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FCC RADIO TEST REPORT

Applicant's company	Hewlett-Packard Company
Applicant Address	3000 Hanover Street Palo Alto, California 94304 U.S.A.
FCC ID	B94MRLBB1301
Manufacturer's company	Joy Technology (ShenZhen) Corporation
Manufacturer Address	Building A,B,C,D, HengKeng Ind., Shangpai, Shangwu,Aiqun Rd., Shiyan Town,Shenzhen 518135 China

Product Name	802.11ac WLAN Radio Module
Brand Name	HP
Model No.	MRLBB-1301
Test Rule Part(s)	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz / 5725 ~ 5850MHz
Received Date	Jun. 28, 2013
Final Test Date	Aug. 14, 2013
Submission Type	Original Equipment

Statement

Test result included is only for the IEEE 802.11n, IEEE 802.11b/g part and IEEE 802.11a/ac (5725 ~ 5850MHz) 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 C, KDB 558074 D01 v03r01 and KDB 662911 D01 v02.

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



Table of Contents

1. CERTIFICATE OF COMPLIANCE	1
2. SUMMARY OF THE TEST RESULT	2
3. GENERAL INFORMATION	3
3.1. Product Details.....	3
3.2. Accessories.....	7
3.3. Table for Filed Antenna.....	8
3.4. Table for Carrier Frequencies	9
3.5. Table for Test Modes.....	10
3.6. Table for Testing Locations.....	13
3.7. Table for Supporting Units	14
3.8. Table for Parameters of Test Software Setting	15
3.9. EUT Operation during Test	22
3.10. Duty Cycle.....	23
3.11. Test Configurations	30
4. TEST RESULT	36
4.1. AC Power Line Conducted Emissions Measurement.....	36
4.2. Maximum Conducted Output Power Measurement.....	40
4.3. Power Spectral Density Measurement	57
4.4. 6dB Spectrum Bandwidth Measurement	103
4.5. Radiated Emissions Measurement	148
4.6. Emissions Measurement	287
4.7. Antenna Requirements	461
5. LIST OF MEASURING EQUIPMENTS	462
6. TEST LOCATION.....	464
7. MEASUREMENT UNCERTAINTY.....	465
APPENDIX A. TEST PHOTOS	A1 ~ A14



1. CERTIFICATE OF COMPLIANCE

Product Name : 802.11ac WLAN Radio Module
Brand Name : HP
Model No. : MRLBB-1301
Applicant : Hewlett-Packard Company
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jun. 28, 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.

A handwritten signature in blue ink that reads 'Sam Chen' is written over a horizontal line.

Sam Chen

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	Rule Section	Description of Test	Result	Under Limit
4.1	15.207	AC Power Line Conducted Emissions	Complies	12.33 dB
4.2	15.247(b)(3)	Maximum Conducted Output Power	Complies	3.98
4.3	15.247(e)	Power Spectral Density	Complies	6.13 dB
4.4	15.247(a)(2)	6dB Spectrum Bandwidth	Complies	-
4.5	15.247(d)	Radiated Emissions	Complies	0.14 dB
4.6	15.247(d)	Band Edge Emissions	Complies	0.05 dB
4.7	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

IEEE 802.11n/ac

Items	Description
Product Type	WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From power adapter
Modulation	see the below table for IEEE 802.11n/ac
Data Modulation	For 802.11n: OFDM (BPSK / QPSK / 16QAM / 64QAM) For 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	see the below table for IEEE 802.11n/ac
Frequency Range	2400 ~ 2483.5MHz / 5725 ~ 5850MHz
Channel Number	<u>For 2.4GHz Band:</u> 11 for 20MHz bandwidth ; 7 for 40MHz bandwidth <u>For 5GHz Band:</u> 5 for 20MHz bandwidth ; 2 for 40MHz bandwidth ; 1 for 80MHz bandwidth
Channel Band Width (99%)	<u>For 2.4GHz Band:</u> Mode 1 (Ant.1 Dipole antenna / 1.2dBi) MCS0 (20MHz): 17.68 MHz ; MCS0 (40MHz): 36.16 MHz ; MCS16 (20MHz): 17.84 MHz ; MCS16 (40MHz): 36.48 MHz Mode 2 (Ant.2 Element antenna / 5.2dBi) MCS0 (20MHz): 17.68 MHz ; MCS0 (40MHz): 36.32 MHz ; MCS16 (20MHz): 17.84 MHz ; MCS16 (40MHz): 36.48 MHz Mode 3 (Ant.4 Panel antenna / 7.1dBi) MCS0 (20MHz): 17.68 MHz ; MCS0 (40MHz): 36.16 MHz ; MCS16 (20MHz): 17.84 MHz ; MCS16 (40MHz): 36.48 MHz Mode 4 (Ant.5 PCB antenna / 4.94dBi) MCS0 (20MHz): 17.68 MHz ; MCS0 (40MHz): 36.16 MHz ; MCS16 (20MHz): 17.84 MHz ; MCS16 (40MHz): 36.48 MHz <u>For 5GHz Band:</u> Mode 5 (Ant.1 Dipole antenna / 1dBi) 802.11ac MCS0/Nss1 (20MHz): 19.28 MHz ; 802.11ac MCS0/Nss3 (20MHz): 17.84 MHz ; 802.11ac MCS0/Nss1 (40MHz): 36.64 MHz ; 802.11ac MCS0/Nss3 (40MHz): 36.48 MHz ; 802.11ac MCS0/Nss1 (80MHz): 75.84 MHz ; 802.11ac MCS0/Nss3 (80MHz): 75.84 MHz

	<p>Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi) 802.11ac MCS0/Nss1 (20MHz): 19.28 MHz ; 802.11ac MCS0/Nss3 (20MHz): 17.84 MHz ; 802.11ac MCS0/Nss1 (40MHz): 36.64 MHz ; 802.11ac MCS0/Nss3 (40MHz): 36.48 MHz ; 802.11ac MCS0/Nss1 (80MHz): 75.84 MHz ; 802.11ac MCS0/Nss3 (80MHz): 76.16 MHz</p> <p>Mode 7 (Ant.4 Panel Antenna / 9.2dBi) 802.11ac MCS0/Nss1 (20MHz): 19.28 MHz ; 802.11ac MCS0/Nss3 (20MHz): 17.84 MHz ; 802.11ac MCS0/Nss1 (40MHz): 36.64 MHz ; 802.11ac MCS0/Nss3 (40MHz): 36.48 MHz ; 802.11ac MCS0/Nss1 (80MHz): 76.16 MHz ; 802.11ac MCS0/Nss3 (80MHz): 76.16 MHz</p> <p>Mode 8 (Ant.5 PCB antenna / 5.74dBi) 802.11ac MCS0/Nss1 (20MHz): 19.28 MHz ; 802.11ac MCS0/Nss3 (20MHz): 17.84 MHz ; 802.11ac MCS0/Nss1 (40MHz): 36.64 MHz ; 802.11ac MCS0/Nss3 (40MHz): 36.48 MHz ; 802.11ac MCS0/Nss1 (80MHz): 75.52 MHz ; 802.11ac MCS0/Nss3 (80MHz): 75.84 MHz</p>
<p>Maximum Conducted Output Power</p>	<p><u>For 2.4GHz Band:</u></p> <p>Mode 1 (Ant.1 Dipole antenna / 1.2dBi) MCS0 (20MHz): 25.47 dBm ; MCS0 (40MHz): 19.47 dBm MCS16 (20MHz): 25.65 dBm ; MCS16 (40MHz): 19.45 dBm</p> <p>Mode 2 (Ant.2 Element antenna / 5.2dBi) MCS0 (20MHz): 25.29 dBm ; MCS0 (40MHz): 18.58 dBm MCS16 (20MHz): 25.65 dBm ; MCS16 (40MHz): 18.62 dBm</p> <p>Mode 3 (Ant.4 Panel antenna / 7.1 dBi) MCS0 (20MHz): 25.47 dBm ; MCS0 (40MHz): 18.77 dBm MCS16 (20MHz): 25.65 dBm ; MCS16 (40MHz): 18.97 dBm</p> <p>Mode 4 (Ant.5 PCB antenna / 4.94dBi) MCS0 (20MHz): 25.47 dBm ; MCS0 (40MHz): 20.83 dBm MCS16 (20MHz): 25.65 dBm ; MCS16 (40MHz): 21.09 dBm</p> <p><u>For 5GHz Band:</u></p> <p>Mode 5 (Ant.1 Dipole antenna / 1dBi) 802.11ac MCS0/Nss1 (20MHz): 24.40 dBm ; 802.11ac MCS0/Nss3 (20MHz): 24.90 dBm ; 802.11ac MCS0/Nss1 (40MHz): 23.76 dBm ; 802.11ac MCS0/Nss3 (40MHz): 24.24 dBm ; 802.11ac MCS0/Nss1 (80MHz): 21.42 dBm ; 802.11ac MCS0/Nss3 (80MHz): 22.09 dBm</p>

	<p>Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)</p> <p>802.11ac MCS0/Nss1 (20MHz): 24.40 dBm ; 802.11ac MCS0/Nss3 (20MHz): 24.90 dBm ; 802.11ac MCS0/Nss1 (40MHz): 23.76 dBm ; 802.11ac MCS0/Nss3 (40MHz): 24.24 dBm ; 802.11ac MCS0/Nss1 (80MHz): 21.42 dBm ; 802.11ac MCS0/Nss3 (80MHz): 23.04 dBm</p> <p>Mode 7 (Ant.4 Panel Antenna / 9.2dBi)</p> <p>802.11ac MCS0/Nss1 (20MHz): 24.40 dBm ; 802.11ac MCS0/Nss3 (20MHz): 24.90 dBm ; 802.11ac MCS0/Nss1 (40MHz): 23.76 dBm ; 802.11ac MCS0/Nss3 (40MHz): 24.24 dBm ; 802.11ac MCS0/Nss1 (80MHz): 21.27 dBm ; 802.11ac MCS0/Nss3 (80MHz): 21.01 dBm</p> <p>Mode 8 (Ant.5 PCB antenna / 5.74dBi)</p> <p>802.11ac MCS0/Nss1 (20MHz): 24.40 dBm ; 802.11ac MCS0/Nss3 (20MHz): 24.90 dBm ; 802.11ac MCS0/Nss1 (40MHz): 23.76 dBm ; 802.11ac MCS0/Nss3 (40MHz): 24.24 dBm ; 802.11ac MCS0/Nss1 (80MHz): 22.20 dBm ; 802.11ac MCS0/Nss3 (80MHz): 21.81 dBm</p>
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

802.11a/b/g

Items	Description
Product Type	802.11a/g: WLAN (3TX, 3RX) 802.11b: WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From power adapter
Modulation	DSSS for IEEE 802.11b ; OFDM for IEEE 802.11a/g
Data Modulation	DSSS (BPSK / QPSK / CCK) ; OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	DSSS (1/ 2/ 5.5/11) ; OFDM (6/9/12/18/24/36/48/54)
Frequency Range	2400 ~ 2483.5MHz / 5725 ~ 5850MHz
Channel Number	11b/g: 11 ; 11a: 5
Channel Band Width (99%)	Mode 1 (Ant.1 Dipole antenna / 1.2dBi) 11b: 13.44 MHz ; 11g: 17.04 MHz Mode 2 (Ant.2 Element antenna / 5.2dBi) 11b: 13.44 MHz ; 11g: 17.04 MHz Mode 3 (Ant.4 Panel antenna / 7.1dBi) 11b: 13.20 MHz ; 11g: 17.04 MHz Mode 4 (Ant.5 PCB antenna / 4.94dBi) 11b: 13.44 MHz ; 11g: 17.04 MHz Mode 5 (Ant.1 Dipole antenna / 1dBi) 11a: 20.88 MHz Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi) 11a: 20.88 MHz Mode 7 (Ant.4 Panel Antenna / 9.2dBi) 11a: 20.88 MHz Mode 8 (Ant.5 PCB antenna / 5.74dBi) 11a: 20.88 MHz
Maximum Conducted Output Power	Mode 1 (Ant.1 Dipole antenna / 1.2dBi) 11b: 25.03 MHz ; 11g: 25.70 MHz Mode 2 (Ant.2 Element antenna / 5.2dBi) 11b: 25.03 MHz ; 11g: 25.36 MHz Mode 3 (Ant.4 Panel antenna / 7.1dBi) 11b: 19.07 MHz ; 11g: 25.70 MHz Mode 4 (Ant.5 PCB antenna / 4.94dBi) 11b: 25.23 MHz ; 11g: 25.70 MHz Mode 5 (Ant.1 Dipole antenna / 1dBi) 11a: 24.54 MHz

	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi) 11a: 24.54 MHz Mode 7 (Ant.4 Panel Antenna / 9.2dBi) 11a: 24.54 MHz Mode 8 (Ant.5 PCB antenna / 5.74dBi) 11a: 24.54 MHz
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Antenna and Band width

Antenna	Three (TX)		
	20 MHz	40 MHz	80 MHz
Band width Mode			
IEEE 802.11a	V	X	X
IEEE 802.11b	V	X	X
IEEE 802.11g	V	X	X
IEEE 802.11n	V	V	X
IEEE 802.11ac	V	V	V

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	3	MCS0-23
802.11n (HT40)	3	MCS0-23
802.11ac (VHT20)	3	MCS 0-9/Nss1-3
802.11ac (VHT40)	3	MCS 0-9/Nss1-3
802.11ac (VHT80)	3	MCS 0-9/Nss1-3

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput).

Then EUT support HT20 and HT40.

Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT support VHT20, VHT40 and VHT80.

Note 3: Modulation modes consist of below configuration:

11a: IEEE 802.11a, HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

3.2. Accessories

N/A

3.3. Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Ant Gain (dBi)		Cable Loss (dBm)		True Gain (dBi)	
					2.4G	5G	2.4G	5G	2.4G	5G
1	HP	5188-9334	Dipole Antenna	Reversed-SMA	1.8	2	0.6	1	1.2	1
2	HP	J9719A	Element Antenna	N Type	6	-	0.8	-	5.2	-
3	HP	J9720A	Omnidirectional Antenna	N Type	-	8	-	1.3	-	6.7
4	HP	J9170A	Panel Antenna	N Type	10.9	13.5	3.8	4.3	7.1	9.2
5	HP	5066-3481	PCB Antenna	I-PEX	4.94	5.74	0	0	4.94	5.74

Note: There are five sets of antenna provided to this EUT and all of them can be used as transmitting and receiving antenna

For 2.4GHz function:

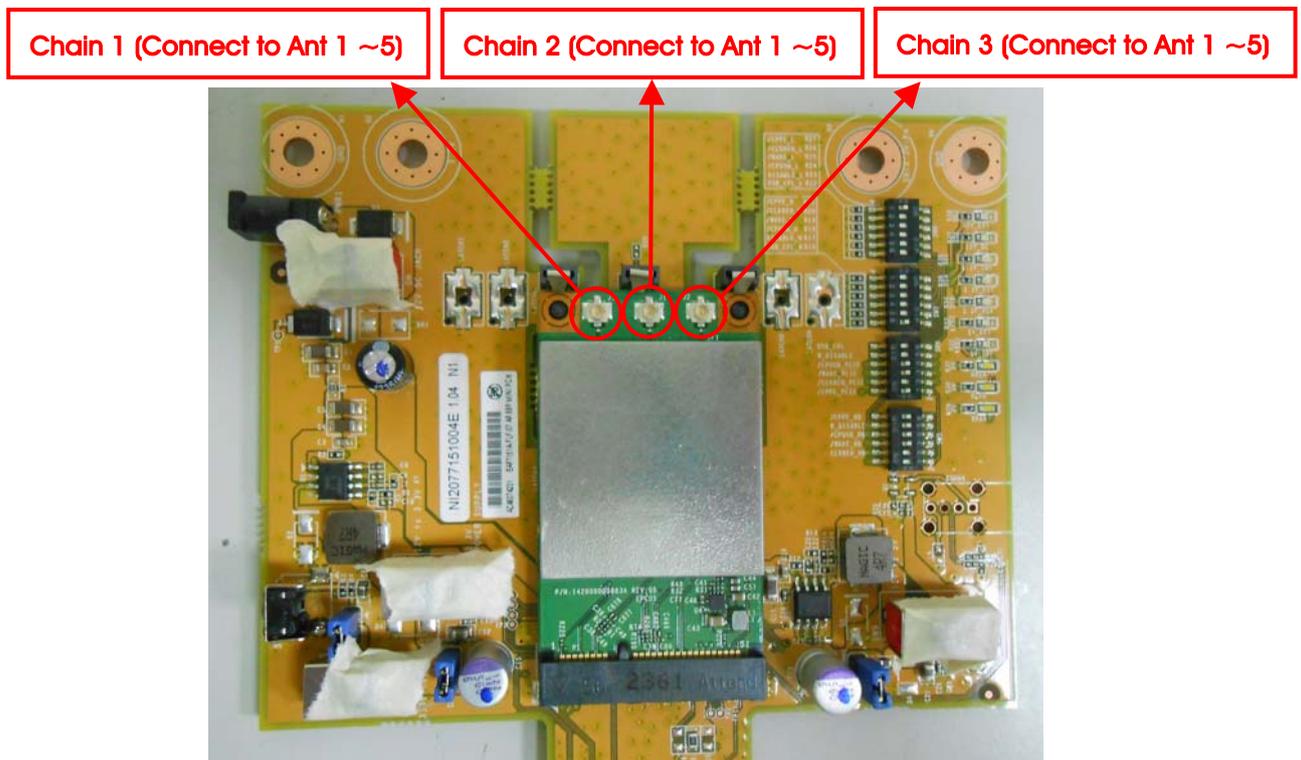
For IEEE 802.11b/g/n mode (3TX/3RX)

Chain 1, Chain 2 and Chain 3 could transmit/receive simultaneously.

For 5GHz function:

For IEEE 802.11a/n/ac mode (3TX/3RX)

Chain 1, Chain 2 and Chain 3 could transmit/receive simultaneously.



3.4. Table for Carrier Frequencies

For 2.4GHz Band:

There are two bandwidth systems.

For 20MHz bandwidth systems, use Channel 1~Channel 11.

For 40MHz bandwidth systems, use Channel 3~Channel 9.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	1	2412 MHz	7	2442 MHz
	2	2417 MHz	8	2447 MHz
	3	2422 MHz	9	2452 MHz
	4	2427 MHz	10	2457 MHz
	5	2432 MHz	11	2462 MHz
	6	2437 MHz	-	-

For 5GHz Band:

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 151, 159.

For 80MHz bandwidth systems, use Channel 155.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5725~5850 MHz Band 4	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz

3.5. 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.

For 2.4GHz Band:

Test Items	Mode	Data Rate	Channel	Chain
AC Power Line Conducted Emissions	CTX	-	-	-
Maximum Conducted Output Power	11n 20MHz	MCS0	1/6/11	1+2+3
		MCS16	1/6/11	1+2+3
	11n 40MHz	MCS0	3/6/9	1+2+3
		MCS16	3/6/9	1+2+3
	11b/CCK	1 Mbps	1/6/11	1+2+3
	11g/BPSK	6 Mbps	1/6/11	1+2+3
Power Spectral Density	11n 20MHz	MCS0	1/6/11	1&2&3
		MCS16	1/6/11	1&2&3
	11n 40MHz	MCS0	3/6/9	1&2&3
		MCS16	3/6/9	1&2&3
	11b/CCK	1 Mbps	1/6/11	1&2&3
	11g/BPSK	6 Mbps	1/6/11	1&2&3
6dB Spectrum Bandwidth	11n 20MHz	MCS0	1/6/11	1+2+3
		MCS16	1/6/11	1+2+3
	11n 40MHz	MCS0	3/6/9	1+2+3
		MCS16	3/6/9	1+2+3
	11b/CCK	1 Mbps	1/6/11	1+2+3
	11g/BPSK	6 Mbps	1/6/11	1+2+3
Radiated Emissions Below 1GHz	CTX	-	-	-
Radiated Emissions Above 1GHz	11n 20MHz	MCS0	1/6/11	1+2+3
		MCS16	1/6/11	1+2+3
	11n 40MHz	MCS0	3/6/9	1+2+3
		MCS16	3/6/9	1+2+3
	11b/CCK	1 Mbps	1/6/11	1+2+3
	11g/BPSK	6 Mbps	1/6/11	1+2+3

Band Edge Emissions	11n 20MHz	MCS0	1/6/11	1+2+3
		MCS16	1/6/11	1+2+3
	11n 40MHz	MCS0	3/6/9	1+2+3
		MCS16	3/6/9	1+2+3
	11b/CCK	1 Mbps	1/6/11	1+2+3
	11g/BPSK	6 Mbps	1/6/11	1+2+3

For 5GHz Band:

Test Items	Mode	Data Rate	Channel	Chain
AC Power Line Conducted Emissions	CTX	-	-	-
Maximum Conducted Output Power	11ac 20MHz	MCS0/Nss1	149/157/165	1+2+3
		MCS0/Nss3	149/157/165	1+2+3
	11ac 40MHz	MCS0/Nss1	151/159	1+2+3
		MCS0/Nss3	151/159	1+2+3
	11ac 80MHz	MCS0/Nss1	155	1+2+3
		MCS0/Nss3	155	1+2+3
11a/BPSK	6 Mbps	149/157/165	1+2+3	
Power Spectral Density	11ac 20MHz	MCS0/Nss1	149/157/165	1&2&3
		MCS0/Nss3	149/157/165	1&2&3
	11ac 40MHz	MCS0/Nss1	151/159	1&2&3
		MCS0/Nss3	151/159	1&2&3
	11ac 80MHz	MCS0/Nss1	155	1&2&3
		MCS0/Nss3	155	1&2&3
11a/BPSK	6 Mbps	149/157/165	1&2&3	
6dB Spectrum Bandwidth	11ac 20MHz	MCS0/Nss1	149/157/165	1+2+3
		MCS0/Nss3	149/157/165	1+2+3
	11ac 40MHz	MCS0/Nss1	151/159	1+2+3
		MCS0/Nss3	151/159	1+2+3
	11ac 80MHz	MCS0/Nss1	155	1+2+3
		MCS0/Nss3	155	1+2+3
11a/BPSK	6 Mbps	149/157/165	1+2+3	
Radiated Emissions Below 1GHz	CTX	-	-	-
Radiated Emissions Above 1GHz	11ac 20MHz	MCS0/Nss1	149/157/165	1+2+3
		MCS0/Nss3	149/157/165	1+2+3
	11ac 40MHz	MCS0/Nss1	151/159	1+2+3
		MCS0/Nss3	151/159	1+2+3
	11ac 80MHz	MCS0/Nss1	155	1+2+3
		MCS0/Nss3	155	1+2+3
11a/BPSK	6 Mbps	149/157/165	1+2+3	

Band Edge Emissions	11ac 20MHz	MCS0/Nss1	149/157/165	1+2+3
		MCS0/Nss3	149/157/165	1+2+3
	11ac 40MHz	MCS0/Nss1	151/159	1+2+3
		MCS0/Nss3	151/159	1+2+3
	11ac 80MHz	MCS0/Nss1	155	1+2+3
		MCS0/Nss3	155	1+2+3
11a/BPSK	6 Mbps	149/157/165	1+2+3	

The following test modes were performed for all tests:

For Conducted Emission test:

- Mode 1. EUT + Antenna 1
- Mode 2. EUT + Antenna 2
- Mode 3. EUT + Antenna 3
- Mode 4. EUT + Antenna 4
- Mode 5. EUT + Antenna 5

Mode 2 generated the worst test result, so it was recorded in this report.

For Radiated Emission test below 1GHz:

- Mode 1. EUT + Antenna 4- Panel Antenna - 2.4GHz
- Mode 2. EUT + Antenna 4- Panel Antenna - 5GHz

Mode 2 generated the worst test result, so it was recorded in this report.

For Radiated Emission test above 1GHz:

- Mode 1. EUT + Antenna 1- Dipole Antenna - 2.4GHz
- Mode 2. EUT + Antenna 2- Element Antenna - 2.4GHz
- Mode 3. EUT + Antenna 4- Panel Antenna - 2.4GHz
- Mode 4. EUT + Antenna 5- PCB Antenna - 2.4GHz
- Mode 5. EUT + Antenna 1- Dipole Antenna - 5GHz
- Mode 6. EUT + Antenna 3- Omnidirectional Antenna - 5GHz
- Mode 7. EUT + Antenna 4- Panel Antenna - 5GHz
- Mode 8. EUT + Antenna 5- PCB Antenna - 5GHz

3.6. Table for Testing Locations

Test Site No.	Site Category	Location	FCC Reg. No.	IC File 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.

3.7. Table for Supporting Units

For Test Site No: 03CH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6220	D2A62L1989V5
Fixture	ACCTON	AC46074246	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6430	QDS-BRCM1049LE
Fixture	ACCTON	AC46074246	N/A

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	M1340	E2K4965AGNM
Fixture	ACCTON	AC46074246	N/A

3.8. 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.

For 2.4GHz Band:

Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Power Parameters of IEEE 802.11n MCS0 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS0 20MHz	63	84	58

Power Parameters of IEEE 802.11n MCS16 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS16 20MHz	63	84	64

Power Parameters of IEEE 802.11n MCS0 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS0 40MHz	53	55	46

Power Parameters of IEEE 802.11n MCS16 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS16 40MHz	56	58	52

Power Parameters of IEEE 802.11b/g

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	78	84	70
IEEE 802.11g	62	84	68

Mode 2 (Ant.2 Element antenna / 5.2dBi)
Power Parameters of IEEE 802.11n MCS0 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS0 20MHz	59	84	55

Power Parameters of IEEE 802.11n MCS16 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS16 20MHz	58	84	57

Power Parameters of IEEE 802.11n MCS0 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS0 40MHz	48	51	39

Power Parameters of IEEE 802.11n MCS16 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS16 40MHz	45	54	42

Power Parameters of IEEE 802.11b/g

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	71	84	73
IEEE 802.11g	62	84	68

Mode 3 (Ant.4 Panel antenna / 7.1 dBi)
Power Parameters of IEEE 802.11n MCS0 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS0 20MHz	59	84	58

Power Parameters of IEEE 802.11n MCS16 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS16 20MHz	62	84	60

Power Parameters of IEEE 802.11n MCS0 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS0 40MHz	48	53	43

Power Parameters of IEEE 802.11n MCS16 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS16 40MHz	50	55	45

Power Parameters of IEEE 802.11b/g

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	56	55	50
IEEE 802.11g	64	84	62

Mode 4 (Ant.5 PCB antenna / 4.94dBi)
Power Parameters of IEEE 802.11n MCS0 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS0 20MHz	65	84	61

Power Parameters of IEEE 802.11n MCS16 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS16 20MHz	68	84	65

Power Parameters of IEEE 802.11n MCS0 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS0 40MHz	58	61	50

Power Parameters of IEEE 802.11n MCS16 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS16 40MHz	54	63	50

Power Parameters of IEEE 802.11b/g

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	78	84	79
IEEE 802.11g	66	84	64

For 5GHz Band:

Mode 5 (Ant.1 Dipole antenna / 1dBi)

Power Parameters of IEEE 802.11ac MCS0/Nss1 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss3 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	67	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss3 40MHz	65	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss1 80MHz	66

Power Parameters of IEEE 802.11ac MCS0/Nss3 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss3 80MHz	69

Power Parameters of IEEE 802.11a

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	80	80	80

Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)
Power Parameters of IEEE 802.11ac MCS0/Nss1 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss3 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	68	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss3 40MHz	71	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss1 80MHz	66

Power Parameters of IEEE 802.11ac MCS0/Nss3 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss3 80MHz	73

Power Parameters of IEEE 802.11a

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	80	80	80

Mode 7 (Ant.4 Panel Antenna / 9.2dBi)
Power Parameters of IEEE 802.11ac MCS0/Nss1 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss3 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	70	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss3 40MHz	70	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss1 80MHz	68

Power Parameters of IEEE 802.11ac MCS0/Nss3 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss3 80MHz	68

Power Parameters of IEEE 802.11a

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	80	80	80

Mode 8 (Ant.5 PCB antenna / 5.74dBi)
Power Parameters of IEEE 802.11ac MCS0/Nss1 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 20MHz

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss3 20MHz	80	80	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 40MHz	70	80

Power Parameters of IEEE 802.11ac MCS0/Nss3 40MHz

Test Software Version	Manual Tool Version : 2.0.0.8	
Frequency	5755 MHz	5795 MHz
MCS0/Nss3 40MHz	69	80

Power Parameters of IEEE 802.11ac MCS0/Nss1 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss1 80MHz	70

Power Parameters of IEEE 802.11ac MCS0/Nss3 80MHz

Test Software Version	Manual Tool Version : 2.0.0.8
Frequency	5775 MHz
MCS0/Nss3 80MHz	69

Power Parameters of IEEE 802.11a

Test Software Version	Manual Tool Version : 2.0.0.8		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	80	80	80

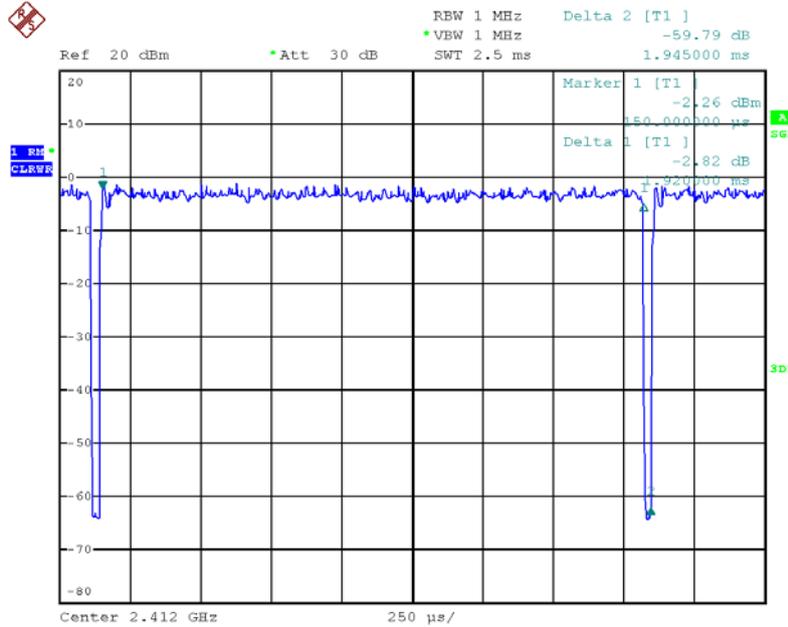
3.9. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.10. Duty Cycle

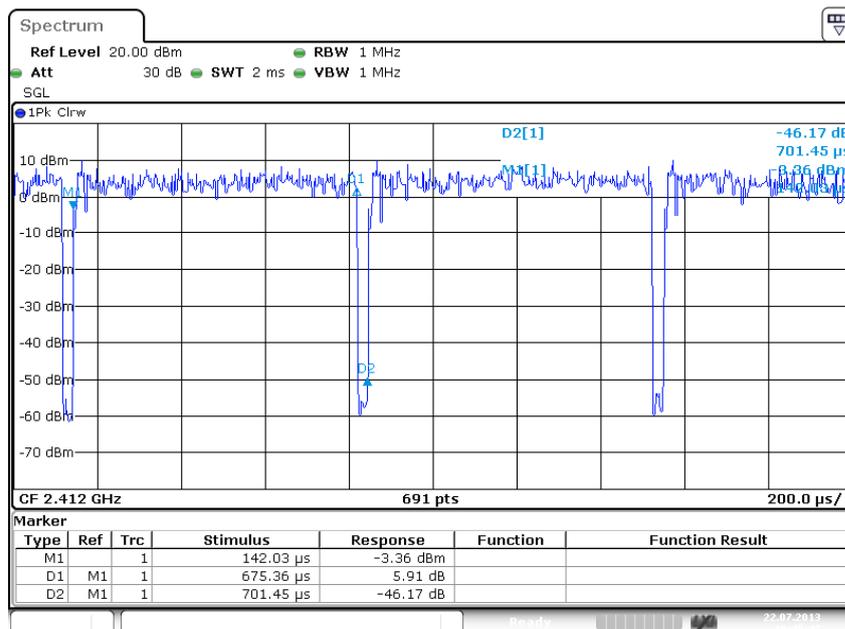
For 2.4GHz Band:

IEEE 802.11n MCS0 20MHz



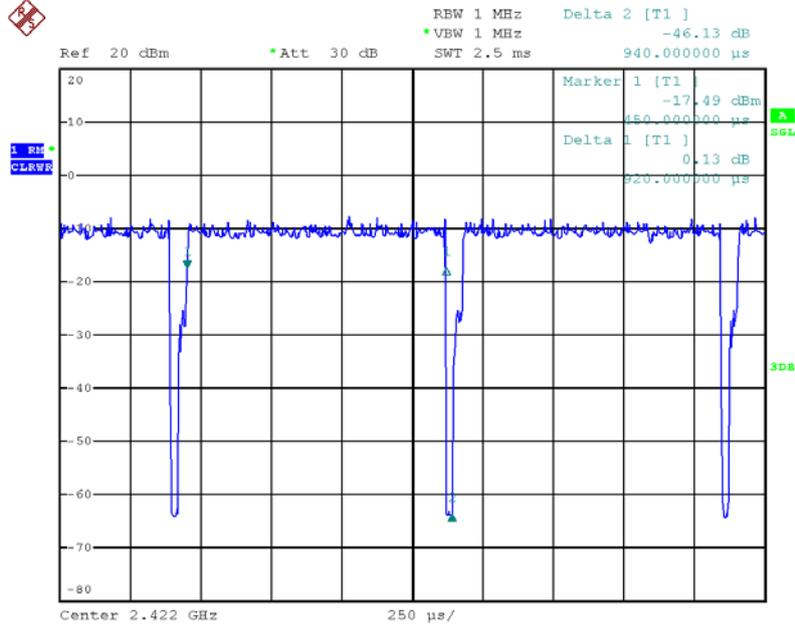
Date: 25.JUL.2013 16:24:00

IEEE 802.11n MCS16 20MHz



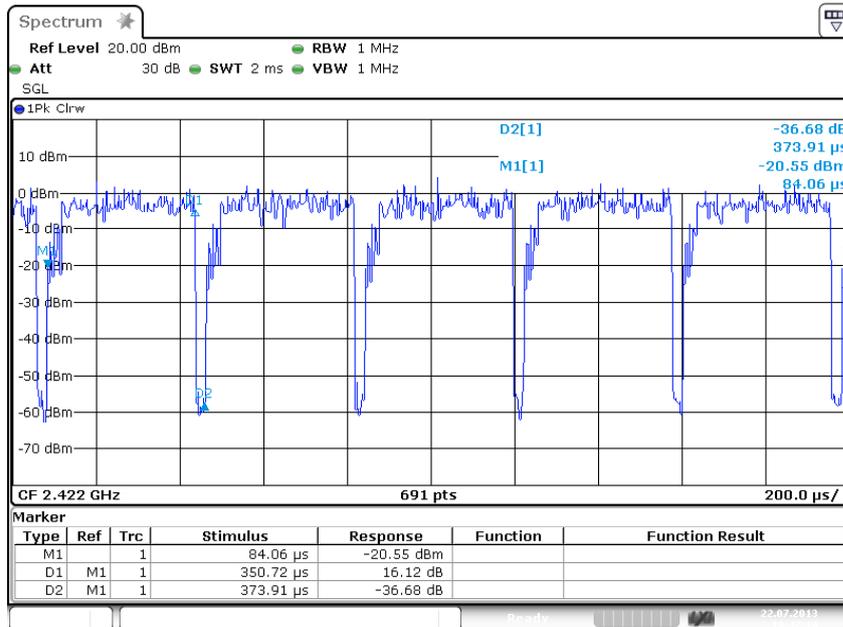
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IEEE 802.11n MCS0 40MHz



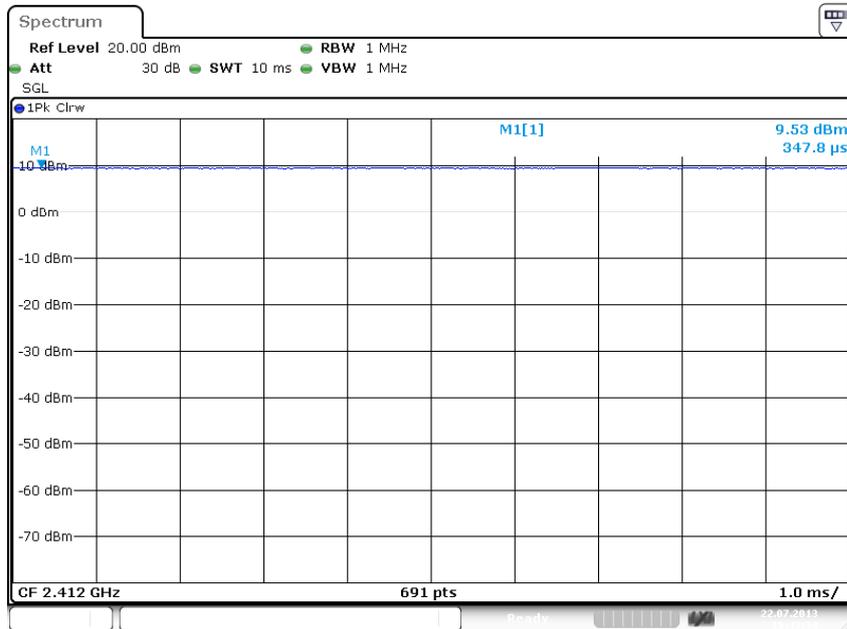
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IEEE 802.11n MCS16 40MHz



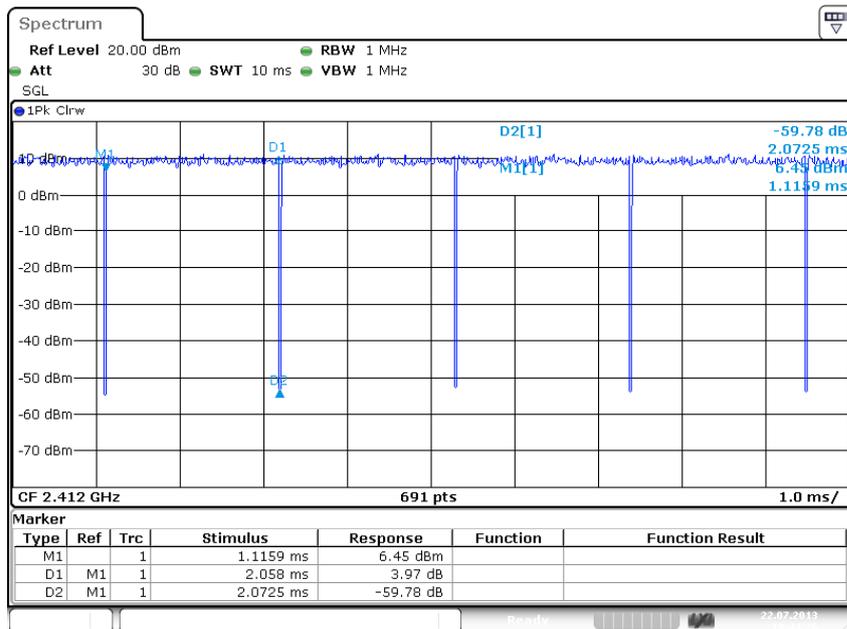
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IEEE 802.11b



Date: 22.JUL.2013 19:43:34

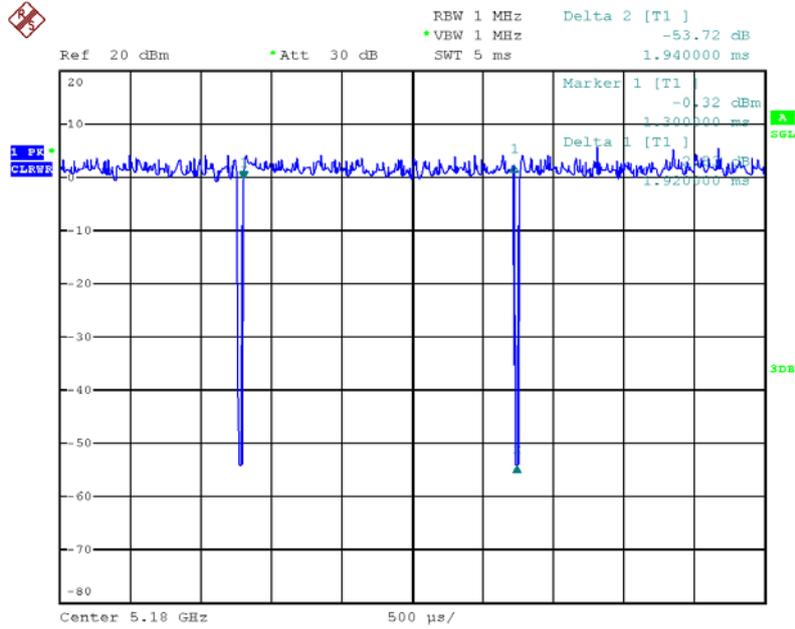
IEEE 802.11g



Date: 22.JUL.2013 19:44:26

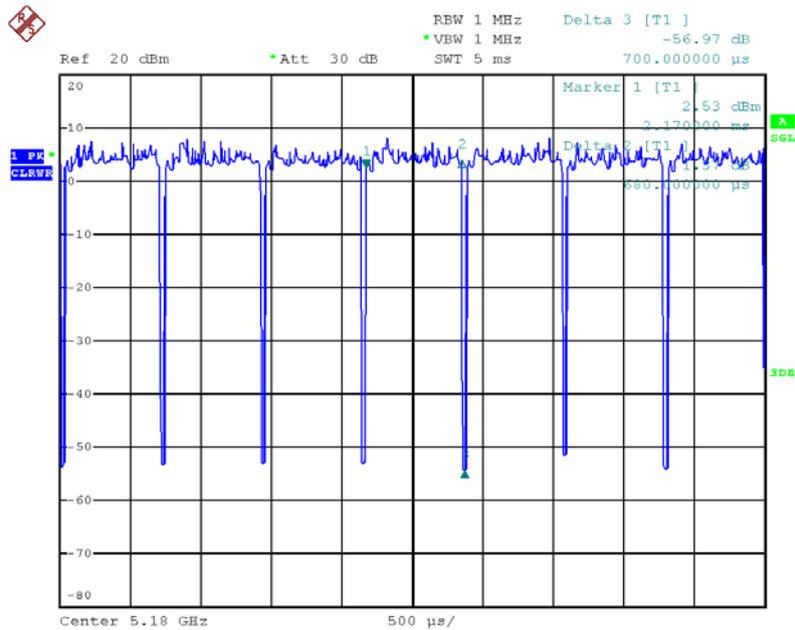
For 5GHz Band:

IEEE 802.11ac MCS0/Nss1 20MHz



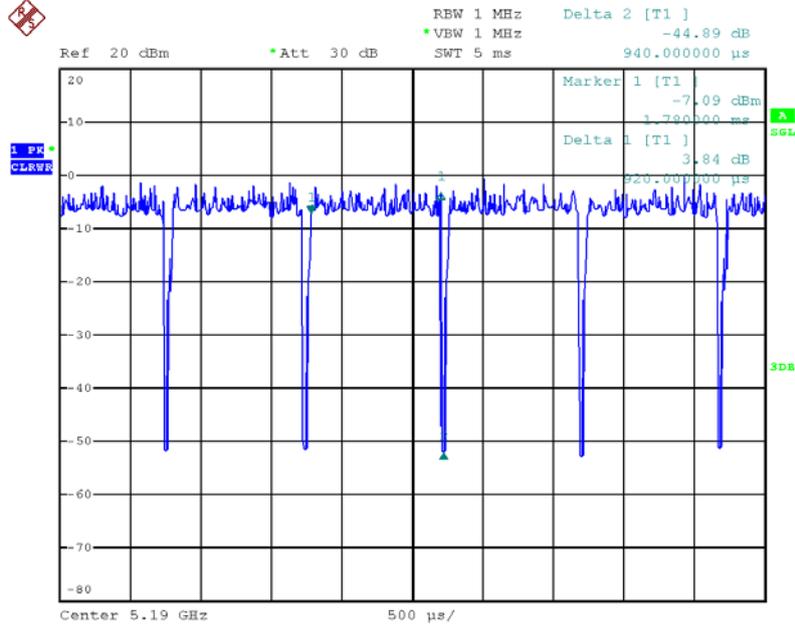
Date: 24.JUL.2013 11:36:52

IEEE 802.11ac MCS0/Nss3 20MHz



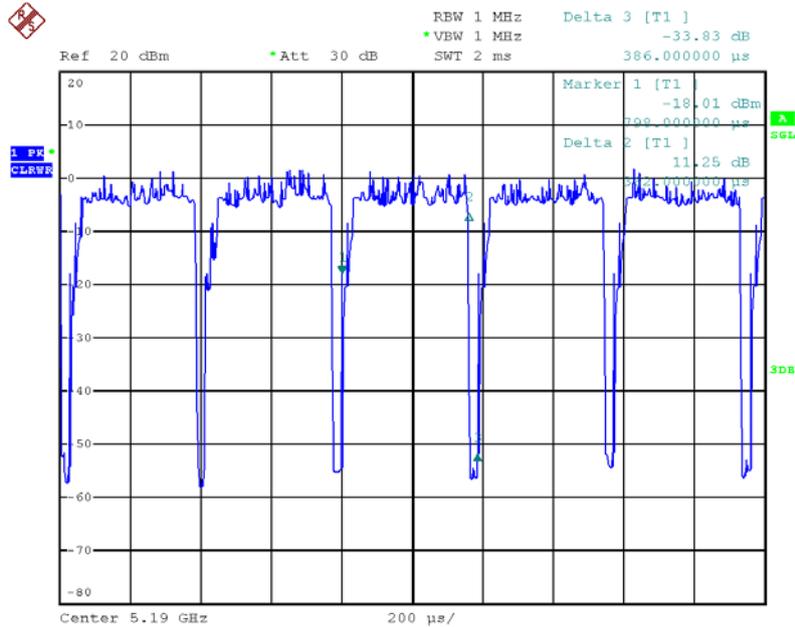
Date: 18.JUL.2013 06:21:51

IEEE 802.11ac MCS0/Nss1 40MHz



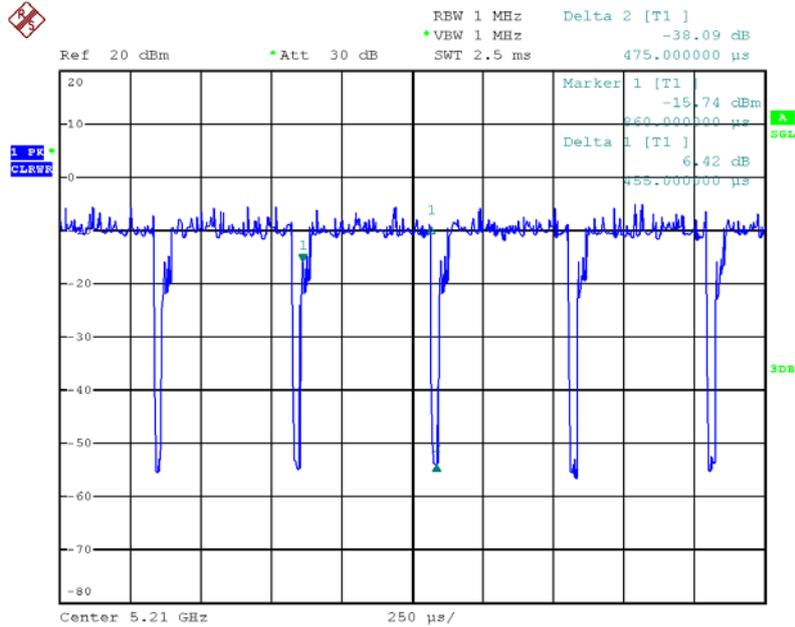
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IEEE 802.11ac MCS0/Nss3 40MHz



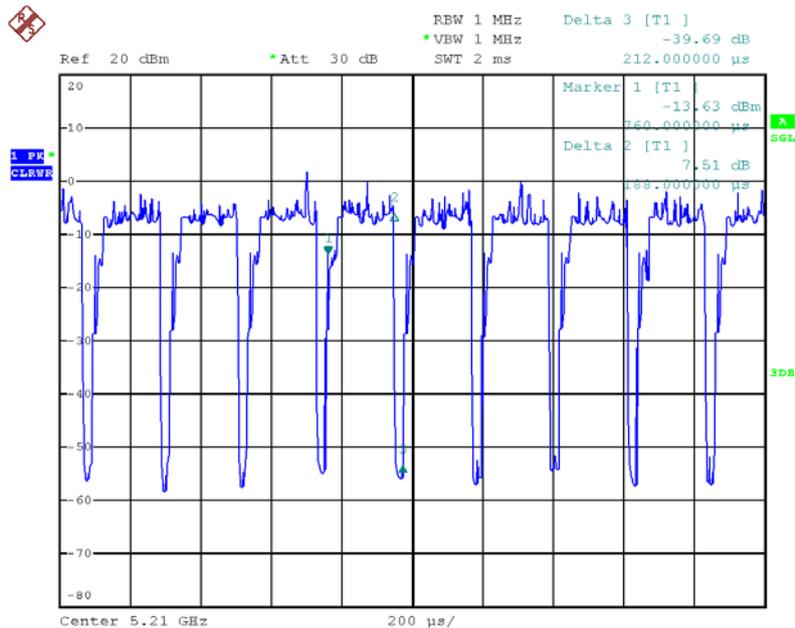
Date: 18.JUL.2013 06:23:08

IEEE 802.11ac MCS0/Nss1 80MHz



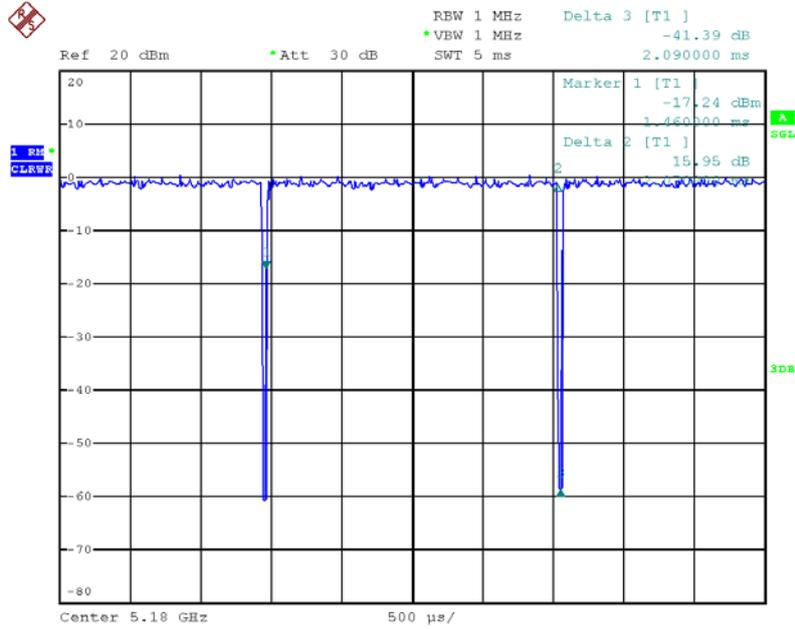
Date: 24.JUL.2013 11:42:21

IEEE 802.11ac MCS0/Nss3 80MHz



Date: 18.JUL.2013 06:24:10

IEEE 802.11a

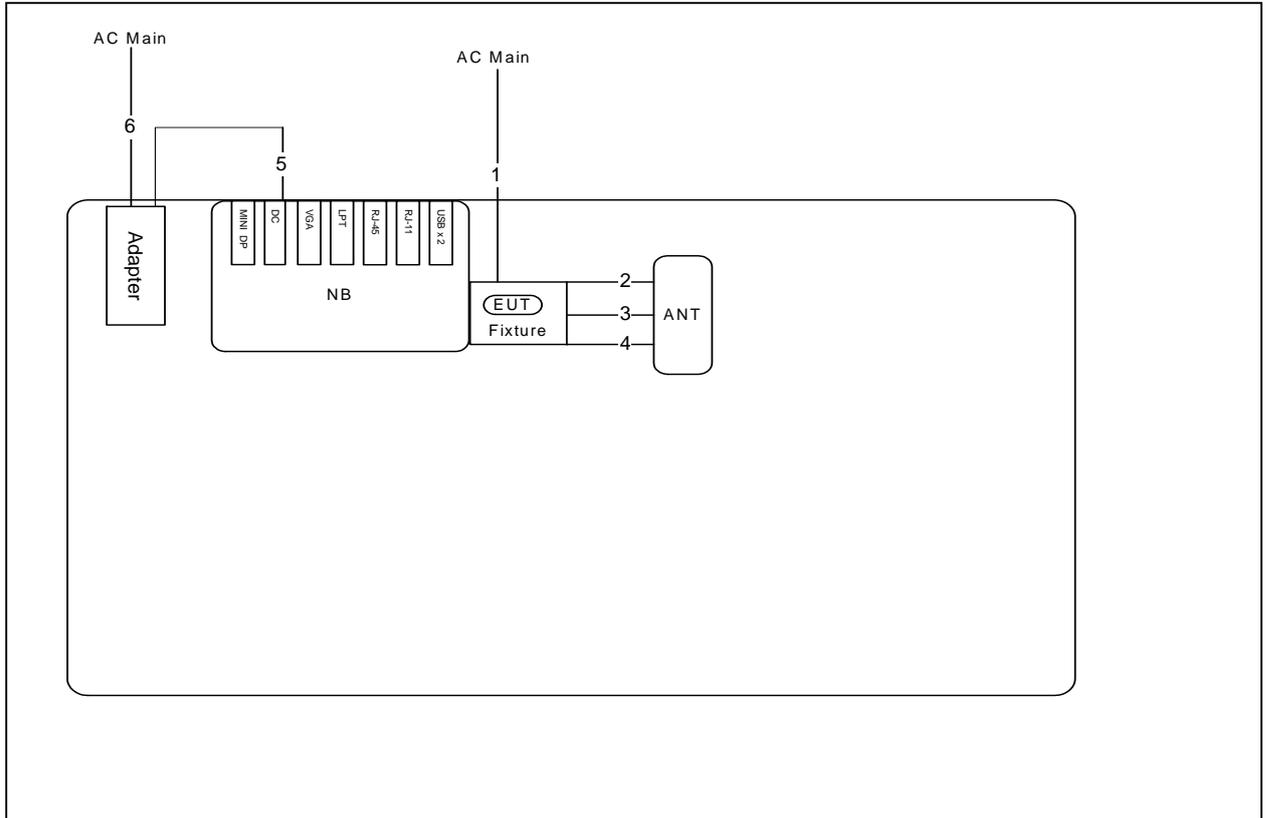


Date: 17.JUL.2013 22:33:29

3.11. Test Configurations

3.11.1. AC Power Line Conduction Emissions Test Configuration

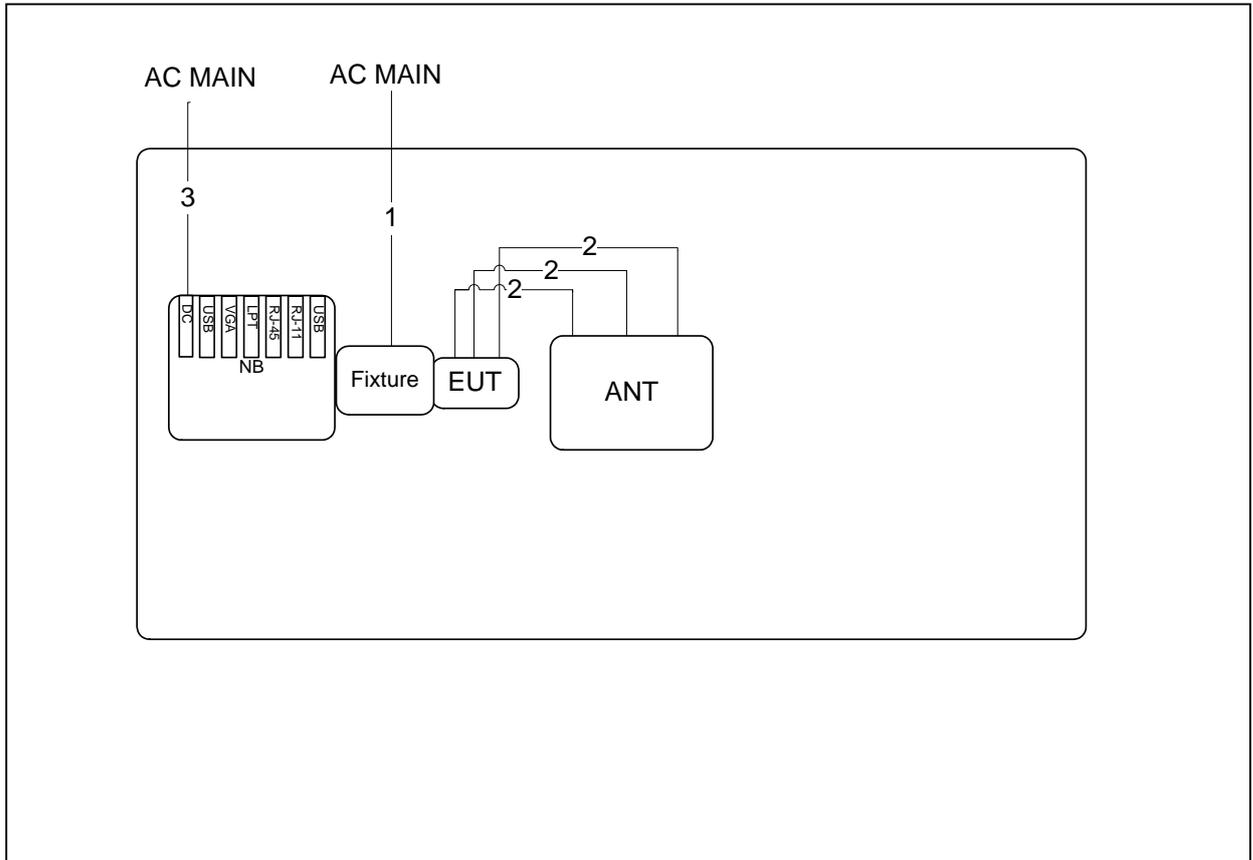
Test Mode : Mode 2



Item	Connection	Shielded	Length
1	AC Power Cable	No	1.4m
2	Antenna Cable	No	1.1m
3	Antenna Cable	No	1.1m
4	Antenna Cable	No	1.1m
5	AC Power Cable	No	1.8m
6	DC Power Cable	No	1.8m

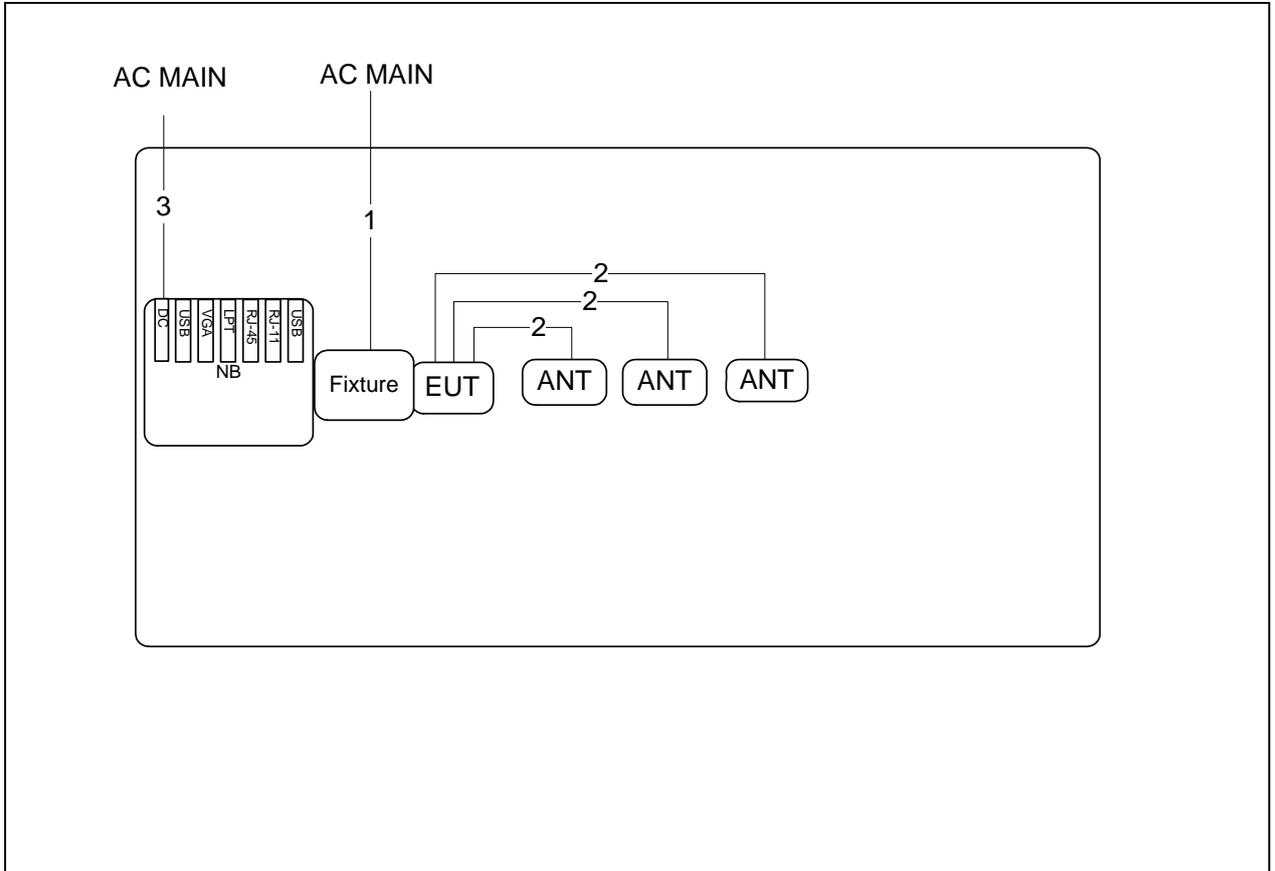
3.11.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz / Test Mode : Mode 2



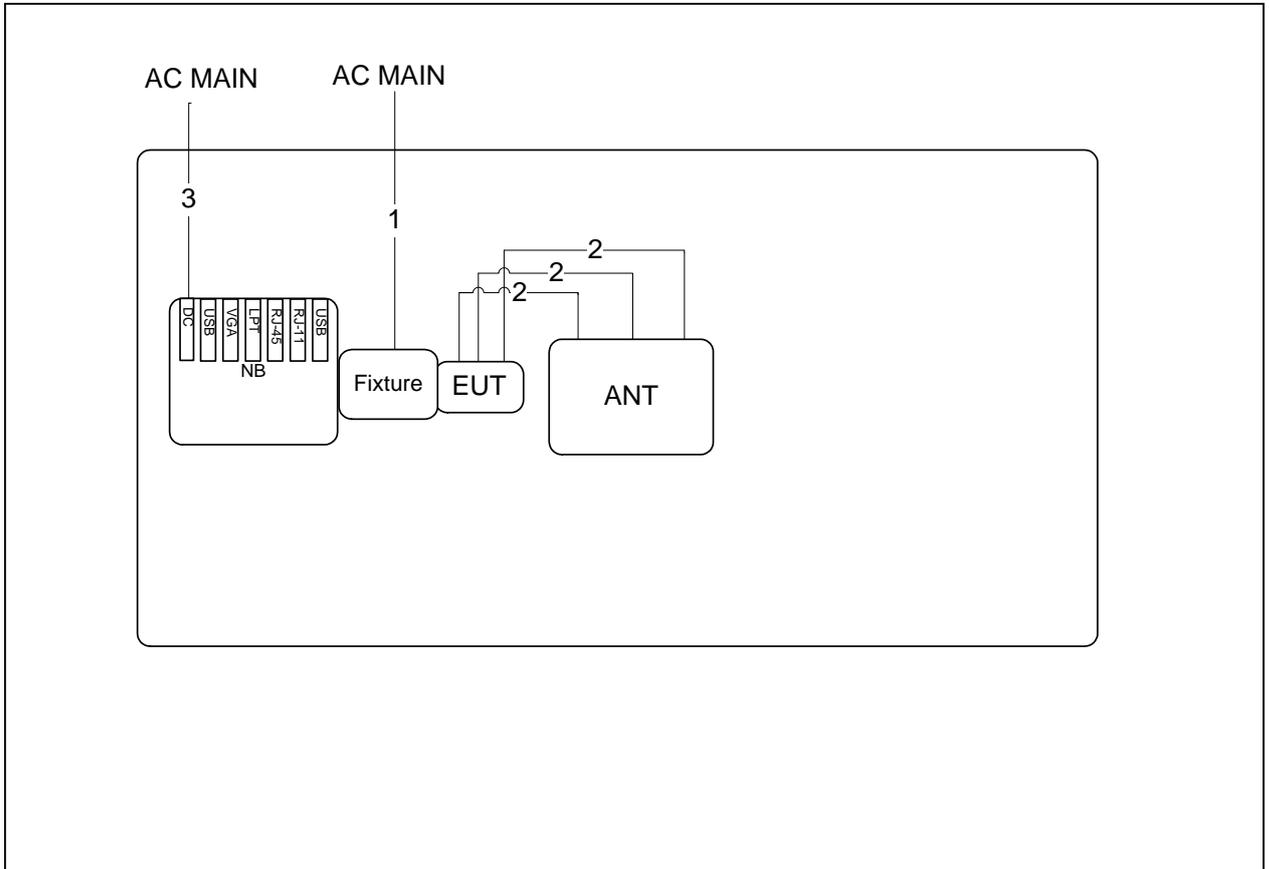
Item	Connection	Shielded	Length(m)
1	Power Cable	No	1.4m
2	RF Cable*3	Yes	1.05m
3	Power Cable	No	2.6m

Test Configuration: above 1GHz / Test Mode : Mode 1 and Mode 5



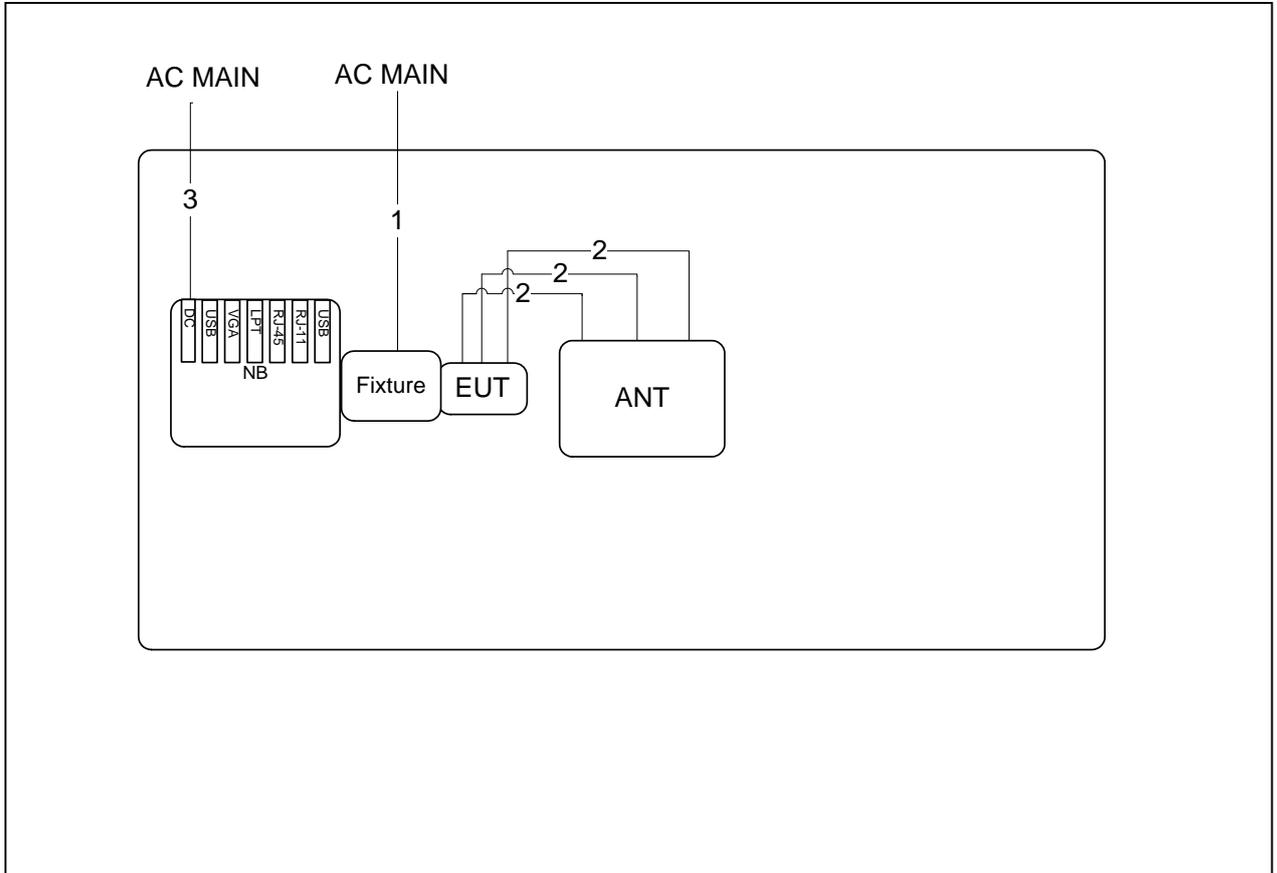
Item	Connection	Shielded	Length(m)
1	Power Cable	No	1.4m
2	RF Cable*3	Yes	0.2m
3	Power Cable	No	2.6m

Test Mode : Mode 2



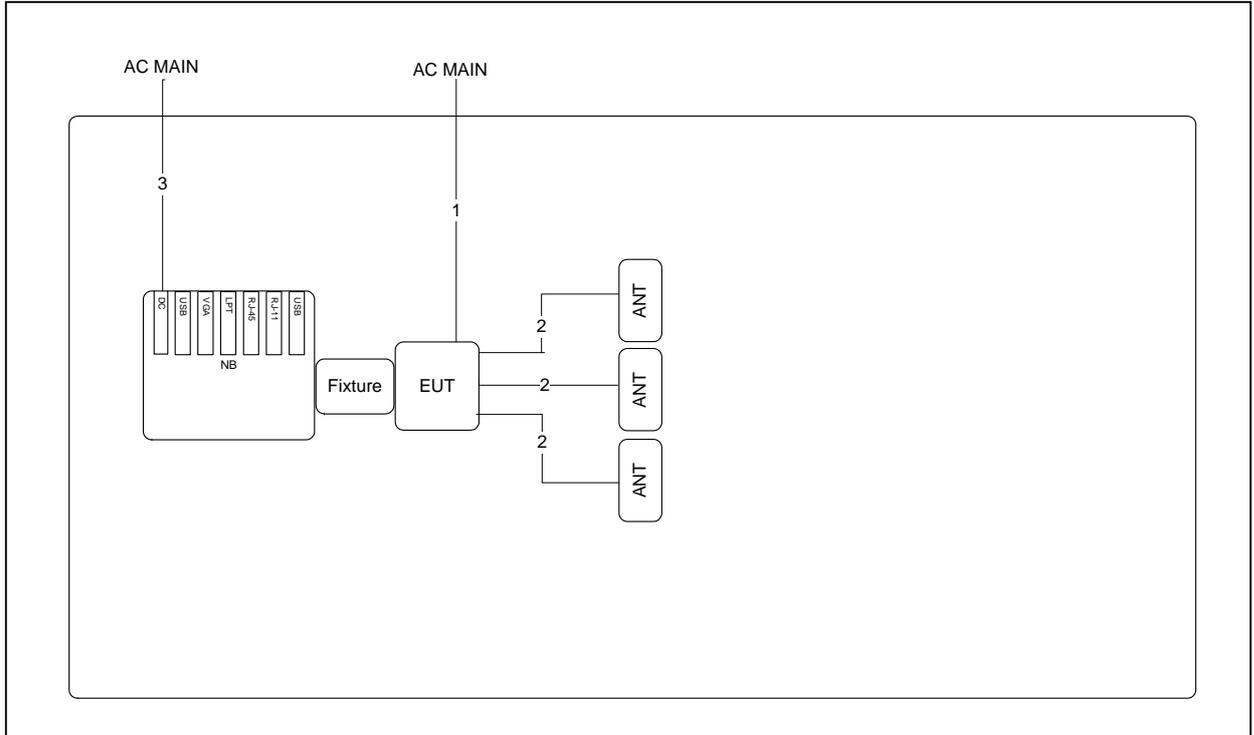
Item	Connection	Shielded	Length(m)
1	Power Cable	No	1.4m
2	RF Cable*3	Yes	1.1m
3	Power Cable	No	2.6m

Test Mode : Mode 3 and Mode 7



Item	Connection	Shielded	Length(m)
1	Power Cable	No	1.4m
2	RF Cable*3	Yes	1.05m
3	Power Cable	No	2.6m

Test Mode : Mode 4 and Mode 8



Item	Connection	Shielded	Length(m)
1	Power Cable	No	2.6m
2	Antenna Cable*3	Yes	0.15m
3	Power Cable	No	1.4m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product which is designed to be connected 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.

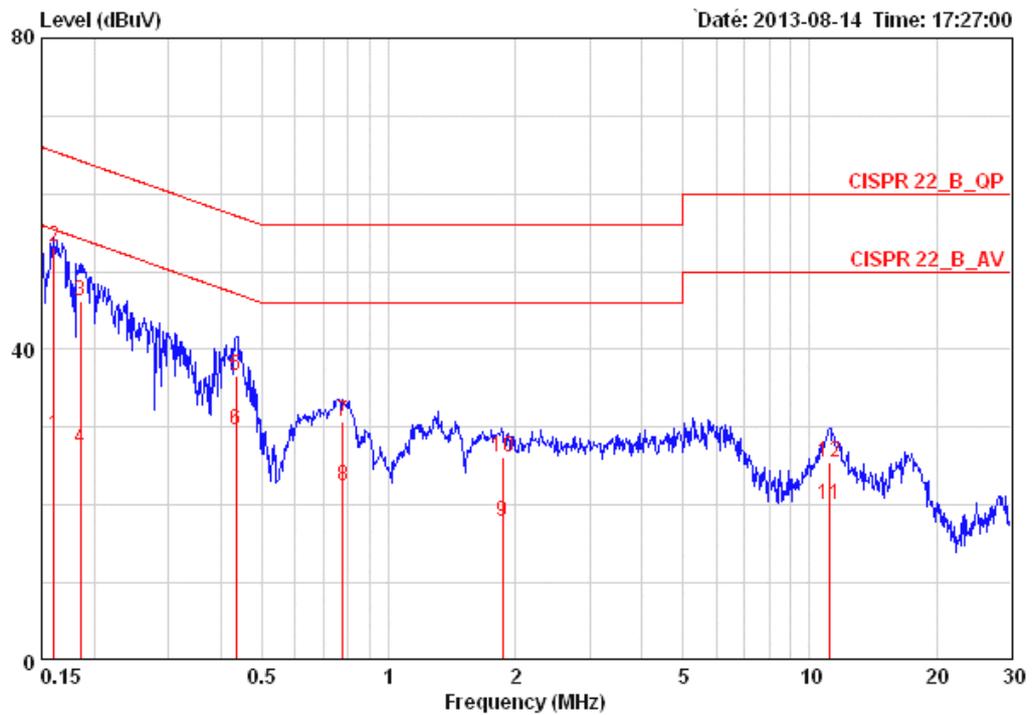
Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

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.

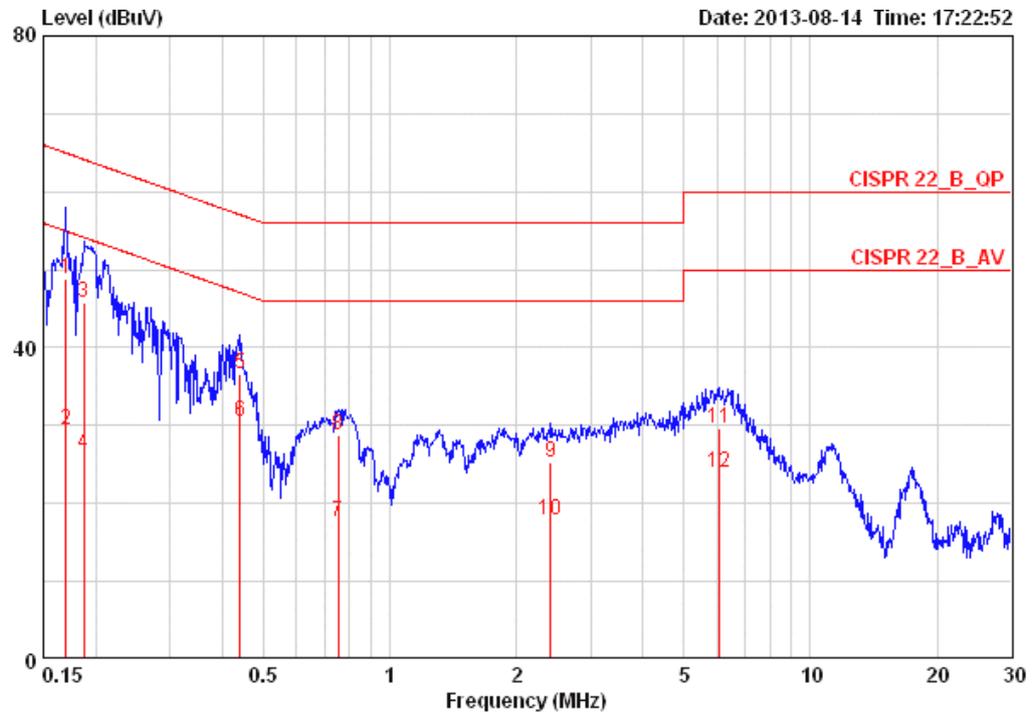
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	22°C	Humidity	58%
Test Engineer	Parody Lin	Phase	Line
Configuration	CTX	Test Mode	Mode 2



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.16070	28.91	-26.51	55.43	28.58	0.15	0.18	LINE	AVERAGE
2	0.16070	53.09	-12.33	65.43	52.76	0.15	0.18	LINE	QP
3	0.18541	46.20	-18.04	64.24	45.86	0.15	0.19	LINE	QP
4	0.18541	27.18	-27.06	54.24	26.84	0.15	0.19	LINE	AVERAGE
5	0.43511	36.60	-20.55	57.15	36.25	0.15	0.20	LINE	QP
6	0.43511	29.73	-17.42	47.15	29.38	0.15	0.20	LINE	AVERAGE
7	0.77931	30.79	-25.21	56.00	30.43	0.16	0.20	LINE	QP
8	0.77931	22.39	-23.61	46.00	22.03	0.16	0.20	LINE	AVERAGE
9	1.868	17.93	-28.07	46.00	17.52	0.19	0.23	LINE	AVERAGE
10	1.868	26.12	-29.88	56.00	25.71	0.19	0.23	LINE	QP
11	11.139	20.02	-29.98	50.00	19.24	0.40	0.38	LINE	AVERAGE
12	11.139	25.46	-34.54	60.00	24.68	0.40	0.38	LINE	QP

Temperature	22°C	Humidity	58%
Test Engineer	Parody Lin	Phase	Neutral
Configuration	CTX	Test Mode	Mode 2



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.16944	48.77	-16.22	64.99	48.51	0.07	0.19	NEUTRAL	QP
2	0.16944	29.42	-25.57	54.99	29.16	0.07	0.19	NEUTRAL	AVERAGE
3	0.18739	45.89	-18.27	64.15	45.62	0.07	0.20	NEUTRAL	QP
4	0.18739	26.32	-27.84	54.15	26.05	0.07	0.20	NEUTRAL	AVERAGE
5	0.43974	36.54	-20.53	57.07	36.27	0.07	0.20	NEUTRAL	QP
6	0.43974	30.46	-16.61	47.07	30.19	0.07	0.20	NEUTRAL	AVERAGE
7	0.75493	17.57	-28.43	46.00	17.29	0.08	0.20	NEUTRAL	AVERAGE
8	0.75493	28.67	-27.33	56.00	28.39	0.08	0.20	NEUTRAL	QP
9	2.409	25.28	-30.72	56.00	24.93	0.11	0.24	NEUTRAL	QP
10	2.409	17.90	-28.10	46.00	17.55	0.11	0.24	NEUTRAL	AVERAGE
11	6.056	29.68	-30.32	60.00	29.17	0.18	0.33	NEUTRAL	QP
12	6.056	23.88	-26.12	50.00	23.37	0.18	0.33	NEUTRAL	AVERAGE

Note:

Level = Read Level + LISN Factor + Cable Loss

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi. Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter output power.

4.2.2. Measuring Instruments and Setting

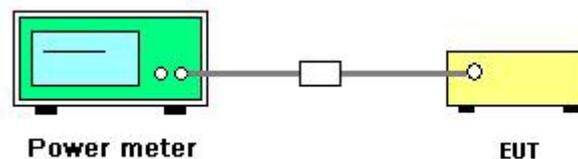
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	Average

4.2.3. Test Procedures

1. Test procedures refer KDB 558074 D01 v03r01 section 9.2.2 Measurement using a power meter (PM).
2. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

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 Maximum Conducted Output Power

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Date	Aug. 05, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

For 2.4GHz Band

Configuration IEEE 802.11n MCS0 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.82	15.46	15.86	20.49	30.00	Complies
6	2437 MHz	20.79	20.41	20.89	25.47	30.00	Complies
11	2462 MHz	14.95	14.56	15.05	19.63	30.00	Complies

Configuration IEEE 802.11n MCS16 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.52	14.99	15.40	20.08	30.00	Complies
6	2437 MHz	20.52	20.71	21.35	25.65	30.00	Complies
11	2462 MHz	15.76	15.28	15.69	20.35	30.00	Complies

Configuration IEEE 802.11n MCS0 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	14.21	13.86	14.11	18.83	30.00	Complies
6	2437 MHz	14.87	14.29	14.92	19.47	30.00	Complies
9	2452 MHz	12.92	12.49	12.65	17.46	30.00	Complies

Configuration IEEE 802.11n MCS16 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	14.35	13.80	14.29	18.92	30.00	Complies
6	2437 MHz	14.84	14.41	14.78	19.45	30.00	Complies
9	2452 MHz	13.32	13.12	13.33	18.03	30.00	Complies

Configuration IEEE 802.11b

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	19.59	19.12	19.58	24.21	30.00	Complies
6	2437 MHz	20.31	20.24	20.23	25.03	30.00	Complies
11	2462 MHz	17.43	16.95	17.52	22.08	30.00	Complies

Configuration IEEE 802.11g

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.44	14.92	15.33	20.01	30.00	Complies
6	2437 MHz	21.21	20.75	20.80	25.70	30.00	Complies
11	2462 MHz	16.83	16.42	16.62	21.40	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Date	Aug. 05, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.12	14.51	15.06	19.68	30.00	Complies
6	2437 MHz	20.44	20.45	20.65	25.29	30.00	Complies
11	2462 MHz	14.41	13.82	14.34	18.97	30.00	Complies

Configuration IEEE 802.11n MCS16 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	14.44	13.83	14.38	19.00	30.00	Complies
6	2437 MHz	20.52	20.71	21.35	25.65	30.00	Complies
11	2462 MHz	14.31	13.62	14.10	18.79	30.00	Complies

Configuration IEEE 802.11n MCS0 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	13.19	12.69	13.23	17.81	30.00	Complies
6	2437 MHz	13.95	13.48	13.97	18.58	30.00	Complies
9	2452 MHz	11.32	10.81	11.32	15.93	30.00	Complies

Configuration IEEE 802.11n MCS16 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	11.89	11.50	11.75	16.49	30.00	Complies
6	2437 MHz	14.01	13.61	13.93	18.62	30.00	Complies
9	2452 MHz	11.11	10.81	11.27	15.84	30.00	Complies

Configuration IEEE 802.11b

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	17.67	17.29	17.60	22.29	30.00	Complies
6	2437 MHz	20.31	20.24	20.23	25.03	30.00	Complies
11	2462 MHz	18.26	17.82	18.18	22.86	30.00	Complies

Configuration IEEE 802.11g

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.44	14.92	15.33	20.01	30.00	Complies
6	2437 MHz	20.89	20.44	20.43	25.36	30.00	Complies
11	2462 MHz	16.83	16.42	16.62	21.40	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Date	Aug. 05, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.05	14.44	15.09	19.64	29.63	Complies
6	2437 MHz	20.79	20.41	20.89	25.47	29.63	Complies
11	2462 MHz	14.73	14.18	14.64	19.29	29.63	Complies

Note: Ant Gain = 7.10dBi > 6dBi, but Point-to-Point limit = $30 - (\text{Ant Gain} - 6) / 3$, So Power Limit = $30 - (7.1 - 6) / 3 = 29.63\text{dBm}$

Configuration IEEE 802.11n MCS16 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.57	15.01	15.42	20.11	29.63	Complies
6	2437 MHz	20.52	20.71	21.35	25.65	29.63	Complies
11	2462 MHz	15.08	14.62	15.17	19.73	29.63	Complies

Note: Ant Gain = 7.10dBi > 6dBi, but Point-to-Point limit = $30 - (\text{Ant Gain} - 6) / 3$, So Power Limit = $30 - (7.1 - 6) / 3 = 29.63\text{dBm}$

Configuration IEEE 802.11n MCS0 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	12.87	12.53	13.13	17.62	29.63	Complies
6	2437 MHz	14.15	13.59	14.22	18.77	29.63	Complies
9	2452 MHz	11.76	11.43	11.73	16.41	29.63	Complies

Note: Ant Gain = 7.10dBi > 6dBi, but Point-to-Point limit = $30 - (\text{Ant Gain} - 6) / 3$, So Power Limit = $30 - (7.1 - 6) / 3 = 29.63\text{dBm}$

Configuration IEEE 802.11n MCS16 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	13.22	12.68	13.26	17.83	29.63	Complies
6	2437 MHz	14.43	13.68	14.44	18.97	29.63	Complies
9	2452 MHz	12.03	11.68	12.19	16.74	29.63	Complies

Note: Ant Gain = 7.10dBi > 6dBi, but Point-to-Point limit = $30 - (\text{Ant Gain} - 6) / 3$, So Power Limit = $30 - (7.1 - 6) / 3 = 29.63\text{dBm}$

Configuration IEEE 802.11b

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	14.47	13.98	14.44	19.07	29.63	Complies
6	2437 MHz	14.34	13.75	14.30	18.91	29.63	Complies
11	2462 MHz	12.98	12.61	13.09	17.67	29.63	Complies

Note: Ant Gain = 7.10dBi > 6dBi, but Point-to-Point limit = $30 - (\text{Ant Gain} - 6) / 3$, So Power Limit = $30 - (7.1 - 6) / 3 = 29.63\text{dBm}$

Configuration IEEE 802.11g

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	16.07	15.61	16.29	20.77	29.63	Complies
6	2437 MHz	21.21	20.75	20.80	25.70	29.63	Complies
11	2462 MHz	15.47	15.28	15.77	20.28	29.63	Complies

Note: Ant Gain = 7.10dBi > 6dBi, but Point-to-Point limit = $30 - (\text{Ant Gain} - 6) / 3$, So Power Limit = $30 - (7.1 - 6) / 3 = 29.63\text{dBm}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Date	Aug. 05, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	16.21	16.09	16.58	21.07	30.00	Complies
6	2437 MHz	20.79	20.41	20.89	25.47	30.00	Complies
11	2462 MHz	15.63	15.31	15.78	20.35	30.00	Complies

Configuration IEEE 802.11n MCS16 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	17.08	16.62	16.98	21.67	30.00	Complies
6	2437 MHz	20.52	20.71	21.35	25.65	30.00	Complies
11	2462 MHz	16.37	16.14	16.59	21.14	30.00	Complies

Configuration IEEE 802.11n MCS0 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	15.36	15.01	15.26	19.98	30.00	Complies
6	2437 MHz	16.17	15.71	16.28	20.83	30.00	Complies
9	2452 MHz	13.56	13.22	13.74	18.28	30.00	Complies

Configuration IEEE 802.11n MCS16 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	14.29	13.84	14.58	19.02	30.00	Complies
6	2437 MHz	16.45	15.94	16.55	21.09	30.00	Complies
9	2452 MHz	13.42	13.23	13.54	18.17	30.00	Complies

Configuration IEEE 802.11b

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	20.18	19.79	20.12	24.80	30.00	Complies
6	2437 MHz	20.31	20.24	20.23	25.03	30.00	Complies
11	2462 MHz	20.45	20.35	20.57	25.23	30.00	Complies

Configuration IEEE 802.11g

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	16.72	16.31	16.82	21.39	30.00	Complies
6	2437 MHz	21.21	20.75	20.80	25.70	30.00	Complies
11	2462 MHz	16.18	15.84	16.38	20.91	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Date	Aug. 05, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.83	19.67	19.36	24.40	30.00	Complies
157	5785 MHz	19.39	19.35	19.41	24.15	30.00	Complies
165	5825 MHz	19.53	19.16	19.07	24.03	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss3 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.84	20.33	20.20	24.90	30.00	Complies
157	5785 MHz	19.57	20.01	19.93	24.61	30.00	Complies
165	5825 MHz	19.46	19.87	19.75	24.47	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	17.34	17.08	17.28	22.01	30.00	Complies
159	5795 MHz	19.23	18.99	18.74	23.76	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss3 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	16.93	16.69	17.12	21.69	30.00	Complies
159	5795 MHz	19.23	19.62	19.54	24.24	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	16.78	16.56	16.59	21.42	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss3 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	17.38	17.14	17.42	22.09	30.00	Complies

Configuration IEEE 802.11a

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.74	19.87	19.68	24.54	30.00	Complies
157	5785 MHz	19.53	19.47	19.73	24.35	30.00	Complies
165	5825 MHz	19.46	19.56	19.51	24.28	30.00	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Date	Aug. 05, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.83	19.67	19.36	24.40	30.00	Complies
157	5785 MHz	19.39	19.35	19.41	24.15	30.00	Complies
165	5825 MHz	19.53	19.16	19.07	24.03	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss3 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.84	20.33	20.20	24.90	30.00	Complies
157	5785 MHz	19.57	20.01	19.93	24.61	30.00	Complies
165	5825 MHz	19.46	19.87	19.75	24.47	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss1 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	17.58	17.16	17.53	22.20	30.00	Complies
159	5795 MHz	19.23	18.99	18.74	23.76	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss3 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	18.41	18.26	18.50	23.16	30.00	Complies
159	5795 MHz	19.23	19.62	19.54	24.24	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss1 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	16.78	16.56	16.59	21.42	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss3 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	18.32	18.01	18.45	23.04	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11a

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.74	19.87	19.68	24.54	30.00	Complies
157	5785 MHz	19.53	19.47	19.73	24.35	30.00	Complies
165	5825 MHz	19.46	19.56	19.51	24.28	30.00	Complies

Note: Ant Gain = 6.70dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Date	Aug. 05, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.83	19.67	19.36	24.40	30.00	Complies
157	5785 MHz	19.39	19.35	19.41	24.15	30.00	Complies
165	5825 MHz	19.53	19.16	19.07	24.03	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss3 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.84	20.33	20.20	24.90	30.00	Complies
157	5785 MHz	19.57	20.01	19.93	24.61	30.00	Complies
165	5825 MHz	19.46	19.87	19.75	24.47	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss1 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	17.62	17.36	17.12	22.14	30.00	Complies
159	5795 MHz	19.23	18.99	18.74	23.76	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss3 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	17.53	17.10	17.01	21.99	30.00	Complies
159	5795 MHz	19.23	19.62	19.54	24.24	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss1 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	16.79	16.37	16.31	21.27	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11ac MCS0/Nss3 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	16.53	16.19	15.98	21.01	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Configuration IEEE 802.11a

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.74	19.87	19.68	24.54	30.00	Complies
157	5785 MHz	19.53	19.47	19.73	24.35	30.00	Complies
165	5825 MHz	19.46	19.56	19.51	24.28	30.00	Complies

Note: Ant Gain = 9.20dBi > 6dBi, but Point-to-Point limit = other Limit, So Power Limit = 30dBm

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Date	Aug. 05, 2013	Test Mode	Mode 8 (Ant.5 PCB antenna / 5.74dBi)

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.83	19.67	19.36	24.40	30.00	Complies
157	5785 MHz	19.39	19.35	19.41	24.15	30.00	Complies
165	5825 MHz	19.53	19.16	19.07	24.03	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss3 20MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.84	20.33	20.20	24.90	30.00	Complies
157	5785 MHz	19.57	20.01	19.93	24.61	30.00	Complies
165	5825 MHz	19.46	19.87	19.75	24.47	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	18.03	17.71	17.94	22.67	30.00	Complies
159	5795 MHz	19.23	18.99	18.74	23.76	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss3 40MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
151	5755 MHz	17.86	17.28	17.54	22.34	30.00	Complies
159	5795 MHz	19.23	19.62	19.54	24.24	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	17.51	17.24	17.54	22.20	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss3 80MHz

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
155	5775 MHz	17.19	16.79	17.12	21.81	30.00	Complies

Configuration IEEE 802.11a

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
149	5745 MHz	19.74	19.87	19.68	24.54	30.00	Complies
157	5785 MHz	19.53	19.47	19.73	24.35	30.00	Complies
165	5825 MHz	19.46	19.56	19.51	24.28	30.00	Complies

4.3. Power Spectral Density Measurement

4.3.1. Limit

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3 kHz band during any time interval of continuous transmission.

4.3.2. Measuring Instruments and Setting

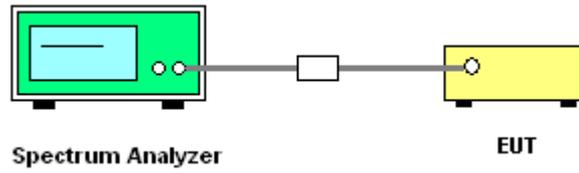
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Set the span to 1.5 times the DTS channel bandwidth.
RBW	$3 \text{ kHz} \leq \text{RBW} \leq 100\text{kHz}$
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto couple

4.3.3. Test Procedures

1. Test procedures refer KDB 558074 D01 v03r01 section 10.2 & KDB 662911 D01 v02 section In-Band Power Spectral Density (PSD) Measurements option (2) Measure and add $10 \log(NANT)$ dB.
2. Use this procedure when the maximum conducted output power in the fundamental emission is used to demonstrate compliance. The EUT must be configured to transmit continuously at full power over the measurement duration.
3. Ensure that the number of measurement points in the sweep $\geq 2 \times \text{span}/\text{RBW}$ (use of a greater number of measurement points than this minimum requirement is recommended).
4. Use the peak marker function to determine the maximum level in any 3 kHz band segment within the fundamental EBW.
5. The resulting PSD level must be $\leq 8 \text{ dBm}$.

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 Power Spectral Density

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)		

For 2.4GHz Band

Configuration IEEE 802.11n MCS0 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-9.51	-8.94	-9.41	3.23	Complies
6	2437 MHz	-4.88	-5.20	-5.52	3.23	Complies
11	2462 MHz	-9.49	-11.23	-10.06	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-9.55	-10.78	-10.13	3.23	Complies
6	2437 MHz	-4.78	-5.55	-5.26	3.23	Complies
11	2462 MHz	-8.96	-7.90	-9.36	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS0 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-13.55	-14.55	-13.09	3.23	Complies
6	2437 MHz	-11.65	-13.49	-11.63	3.23	Complies
9	2452 MHz	-15.05	-14.91	-14.40	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-12.70	-12.69	-12.74	3.23	Complies
6	2437 MHz	-11.95	-11.49	-12.11	3.23	Complies
9	2452 MHz	-12.11	-12.27	-12.79	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11b / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-3.19	-4.34	-3.86	3.23	Complies
6	2437 MHz	-3.34	-4.42	-3.54	3.23	Complies
11	2462 MHz	-3.12	-3.84	-2.90	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11g / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-9.10	-10.37	-9.37	3.23	Complies
6	2437 MHz	-6.34	-4.73	-4.65	3.23	Complies
11	2462 MHz	-7.00	-8.54	-7.96	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)		

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-10.40	-9.47	-10.48	3.23	Complies
6	2437 MHz	-4.88	-5.20	-5.52	3.23	Complies
11	2462 MHz	-10.69	-12.11	-10.31	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-11.17	-11.02	-10.21	3.23	Complies
6	2437 MHz	-4.78	-5.55	-5.26	3.23	Complies
11	2462 MHz	-10.41	-10.49	-10.86	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS0 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-14.94	-14.50	-14.59	3.23	Complies
6	2437 MHz	-14.13	-14.13	-14.85	3.23	Complies
9	2452 MHz	-16.12	-15.56	-16.98	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-14.46	-15.53	-15.14	3.23	Complies
6	2437 MHz	-14.18	-14.72	-13.95	3.23	Complies
9	2452 MHz	-15.71	-15.40	-14.27	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11b / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-6.36	-6.37	-4.86	3.23	Complies
6	2437 MHz	-3.34	-4.42	-3.54	3.23	Complies
11	2462 MHz	-3.87	-4.49	-3.82	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11g / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-8.98	-9.40	-9.52	3.23	Complies
6	2437 MHz	-6.34	-4.73	-4.65	3.23	Complies
11	2462 MHz	-7.00	-8.54	-7.96	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)		

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-10.40	-9.47	-10.48	3.23	Complies
6	2437 MHz	-4.88	-5.20	-5.52	3.23	Complies
11	2462 MHz	-9.49	-11.23	-10.06	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-9.35	-10.16	-9.80	3.23	Complies
6	2437 MHz	-4.78	-5.55	-5.26	3.23	Complies
11	2462 MHz	-10.03	-10.15	-10.22	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS0 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-14.94	-14.50	-14.59	3.23	Complies
6	2437 MHz	-13.32	-13.40	-14.26	3.23	Complies
9	2452 MHz	-15.83	-15.73	-16.09	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-13.29	-13.90	-14.52	3.23	Complies
6	2437 MHz	-12.50	-13.84	-13.09	3.23	Complies
9	2452 MHz	-15.17	-15.21	-15.13	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11b / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-7.11	-8.79	-9.00	3.23	Complies
6	2437 MHz	-9.52	-9.95	-9.18	3.23	Complies
11	2462 MHz	-9.92	-10.42	-9.35	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11g / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-10.05	-9.32	-9.42	3.23	Complies
6	2437 MHz	-6.34	-4.73	-4.65	3.23	Complies
11	2462 MHz	-9.43	-10.51	-10.21	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)		

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-9.31	-9.21	-9.32	3.23	Complies
6	2437 MHz	-4.88	-5.20	-5.52	3.23	Complies
11	2462 MHz	-9.83	-10.33	-10.46	3.23	Complies

 Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$
Configuration IEEE 802.11n MCS16 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-7.31	-8.68	-8.50	3.23	Complies
6	2437 MHz	-4.78	-5.55	-5.26	3.23	Complies
11	2462 MHz	-9.14	-9.10	-9.18	3.23	Complies

 Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$
Configuration IEEE 802.11n MCS0 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-12.07	-12.34	-12.30	3.23	Complies
6	2437 MHz	-11.98	-12.89	-11.64	3.23	Complies
9	2452 MHz	-14.06	-14.55	-13.21	3.23	Complies

 Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$
Configuration IEEE 802.11n MCS16 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
3	2422 MHz	-13.87	-14.29	-12.89	3.23	Complies
6	2437 MHz	-11.04	-12.27	-12.00	3.23	Complies
9	2452 MHz	-13.56	-13.94	-13.75	3.23	Complies

 Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11b / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-3.19	-4.34	-3.86	3.23	Complies
6	2437 MHz	-3.34	-4.42	-3.54	3.23	Complies
11	2462 MHz	-3.24	-4.26	-3.54	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11g / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
1	2412 MHz	-9.47	-8.80	-8.67	3.23	Complies
6	2437 MHz	-6.34	-4.73	-4.65	3.23	Complies
11	2462 MHz	-8.11	-9.17	-8.96	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.28	-6.74	-4.54	3.23	Complies
157	5785 MHz	-4.89	-5.34	-5.58	3.23	Complies
165	5825 MHz	-5.60	-5.78	-6.02	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.99	-6.06	-6.26	3.23	Complies
157	5785 MHz	-6.07	-6.51	-6.32	3.23	Complies
165	5825 MHz	-5.91	-6.41	-5.69	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-9.44	-9.61	-10.96	3.23	Complies
159	5795 MHz	-7.84	-8.66	-8.85	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-10.57	-11.11	-11.60	3.23	Complies
159	5795 MHz	-9.44	-9.15	-9.66	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-13.71	-13.84	-13.94	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-13.30	-12.56	-13.39	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11a / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-3.57	-5.38	-5.72	3.23	Complies
157	5785 MHz	-4.13	-5.18	-5.52	3.23	Complies
165	5825 MHz	-4.77	-4.76	-6.32	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.28	-6.74	-4.54	3.23	Complies
157	5785 MHz	-4.89	-5.34	-5.58	3.23	Complies
165	5825 MHz	-5.60	-5.78	-6.02	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.99	-6.06	-6.26	3.23	Complies
157	5785 MHz	-6.07	-6.51	-6.32	3.23	Complies
165	5825 MHz	-5.91	-6.41	-5.69	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-10.83	-10.78	-9.15	3.23	Complies
159	5795 MHz	-7.84	-8.66	-8.85	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-10.54	-10.23	-10.00	3.23	Complies
159	5795 MHz	-9.44	-9.15	-9.66	3.23	Complies

Note : PSD Limit = $8 - (10 \log(3)) = 3.23 \text{ dBm/3kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Power Density Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-13.71	-13.84	-13.94	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-12.58	-12.57	-11.72	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11a / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-3.57	-5.38	-5.72	3.23	Complies
157	5785 MHz	-4.13	-5.18	-5.52	3.23	Complies
165	5825 MHz	-4.77	-4.76	-6.32	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.28	-6.74	-4.54	3.23	Complies
157	5785 MHz	-4.89	-5.34	-5.58	3.23	Complies
165	5825 MHz	-5.60	-5.78	-6.02	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.99	-6.06	-6.26	3.23	Complies
157	5785 MHz	-6.07	-6.51	-6.32	3.23	Complies
165	5825 MHz	-5.91	-6.41	-5.69	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-10.43	-9.22	-10.15	3.23	Complies
159	5795 MHz	-7.84	-8.66	-8.85	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-8.68	-10.18	-9.73	3.23	Complies
159	5795 MHz	-9.44	-9.15	-9.66	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-12.86	-12.41	-12.68	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-12.90	-13.22	-11.89	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11a / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-3.57	-5.38	-5.72	3.23	Complies
157	5785 MHz	-4.13	-5.18	-5.52	3.23	Complies
165	5825 MHz	-4.77	-4.76	-6.32	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 8 (Ant.5 PCB antenna / 5.74dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.28	-6.74	-4.54	3.23	Complies
157	5785 MHz	-4.89	-5.34	-5.58	3.23	Complies
165	5825 MHz	-5.60	-5.78	-6.02	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-5.99	-6.06	-6.26	3.23	Complies
157	5785 MHz	-6.07	-6.51	-6.32	3.23	Complies
165	5825 MHz	-5.91	-6.41	-5.69	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-10.43	-9.22	-10.15	3.23	Complies
159	5795 MHz	-7.84	-8.66	-8.85	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
151	5755 MHz	-10.09	-11.07	-9.75	3.23	Complies
159	5795 MHz	-9.44	-9.15	-9.66	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-12.12	-12.79	-12.50	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
155	5775 MHz	-13.30	-12.56	-13.39	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

Configuration IEEE 802.11a / Chain 1 & Chain 2 & Chain 3

Channel	Frequency	Power Density (dBm/3kHz)			Single Port Limit (dBm/3kHz)	Result
		Chain 1	Chain 2	Chain 3		
149	5745 MHz	-3.57	-5.38	-5.72	3.23	Complies
157	5785 MHz	-4.13	-5.18	-5.52	3.23	Complies
165	5825 MHz	-4.77	-4.76	-6.32	3.23	Complies

Note : PSD Limit = $8-(10\log(3))=3.23\text{dBm}/3\text{kHz}$

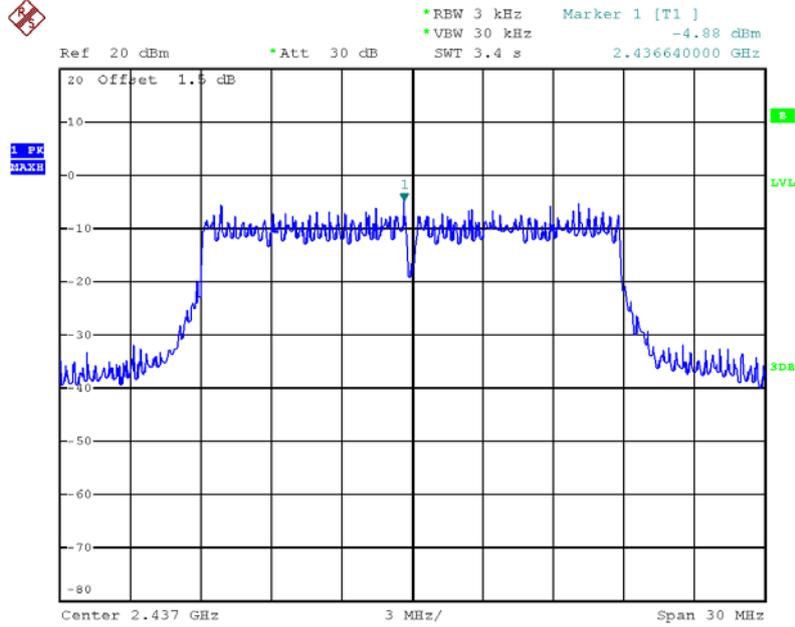
Note : All the test values were listed in the report.

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

For 2.4GHz Band:

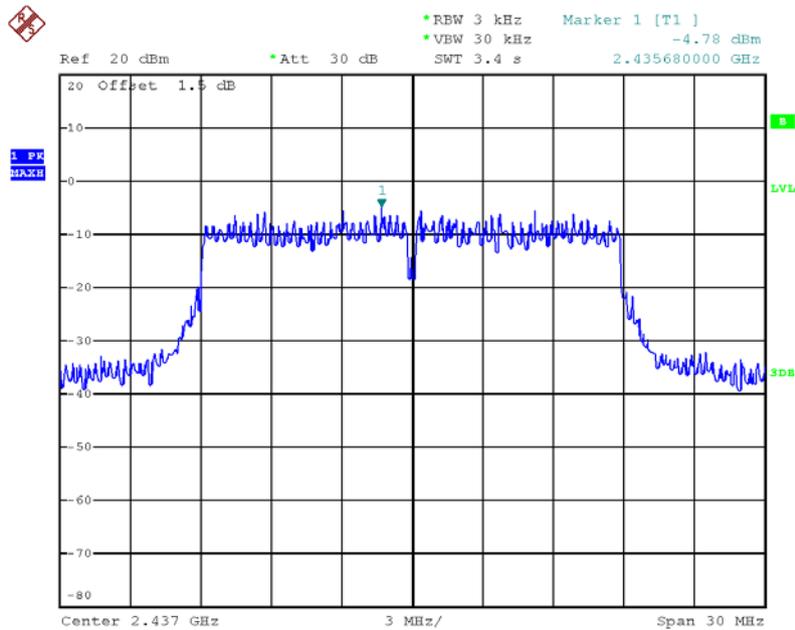
Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / 2437 MHz / Chain 1



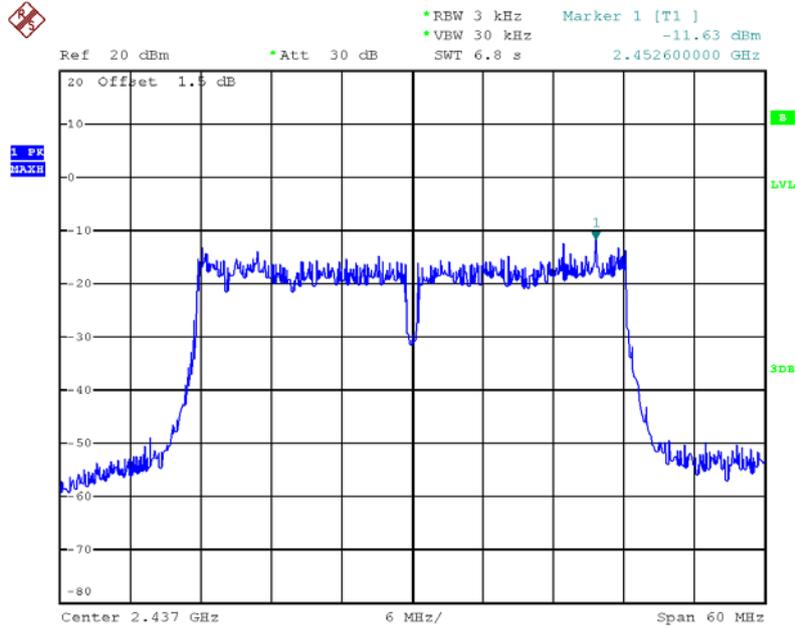
Date: 6.AUG.2013 19:46:02

Power Density Plot on Configuration IEEE 802.11n MCS16 20MHz / 2437 MHz / Chain 1



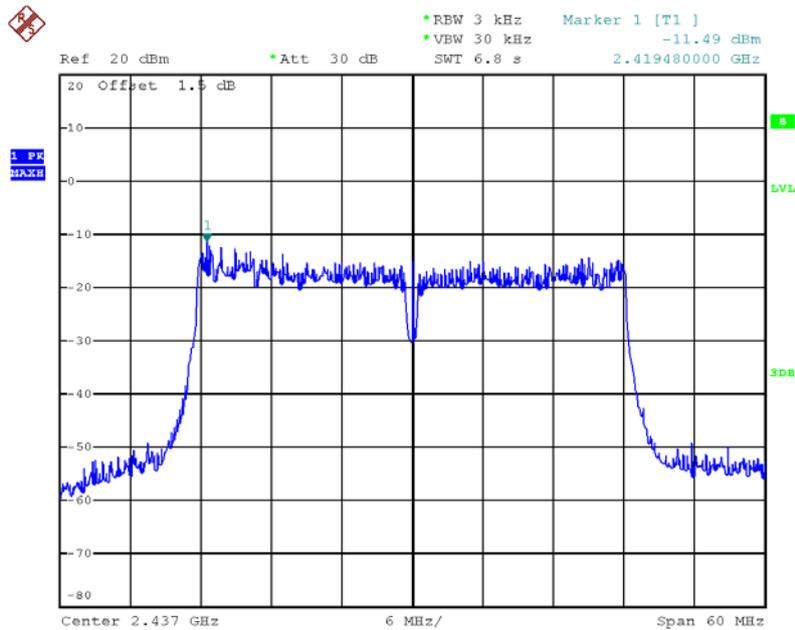
Date: 6.AUG.2013 19:54:04

Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / 2437 MHz / Chain 3



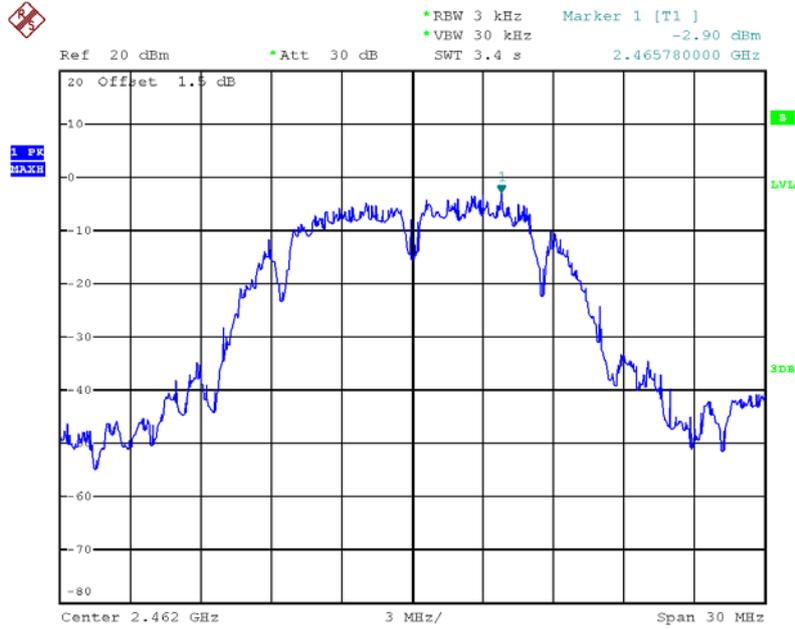
Date: 6.AUG.2013 19:37:06

Power Density Plot on Configuration IEEE 802.11n MCS16 40MHz / 2437 MHz / Chain 2



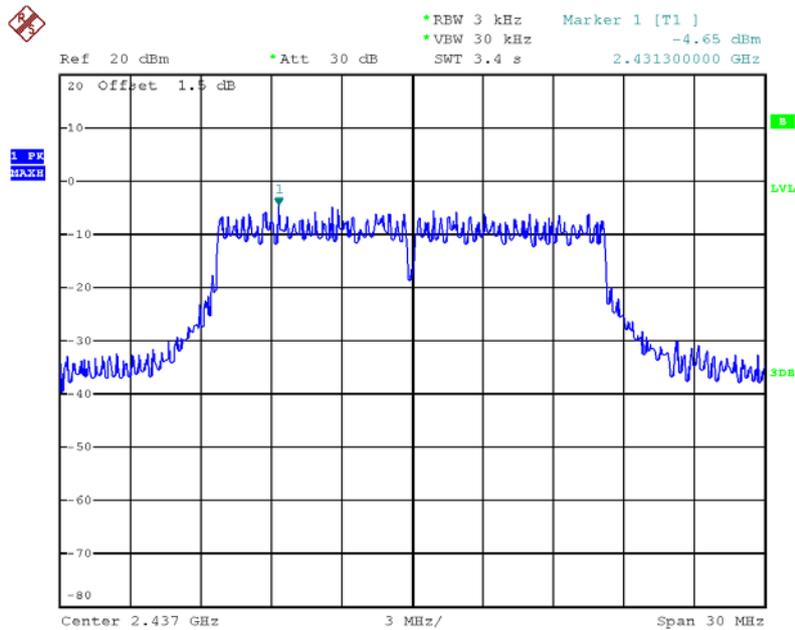
Date: 6.AUG.2013 20:09:36

Power Density Plot on Configuration IEEE 802.11b / 2462 MHz / Chain 3

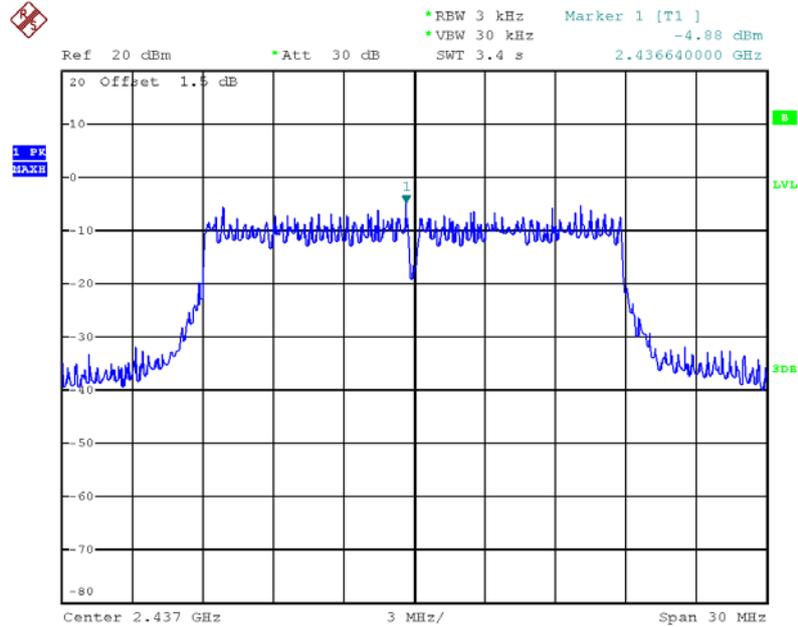


Date: 6.AUG.2013 19:28:49

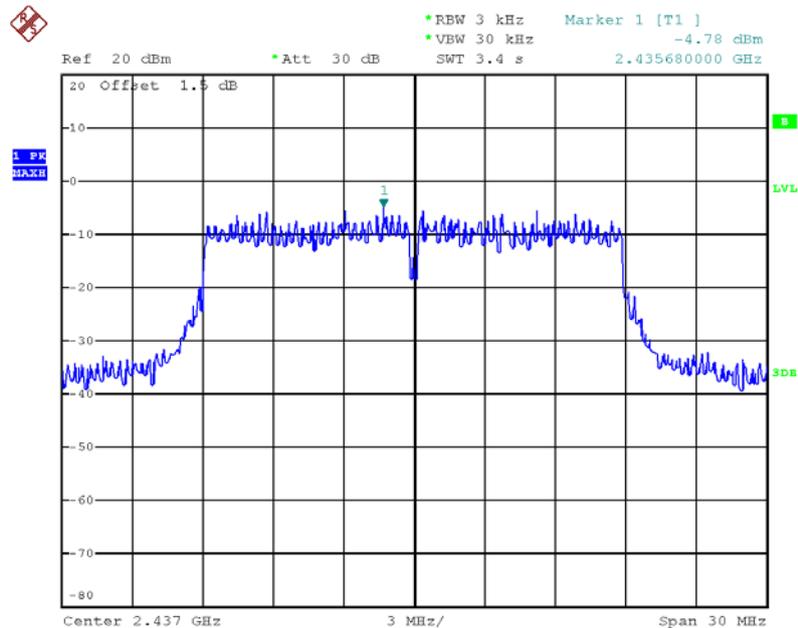
Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 3



Date: 6.AUG.2013 19:30:32

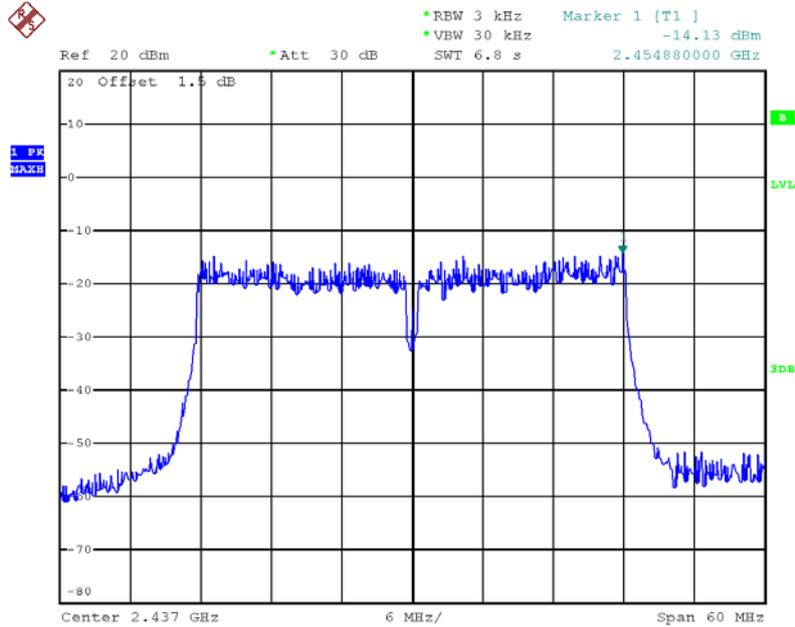
Mode 2 (Ant.2 Element antenna / 5.2dBi)**Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / 2437 MHz / Chain 1**

Date: 6.AUG.2013 19:46:02

Power Density Plot on Configuration IEEE 802.11n MCS16 20MHz / 2437 MHz / Chain 1

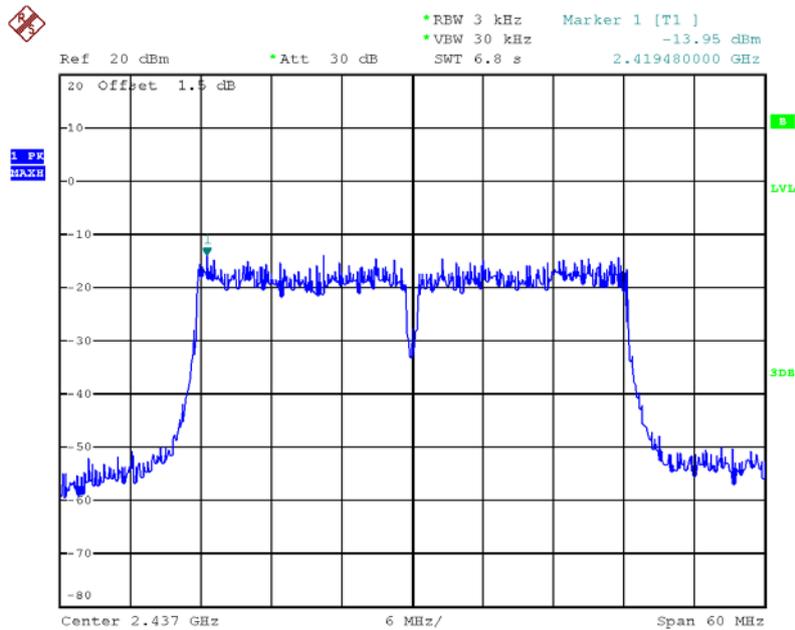
Date: 6.AUG.2013 19:54:04

Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / 2437 MHz / Chain 1



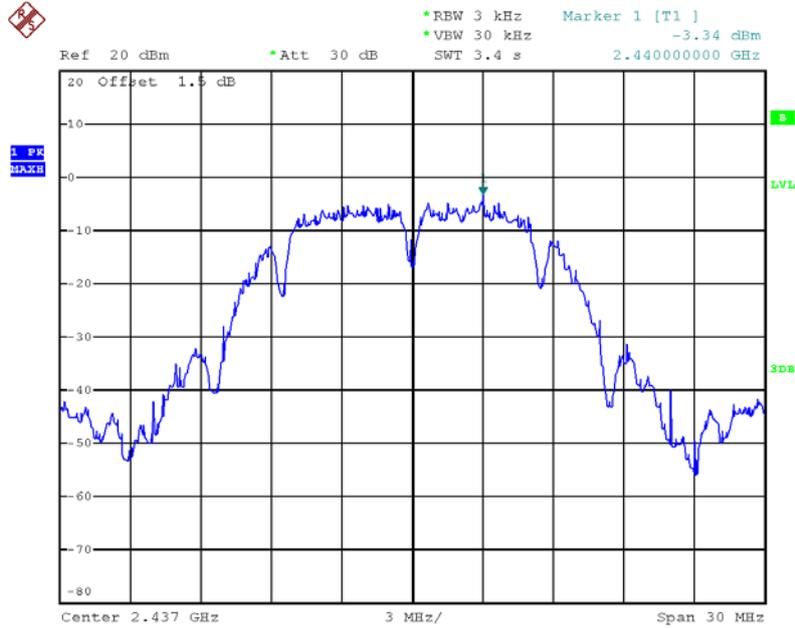
Date: 6.AUG.2013 23:09:16

Power Density Plot on Configuration IEEE 802.11n MCS16 40MHz / 2437 MHz / Chain 3



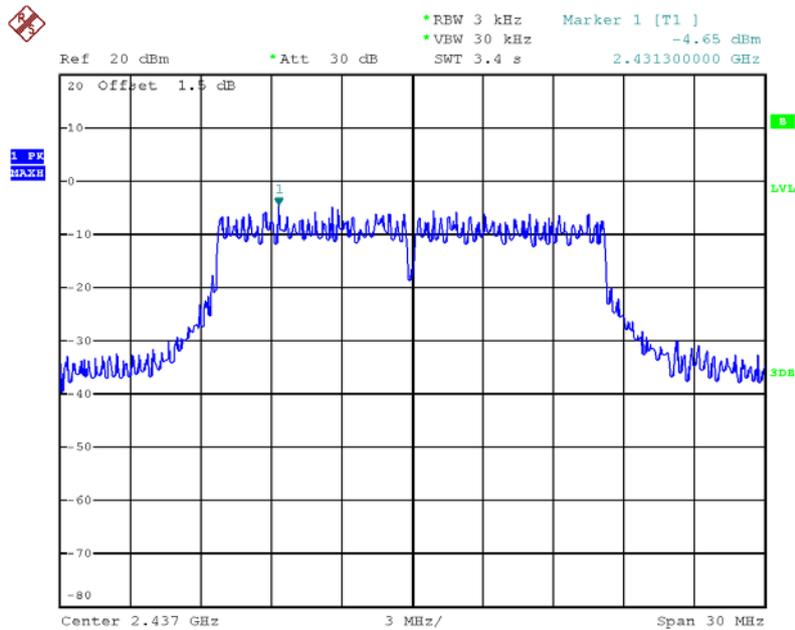
Date: 6.AUG.2013 23:18:52

Power Density Plot on Configuration IEEE 802.11b / 2437 MHz / Chain 1



Date: 6.AUG.2013 19:17:34

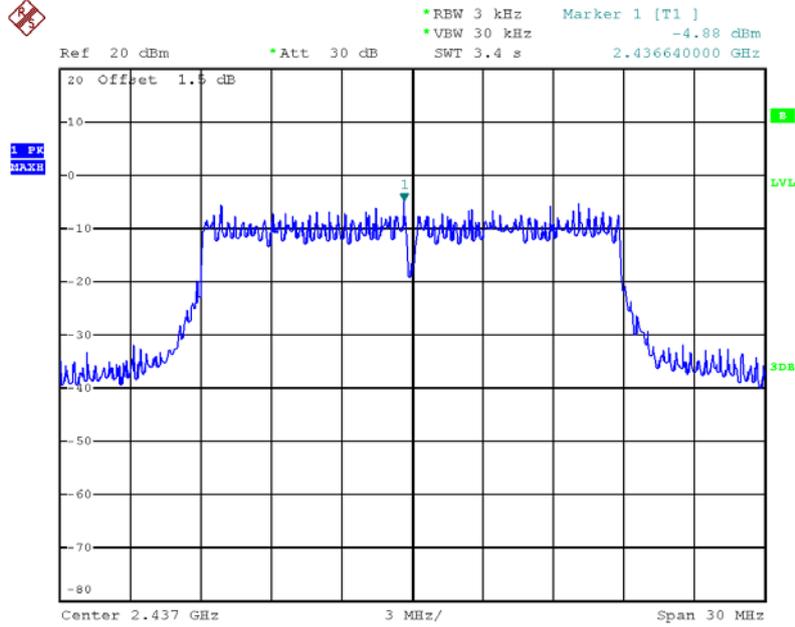
Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 3



Date: 6.AUG.2013 19:30:32

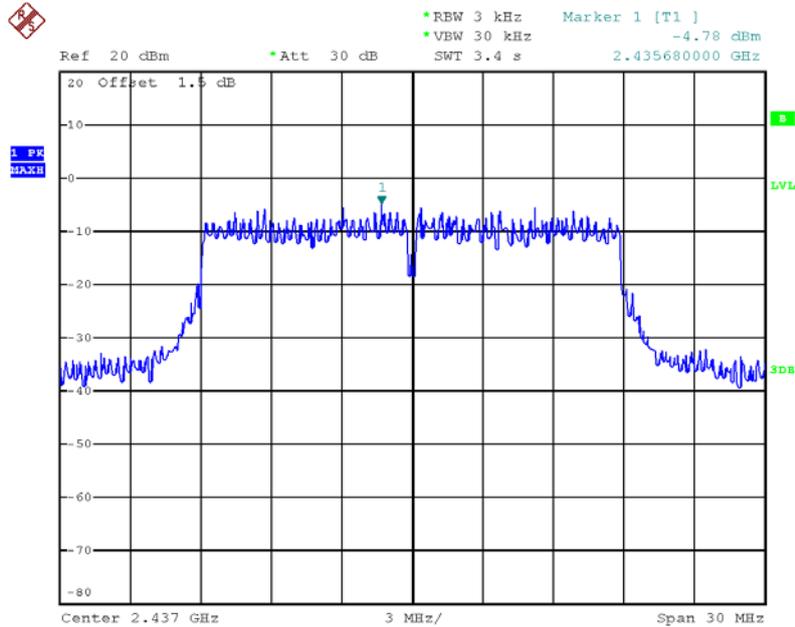
Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / 2437 MHz / Chain 1



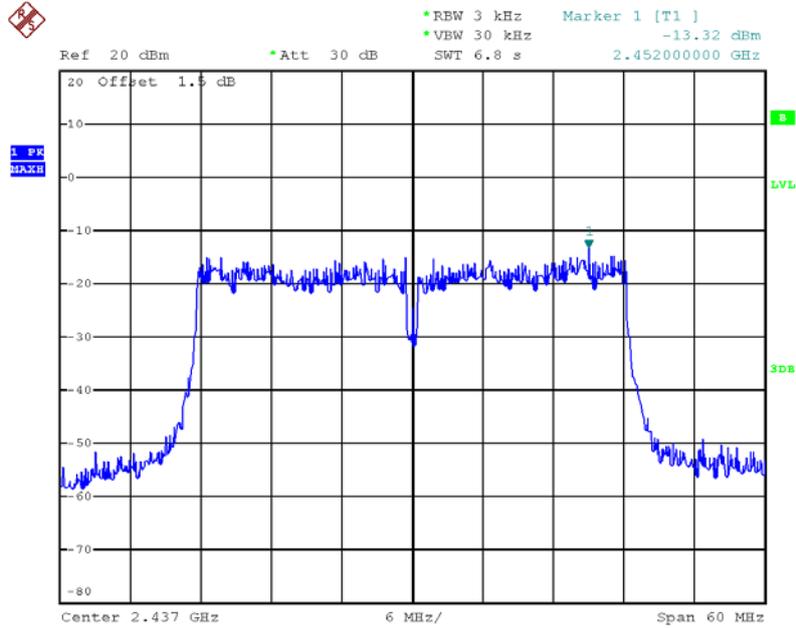
Date: 6.AUG.2013 19:46:02

Power Density Plot on Configuration IEEE 802.11n MCS16 20MHz / 2437 MHz / Chain 1



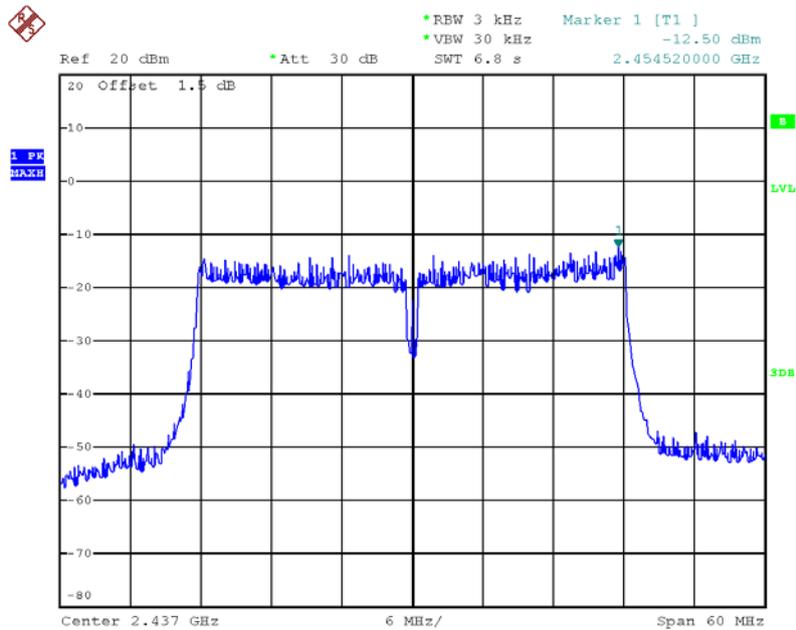
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Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / 2437 MHz / Chain 1



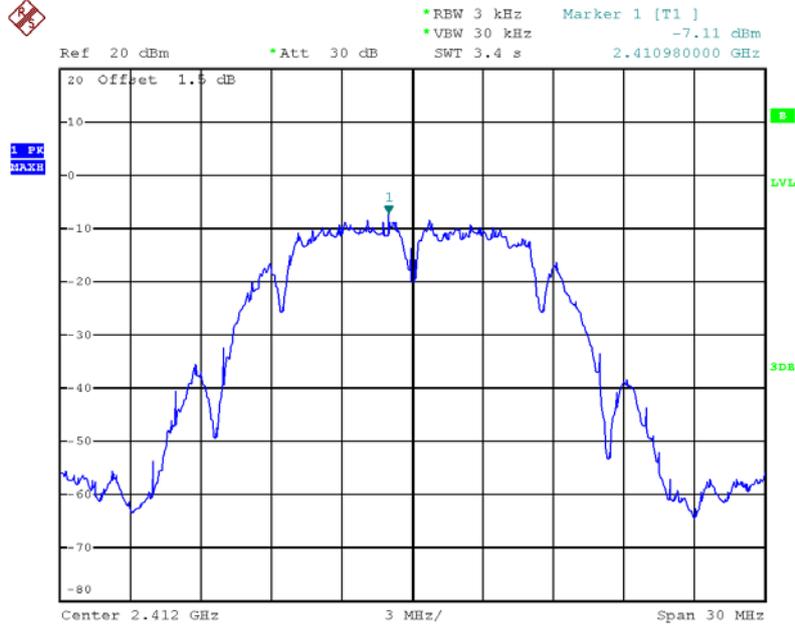
Date: 6.AUG.2013 22:12:47

Power Density Plot on Configuration IEEE 802.11n MCS16 40MHz / 2437 MHz / Chain 1



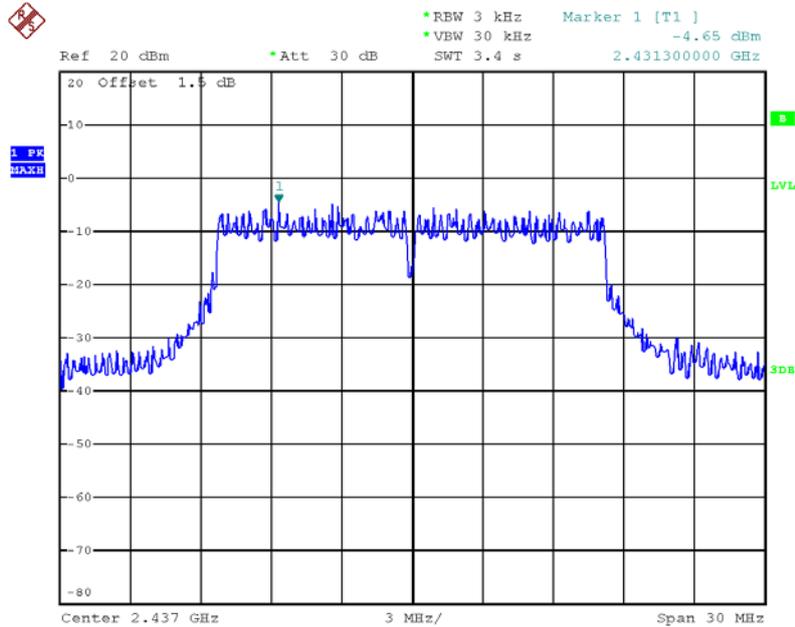
Date: 6.AUG.2013 22:36:02

Power Density Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1

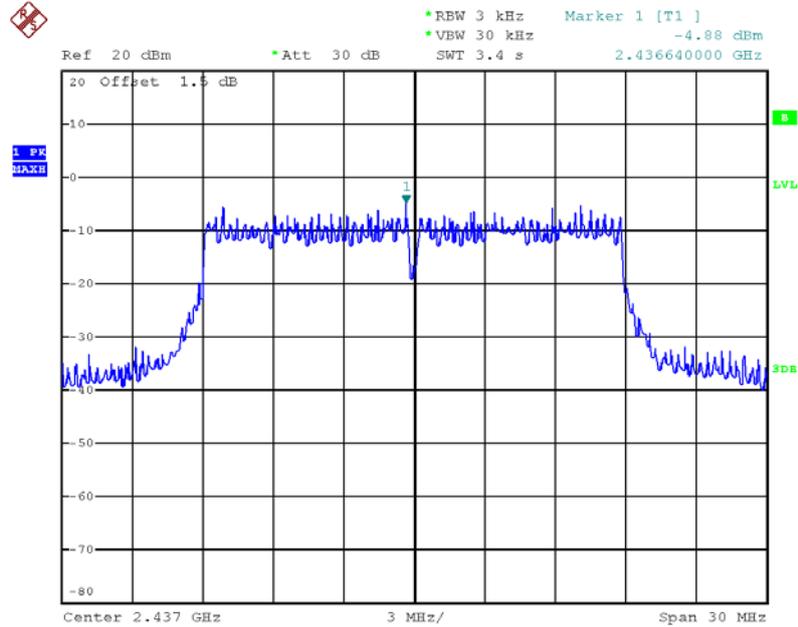


Date: 6.AUG.2013 19:05:24

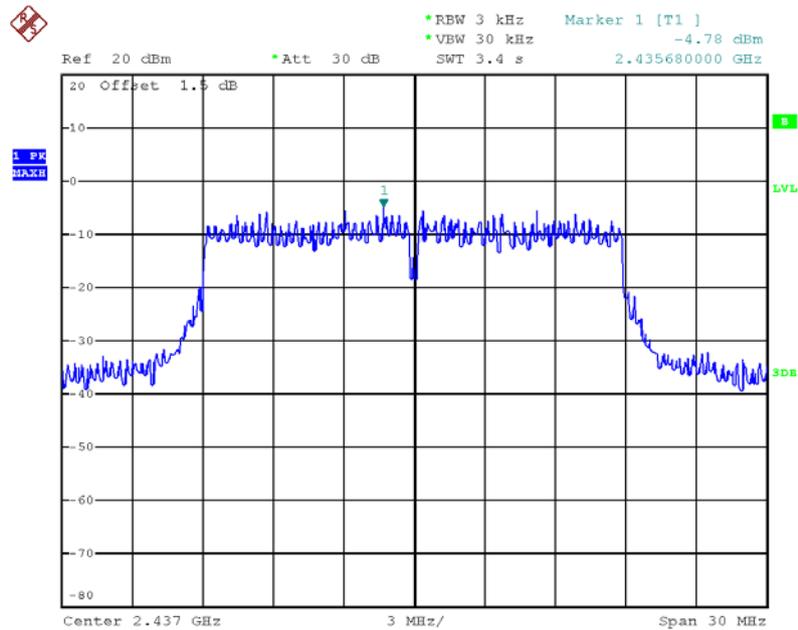
Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 3



Date: 6.AUG.2013 19:30:32

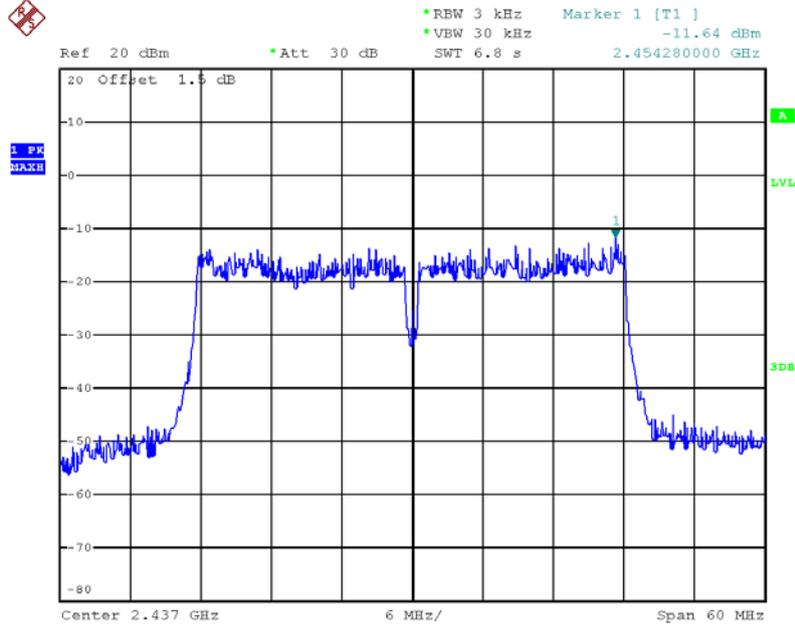
Mode 4 (Ant.5 PCB antenna / 4.94dBi)**Power Density Plot on Configuration IEEE 802.11n MCS0 20MHz / 2437 MHz / Chain 1**

Date: 6.AUG.2013 19:46:02

Power Density Plot on Configuration IEEE 802.11n MCS16 20MHz / 2437 MHz / Chain 1

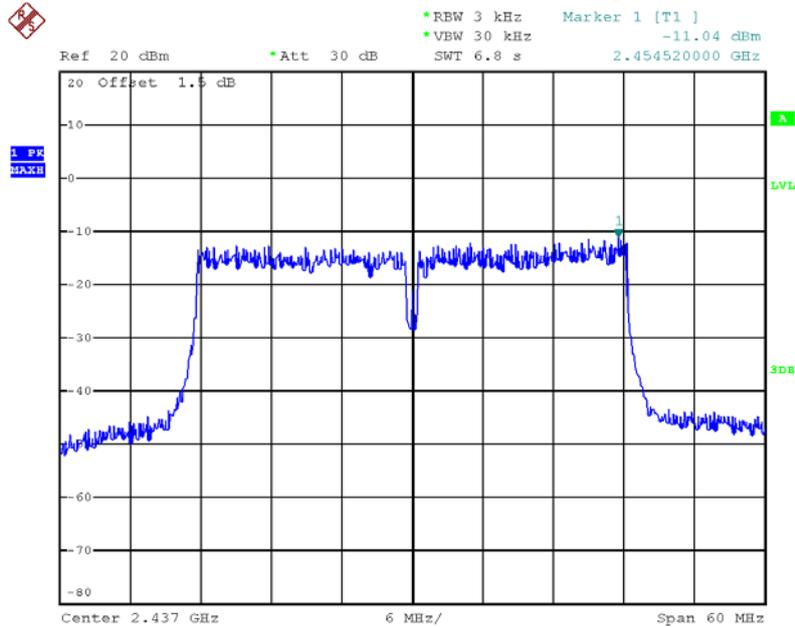
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Power Density Plot on Configuration IEEE 802.11n MCS0 40MHz / 2437 MHz / Chain 3



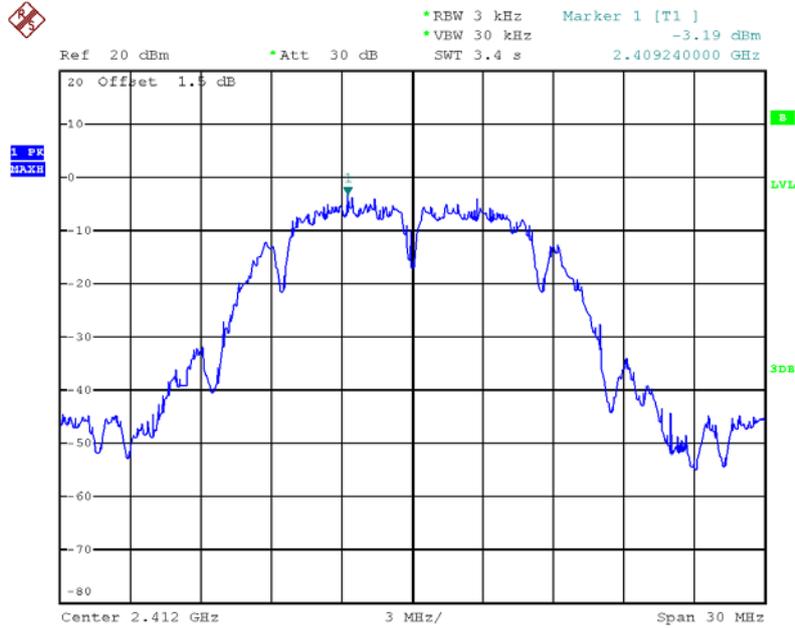
Date: 7.AUG.2013 07:43:29

Power Density Plot on Configuration IEEE 802.11n MCS16 40MHz / 2437 MHz / Chain 1



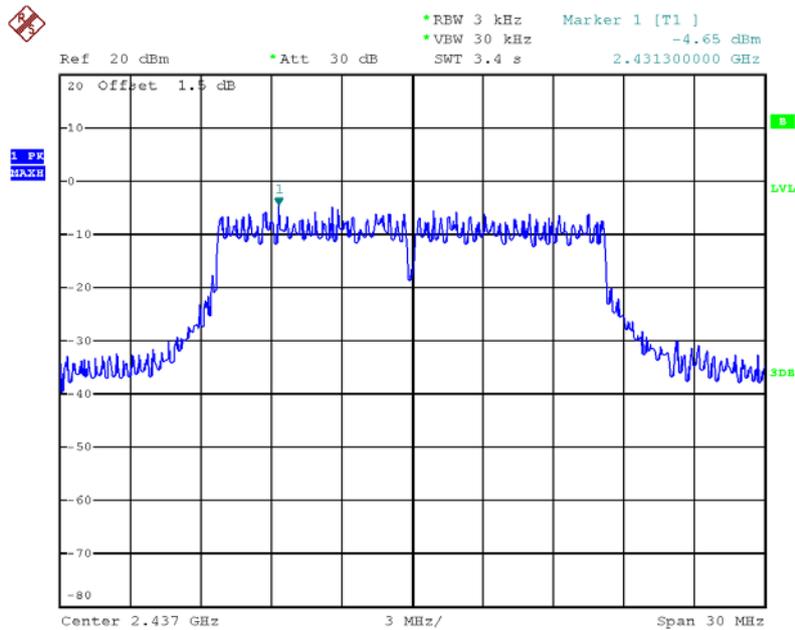
Date: 7.AUG.2013 08:11:06

Power Density Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1



Date: 6.AUG.2013 19:16:32

Power Density Plot on Configuration IEEE 802.11g / 2437 MHz / Chain 3

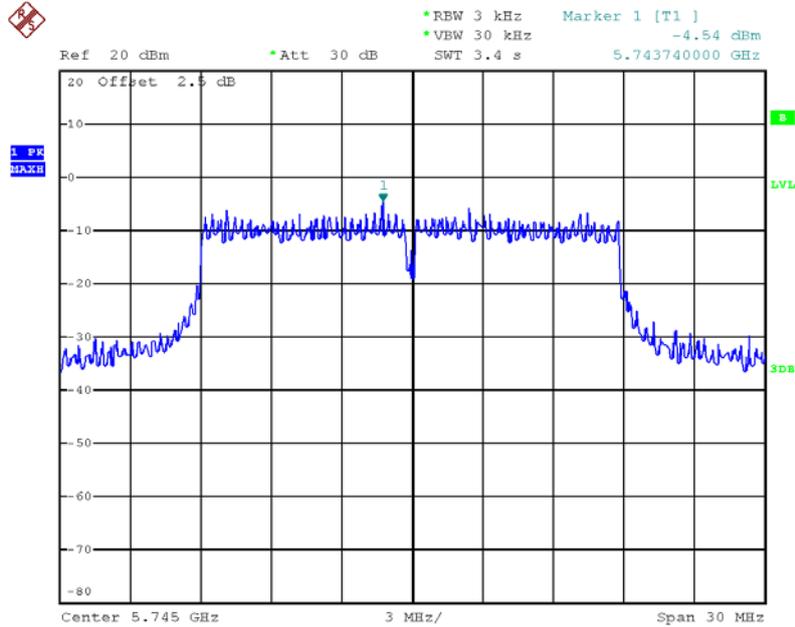


Date: 6.AUG.2013 19:30:32

For 5GHz Band:

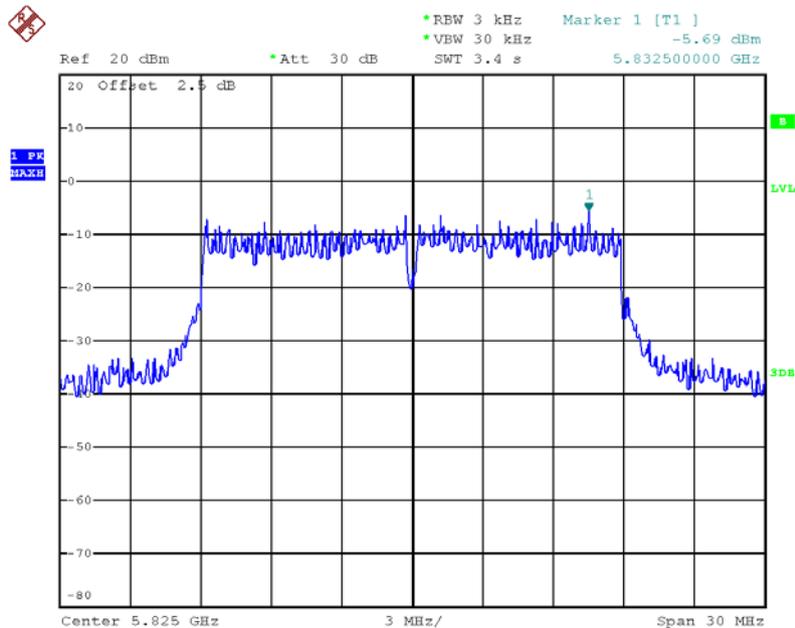
Mode 5 (Ant.1 Dipole antenna / 1dBi)

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5745 MHz / Chain 3



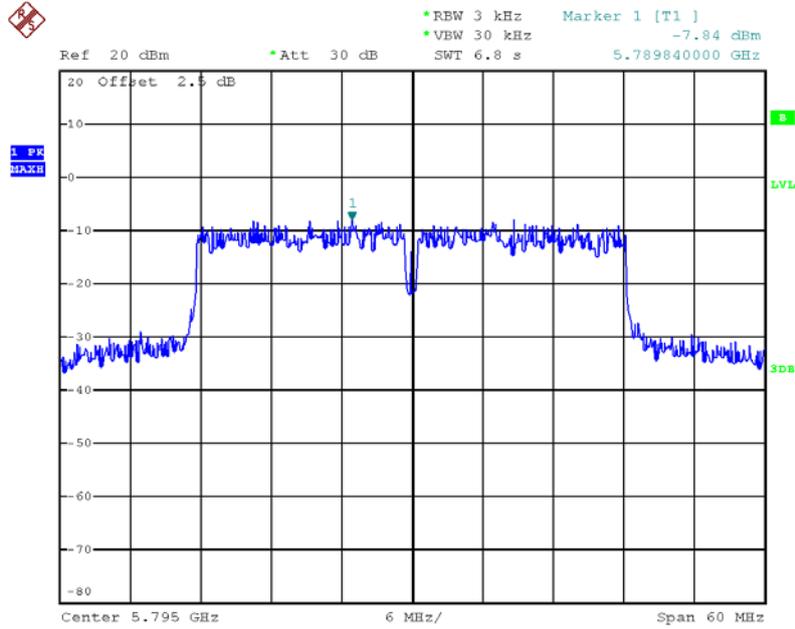
Date: 6.AUG.2013 20:33:01

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5825 MHz / Chain 3



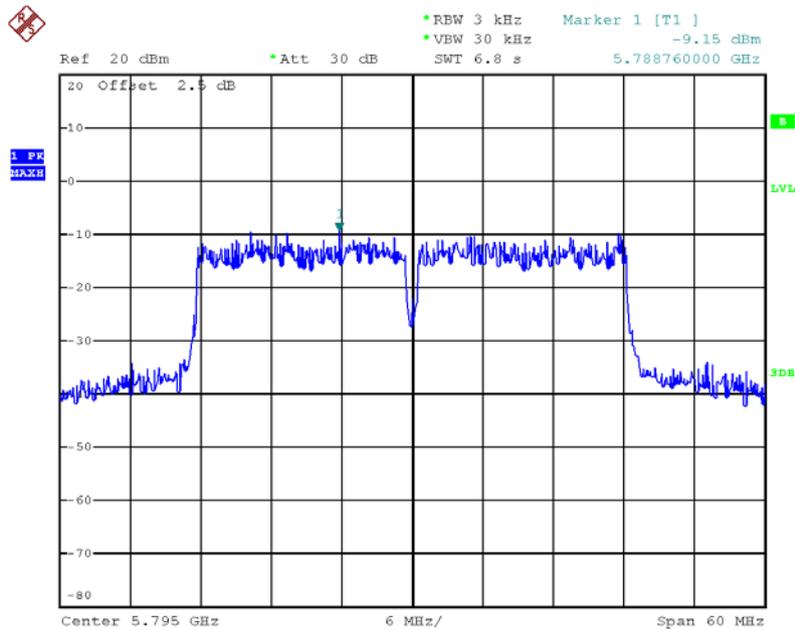
Date: 6.AUG.2013 21:30:13

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5795 MHz / Chain 1



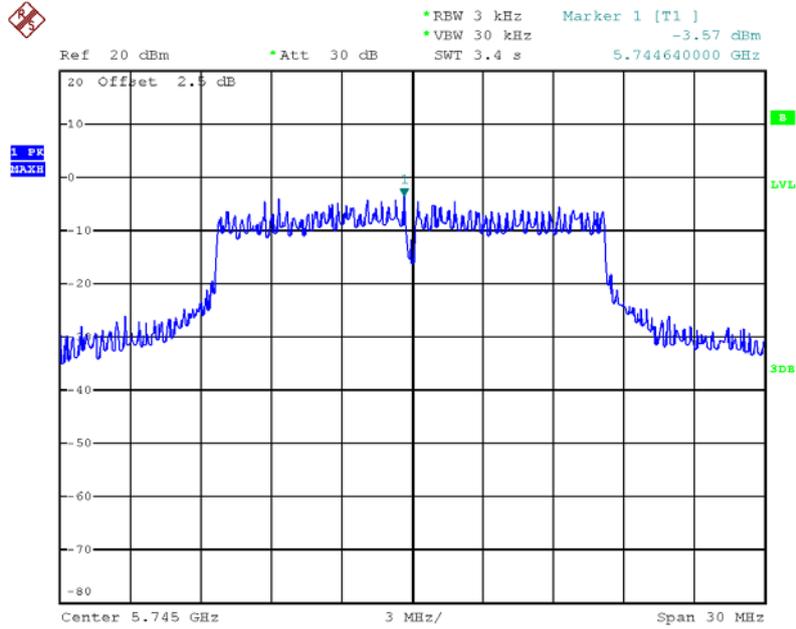
Date: 6.AUG.2013 21:09:31

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5795 MHz / Chain 2



Date: 6.AUG.2013 21:37:18

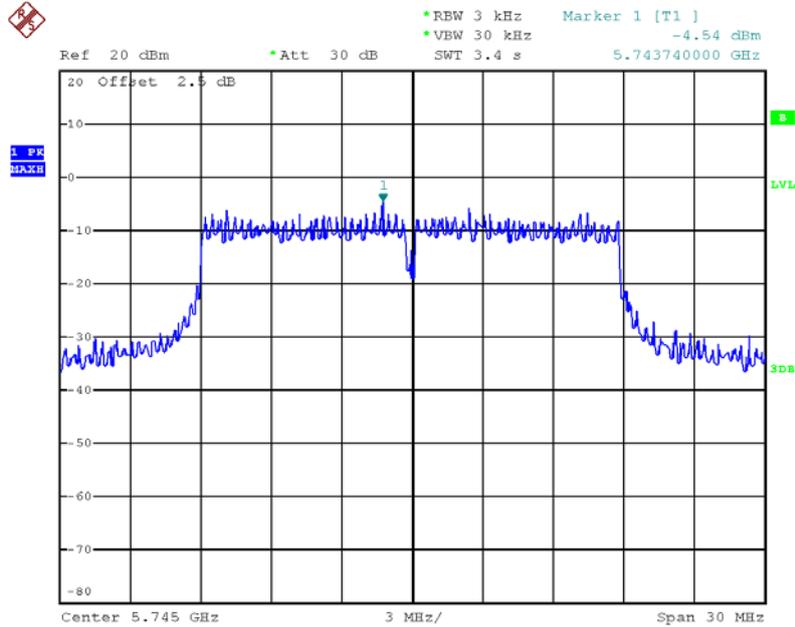
Power Density Plot on Configuration IEEE 802.11a / 5745 MHz / Chain 1



Date: 6.AUG.2013 20:24:14

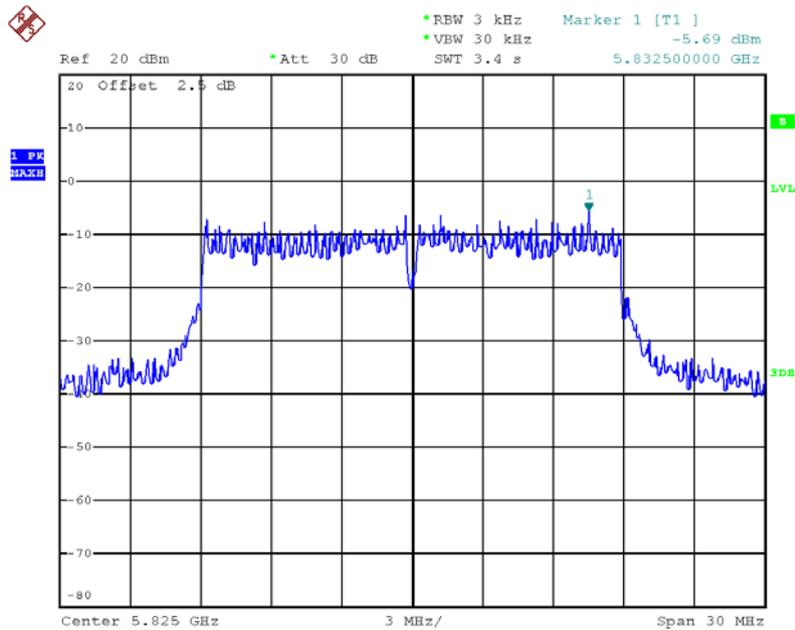
Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5745 MHz / Chain 3



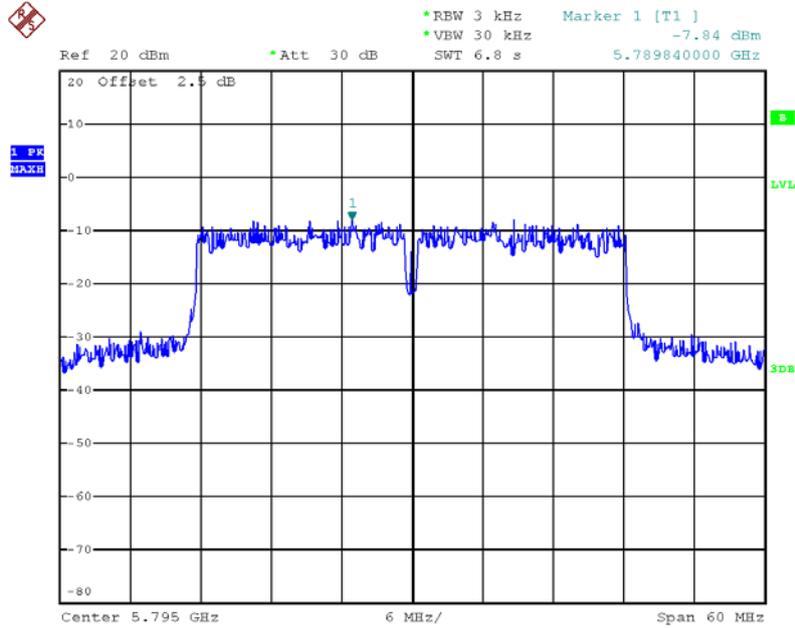
Date: 6.AUG.2013 20:33:01

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5825 MHz / Chain 3



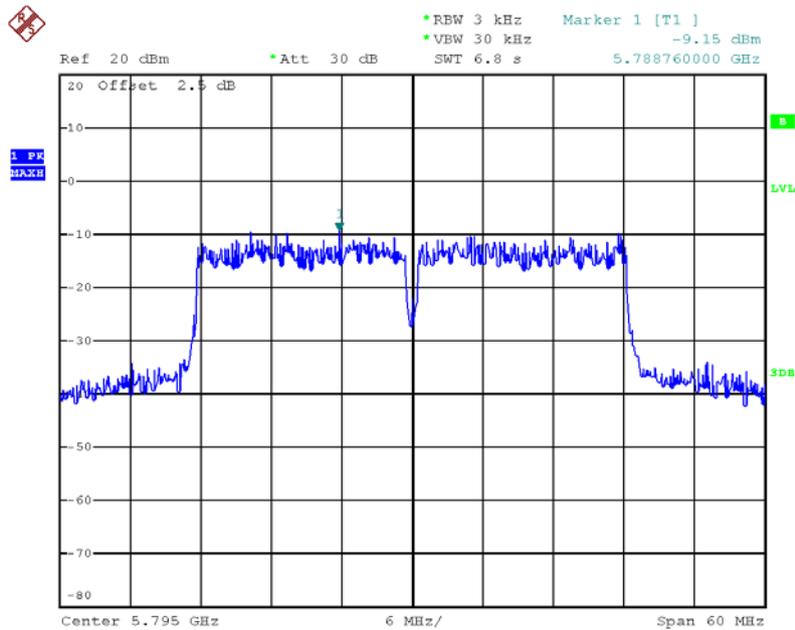
Date: 6.AUG.2013 21:30:13

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5795 MHz / Chain 1



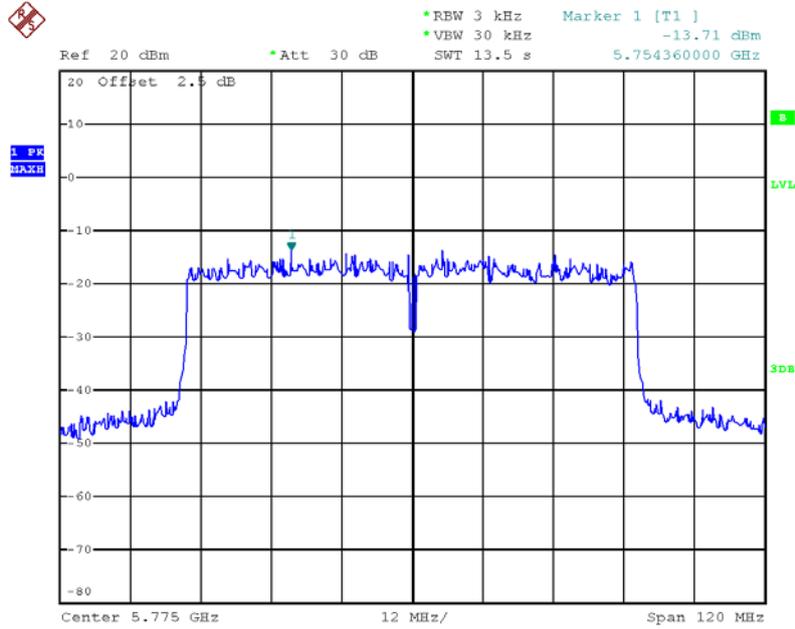
Date: 6.AUG.2013 21:09:31

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5795 MHz / Chain 2



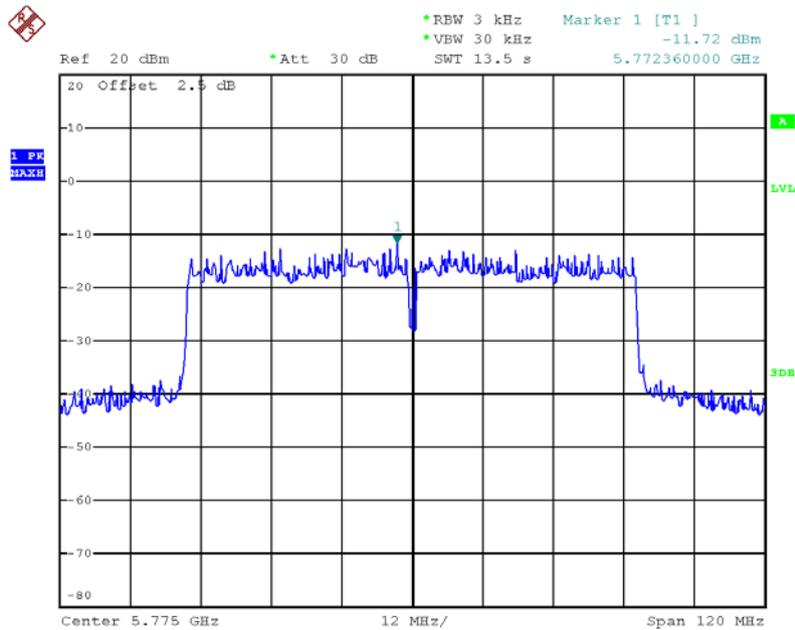
Date: 6.AUG.2013 21:37:18

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 1



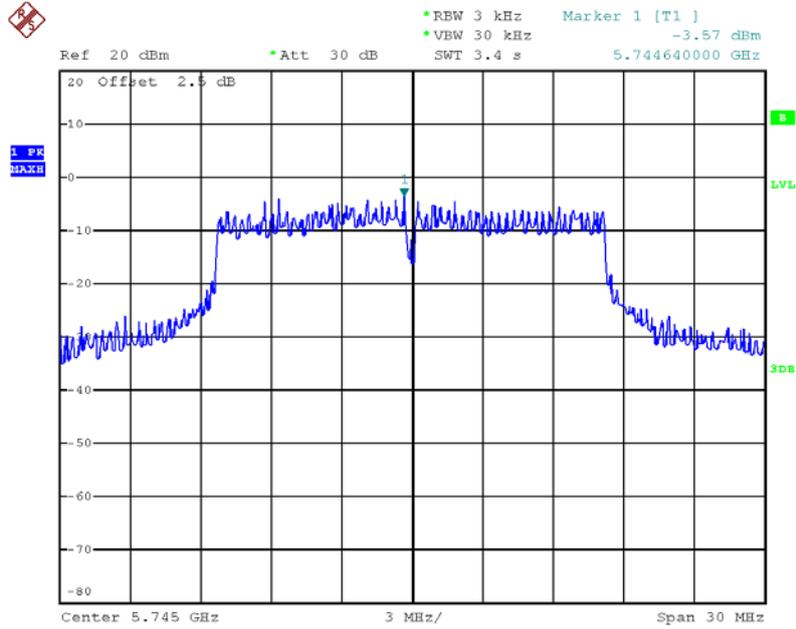
Date: 6.AUG.2013 21:12:44

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 3



Date: 7.AUG.2013 08:48:29

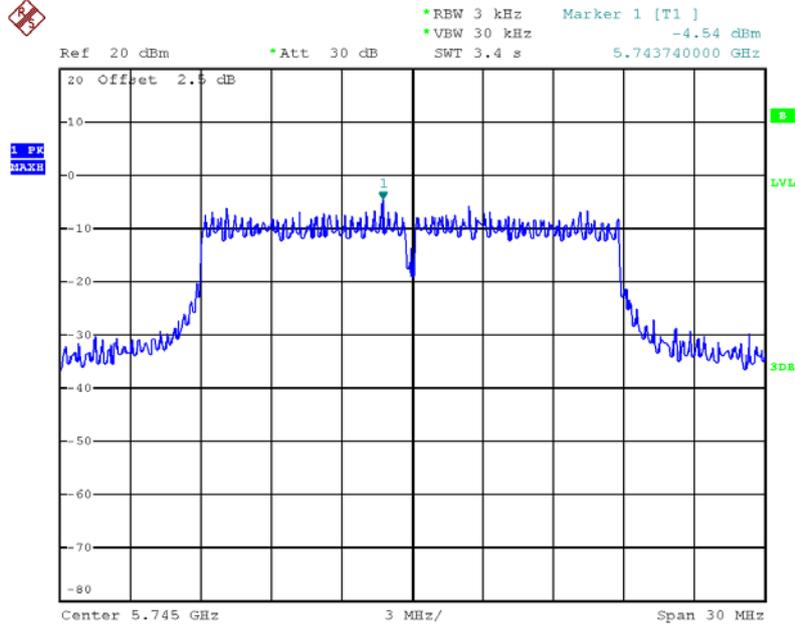
Power Density Plot on Configuration IEEE 802.11a / 5745 MHz / Chain 1



Date: 6.AUG.2013 20:24:14

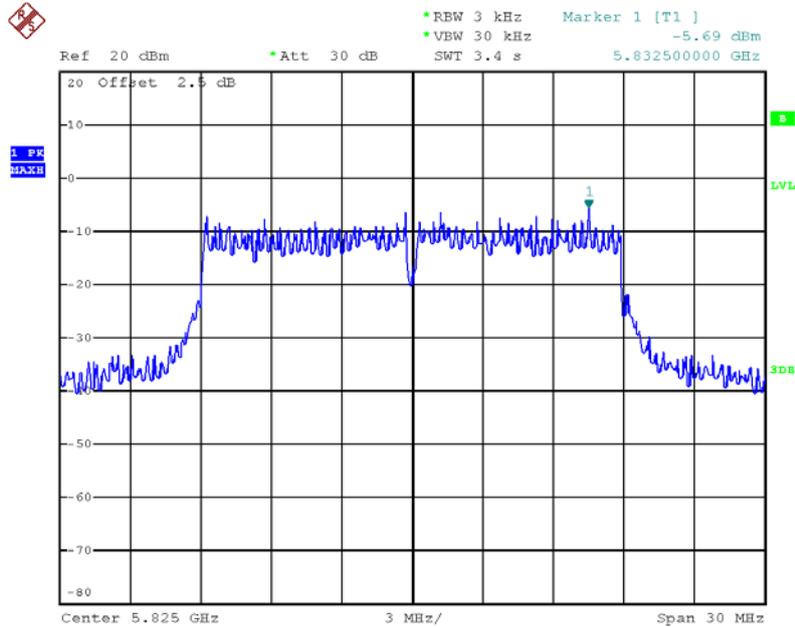
Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5745 MHz / Chain 3



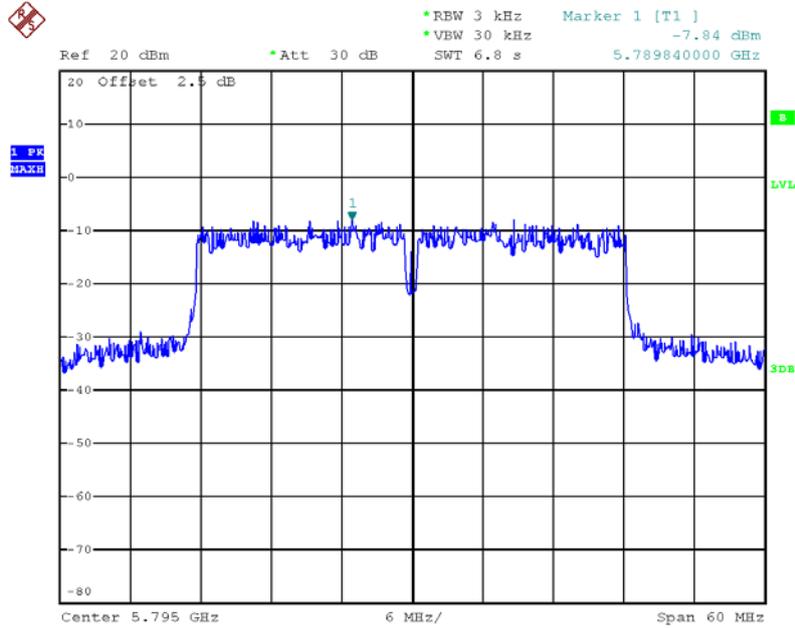
Date: 6.AUG.2013 20:33:01

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5825 MHz / Chain 3



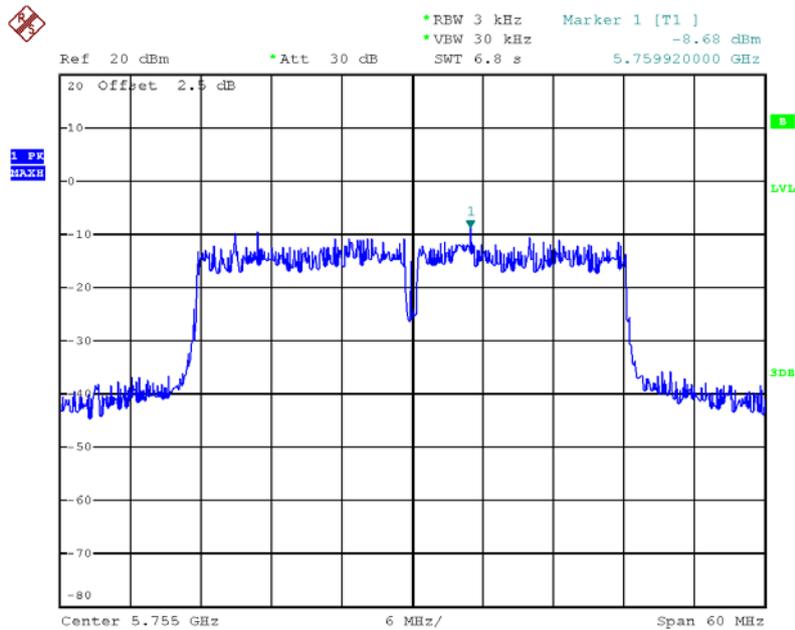
Date: 6.AUG.2013 21:30:13

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5795 MHz / Chain 1



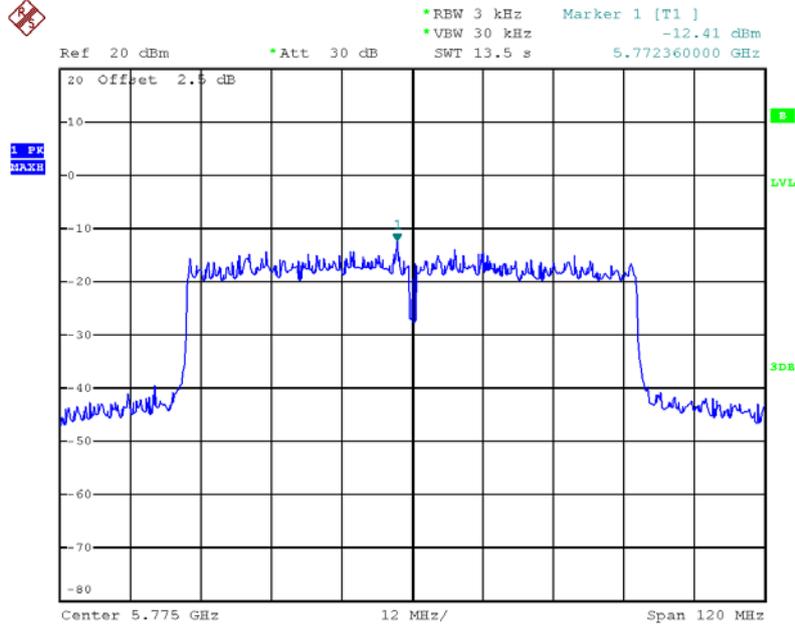
Date: 6.AUG.2013 21:09:31

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5755 MHz / Chain 1



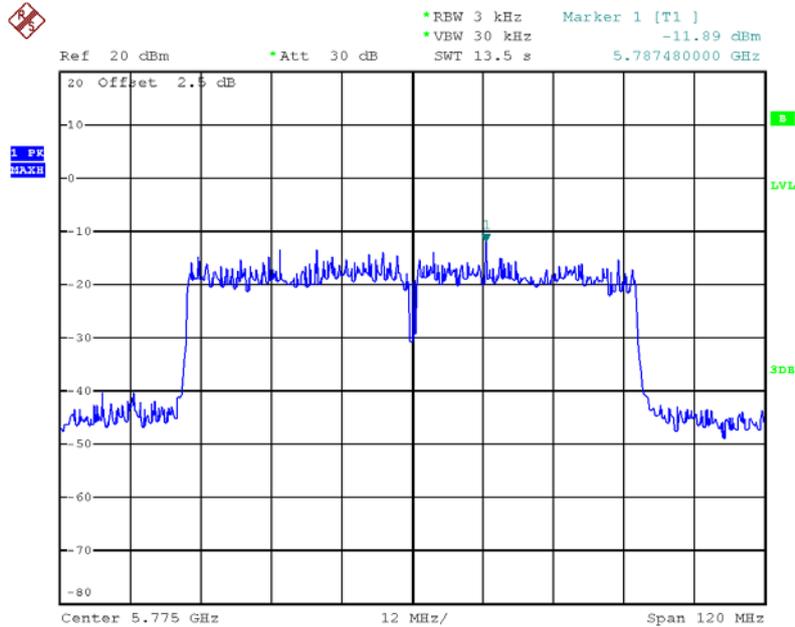
Date: 6.AUG.2013 22:41:27

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 2



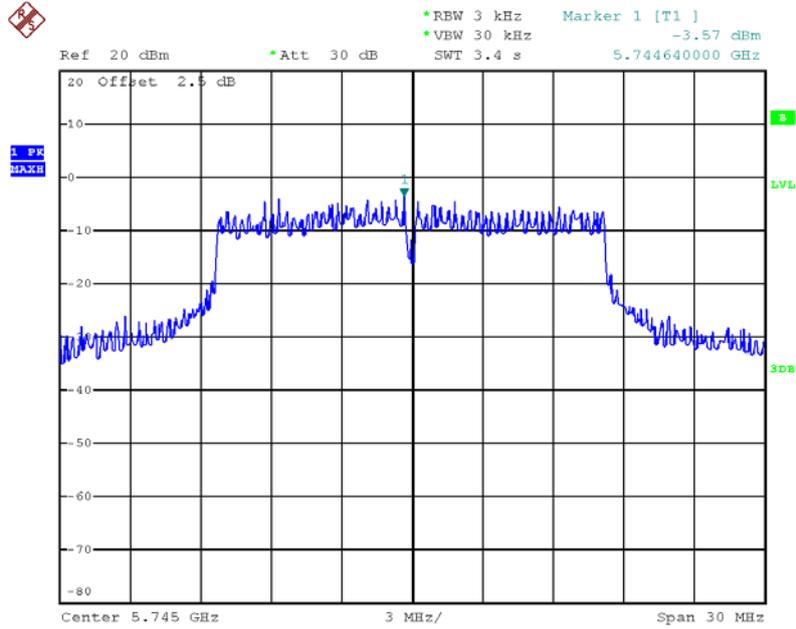
Date: 6.AUG.2013 22:23:07

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 3



Date: 6.AUG.2013 22:44:58

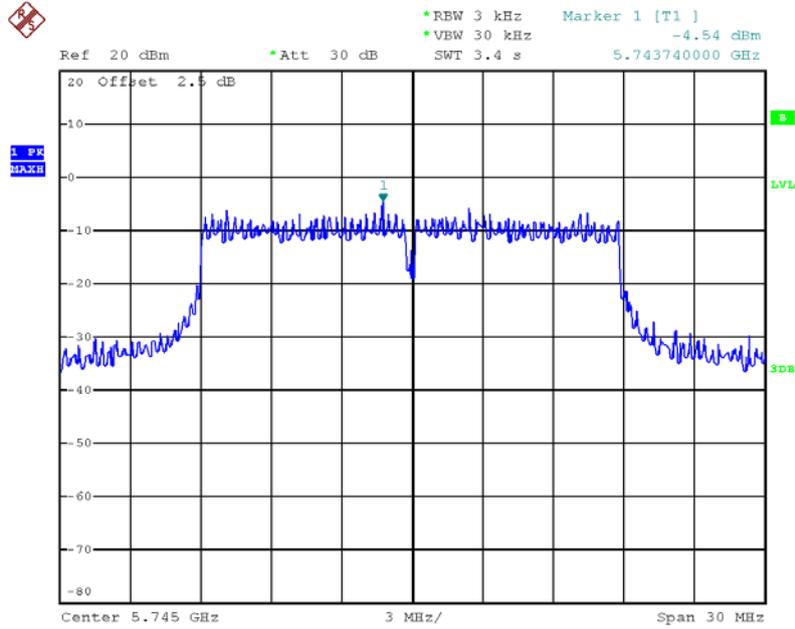
Power Density Plot on Configuration IEEE 802.11a / 5745 MHz / Chain 1



Date: 6.AUG.2013 20:24:14

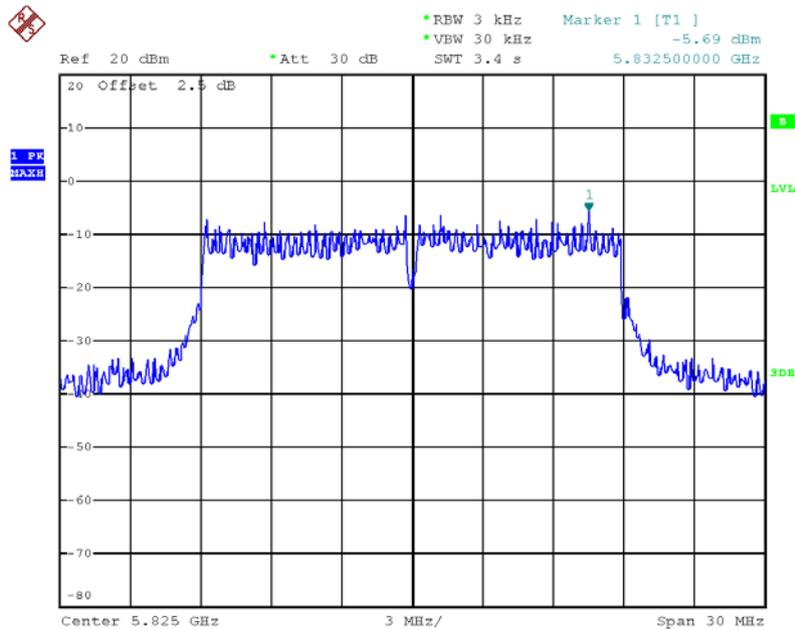
Mode 8 (Ant.5 PCB antenna / 5.74dBi)

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5745 MHz / Chain 3



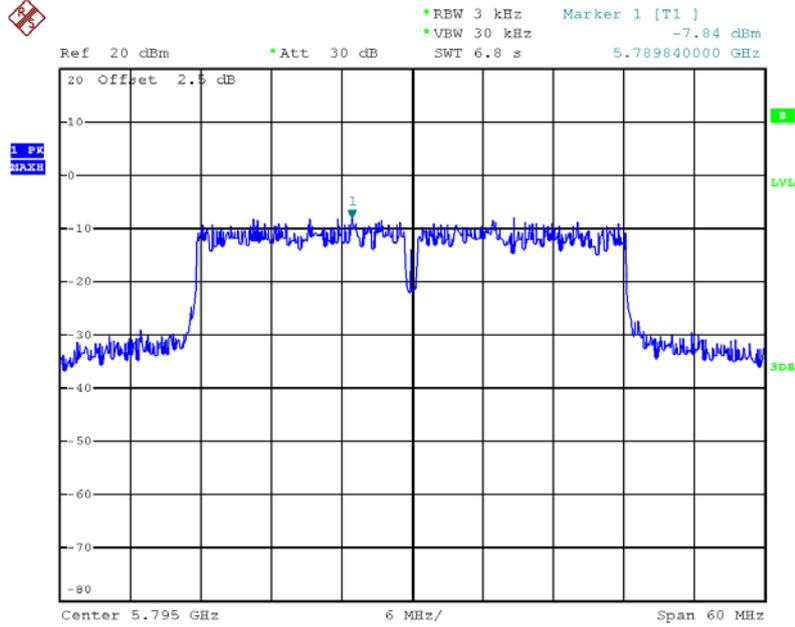
Date: 6.AUG.2013 20:33:01

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5825 MHz / Chain 3



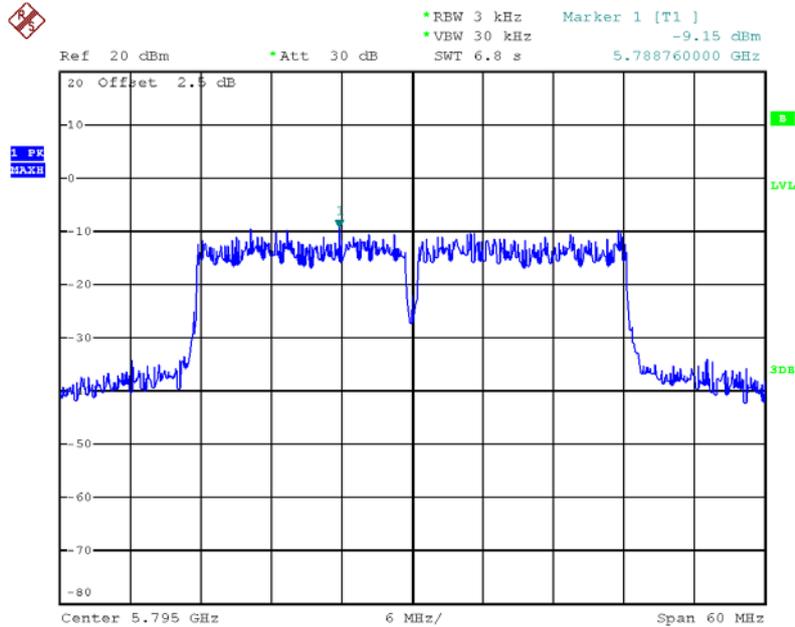
Date: 6.AUG.2013 21:30:13

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5795 MHz / Chain 1



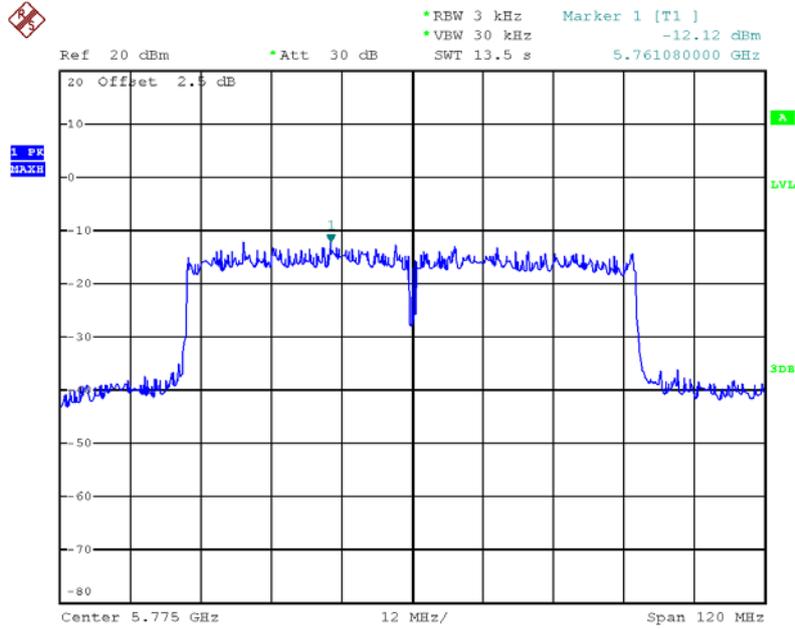
Date: 6.AUG.2013 21:09:31

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5795 MHz / Chain 2



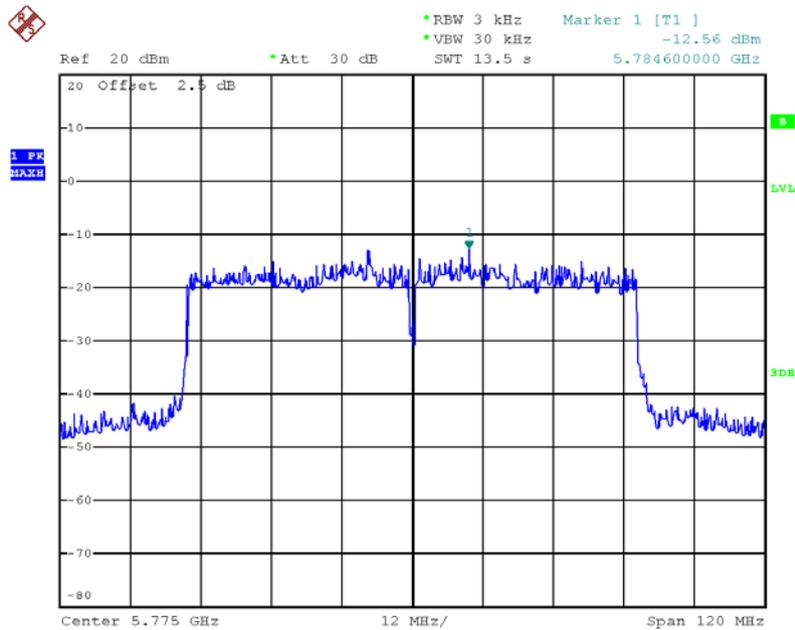
Date: 6.AUG.2013 21:37:18

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 1



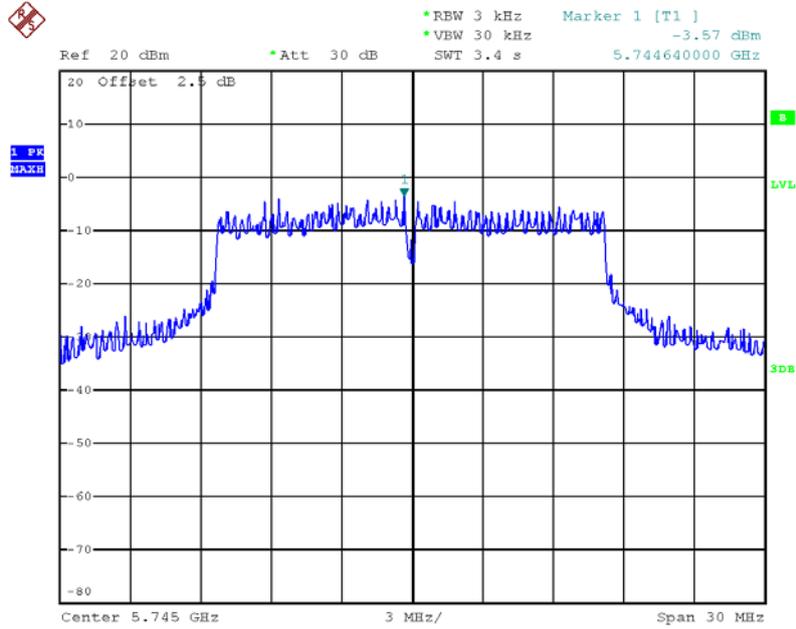
Date: 7.AUG.2013 07:48:22

Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 2



Date: 6.AUG.2013 21:39:50

Power Density Plot on Configuration IEEE 802.11a / 5745 MHz / Chain 1



Date: 6.AUG.2013 20:24:14

4.4. 6dB Spectrum Bandwidth Measurement

4.4.1. Limit

For digital modulation systems, the minimum 6dB bandwidth shall be at least 500 kHz.

4.4.2. Measuring Instruments and Setting

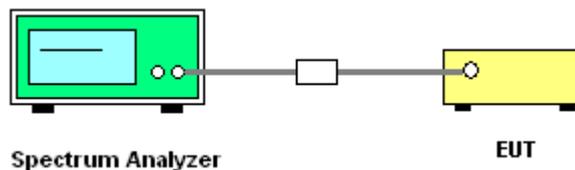
Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer.

Spectrum Parameters	Setting
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	$\geq 3 \times \text{RBW}$
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB 558074 D01 v03r01 for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 section 8.0 DTS 6-dB signal bandwidth option 1.
3. Multiple antenna system was performed in accordance with KDB 662911 D01 v02 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

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 6dB Spectrum Bandwidth

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)		

For 2.4GHz Band

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	15.44	17.44	500	Complies
6	2437 MHz	15.60	17.68	500	Complies
11	2462 MHz	16.00	17.44	500	Complies

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	17.12	17.68	500	Complies
6	2437 MHz	17.76	17.84	500	Complies
11	2462 MHz	17.60	17.68	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	33.28	35.84	500	Complies
6	2437 MHz	35.20	36.16	500	Complies
9	2452 MHz	35.36	36.16	500	Complies

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	26.40	36.32	500	Complies
6	2437 MHz	36.00	36.48	500	Complies
9	2452 MHz	26.72	36.32	500	Complies

Configuration IEEE 802.11b / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.08	13.20	500	Complies
6	2437 MHz	10.16	13.44	500	Complies
11	2462 MHz	10.08	13.36	500	Complies

Configuration IEEE 802.11g / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.80	16.48	500	Complies
6	2437 MHz	13.28	17.04	500	Complies
11	2462 MHz	14.40	16.48	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)		

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	15.92	17.28	500	Complies
6	2437 MHz	15.60	17.68	500	Complies
11	2462 MHz	15.44	17.36	500	Complies

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	17.76	17.68	500	Complies
6	2437 MHz	17.76	17.84	500	Complies
11	2462 MHz	17.68	17.68	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	30.08	36.16	500	Complies
6	2437 MHz	36.00	36.32	500	Complies
9	2452 MHz	35.52	36.00	500	Complies

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	28.96	36.32	500	Complies
6	2437 MHz	36.16	36.48	500	Complies
9	2452 MHz	35.68	36.32	500	Complies

Configuration IEEE 802.11b / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.80	13.12	500	Complies
6	2437 MHz	10.16	13.44	500	Complies
11	2462 MHz	10.08	13.28	500	Complies

Configuration IEEE 802.11g / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.80	16.40	500	Complies
6	2437 MHz	13.28	17.04	500	Complies
11	2462 MHz	14.40	16.48	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1 dBi)		

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	15.92	17.28	500	Complies
6	2437 MHz	15.60	17.68	500	Complies
11	2462 MHz	16.00	17.44	500	Complies

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	16.32	17.68	500	Complies
6	2437 MHz	17.76	17.84	500	Complies
11	2462 MHz	16.32	17.68	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	30.08	36.16	500	Complies
6	2437 MHz	35.36	36.16	500	Complies
9	2452 MHz	32.96	36.16	500	Complies

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	32.96	36.16	500	Complies
6	2437 MHz	36.16	36.48	500	Complies
9	2452 MHz	33.28	36.32	500	Complies

Configuration IEEE 802.11b / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.08	13.20	500	Complies
6	2437 MHz	10.16	13.20	500	Complies
11	2462 MHz	10.08	13.04	500	Complies

Configuration IEEE 802.11g / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.80	16.40	500	Complies
6	2437 MHz	13.28	17.04	500	Complies
11	2462 MHz	14.48	16.48	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11b/g/n
Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)		

For 2.4GHz Band
Configuration IEEE 802.11n MCS0 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	13.84	17.36	500	Complies
6	2437 MHz	15.60	17.68	500	Complies
11	2462 MHz	15.36	17.36	500	Complies

Configuration IEEE 802.11n MCS16 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	17.60	17.68	500	Complies
6	2437 MHz	17.76	17.84	500	Complies
11	2462 MHz	16.24	17.68	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	32.64	36.00	500	Complies
6	2437 MHz	31.36	36.16	500	Complies
9	2452 MHz	35.20	36.16	500	Complies

Configuration IEEE 802.11n MCS16 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
3	2422 MHz	32.64	36.16	500	Complies
6	2437 MHz	36.16	36.48	500	Complies
9	2452 MHz	35.84	36.32	500	Complies

Configuration IEEE 802.11b / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.08	13.20	500	Complies
6	2437 MHz	10.16	13.44	500	Complies
11	2462 MHz	10.08	13.36	500	Complies

Configuration IEEE 802.11g / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
1	2412 MHz	10.72	16.40	500	Complies
6	2437 MHz	13.28	17.04	500	Complies
11	2462 MHz	10.88	16.48	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	13.52	18.88	500	Complies
157	5785 MHz	13.60	19.28	500	Complies
165	5825 MHz	11.28	18.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	15.04	17.84	500	Complies
157	5785 MHz	17.52	17.84	500	Complies
165	5825 MHz	17.52	17.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	33.12	36.16	500	Complies
159	5795 MHz	33.76	36.64	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.84	36.48	500	Complies
159	5795 MHz	35.52	36.48	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	71.04	75.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	72.64	75.84	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	14.48	20.88	500	Complies
157	5785 MHz	10.72	20.64	500	Complies
165	5825 MHz	10.80	20.08	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	13.52	18.88	500	Complies
157	5785 MHz	13.60	19.28	500	Complies
165	5825 MHz	11.28	18.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	15.04	17.84	500	Complies
157	5785 MHz	17.52	17.84	500	Complies
165	5825 MHz	17.52	17.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	31.36	36.16	500	Complies
159	5795 MHz	33.76	36.64	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.52	36.48	500	Complies
159	5795 MHz	35.52	36.48	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	71.04	75.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	72.64	76.16	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	14.48	20.88	500	Complies
157	5785 MHz	10.72	20.64	500	Complies
165	5825 MHz	10.80	20.08	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	13.52	18.88	500	Complies
157	5785 MHz	13.60	19.28	500	Complies
165	5825 MHz	11.28	18.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	15.04	17.84	500	Complies
157	5785 MHz	17.52	17.84	500	Complies
165	5825 MHz	17.52	17.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	33.92	36.32	500	Complies
159	5795 MHz	33.76	36.64	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.36	36.48	500	Complies
159	5795 MHz	35.52	36.48	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	73.92	76.16	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	72.64	76.16	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	14.48	20.88	500	Complies
157	5785 MHz	10.72	20.64	500	Complies
165	5825 MHz	10.80	20.08	500	Complies

Temperature	25°C	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a/ac
Test Mode	Mode 8 (Ant.5 PCB antenna / 5.74dBi)		

For 5GHz Band
Configuration IEEE 802.11ac MCS0/Nss1 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	13.52	18.88	500	Complies
157	5785 MHz	13.60	19.28	500	Complies
165	5825 MHz	11.28	18.56	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 20MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	15.04	17.84	500	Complies
157	5785 MHz	17.52	17.84	500	Complies
165	5825 MHz	17.52	17.84	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	33.92	36.32	500	Complies
159	5795 MHz	33.76	36.64	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 40MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
151	5755 MHz	35.84	36.48	500	Complies
159	5795 MHz	35.52	36.48	500	Complies

Configuration IEEE 802.11ac MCS0/Nss1 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	71.04	75.52	500	Complies

Configuration IEEE 802.11ac MCS0/Nss3 80MHz / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
155	5775 MHz	72.64	75.84	500	Complies

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

Channel	Frequency	6dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	Min. Limit (kHz)	Test Result
149	5745 MHz	14.48	20.88	500	Complies
157	5785 MHz	10.72	20.64	500	Complies
165	5825 MHz	10.80	20.08	500	Complies

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

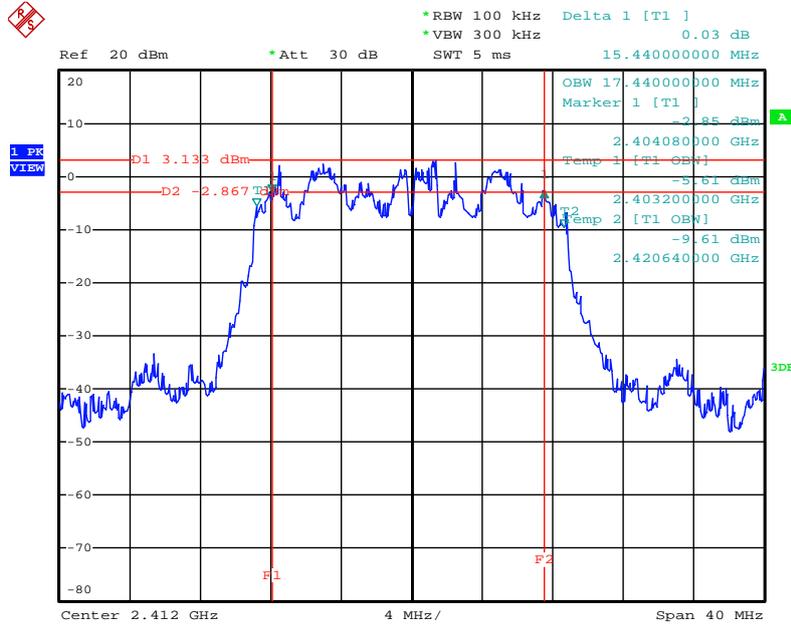
For plots, only the channel with worse result was shown.

For 2.4GHz Band:

Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / 2412 MHz /

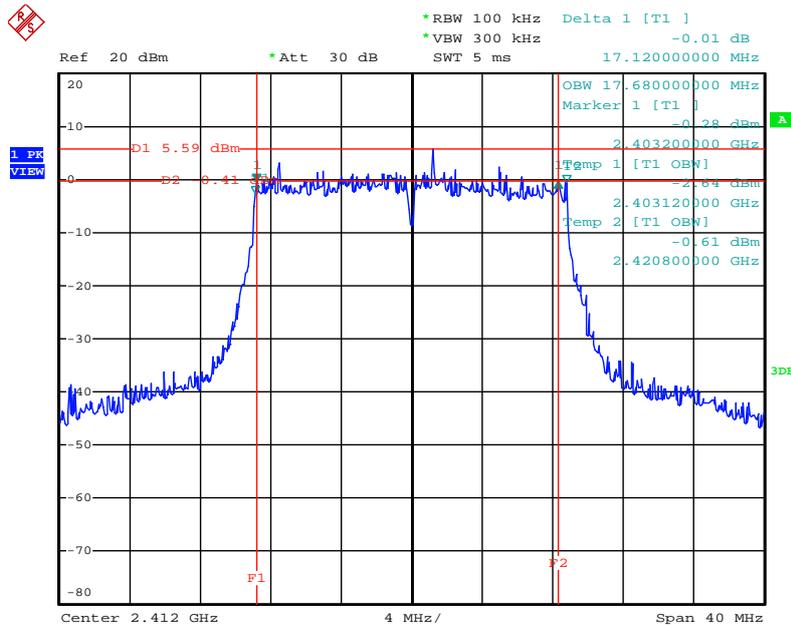
Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 07:23:34

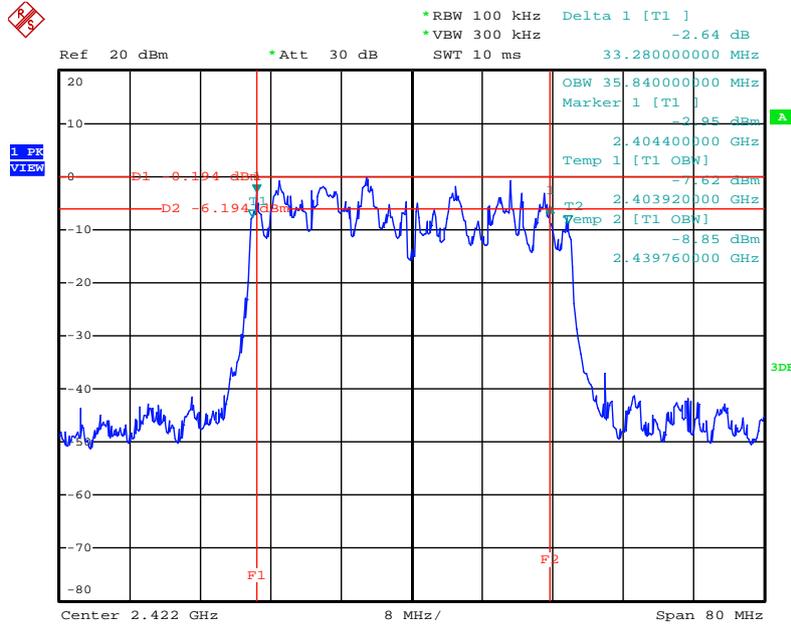
6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 20MHz / 2412 MHz /

Chain 1 + Chain 2 + Chain 3



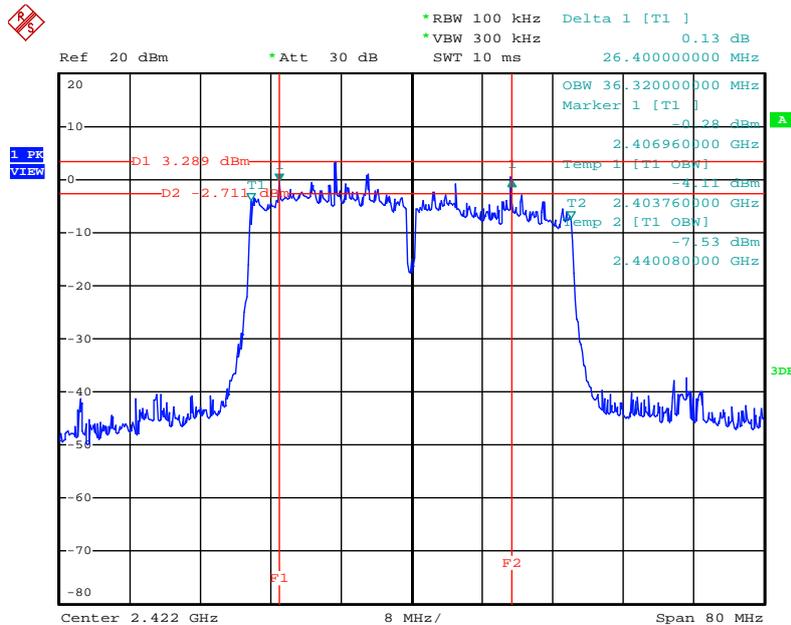
Date: 6.AUG.2013 07:31:23

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



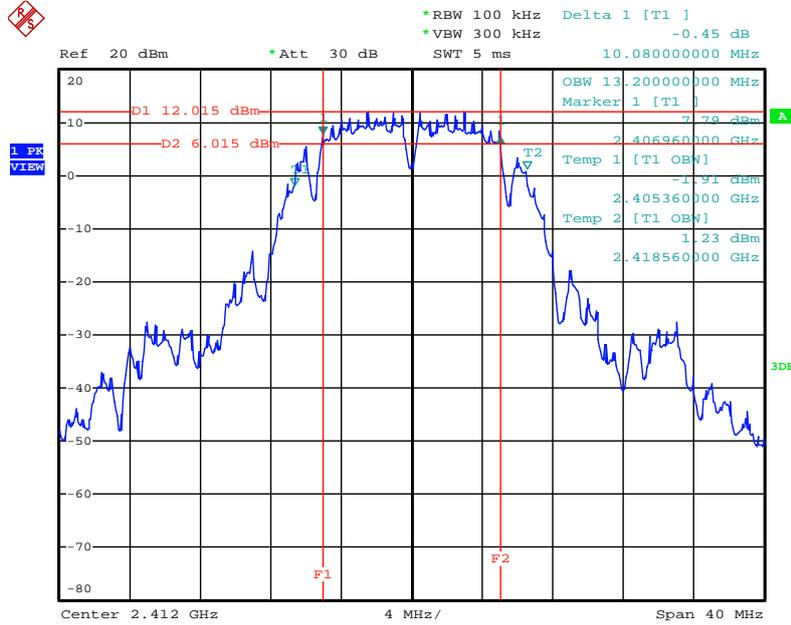
Date: 6.AUG.2013 07:25:50

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



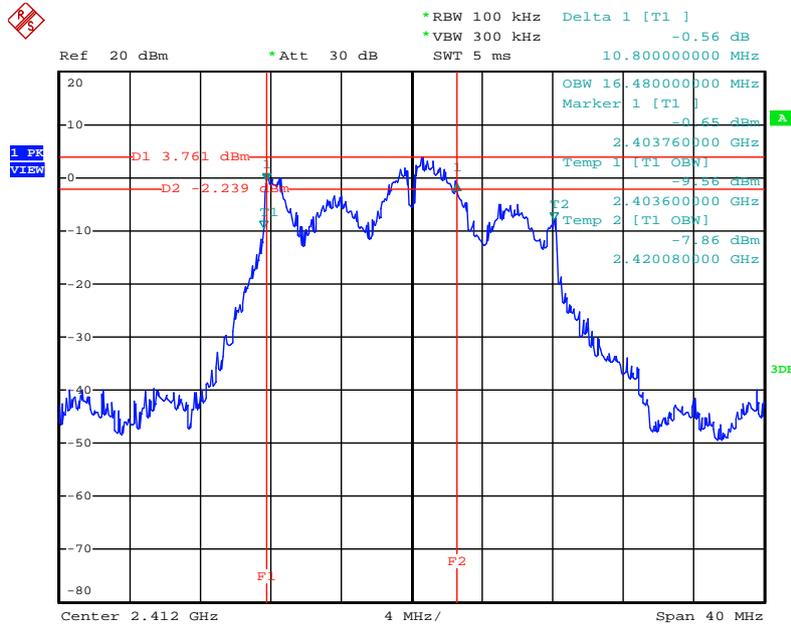
Date: 6.AUG.2013 07:30:50

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 07:18:11

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 1 + Chain 2 + Chain 3

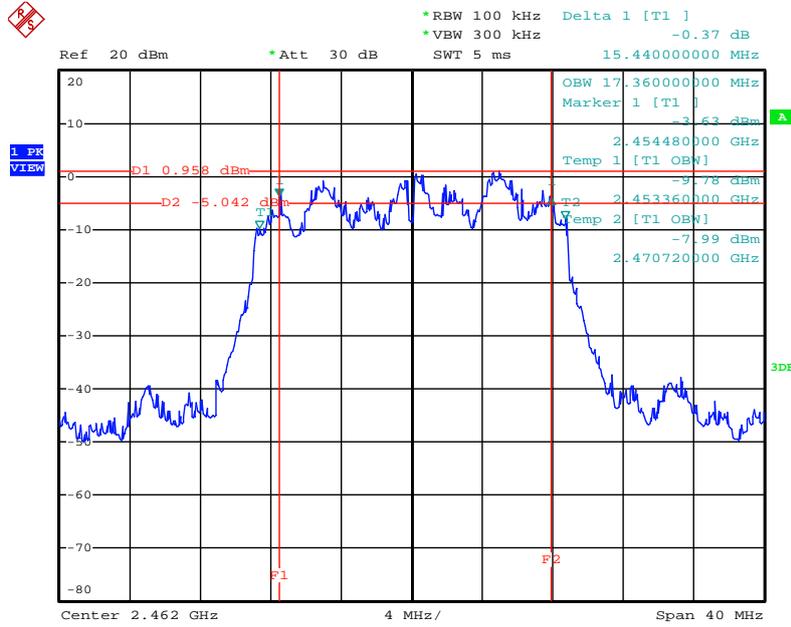


Date: 6.AUG.2013 07:22:58

Mode 2 (Ant.2 Element antenna / 5.2dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / 2462 MHz /

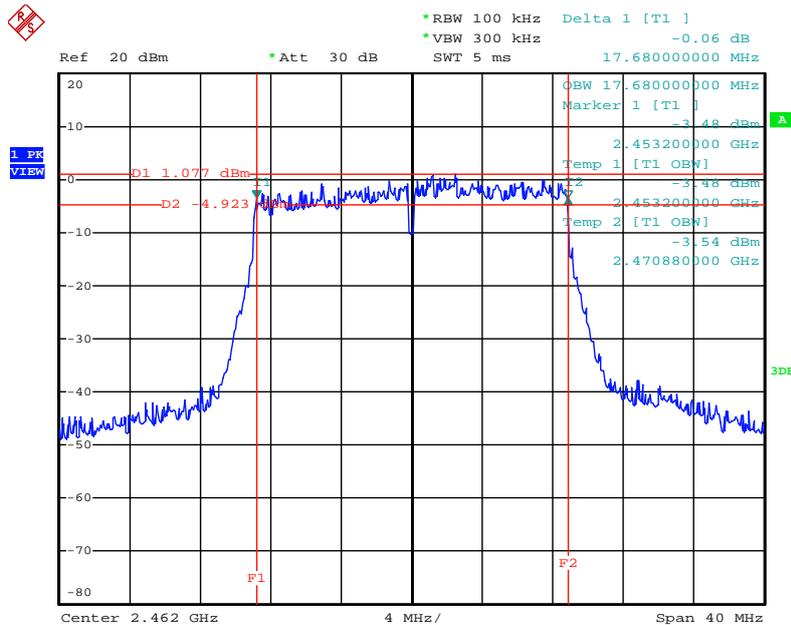
Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 08:51:14

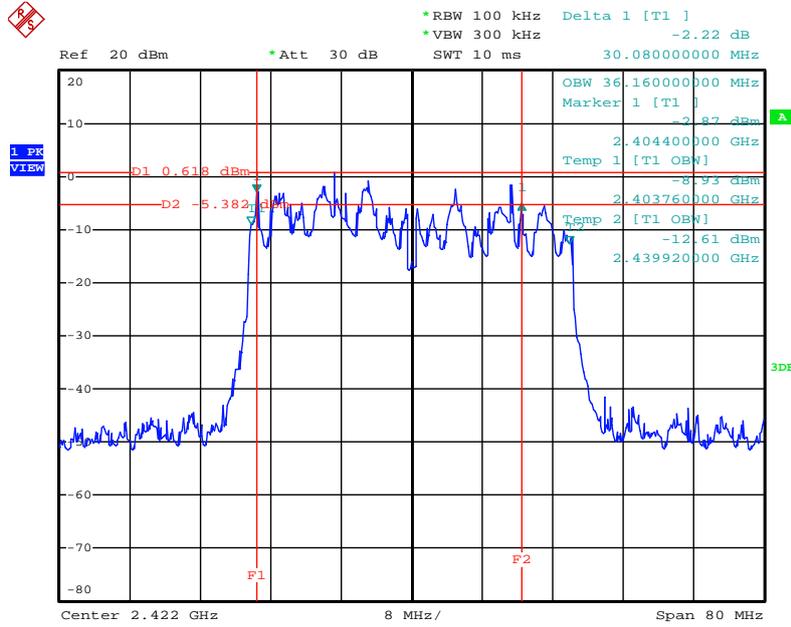
6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 20MHz / 2462 MHz /

Chain 1 + Chain 2 + Chain 3



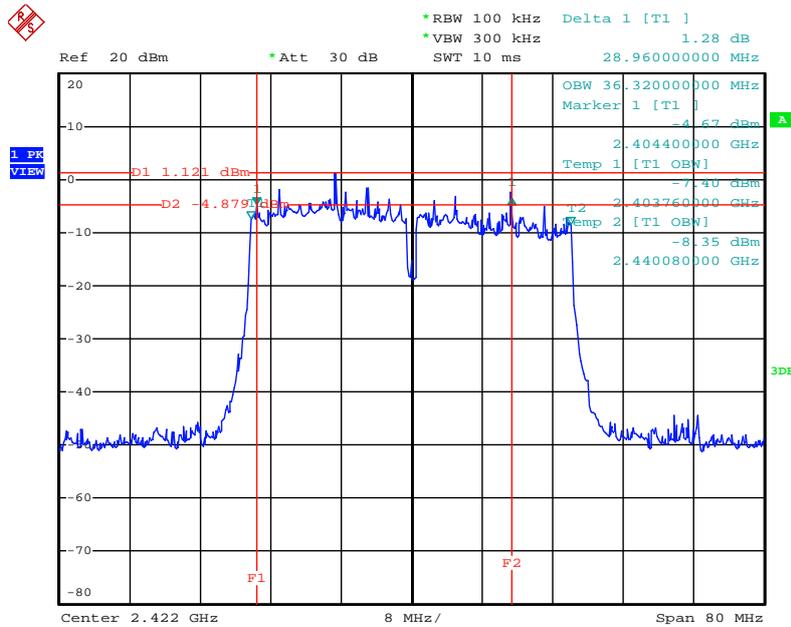
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6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



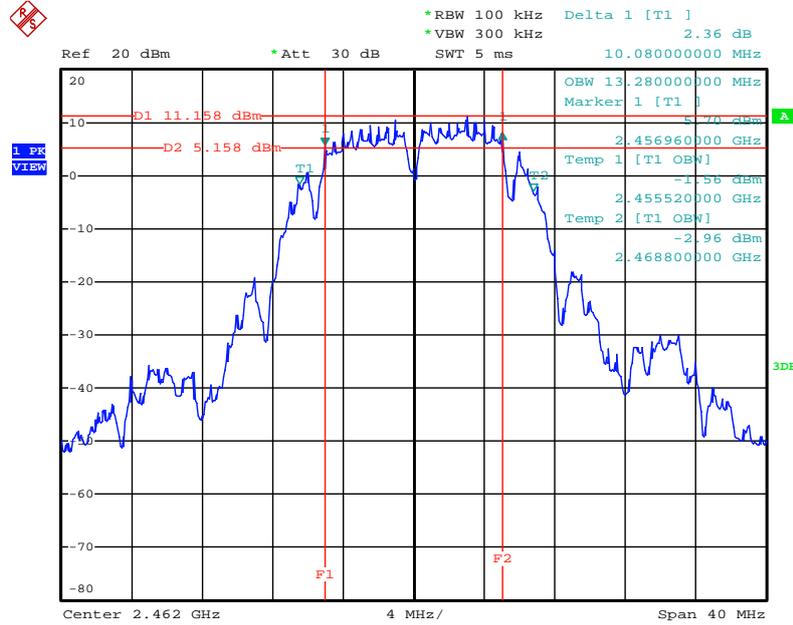
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6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



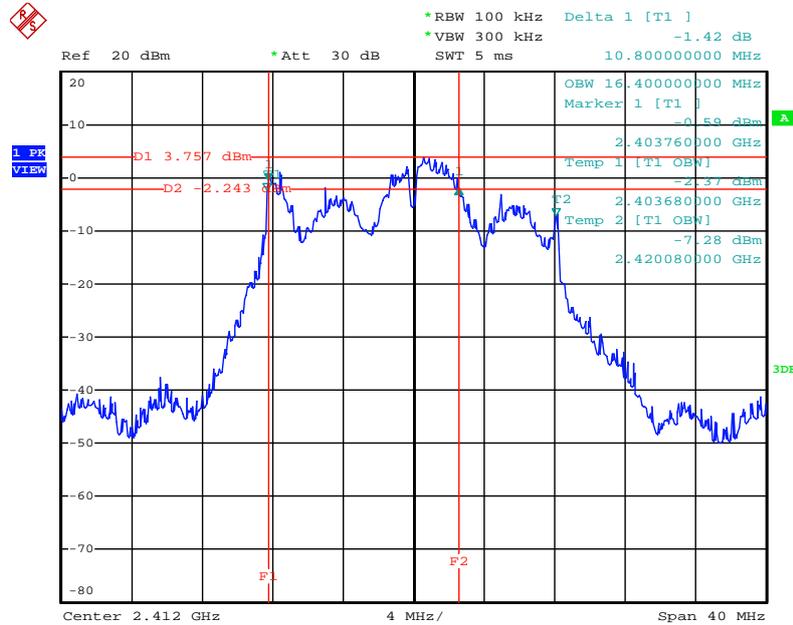
Date: 6.AUG.2013 08:57:51

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2462 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 08:36:02

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 1 + Chain 2 + Chain 3

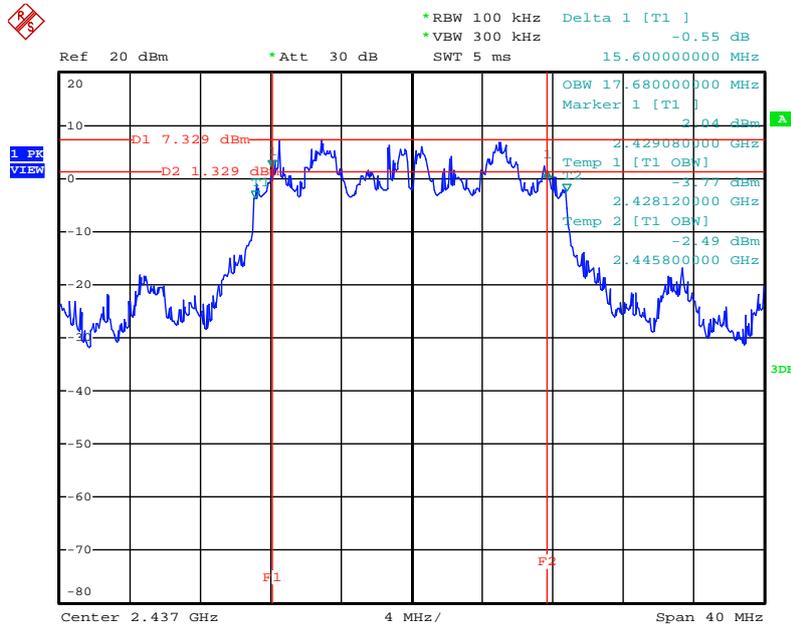


Date: 6.AUG.2013 08:38:26

Mode 3 (Ant.4 Panel antenna / 7.1dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / 2437 MHz /

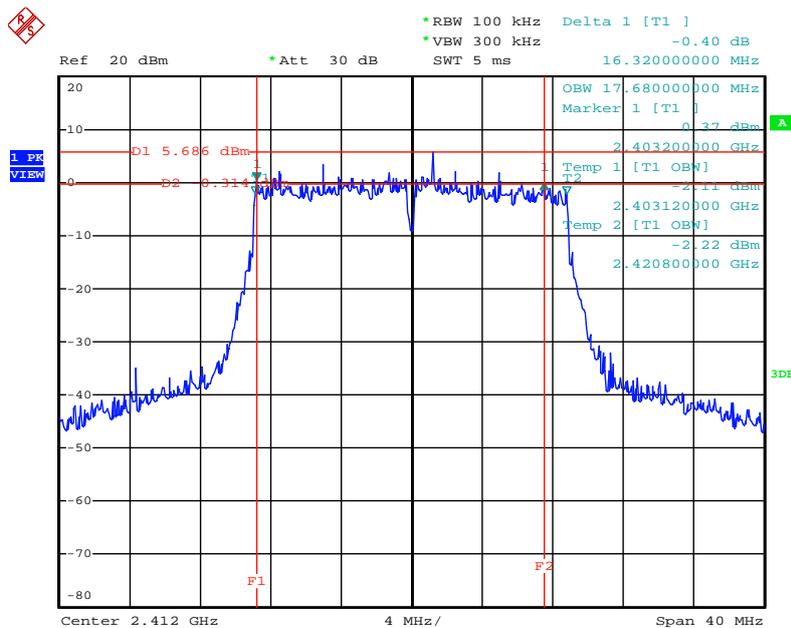
Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 13:58:19

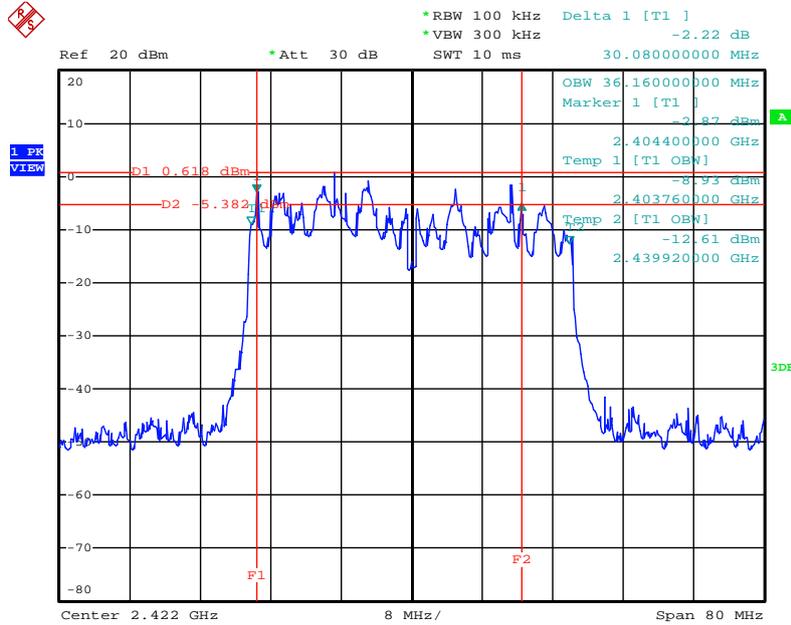
6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 20MHz / 2412 MHz /

Chain 1 + Chain 2 + Chain 3



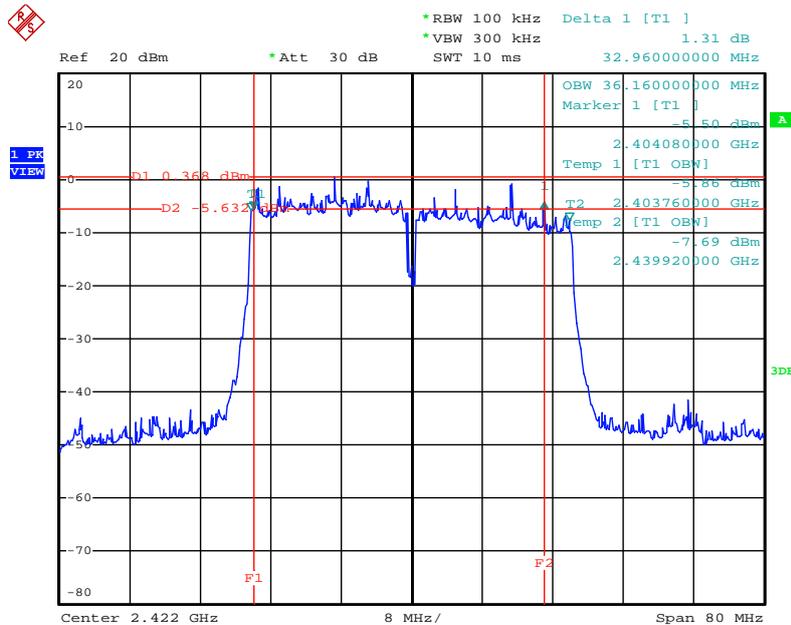
Date: 5.AUG.2013 14:04:15

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



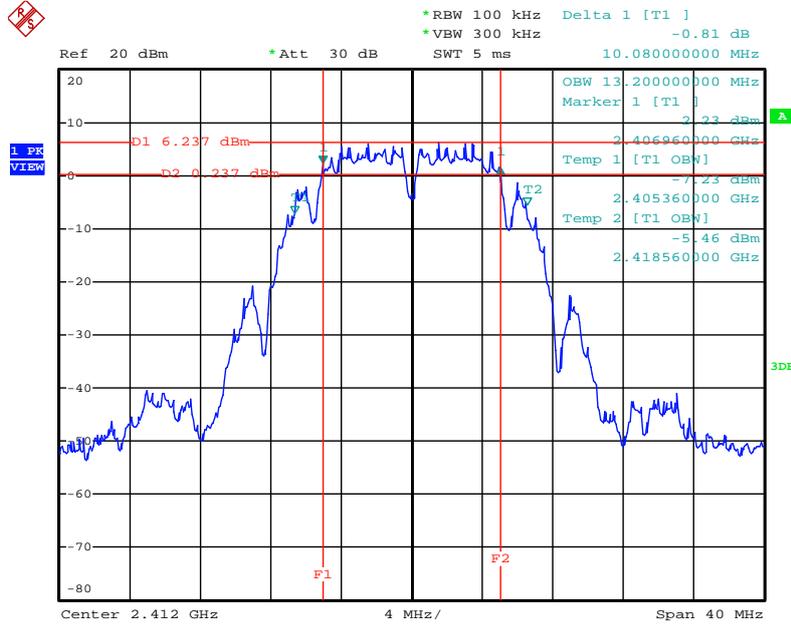
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6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



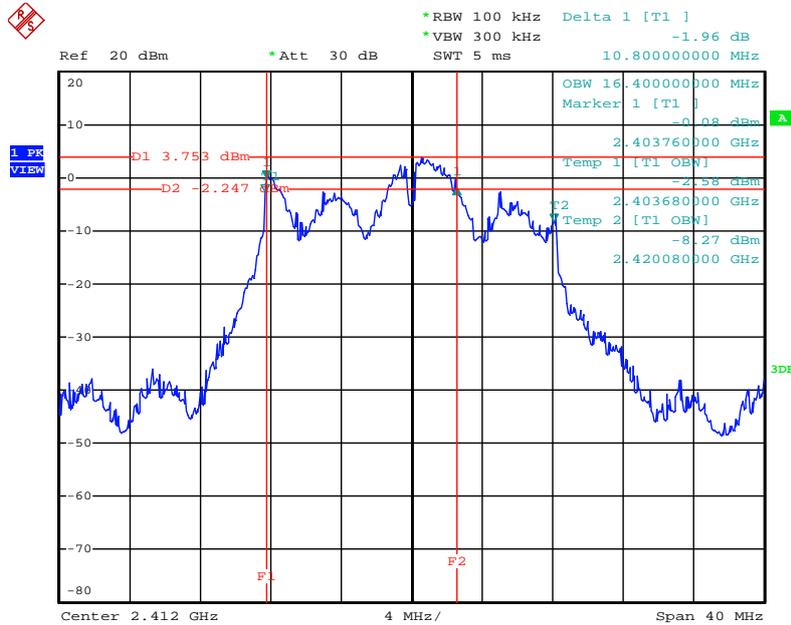
Date: 5.AUG.2013 14:02:54

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 13:46:27

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 1 + Chain 2 + Chain 3

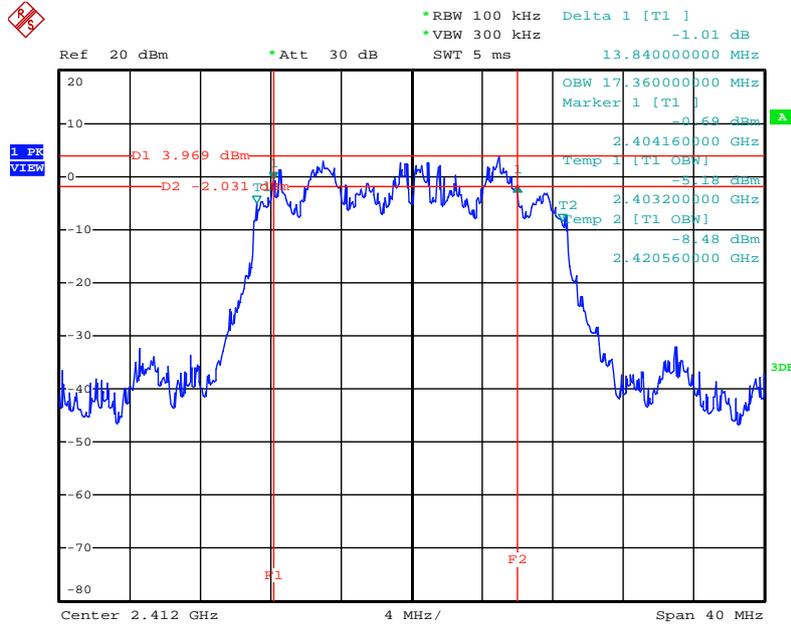


Date: 5.AUG.2013 13:56:30

Mode 4 (Ant.5 PCB antenna / 4.94dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 20MHz / 2412 MHz /

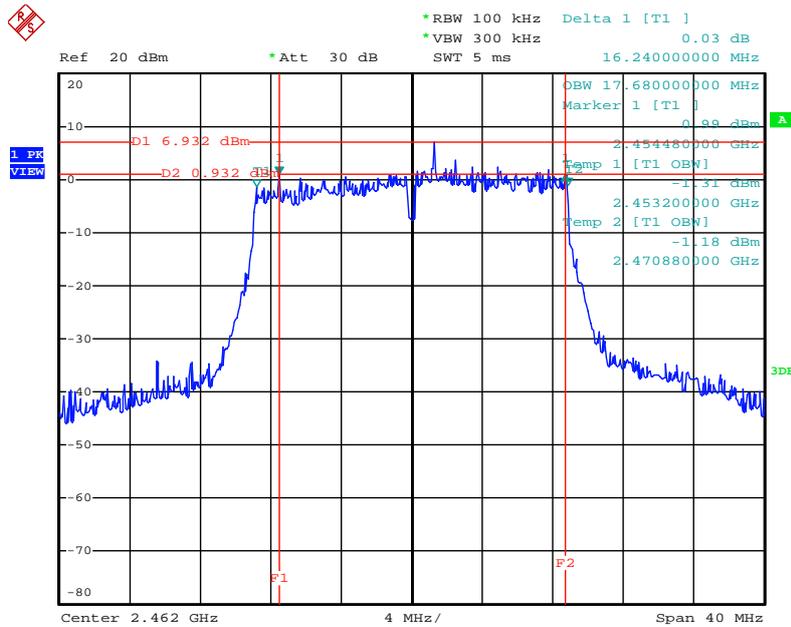
Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 11:26:49

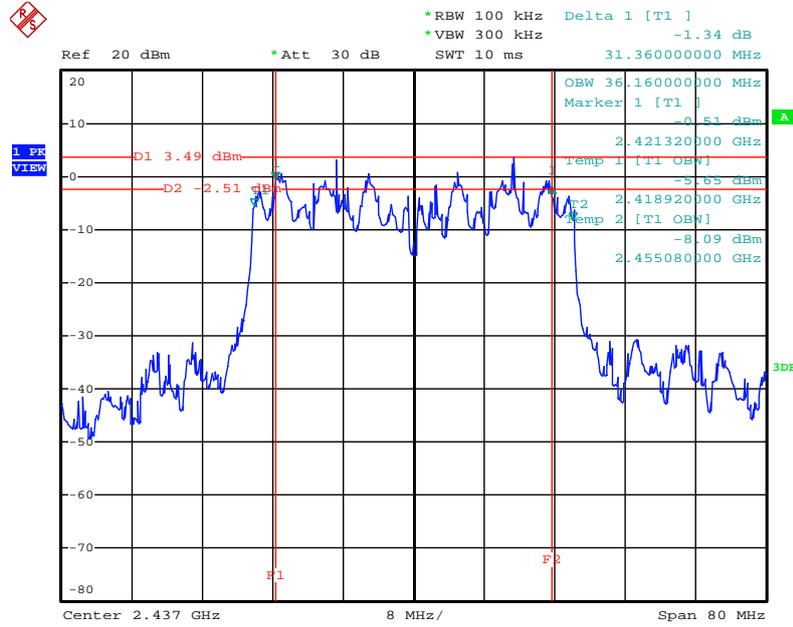
6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 20MHz / 2462 MHz /

Chain 1 + Chain 2 + Chain 3



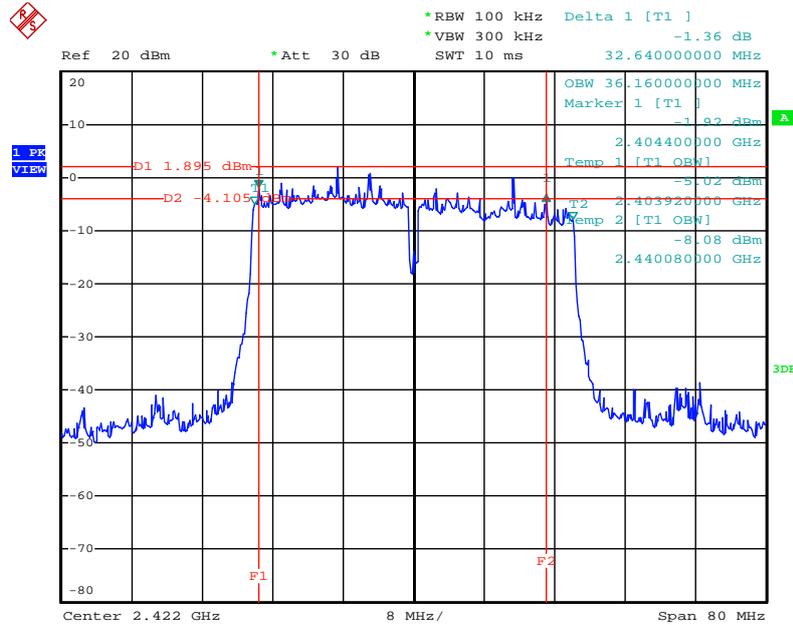
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6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS0 40MHz / 2437 MHz / Chain 1 + Chain 2 + Chain 3



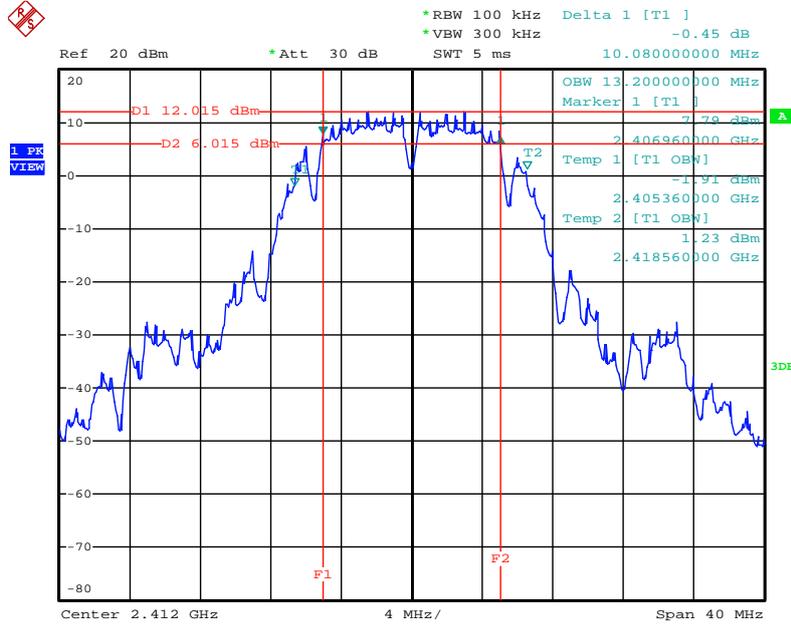
Date: 6.AUG.2013 11:29:28

6 dB Bandwidth Plot on Configuration IEEE 802.11n MCS16 40MHz / 2422 MHz / Chain 1 + Chain 2 + Chain 3



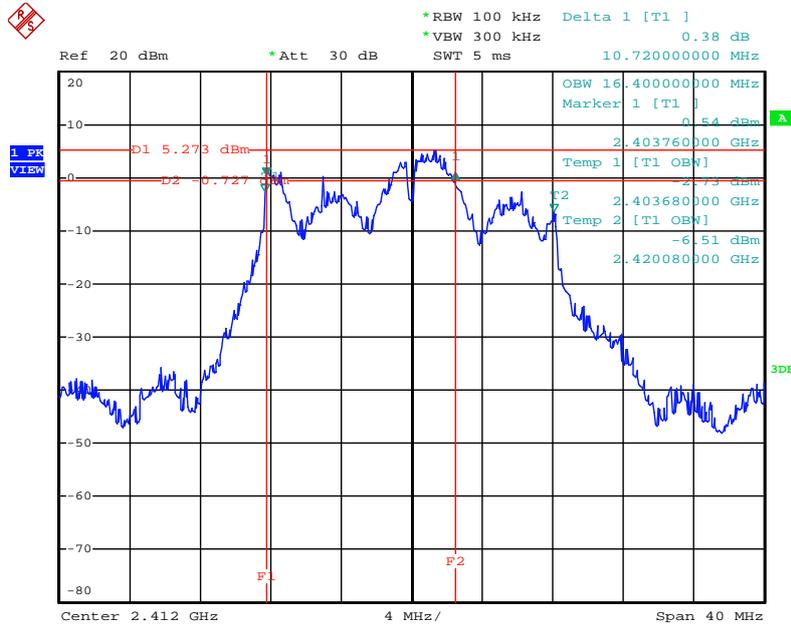
Date: 6.AUG.2013 11:33:00

6 dB Bandwidth Plot on Configuration IEEE 802.11b / 2412 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 07:18:11

6 dB Bandwidth Plot on Configuration IEEE 802.11g / 2412 MHz / Chain 1 + Chain 2 + Chain 3



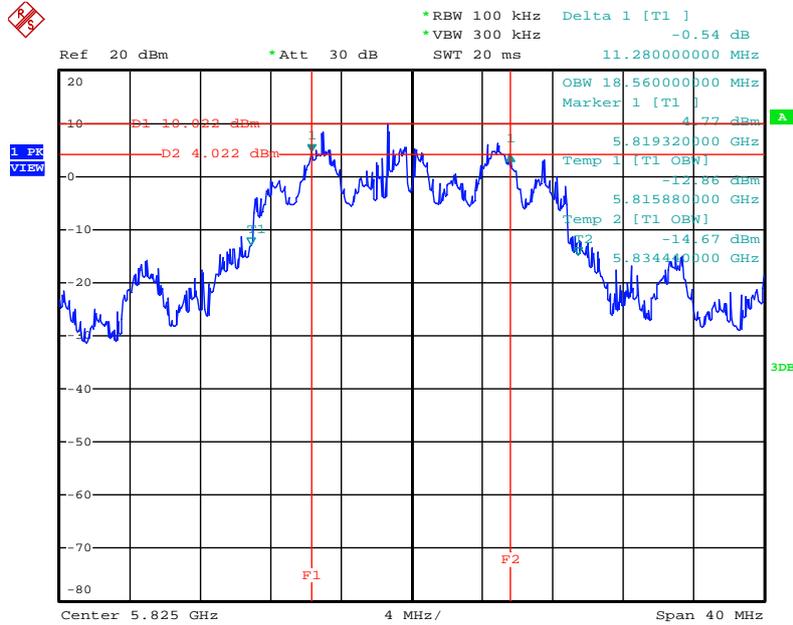
Date: 6.AUG.2013 11:26:21

For 5GHz Band:

Mode 5 (Ant.1 Dipole antenna / 1dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5825 MHz /

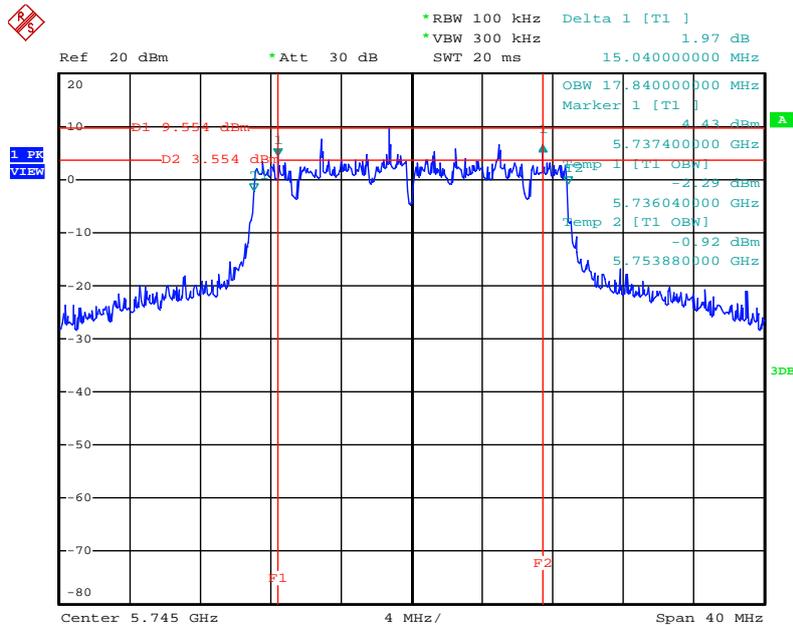
Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 14:39:57

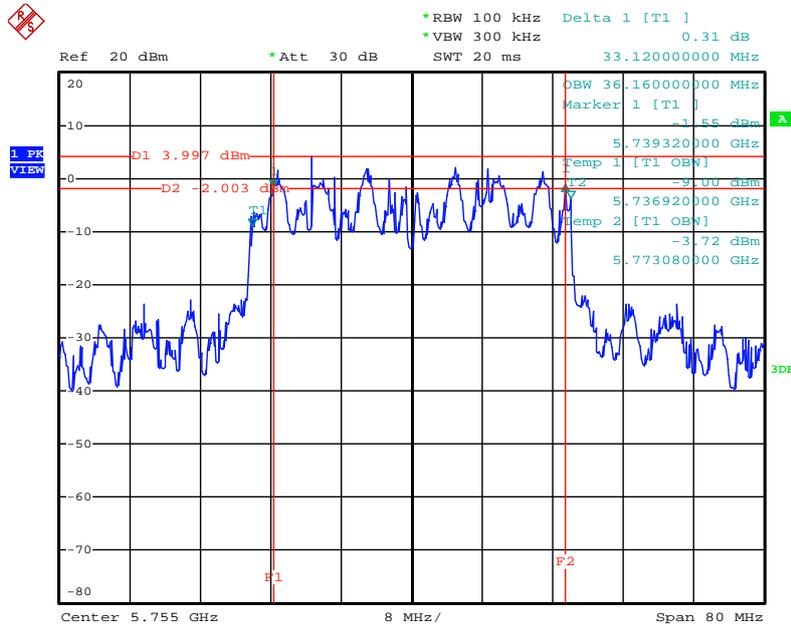
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5745 MHz /

Chain 1 + Chain 2 + Chain 3



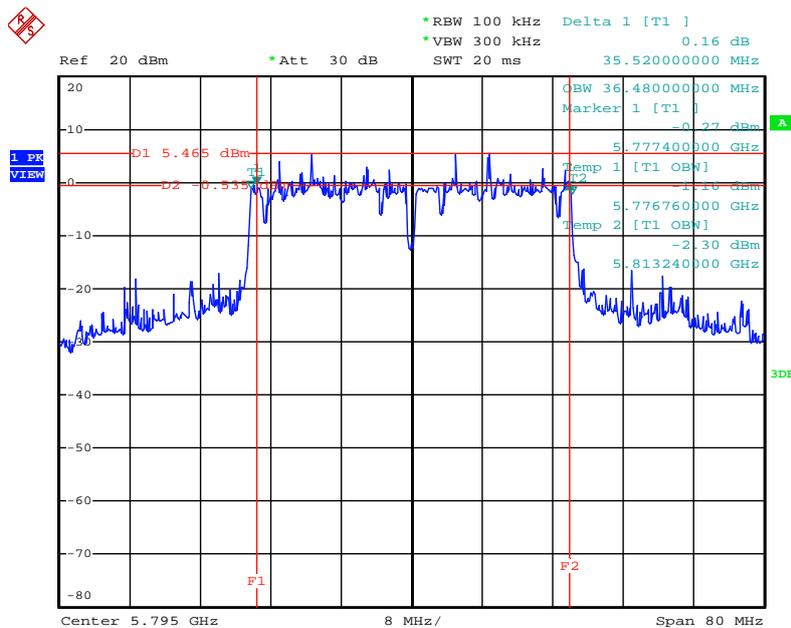
Date: 6.AUG.2013 07:51:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5755MHz / Chain 1 + Chain 2 + Chain 3



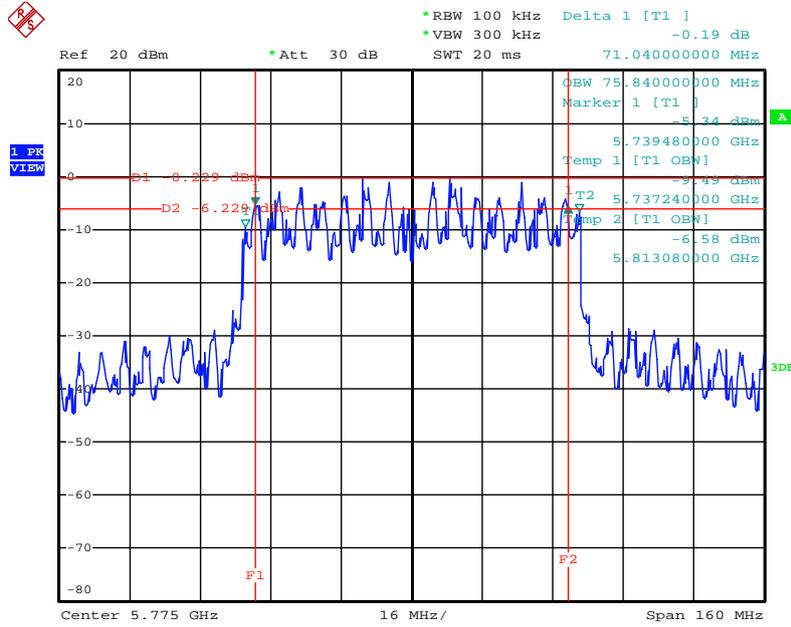
Date: 6.AUG.2013 07:45:42

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5795MHz / Chain 1 + Chain 2 + Chain 3



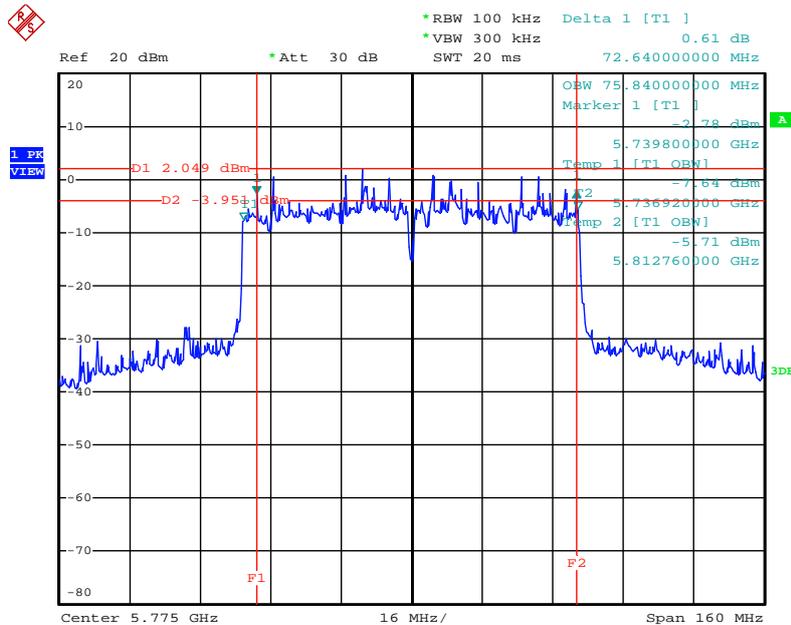
Date: 6.AUG.2013 07:51:17

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



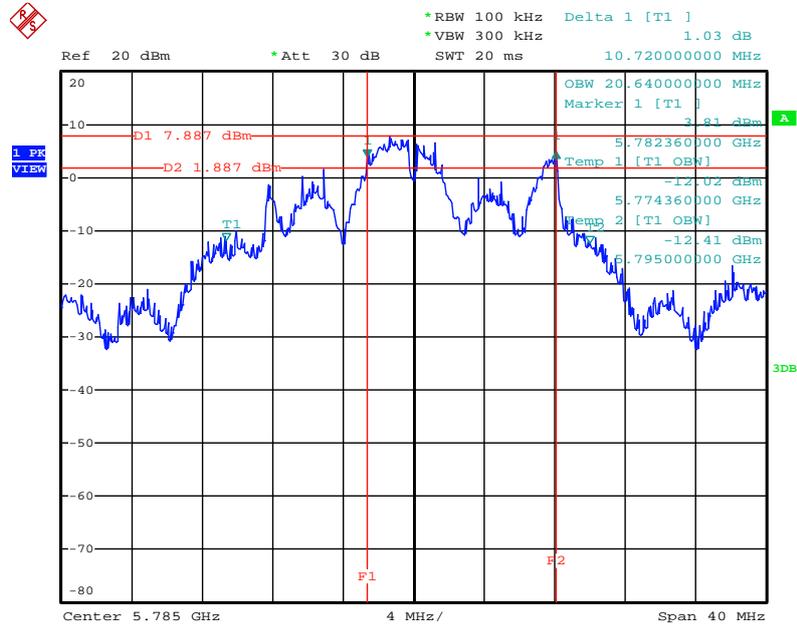
Date: 6.AUG.2013 07:46:52

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 07:47:27

6 dB Bandwidth Plot on Configuration IEEE 802.11a / 5785 MHz / Chain 1 + Chain 2 + Chain 3

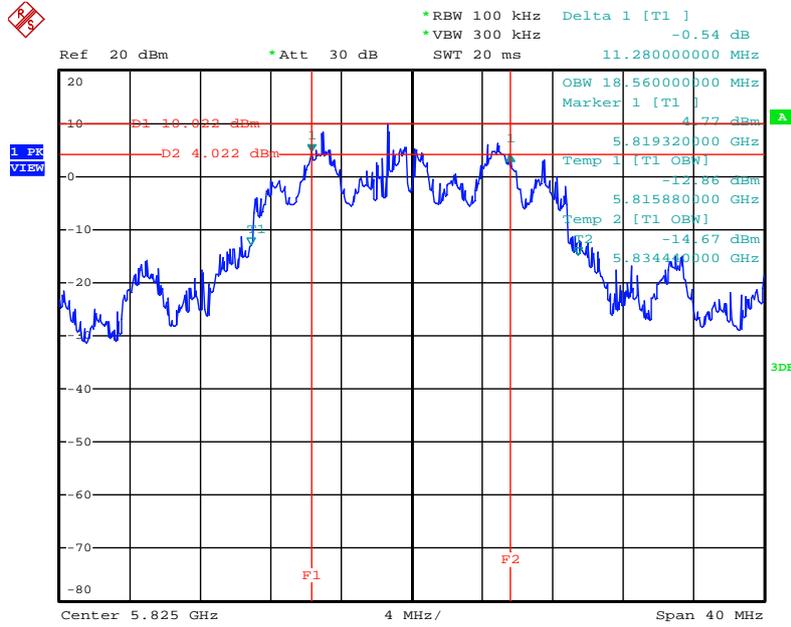


Date: 6.AUG.2013 07:41:31

Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5825 MHz /

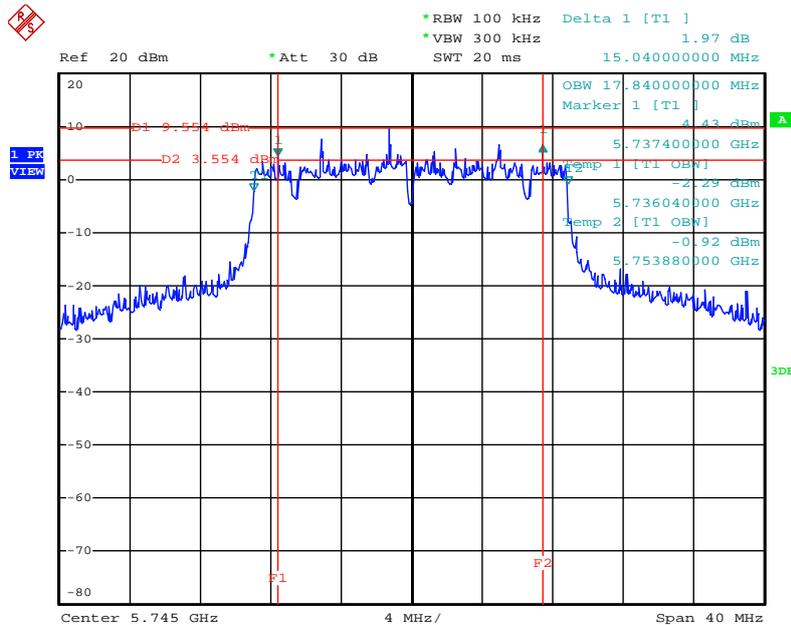
Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 14:39:57

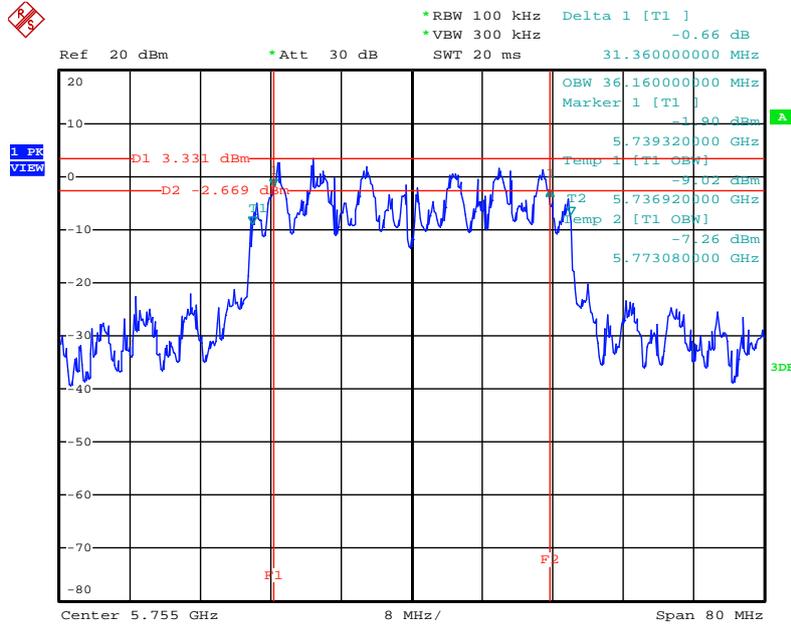
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5745 MHz /

Chain 1 + Chain 2 + Chain 3



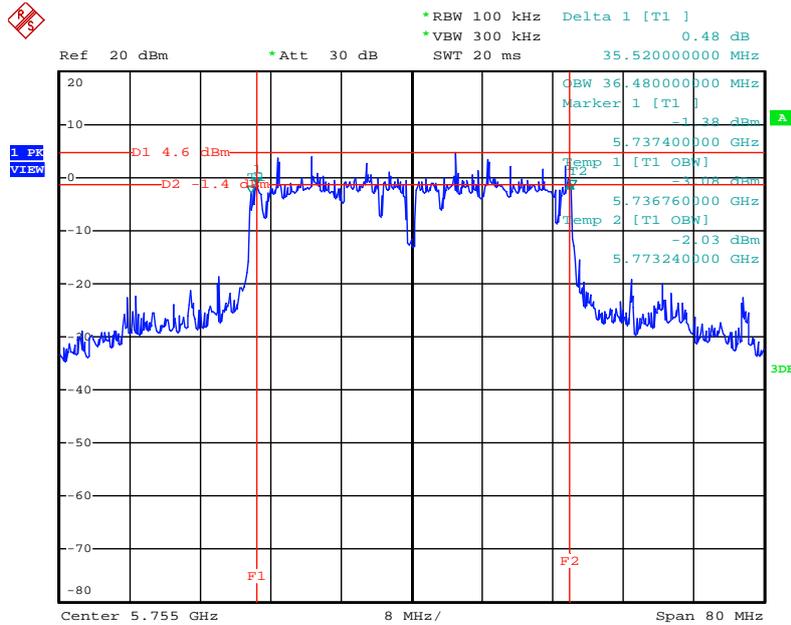
Date: 6.AUG.2013 07:51:57

**6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5755MHz /
Chain 1 + Chain 2 + Chain 3**



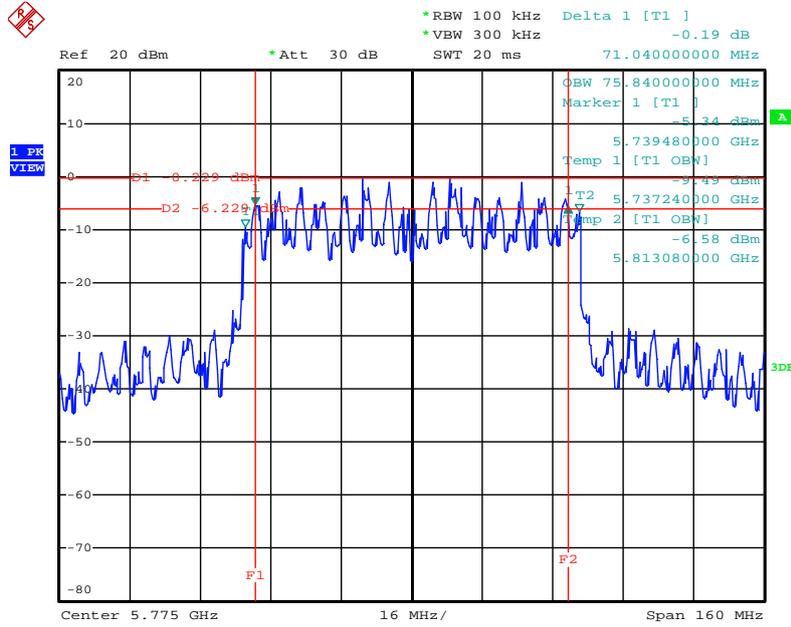
Date: 6.AUG.2013 11:02:30

**6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5755MHz /
Chain 1 + Chain 2 + Chain 3**



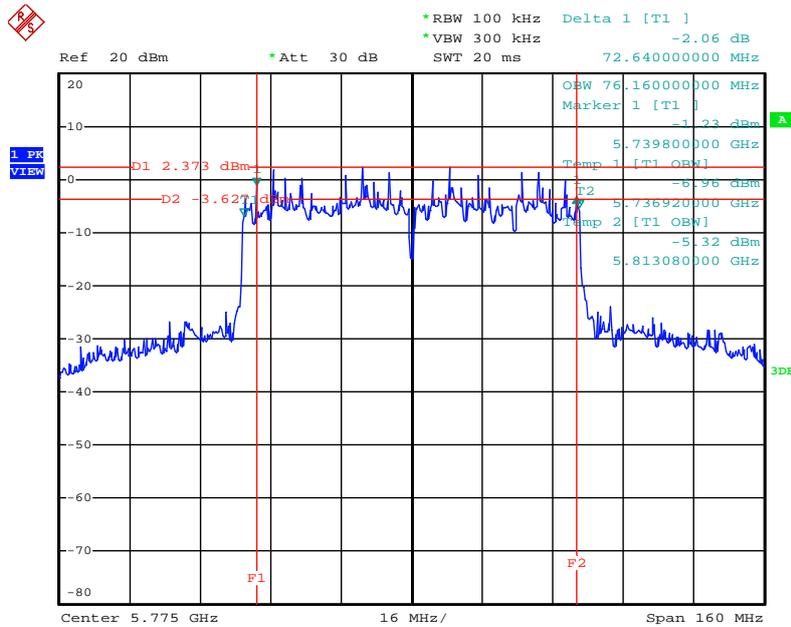
Date: 6.AUG.2013 11:04:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



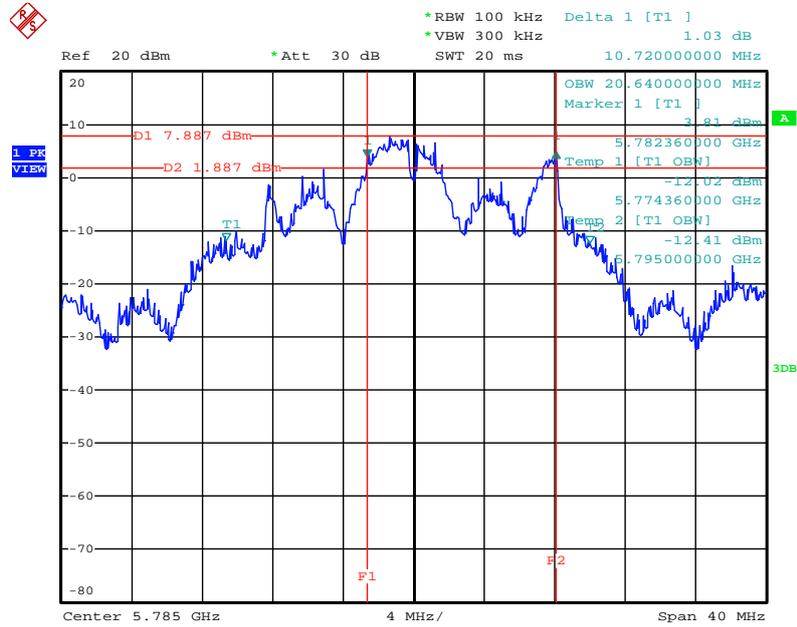
Date: 6.AUG.2013 07:46:52

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 11:04:17

6 dB Bandwidth Plot on Configuration IEEE 802.11a / 5785 MHz / Chain 1 + Chain 2 + Chain 3

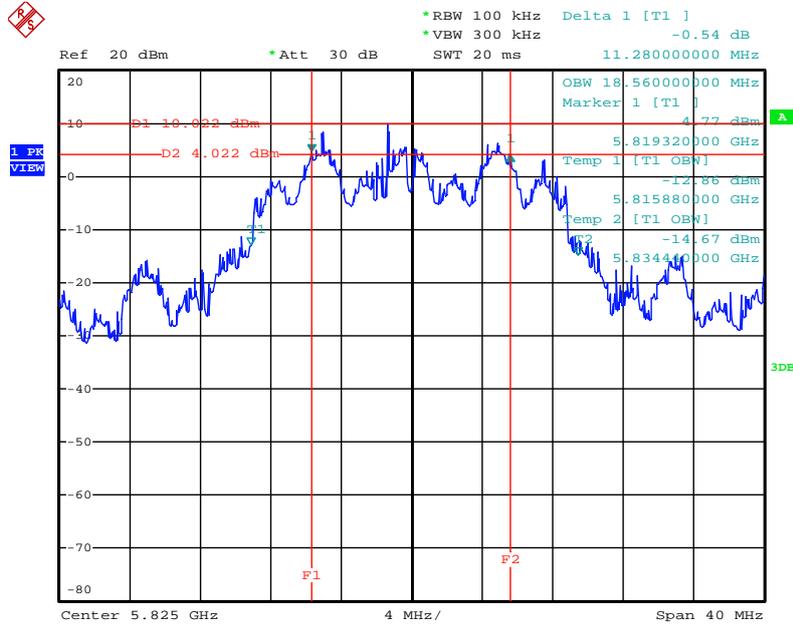


Date: 6.AUG.2013 07:41:31

Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5825 MHz /

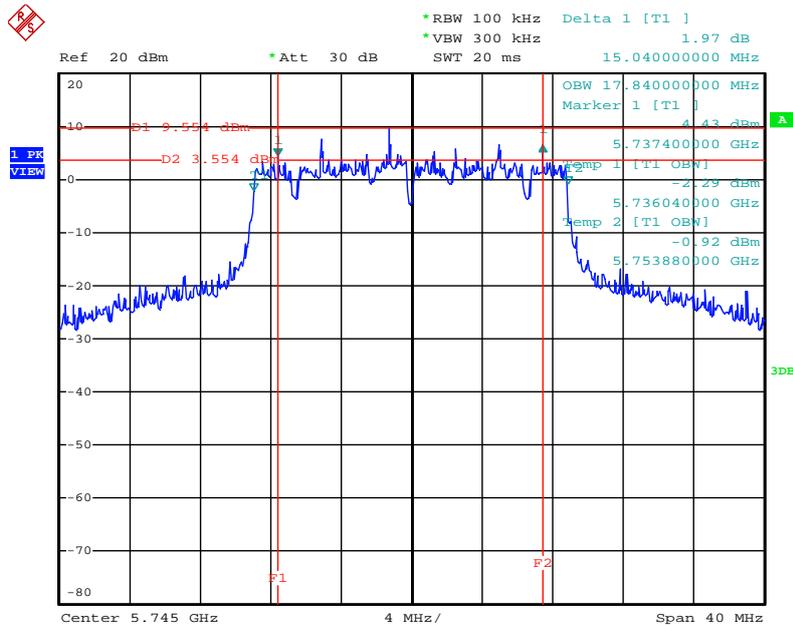
Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 14:39:57

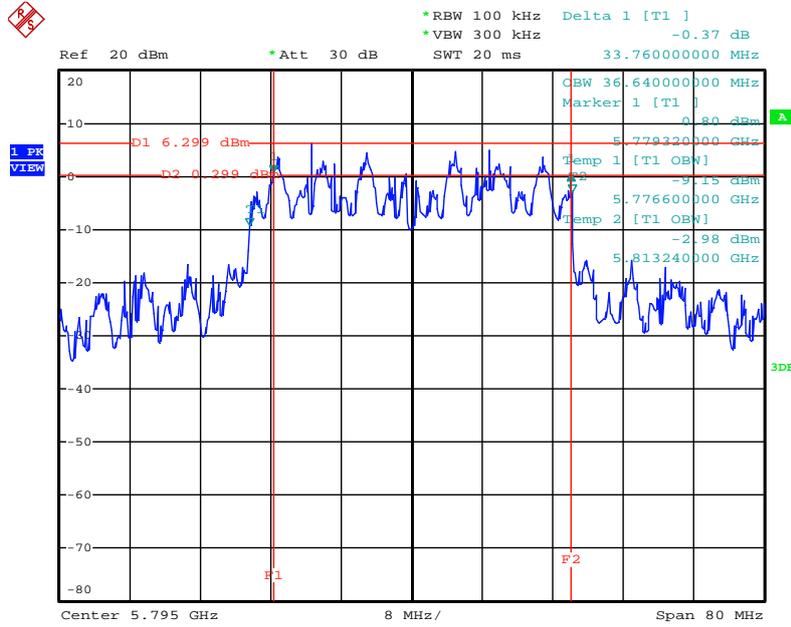
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5745 MHz /

Chain 1 + Chain 2 + Chain 3



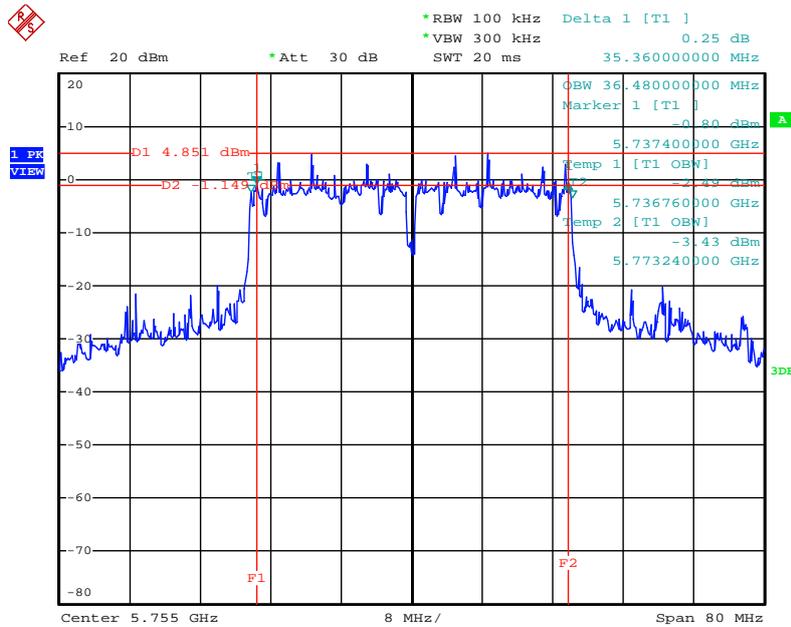
Date: 6.AUG.2013 07:51:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5795MHz / Chain 1 + Chain 2 + Chain 3



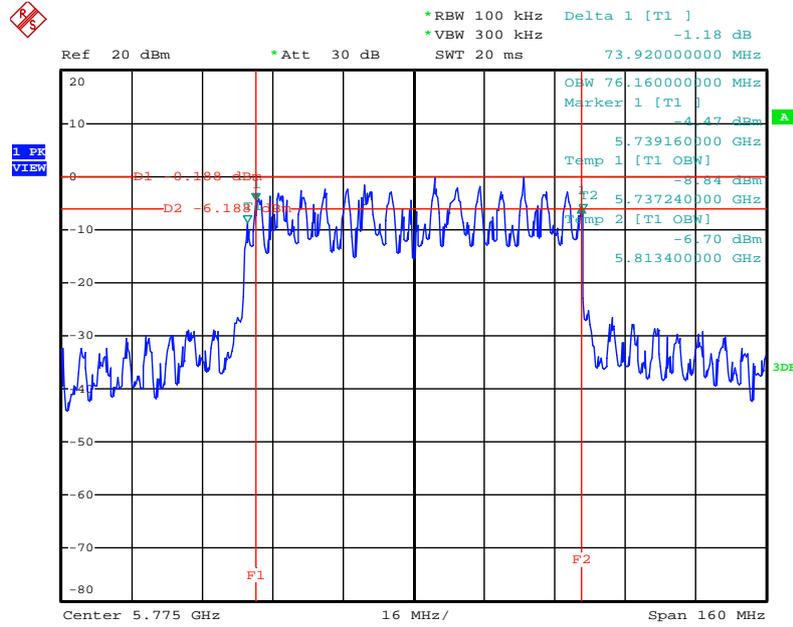
Date: 5.AUG.2013 14:38:06

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5755MHz / Chain 1 + Chain 2 + Chain 3



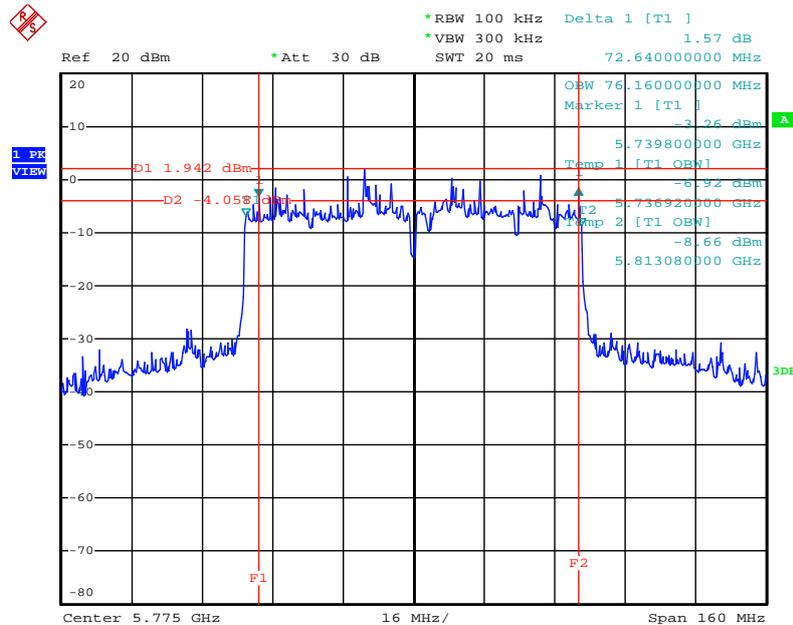
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6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



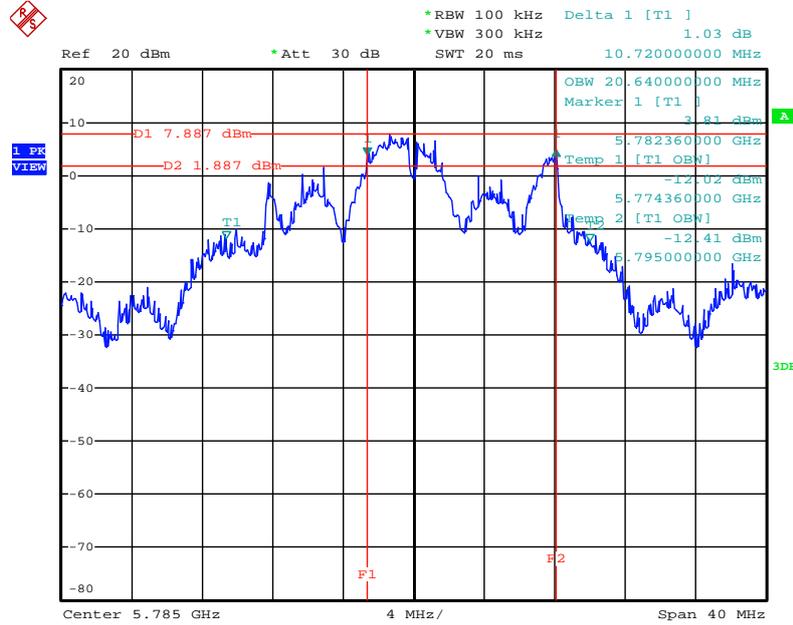
Date: 5.AUG.2013 14:37:01

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 14:35:47

6 dB Bandwidth Plot on Configuration IEEE 802.11a / 5785 MHz / Chain 1 + Chain 2 + Chain 3

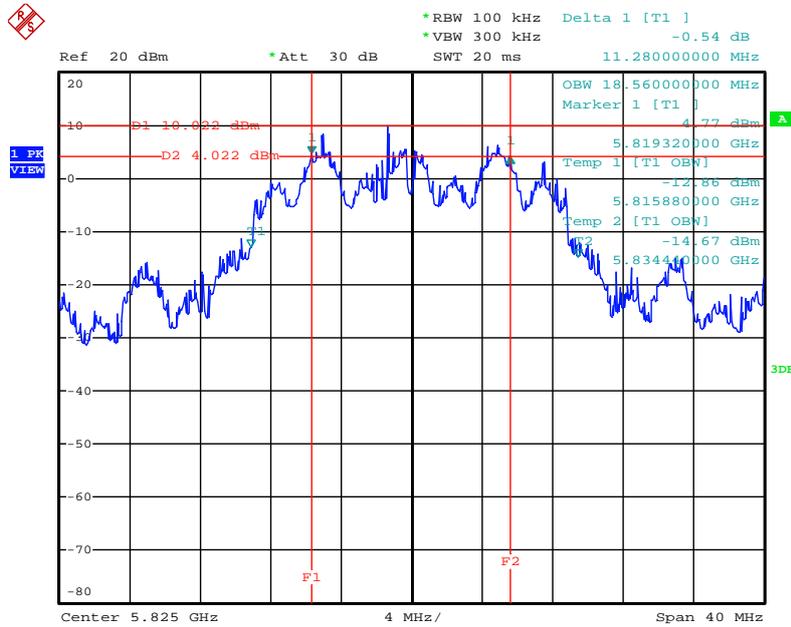


Date: 6.AUG.2013 07:41:31

Mode 8 (Ant.5 PCB antenna / 5.74dBi)

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 20MHz / 5825 MHz /

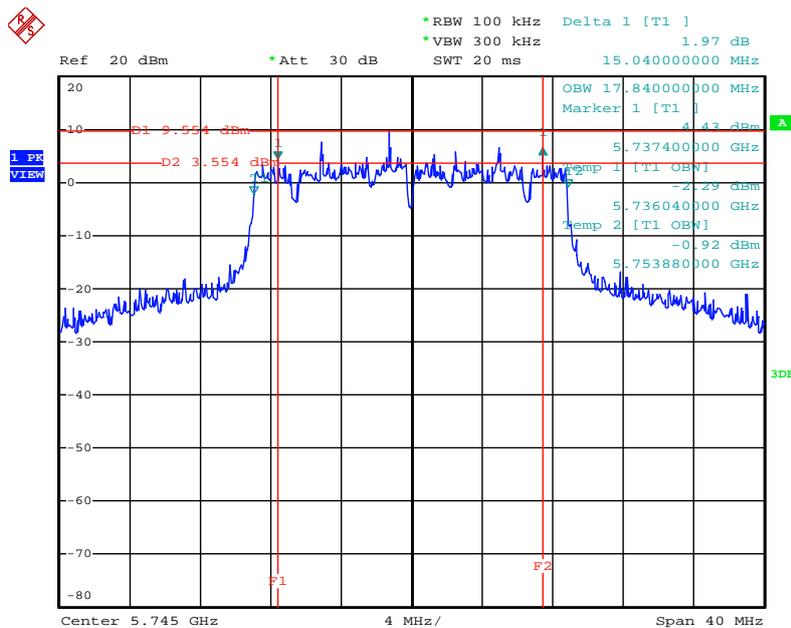
Chain 1 + Chain 2 + Chain 3



Date: 5.AUG.2013 14:39:57

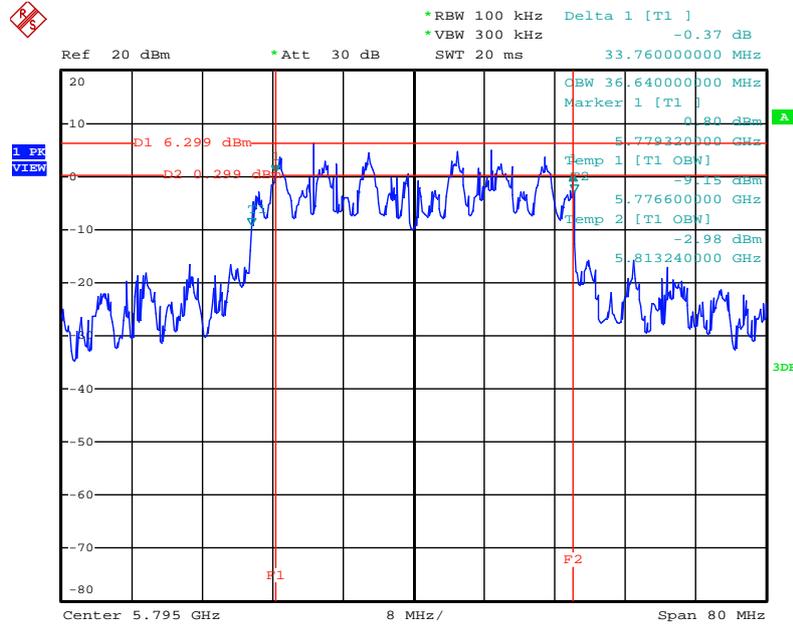
6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 20MHz / 5745 MHz /

Chain 1 + Chain 2 + Chain 3



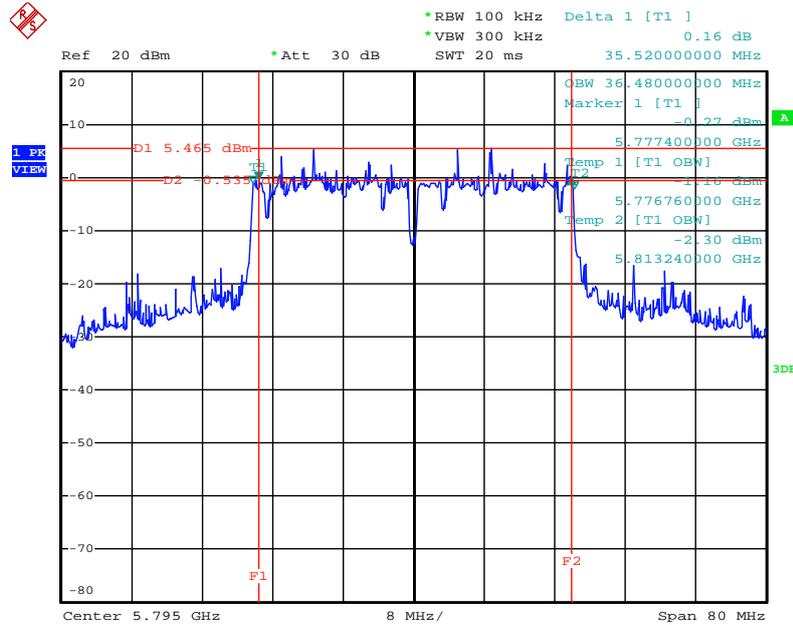
Date: 6.AUG.2013 07:51:57

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 40MHz / 5795MHz / Chain 1 + Chain 2 + Chain 3



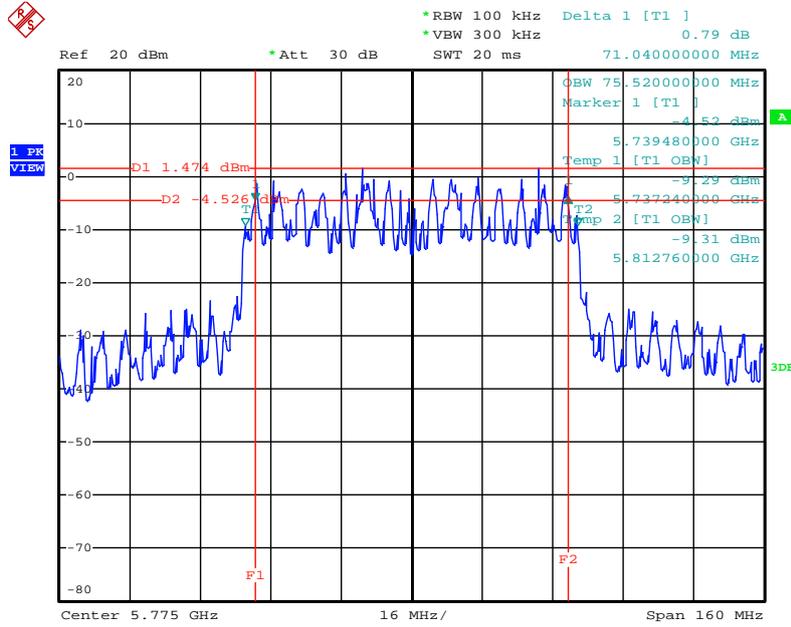
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6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 40MHz / 5795MHz / Chain 1 + Chain 2 + Chain 3



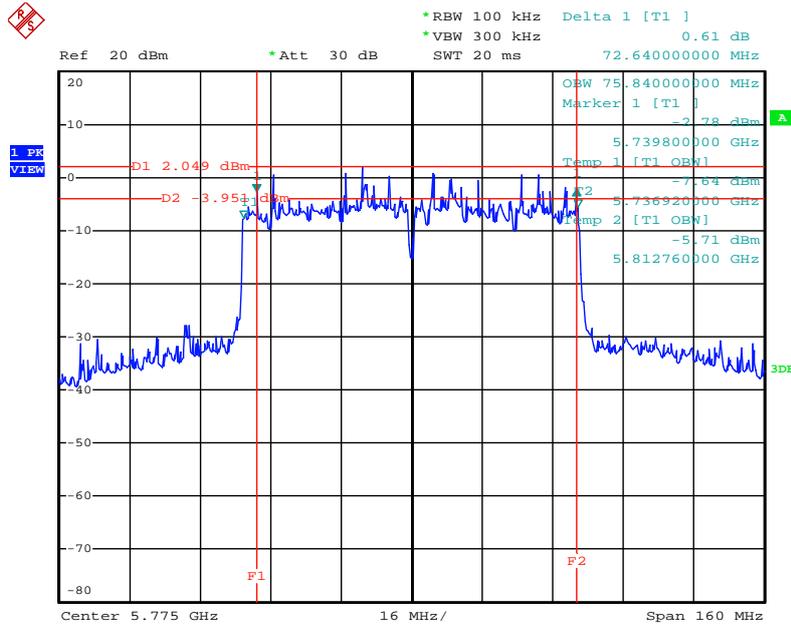
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6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



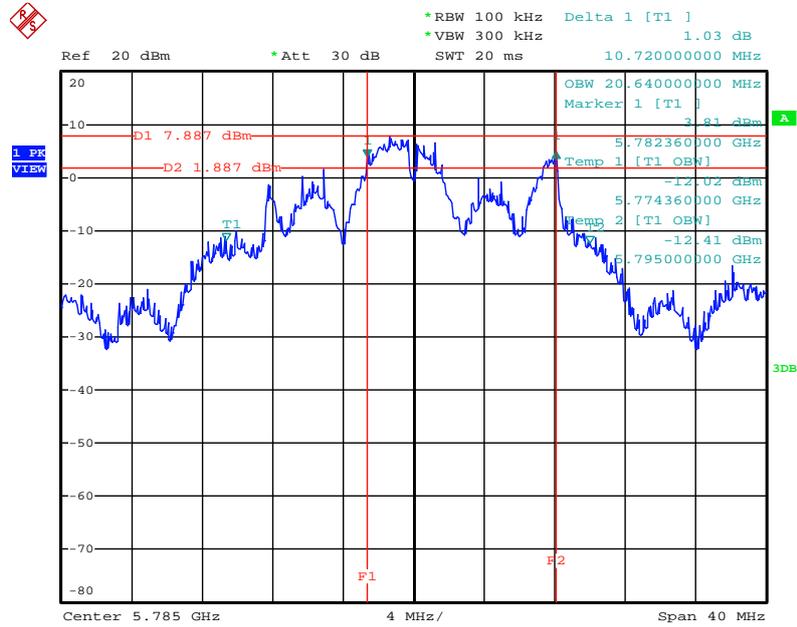
Date: 6.AUG.2013 11:40:53

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss3 80MHz / 5775 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 07:47:27

6 dB Bandwidth Plot on Configuration IEEE 802.11a / 5785 MHz / Chain 1 + Chain 2 + Chain 3



Date: 6.AUG.2013 07:41:31

4.5. Radiated Emissions Measurement

4.5.1. Limit

30dBc in any 100 kHz bandwidth outside the operating frequency band. 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

4.5.2. 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	1GHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	100kHz / 300kHz for peak

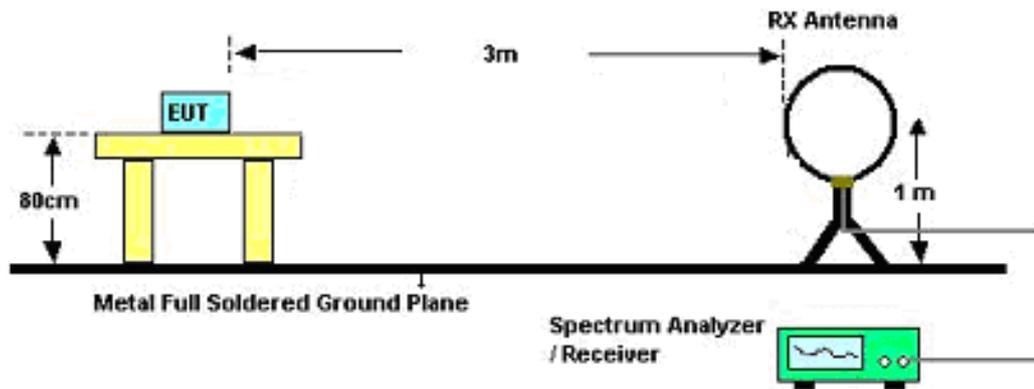
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1GHz / RBW 120kHz for QP

4.5.3. Test Procedures

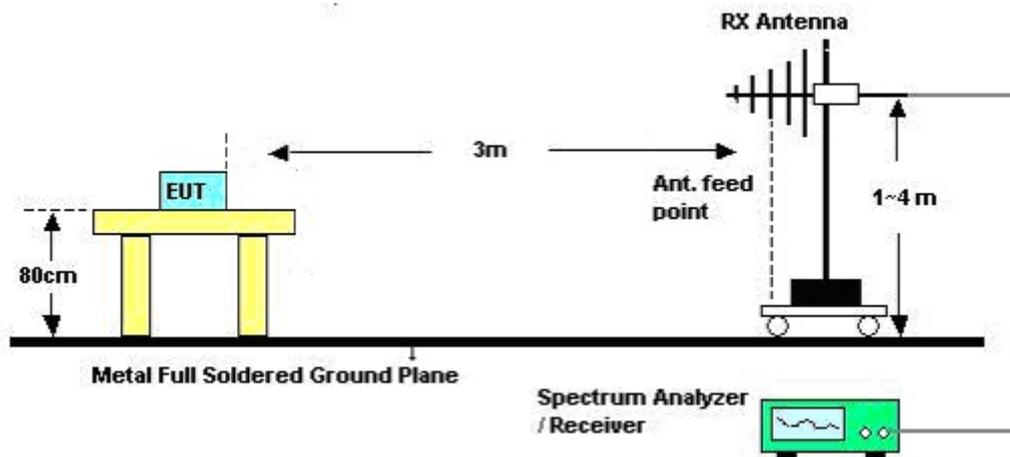
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting 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 3MHz 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.

4.5.4. Test Setup Layout

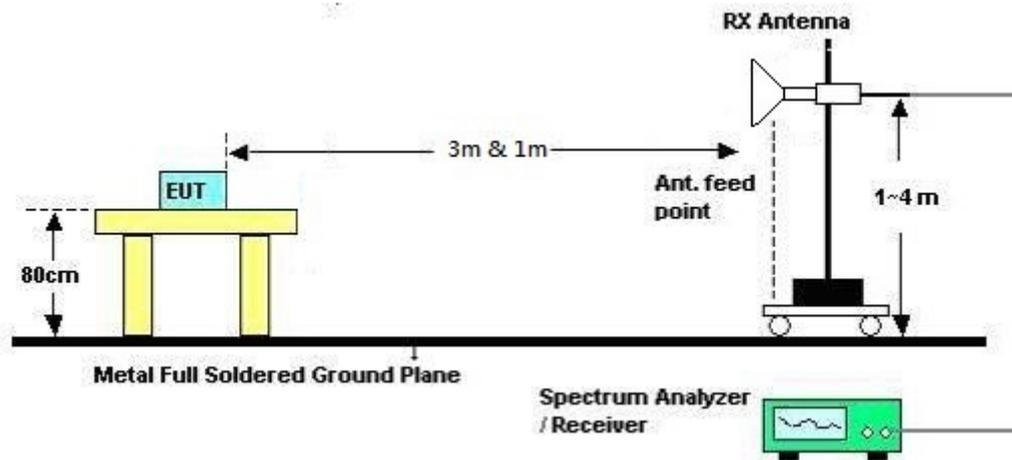
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



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

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	CTX
Test Date	Jul. 29, 2013	Test Mode	Mode 2

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 20 dB below the permissible value has no need to be reported.

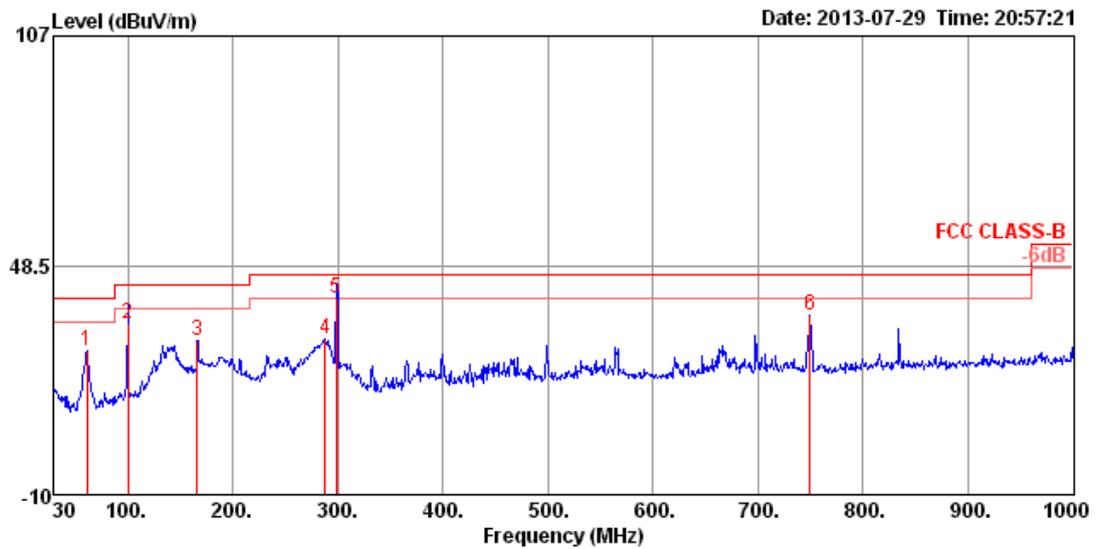
Distance extrapolation factor = $40 \log(\text{specific distance} / \text{test distance})$ (dB);

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

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

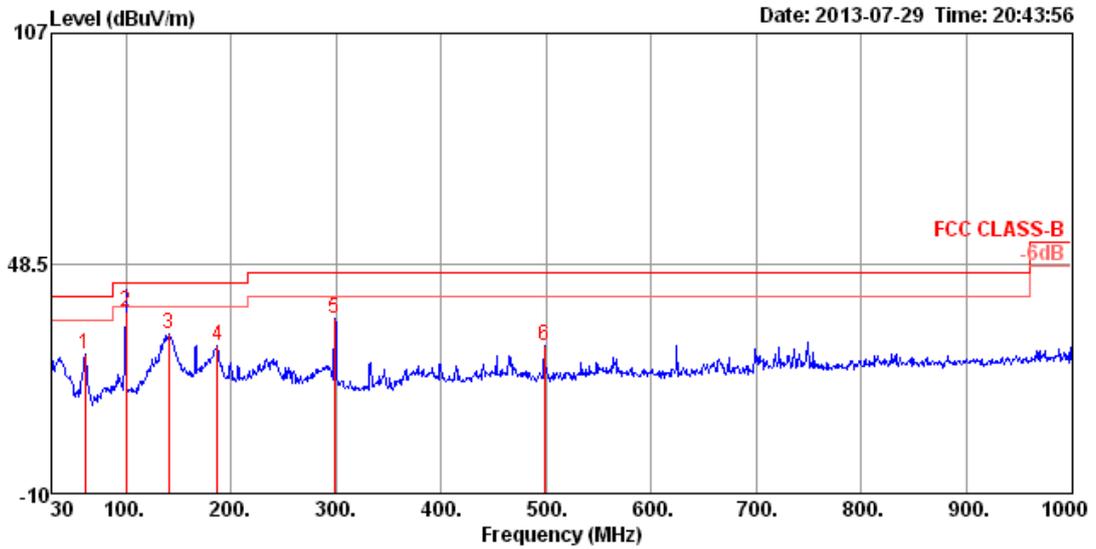
Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	CTX
Test Mode	Mode 2		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	61.04	26.81	40.00	-13.19	52.83	0.90	4.87	31.79	400	33	HORIZONTAL	Peak
2	99.84	33.58	43.50	-9.92	53.70	1.18	10.31	31.61	192	146	HORIZONTAL	QP
3	165.80	29.39	43.50	-14.11	49.99	1.56	9.38	31.54	200	209	HORIZONTAL	Peak
4	288.02	29.57	46.00	-16.43	46.38	2.07	12.65	31.53	100	211	HORIZONTAL	Peak
5 q	298.69	39.87	46.00	-6.13	56.20	2.12	12.98	31.43	100	175	HORIZONTAL	QP
6 p	749.74	35.60	46.00	-10.40	43.75	3.53	19.69	31.37	200	213	HORIZONTAL	Peak

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	61.04	25.34	40.00	-14.66	51.36	0.90	4.87	31.79	300	154	VERTICAL	Peak
2	q 99.84	36.28	43.50	-7.22	56.40	1.18	10.31	31.61	100	248	VERTICAL	QP
3	140.58	30.72	43.50	-12.78	50.02	1.40	10.82	31.52	125	120	VERTICAL	Peak
4	187.14	27.62	43.50	-15.88	49.10	1.64	8.39	31.51	100	240	VERTICAL	Peak
5	p 298.69	34.37	46.00	-11.63	50.70	2.12	12.98	31.43	400	340	VERTICAL	Peak
6	498.51	27.76	46.00	-18.24	39.45	2.81	16.90	31.40	100	271	VERTICAL	Peak

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.

4.5.9. Results for Radiated Emissions (1GHz~10th Harmonic)

For 2.4GHz Band:

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Po1/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4822.21	43.11	74.00	-30.89	41.77	3.31	33.06	35.03	Peak	100	213	HORIZONTAL
2	4829.00	30.04	54.00	-23.96	28.70	3.31	33.06	35.03	Average	100	213	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Po1/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4824.10	45.07	74.00	-28.93	43.73	3.31	33.06	35.03	Peak	100	98	VERTICAL
2	4824.48	33.13	54.00	-20.87	31.79	3.31	33.06	35.03	Average	100	98	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4876.24	34.51	54.00	-19.49	33.05	3.33	33.16	35.03	Average	100	304 HORIZONTAL
2	4876.31	50.27	74.00	-23.73	48.81	3.33	33.16	35.03	Peak	100	304 HORIZONTAL
3	7305.47	51.07	74.00	-22.93	46.49	4.06	35.92	35.40	Peak	100	169 HORIZONTAL
4	7306.19	37.92	54.00	-16.08	33.34	4.06	35.92	35.40	Average	100	169 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4874.72	38.96	54.00	-15.04	37.50	3.33	33.16	35.03	Average	100	87 VERTICAL
2	4874.80	56.40	74.00	-17.60	54.94	3.33	33.16	35.03	Peak	100	87 VERTICAL
3	7309.00	40.85	54.00	-13.15	36.23	4.06	35.96	35.40	Average	100	133 VERTICAL
4	7309.16	54.42	74.00	-19.58	49.80	4.06	35.96	35.40	Peak	100	133 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4914.99	30.47	54.00	-23.53	28.91	3.35	33.23	35.02	Average	100	175	HORIZONTAL
2	4918.97	42.59	74.00	-31.41	41.03	3.35	33.23	35.02	Peak	100	175	HORIZONTAL
3	7386.96	33.15	54.00	-20.85	28.40	4.06	36.09	35.40	Average	100	300	HORIZONTAL
4	7393.24	45.72	74.00	-28.28	40.93	4.06	36.13	35.40	Peak	100	300	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4923.36	49.55	74.00	-24.45	47.95	3.35	33.26	35.01	Peak	100	95	VERTICAL
2	4923.65	35.89	54.00	-18.11	34.29	3.35	33.26	35.01	Average	100	95	VERTICAL
3	7388.89	33.98	54.00	-20.02	29.23	4.06	36.09	35.40	Average	100	217	VERTICAL
4	7389.81	46.35	74.00	-27.65	41.60	4.06	36.09	35.40	Peak	100	217	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4816.85	29.95	54.00	-24.05	28.66	3.31	33.02	35.04	Average	100	225	HORIZONTAL
2	4828.71	41.88	74.00	-32.12	40.54	3.31	33.06	35.03	Peak	100	225	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4819.80	48.31	74.00	-25.69	46.97	3.31	33.06	35.03	Peak	111	179	VERTICAL
2	4824.96	33.63	54.00	-20.37	32.29	3.31	33.06	35.03	Average	111	179	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4870.96	32.80	54.00	-21.20	31.34	3.33	33.16	35.03	Average	143	257 HORIZONTAL
2	4871.02	49.15	74.00	-24.85	47.69	3.33	33.16	35.03	Peak	143	257 HORIZONTAL
3	7311.06	42.01	54.00	-11.99	37.39	4.06	35.96	35.40	Average	189	128 HORIZONTAL
4	7311.10	55.80	74.00	-18.20	51.18	4.06	35.96	35.40	Peak	189	128 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4876.66	55.17	74.00	-18.83	53.71	3.33	33.16	35.03	Peak	100	261 VERTICAL
2	4876.76	38.53	54.00	-15.47	37.07	3.33	33.16	35.03	Average	100	261 VERTICAL
3	7310.71	41.07	54.00	-12.93	36.45	4.06	35.96	35.40	Average	100	149 VERTICAL
4	7310.90	55.54	74.00	-18.46	50.92	4.06	35.96	35.40	Peak	100	149 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4927.27	30.71	54.00	-23.29	29.11	3.35	33.26	35.01	Average	100	107 HORIZONTAL
2	4933.49	42.93	74.00	-31.07	41.33	3.35	33.26	35.01	Peak	100	107 HORIZONTAL
3	7385.71	33.79	54.00	-20.21	29.04	4.06	36.09	35.40	Average	100	315 HORIZONTAL
4	7393.63	45.49	74.00	-28.51	40.70	4.06	36.13	35.40	Peak	100	315 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4926.12	36.72	54.00	-17.28	35.12	3.35	33.26	35.01	Average	100	261 VERTICAL
2	4926.24	49.01	74.00	-24.99	47.41	3.35	33.26	35.01	Peak	100	261 VERTICAL
3	7389.17	35.56	54.00	-18.44	30.81	4.06	36.09	35.40	Average	100	135 VERTICAL
4	7394.62	50.38	74.00	-23.62	45.59	4.06	36.13	35.40	Peak	100	135 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4827.85	30.32	54.00	-23.68	28.98	3.31	33.06	35.03	Average	100	249	HORIZONTAL
2	4846.31	42.98	74.00	-31.02	41.60	3.32	33.09	35.03	Peak	100	249	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4830.41	30.77	54.00	-23.23	29.43	3.31	33.06	35.03	Average	100	340	VERTICAL
2	4855.99	43.35	74.00	-30.65	41.94	3.32	33.12	35.03	Peak	100	340	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4854.32	29.89	54.00	-24.11	28.48	3.32	33.12	35.03	Average	100	157	HORIZONTAL
2	4861.82	42.41	74.00	-31.59	41.00	3.32	33.12	35.03	Peak	100	157	HORIZONTAL
3	7296.64	33.30	54.00	-20.70	28.72	4.06	35.92	35.40	Average	100	325	HORIZONTAL
4	7313.24	46.09	74.00	-27.91	41.47	4.06	35.96	35.40	Peak	100	325	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4873.68	43.95	74.00	-30.05	42.49	3.33	33.16	35.03	Peak	100	143	VERTICAL
2	4874.32	31.73	54.00	-22.27	30.27	3.33	33.16	35.03	Average	100	143	VERTICAL
3	7296.00	46.63	74.00	-27.37	42.05	4.06	35.92	35.40	Peak	100	264	VERTICAL
4	7303.63	33.30	54.00	-20.70	28.72	4.06	35.92	35.40	Average	100	264	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4918.55	30.12	54.00	-23.88	28.56	3.35	33.23	35.02	Average	100	153 HORIZONTAL
2	4918.81	41.31	74.00	-32.69	39.75	3.35	33.23	35.02	Peak	100	153 HORIZONTAL
3	7336.77	46.90	74.00	-27.10	42.25	4.06	35.99	35.40	Peak	100	227 HORIZONTAL
4	7354.21	33.62	54.00	-20.38	28.94	4.06	36.02	35.40	Average	100	227 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4919.00	32.13	54.00	-21.87	30.57	3.35	33.23	35.02	Average	100	267 VERTICAL
2	4921.18	42.21	74.00	-31.79	40.64	3.35	33.23	35.01	Peak	100	267 VERTICAL
3	7338.76	46.33	74.00	-27.67	41.68	4.06	35.99	35.40	Peak	100	320 VERTICAL
4	7340.62	33.59	54.00	-20.41	28.94	4.06	35.99	35.40	Average	100	320 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4845.99	42.88	74.00	-31.12	41.50	3.32	33.09	35.03	Peak	100	67 HORIZONTAL
2	4847.85	29.62	54.00	-24.38	28.24	3.32	33.09	35.03	Average	100	67 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4834.64	43.39	74.00	-30.61	42.05	3.31	33.06	35.03	Peak	100	197 VERTICAL
2	4844.58	30.87	54.00	-23.13	29.49	3.32	33.09	35.03	Average	100	197 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4867.65	42.18	74.00	-31.82	40.76	3.33	33.12	35.03	Peak	100	256 HORIZONTAL
2	4879.39	29.57	54.00	-24.43	28.11	3.33	33.16	35.03	Average	100	256 HORIZONTAL
3	7307.73	45.57	74.00	-28.43	40.95	4.06	35.96	35.40	Peak	100	143 HORIZONTAL
4	7312.57	32.84	54.00	-21.16	28.22	4.06	35.96	35.40	Average	100	143 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4871.69	31.90	54.00	-22.10	30.44	3.33	33.16	35.03	Average	110	95 VERTICAL
2	4876.66	44.74	74.00	-29.26	43.28	3.33	33.16	35.03	Peak	110	95 VERTICAL
3	7305.04	33.01	54.00	-20.99	28.43	4.06	35.92	35.40	Average	100	258 VERTICAL
4	7314.24	45.68	74.00	-28.32	41.06	4.06	35.96	35.40	Peak	100	258 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4906.92	42.34	74.00	-31.66	40.79	3.34	33.23	35.02	Peak	100	94	HORIZONTAL
2	4912.91	29.88	54.00	-24.12	28.33	3.34	33.23	35.02	Average	100	94	HORIZONTAL
3	7353.50	33.05	54.00	-20.95	28.37	4.06	36.02	35.40	Average	100	204	HORIZONTAL
4	7363.66	46.35	74.00	-27.65	41.63	4.06	36.06	35.40	Peak	100	204	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4902.62	45.10	74.00	-28.90	43.59	3.34	33.19	35.02	Peak	100	80	VERTICAL
2	4912.62	32.08	54.00	-21.92	30.53	3.34	33.23	35.02	Average	100	80	VERTICAL
3	7359.81	33.42	54.00	-20.58	28.70	4.06	36.06	35.40	Average	100	282	VERTICAL
4	7364.40	45.90	74.00	-28.10	41.18	4.06	36.06	35.40	Peak	100	282	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4823.87	46.13	74.00	-27.87	44.79	3.31	33.06	35.03	Peak	248	107	HORIZONTAL
2	4823.90	37.97	54.00	-16.03	36.63	3.31	33.06	35.03	Average	248	107	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4823.91	48.61	54.00	-5.39	47.27	3.31	33.06	35.03	Average	126	202	VERTICAL
2	4823.99	51.72	74.00	-22.28	50.38	3.31	33.06	35.03	Peak	126	202	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4873.87	49.15	74.00	-24.85	47.69	3.33	33.16	35.03	Peak	240	86	HORIZONTAL
2	4873.93	44.36	54.00	-9.64	42.90	3.33	33.16	35.03	Average	240	86	HORIZONTAL
3	7310.16	44.58	54.00	-9.42	39.96	4.06	35.96	35.40	Average	170	126	HORIZONTAL
4	7311.52	51.81	74.00	-22.19	47.19	4.06	35.96	35.40	Peak	170	126	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4873.91	55.70	74.00	-18.30	54.24	3.33	33.16	35.03	Peak	191	324	VERTICAL
2	4873.93	53.72	54.00	-0.28	52.26	3.33	33.16	35.03	Average	191	324	VERTICAL
3	7310.16	45.38	54.00	-8.62	40.76	4.06	35.96	35.40	Average	160	358	VERTICAL
4	7311.21	52.24	74.00	-21.76	47.62	4.06	35.96	35.40	Peak	160	358	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.90	43.72	54.00	-10.28	42.12	3.35	33.26	35.01	Average	100	336 HORIZONTAL
2	4923.97	48.50	74.00	-25.50	46.90	3.35	33.26	35.01	Peak	100	336 HORIZONTAL
3	7386.65	41.28	54.00	-12.72	36.53	4.06	36.09	35.40	Average	175	125 HORIZONTAL
4	7386.90	50.01	74.00	-23.99	45.26	4.06	36.09	35.40	Peak	175	125 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.91	55.94	74.00	-18.06	54.34	3.35	33.26	35.01	Peak	100	73 VERTICAL
2	4923.92	53.76	54.00	-0.24	52.16	3.35	33.26	35.01	Average	100	73 VERTICAL
3	7385.15	49.93	74.00	-24.07	45.18	4.06	36.09	35.40	Peak	159	137 VERTICAL
4	7386.66	40.54	54.00	-13.46	35.79	4.06	36.09	35.40	Average	159	137 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11g CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4825.41	42.77	74.00	-31.23	41.43	3.31	33.06	35.03	Peak	100	111 HORIZONTAL
2	4827.37	30.09	54.00	-23.91	28.75	3.31	33.06	35.03	Average	100	111 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4826.44	45.06	74.00	-28.94	43.72	3.31	33.06	35.03	Peak	100	261 VERTICAL
2	4826.82	31.79	54.00	-22.21	30.45	3.31	33.06	35.03	Average	100	261 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11g CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4868.71	32.23	54.00	-21.77	30.81	3.33	33.12	35.03	Average	100	257	HORIZONTAL
2	4870.64	46.69	74.00	-27.31	45.27	3.33	33.12	35.03	Peak	100	257	HORIZONTAL
3	7311.72	43.18	54.00	-10.82	38.56	4.06	35.96	35.40	Average	176	126	HORIZONTAL
4	7312.44	58.48	74.00	-15.52	53.86	4.06	35.96	35.40	Peak	176	126	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4876.16	39.07	54.00	-14.93	37.61	3.33	33.16	35.03	Average	100	261	VERTICAL
2	4876.48	53.43	74.00	-20.57	51.97	3.33	33.16	35.03	Peak	100	261	VERTICAL
3	7311.88	42.38	54.00	-11.62	37.76	4.06	35.96	35.40	Average	100	148	VERTICAL
4	7312.12	57.76	74.00	-16.24	53.14	4.06	35.96	35.40	Peak	100	148	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11g CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 1 (Ant.1 Dipole antenna / 1.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4927.45	43.53	74.00	-30.47	41.93	3.35	33.26	35.01	100	263	HORIZONTAL
2	4928.09	31.97	54.00	-22.03	30.37	3.35	33.26	35.01	100	263	HORIZONTAL
3	7386.16	46.59	74.00	-27.41	41.84	4.06	36.09	35.40	100	137	HORIZONTAL
4	7386.96	34.63	54.00	-19.37	29.88	4.06	36.09	35.40	100	137	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4927.61	37.93	54.00	-16.07	36.33	3.35	33.26	35.01	123	196	VERTICAL
2	4928.01	51.23	74.00	-22.77	49.63	3.35	33.26	35.01	123	196	VERTICAL
3	7388.32	38.11	54.00	-15.89	33.36	4.06	36.09	35.40	100	133	VERTICAL
4	7397.86	52.18	74.00	-21.82	47.39	4.06	36.13	35.40	100	133	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4828.65	43.92	74.00	-30.08	42.58	3.31	33.06	35.03	Peak	100	140	HORIZONTAL
2	4829.67	29.96	54.00	-24.04	28.62	3.31	33.06	35.03	Average	100	140	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4820.38	31.78	54.00	-22.22	30.44	3.31	33.06	35.03	Average	100	216	VERTICAL
2	4828.49	42.71	74.00	-31.29	41.37	3.31	33.06	35.03	Peak	100	216	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4869.42	57.43	74.00	-16.57	56.01	3.33	33.12	35.03	Peak	151	86 HORIZONTAL
2	4874.83	39.37	54.00	-14.63	37.91	3.33	33.16	35.03	Average	151	86 HORIZONTAL
3	7305.79	60.17	74.00	-13.83	55.59	4.06	35.92	35.40	Peak	178	148 HORIZONTAL
4	7305.95	45.24	54.00	-8.76	40.66	4.06	35.92	35.40	Average	178	148 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4870.56	57.56	74.00	-16.44	56.14	3.33	33.12	35.03	Peak	100	173 VERTICAL
2	4876.00	40.59	54.00	-13.41	39.13	3.33	33.16	35.03	Average	100	173 VERTICAL
3	7309.24	40.52	54.00	-13.48	35.90	4.06	35.96	35.40	Average	100	323 VERTICAL
4	7309.40	54.53	74.00	-19.47	49.91	4.06	35.96	35.40	Peak	100	323 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4915.99	42.58	74.00	-31.42	41.02	3.35	33.23	35.02	Peak	100	205	HORIZONTAL
2	4929.29	31.53	54.00	-22.47	29.93	3.35	33.26	35.01	Average	100	205	HORIZONTAL
3	7381.83	45.77	74.00	-28.23	41.02	4.06	36.09	35.40	Peak	100	303	HORIZONTAL
4	7395.17	33.10	54.00	-20.90	28.31	4.06	36.13	35.40	Average	100	303	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4921.24	42.50	74.00	-31.50	40.93	3.35	33.23	35.01	Peak	100	117	VERTICAL
2	4924.48	30.48	54.00	-23.52	28.88	3.35	33.26	35.01	Average	100	117	VERTICAL
3	7389.97	45.35	74.00	-28.65	40.60	4.06	36.09	35.40	Peak	100	204	VERTICAL
4	7395.87	33.19	54.00	-20.81	28.40	4.06	36.13	35.40	Average	100	204	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4820.03	29.36	54.00	-24.64	28.02	3.31	33.06	35.03	Average	100	76	HORIZONTAL
2	4825.70	43.30	74.00	-30.70	41.96	3.31	33.06	35.03	Peak	100	76	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4822.25	42.57	74.00	-31.43	41.23	3.31	33.06	35.03	Peak	100	210	VERTICAL
2	4827.53	30.02	54.00	-23.98	28.68	3.31	33.06	35.03	Average	100	210	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.97	35.97	54.00	-18.03	34.51	3.33	33.16	35.03	Average	115	257 HORIZONTAL
2	4876.00	52.10	74.00	-21.90	50.64	3.33	33.16	35.03	Peak	115	257 HORIZONTAL
3	7307.76	54.45	74.00	-19.55	49.83	4.06	35.96	35.40	Peak	126	336 HORIZONTAL
4	7309.11	40.70	54.00	-13.30	36.08	4.06	35.96	35.40	Average	126	336 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4875.83	34.21	54.00	-19.79	32.75	3.33	33.16	35.03	Average	100	227 VERTICAL
2	4878.30	51.21	74.00	-22.79	49.75	3.33	33.16	35.03	Peak	100	227 VERTICAL
3	7311.10	55.00	74.00	-19.00	50.38	4.06	35.96	35.40	Peak	100	75 VERTICAL
4	7311.42	41.51	54.00	-12.49	36.89	4.06	35.96	35.40	Average	100	75 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4926.98	43.61	74.00	-30.39	42.01	3.35	33.26	35.01	Peak	100	49 HORIZONTAL
2	4927.59	30.37	54.00	-23.63	28.77	3.35	33.26	35.01	Average	100	49 HORIZONTAL
3	7386.71	32.73	54.00	-21.27	27.98	4.06	36.09	35.40	Average	100	312 HORIZONTAL
4	7387.07	46.12	74.00	-27.88	41.37	4.06	36.09	35.40	Peak	100	312 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4919.13	43.06	74.00	-30.94	41.50	3.35	33.23	35.02	Peak	100	301 VERTICAL
2	4928.89	30.24	54.00	-23.76	28.64	3.35	33.26	35.01	Average	100	301 VERTICAL
3	7388.85	45.76	74.00	-28.24	41.01	4.06	36.09	35.40	Peak	100	67 VERTICAL
4	7390.87	33.19	54.00	-20.81	28.44	4.06	36.09	35.40	Average	100	67 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4847.88	42.29	74.00	-31.71	40.91	3.32	33.09	35.03	Peak	100	189 HORIZONTAL
2	4853.10	29.67	54.00	-24.33	28.29	3.32	33.09	35.03	Average	100	189 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4834.35	42.41	74.00	-31.59	41.07	3.31	33.06	35.03	Peak	100	288 VERTICAL
2	4843.55	29.87	54.00	-24.13	28.49	3.32	33.09	35.03	Average	100	288 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4874.48	42.12	74.00	-31.88	40.66	3.33	33.16	35.03	Peak	100	297	HORIZONTAL
2	4879.32	29.85	54.00	-24.15	28.39	3.33	33.16	35.03	Average	100	297	HORIZONTAL
3	7305.84	33.30	54.00	-20.70	28.72	4.06	35.92	35.40	Average	100	203	HORIZONTAL
4	7310.74	45.61	74.00	-28.39	40.99	4.06	35.96	35.40	Peak	100	203	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4875.57	30.53	54.00	-23.47	29.07	3.33	33.16	35.03	Average	100	283	VERTICAL
2	4878.90	42.41	74.00	-31.59	40.95	3.33	33.16	35.03	Peak	100	283	VERTICAL
3	7309.81	33.09	54.00	-20.91	28.47	4.06	35.96	35.40	Average	100	100	VERTICAL
4	7309.97	46.09	74.00	-27.91	41.47	4.06	35.96	35.40	Peak	100	100	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4902.24	42.07	74.00	-31.93	40.56	3.34	33.19	35.02	Peak	100	154	HORIZONTAL
2	4907.01	30.05	54.00	-23.95	28.50	3.34	33.23	35.02	Average	100	154	HORIZONTAL
3	7355.71	45.94	74.00	-28.06	41.26	4.06	36.02	35.40	Peak	100	235	HORIZONTAL
4	7355.94	33.27	54.00	-20.73	28.59	4.06	36.02	35.40	Average	100	235	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4904.16	43.08	74.00	-30.92	41.57	3.34	33.19	35.02	Peak	100	276	VERTICAL
2	4913.39	30.52	54.00	-23.48	28.97	3.34	33.23	35.02	Average	100	276	VERTICAL
3	7348.63	33.22	54.00	-20.78	28.54	4.06	36.02	35.40	Average	100	153	VERTICAL
4	7357.44	45.75	74.00	-28.25	41.07	4.06	36.02	35.40	Peak	100	153	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4842.29	29.25	54.00	-24.75	27.87	3.32	33.09	35.03	Average	100	296	HORIZONTAL
2	4845.19	42.80	74.00	-31.20	41.42	3.32	33.09	35.03	Peak	100	296	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4842.70	29.41	54.00	-24.59	28.03	3.32	33.09	35.03	Average	100	83	VERTICAL
2	4845.23	42.14	74.00	-31.86	40.76	3.32	33.09	35.03	Peak	100	83	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4874.85	29.63	54.00	-24.37	28.17	3.33	33.16	35.03	Average	100	83 HORIZONTAL
2	4875.49	42.36	74.00	-31.64	40.90	3.33	33.16	35.03	Peak	100	83 HORIZONTAL
3	7311.11	32.71	54.00	-21.29	28.09	4.06	35.96	35.40	Average	100	269 HORIZONTAL
4	7312.30	45.84	74.00	-28.16	41.22	4.06	35.96	35.40	Peak	100	269 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.06	42.57	74.00	-31.43	41.11	3.33	33.16	35.03	Peak	100	279 VERTICAL
2	4875.36	29.40	54.00	-24.60	27.94	3.33	33.16	35.03	Average	100	279 VERTICAL
3	7309.03	45.60	74.00	-28.40	40.98	4.06	35.96	35.40	Peak	100	85 VERTICAL
4	7311.55	32.74	54.00	-21.26	28.12	4.06	35.96	35.40	Average	100	85 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4903.41	29.76	54.00	-24.24	28.25	3.34	33.19	35.02	Average	101	274 HORIZONTAL
2	4904.74	42.31	74.00	-31.69	40.80	3.34	33.19	35.02	Peak	101	274 HORIZONTAL
3	7352.51	33.18	54.00	-20.82	28.50	4.06	36.02	35.40	Average	101	90 HORIZONTAL
4	7359.73	46.37	74.00	-27.63	41.65	4.06	36.06	35.40	Peak	101	90 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4903.34	29.74	54.00	-24.26	28.23	3.34	33.19	35.02	Average	101	111 VERTICAL
2	4903.65	42.36	74.00	-31.64	40.85	3.34	33.19	35.02	Peak	101	111 VERTICAL
3	7354.14	32.90	54.00	-21.10	28.22	4.06	36.02	35.40	Average	101	264 VERTICAL
4	7354.51	46.08	74.00	-27.92	41.40	4.06	36.02	35.40	Peak	101	264 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.93	46.52	54.00	-7.48	45.18	3.31	33.06	35.03	Average	100	230	HORIZONTAL
2	4823.96	50.16	74.00	-23.84	48.82	3.31	33.06	35.03	Peak	100	230	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4823.92	50.88	74.00	-23.12	49.54	3.31	33.06	35.03	Peak	100	45	VERTICAL
2	4823.93	47.27	54.00	-6.73	45.93	3.31	33.06	35.03	Average	100	45	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.90	47.52	54.00	-6.48	46.06	3.33	33.16	35.03	100	279	HORIZONTAL
2	4873.99	50.63	74.00	-23.37	49.17	3.33	33.16	35.03	100	279	HORIZONTAL
3	7309.94	52.95	74.00	-21.05	48.33	4.06	35.96	35.40	100	327	HORIZONTAL
4	7310.14	46.50	54.00	-7.50	41.88	4.06	35.96	35.40	100	327	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.93	46.77	54.00	-7.23	45.31	3.33	33.16	35.03	111	2	VERTICAL
2	4873.97	49.49	74.00	-24.51	48.03	3.33	33.16	35.03	111	2	VERTICAL
3	7310.12	45.40	54.00	-8.60	40.78	4.06	35.96	35.40	100	307	VERTICAL
4	7311.83	52.70	74.00	-21.30	48.08	4.06	35.96	35.40	100	307	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.84	50.54	74.00	-23.46	48.94	3.35	33.26	35.01	152	80	HORIZONTAL
2	4923.95	47.49	54.00	-6.51	45.89	3.35	33.26	35.01	152	80	HORIZONTAL
3	7386.90	49.60	74.00	-24.40	44.85	4.06	36.09	35.40	100	189	HORIZONTAL
4	7388.66	40.52	54.00	-13.48	35.77	4.06	36.09	35.40	100	189	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.92	49.35	74.00	-24.65	47.75	3.35	33.26	35.01	100	5	VERTICAL
2	4923.94	45.54	54.00	-8.46	43.94	3.35	33.26	35.01	100	5	VERTICAL
3	7389.13	43.42	54.00	-10.58	38.67	4.06	36.09	35.40	100	85	VERTICAL
4	7389.29	51.41	74.00	-22.59	46.66	4.06	36.09	35.40	100	85	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11g CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4819.71	44.51	74.00	-29.49	43.17	3.31	33.06	35.03	100	253	HORIZONTAL
2	4820.47	31.32	54.00	-22.68	29.98	3.31	33.06	35.03	100	253	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4819.63	43.23	74.00	-30.77	41.89	3.31	33.06	35.03	100	60	VERTICAL
2	4820.17	30.72	54.00	-23.28	29.38	3.31	33.06	35.03	100	60	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11g CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4869.03	37.68	54.00	-16.32	36.26	3.33	33.12	35.03	Average	148	100	HORIZONTAL
2	4869.10	52.58	74.00	-21.42	51.16	3.33	33.12	35.03	Peak	148	100	HORIZONTAL
3	7310.95	43.31	54.00	-10.69	38.69	4.06	35.96	35.40	Average	128	336	HORIZONTAL
4	7311.83	56.77	74.00	-17.23	52.15	4.06	35.96	35.40	Peak	128	336	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4869.10	36.48	54.00	-17.52	35.06	3.33	33.12	35.03	Average	103	11	VERTICAL
2	4870.23	52.50	74.00	-21.50	51.08	3.33	33.12	35.03	Peak	103	11	VERTICAL
3	7311.75	44.24	54.00	-9.76	39.62	4.06	35.96	35.40	Average	100	71	VERTICAL
4	7311.90	58.65	74.00	-15.35	54.03	4.06	35.96	35.40	Peak	100	71	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11g CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 15, 2013	Test Mode	Mode 2 (Ant.2 Element antenna / 5.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.38	45.30	74.00	-28.70	43.70	3.35	33.26	35.01	100	267	HORIZONTAL
2	4923.74	31.72	54.00	-22.28	30.12	3.35	33.26	35.01	100	267	HORIZONTAL
3	7387.56	48.58	74.00	-25.42	43.83	4.06	36.09	35.40	101	82	HORIZONTAL
4	7388.16	35.05	54.00	-18.95	30.30	4.06	36.09	35.40	101	82	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4927.38	44.55	74.00	-29.45	42.95	3.35	33.26	35.01	100	5	VERTICAL
2	4928.90	32.29	54.00	-21.71	30.69	3.35	33.26	35.01	100	5	VERTICAL
3	7387.47	52.91	74.00	-21.09	48.16	4.06	36.09	35.40	191	304	VERTICAL
4	7387.84	37.89	54.00	-16.11	33.14	4.06	36.09	35.40	191	304	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4820.01	35.21	54.00	-18.79	33.87	3.31	33.06	35.03	Average	100	184	HORIZONTAL
2	4821.07	48.62	74.00	-25.38	47.28	3.31	33.06	35.03	Peak	100	184	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4824.19	38.51	54.00	-15.49	37.17	3.31	33.06	35.03	Average	129	181	VERTICAL
2	4824.34	52.68	74.00	-21.32	51.34	3.31	33.06	35.03	Peak	129	181	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4871.76	52.99	74.00	-21.01	51.53	3.33	33.16	35.03	Peak	100	174	HORIZONTAL
2	4872.64	38.40	54.00	-15.60	36.94	3.33	33.16	35.03	Average	100	174	HORIZONTAL
3	7311.16	38.75	54.00	-15.25	34.13	4.06	35.96	35.40	Average	100	214	HORIZONTAL
4	7311.40	51.28	74.00	-22.72	46.66	4.06	35.96	35.40	Peak	100	214	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4874.88	45.09	54.00	-8.91	43.63	3.33	33.16	35.03	Average	113	185	VERTICAL
2	4874.96	60.77	74.00	-13.23	59.31	3.33	33.16	35.03	Peak	113	185	VERTICAL
3	7301.06	56.71	74.00	-17.29	52.13	4.06	35.92	35.40	Peak	100	58	VERTICAL
4	7306.11	42.58	54.00	-11.42	38.00	4.06	35.92	35.40	Average	100	58	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4926.60	48.73	74.00	-25.27	47.13	3.35	33.26	35.01	Peak	100	180	HORIZONTAL
2	4927.65	35.22	54.00	-18.78	33.62	3.35	33.26	35.01	Average	100	180	HORIZONTAL
3	7393.45	46.53	74.00	-27.47	41.74	4.06	36.13	35.40	Peak	100	197	HORIZONTAL
4	7400.18	33.53	54.00	-20.47	28.74	4.06	36.13	35.40	Average	100	197	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4929.39	41.05	54.00	-12.95	39.45	3.35	33.26	35.01	Average	125	184	VERTICAL
2	4929.48	55.70	74.00	-18.30	54.10	3.35	33.26	35.01	Peak	125	184	VERTICAL
3	7385.28	49.74	74.00	-24.26	44.99	4.06	36.09	35.40	Peak	100	85	VERTICAL
4	7390.90	36.02	54.00	-17.98	31.27	4.06	36.09	35.40	Average	100	85	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

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	4821.02	49.07	74.00	-24.93	47.73	3.31	33.06	35.03	Peak	102	181	HORIZONTAL
2	4823.95	35.89	54.00	-18.11	34.55	3.31	33.06	35.03	Average	102	181	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	4825.20	39.54	54.00	-14.46	38.20	3.31	33.06	35.03	Average	117	182	VERTICAL
2	4826.02	51.74	74.00	-22.26	50.40	3.31	33.06	35.03	Peak	117	182	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.75	39.00	54.00	-15.00	37.54	3.33	33.16	35.03	Average	100	177 HORIZONTAL
2	4874.10	54.32	74.00	-19.68	52.86	3.33	33.16	35.03	Peak	100	177 HORIZONTAL
3	7308.21	39.50	54.00	-14.50	34.88	4.06	35.96	35.40	Average	175	24 HORIZONTAL
4	7319.22	52.60	74.00	-21.40	47.98	4.06	35.96	35.40	Peak	175	24 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.95	43.54	54.00	-10.46	42.08	3.33	33.16	35.03	Average	117	180 VERTICAL
2	4873.95	56.52	74.00	-17.48	55.06	3.33	33.16	35.03	Peak	117	180 VERTICAL
3	7310.38	40.51	54.00	-13.49	35.89	4.06	35.96	35.40	Average	100	220 VERTICAL
4	7317.59	53.86	74.00	-20.14	49.24	4.06	35.96	35.40	Peak	100	220 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4924.05	49.43	74.00	-24.57	47.83	3.35	33.26	35.01	Peak	100	184	HORIZONTAL
2	4924.29	36.84	54.00	-17.16	35.24	3.35	33.26	35.01	Average	100	184	HORIZONTAL
3	7372.64	33.50	54.00	-20.50	28.78	4.06	36.06	35.40	Average	100	72	HORIZONTAL
4	7388.40	46.42	74.00	-27.58	41.67	4.06	36.09	35.40	Peak	100	72	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4925.92	40.69	54.00	-13.31	39.09	3.35	33.26	35.01	Average	121	180	VERTICAL
2	4931.21	53.53	74.00	-20.47	51.93	3.35	33.26	35.01	Peak	121	180	VERTICAL
3	7386.19	46.78	74.00	-27.22	42.03	4.06	36.09	35.40	Peak	100	220	VERTICAL
4	7389.85	34.95	54.00	-19.05	30.20	4.06	36.09	35.40	Average	100	220	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor		cm	deg		
						dB	dB/m	dB				
1	4826.37	31.39	54.00	-22.61	30.05	3.31	33.06	35.03	Average	100	184	HORIZONTAL
2	4846.37	44.90	74.00	-29.10	43.52	3.32	33.09	35.03	Peak	100	184	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor		cm	deg		
						dB	dB/m	dB				
1	4840.41	34.93	54.00	-19.07	33.55	3.32	33.09	35.03	Average	114	173	VERTICAL
2	4840.86	46.70	74.00	-27.30	45.32	3.32	33.09	35.03	Peak	114	173	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.91	32.73	54.00	-21.27	31.27	3.33	33.16	35.03	Average	100	176 HORIZONTAL
2	4877.59	45.29	74.00	-28.71	43.83	3.33	33.16	35.03	Peak	100	176 HORIZONTAL
3	7304.40	45.65	74.00	-28.35	41.07	4.06	35.92	35.40	Peak	100	147 HORIZONTAL
4	7317.15	33.24	54.00	-20.76	28.62	4.06	35.96	35.40	Average	100	147 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4874.77	37.72	54.00	-16.28	36.26	3.33	33.16	35.03	Average	127	186 VERTICAL
2	4874.90	50.97	74.00	-23.03	49.51	3.33	33.16	35.03	Peak	127	186 VERTICAL
3	7319.65	46.73	74.00	-27.27	42.11	4.06	35.96	35.40	Peak	100	49 VERTICAL
4	7326.26	33.75	54.00	-20.25	29.10	4.06	35.99	35.40	Average	100	49 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4918.36	45.16	74.00	-28.84	43.60	3.35	33.23	35.02	100	181	HORIZONTAL
2	4923.30	31.73	54.00	-22.27	30.13	3.35	33.26	35.01	100	181	HORIZONTAL
3	7341.19	33.35	54.00	-20.65	28.70	4.06	35.99	35.40	100	179	HORIZONTAL
4	7369.85	46.36	74.00	-27.64	41.64	4.06	36.06	35.40	100	179	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4919.26	35.05	54.00	-18.95	33.49	3.35	33.23	35.02	123	185	VERTICAL
2	4919.45	47.03	74.00	-26.97	45.47	3.35	33.23	35.02	123	185	VERTICAL
3	7362.99	47.10	74.00	-26.90	42.38	4.06	36.06	35.40	100	101	VERTICAL
4	7365.87	33.52	54.00	-20.48	28.80	4.06	36.06	35.40	100	101	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4845.30	32.00	54.00	-22.00	30.62	3.32	33.09	35.03	Average	127	181 HORIZONTAL
2	4845.30	45.34	74.00	-28.66	43.96	3.32	33.09	35.03	Peak	127	181 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4843.14	48.60	74.00	-25.40	47.22	3.32	33.09	35.03	Peak	114	181 VERTICAL
2	4844.24	34.53	54.00	-19.47	33.15	3.32	33.09	35.03	Average	114	181 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.65	32.96	54.00	-21.04	31.50	3.33	33.16	35.03	Average	100	176 HORIZONTAL
2	4875.73	46.13	74.00	-27.87	44.67	3.33	33.16	35.03	Peak	100	176 HORIZONTAL
3	7307.59	33.45	54.00	-20.55	28.83	4.06	35.96	35.40	Average	100	91 HORIZONTAL
4	7317.59	46.04	74.00	-27.96	41.42	4.06	35.96	35.40	Peak	100	91 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.89	50.70	74.00	-23.30	49.24	3.33	33.16	35.03	Peak	113	179 VERTICAL
2	4874.00	35.93	54.00	-18.07	34.47	3.33	33.16	35.03	Average	113	179 VERTICAL
3	7298.50	46.06	74.00	-27.94	41.48	4.06	35.92	35.40	Peak	100	156 VERTICAL
4	7317.54	33.62	54.00	-20.38	29.00	4.06	35.96	35.40	Average	100	156 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4908.86	44.16	74.00	-29.84	42.61	3.34	33.23	35.02	Peak	100	185 HORIZONTAL
2	4917.61	32.19	54.00	-21.81	30.63	3.35	33.23	35.02	Average	100	185 HORIZONTAL
3	7343.45	33.69	54.00	-20.31	29.01	4.06	36.02	35.40	Average	100	131 HORIZONTAL
4	7349.41	46.39	74.00	-27.61	41.71	4.06	36.02	35.40	Peak	100	131 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4915.15	34.54	54.00	-19.46	32.98	3.35	33.23	35.02	Average	114	187 VERTICAL
2	4918.52	47.15	74.00	-26.85	45.59	3.35	33.23	35.02	Peak	114	187 VERTICAL
3	7344.32	46.83	74.00	-27.17	42.15	4.06	36.02	35.40	Peak	100	59 VERTICAL
4	7350.86	33.64	54.00	-20.36	28.96	4.06	36.02	35.40	Average	100	59 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11b CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.83	54.91	74.00	-19.09	53.57	3.31	33.06	35.03	Peak	105	182	HORIZONTAL
2	4823.92	52.97	54.00	-1.03	51.63	3.31	33.06	35.03	Average	105	182	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	4823.88	55.77	74.00	-18.23	54.43	3.31	33.06	35.03	Peak	115	182	VERTICAL
2	4823.93	53.83	54.00	-0.17	52.49	3.31	33.06	35.03	Average	115	182	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11b CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.89	50.73	74.00	-23.27	49.27	3.33	33.16	35.03	101	182	HORIZONTAL
2	4873.94	46.86	54.00	-7.14	45.40	3.33	33.16	35.03	101	182	HORIZONTAL
3	7310.88	33.30	54.00	-20.70	28.68	4.06	35.96	35.40	100	191	HORIZONTAL
4	7311.23	46.60	74.00	-27.40	41.98	4.06	35.96	35.40	100	191	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.90	55.98	74.00	-18.02	54.52	3.33	33.16	35.03	117	181	VERTICAL
2	4873.93	53.86	54.00	-0.14	52.40	3.33	33.16	35.03	117	181	VERTICAL
3	7310.44	46.04	74.00	-27.96	41.42	4.06	35.96	35.40	100	174	VERTICAL
4	7311.52	33.72	54.00	-20.28	29.10	4.06	35.96	35.40	100	174	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11b CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.89	50.42	74.00	-23.58	48.82	3.35	33.26	35.01	107	178	HORIZONTAL
2	4923.92	46.43	54.00	-7.57	44.83	3.35	33.26	35.01	107	178	HORIZONTAL
3	7387.81	33.52	54.00	-20.48	28.77	4.06	36.09	35.40	100	179	HORIZONTAL
4	7388.28	46.64	74.00	-27.36	41.89	4.06	36.09	35.40	100	179	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.89	55.75	74.00	-18.25	54.15	3.35	33.26	35.01	126	184	VERTICAL
2	4923.93	53.67	54.00	-0.33	52.07	3.35	33.26	35.01	126	184	VERTICAL
3	7385.43	46.23	74.00	-27.77	41.48	4.06	36.09	35.40	100	185	VERTICAL
4	7386.55	34.13	54.00	-19.87	29.38	4.06	36.09	35.40	100	185	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11g CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	
1	4820.03	36.17	54.00	-17.83	34.83	3.31	33.06	35.03	Average	100	186	HORIZONTAL
2	4827.14	48.92	74.00	-25.08	47.58	3.31	33.06	35.03	Peak	100	186	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor	Remark	cm	deg	
1	4820.09	41.49	54.00	-12.51	40.15	3.31	33.06	35.03	Average	115	175	VERTICAL
2	4829.48	55.30	74.00	-18.70	53.96	3.31	33.06	35.03	Peak	115	175	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11g CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4870.01	52.20	74.00	-21.80	50.78	3.33	33.12	35.03	100	177	HORIZONTAL
2	4877.13	39.24	54.00	-14.76	37.78	3.33	33.16	35.03	100	177	HORIZONTAL
3	7311.96	38.56	54.00	-15.44	33.94	4.06	35.96	35.40	100	215	HORIZONTAL
4	7312.35	51.56	74.00	-22.44	46.94	4.06	35.96	35.40	100	215	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4872.97	59.80	74.00	-14.20	58.34	3.33	33.16	35.03	113	179	VERTICAL
2	4873.07	44.80	54.00	-9.20	43.34	3.33	33.16	35.03	113	179	VERTICAL
3	7311.90	43.05	54.00	-10.95	38.43	4.06	35.96	35.40	100	60	VERTICAL
4	7312.15	58.60	74.00	-15.40	53.98	4.06	35.96	35.40	100	60	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11g CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 3 (Ant.4 Panel antenna / 7.1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.86	37.66	54.00	-16.34	36.06	3.35	33.26	35.01	Average	100	183 HORIZONTAL
2	4926.16	50.58	74.00	-23.42	48.98	3.35	33.26	35.01	Peak	100	183 HORIZONTAL
3	7386.91	34.45	54.00	-19.55	29.70	4.06	36.09	35.40	Average	100	204 HORIZONTAL
4	7388.02	46.01	74.00	-27.99	41.26	4.06	36.09	35.40	Peak	100	204 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4924.39	57.99	74.00	-16.01	56.39	3.35	33.26	35.01	Peak	127	183 VERTICAL
2	4925.20	43.18	54.00	-10.82	41.58	3.35	33.26	35.01	Average	127	183 VERTICAL
3	7386.63	37.52	54.00	-16.48	32.77	4.06	36.09	35.40	Average	100	60 VERTICAL
4	7387.78	51.33	74.00	-22.67	46.58	4.06	36.09	35.40	Peak	100	60 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

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	4819.36	45.77	74.00	-28.23	44.47	3.31	33.02	35.03	Peak	100	260	HORIZONTAL
2	4825.12	31.77	54.00	-22.23	30.43	3.31	33.06	35.03	Average	100	260	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	4824.96	33.36	54.00	-20.64	32.02	3.31	33.06	35.03	Average	100	101	VERTICAL
2	4825.00	47.64	74.00	-26.36	46.30	3.31	33.06	35.03	Peak	100	101	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4870.12	56.48	74.00	-17.52	55.06	3.33	33.12	35.03	Peak	114	259	HORIZONTAL
2	4870.36	39.76	54.00	-14.24	38.34	3.33	33.12	35.03	Average	114	259	HORIZONTAL
3	7306.20	39.84	54.00	-14.16	35.26	4.06	35.92	35.40	Average	157	325	HORIZONTAL
4	7306.48	54.01	74.00	-19.99	49.43	4.06	35.92	35.40	Peak	157	325	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4870.28	46.47	54.00	-7.53	45.05	3.33	33.12	35.03	Average	100	102	VERTICAL
2	4872.56	63.36	74.00	-10.64	61.90	3.33	33.16	35.03	Peak	100	102	VERTICAL
3	7308.00	48.62	54.00	-5.38	44.00	4.06	35.96	35.40	Average	100	167	VERTICAL
4	7308.08	64.05	74.00	-9.95	59.43	4.06	35.96	35.40	Peak	100	167	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4915.16	44.27	74.00	-29.73	42.71	3.35	33.23	35.02	Peak	100	176 HORIZONTAL
2	4920.60	30.99	54.00	-23.01	29.42	3.35	33.23	35.01	Average	100	176 HORIZONTAL
3	7382.04	45.97	74.00	-28.03	41.22	4.06	36.09	35.40	Peak	100	66 HORIZONTAL
4	7394.92	33.80	54.00	-20.20	29.01	4.06	36.13	35.40	Average	100	66 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4925.36	32.32	54.00	-21.68	30.72	3.35	33.26	35.01	Average	100	269 VERTICAL
2	4926.96	46.44	74.00	-27.56	44.84	3.35	33.26	35.01	Peak	100	269 VERTICAL
3	7388.60	36.08	54.00	-17.92	31.33	4.06	36.09	35.40	Average	100	218 VERTICAL
4	7389.00	49.84	74.00	-24.16	45.09	4.06	36.09	35.40	Peak	100	218 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4822.32	45.47	74.00	-28.53	44.13	3.31	33.06	35.03	Peak	100	258 HORIZONTAL
2	4823.56	32.48	54.00	-21.52	31.14	3.31	33.06	35.03	Average	100	258 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4817.92	45.89	74.00	-28.11	44.59	3.31	33.02	35.03	Peak	100	354 VERTICAL
2	4823.72	33.25	54.00	-20.75	31.91	3.31	33.06	35.03	Average	100	354 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4870.88	55.00	74.00	-19.00	53.54	3.33	33.16	35.03	Peak	129	258	HORIZONTAL
2	4874.08	39.35	54.00	-14.65	37.89	3.33	33.16	35.03	Average	129	258	HORIZONTAL
3	7304.32	55.82	74.00	-18.18	51.24	4.06	35.92	35.40	Peak	168	132	HORIZONTAL
4	7310.92	40.29	54.00	-13.71	35.67	4.06	35.96	35.40	Average	168	132	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4870.20	43.59	54.00	-10.41	42.17	3.33	33.12	35.03	Average	100	102	VERTICAL
2	4874.28	59.73	74.00	-14.27	58.27	3.33	33.16	35.03	Peak	100	102	VERTICAL
3	7303.16	61.58	74.00	-12.42	57.00	4.06	35.92	35.40	Peak	100	179	VERTICAL
4	7308.44	45.66	54.00	-8.34	41.04	4.06	35.96	35.40	Average	100	179	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 20MHz CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4917.20	31.08	54.00	-22.92	29.52	3.35	33.23	35.02	Average	100	34 HORIZONTAL
2	4920.56	43.29	74.00	-30.71	41.72	3.35	33.23	35.01	Peak	100	34 HORIZONTAL
3	7388.12	46.64	74.00	-27.36	41.89	4.06	36.09	35.40	Peak	100	308 HORIZONTAL
4	7389.48	33.59	54.00	-20.41	28.84	4.06	36.09	35.40	Average	100	308 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4926.16	32.96	54.00	-21.04	31.36	3.35	33.26	35.01	Average	100	254 VERTICAL
2	4930.48	49.11	74.00	-24.89	47.51	3.35	33.26	35.01	Peak	100	254 VERTICAL
3	7386.84	48.99	74.00	-25.01	44.24	4.06	36.09	35.40	Peak	100	101 VERTICAL
4	7387.60	35.86	54.00	-18.14	31.11	4.06	36.09	35.40	Average	100	101 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4840.88	43.56	74.00	-30.44	42.18	3.32	33.09	35.03	Peak	100	262	HORIZONTAL
2	4845.08	30.65	54.00	-23.35	29.27	3.32	33.09	35.03	Average	100	262	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4840.24	43.23	74.00	-30.77	41.85	3.32	33.09	35.03	Peak	100	25	VERTICAL
2	4840.28	31.22	54.00	-22.78	29.84	3.32	33.09	35.03	Average	100	25	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4873.80	42.95	74.00	-31.05	41.49	3.33	33.16	35.03	Peak	100	78	HORIZONTAL
2	4882.12	30.28	54.00	-23.72	28.82	3.33	33.16	35.03	Average	100	78	HORIZONTAL
3	7301.40	46.55	74.00	-27.45	41.97	4.06	35.92	35.40	Peak	100	168	HORIZONTAL
4	7301.48	33.53	54.00	-20.47	28.95	4.06	35.92	35.40	Average	100	168	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	4865.40	31.38	54.00	-22.62	29.96	3.33	33.12	35.03	Average	100	273	VERTICAL
2	4875.44	43.77	74.00	-30.23	42.31	3.33	33.16	35.03	Peak	100	273	VERTICAL
3	7302.84	35.77	54.00	-18.23	31.19	4.06	35.92	35.40	Average	100	175	VERTICAL
4	7303.60	49.89	74.00	-24.11	45.31	4.06	35.92	35.40	Peak	100	175	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS0 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4906.36	43.21	74.00	-30.79	41.66	3.34	33.23	35.02	Peak	100	349 HORIZONTAL
2	4906.64	30.74	54.00	-23.26	29.19	3.34	33.23	35.02	Average	100	349 HORIZONTAL
3	7352.20	46.74	74.00	-27.26	42.06	4.06	36.02	35.40	Peak	100	53 HORIZONTAL
4	7364.44	33.86	54.00	-20.14	29.14	4.06	36.06	35.40	Average	100	53 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4904.88	43.53	74.00	-30.47	41.98	3.34	33.23	35.02	Peak	100	83 VERTICAL
2	4913.48	30.92	54.00	-23.08	29.37	3.34	33.23	35.02	Average	100	83 VERTICAL
3	7359.92	47.29	74.00	-26.71	42.57	4.06	36.06	35.40	Peak	100	311 VERTICAL
4	7362.60	34.10	54.00	-19.90	29.38	4.06	36.06	35.40	Average	100	311 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 3 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4846.20	43.28	74.00	-30.72	41.90	3.32	33.09	35.03	Peak	100	321	HORIZONTAL
2	4852.56	30.79	54.00	-23.21	29.41	3.32	33.09	35.03	Average	100	321	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4843.40	30.98	54.00	-23.02	29.60	3.32	33.09	35.03	Average	100	124	VERTICAL
2	4848.60	44.08	74.00	-29.92	42.70	3.32	33.09	35.03	Peak	100	124	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4865.80	30.52	54.00	-23.48	29.10	3.33	33.12	35.03	Average	100	64 HORIZONTAL
2	4875.04	42.84	74.00	-31.16	41.38	3.33	33.16	35.03	Peak	100	64 HORIZONTAL
3	7302.12	33.89	54.00	-20.11	29.31	4.06	35.92	35.40	Average	100	302 HORIZONTAL
4	7311.28	47.06	74.00	-26.94	42.44	4.06	35.96	35.40	Peak	100	302 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4869.72	31.48	54.00	-22.52	30.06	3.33	33.12	35.03	Average	100	92 VERTICAL
2	4875.64	43.94	74.00	-30.06	42.48	3.33	33.16	35.03	Peak	100	92 VERTICAL
3	7303.40	35.27	54.00	-18.73	30.69	4.06	35.92	35.40	Average	100	178 VERTICAL
4	7320.72	48.74	74.00	-25.26	44.12	4.06	35.96	35.40	Peak	100	178 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11n MCS16 40MHz CH 9 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4905.16	43.76	74.00	-30.24	42.21	3.34	33.23	35.02	Peak	100	351 HORIZONTAL
2	4912.72	30.98	54.00	-23.02	29.43	3.34	33.23	35.02	Average	100	351 HORIZONTAL
3	7351.32	34.15	54.00	-19.85	29.47	4.06	36.02	35.40	Average	100	44 HORIZONTAL
4	7355.92	46.53	74.00	-27.47	41.85	4.06	36.02	35.40	Peak	100	44 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4912.96	43.88	74.00	-30.12	42.33	3.34	33.23	35.02	Peak	100	305 VERTICAL
2	4913.36	30.89	54.00	-23.11	29.34	3.34	33.23	35.02	Average	100	305 VERTICAL
3	7349.76	46.98	74.00	-27.02	42.30	4.06	36.02	35.40	Peak	100	306 VERTICAL
4	7361.56	34.39	54.00	-19.61	29.67	4.06	36.06	35.40	Average	100	306 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	4823.92	46.97	54.00	-7.03	45.63	3.31	33.06	35.03	Average	100	259	HORIZONTAL
2	4824.05	50.66	74.00	-23.34	49.32	3.31	33.06	35.03	Peak	100	259	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	4823.94	51.05	54.00	-2.95	49.71	3.31	33.06	35.03	Average	100	0	VERTICAL
2	4823.96	53.30	74.00	-20.70	51.96	3.31	33.06	35.03	Peak	100	0	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.93	42.17	54.00	-11.83	40.71	3.33	33.16	35.03	Average	100	257 HORIZONTAL
2	4874.02	48.19	74.00	-25.81	46.73	3.33	33.16	35.03	Peak	100	257 HORIZONTAL
3	7307.94	52.17	74.00	-21.83	47.55	4.06	35.96	35.40	Peak	158	326 HORIZONTAL
4	7310.18	44.79	54.00	-9.21	40.17	4.06	35.96	35.40	Average	158	326 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4873.93	55.58	74.00	-18.42	54.12	3.33	33.16	35.03	Peak	134	144 VERTICAL
2	4873.94	52.84	54.00	-1.16	51.38	3.33	33.16	35.03	Average	134	144 VERTICAL
3	7310.00	58.69	74.00	-15.31	54.07	4.06	35.96	35.40	Peak	100	185 VERTICAL
4	7310.20	53.76	54.00	-0.24	49.14	4.06	35.96	35.40	Average	100	185 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11b CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.89	42.00	54.00	-12.00	40.40	3.35	33.26	35.01	Average	116	279 HORIZONTAL
2	4924.01	48.25	74.00	-25.75	46.65	3.35	33.26	35.01	Peak	116	279 HORIZONTAL
3	7385.20	39.94	54.00	-14.06	35.19	4.06	36.09	35.40	Average	138	306 HORIZONTAL
4	7389.04	49.41	74.00	-24.59	44.66	4.06	36.09	35.40	Peak	138	306 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4923.89	56.23	74.00	-17.77	54.63	3.35	33.26	35.01	Peak	129	144 VERTICAL
2	4923.94	52.62	54.00	-1.38	51.02	3.35	33.26	35.01	Average	129	144 VERTICAL
3	7386.64	53.19	54.00	-0.81	48.44	4.06	36.09	35.40	Average	127	126 VERTICAL
4	7386.92	58.22	74.00	-15.78	53.47	4.06	36.09	35.40	Peak	127	126 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11g CH 1 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4819.68	32.96	54.00	-21.04	31.62	3.31	33.06	35.03	100	260	HORIZONTAL
2	4820.00	47.33	74.00	-26.67	45.99	3.31	33.06	35.03	100	260	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4819.20	35.62	54.00	-18.38	34.32	3.31	33.02	35.03	101	102	VERTICAL
2	4819.20	50.01	74.00	-23.99	48.71	3.31	33.02	35.03	101	102	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11g CH 6 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4869.88	55.13	74.00	-18.87	53.71	3.33	33.12	35.03	Peak	113	261 HORIZONTAL
2	4870.08	39.70	54.00	-14.30	38.28	3.33	33.12	35.03	Average	113	261 HORIZONTAL
3	7310.44	39.44	54.00	-14.56	34.82	4.06	35.96	35.40	Average	159	327 HORIZONTAL
4	7310.96	52.81	74.00	-21.19	48.19	4.06	35.96	35.40	Peak	159	327 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	4869.28	47.36	54.00	-6.64	45.94	3.33	33.12	35.03	Average	101	106 VERTICAL
2	4869.68	62.81	74.00	-11.19	61.39	3.33	33.12	35.03	Peak	101	106 VERTICAL
3	7309.72	64.86	74.00	-9.14	60.24	4.06	35.96	35.40	Peak	100	186 VERTICAL
4	7309.80	50.26	54.00	-3.74	45.64	4.06	35.96	35.40	Average	100	186 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11g CH 11 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 26, 2013	Test Mode	Mode 4 (Ant.5 PCB antenna / 4.94dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4915.76	31.05	54.00	-22.95	29.49	3.35	33.23	35.02	Average	100	86	HORIZONTAL
2	4921.08	44.01	74.00	-29.99	42.44	3.35	33.23	35.01	Peak	100	86	HORIZONTAL
3	7376.56	33.83	54.00	-20.17	29.08	4.06	36.09	35.40	Average	100	285	HORIZONTAL
4	7390.16	47.38	74.00	-26.62	42.63	4.06	36.09	35.40	Peak	100	285	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	4928.88	32.51	54.00	-21.49	30.91	3.35	33.26	35.01	Average	100	103	VERTICAL
2	4929.16	51.41	74.00	-22.59	49.81	3.35	33.26	35.01	Peak	100	103	VERTICAL
3	7389.00	37.58	54.00	-16.42	32.83	4.06	36.09	35.40	Average	100	16	VERTICAL
4	7389.28	53.64	74.00	-20.36	48.89	4.06	36.09	35.40	Peak	100	16	VERTICAL

For 5GHz Band:

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11482.95	49.96	74.00	-24.04	41.35	5.11	38.78	35.28	Peak	100	174	HORIZONTAL
2	11487.69	37.44	54.00	-16.56	28.83	5.11	38.78	35.28	Average	100	174	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11490.80	50.52	74.00	-23.48	41.91	5.11	38.78	35.28	Peak	100	329	VERTICAL
2	11492.08	38.69	54.00	-15.31	30.08	5.11	38.78	35.28	Average	100	329	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11567.82	37.32	54.00	-16.68	28.66	5.13	38.83	35.30	Average	100	198	HORIZONTAL
2	11574.74	49.84	74.00	-24.16	41.17	5.14	38.83	35.30	Peak	100	198	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11564.13	50.46	74.00	-23.54	41.81	5.13	38.82	35.30	Peak	100	323	VERTICAL
2	11572.21	38.15	54.00	-15.85	29.48	5.14	38.83	35.30	Average	100	323	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11647.34	50.03	74.00	-23.97	41.31	5.16	38.86	35.30	Peak	100	138 HORIZONTAL
2	11653.59	38.07	54.00	-15.93	29.35	5.16	38.86	35.30	Average	100	138 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11650.77	39.82	54.00	-14.18	31.10	5.16	38.86	35.30	Average	100	21 VERTICAL
2	11650.99	53.11	74.00	-20.89	44.39	5.16	38.86	35.30	Peak	100	21 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant. 1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11480.45	37.28	54.00	-16.72	28.68	5.11	38.77	35.28	Average	100	172	HORIZONTAL
2	11493.49	50.08	74.00	-23.92	41.46	5.12	38.78	35.28	Peak	100	172	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11485.16	37.83	54.00	-16.17	29.22	5.11	38.78	35.28	Average	100	50	VERTICAL
2	11488.49	50.22	74.00	-23.78	41.61	5.11	38.78	35.28	Peak	100	50	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11562.31	49.25	74.00	-24.75	40.60	5.13	38.82	35.30	Peak	100	333 HORIZONTAL
2	11563.17	36.85	54.00	-17.15	28.20	5.13	38.82	35.30	Average	100	333 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11569.58	38.17	54.00	-15.83	29.51	5.13	38.83	35.30	Average	100	220 VERTICAL
2	11573.33	50.19	74.00	-23.81	41.52	5.14	38.83	35.30	Peak	100	220 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11647.44	37.06	54.00	-16.94	28.34	5.16	38.86	35.30	Average	100	94	HORIZONTAL
2	11658.94	49.77	74.00	-24.23	41.05	5.16	38.86	35.30	Peak	100	94	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11648.69	37.60	54.00	-16.40	28.88	5.16	38.86	35.30	Average	100	184	VERTICAL
2	11659.84	50.42	74.00	-23.58	41.70	5.16	38.86	35.30	Peak	100	184	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 40MHz CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11507.63	49.80	74.00	-24.20	41.17	5.12	38.79	35.28	Peak	100	319 HORIZONTAL
2	11510.16	37.15	54.00	-16.85	28.52	5.12	38.79	35.28	Average	100	319 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11509.97	37.37	54.00	-16.63	28.74	5.12	38.79	35.28	Average	100	215 VERTICAL
2	11511.60	49.74	74.00	-24.26	41.11	5.12	38.79	35.28	Peak	100	215 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 40MHz CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11581.03	37.23	54.00	-16.77	28.56	5.14	38.83	35.30	Average	100	136 HORIZONTAL
2	11590.19	50.36	74.00	-23.64	41.69	5.14	38.83	35.30	Peak	100	136 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp		A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11589.90	37.95	54.00	-16.05	29.28	5.14	38.83	35.30	Average	100	53 VERTICAL
2	11597.92	50.70	74.00	-23.30	42.02	5.15	38.83	35.30	Peak	100	53 VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 40MHz CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11500.03	37.09	54.00	-16.91	28.46	5.12	38.79	35.28	Average	100	295	HORIZONTAL
2	11508.59	49.54	74.00	-24.46	40.91	5.12	38.79	35.28	Peak	100	295	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11509.90	37.42	54.00	-16.58	28.79	5.12	38.79	35.28	Average	100	214	VERTICAL
2	11515.42	49.91	74.00	-24.09	41.29	5.12	38.79	35.29	Peak	100	214	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 40MHz CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11592.72	36.74	54.00	-17.26	28.07	5.14	38.83	35.30	Average	100	215	HORIZONTAL
2	11598.21	49.56	74.00	-24.44	40.88	5.15	38.83	35.30	Peak	100	215	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11589.74	37.34	54.00	-16.66	28.67	5.14	38.83	35.30	Average	100	98	VERTICAL
2	11594.23	49.89	74.00	-24.11	41.22	5.14	38.83	35.30	Peak	100	98	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 80MHz CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11549.33	50.17	74.00	-23.83	41.53	5.13	38.81	35.30	Peak	100	110 HORIZONTAL
2	11556.09	37.21	54.00	-16.79	28.56	5.13	38.82	35.30	Average	100	110 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11553.91	50.08	74.00	-23.92	41.43	5.13	38.82	35.30	Peak	100	196 VERTICAL
2	11559.29	37.41	54.00	-16.59	28.76	5.13	38.82	35.30	Average	100	196 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 80MHz CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11549.13	50.45	74.00	-23.55	41.81	5.13	38.81	35.30	Peak	100	230	HORIZONTAL
2	11557.88	37.04	54.00	-16.96	28.39	5.13	38.82	35.30	Average	100	230	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11542.21	37.25	54.00	-16.75	28.61	5.13	38.81	35.30	Average	100	103	VERTICAL
2	11547.05	49.57	74.00	-24.43	40.93	5.13	38.81	35.30	Peak	100	103	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant. 1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11488.75	37.20	54.00	-16.80	28.59	5.11	38.78	35.28	Average	100	191	HORIZONTAL
2	11489.81	49.50	74.00	-24.50	40.89	5.11	38.78	35.28	Peak	100	191	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11486.41	38.63	54.00	-15.37	30.02	5.11	38.78	35.28	Average	100	325	VERTICAL
2	11495.00	49.98	74.00	-24.02	41.36	5.12	38.78	35.28	Peak	100	325	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant.1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11568.33	49.46	74.00	-24.54	40.80	5.13	38.83	35.30	Peak	100	73 HORIZONTAL
2	11573.56	37.03	54.00	-16.97	28.36	5.14	38.83	35.30	Average	100	73 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11562.95	50.50	74.00	-23.50	41.85	5.13	38.82	35.30	Peak	100	230 VERTICAL
2	11566.15	38.66	54.00	-15.34	30.01	5.13	38.82	35.30	Average	100	230 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11a CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 18, 2013	Test Mode	Mode 5 (Ant. 1 Dipole antenna / 1dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11640.13	37.03	54.00	-16.97	28.31	5.16	38.86	35.30	Average	100	264	HORIZONTAL
2	11644.52	50.64	74.00	-23.36	41.92	5.16	38.86	35.30	Peak	100	264	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11645.99	38.29	54.00	-15.71	29.57	5.16	38.86	35.30	Average	100	156	VERTICAL
2	11647.15	49.89	74.00	-24.11	41.17	5.16	38.86	35.30	Peak	100	156	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11489.49	40.54	54.00	-13.46	31.93	5.11	38.78	35.28	Average	100	51	HORIZONTAL
2	11489.71	53.40	74.00	-20.60	44.79	5.11	38.78	35.28	Peak	100	51	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11487.37	56.05	74.00	-17.95	47.44	5.11	38.78	35.28	Peak	111	110	VERTICAL
2	11492.05	42.71	54.00	-11.29	34.10	5.11	38.78	35.28	Average	111	110	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11572.98	50.11	74.00	-23.89	41.44	5.14	38.83	35.30	Peak	100	242	HORIZONTAL
2	11573.37	37.27	54.00	-16.73	28.60	5.14	38.83	35.30	Average	100	242	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11572.18	40.56	54.00	-13.44	31.89	5.14	38.83	35.30	Average	116	107	VERTICAL
2	11572.24	53.76	74.00	-20.24	45.09	5.14	38.83	35.30	Peak	116	107	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11643.17	51.56	74.00	-22.44	42.84	5.16	38.86	35.30	Peak	100	114	HORIZONTAL
2	11650.99	40.67	54.00	-13.33	31.95	5.16	38.86	35.30	Average	100	114	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11651.41	54.58	74.00	-19.42	45.86	5.16	38.86	35.30	Peak	114	109	VERTICAL
2	11651.63	42.44	54.00	-11.56	33.72	5.16	38.86	35.30	Average	114	109	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11481.06	52.07	74.00	-21.93	43.47	5.11	38.77	35.28	Peak	100	86	HORIZONTAL
2	11490.22	38.76	54.00	-15.24	30.15	5.11	38.78	35.28	Average	100	86	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11480.83	52.03	74.00	-21.97	43.43	5.11	38.77	35.28	Peak	100	105	VERTICAL
2	11491.60	38.73	54.00	-15.27	30.12	5.11	38.78	35.28	Average	100	105	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

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	11562.40	50.72	74.00	-23.28	42.07	5.13	38.82	35.30	Peak	100	85	HORIZONTAL
2	11568.78	37.91	54.00	-16.09	29.25	5.13	38.83	35.30	Average	100	85	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	11570.13	38.33	54.00	-15.67	29.66	5.14	38.83	35.30	Average	100	69	VERTICAL
2	11570.38	50.57	74.00	-23.43	41.90	5.14	38.83	35.30	Peak	100	69	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11651.41	38.32	54.00	-15.68	29.60	5.16	38.86	35.30	Average	100	108	HORIZONTAL
2	11656.96	52.04	74.00	-21.96	43.32	5.16	38.86	35.30	Peak	100	108	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11650.90	38.12	54.00	-15.88	29.40	5.16	38.86	35.30	Average	100	88	VERTICAL
2	11657.02	51.99	74.00	-22.01	43.27	5.16	38.86	35.30	Peak	100	88	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss1 40MHz CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

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	11500.93	37.75	54.00	-16.25	29.12	5.12	38.79	35.28	Average	100	277	HORIZONTAL
2	11517.12	49.99	74.00	-24.01	41.36	5.12	38.80	35.29	Peak	100	277	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	11502.02	50.24	74.00	-23.76	41.61	5.12	38.79	35.28	Peak	100	185	VERTICAL
2	11508.59	37.07	54.00	-16.93	28.44	5.12	38.79	35.28	Average	100	185	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss1 40MHz CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

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	11594.10	37.87	54.00	-16.13	29.20	5.14	38.83	35.30	Average	100	209	HORIZONTAL
2	11596.35	51.05	74.00	-22.95	42.37	5.15	38.83	35.30	Peak	100	209	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	11587.88	51.88	74.00	-22.12	43.21	5.14	38.83	35.30	Peak	113	112	VERTICAL
2	11591.89	40.04	54.00	-13.96	31.37	5.14	38.83	35.30	Average	113	112	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss3 40MHz CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11508.37	37.06	54.00	-16.94	28.43	5.12	38.79	35.28	Average	100	116	HORIZONTAL
2	11511.67	49.48	74.00	-24.52	40.85	5.12	38.79	35.28	Peak	100	116	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11501.15	50.67	74.00	-23.33	42.04	5.12	38.79	35.28	Peak	100	82	VERTICAL
2	11504.13	37.48	54.00	-16.52	28.85	5.12	38.79	35.28	Average	100	82	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss3 40MHz CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11581.41	50.15	74.00	-23.85	41.48	5.14	38.83	35.30	Peak	100	55	HORIZONTAL
2	11587.02	37.16	54.00	-16.84	28.49	5.14	38.83	35.30	Average	100	55	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11591.09	51.13	74.00	-22.87	42.46	5.14	38.83	35.30	Peak	100	103	VERTICAL
2	11591.35	37.51	54.00	-16.49	28.84	5.14	38.83	35.30	Average	100	103	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss1 80MHz CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 25, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	5133.20	51.51	74.00	-22.49	49.47	3.43	33.64	35.03	Peak	100	94	HORIZONTAL
2	5133.32	42.52	54.00	-11.48	40.48	3.43	33.64	35.03	Average	100	94	HORIZONTAL
3	11547.21	39.03	54.00	-14.97	30.39	5.13	38.81	35.30	Average	100	285	HORIZONTAL
4	11556.63	51.99	74.00	-22.01	43.34	5.13	38.82	35.30	Peak	100	285	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	5133.21	48.63	74.00	-25.37	46.59	3.43	33.64	35.03	Peak	100	120	VERTICAL
2	5133.29	38.24	54.00	-15.76	36.20	3.43	33.64	35.03	Average	100	120	VERTICAL
3	11542.63	39.52	54.00	-14.48	30.88	5.13	38.81	35.30	Average	100	129	VERTICAL
4	11550.93	52.57	74.00	-21.43	43.92	5.13	38.82	35.30	Peak	100	129	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11ac MCS0/Nss3 80MHz CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5133.29	43.57	54.00	-10.43	41.53	3.43	33.64	35.03	Average	198	268	HORIZONTAL
2	5133.37	53.43	74.00	-20.57	51.39	3.43	33.64	35.03	Peak	198	268	HORIZONTAL
3	11547.85	52.63	74.00	-21.37	43.99	5.13	38.81	35.30	Peak	100	57	HORIZONTAL
4	11550.71	38.56	54.00	-15.44	29.91	5.13	38.82	35.30	Average	100	57	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	PoI/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5133.27	41.79	54.00	-12.21	39.75	3.43	33.64	35.03	Average	100	24	VERTICAL
2	5133.32	49.36	74.00	-24.64	47.32	3.43	33.64	35.03	Peak	100	24	VERTICAL
3	11540.03	38.68	54.00	-15.32	30.03	5.13	38.81	35.29	Average	100	252	VERTICAL
4	11557.05	52.24	74.00	-21.76	43.59	5.13	38.82	35.30	Peak	100	252	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11487.21	42.04	54.00	-11.96	33.43	5.11	38.78	35.28	Average	114	86	HORIZONTAL
2	11496.89	54.30	74.00	-19.70	45.68	5.12	38.78	35.28	Peak	114	86	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11486.31	42.87	54.00	-11.13	34.26	5.11	38.78	35.28	Average	112	76	VERTICAL
2	11486.96	55.57	74.00	-18.43	46.96	5.11	38.78	35.28	Peak	112	76	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11567.47	38.99	54.00	-15.01	30.33	5.13	38.83	35.30	Average	110	55	HORIZONTAL
2	11567.92	51.38	74.00	-22.62	42.72	5.13	38.83	35.30	Peak	110	55	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11567.60	41.54	54.00	-12.46	32.88	5.13	38.83	35.30	Average	111	105	VERTICAL
2	11568.17	53.34	74.00	-20.66	44.68	5.13	38.83	35.30	Peak	111	105	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Kenneth Huang	Configurations	IEEE 802.11a CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Jul. 17, 2013	Test Mode	Mode 6 (Ant.3 Omnidirectional Antenna / 6.7dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11646.19	39.86	54.00	-14.14	31.14	5.16	38.86	35.30	Average	107	57	HORIZONTAL
2	11647.44	53.04	74.00	-20.96	44.32	5.16	38.86	35.30	Peak	107	57	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	Loss	Factor	Factor		cm	deg	
1	11647.34	40.46	54.00	-13.54	31.74	5.16	38.86	35.30	Average	116	108	VERTICAL
2	11656.83	52.73	74.00	-21.27	44.01	5.16	38.86	35.30	Peak	116	108	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

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	11488.22	52.67	74.00	-21.33	44.06	5.11	38.78	35.28	Peak	100	121	HORIZONTAL
2	11488.61	39.95	54.00	-14.05	31.34	5.11	38.78	35.28	Average	100	121	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	11485.77	51.89	74.00	-22.11	43.28	5.11	38.78	35.28	Peak	100	122	VERTICAL
2	11490.63	39.72	54.00	-14.28	31.11	5.11	38.78	35.28	Average	100	122	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

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	11571.30	50.53	74.00	-23.47	41.86	5.14	38.83	35.30	Peak	100	213	HORIZONTAL
2	11573.51	38.40	54.00	-15.60	29.73	5.14	38.83	35.30	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	11565.53	39.35	54.00	-14.65	30.70	5.13	38.82	35.30	Average	100	176	VERTICAL
2	11565.82	51.44	74.00	-22.56	42.79	5.13	38.82	35.30	Peak	100	176	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 20MHz CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11644.28	51.17	74.00	-22.83	42.45	5.16	38.86	35.30	Peak	100	228	HORIZONTAL
2	11648.85	39.49	54.00	-14.51	30.77	5.16	38.86	35.30	Average	100	228	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11638.99	51.61	74.00	-22.39	42.89	5.16	38.86	35.30	Peak	100	128	VERTICAL
2	11648.99	39.79	54.00	-14.21	31.07	5.16	38.86	35.30	Average	100	128	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 149 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11491.30	39.63	54.00	-14.37	31.02	5.11	38.78	35.28	Average	100	177	HORIZONTAL
2	11491.30	51.37	74.00	-22.63	42.76	5.11	38.78	35.28	Peak	100	177	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase	
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11487.21	52.87	74.00	-21.13	44.26	5.11	38.78	35.28	Peak	107	128	VERTICAL
2	11490.00	40.33	54.00	-13.67	31.72	5.11	38.78	35.28	Average	107	128	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 157 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11567.79	39.47	54.00	-14.53	30.81	5.13	38.83	35.30	Average	100	127 HORIZONTAL
2	11567.82	51.87	74.00	-22.13	43.21	5.13	38.83	35.30	Peak	100	127 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11569.76	51.61	74.00	-22.39	42.94	5.14	38.83	35.30	Peak	100	181 VERTICAL
2	11571.73	39.11	54.00	-14.89	30.44	5.14	38.83	35.30	Average	100	181 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 20MHz CH 165 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11646.35	52.99	74.00	-21.01	44.27	5.16	38.86	35.30	Peak	100	125 HORIZONTAL
2	11652.37	39.60	54.00	-14.40	30.88	5.16	38.86	35.30	Average	100	125 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11646.92	52.02	74.00	-21.98	43.30	5.16	38.86	35.30	Peak	105	240 VERTICAL
2	11649.39	39.29	54.00	-14.71	30.57	5.16	38.86	35.30	Average	105	240 VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 40MHz CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11501.54	49.95	74.00	-24.05	41.32	5.12	38.79	35.28	Peak	100	199	HORIZONTAL
2	11503.17	38.35	54.00	-15.65	29.72	5.12	38.79	35.28	Average	100	199	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	CableAntenna 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	11508.17	50.61	74.00	-23.39	41.98	5.12	38.79	35.28	Peak	100	58	VERTICAL
2	11508.70	38.26	54.00	-15.74	29.63	5.12	38.79	35.28	Average	100	58	VERTICAL



Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 40MHz CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

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	11584.18	50.39	74.00	-23.61	41.72	5.14	38.83	35.30	Peak	100	196	HORIZONTAL
2	11595.00	37.91	54.00	-16.09	29.24	5.14	38.83	35.30	Average	100	196	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	11592.79	50.60	74.00	-23.40	41.93	5.14	38.83	35.30	Peak	100	339	VERTICAL
2	11593.99	38.12	54.00	-15.88	29.45	5.14	38.83	35.30	Average	100	339	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 40MHz CH 151 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11503.75	38.40	54.00	-15.60	29.77	5.12	38.79	35.28	Average	100	126	HORIZONTAL
2	11515.03	50.84	74.00	-23.16	42.22	5.12	38.79	35.29	Peak	100	126	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11503.53	38.36	54.00	-15.64	29.73	5.12	38.79	35.28	Average	100	253	VERTICAL
2	11511.22	50.47	74.00	-23.53	41.84	5.12	38.79	35.28	Peak	100	253	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss3 40MHz CH 159 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 03, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11586.44	38.23	54.00	-15.77	29.56	5.14	38.83	35.30	Average	100	124	HORIZONTAL
2	11593.59	51.12	74.00	-22.88	42.45	5.14	38.83	35.30	Peak	100	124	HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	Cable	Antenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11584.36	37.96	54.00	-16.04	29.29	5.14	38.83	35.30	Average	100	239	VERTICAL
2	11598.40	50.34	74.00	-23.66	41.66	5.15	38.83	35.30	Peak	100	239	VERTICAL

Temperature	24.5°C	Humidity	57%
Test Engineer	Jim Huang	Configurations	IEEE 802.11ac MCS0/Nss1 80MHz CH 155 / Chain 1 + Chain 2 + Chain 3
Test Date	Aug. 02, 2013	Test Mode	Mode 7 (Ant.4 Panel Antenna / 9.2dBi)

Horizontal

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11554.33	51.56	74.00	-22.44	42.91	5.13	38.82	35.30	Peak	100	147 HORIZONTAL
2	11554.38	37.97	54.00	-16.03	29.32	5.13	38.82	35.30	Average	100	147 HORIZONTAL

Vertical

	Freq	Level	Limit	Over	Read	CableAntenna	Preamp	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg	
1	11535.87	50.66	74.00	-23.34	42.01	5.13	38.81	35.29	Peak	100	51 VERTICAL
2	11541.54	37.95	54.00	-16.05	29.31	5.13	38.81	35.30	Average	100	51 VERTICAL