00	53.99	54.00	-0.01	12.65	6.45	34.89	0.00	Average	120	358	VERTICAL
4	5725.00	73.16	74.00	-0.84	31.82	6.45	34.89	0.00	Peak	120	358	VERTICAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 56, 60, 64 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 3. EUT + Ant. 3

Channel 56

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5249.40	73.62	74.00	-0.38	35.92	4.40	0.00	33.30	Peak	343	116	HORIZONTAL
2	5250.00	53.28	54.00	-0.72	15.58	4.40	0.00	33.30	Average	343	116	HORIZONTAL
3	5272.00	103.39			65.64	4.42	0.00	33.33	Average	343	116	HORIZONTAL
4	5272.20	113.73			75.98	4.42	0.00	33.33	Peak	343	116	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5280 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5297.60	116.82			76.27	6.23	34.32	0.00	Peak	136	170	HORIZONTAL
2	5306.60	107.50			66.95	6.23	34.32	0.00	Average	136	170	HORIZONTAL
3	5398.00	65.23	74.00	-8.77	24.45	6.29	34.49	0.00	Peak	136	170	HORIZONTAL
4	5416.00	53.17	54.00	-0.83	12.30	6.31	34.56	0.00	Average	136	170	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5314.00	104.20			63.60	6.24	34.36	0.00	Average	135	171	HORIZONTAL
2	5323.60	114.25			73.65	6.24	34.36	0.00	Peak	135	171	HORIZONTAL
3	5350.20	52.62	54.00	-1.38	11.94	6.26	34.42	0.00	Average	135	171	HORIZONTAL
4	5352.00	73.33	74.00	-0.67	32.65	6.26	34.42	0.00	Peak	135	171	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 20MHz CH 100, 140 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 3. EUT + Ant. 3

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	50.11	54.00	-3.89	9.15	6.33	34.63	0.00	Average	120	171	HORIZONTAL
2	5460.00	64.99	74.00	-9.01	24.03	6.33	34.63	0.00	Peak	120	171	HORIZONTAL
3	5470.00	53.43	54.00	-0.57	12.42	6.34	34.67	0.00	Average	120	171	HORIZONTAL
4	5470.00	71.17	74.00	-2.83	30.16	6.34	34.67	0.00	Peak	120	171	HORIZONTAL
5	5499.60	103.71			62.65	6.36	34.70	0.00	Average	120	171	HORIZONTAL
6	5500.00	115.92			74.86	6.36	34.70	0.00	Peak	120	171	HORIZONTAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5698.20	103.04			61.75	6.43	34.86	0.00	Average	115	173	HORIZONTAL
2	5699.20	114.35			73.06	6.43	34.86	0.00	Peak	115	173	HORIZONTAL
3	5725.00	53.85	54.00	-0.15	12.51	6.45	34.89	0.00	Average	115	173	HORIZONTAL
4	5725.00	71.00	74.00	-3.00	29.66	6.45	34.89	0.00	Peak	115	173	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 62 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5304.80	110.70			70.15	6.23	34.32	0.00	Peak	135	170	HORIZONTAL
2	5305.60	98.04			57.49	6.23	34.32	0.00	Average	135	170	HORIZONTAL
3	5350.00	53.14	54.00	-0.86	12.46	6.26	34.42	0.00	Average	135	170	HORIZONTAL
4	5351.20	73.86	74.00	-0.14	33.18	6.26	34.42	0.00	Peak	135	170	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5310 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11n MCS0 40MHz CH 102, 110, 134 / Chain 1 + Chain 2
Test Date	Jul. 26, 2013	Test Mode	Mode 3. EUT + Ant. 3

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.80	70.13	74.00	-3.87	29.17	6.33	34.63	0.00	Peak	113	171	HORIZONTAL
2	5460.00	51.01	54.00	-2.99	10.05	6.33	34.63	0.00	Average	113	171	HORIZONTAL
3	5470.00	53.96	54.00	-0.04	12.95	6.34	34.67	0.00	Average	113	171	HORIZONTAL
4	5470.00	72.73	74.00	-1.27	31.72	6.34	34.67	0.00	Peak	113	171	HORIZONTAL
5	5501.20	97.31			56.24	6.36	34.71	0.00	Average	113	171	HORIZONTAL
6	5502.00	109.34			68.27	6.36	34.71	0.00	Peak	113	171	HORIZONTAL

Item 5, 6 are the fundamental frequency at 5510 MHz.

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5391.00	53.62	54.00	-0.38	12.85	6.28	34.49	0.00	Average	128	171	HORIZONTAL
2	5453.00	64.74	74.00	-9.26	23.78	6.33	34.63	0.00	Peak	128	171	HORIZONTAL
3	5463.00	53.25	54.00	-0.75	12.28	6.34	34.63	0.00	Average	128	171	HORIZONTAL
4	5469.00	65.42	74.00	-8.58	24.41	6.34	34.67	0.00	Peak	128	171	HORIZONTAL
5	5546.00	102.18			61.07	6.37	34.74	0.00	Average	128	171	HORIZONTAL
6	5548.00	111.63			70.51	6.38	34.74	0.00	Peak	128	171	HORIZONTAL

Item 5, 6 are the fundamental frequency at 5550 MHz.

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5662.80	112.29			71.04	6.42	34.83	0.00	Peak	106	312	VERTICAL
2	5665.20	101.43			60.18	6.42	34.83	0.00	Average	106	312	VERTICAL
3	5725.00	53.98	54.00	-0.02	12.64	6.45	34.89	0.00	Average	106	312	VERTICAL
4	5726.60	73.69	74.00	-0.31	32.35	6.45	34.89	0.00	Peak	106	312	VERTICAL

Item 1, 2 are the fundamental frequency at 5670 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 56, 60, 64 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 3. EUT + Ant. 3

Channel 56

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5250.00	73.60	74.00	-0.40	35.90	4.40	0.00	33.30	Peak	343	117	HORIZONTAL
2	5250.00	53.98	54.00	-0.02	16.28	4.40	0.00	33.30	Average	343	117	HORIZONTAL
3	5273.00	104.02			66.27	4.42	0.00	33.33	Average	343	117	HORIZONTAL
4	5274.40	115.79			78.04	4.42	0.00	33.33	Peak	343	117	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5280 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5295.20	107.09			66.57	6.23	34.29	0.00	Average	155	168	HORIZONTAL
2	5297.00	116.36			75.81	6.23	34.32	0.00	Peak	155	168	HORIZONTAL
3	5388.40	65.35	74.00	-8.65	24.58	6.28	34.49	0.00	Peak	155	168	HORIZONTAL
4	5399.20	53.24	54.00	-0.76	12.42	6.29	34.53	0.00	Average	155	168	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5300 MHz.

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5314.60	103.66			63.06	6.24	34.36	0.00	Average	133	170	HORIZONTAL
2	5323.00	114.15			73.55	6.24	34.36	0.00	Peak	133	170	HORIZONTAL
3	5350.00	53.61	54.00	-0.39	12.93	6.26	34.42	0.00	Average	133	170	HORIZONTAL
4	5351.60	71.96	74.00	-2.04	31.28	6.26	34.42	0.00	Peak	133	170	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5320 MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Serway Li	Configurations	IEEE 802.11a CH 100, 140 / Chain 1 + Chain 2
Test Date	Jul. 25, 2013	Test Mode	Mode 3. EUT + Ant. 3

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5456.20	50.30	54.00	-3.70	9.34	6.33	34.63	0.00	Average	111	171	HORIZONTAL
2	5456.40	65.77	74.00	-8.23	24.81	6.33	34.63	0.00	Peak	111	171	HORIZONTAL
3	5470.00	53.46	54.00	-0.54	12.45	6.34	34.67	0.00	Average	111	171	HORIZONTAL
4	5470.00	70.29	74.00	-3.71	29.28	6.34	34.67	0.00	Peak	111	171	HORIZONTAL
5	5494.80	105.11			64.06	6.35	34.70	0.00	Average	111	171	HORIZONTAL
6	5497.40	115.71			74.65	6.36	34.70	0.00	Peak	111	171	HORIZONTAL

Item 5, 6 are the fundamental frequency at 5500 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5695.80	103.81			62.52	6.43	34.86	0.00	Average	100	171	HORIZONTAL
2	5697.00	114.21			72.92	6.43	34.86	0.00	Peak	100	171	HORIZONTAL
3	5725.00	53.23	54.00	-0.77	11.89	6.45	34.89	0.00	Average	100	171	HORIZONTAL
4	5725.60	72.38	74.00	-1.62	31.04	6.45	34.89	0.00	Peak	100	171	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5700 MHz.

Note:

Emission level (dBuV/m) = 20 log Emission level (uV/m)

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level

4.8. Frequency Stability Measurement

4.8.1. Limit

In-band emission is maintained within the band of operation under all conditions of normal operation as specified in the user's manual.

The transmitter center frequency tolerance shall be ± 20 ppm maximum for the 5 GHz band (IEEE 802.11n specification).

4.8.2. Measuring Instruments and Setting

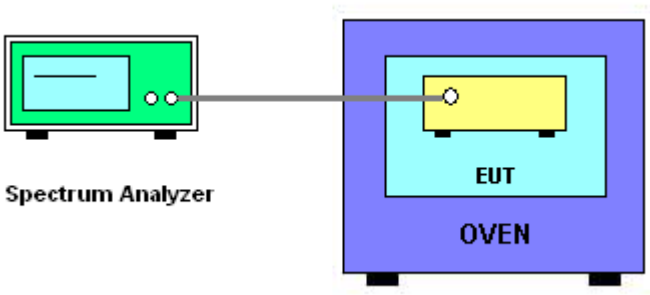
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Entire absence of modulation emissions bandwidth
RBW	10 kHz
VBW	10 kHz
Sweep Time	Auto

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10^6 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
6. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
7. Extreme temperature is -40°C~60°C.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

The EUT was programmed to be in continuously un-modulation transmitting mode.

4.8.7. Test Result of Frequency Stability

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Test Date	Aug. 22, 2013

Voltage vs. Frequency Stability / Ant. 1

Voltage	Measurement Frequency (MHz)	
(V)	5300 MHz	5500 MHz
126.50	5299.9852	5499.9685
110.00	5299.9972	5499.9970
93.50	5300.0058	5499.9998
Max. Deviation (MHz)	0.014800	0.031500
Max. Deviation (ppm)	2.79	5.73

Temperature vs. Frequency Stability / Ant. 1

Temperature	Measurement Frequency (MHz)	
(°C)	5300 MHz	5500 MHz
-40	5299.9023	5499.9567
-30	5299.9058	5499.9658
-20	5299.9125	5499.9758
-10	5299.9458	5499.9858
0	5299.9583	5499.9945
10	5299.9752	5499.9958
20	5299.9972	5499.9998
30	5299.9998	5499.9998
40	5300.0058	5500.0058
50	5300.0065	5500.0068
60	5300.0122	5500.0156
Max. Deviation (MHz)	0.094200	0.034200
Max. Deviation (ppm)	17.7736	6.22

Temperature	23°C	Humidity	63%
Test Engineer	David Tseng	Test Date	Aug. 19, 2013

Voltage vs. Frequency Stability / Ant. 2

Voltage	Measurement Frequency (MHz)	
(V)	5300 MHz	5500 MHz
126.50	5299.956	5499.9520
110.00	5299.954	5499.9560
93.50	5299.956	5499.9540
Max. Deviation (MHz)	0.046000	0.048000
Max. Deviation (ppm)	8.68	8.73

Temperature vs. Frequency Stability / Ant. 2

Temperature	Measurement Frequency (MHz)	
(°C)	5300 MHz	5500 MHz
-40	5299.962	5499.9550
-30	5299.964	5499.9560
-20	5299.958	5499.9550
-10	5299.964	5499.9540
0	5299.972	5499.9560
10	5299.955	5499.9620
20	5299.946	5499.9620
30	5299.945	5499.9580
40	5299.974	5499.9620
50	5299.968	5499.9670
60	5299.964	5499.9550
Max. Deviation (MHz)	0.055000	0.046000
Max. Deviation (ppm)	10.38	8.36

Temperature	23°C	Humidity	63%
Test Engineer	Benson Peng	Test Date	Aug. 20, 2013

Voltage vs. Frequency Stability / Ant. 3

Voltage	Measurement Frequency (MHz)	
(V)	5300 MHz	5500 MHz
126.50	5299.9560	5499.9520
110.00	5299.9540	5499.9560
93.50	5299.9560	5499.9540
Max. Deviation (MHz)	0.046000	0.048000
Max. Deviation (ppm)	8.68	8.73

Temperature vs. Frequency Stability / Ant. 3

Temperature	Measurement Frequency (MHz)	
(°C)	5300 MHz	5500 MHz
-40	5299.9620	5499.9550
-30	5299.9640	5499.9560
-20	5299.9580	5499.9550
-10	5299.9640	5499.9540
0	5299.9720	5499.9560
10	5299.9550	5499.9620
20	5299.9460	5499.9620
30	5299.9450	5499.9580
40	5299.9740	5499.9620
50	5299.9680	5499.9670
60	5299.9640	5499.9550
Max. Deviation (MHz)	0.055000	0.046000
Max. Deviation (ppm)	10.38	8.36

4.9. Antenna Requirements

4.9.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.9.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
EMI Test Receiver	R&S	ESCS 30	100377	9kHz ~ 2.75GHz	Oct. 23, 2012	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Nov. 26, 2012	Conduction (CO01-CB)
V- LISN	Schwarzbeck	NSLK 8127	8127478	9kHz ~ 30MHz	Jun. 22, 2012	Conduction (CO01-CB)
Impulsbegrenzer Pulse Limiter	Rohde&Schwarz	ESH3-Z2	100430	9kHz~30MHz	Feb. 21, 2013	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	0.15MHz~30MHz	Dec. 04, 2012	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	-	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	Apr. 16, 2013	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9 kHz - 30 MHz	Nov. 05, 2012*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz~18GHz	Nov. 27, 2012	Radiation (03CH01-CB)
Horn Antenna	SCHWARZBEAK	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Nov. 23, 2012	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Nov. 27, 2012	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Nov. 23, 2012	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26.5GHz ~ 40GHz	Jul. 31, 2012	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26.5GHz ~ 40GHz	Jul. 30, 2013	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100056	9kHz~40GHz	Nov. 16, 2012	Radiation (03CH01-CB)
EMI Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 12, 2013	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N.C.R	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz - 1 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-1	N/A	1 GHz – 26.5 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-2	N/A	1 GHz – 26.5 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-3	N/A	1 GHz - 40 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-4	N/A	1 GHz - 40 GHz	Nov. 18, 2012	Radiation (03CH01-CB)
Signal analyzer	R&S	FSV40	100979	9kHz~40GHz	Oct. 08, 2012	Conducted (TH01-CB)
Signal analyzer	Agilent	N9010A	MY52220519	10Hz~44GHz	Nov. 20, 2012	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 05, 2012	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 04, 2013	Conducted (TH01-CB)
RF Power Divider	Woken	2 Way	0120A02056002D	2GHz ~ 18GHz	Nov. 18, 2012	Conducted (TH01-CB)
RF Power Divider	Woken	3 Way	MDC2366	2GHz ~ 18GHz	Nov. 18, 2012	Conducted (TH01-CB)
RF Power Divider	Woken	4 Way	0120A04056002D	2GHz ~ 18GHz	Nov. 18, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-7	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-8	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	High Cable-9	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1 GHz – 26.5 GHz	Nov. 19, 2012	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Nov. 28, 2012	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Nov. 27, 2012	Conducted (TH01-CB)

Note: Calibration Interval of instruments listed above is one year.

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. TEST LOCATION

SHIJR	ADD	:	6Fl., No. 106, Sec. 1, Shintai 5th Rd., Shijr City, Taipei, Taiwan 221, R.O.C.
	TEL	:	886-2-2696-2468
	FAX	:	886-2-2696-2255
HWA YA	ADD	:	No. 52, Hwa Ya 1st Rd., Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
	TEL	:	886-3-327-3456
	FAX	:	886-3-318-0055
LINKOU	ADD	:	No. 30-2, Dingfu Tsuen, Linkou Shiang, Taipei, Taiwan 244, R.O.C
	TEL	:	886-2-2601-1640
	FAX	:	886-2-2601-1695
DUNGHU	ADD	:	No. 3, Lane 238, Kangle St., Neihu Chiu, Taipei, Taiwan 114, R.O.C.
	TEL	:	886-2-2631-4739
	FAX	:	886-2-2631-9740
JUNGHE	ADD	:	7Fl., No. 758, Jungjeng Rd., Junghe City, Taipei, Taiwan 235, R.O.C.
	TEL	:	886-2-8227-2020
	FAX	:	886-2-8227-2626
NEIHU	ADD	:	4Fl., No. 339, Hsin Hu 2nd Rd., Taipei 114, Taiwan, R.O.C.
	TEL	:	886-2-2794-8886
	FAX	:	886-2-2794-9777
JHUBEI	ADD	:	No.8, Lane 724, Bo-ai St., Jhubei City, HsinChu County 302, Taiwan, R.O.C.
	TEL	:	886-3-656-9065
	FAX	:	886-3-656-9085

7. MEASUREMENT UNCERTAINTY

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

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	0.026	dB	normal(k=2)	0.013
Cable loss	0.002	dB	normal(k=2)	0.001
AMN/LISN specification	1.200	dB	normal(k=2)	0.600
Mismatch Receiver VSWR 1= AMN/LISN VSWR 2=	-0.080	dB	U-shaped	0.060
Combined standard uncertainty Uc(y)				1.2
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				2.4

Uncertainty of Radiated Emission Measurement (30MHz ~ 1,000MHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.173	dB	K=1	0.086
Cable loss	±0.174	dB	K=2	0.087
Antenna gain	±0.169	dB	K=2	0.084
Site imperfection	±0.433	dB	Triangular	0.214
Pre-amplifier gain	±0.366	dB	K=2	0.183
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.778
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.555

Uncertainty of Radiated Emission Measurement (1GHz ~ 18GHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.191	dB	K=1	0.095
Cable loss	±0.169	dB	K=2	0.084
Antenna gain	±0.191	dB	K=2	0.096
Site imperfection	±0.582	dB	Triangular	0.291
Pre-amplifier gain	±0.304	dB	K=2	0.152
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.839
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.678

Uncertainty of Radiated Emission Measurement (18GHz ~ 40GHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.186	dB	K=1	0.093
Cable loss	±0.167	dB	K=2	0.083
Antenna gain	±0.190	dB	K=2	0.095
Site imperfection	±0.488	dB	Triangular	0.244
Pre-amplifier gain	±0.269	dB	K=2	0.134
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.771
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.541

Uncertainty of Conducted Emission Measurement

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Cable loss	±0.038	dB	K=2	0.019
Attenuator	±0.047	dB	K=2	0.024
Power Meter specification	±0.300	dB	Triangular	0.150
Power Sensor specification	±0.300	dB	Rectangular	0.150
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				0.863
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				1.726