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FCC RADIO TEST REPORT

Applicant's company	**Aerohive Networks, Inc.**
Applicant Address	330 Gibraltar Drive, Sunnyvale, CA 94089
FCC ID	**WBV-AP3X0**
Manufacturer's company	**Accton Technology Corporation**
Manufacturer Address	1, Creation Road 3, Hsinchu Science Park , Hsinchu 30077 , Taiwan , R.O.C

Product Name	Access Point
Brand Name	Aerohive
Model No.	AP370 / AP390
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Received Date	Jun. 20, 2013
Final Test Date	Aug. 06, 2013
Submission Type	Class II Change
Operating Mode	Master

Statement

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

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

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

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

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

Testing Laboratory
1190

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR362046-01	Rev. 01	Initial issue of report	Oct. 28, 2013

Certificate No.: CB10208051

1. CERTIFICATE OF COMPLIANCE

Product Name	:	**Access Point**
Brand Name	:	**Aerohive**
Model No.	:	**AP370 / AP390**
Applicant	:	**Aerohive Networks, Inc.**
Test Rule Part(s)	:	**47 CFR FCC Part 15 Subpart E § 15.407**

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jun. 20, 2013 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	4.33 dB
4.2	15.407(a)	26dB Spectrum Bandwidth & 99% Occupied Bandwidth	Complies	-
4.3	15.407(a)	Maximum Conducted Output Power	Complies	0.11 dB
4.4	15.407(a)	Power Spectral Density	Complies	0.04 dB
4.5	15.407(a)	Peak Excursion	Complies	1.03 dB
4.6	15.407(b)	Radiated Emissions	Complies	3.03 dB
4.7	15.407(b)	Band Edge Emissions	Complies	0.03 dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	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 or PoE
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	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	12 for 20MHz bandwidth ; 5 for 40MHz bandwidth 2 for 80MHz bandwidth
Channel Band Width (99%)	Mode 1 (EUT 1): 802.11ac MCS0, Nss1 (20MHz): 19.68 MHz ; 802.11ac MCS0, Nss1 (40MHz): 37.76 MHz ; 802.11ac MCS0, Nss1 (80MHz): 77.04 MHz Mode 2 (EUT 2): 802.11ac MCS0, Nss1 (20MHz): 19.20 MHz ; 802.11ac MCS0, Nss1 (40MHz): 37.12 MHz ; 802.11ac MCS0, Nss1 (80MHz): 74.24 MHz

Maximum Conducted Output Power	Mode 1 (EUT 1): Band 2: 802.11ac MCS0, Nss1 (20MHz): 20.30 dBm ; 802.11ac MCS0, Nss1 (40MHz): 22.79 dBm ; 802.11ac MCS0, Nss1 (80MHz): 16.39 dBm Band 3: 802.11ac MCS0, Nss1 (20MHz): 20.34 dBm ; 802.11ac MCS0, Nss1 (40MHz): 22.99 dBm ; 802.11ac MCS0, Nss1 (80MHz): 17.25dBm Mode 2 (EUT 2): Band 2: 802.11ac MCS0, Nss1 (20MHz): 21.56 dBm ; 802.11ac MCS0, Nss1 (40MHz): 23.64 dBm ; 802.11ac MCS0, Nss1 (80MHz): 16.82 dBm Band 3: 802.11ac MCS0, Nss1 (20MHz): 21.41 dBm ; 802.11ac MCS0, Nss1 (40MHz): 23.58 dBm ; 802.11ac MCS0, Nss1 (80MHz): 18.24 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

IEEE 802.11a

Items	Description
Product Type	WLAN (1TX, 1RX) ; WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From Power Adapter or PoE
Modulation	OFDM for IEEE 802.11a
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	OFDM (6/9/12/18/24/36/48/54)
Frequency Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	12
Channel Band Width (99%)	Mode 1 (EUT 1) / 1TX: 20.80 MHz Mode 1 (EUT 1) / 3TX: 17.28 MHz Mode 2 (EUT 2) / 1TX: 21.92 MHz Mode 2 (EUT 2) / 3TX: 17.28 MHz
Maximum Conducted Output Power	Mode 1 (EUT 1) / 1TX: Band 2: 23.68 dBm ; Band 3: 23.24 dBm Mode 1 (EUT 1) / 3TX: Band 2: 20.14 dBm ; Band 3: 20.25 dBm Mode 2 (EUT 2) / 1TX: Band 2: 23.89 dBm ; Band 3: 23.58 dBm Mode 2 (EUT 2) / 3TX: Band 2: 21.30 dBm ; Band 3: 21.14 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Antenna & Band width

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

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	3	MCS 0-23
802.11n (HT40)	3	MCS 0-23
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

Power	Brand Holder	Model No.	Rating	Remark
Adapter	Powertron Electronics Corp.	PA1024-2HU	INPUT:100-240V~50-60Hz 0.6A OUTPUT:12V 2.0A, 24W Max	With a Core

3.3. Table for Filed Antenna

For EUT 1 (Model No. AP370)

Ant.	Brand	Model No.	Type	Connector	True Gain (dBi)	
					2.4GHz	5GHz
1	Accton	AC-02-PB002-004	PIFA	I-PEX	4.42	-
2	Accton	AC-02-PB002-005	PIFA	I-PEX	4.42	-
3	Accton	AC-02-PB002-006	PIFA	I-PEX	4.42	-
4	Accton	AC-02-PB001-004	PIFA	I-PEX	-	4.54
5	Accton	AC-02-PB001-005	PIFA	I-PEX	-	4.54
6	Accton	AC-02-PB001-006	PIFA	I-PEX	-	4.54

Note: Chain 1: Connect to Ant. 1, Chain 2: Connect to Ant. 2, Chain 3: Connect to Ant. 3, Chain 4: Connect to Ant. 4, Chain 5: Connect to Ant. 5, Chain 6: Connect to Ant. 6.

For EUT 2 (Model No. AP390)

Ant.	Brand	Model No.	Type	Connector	Gain (dBi)		Cable loss		True Gain (dBi)	
					2.4GHz	5GHz	2.4GHz	5GHz	2.4GHz	5GHz
1	Master Wave	98152MRSX007	Dipole	I-PEX	4	-	0.4	-	3.6	-
2	Master Wave	98152URSX002	Dipole	I-PEX	-	4	-	0.7	-	3.3

Note: Chain 1~ Chain 3: Connect to Ant. 1, Chain 4~ Chain 6: Connect to Ant. 2.

<For 2.4GHz Band:>

For IEEE 802.11b/g mode (1TX, 1RX):

Only Chain 1 could transmit/receive simultaneously.

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

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

For IEEE 802.11n mode (3TX, 3RX):

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

<For 5GHz Band:>

For IEEE 802.11a mode (1TX, 1RX):

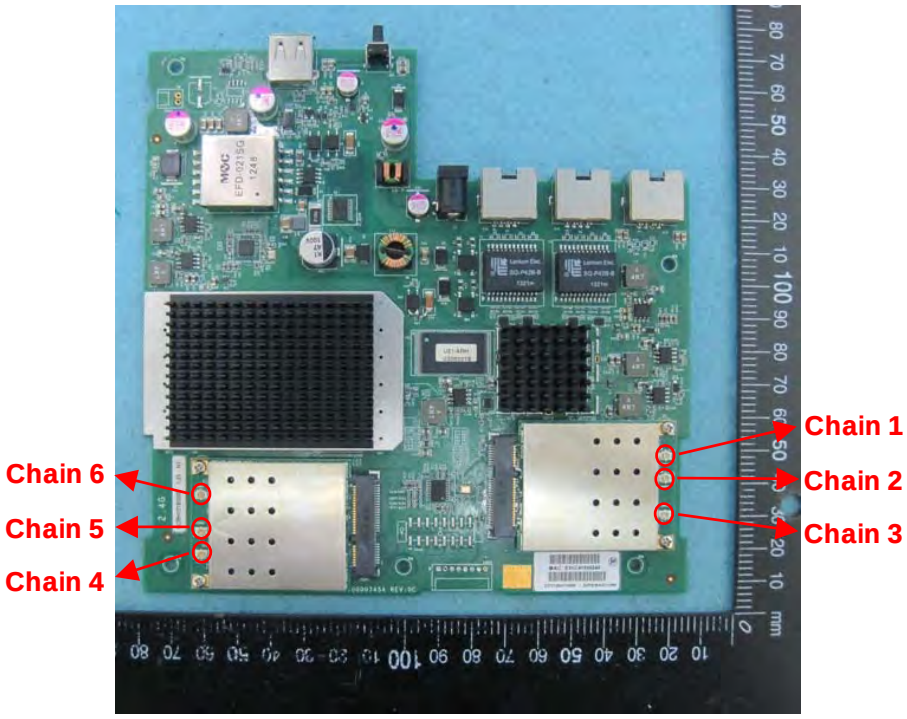
Only Chain 4 could transmit/receive simultaneously.

For IEEE 802.11a mode (3TX, 3RX):

Chain 4, Chain 5 and Chain 6 could transmit/receive simultaneously.

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

Chain 4, Chain 5 and Chain 6 could transmit/receive simultaneously.



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 52, 56, 60, 64, 100, 104, 108, 112, 116, 132, 136, 140.

For 40MHz bandwidth systems, use Channel 54, 62, 102, 110, 134.

For 80MHz bandwidth systems, use Channel 58, 106.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5250~5350 MHz Band 2	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310 MHz
	56	5280 MHz	64	5320 MHz
	58	5290 MHz	-	-
5470~5725 MHz Band 3	100	5500 MHz	112	5560 MHz
	102	5510MHz	116	5580 MHz
	104	5520 MHz	132	5660 MHz
	106	5530 MHz	134	5670 MHz
	108	5540 MHz	136	5680 MHz
	110	5550 MHz	140	5700 MHz

3.5. Table for Product Information

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

3.6. Table for Test Modes

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

Test Items	Mode		Data Rate	Channel	Chain
AC Power Conducted Emission	Normal Link		-	-	-
Max. Conducted Output Power	11ac 20MHz	Band 2	MCS0, Nss1	52/60/64	4+5+6
		Band 3	MCS0, Nss1	100/116/140	4+5+6
	11ac 40MHz	Band 2	MCS0, Nss1	54/62	4+5+6
		Band 3	MCS0, Nss1	102/110/134	4+5+6
	11ac 80MHz	Band 2	MCS0, Nss1	58	4+5+6
		Band 3	MCS0, Nss1	106	4+5+6
	11a/BPSK	Band 2	6Mbps	52/60/64	4 4+5+6
		Band 3	6Mbps	100/116/140	4 4+5+6
Power Spectral Density	11ac 20MHz	Band 2	MCS0, Nss1	52/60/64	4+5+6
		Band 3	MCS0, Nss1	100/116/140	4+5+6
	11ac 40MHz	Band 2	MCS0, Nss1	54/62	4+5+6
		Band 3	MCS0, Nss1	102/110/134	4+5+6
	11ac 80MHz	Band 2	MCS0, Nss1	58	4+5+6
		Band 3	MCS0, Nss1	106	4+5+6
	11a/BPSK	Band 2	6Mbps	52/60/64	4 4+5+6
		Band 3	6Mbps	100/116/140	4 4+5+6

26dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	11ac 20MHz	Band 2	MCS0, Nss1	52/60/64	4+5+6
		Band 3	MCS0, Nss1	100/116/140	4+5+6
	11ac 40MHz	Band 2	MCS0, Nss1	54/62	4+5+6
		Band 3	MCS0, Nss1	102/110/134	4+5+6
	11ac 80MHz	Band 2	MCS0, Nss1	58	4+5+6
		Band 3	MCS0, Nss1	106	4+5+6
	11a/BPSK	Band 2	6Mbps	52/60/64	4 4+5+6
		Band 3	6Mbps	100/116/140	4 4+5+6
Peak Excursion	11ac 20MHz	Band 2	MCS0, Nss1	Mode 1 (EUT 1):52	4+5+6
				Mode 2 (EUT 2):52	
		Band 3	MCS0, Nss1	Mode 1 (EUT 1):140	4+5+6
				Mode 2 (EUT 2):116	
	11ac 40MHz	Band 2	MCS0, Nss1	Mode 1 (EUT 1):54	4+5+6
				Mode 2 (EUT 2):54	
		Band 3	MCS0, Nss1	Mode 1 (EUT 1):110	4+5+6
				Mode 2 (EUT 2):110	
	11ac 80MHz	Band 2	MCS0, Nss1	Mode 1 (EUT 1):58	4+5+6
				Mode 2 (EUT 2):58	
		Band 3	MCS0, Nss1	Mode 1 (EUT 1):106	4+5+6
				Mode 2 (EUT 2):106	
	11a/BPSK	Band 2	6Mbps	Mode 1 (EUT 1) 1TX: 52 3TX: 64	4 4+5+6
				Mode 2 (EUT 2) 1TX:60 3TX:60	
		Band 3	6Mbps	Mode 1 (EUT 1) 1TX:116 3TX:140	4 4+5+6
				Mode 2 (EUT 2) 1TX:116 3TX:116	
Radiated Emission Below 1GHz	Normal Link		-	-	-

Radiated Emission Above 1GHz	11ac 20MHz	Band 2	MCS0, Nss1	52/60/64	4+5+6
		Band 3	MCS0, Nss1	100/116/140	4+5+6
	11ac 40MHz	Band 2	MCS0, Nss1	54/62	4+5+6
		Band 3	MCS0, Nss1	102/110/134	4+5+6
	11ac 80MHz	Band 2	MCS0, Nss1	58	4+5+6
		Band 3	MCS0, Nss1	106	4+5+6
	11a/BPSK	Band 2	6Mbps	52/60/64	4 4+5+6
		Band 3	6Mbps	100/116/140	4 4+5+6
Band Edge Emission	11ac 20MHz	Band 2	MCS0, Nss1	52/60/64	4+5+6
		Band 3	MCS0, Nss1	100/140	4+5+6
	11ac 40MHz	Band 2	MCS0, Nss1	54/62	4+5+6
		Band 3	MCS0, Nss1	102/110/134	4+5+6
	11ac 80MHz	Band 2	MCS0, Nss1	58	4+5+6
		Band 3	MCS0, Nss1	106	4+5+6
	11a/BPSK	Band 2	6Mbps	52/60/64	4 4+5+6
		Band 3	6Mbps	100/140	4 4+5+6
Frequency Stability	Un-modulation		-	60/100	N/A

The following test modes were performed for all tests:

For AC Power Line Conducted Emissions test:

Mode 1. EUT 1+Adapter

Mode 2. EUT 1+PoE

Mode 3. EUT 2+Adapter

Mode 4. EUT 2+PoE

Mode 1 and Mode 3 are the worst case, so it was selected to record in this test report.

For Radiated Emission below 1GHz test:

Mode 1. EUT 1 put vertically+Adapter

Mode 2. EUT 1 put horizontally+Adapter

Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 will follow this same test mode.

Mode 3. EUT 1 put vertically+PoE

Mode 4. EUT 2 put vertically+Adapter

Mode 5. EUT 2 put horizontally+Adapter

Mode 4 has been evaluated to be the worst case among Mode 4~5, thus measurement for Mode 6 will follow this same test mode.

Mode 6. EUT 2 put vertically+PoE

Mode 3 and Mode 6 are worst test result among Mode 1~6, and the test result of those modes are selected to record in this test report.

For Radiated Emissions above 1GHz test:

Mode 1. EUT 1 put vertically

Mode 2. EUT 1 put horizontally

Mode 3. EUT 2 put vertically

Mode 4. EUT 2 put horizontally

Mode 1 and Mode 3 are the worst case, so it was selected to record in this test report.

For Others test:

Mode 1. EUT 1

Mode 2. EUT 2

For Co-location test:

The mode “EUT 1 put vertically+PoE” and “EUT 2 put vertically+PoE” has been evaluated to be the worst case for Radiated emission above 1GHz test.

Consequently, measurement for Co-location test will follow this same test modes.

Mode 1. EUT 1 put vertically+PoE

Mode 2. EUT 2 put vertically+PoE

All the test result were recorded in the report.

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Maximum Permissible Exposure (Please refer to Appendix B) and Co-location (please refer to Appendix C) tests are added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.7. Table for Testing Locations

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

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

Please refer section 6 for Test Site Address.

3.8. Table for Multiple Listing

The model numbers in the following table are all refer to the identical product.

Model No.	Antenna Type	Remark
AP370	PIFA Antenna	EUT 1
AP390	Dipole Antenna	EUT 2

3.9. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR362046AB
Below is the table for the change of the product with respect to the original one.

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

3.10. Table for Supporting Units

For AC Power Line Conducted Emissions, Radiated Emission below 1GHz and Co-location tests:

Support Unit	Brand	Model	FCC ID
NB	DELL	E6220	QDS-BRCM1049LE
NB	DELL	E6220	QDS-BRCM1049LE
NB	DELL	E6220	QDS-BRCM1049LE
Flash Disk 3.0	ADATA	C103	DoC
PoE	Powerdsine	PD-3501G/AC	N/A

For Others tests:

Support Unit	Brand	Model	FCC ID
NB	DELL	E6220	QDS-BRCM1049LE

3.11. Table for Parameters of Test Software Setting

During testing, Channel & 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.

Test Mode: Mode 1 (EUT 1)

Power Parameters of IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3					
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
MCS0, Nss1 20MHz	14.5	14.5	14.5	15	15	14.5

Power Parameters of IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3				
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0, Nss1 40MHz	17.5	12.5	15	18	17

Power Parameters of IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3	
Frequency	5290 MHz	5530 MHz
MCS0, Nss1 80MHz	11.5	13

Power Parameters of IEEE 802.11a / Chain 4

Test Software Version	ART2 Version 2.3					
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	22.5	22.5	18	19	22.5	17.5

Power Parameters of IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3					
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	14.5	14	14	14.5	14.5	15

Test Mode: Mode 2 (EUT 2)

Power Parameters of IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3					
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
MCS0, Nss1 20MHz	16	15.5	16	16	16.5	15

Power Parameters of IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3				
Frequency	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz
MCS0, Nss1 40MHz	18.5	12.5	16	19	16.5

Power Parameters of IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Test Software Version	ART2 Version 2.3	
Frequency	5290 MHz	5530 MHz
MCS0, Nss1 80MHz	12	14

Power Parameters of IEEE 802.11a / Chain 4

Test Software Version	ART2 Version 2.3					
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	22	22.5	20	20	23	17.5

Power Parameters of IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

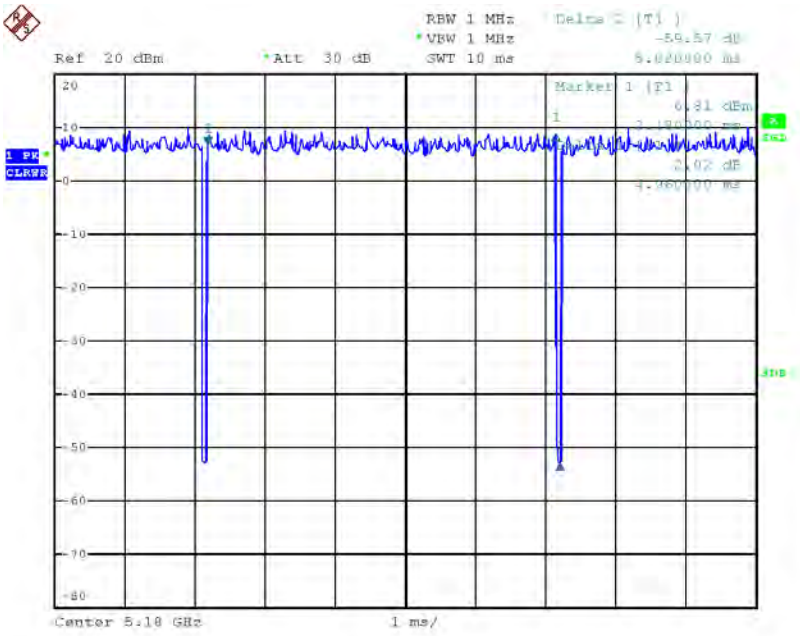
Test Software Version	ART2 Version 2.3					
Frequency	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
IEEE 802.11a	15.5	15.5	15.5	15.5	16	15

3.12. EUT Operation during Test

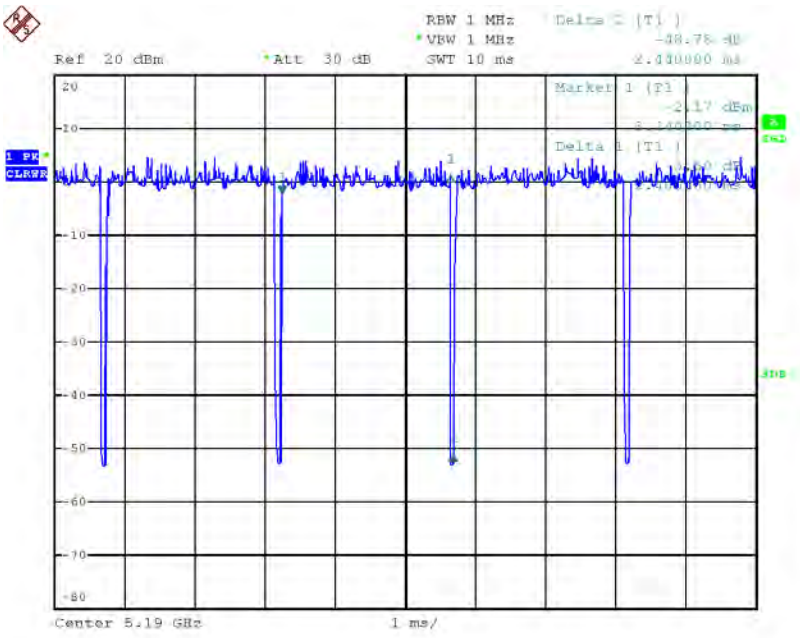
The EUT was programmed to be in continuously transmitting mode.

3.13. Duty Cycle

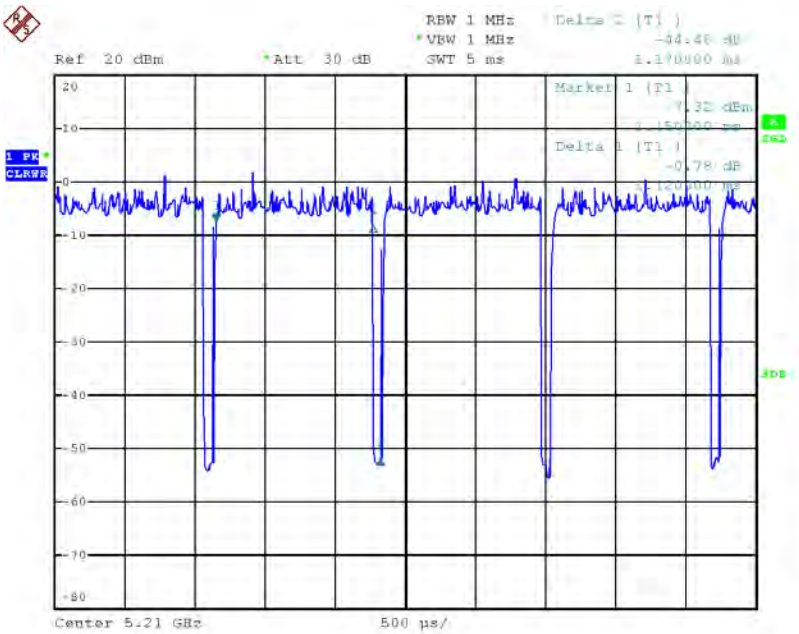
IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 1 (EUT 1)



IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 1 (EUT 1)



IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 1 (EUT 1)



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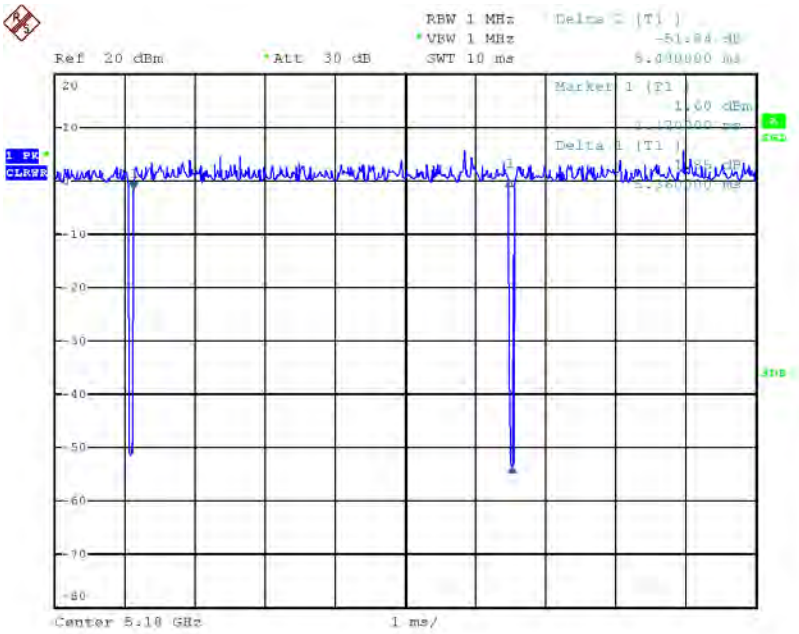
IEEE 802.11a / Chain 4 / Test Mode: Mode 1 (EUT 1)



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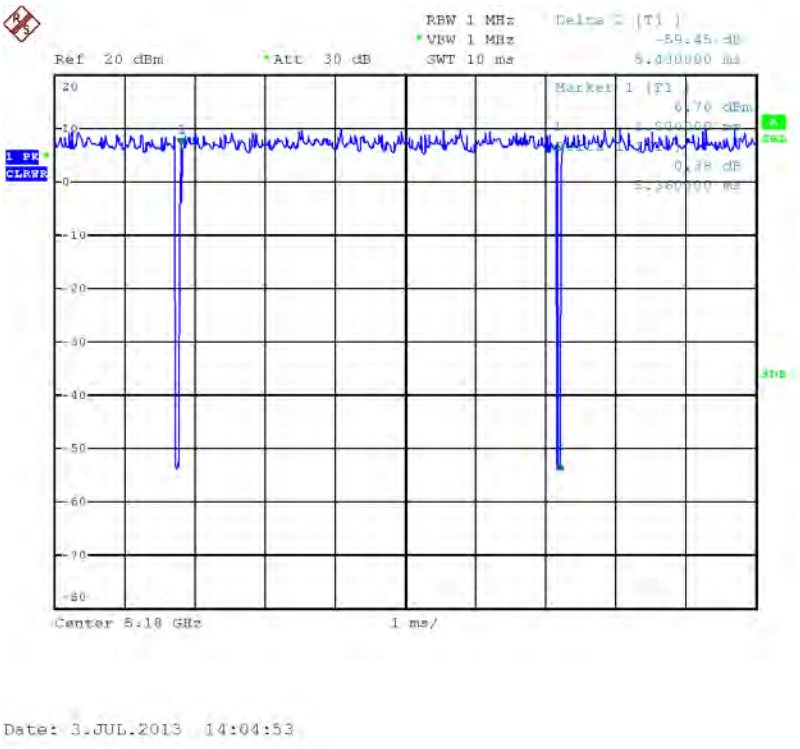
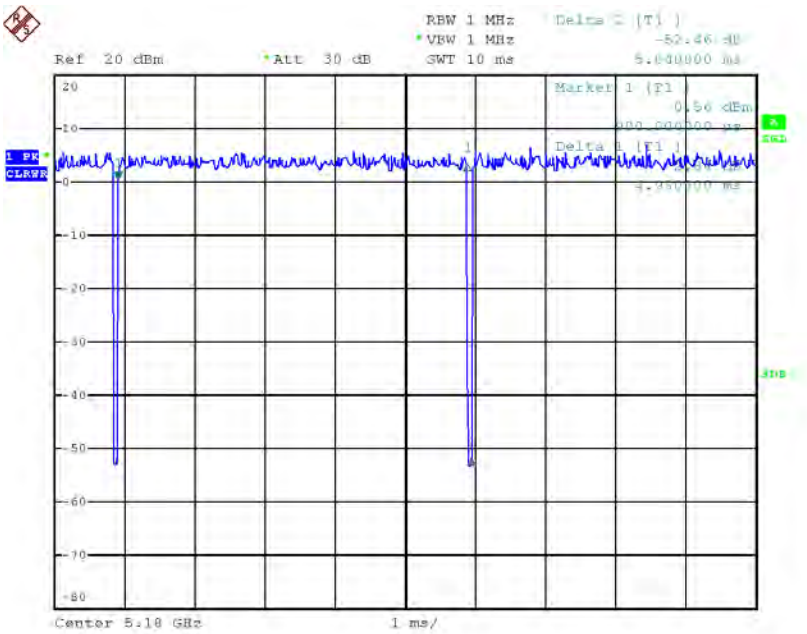
IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 1 (EUT 1)

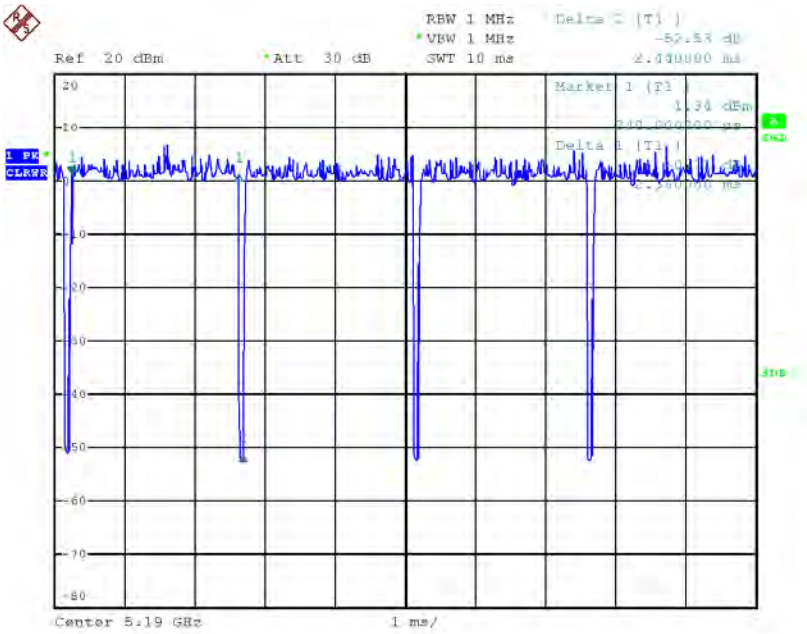


IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 2 (EUT 2)



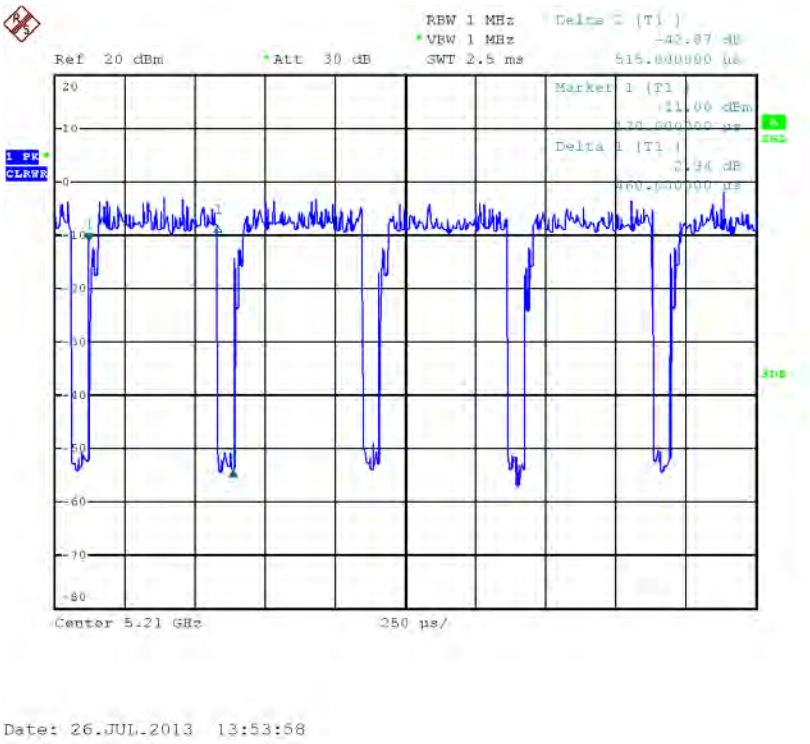
Date: 26.JUL.2013 13:51:40

IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 2 (EUT 2)



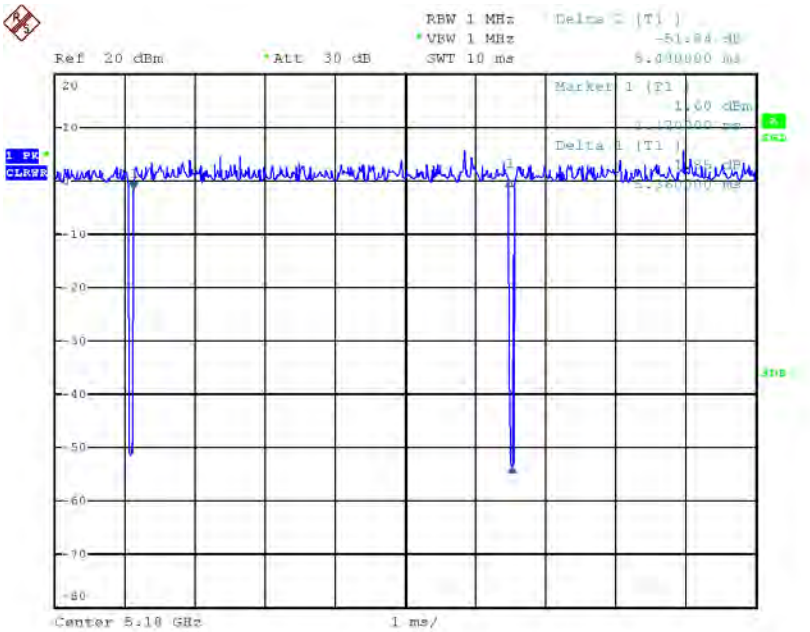
Date: 26.JUL.2013 13:52:56

IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 2 (EUT 2)



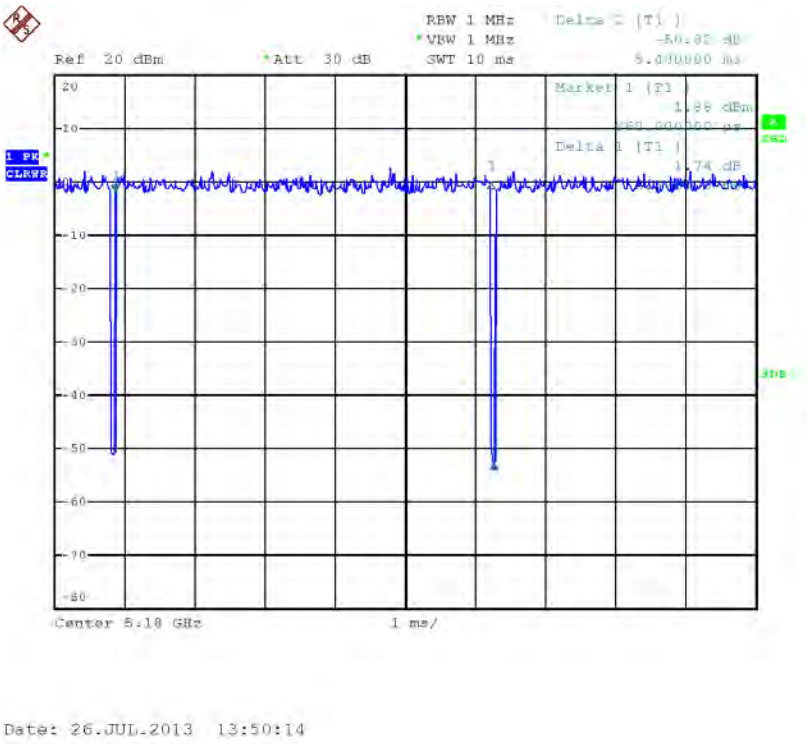
Date: 26.JUL.2013 13:53:58

IEEE 802.11a / Chain 4 / Test Mode: Mode 2 (EUT 2)



Date: 26.JUL.2013 13:56:06

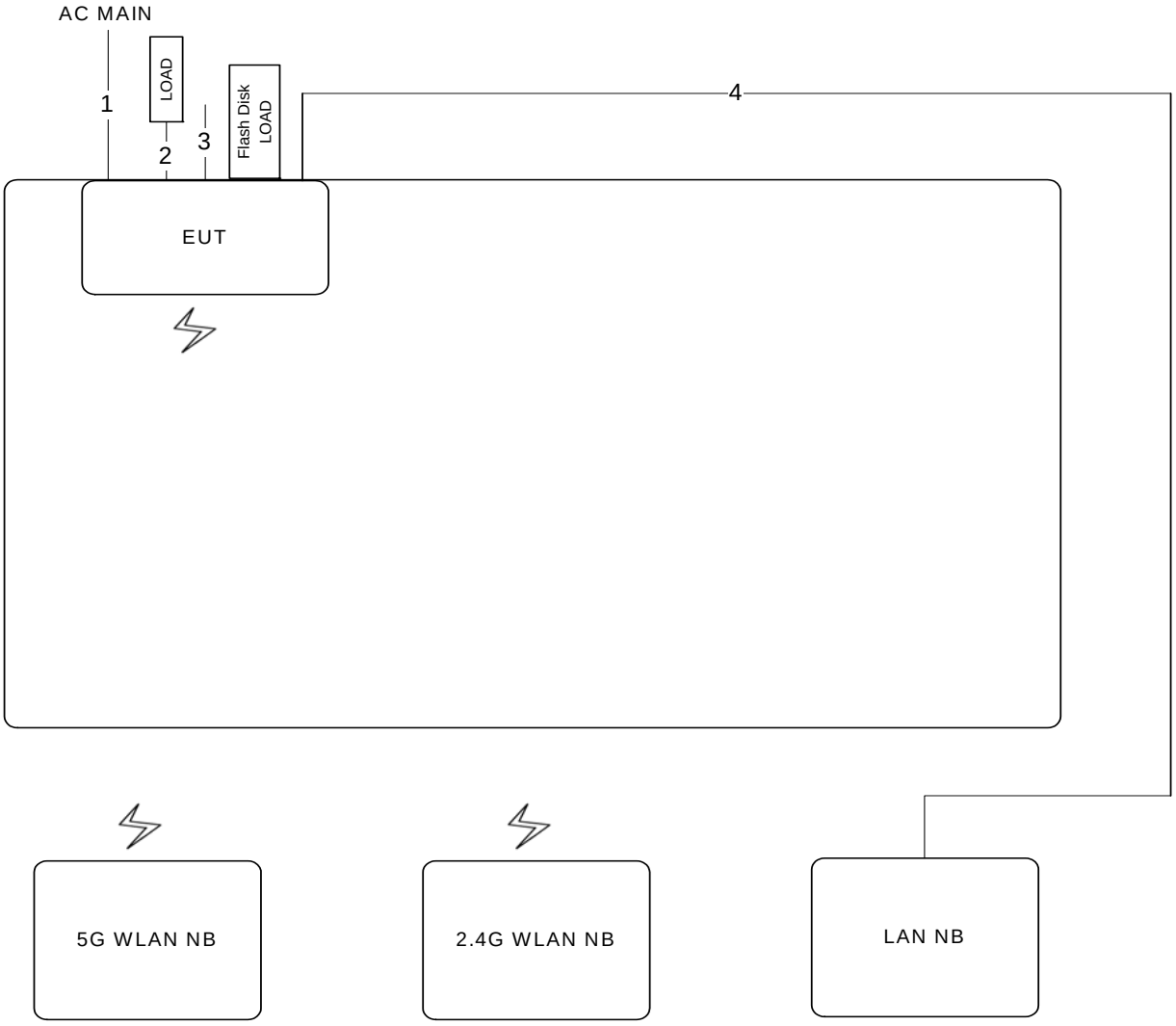
IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / Test Mode: Mode 2 (EUT 2)



3.14. Test Configurations

3.14.1. AC Power Line Conduction Emissions Test Configuration

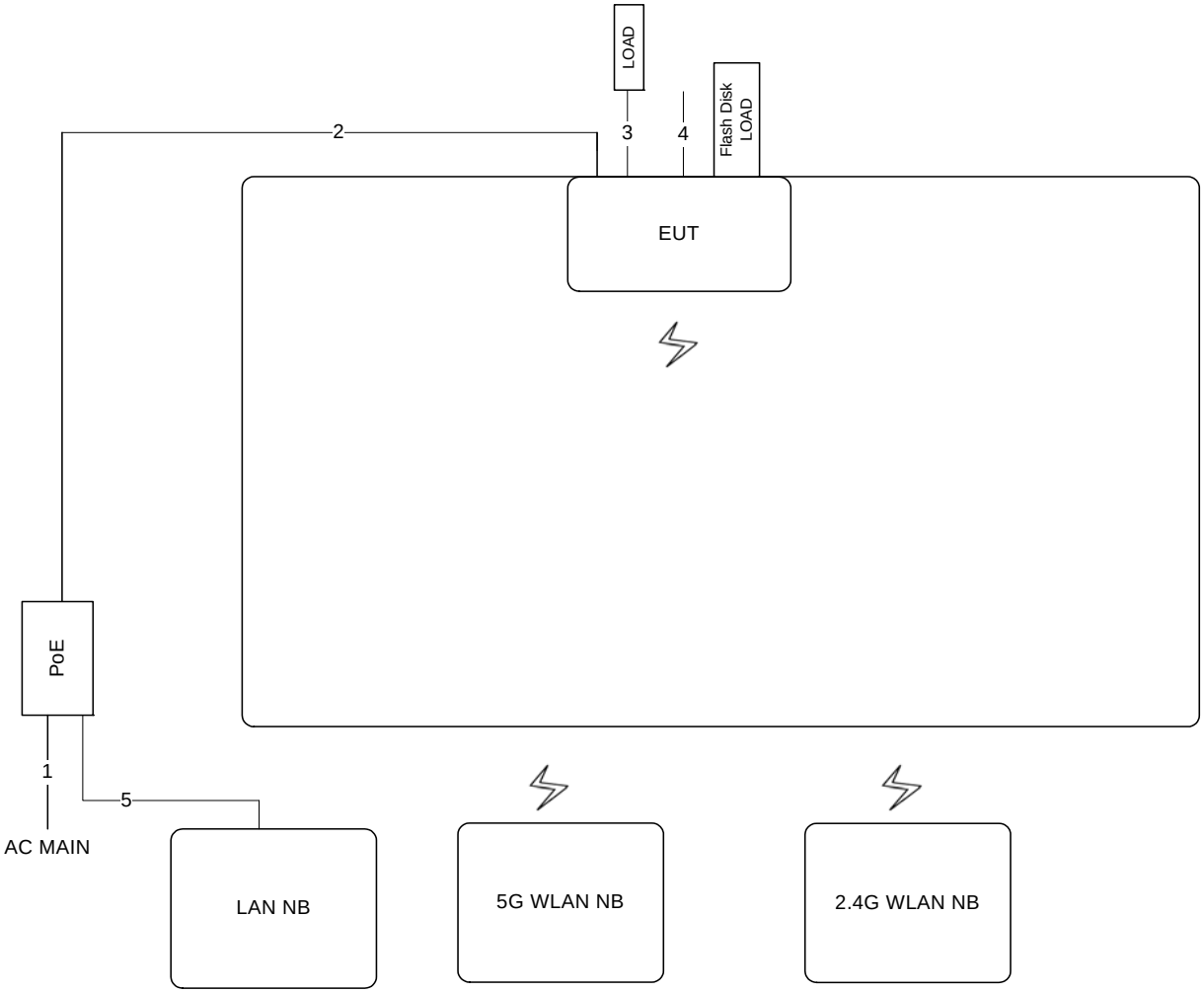
Test Mode: Mode 1, Mode 3



Item	Connection	Shielded	Length
1	Power cable	No	1.5m
2	RJ-45 cable	No	1m
3	Console cable	No	1m
4	RJ-45 cable	No	10m

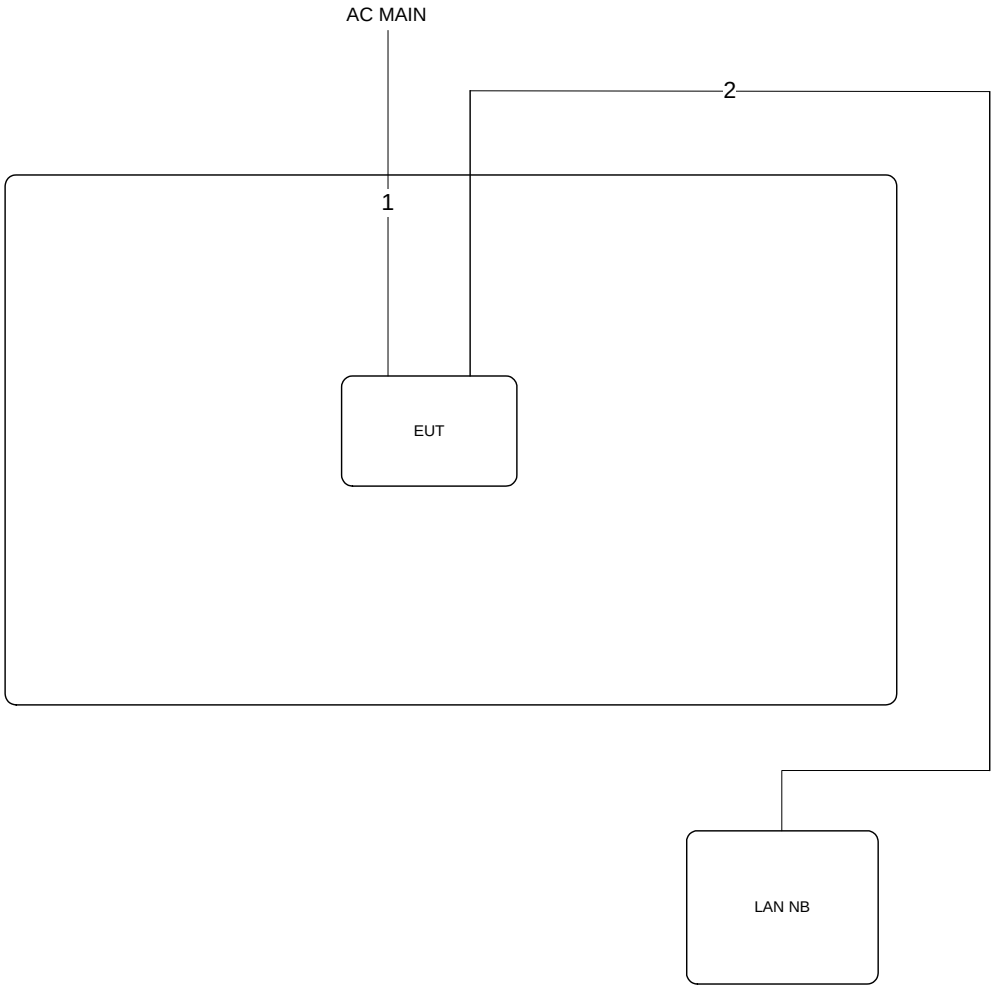
3.14.2. Radiated Emission Test Configuration

Test Configuration: below 1GHz / Test Mode: Mode 3, Mode 6



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m
3	RJ45 cable	No	1m
4	Console cable	No	1m
5	RJ-45 cable	No	1.5m

Test Configuration: above 1GHz / Test Mode: Mode 1, Mode 3



Item	Connection	Shielded	Length
1	Power cable	No	1.8m
2	RJ-45 cable	No	10m

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

For this product that is designed to connect to the AC power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed below limits table.

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

4.1.2. Measuring Instruments and Setting

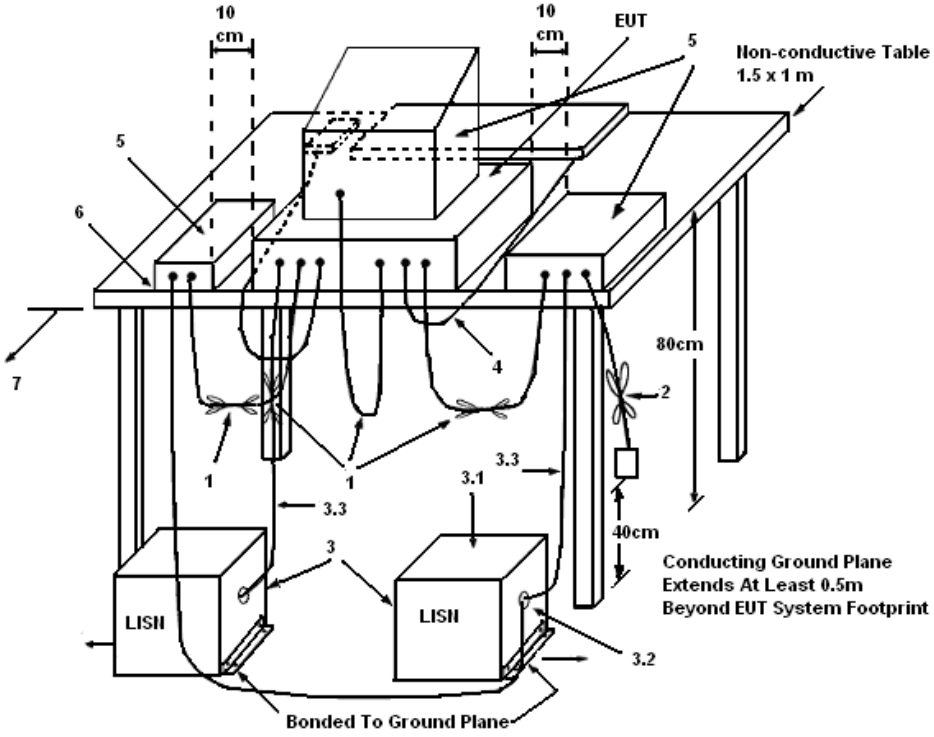
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

4.1.3. Test Procedures

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

4.1.4. Test Setup Layout



LEGEND:

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

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

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

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

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

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

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

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

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

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

4.1.5. Test Deviation

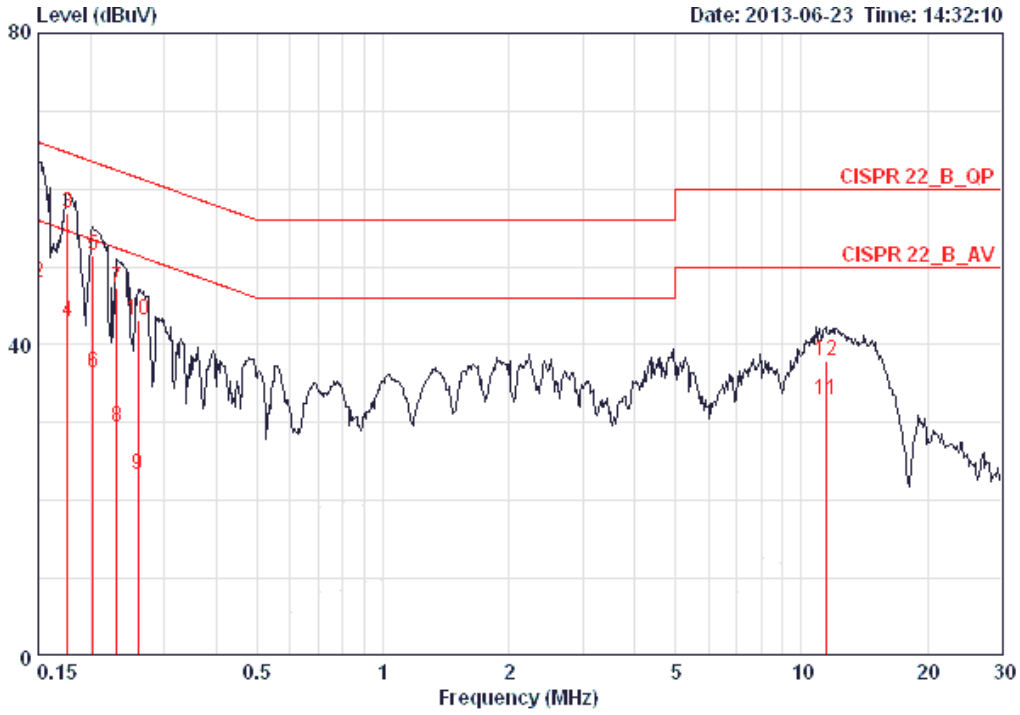
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

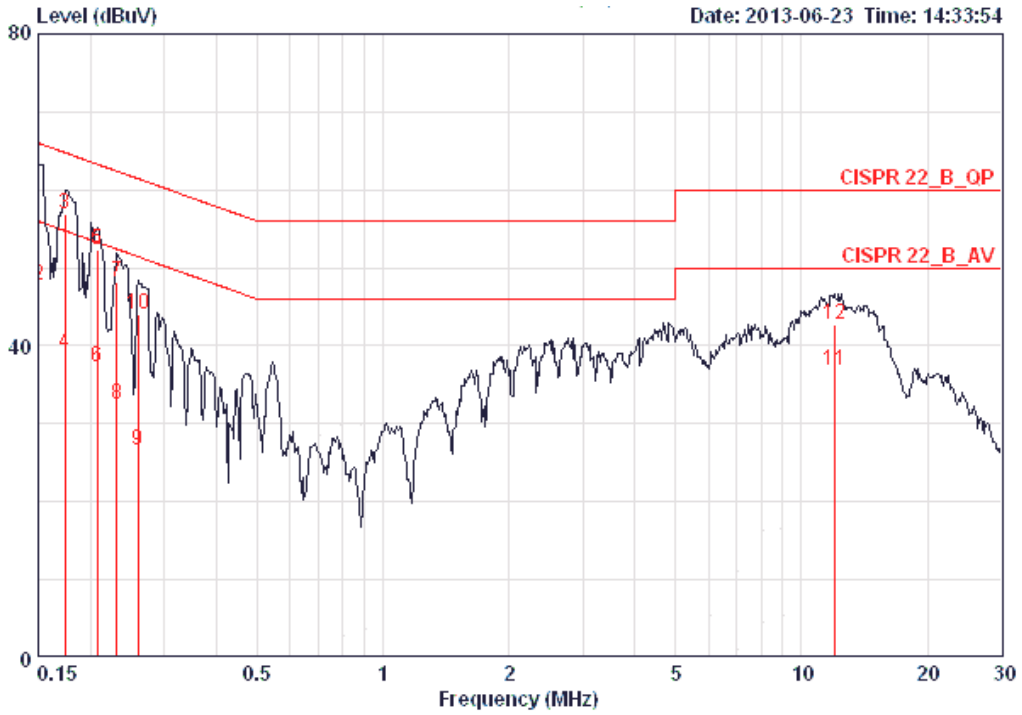
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	25℃	Humidity	49%
Test Engineer	Sin Chang	Phase	Line
Configuration	Normal Link	Test Mode	Mode 1



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1 @	0.15000	61.67	-4.33	66.00	61.34	0.15	0.18	LINE	QP
2 @	0.15000	48.02	-7.98	56.00	47.69	0.15	0.18	LINE	AVERAGE
3 @	0.17584	56.95	-7.73	64.68	56.61	0.15	0.19	LINE	QP
4	0.17584	42.92	-11.76	54.68	42.58	0.15	0.19	LINE	AVERAGE
5	0.20289	51.48	-12.01	63.49	51.13	0.15	0.20	LINE	QP
6	0.20289	36.35	-17.14	53.49	36.00	0.15	0.20	LINE	AVERAGE
7	0.23162	47.28	-15.11	62.39	46.93	0.15	0.20	LINE	QP
8	0.23162	29.51	-22.88	52.39	29.16	0.15	0.20	LINE	AVERAGE
9	0.26026	23.34	-28.08	51.42	22.99	0.15	0.20	LINE	AVERAGE
10	0.26026	43.11	-18.31	61.42	42.76	0.15	0.20	LINE	QP
11	11.438	32.95	-17.05	50.00	32.16	0.40	0.39	LINE	AVERAGE
12	11.438	37.94	-22.06	60.00	37.15	0.40	0.39	LINE	QP

Temperature	25℃	Humidity	49%
Test Engineer	Sin Chang	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 1

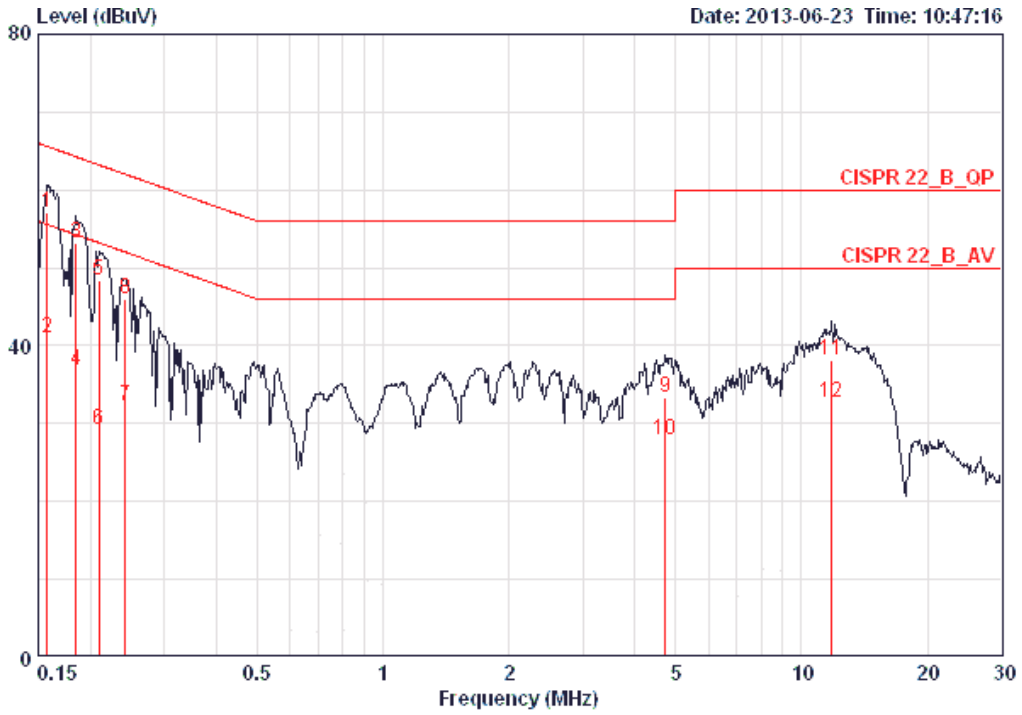


	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1 @	0.15000	61.40	-4.60	66.00	61.15	0.07	0.18	NEUTRAL	QP
2 @	0.15000	47.66	-8.34	56.00	47.41	0.07	0.18	NEUTRAL	AVERAGE
3 @	0.17399	56.89	-7.88	64.77	56.63	0.07	0.19	NEUTRAL	QP
4	0.17399	38.96	-15.81	54.77	38.70	0.07	0.19	NEUTRAL	AVERAGE
5	0.20723	52.40	-10.92	63.32	52.13	0.07	0.20	NEUTRAL	QP
6	0.20723	37.23	-16.09	53.32	36.96	0.07	0.20	NEUTRAL	AVERAGE
7	0.23162	48.20	-14.19	62.39	47.93	0.07	0.20	NEUTRAL	QP
8	0.23162	32.54	-19.85	52.39	32.27	0.07	0.20	NEUTRAL	AVERAGE
9	0.26026	26.56	-24.86	51.42	26.29	0.07	0.20	NEUTRAL	AVERAGE
10	0.26026	43.95	-17.47	61.42	43.68	0.07	0.20	NEUTRAL	QP
11	11.996	36.93	-13.07	50.00	36.22	0.31	0.40	NEUTRAL	AVERAGE
12	11.996	42.63	-17.37	60.00	41.92	0.31	0.40	NEUTRAL	QP

Note:

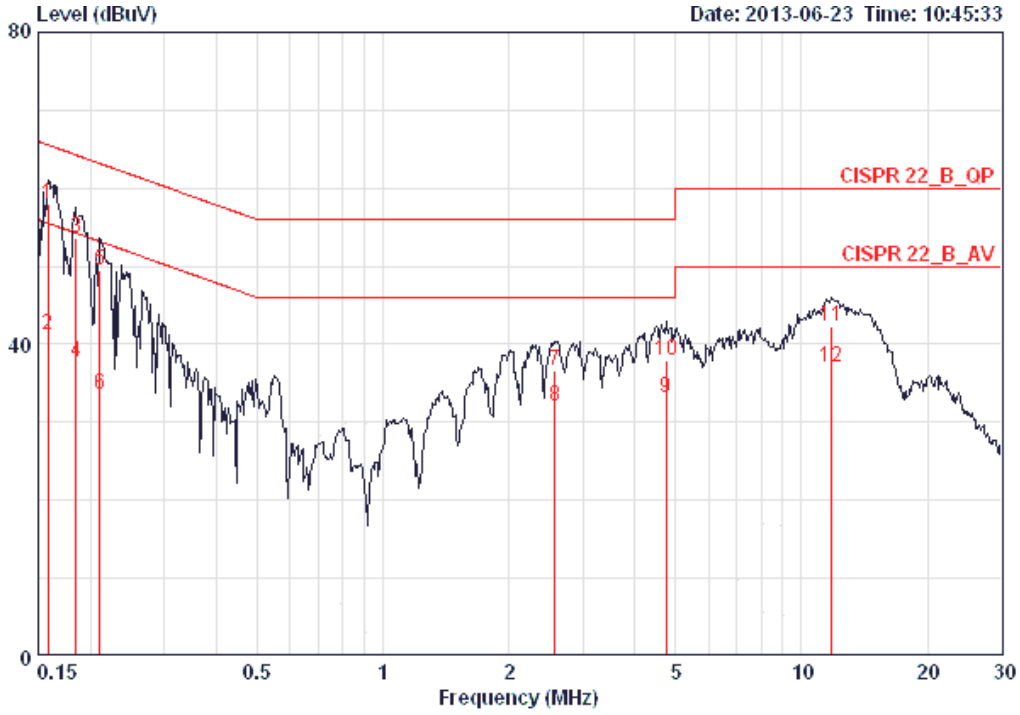
Level = Read Level + LISN Factor + Cable Loss.

Temperature	25℃	Humidity	49%
Test Engineer	Sin Chang	Phase	Line
Configuration	Normal Link	Test Mode	Mode 3



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1 @	0.15733	57.16	-8.44	65.60	56.83	0.15	0.18	LINE	QP
2	0.15733	40.91	-14.69	55.60	40.58	0.15	0.18	LINE	AVERAGE
3	0.18443	53.26	-11.02	64.28	52.92	0.15	0.19	LINE	QP
4	0.18443	36.87	-17.41	54.28	36.53	0.15	0.19	LINE	AVERAGE
5	0.20944	48.46	-14.77	63.23	48.11	0.15	0.20	LINE	QP
6	0.20944	29.31	-23.92	53.23	28.96	0.15	0.20	LINE	AVERAGE
7	0.24165	32.35	-19.69	52.04	32.00	0.15	0.20	LINE	AVERAGE
8	0.24165	45.93	-16.11	62.04	45.58	0.15	0.20	LINE	QP
9	4.721	33.38	-22.62	56.00	32.77	0.29	0.31	LINE	QP
10	4.721	27.87	-18.13	46.00	27.26	0.29	0.31	LINE	AVERAGE
11	11.807	38.09	-21.91	60.00	37.28	0.41	0.40	LINE	QP
12	11.807	32.72	-17.28	50.00	31.91	0.41	0.40	LINE	AVERAGE

Temperature	25℃	Humidity	49%
Test Engineer	Sin Chang	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 3



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1 @	0.15816	57.90	-7.66	65.56	57.65	0.07	0.18	NEUTRAL	QP
2	0.15816	41.23	-14.33	55.56	40.98	0.07	0.18	NEUTRAL	AVERAGE
3	0.18443	53.60	-10.68	64.28	53.34	0.07	0.19	NEUTRAL	QP
4	0.18443	37.79	-16.49	54.28	37.53	0.07	0.19	NEUTRAL	AVERAGE
5	0.21055	49.40	-13.78	63.18	49.13	0.07	0.20	NEUTRAL	QP
6	0.21055	33.66	-19.52	53.18	33.39	0.07	0.20	NEUTRAL	AVERAGE
7	2.581	36.69	-19.31	56.00	36.33	0.12	0.24	NEUTRAL	QP
8	2.581	32.03	-13.97	46.00	31.67	0.12	0.24	NEUTRAL	AVERAGE
9	4.746	33.11	-12.89	46.00	32.65	0.15	0.32	NEUTRAL	AVERAGE
10	4.746	38.01	-17.99	56.00	37.55	0.15	0.32	NEUTRAL	QP
11	11.807	42.22	-17.78	60.00	41.52	0.30	0.40	NEUTRAL	QP
12	11.807	37.08	-12.92	50.00	36.38	0.30	0.40	NEUTRAL	AVERAGE

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. 26dB Bandwidth & 99% Occupied Bandwidth Measurement

4.2.1. Limit

No restriction limits.

4.2.2. Measuring Instruments and Setting

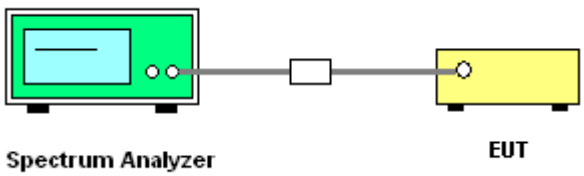
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.2.3. Test Procedures

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

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 1 (EUT 1)		

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	24.16	19.36
60	5300 MHz	24.80	19.36
64	5320 MHz	24.64	19.68
100	5500 MHz	25.28	19.20
116	5580 MHz	24.32	18.72
140	5700 MHz	23.04	18.40

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
54	5270 MHz	45.76	36.80
62	5310 MHz	47.36	37.12
102	5510MHz	49.28	36.48
110	5550 MHz	46.72	37.76
134	5670 MHz	46.40	37.12

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
58	5290 MHz	97.20	77.04
106	5530 MHz	100.80	77.04

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Mode	Mode 1 (EUT 1)		

Configuration IEEE 802.11a / Chain 4

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	35.84	20.80
60	5300 MHz	32.80	19.36
64	5320 MHz	25.12	17.12
100	5500 MHz	24.16	17.12
116	5580 MHz	29.60	18.40
140	5700 MHz	23.52	16.96

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	24.48	17.12
60	5300 MHz	23.20	17.28
64	5320 MHz	23.84	17.28
100	5500 MHz	24.32	17.28
116	5580 MHz	22.88	17.12
140	5700 MHz	22.88	16.96

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (EUT 2)		

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	23.20	18.88
60	5300 MHz	23.20	19.04
64	5320 MHz	19.04	16.00
100	5500 MHz	23.20	17.76
116	5580 MHz	21.76	17.92
140	5700 MHz	24.00	19.20

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
54	5270 MHz	38.72	34.88
62	5310 MHz	39.04	33.92
102	5510MHz	41.92	36.16
110	5550 MHz	38.72	33.92
134	5670 MHz	41.92	37.12

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
58	5290 MHz	80.00	74.24
106	5530 MHz	84.48	72.96

Temperature	25℃	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Mode	Mode 2 (EUT 2)		

Configuration IEEE 802.11a / Chain 4

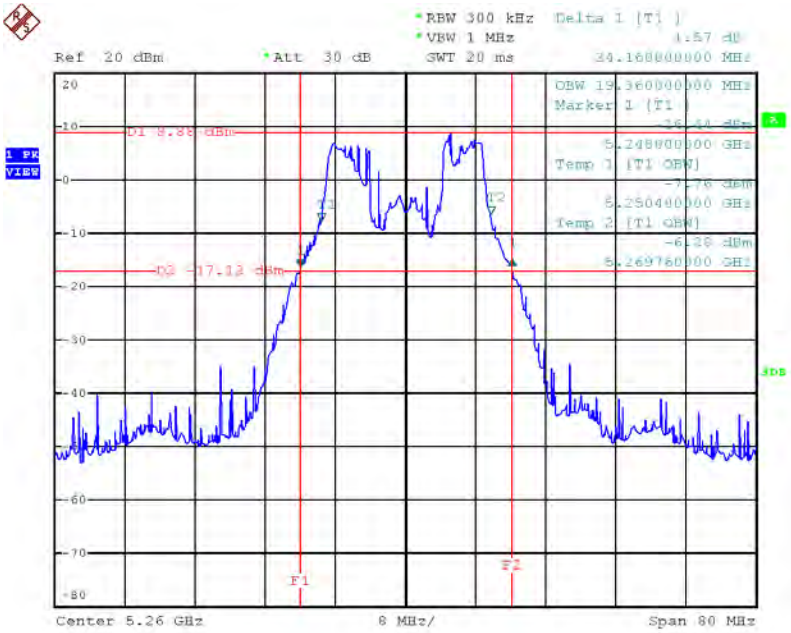
Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	38.56	20.00
60	5300 MHz	42.08	21.92
64	5320 MHz	26.88	17.44
100	5500 MHz	26.56	17.44
116	5580 MHz	40.96	21.76
140	5700 MHz	23.84	17.12

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Mode	Mode 2 (EUT 2)		

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

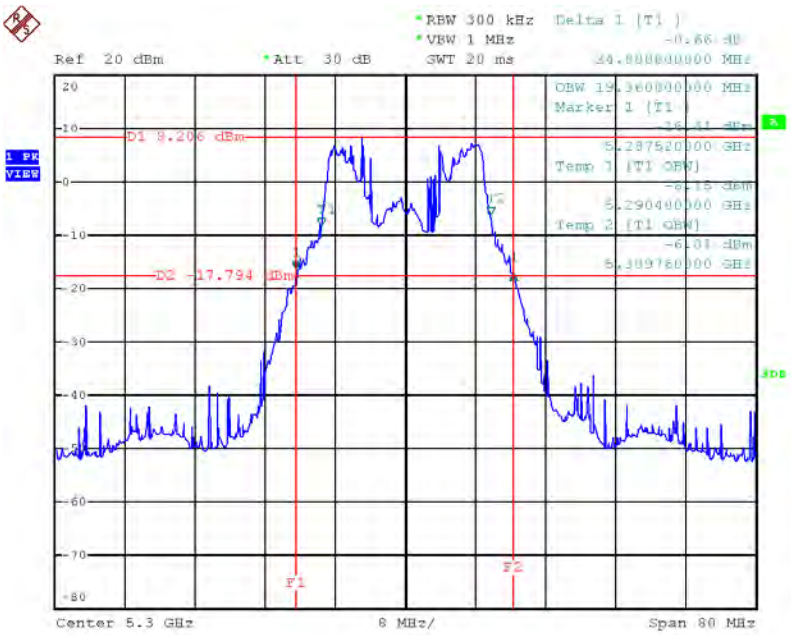
Channel	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
52	5260 MHz	21.92	17.12
60	5300 MHz	21.92	17.12
64	5320 MHz	19.36	16.48
100	5500 MHz	24.16	17.28
116	5580 MHz	21.92	17.28
140	5700 MHz	21.44	17.28

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 1 (EUT 1)



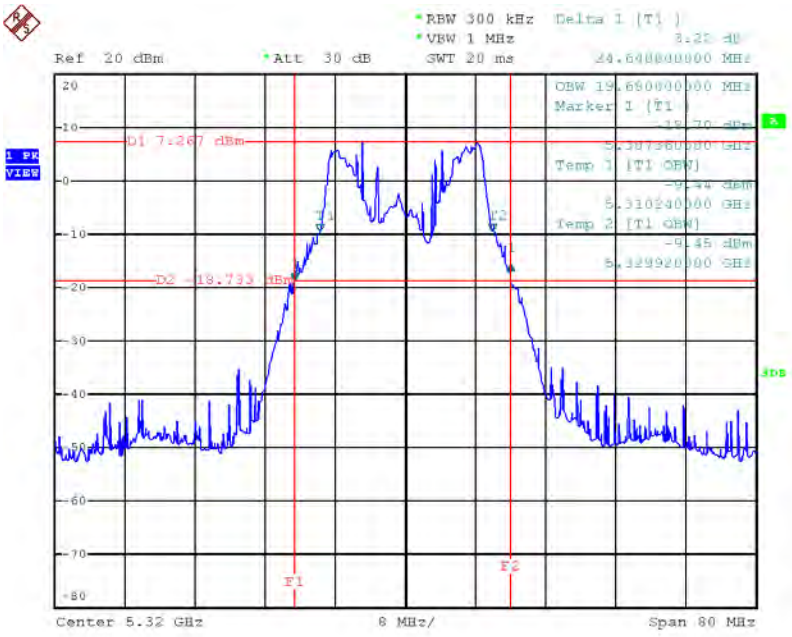
Date: 3.JUL.2013 00:35:09

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5300 MHz / Test Mode: Mode 1 (EUT 1)

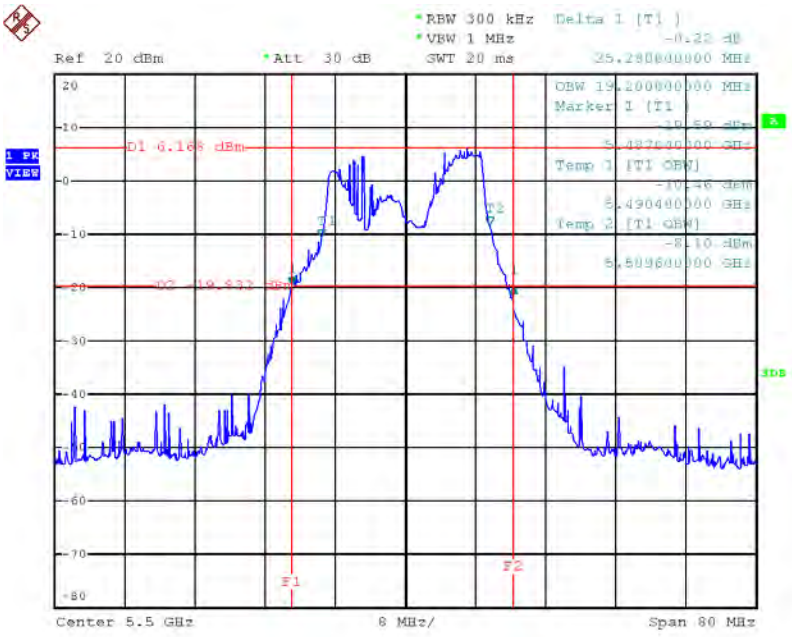


Date: 3.JUL.2013 00:36:32

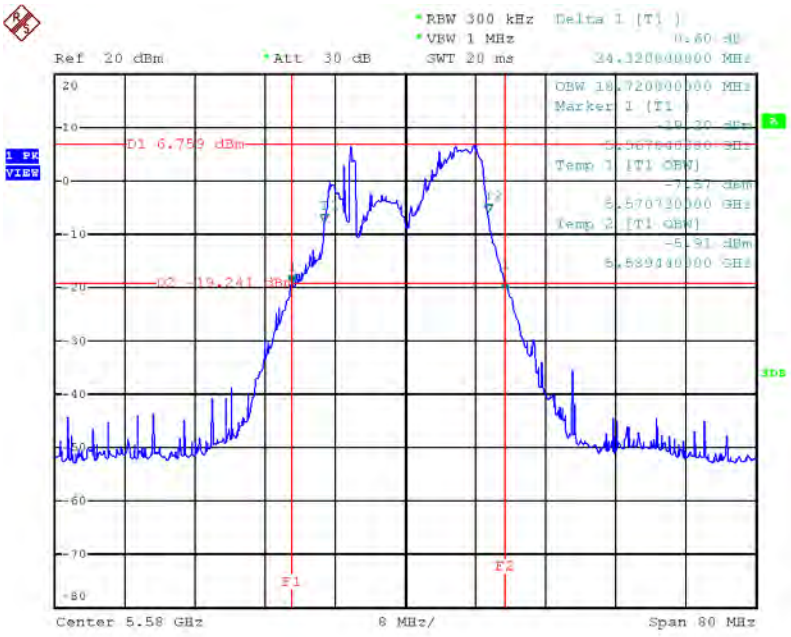
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5320 MHz / Test Mode: Mode 1 (EUT 1)



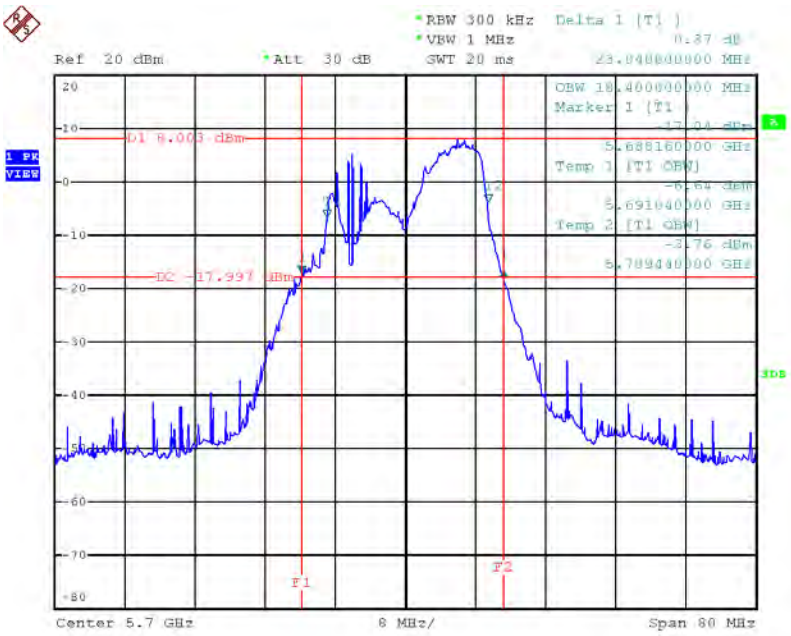
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5500 MHz / Test Mode: Mode 1 (EUT 1)



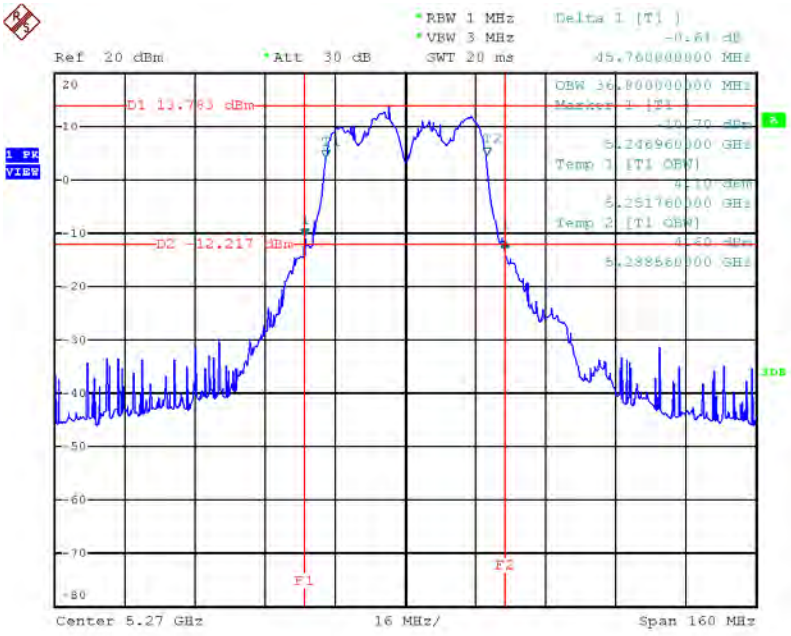
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 1 (EUT 1)



26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5700 MHz / Test Mode: Mode 1 (EUT 1)

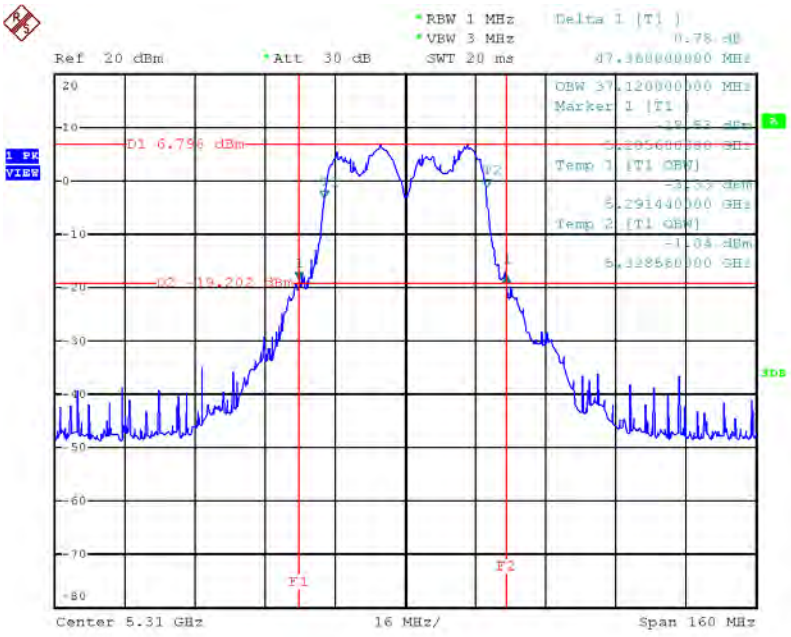


26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5270 MHz / Test Mode: Mode 1 (EUT 1)



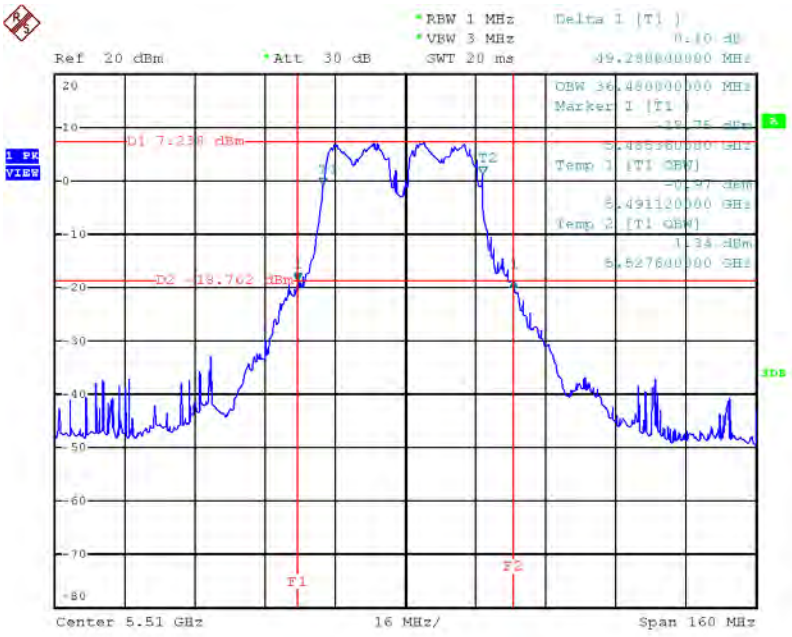
Date: 3.JUL.2013 01:12:53

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5310 MHz / Test Mode: Mode 1 (EUT 1)



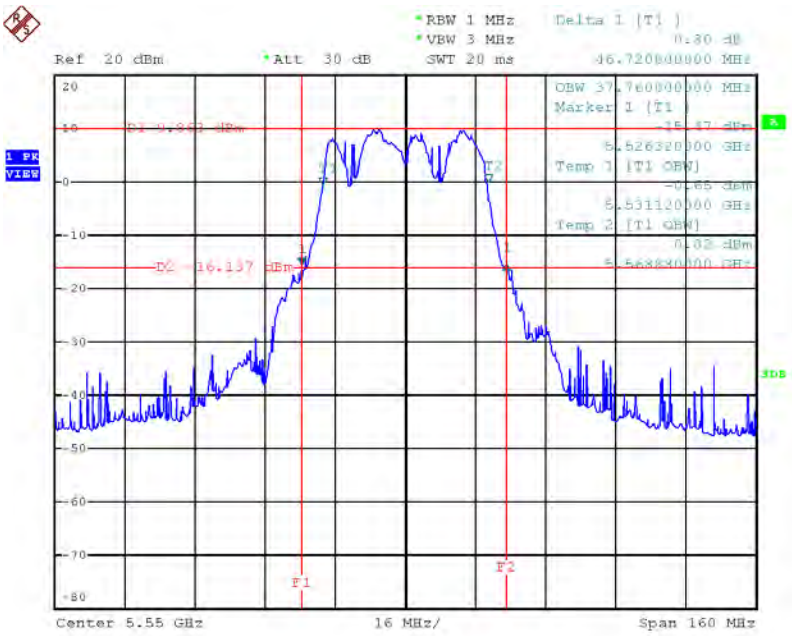
Date: 3.JUL.2013 01:14:58

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5510MHz / Test Mode: Mode 1 (EUT 1)



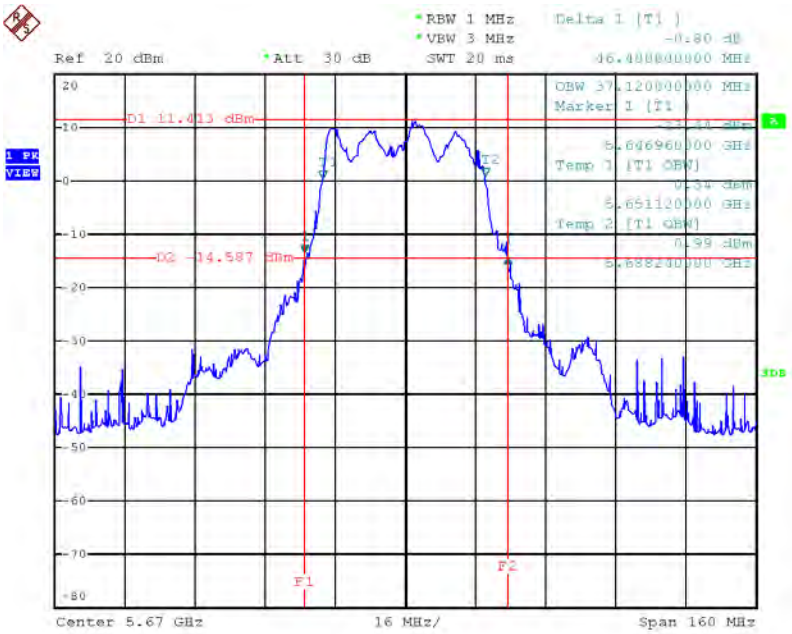
Date: 3.JUL.2013 01:16:54

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5550 MHz / Test Mode: Mode 1 (EUT 1)

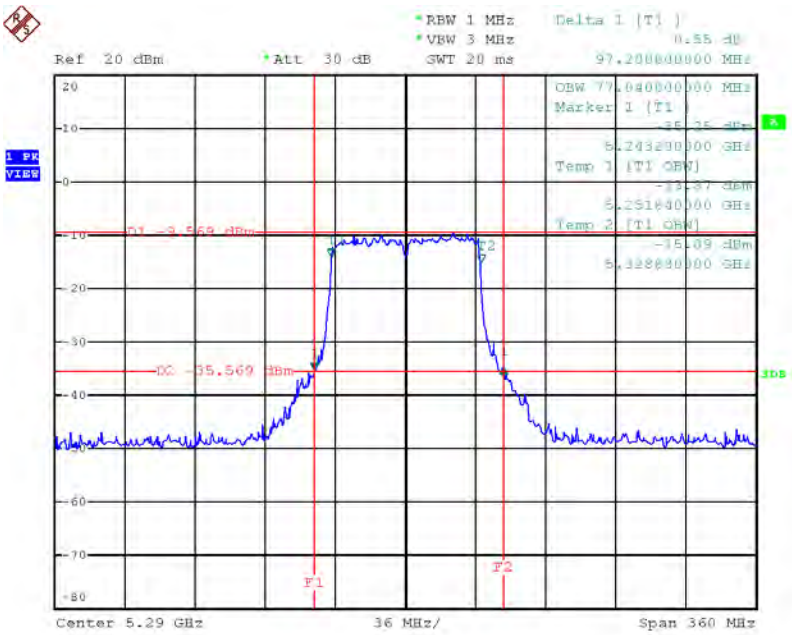


Date: 3.JUL.2013 01:18:34

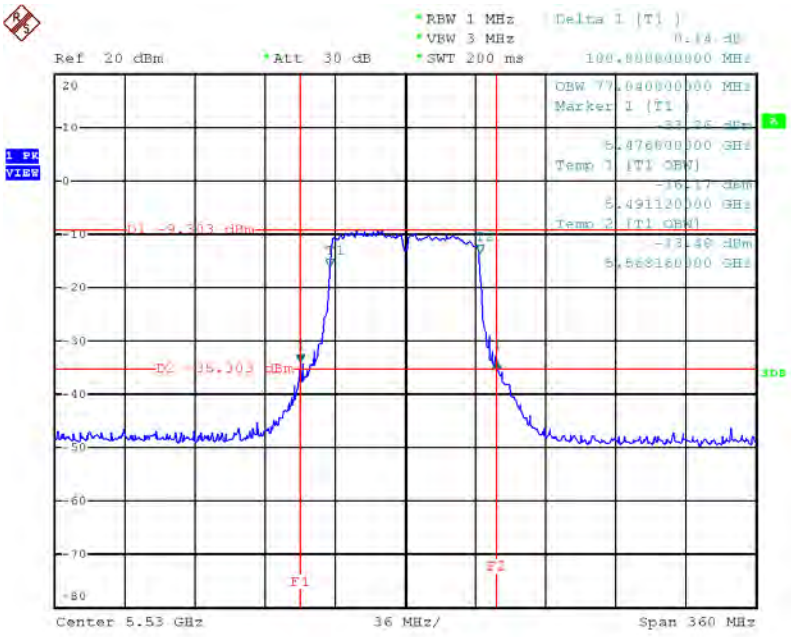
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5670 MHz / Test Mode: Mode 1 (EUT 1)



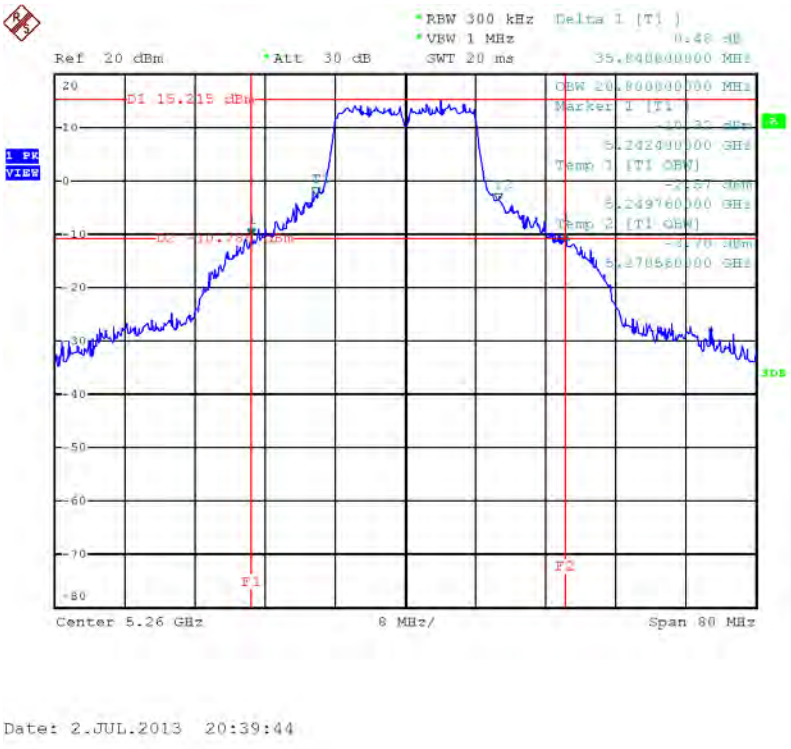
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5290 MHz / Test Mode: Mode 1 (EUT 1)



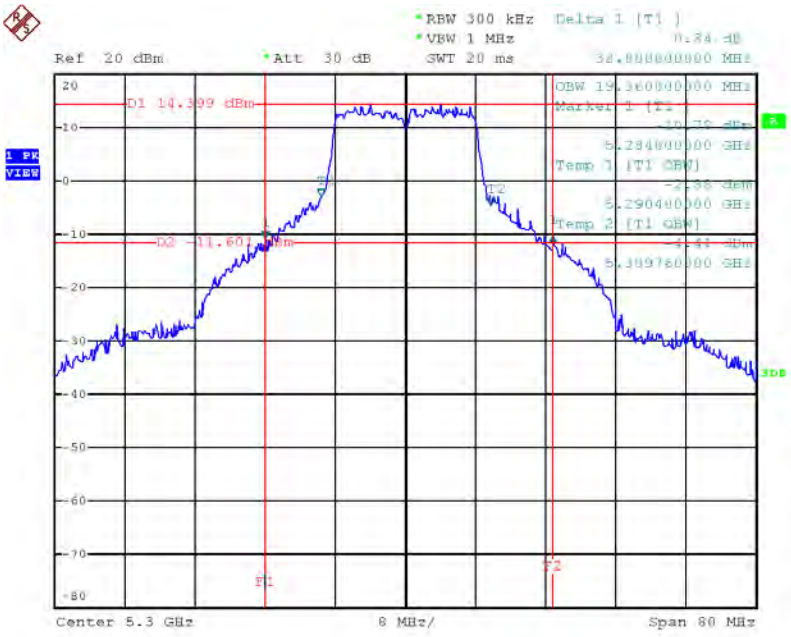
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5530 MHz / Test Mode: Mode 1 (EUT 1)



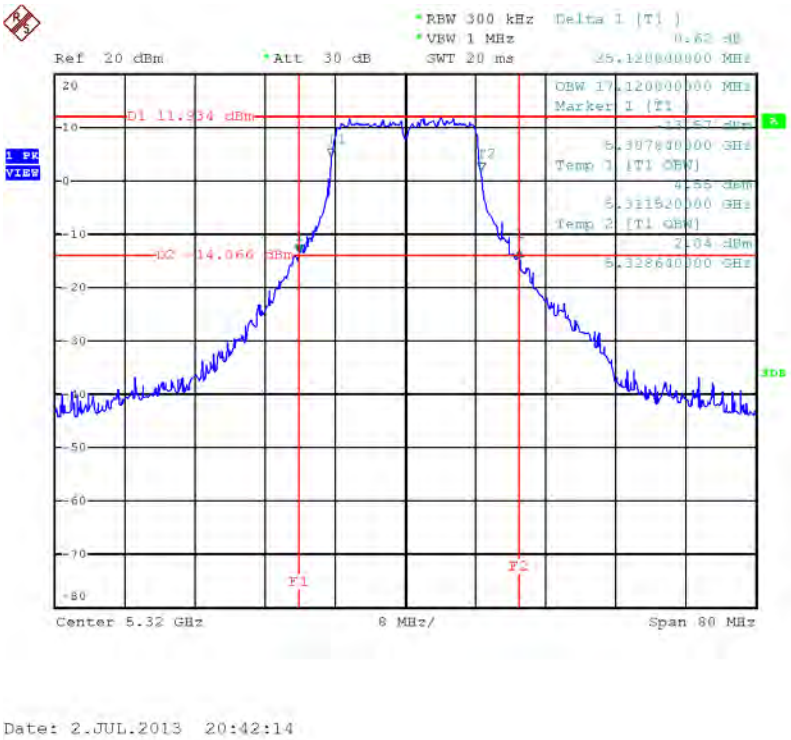
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5260 MHz / Test Mode: Mode 1 (EUT 1)



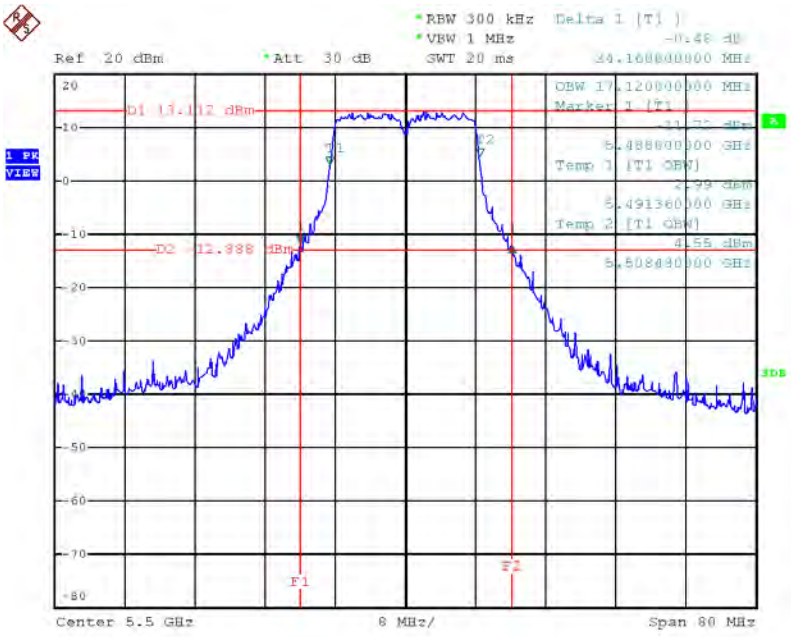
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5300 MHz / Test Mode: Mode 1 (EUT 1)



26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5320 MHz / Test Mode: Mode 1 (EUT 1)

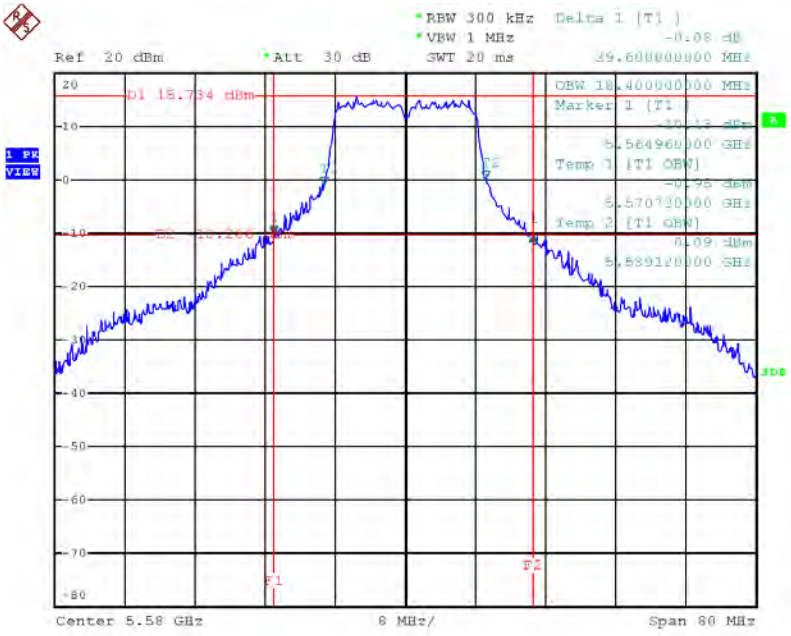


26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5500 MHz / Test Mode: Mode 1 (EUT 1)



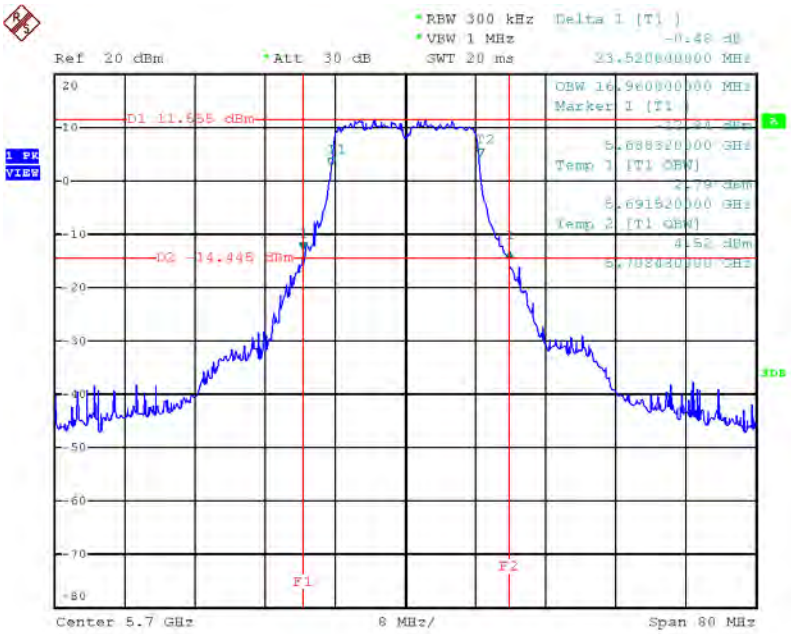
Date: 2.JUL.2013 20:44:07

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5580 MHz / Test Mode: Mode 1 (EUT 1)

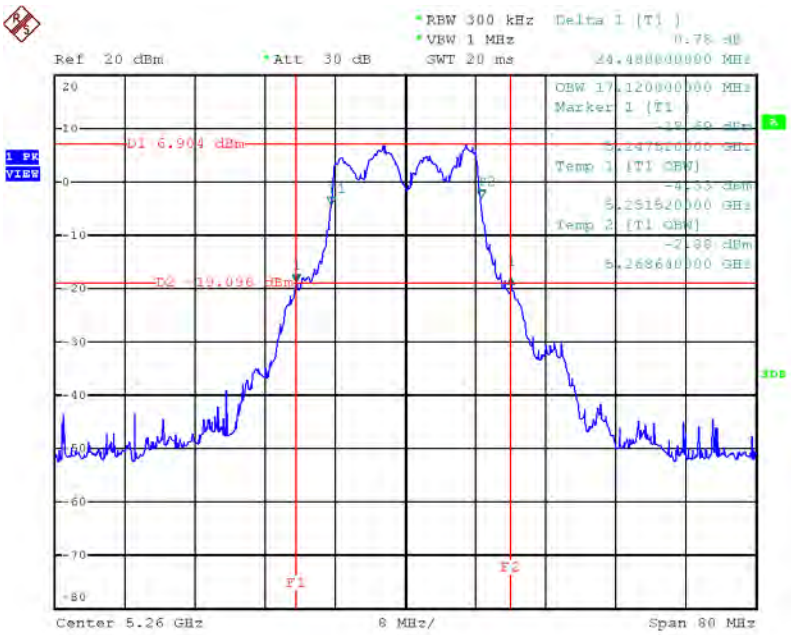


Date: 2.JUL.2013 20:45:13

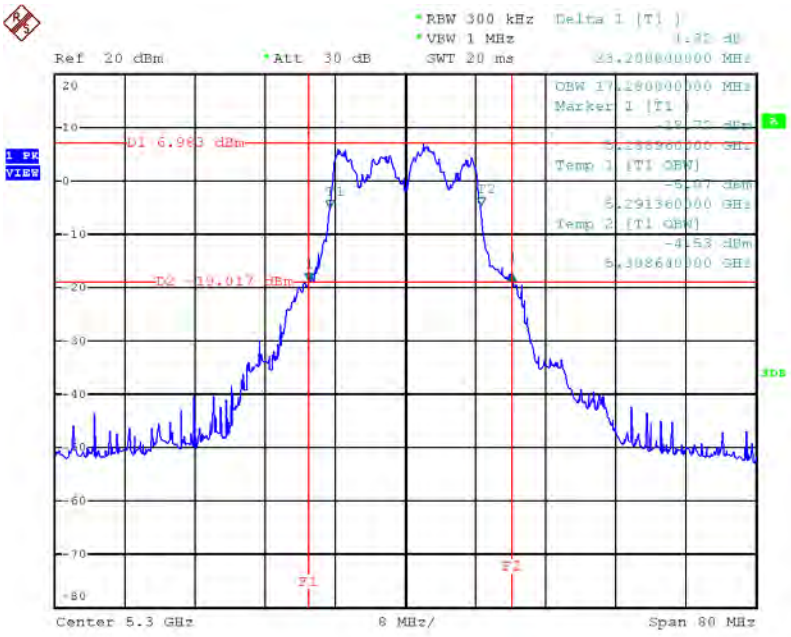
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5700 MHz / Test Mode: Mode 1 (EUT 1)



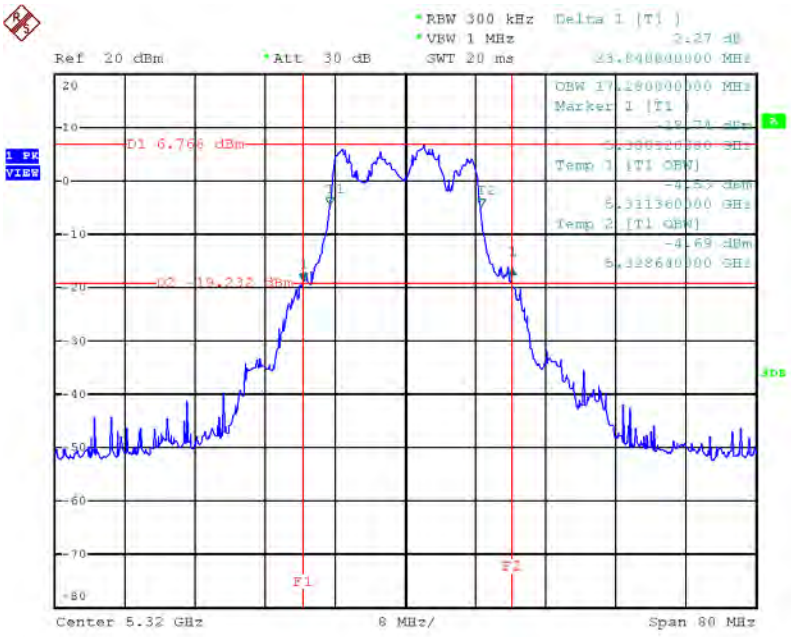
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 1 (EUT 1)



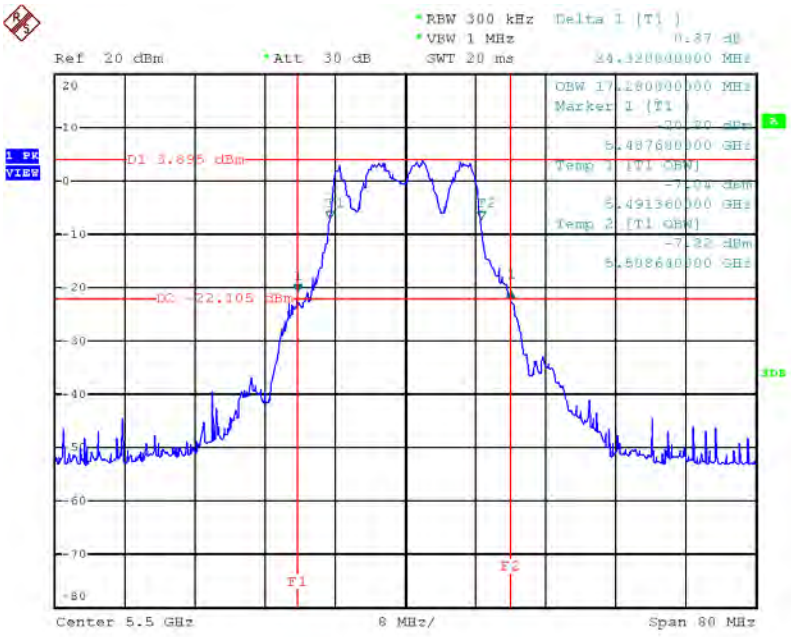
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5300 MHz / Test Mode: Mode 1 (EUT 1)



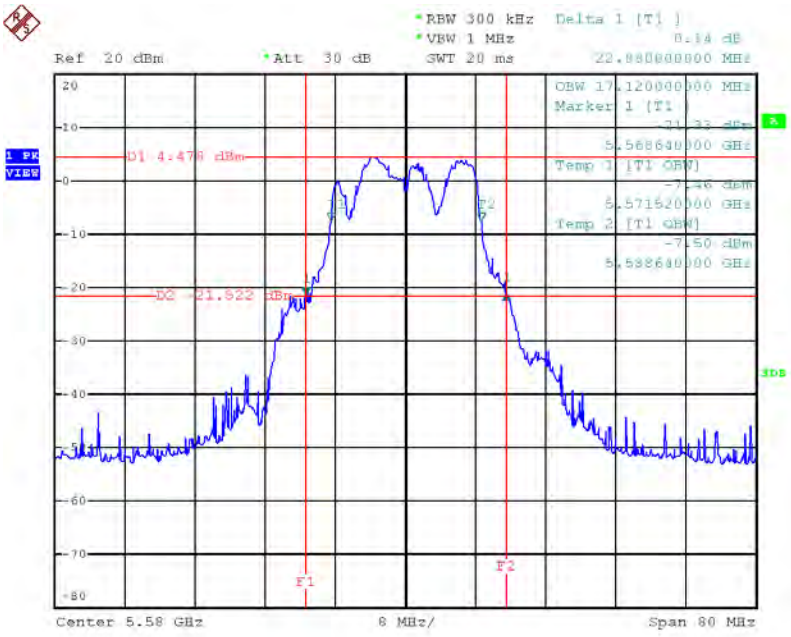
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5320 MHz / Test Mode: Mode 1 (EUT 1)



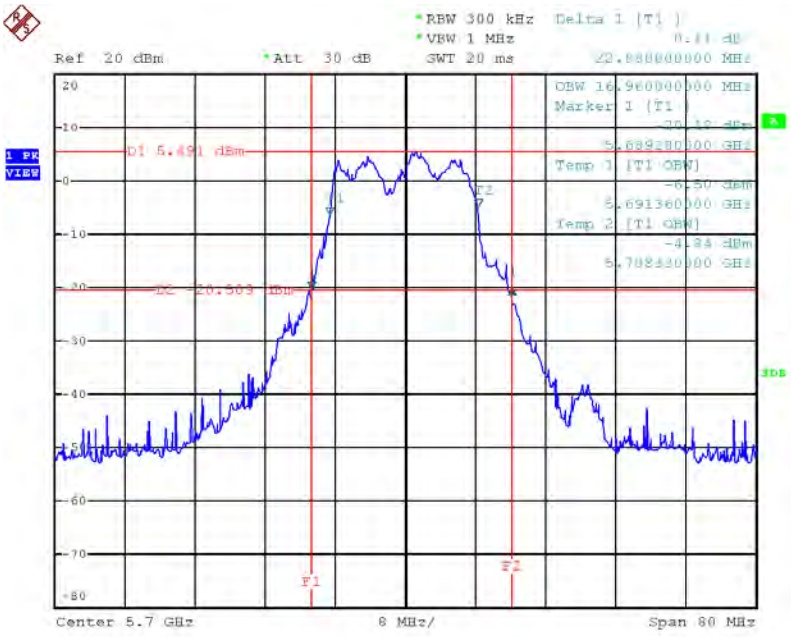
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5500 MHz / Test Mode: Mode 1 (EUT 1)



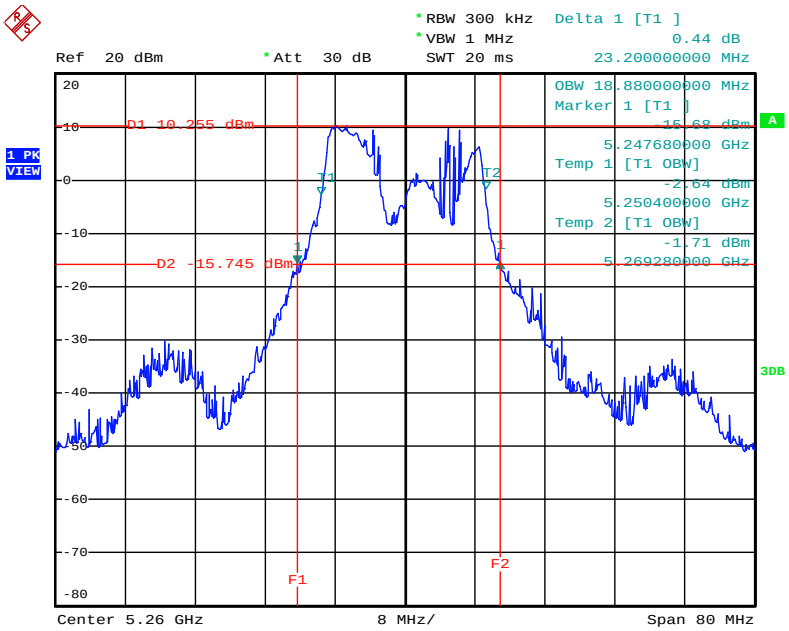
26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 1 (EUT 1)



26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5700 MHz / Test Mode: Mode 1 (EUT 1)

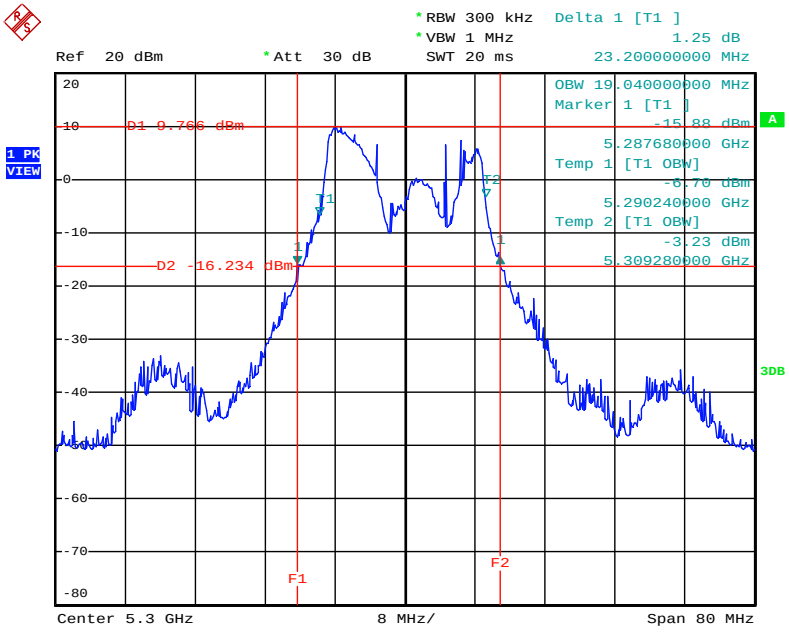


26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 2 (EUT 2)



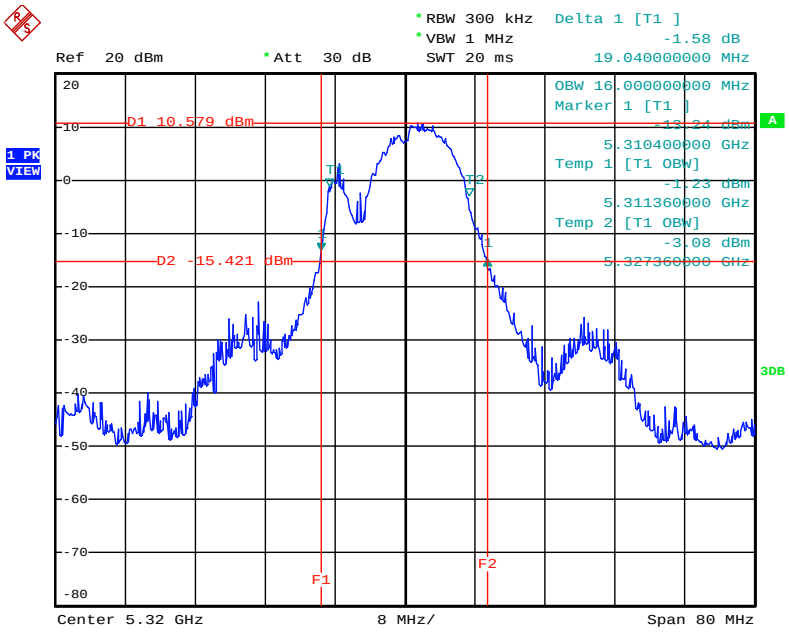
Date: 28.JUL.2013 13:54:44

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5300 MHz / Test Mode: Mode 2 (EUT 2)



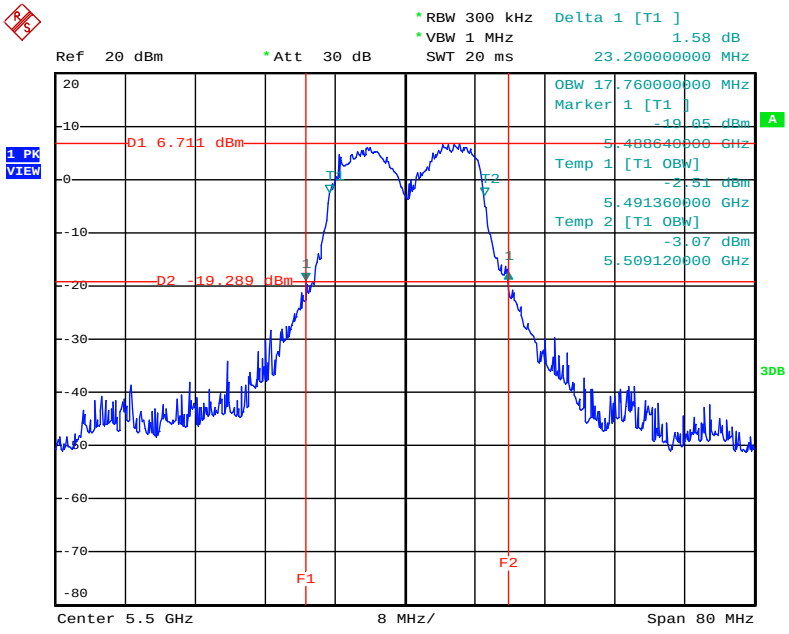
Date: 28.JUL.2013 13:55:24

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5320 MHz / Test Mode: Mode 2 (EUT 2)



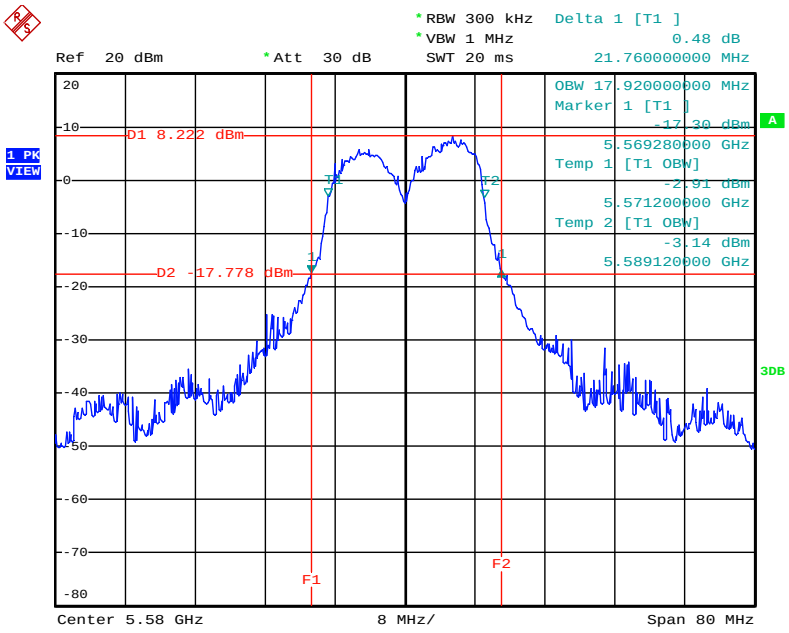
Date: 28.JUL.2013 13:55:54

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5500 MHz / Test Mode: Mode 2 (EUT 2)



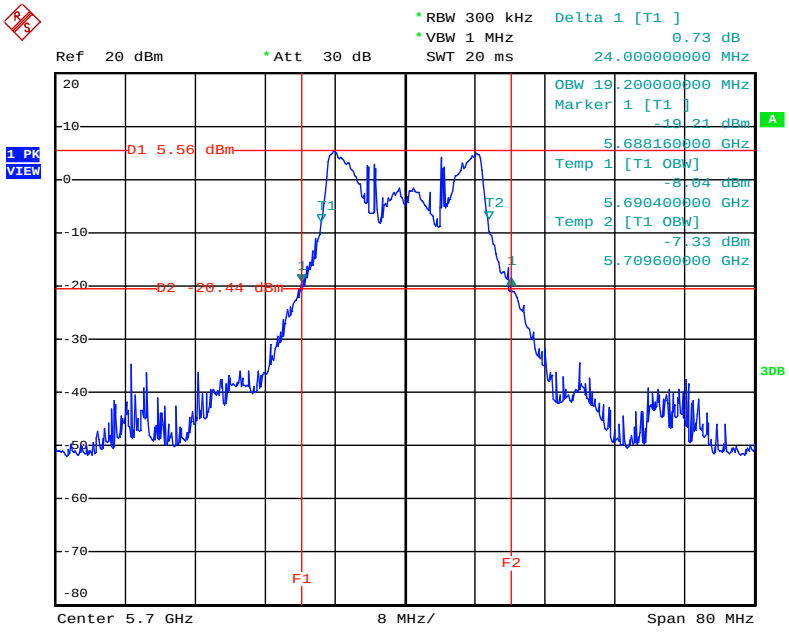
Date: 28.JUL.2013 13:56:38

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 2 (EUT 2)



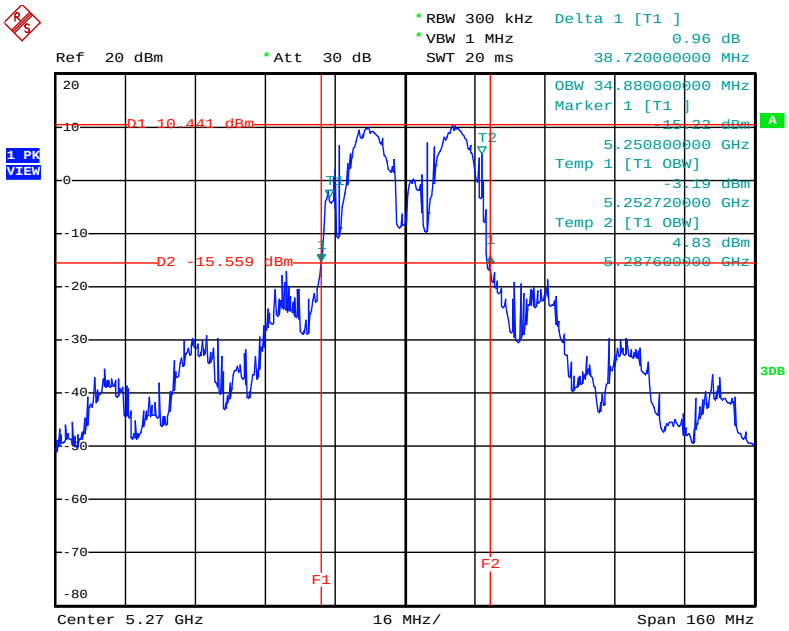
Date: 28.JUL.2013 13:57:10

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5700 MHz / Test Mode: Mode 2 (EUT 2)



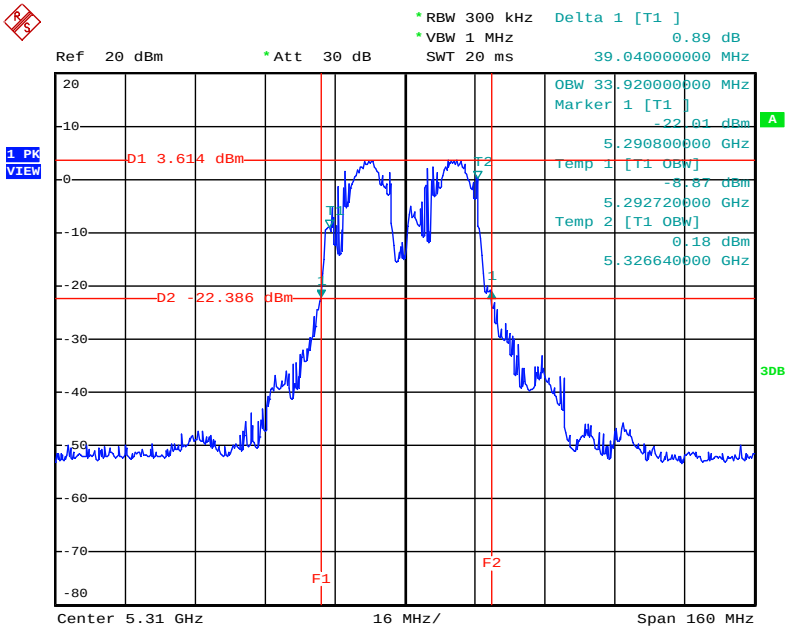
Date: 28.JUL.2013 13:57:46

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5270 MHz / Test Mode: Mode 2 (EUT 2)



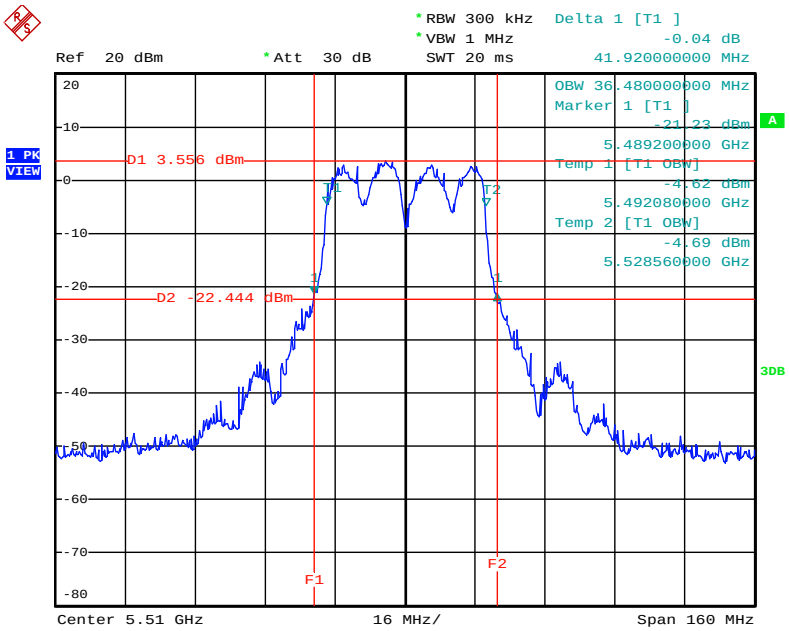
Date: 28.JUL.2013 14:01:50

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5310 MHz / Test Mode: Mode 2 (EUT 2)



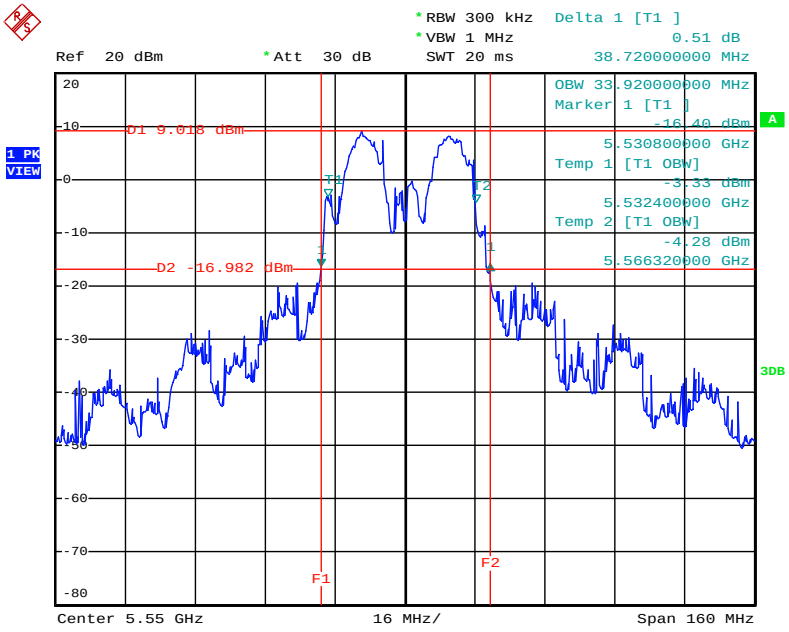
Date: 28.JUL.2013 14:00:34

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5510MHz / Test Mode: Mode 2 (EUT 2)



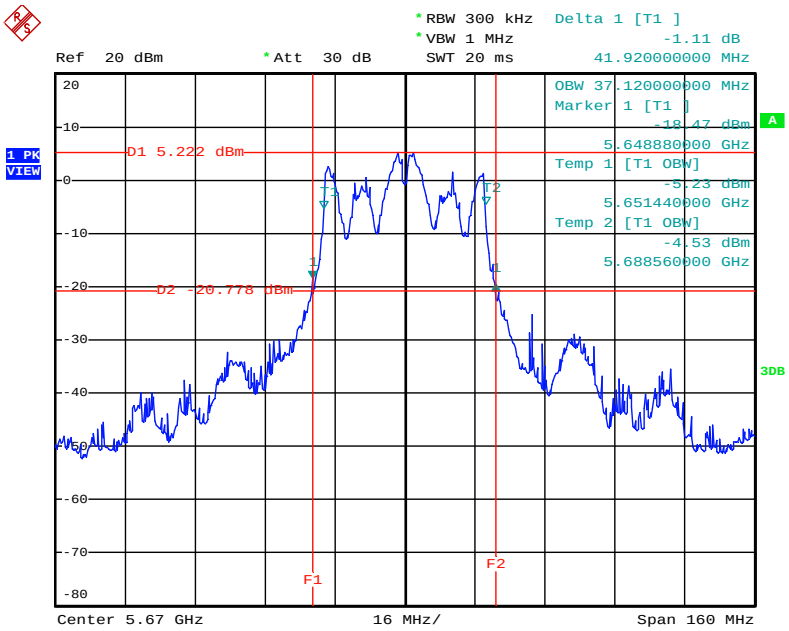
Date: 28.JUL.2013 13:59:57

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5550 MHz / Test Mode: Mode 2 (EUT 2)



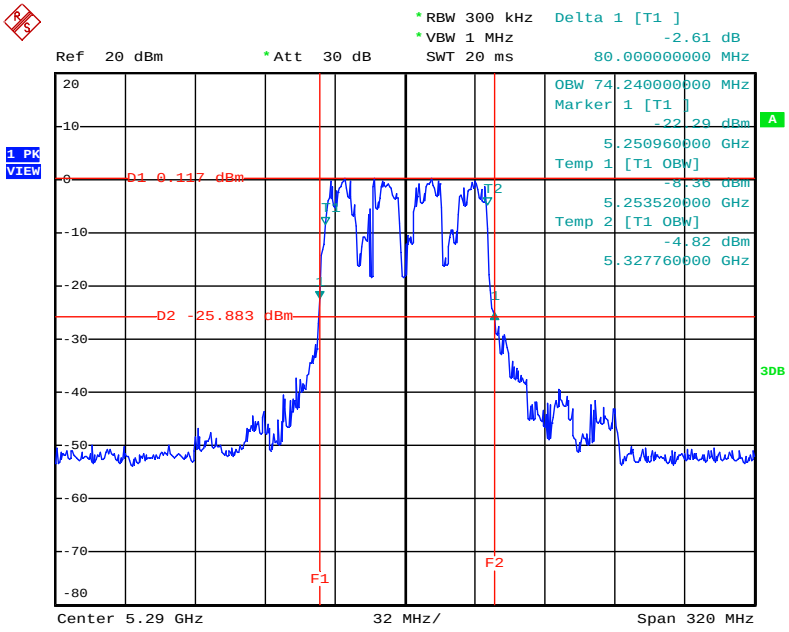
Date: 28.JUL.2013 13:59:14

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5670 MHz / Test Mode: Mode 2 (EUT 2)



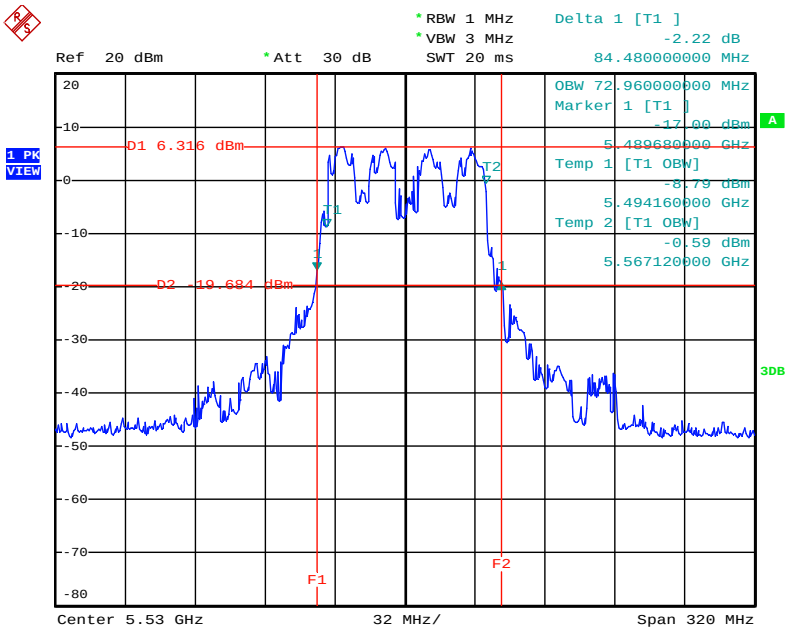
Date: 28.JUL.2013 13:58:37

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5290 MHz / Test Mode: Mode 2 (EUT 2)



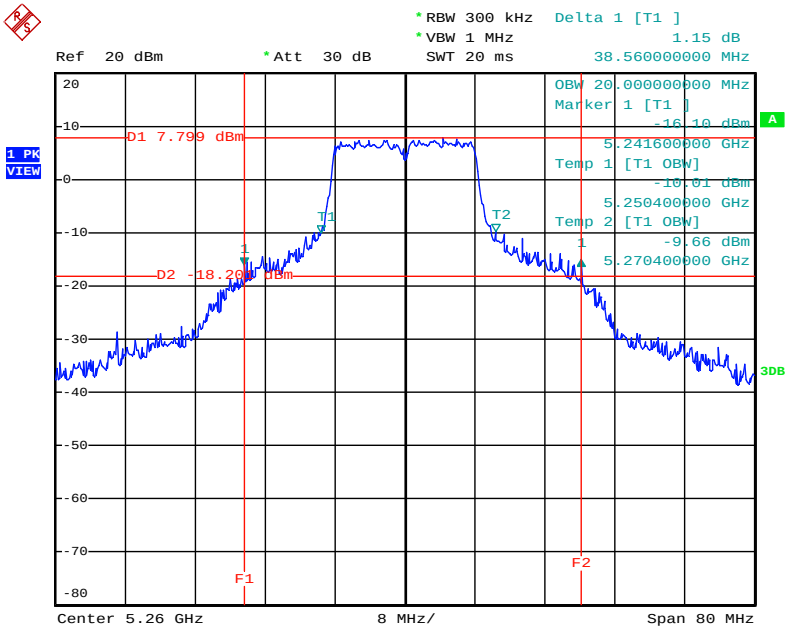
Date: 28.JUL.2013 14:02:35

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5530 MHz / Test Mode: Mode 2 (EUT 2)



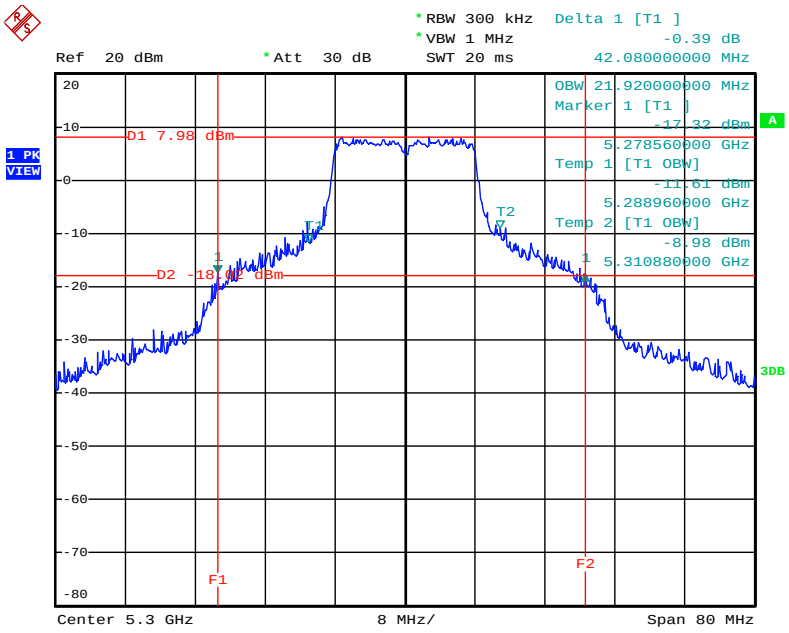
Date: 28.JUL.2013 14:03:22

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5260 MHz / Test Mode: Mode 2 (EUT 2)



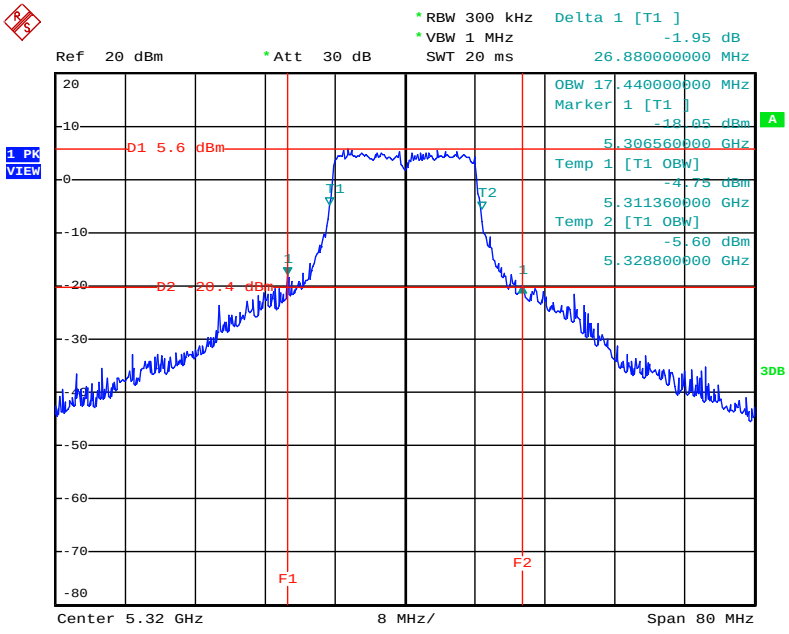
Date: 28.JUL.2013 13:42:46

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5300 MHz / Test Mode: Mode 2 (EUT 2)



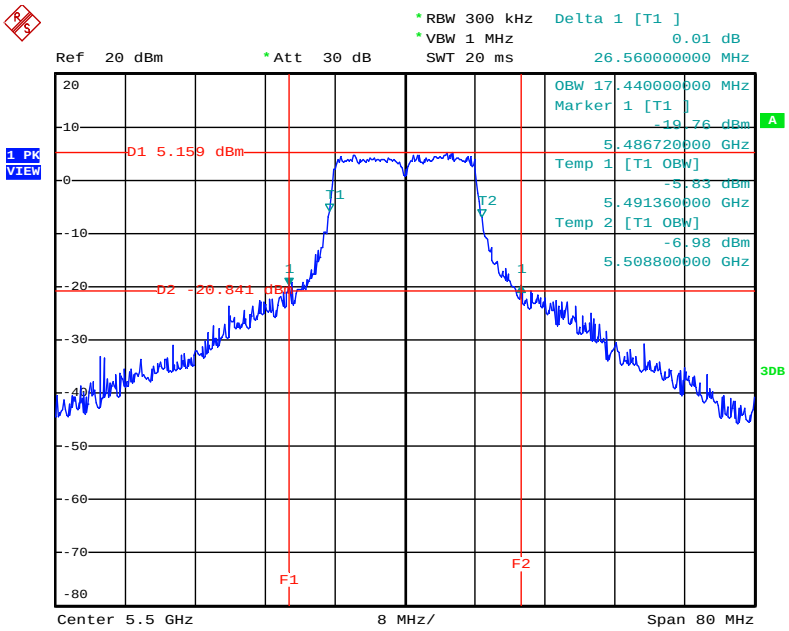
Date: 28.JUL.2013 13:42:11

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5320 MHz / Test Mode: Mode 2 (EUT 2)



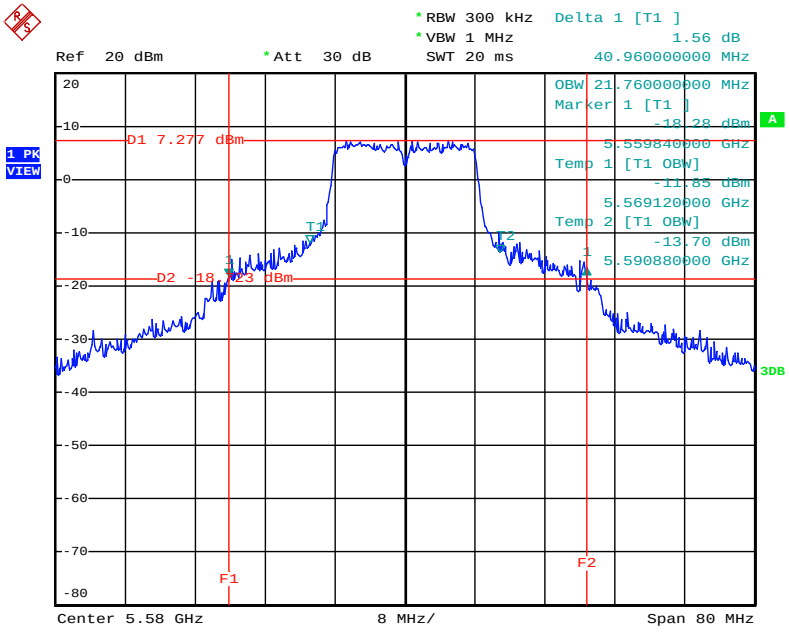
Date: 28.JUL.2013 13:43:46

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5500 MHz / Test Mode: Mode 2 (EUT 2)



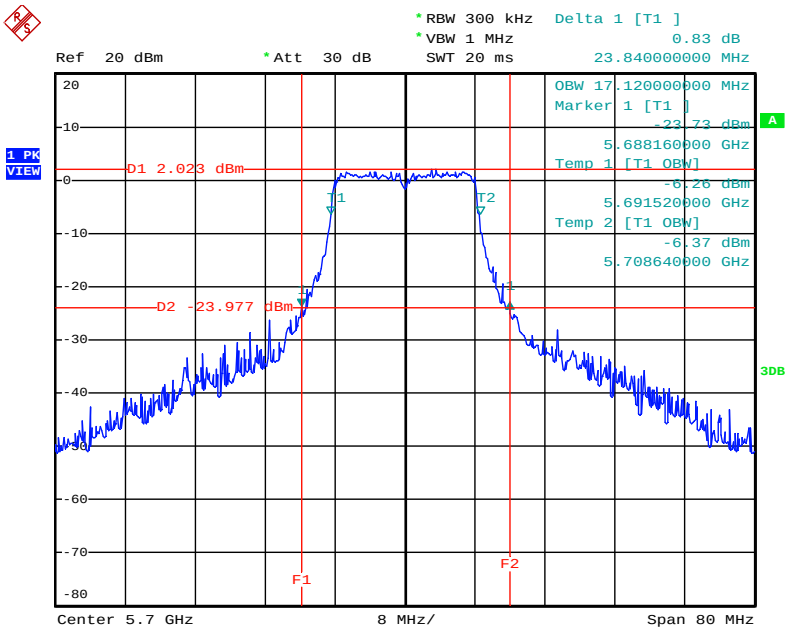
Date: 28.JUL.2013 13:44:21

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5580 MHz / Test Mode: Mode 2 (EUT 2)



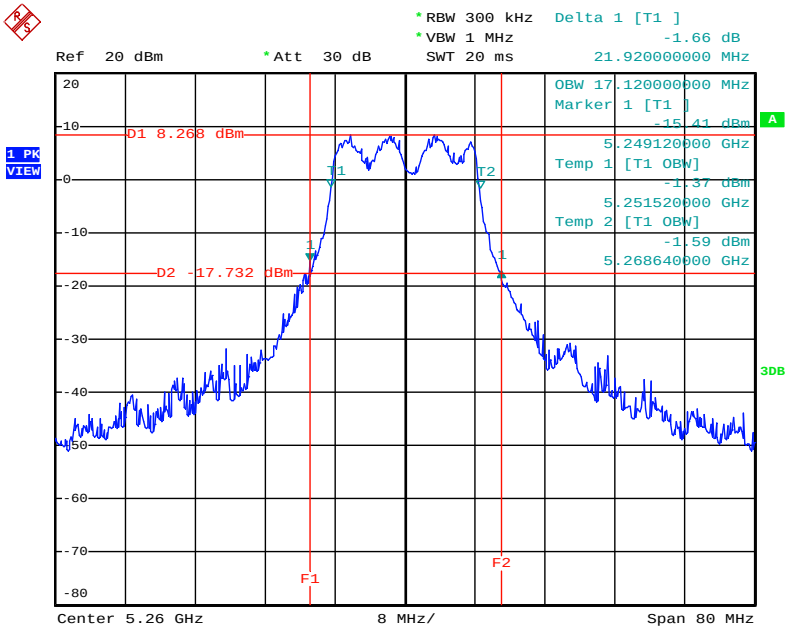
Date: 28.JUL.2013 13:45:14

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4 / 5700 MHz / Test Mode: Mode 2 (EUT 2)



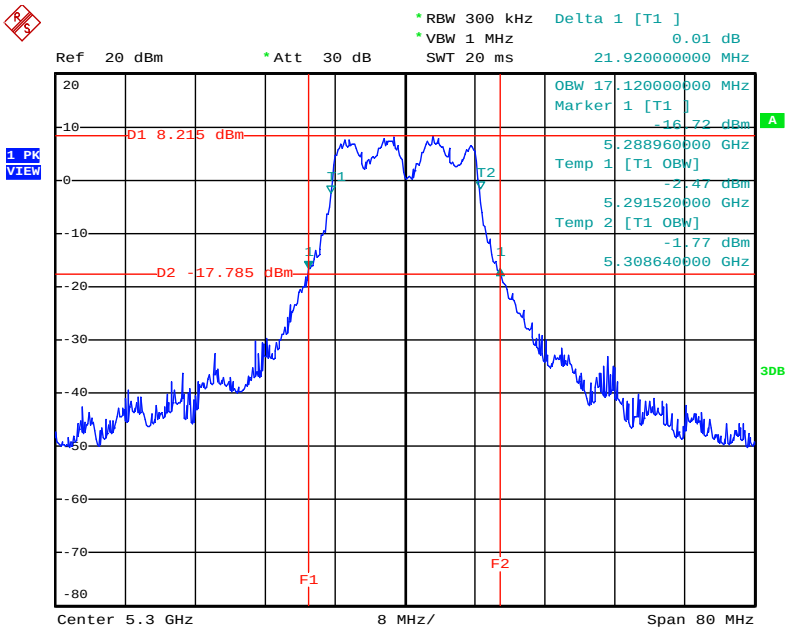
Date: 28.JUL.2013 13:46:22

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 2 (EUT 2)



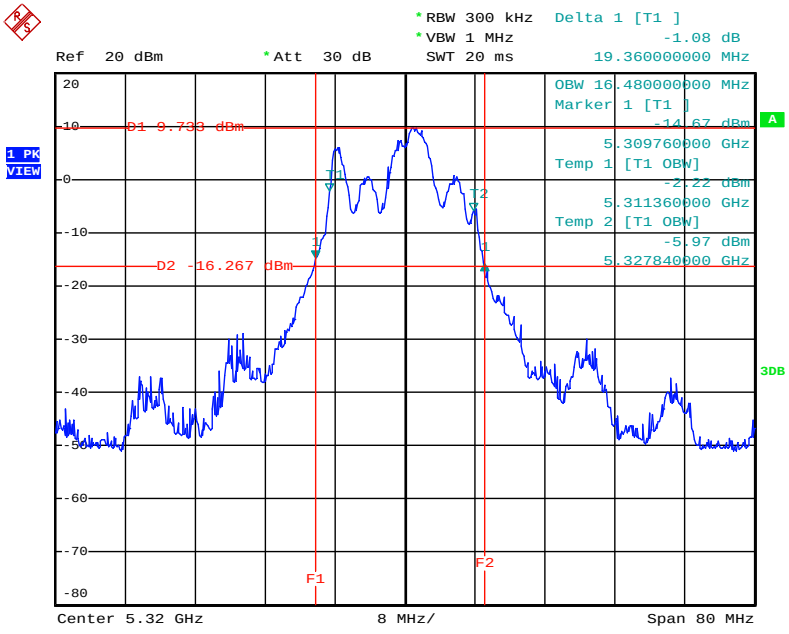
Date: 28.JUL.2013 13:50:32

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5300 MHz / Test Mode: Mode 2 (EUT 2)



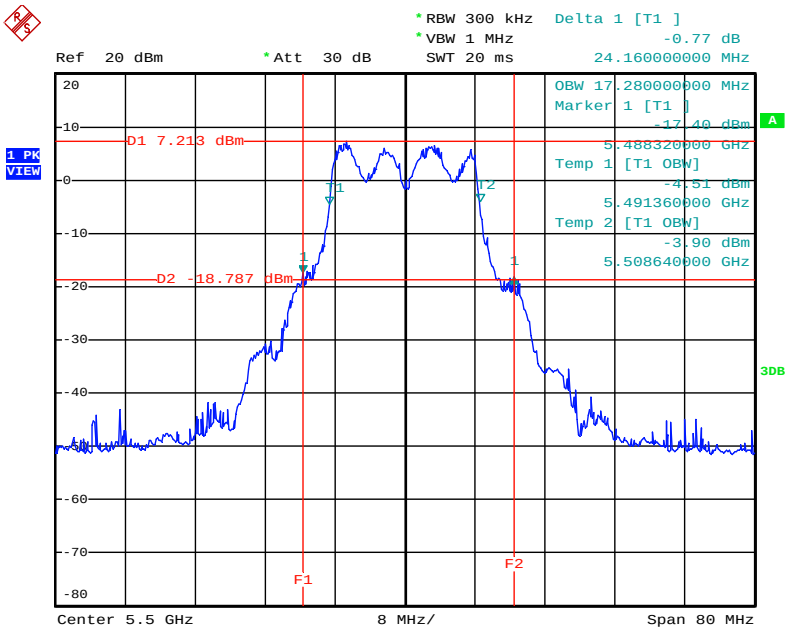
Date: 28.JUL.2013 13:51:22

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5320 MHz / Test Mode: Mode 2 (EUT 2)



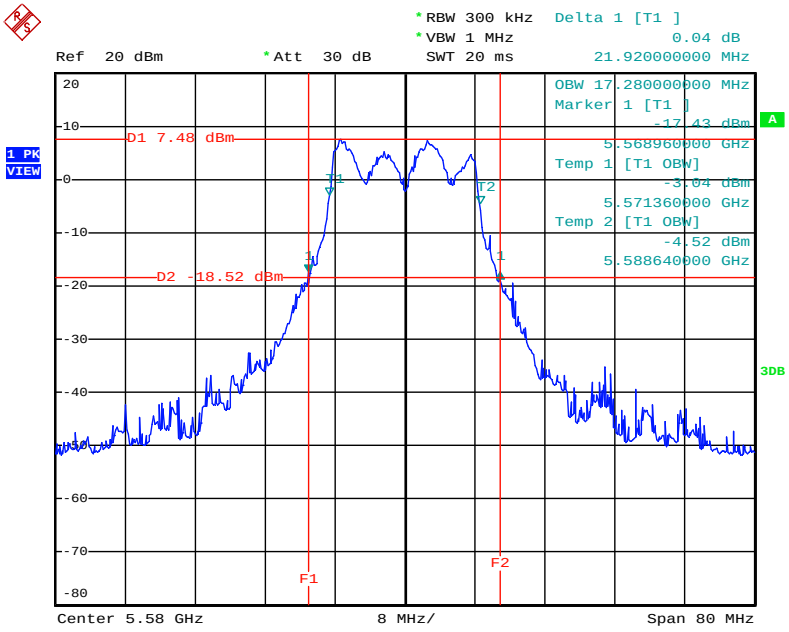
Date: 28.JUL.2013 13:51:54

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5500 MHz / Test Mode: Mode 2 (EUT 2)



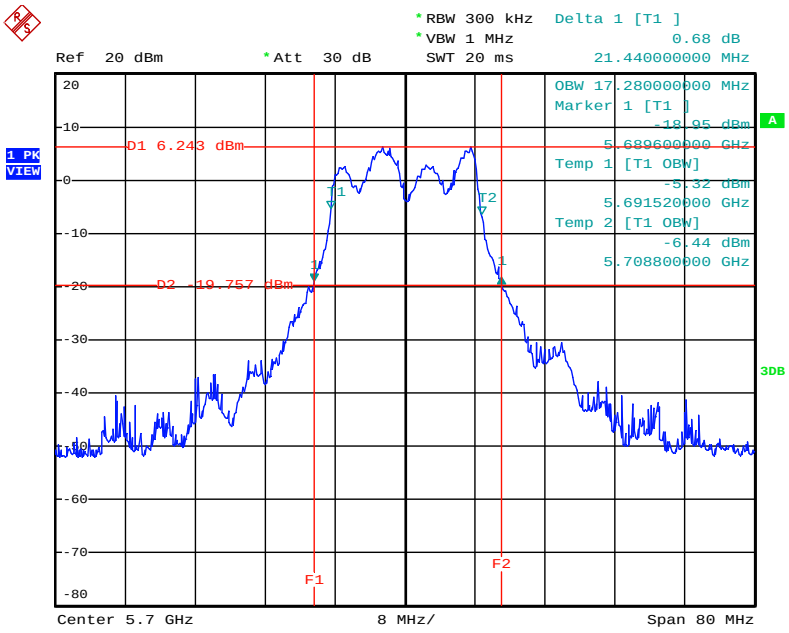
Date: 28.JUL.2013 13:52:35

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 2 (EUT 2)



Date: 28.JUL.2013 13:53:09

26dB Bandwidth & 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5700 MHz / Test Mode: Mode 2 (EUT 2)



Date: 28.JUL.2013 13:53:44

4.3. Maximum Conducted Output Power Measurement

4.3.1. Limit

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

4.3.2. Measuring Instruments and Setting

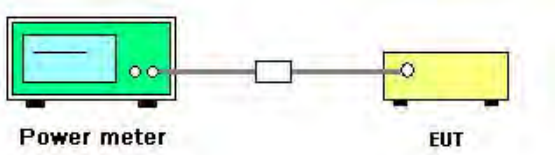
The following table is the setting of the peak power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

4.3.3. Test Procedures

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

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Maximum Conducted Output Power

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Date	Jul. 28, 2013	Test Mode	Mode 1 (EUT 1)

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
52	5260 MHz	15.3	15.65	15.05	20.11	24.00	**Complies**
60	5300 MHz	15.55	15.78	15.13	20.27	24.00	**Complies**
64	5320 MHz	15.41	15.98	15.16	20.30	24.00	**Complies**
100	5500 MHz	15.66	15.77	14.95	20.25	24.00	**Complies**
116	5580 MHz	15.59	16.02	15.04	20.34	24.00	**Complies**
140	5700 MHz	14.59	15.44	14.43	19.61	24.00	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
54	5270 MHz	17.84	18.51	17.67	22.79	24.00	**Complies**
62	5310 MHz	12.77	13.27	12.7	17.69	24.00	**Complies**
102	5510MHz	15.03	15.51	14.69	19.86	24.00	**Complies**
110	5550 MHz	18.12	18.83	17.61	22.99	24.00	**Complies**
134	5670 MHz	16.76	17.6	16.85	21.86	24.00	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
58	5290 MHz	11.45	11.98	11.39	16.39	24.00	**Complies**
106	5530 MHz	12.23	12.93	12.24	17.25	24.00	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	Jul. 28, 2013	Test Mode	Mode 1 (EUT 1)

Configuration IEEE 802.11a / Chain 4

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	23.68	24.00	**Complies**
60	5300 MHz	23.51	24.00	**Complies**
64	5320 MHz	18.75	24.00	**Complies**
100	5500 MHz	19.61	24.00	**Complies**
116	5580 MHz	23.24	24.00	**Complies**
140	5700 MHz	17.68	24.00	**Complies**

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
52	5260 MHz	15.17	15.77	15.13	20.14	24.00	**Complies**
60	5300 MHz	15.18	15.54	14.72	19.93	24.00	**Complies**
64	5320 MHz	15.26	15.54	14.92	20.02	24.00	**Complies**
100	5500 MHz	15.25	15.29	14.38	19.76	24.00	**Complies**
116	5580 MHz	15.56	15.53	14.49	19.99	24.00	**Complies**
140	5700 MHz	15.33	16.02	15.03	20.25	24.00	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Date	Jul. 28, 2013	Test Mode	Mode 2 (EUT 2)

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
52	5260 MHz	16.80	16.81	16.75	21.56	24.00	**Complies**
60	5300 MHz	16.52	16.42	16.28	21.18	24.00	**Complies**
64	5320 MHz	16.91	16.66	16.76	21.55	23.80	**Complies**
100	5500 MHz	16.28	16.41	15.92	20.98	24.00	**Complies**
116	5580 MHz	16.47	16.85	16.58	21.41	24.00	**Complies**
140	5700 MHz	15.08	15.32	15.32	20.01	24.00	**Complies**

Note: Power Limit=11+10*log(B) or 24dBm;11+10*log(19.04)=23.80dBm<24dBm, so power limit =23.80dBm.

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
54	5270 MHz	19.02	18.87	18.72	23.64	24.00	**Complies**
62	5310 MHz	12.94	12.92	12.82	17.66	24.00	**Complies**
102	5510MHz	15.94	16.05	15.74	20.68	24.00	**Complies**
110	5550 MHz	18.88	18.91	18.62	23.58	24.00	**Complies**
134	5670 MHz	16.32	16.49	16.70	21.28	24.00	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
58	5290 MHz	12.02	12.05	12.09	16.82	24.00	**Complies**
106	5530 MHz	13.59	13.57	13.24	18.24	24.00	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Date	Jul. 26, 2013	Test Mode	Mode 2 (EUT 2)

Configuration IEEE 802.11a / Chain 4

Channel	Frequency	Conducted Power (dBm)	Max. Limit (dBm)	Result
52	5260 MHz	23.75	24.00	**Complies**
60	5300 MHz	23.89	24.00	**Complies**
64	5320 MHz	21.51	24.00	**Complies**
100	5500 MHz	21.16	24.00	**Complies**
116	5580 MHz	23.58	24.00	**Complies**
140	5700 MHz	18.06	24.00	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	Jul. 28, 2013	Test Mode	Mode 2 (EUT 2)

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Conducted Power (dBm)			Total Conducted Output Power (dBm)	Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6			
52	5260 MHz	16.38	16.33	16.38	21.13	24.00	**Complies**
60	5300 MHz	16.71	16.44	16.43	21.30	24.00	**Complies**
64	5320 MHz	16.59	16.38	16.33	21.21	23.87	**Complies**
100	5500 MHz	16.18	16.03	15.22	20.60	24.00	**Complies**
116	5580 MHz	16.61	16.41	16.08	21.14	24.00	**Complies**
140	5700 MHz	14.73	15.31	15.55	19.98	24.00	**Complies**

Note: Power Limit=11+10*log(B) or 24dBm;11+10*log(19.36)=23.87dBm<24dBm, so power limit =23.87dBm.

4.4. Power Spectral Density Measurement

4.4.1. Limit

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

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

4.4.2. Measuring Instruments and Setting

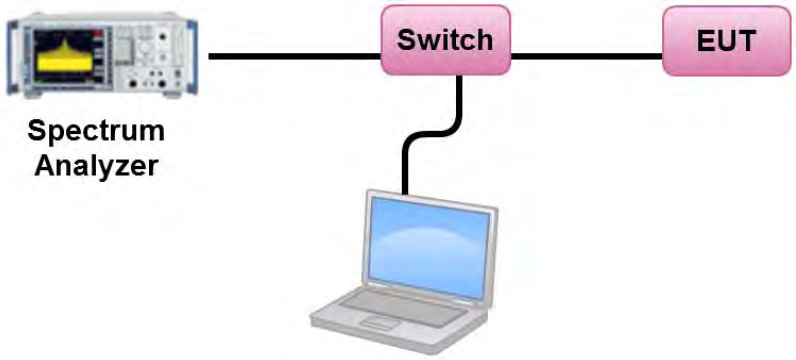
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.4.3. Test Procedures

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

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.4.7. Test Result of Power Spectral Density

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Date	Jul. 28, 2013	Test Mode	Mode 1 (EUT 1)

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	7.23	7.69	**Complies**
60	5300 MHz	7.50	7.69	**Complies**
64	5320 MHz	7.65	7.69	**Complies**
100	5500 MHz	7.23	7.69	**Complies**
116	5580 MHz	7.43	7.69	**Complies**
140	5700 MHz	5.98	7.69	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=9.31dBi >6dBi, so limit=11 – (9.31 – 6)=7.69dBm/MHz.

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	7.27	7.69	**Complies**
62	5310 MHz	1.96	7.69	**Complies**
102	5510MHz	4.41	7.69	**Complies**
110	5550 MHz	7.54	7.69	**Complies**
134	5670 MHz	5.95	7.69	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=9.31dBi >6dBi, so limit=11 – (9.31 – 6)=7.69dBm/MHz.

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-2.57	7.69	**Complies**
106	5530 MHz	-1.20	7.69	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=9.31dBi >6dBi, so limit=11 – (9.31 – 6)=7.69dBm/MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	Jul. 28, 2013	Test Mode	Mode 1 (EUT 1)

Configuration IEEE 802.11a / Chain 4

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	10.89	11.00	**Complies**
60	5300 MHz	10.78	11.00	**Complies**
64	5320 MHz	6.11	11.00	**Complies**
100	5500 MHz	7.13	11.00	**Complies**
116	5580 MHz	10.67	11.00	**Complies**
140	5700 MHz	4.37	11.00	**Complies**

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	7.62	7.69	**Complies**
60	5300 MHz	7.27	7.69	**Complies**
64	5320 MHz	7.58	7.69	**Complies**
100	5500 MHz	7.30	7.69	**Complies**
116	5580 MHz	7.60	7.69	**Complies**
140	5700 MHz	6.76	7.69	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=9.31dBi >6dBi, so limit=11 – (9.31 – 6)=7.69dBm/MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Date	Jul. 28, 2013	Test Mode	Mode 2 (EUT 2)

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	8.77	8.93	**Complies**
60	5300 MHz	8.38	8.93	**Complies**
64	5320 MHz	8.61	8.93	**Complies**
100	5500 MHz	8.55	8.93	**Complies**
116	5580 MHz	8.53	8.93	**Complies**
140	5700 MHz	6.44	8.93	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=8.07dBi >6dBi, so limit=11 – (8.07 – 6)=8.93dBm/MHz.

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
54	5270 MHz	8.62	8.93	**Complies**
62	5310 MHz	1.74	8.93	**Complies**
102	5510MHz	5.22	8.93	**Complies**
110	5550 MHz	8.59	8.93	**Complies**
134	5670 MHz	5.30	8.93	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=8.07dBi >6dBi, so limit=11 – (8.07 – 6)=8.93dBm/MHz.

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
58	5290 MHz	-2.13	8.93	**Complies**
106	5530 MHz	-0.36	8.93	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=8.07dBi >6dBi, so limit=11 – (8.07 – 6)=8.93dBm/MHz.

Temperature	25℃	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Date	Jul. 26, 2013	Test Mode	Mode 2 (EUT 2)

Configuration IEEE 802.11a / Chain 4

Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	10.88	11.00	**Complies**
60	5300 MHz	10.87	11.00	**Complies**
64	5320 MHz	8.40	11.00	**Complies**
100	5500 MHz	8.19	11.00	**Complies**
116	5580 MHz	10.72	11.00	**Complies**
140	5700 MHz	4.43	11.00	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Date	Jul. 28, 2013	Test Mode	Mode 2 (EUT 2)

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

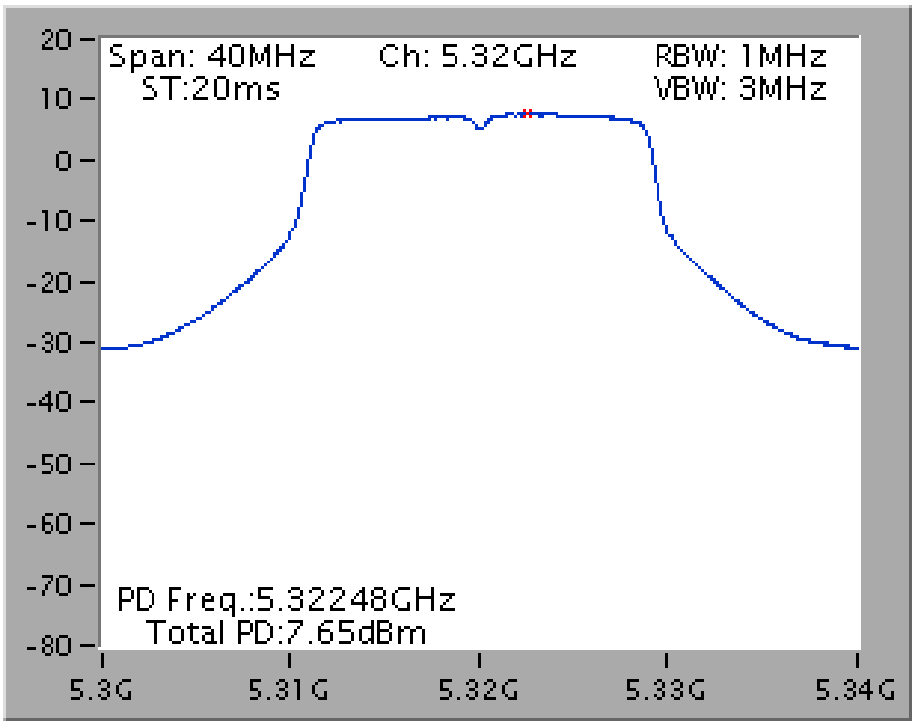
Channel	Frequency	Total Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
52	5260 MHz	8.62	8.93	**Complies**
60	5300 MHz	8.59	8.93	**Complies**
64	5320 MHz	8.43	8.93	**Complies**
100	5500 MHz	8.50	8.93	**Complies**
116	5580 MHz	8.64	8.93	**Complies**
140	5700 MHz	6.71	8.93	**Complies**

Note: Directional gain=GANT+10log(NANT/Nss)=8.07dBi >6dBi, so limit=11 – (8.07 – 6)=8.93dBm/MHz.

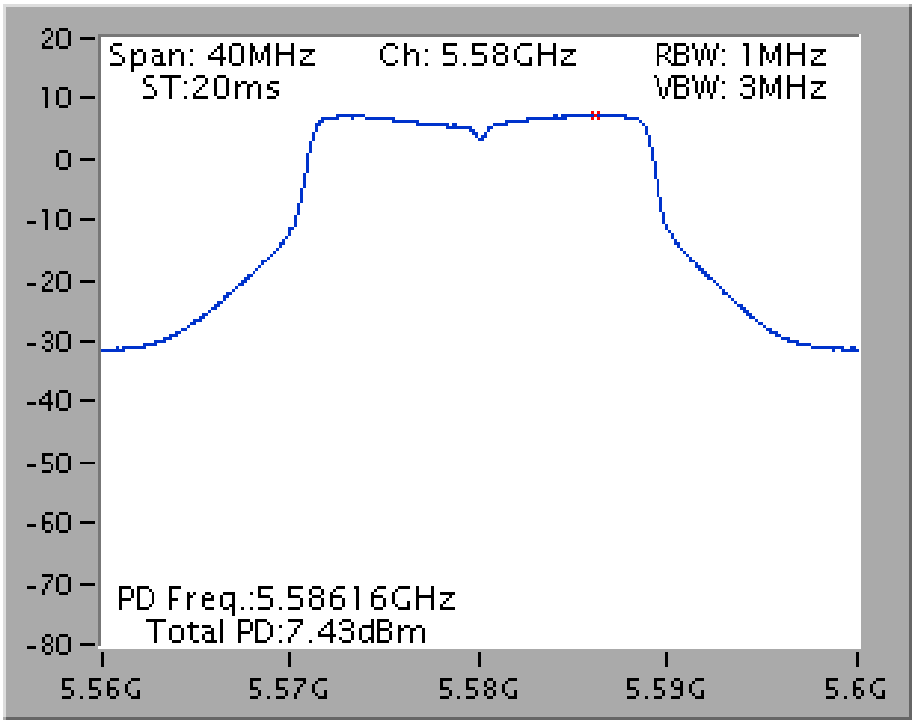
Note: All the test values were listed in the report.

For plots, only the channel with maximum results was shown.

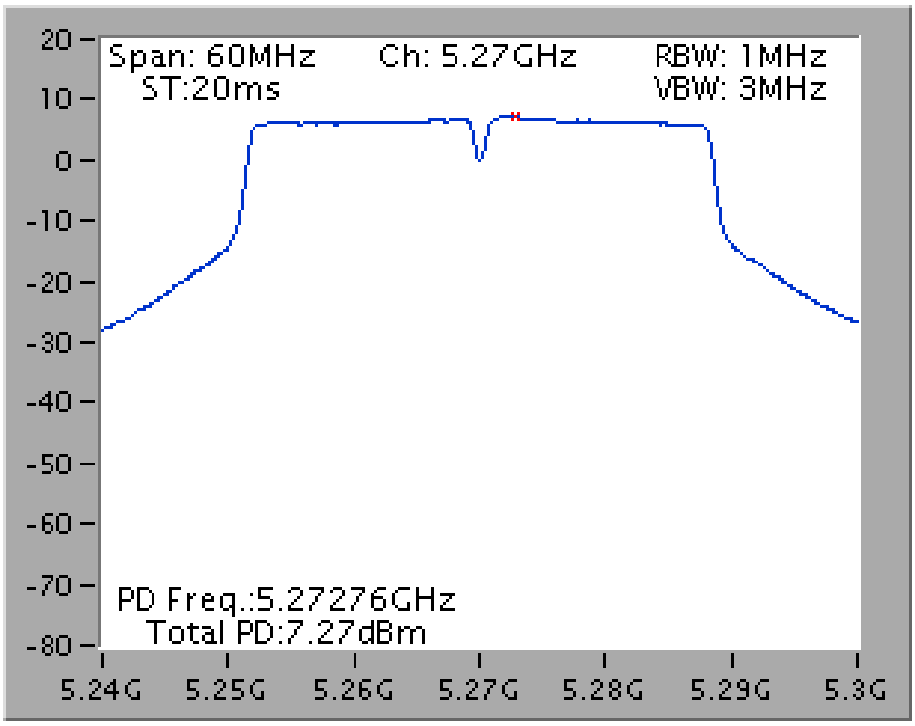
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5320 MHz / Test Mode: Mode 1 (EUT 1)



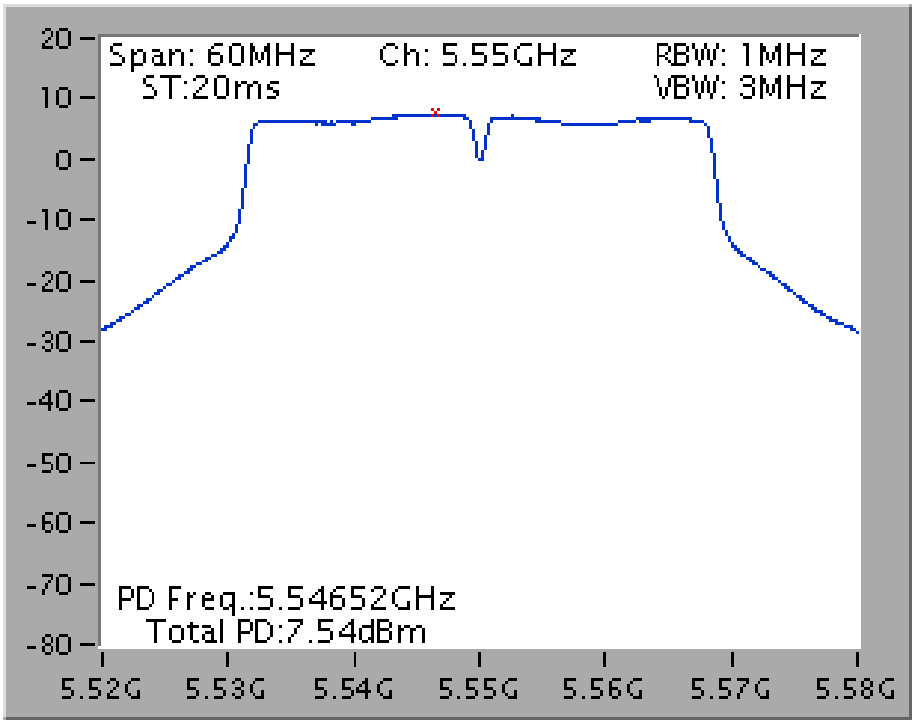
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 1 (EUT 1)



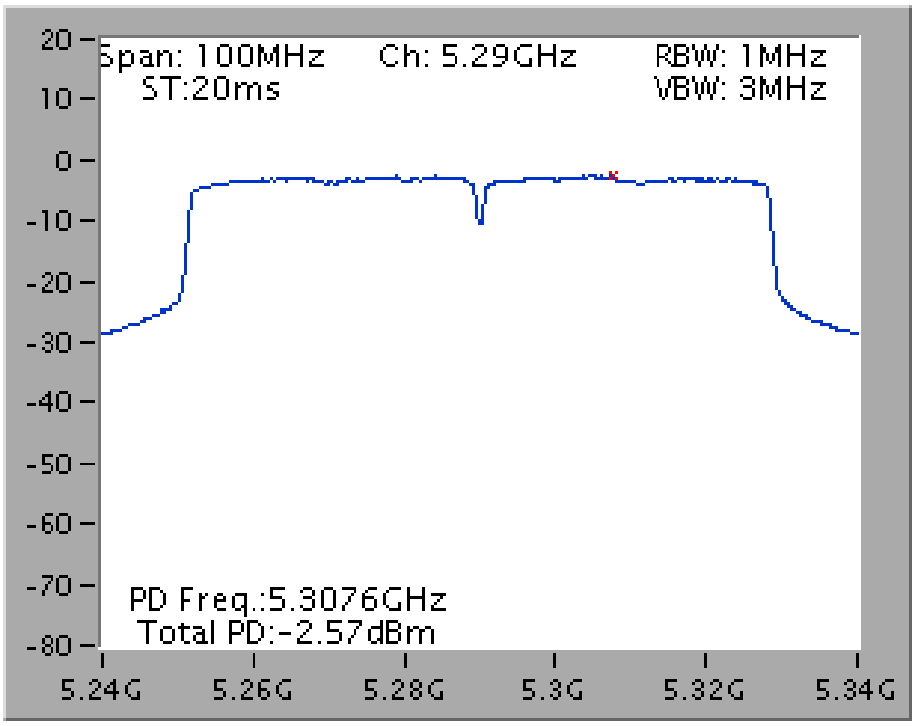
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5270 MHz / Test Mode: Mode 1 (EUT 1)



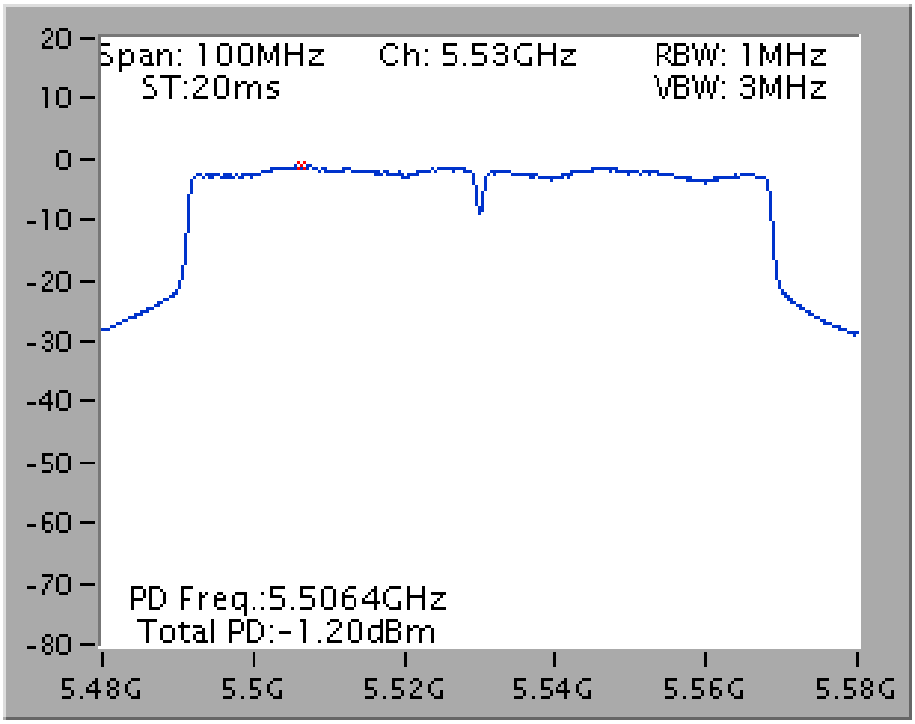
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5550 MHz / Test Mode: Mode 1 (EUT 1)



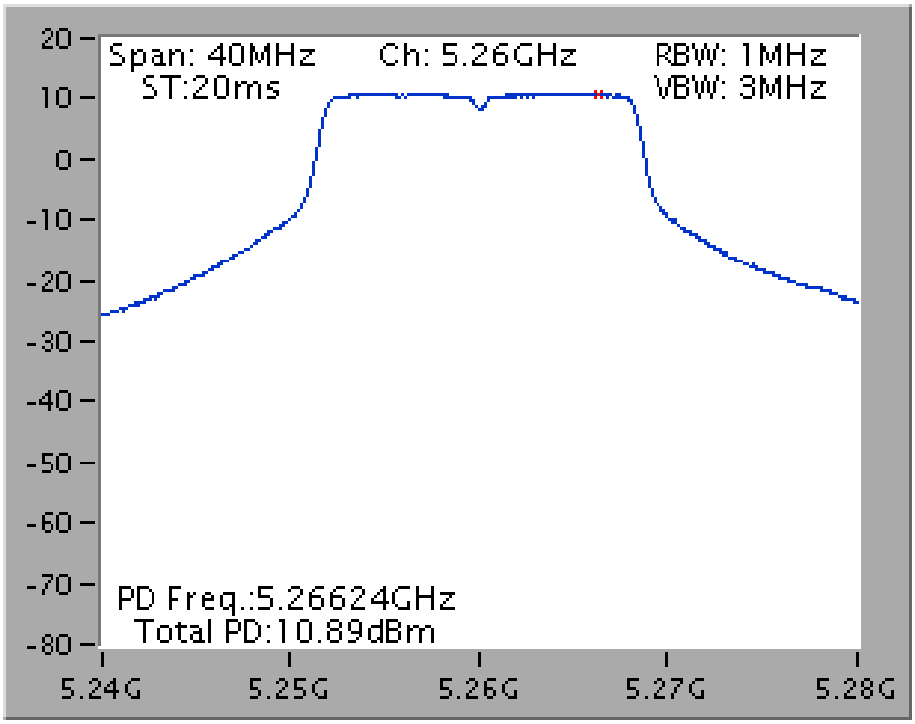
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5290 MHz / Test Mode: Mode 1 (EUT 1)



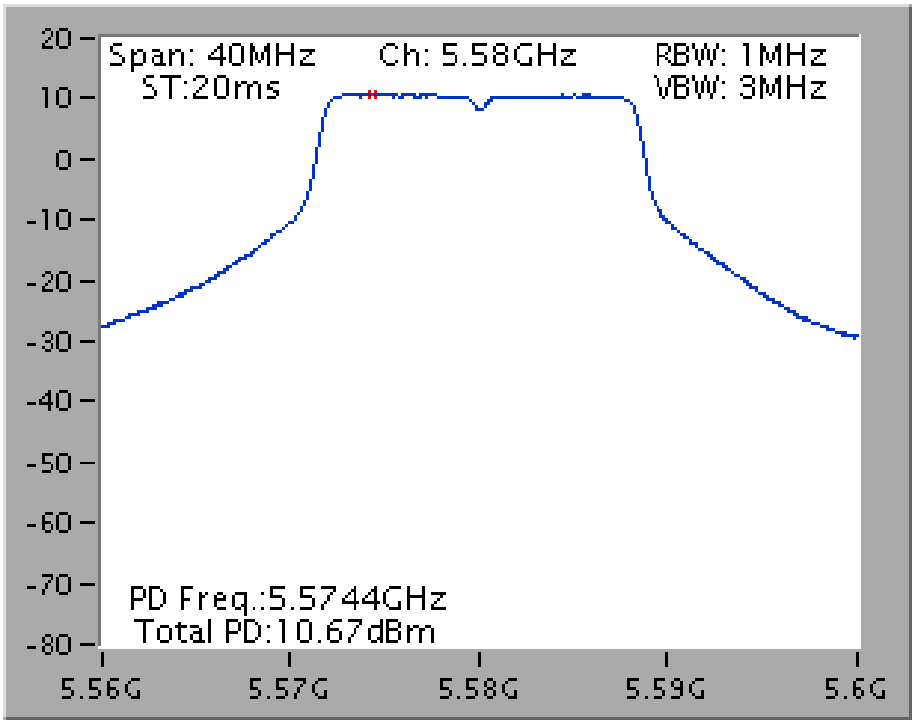
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5530 MHz / Test Mode: Mode 1 (EUT 1)



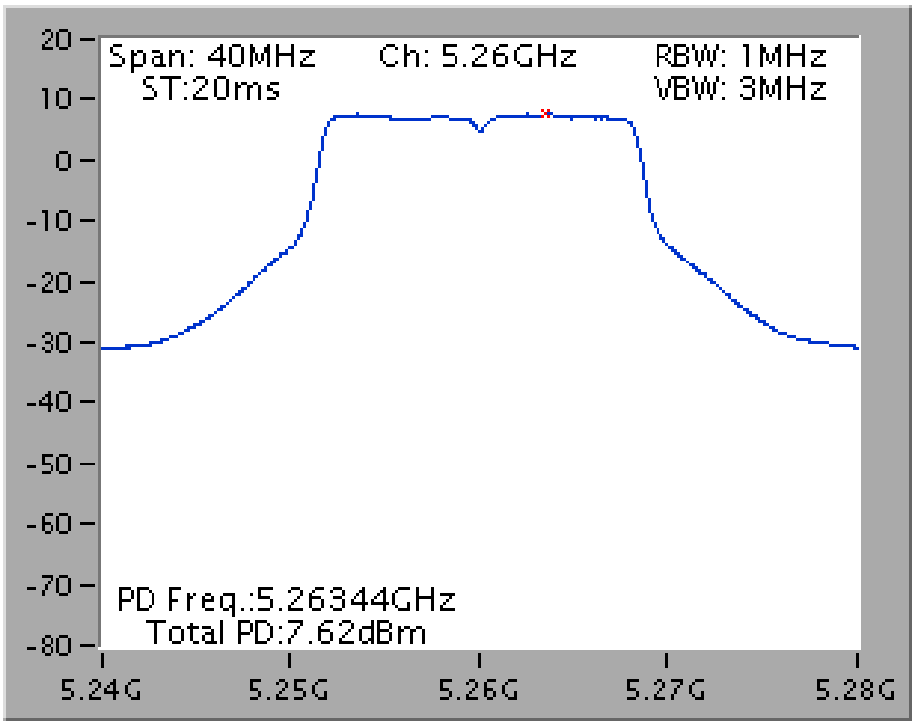
Power Density Plot on Configuration IEEE 802.11a / Chain 4 / 5260 MHz / Test Mode: Mode 1 (EUT 1)



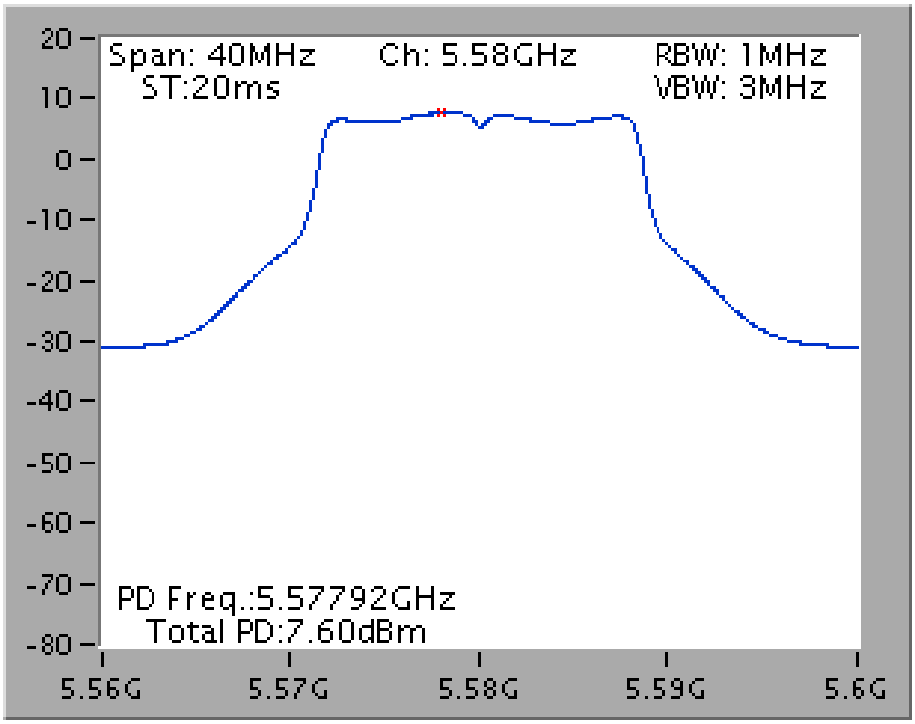
Power Density Plot on Configuration IEEE 802.11a / Chain 4 / 5580 MHz / Test Mode: Mode 1 (EUT 1)



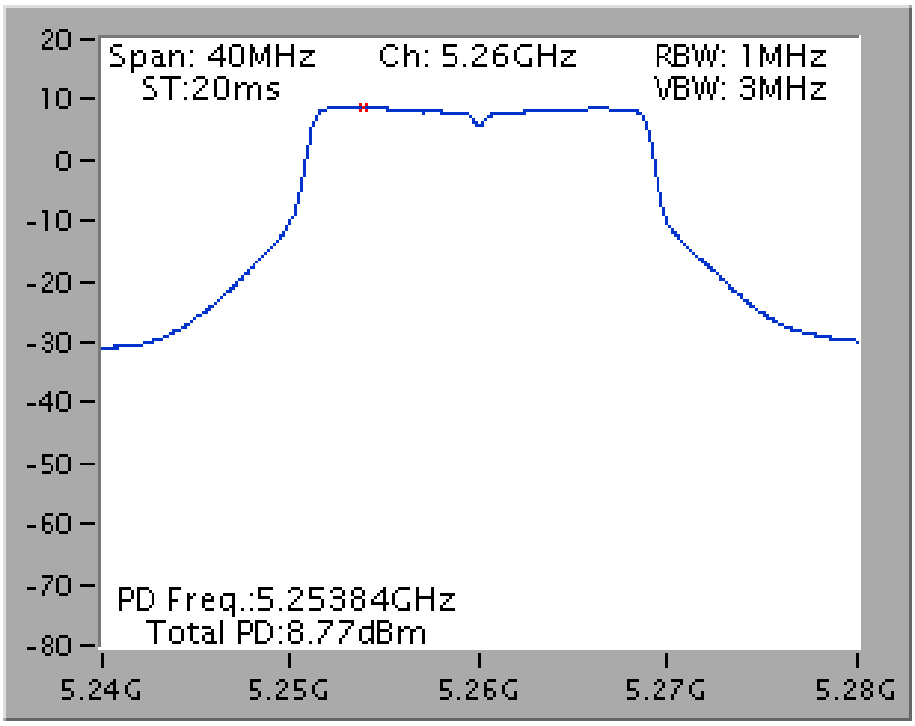
Power Density Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 1 (EUT 1)



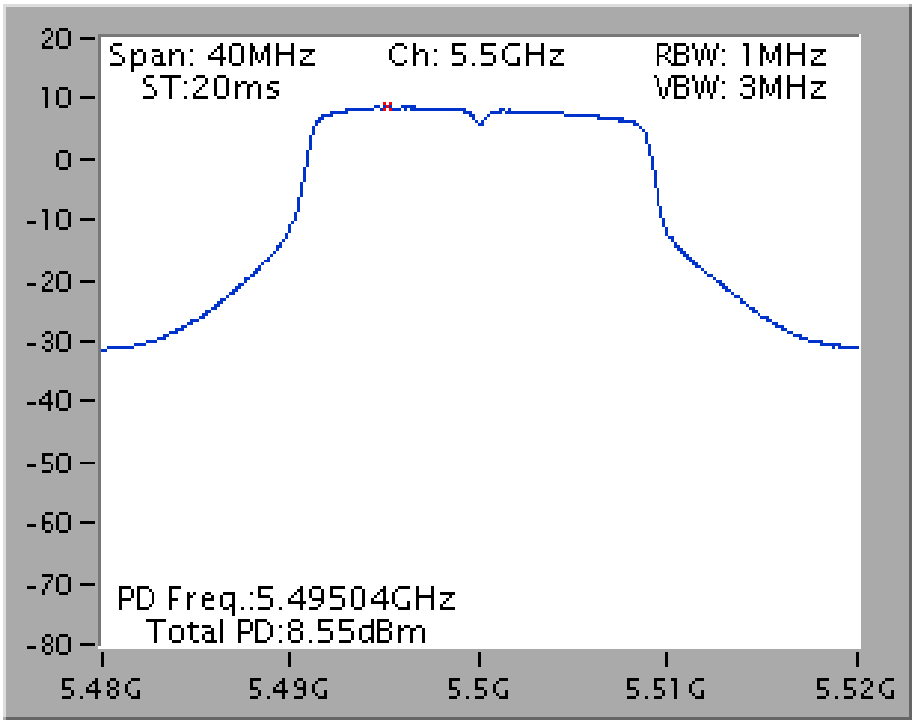
Power Density Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 1 (EUT 1)



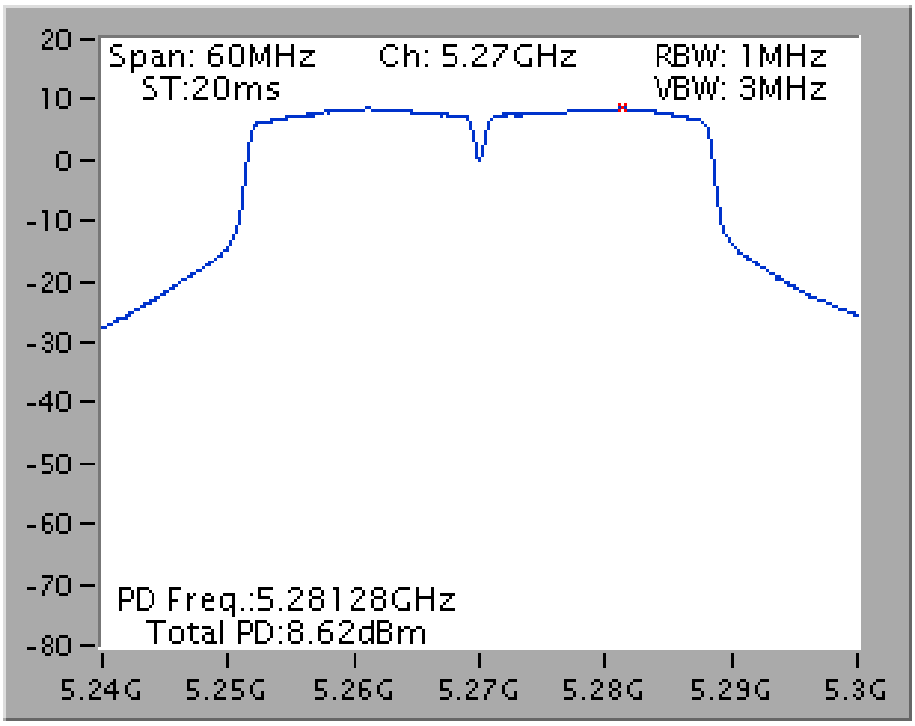
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 2 (EUT 2)



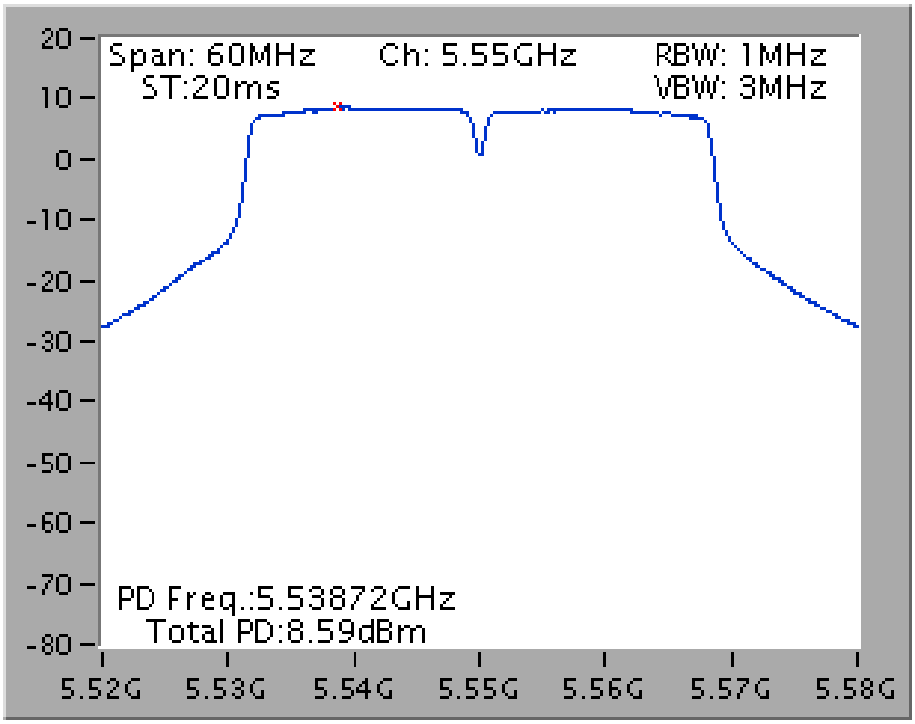
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 5500 MHz / Test Mode: Mode 2 (EUT 2)



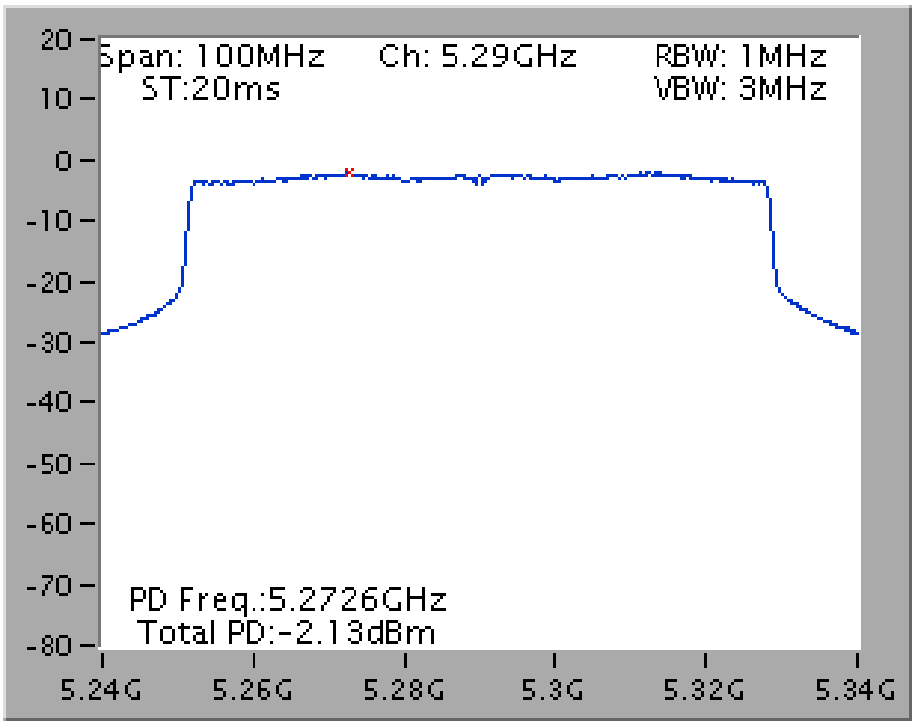
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5270 MHz / Test Mode: Mode 2 (EUT 2)



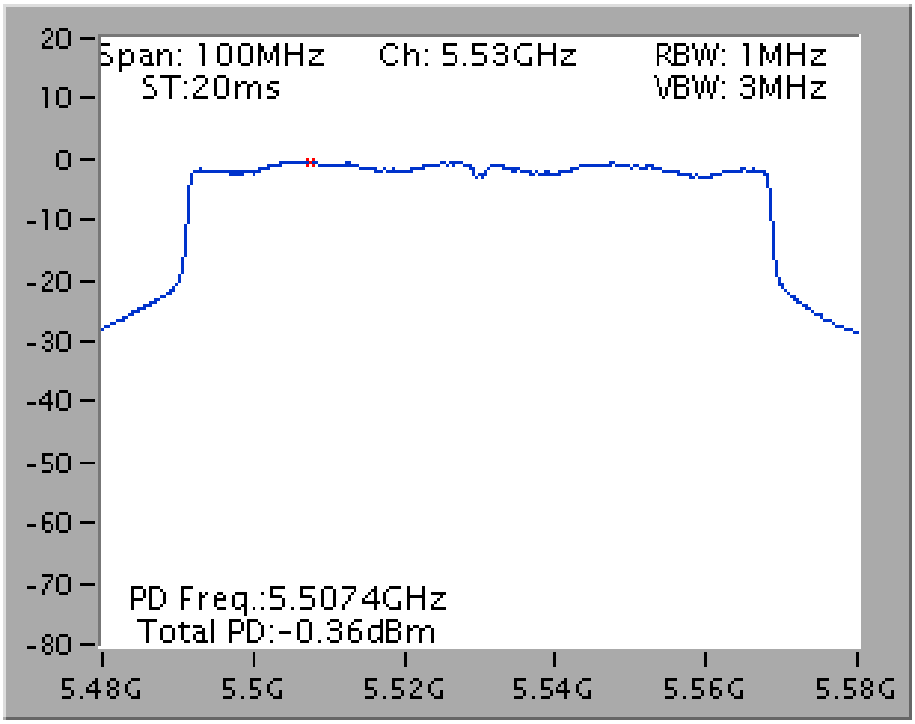
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 5550 MHz / Test Mode: Mode 2 (EUT 2)



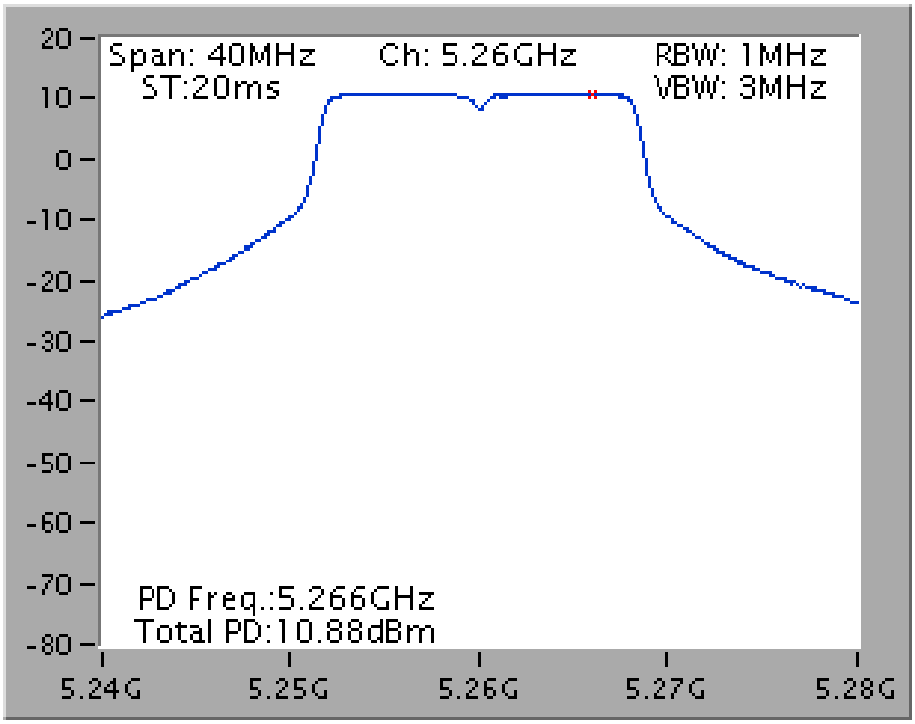
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5290 MHz / Test Mode: Mode 2 (EUT 2)



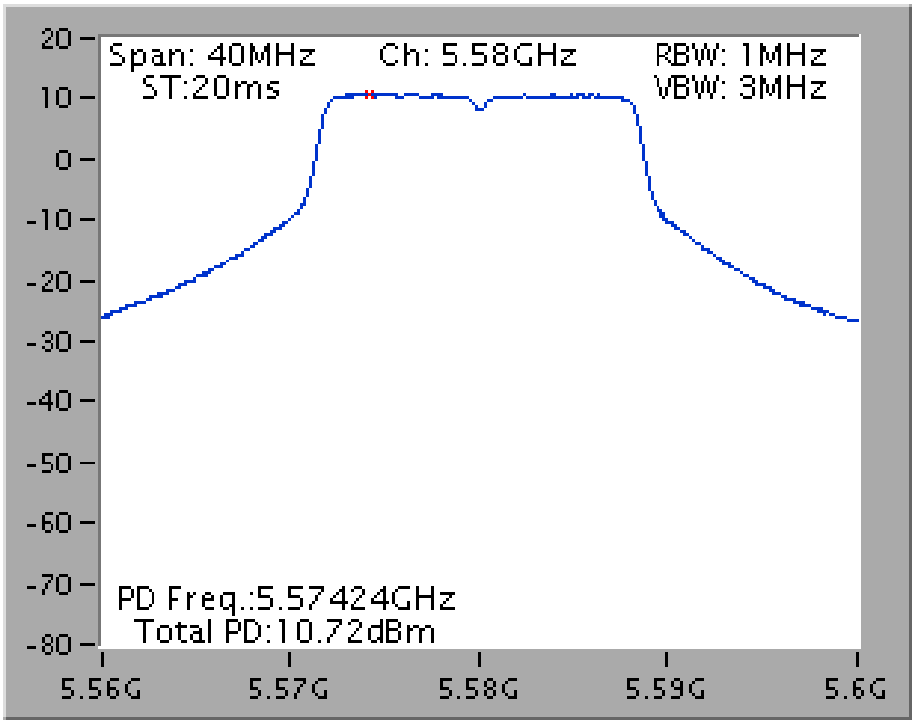
Power Density Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 5530 MHz / Test Mode: Mode 2 (EUT 2)



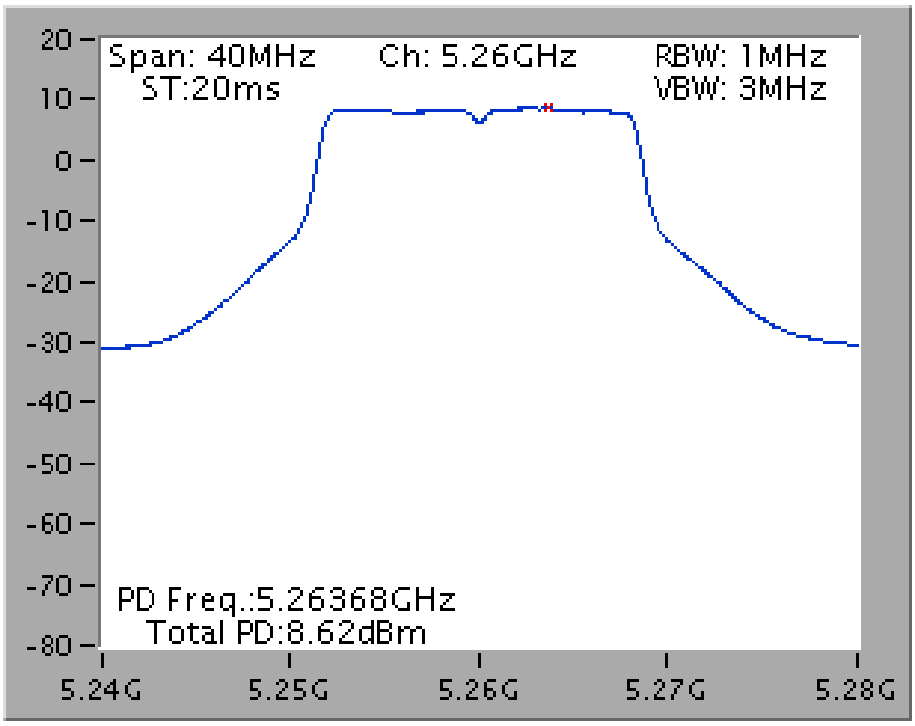
Power Density Plot on Configuration IEEE 802.11a / Chain 4 / 5260 MHz / Test Mode: Mode 2 (EUT 2)



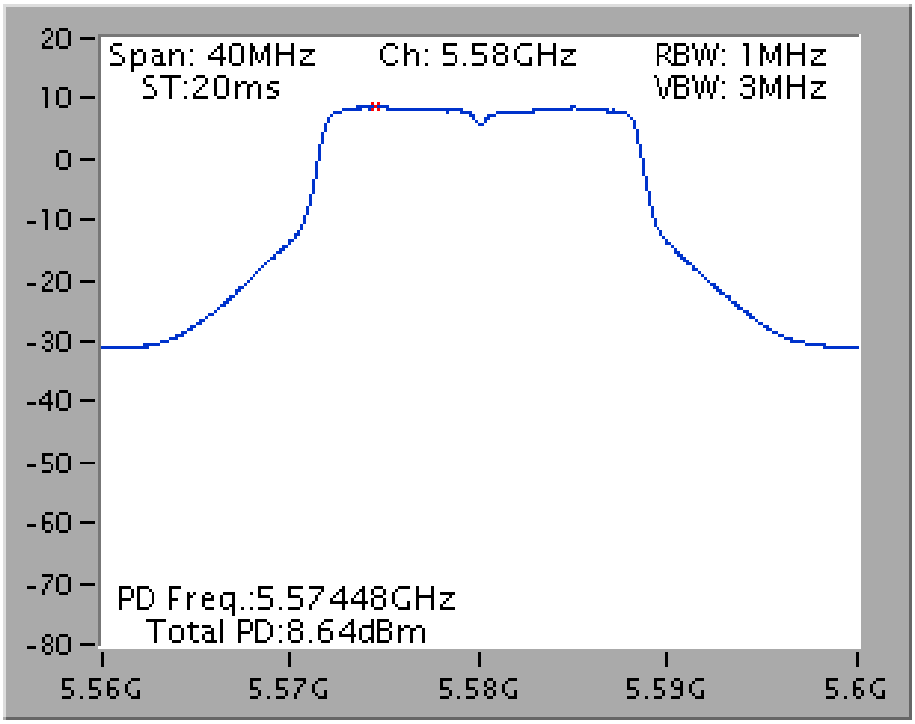
Power Density Plot on Configuration IEEE 802.11a / Chain 4 / 5580 MHz / Test Mode: Mode 2 (EUT 2)



Power Density Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5260 MHz / Test Mode: Mode 2 (EUT 2)



Power Density Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 5580 MHz / Test Mode: Mode 2 (EUT 2)



4.5. Peak Excursion Measurement

4.5.1. Limit

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

4.5.2. Measuring Instruments and Setting

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

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

4.5.3. Test Procedures

1. Trace A, Set RBW =1MHz, VBW = 3MHz, Span >26dB bandwidth, Max. hold.
2. Delta Mark trace A Maximum frequency and trace B same frequency.
3. Repeat the above procedure until measurements for all frequencies were complete.
4. Testing each modulation mode on a single channel in single operating band at single output port. All signal types need test (DSSS, OFDM). All modulation types need test (BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM). All bandwidth modes need test.

4.5.4. Test Setup Layout

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

4.5.5. Test Deviation

There is no deviation with the original standard.

4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Peak Excursion

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 1 (EUT 1)		

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (MCS0)	5260 MHz	8.87	13	**Complies**
QPSK (MCS1)	5260 MHz	8.51	13	**Complies**
16QAM (MCS3)	5260 MHz	9.10	13	**Complies**
64QAM (MCS5)	5260 MHz	9.93	13	**Complies**
256QAM (MCS8)	5260 MHz	9.47	13	**Complies**
BSPK (MCS0)	5700 MHz	8.94	13	**Complies**
QPSK (MCS1)	5700 MHz	9.41	13	**Complies**
16QAM (MCS3)	5700 MHz	9.58	13	**Complies**
64QAM (MCS5)	5700 MHz	9.52	13	**Complies**
256QAM (MCS8)	5700 MHz	9.58	13	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (MCS0)	5270 MHz	9.45	13	**Complies**
QPSK (MCS1)	5270 MHz	9.26	13	**Complies**
16QAM (MCS3)	5270 MHz	10.43	13	**Complies**
64QAM (MCS5)	5270 MHz	10.10	13	**Complies**
256QAM (MCS8)	5270 MHz	10.10	13	**Complies**
BSPK (MCS0)	5550 MHz	9.87	13	**Complies**
QPSK (MCS1)	5550 MHz	9.07	13	**Complies**
16QAM (MCS3)	5550 MHz	9.68	13	**Complies**
64QAM (MCS5)	5550 MHz	10.16	13	**Complies**
256QAM (MCS8)	5550 MHz	10.24	13	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (MCS0)	5290 MHz	10.29	13	**Complies**
QPSK (MCS1)	5290 MHz	10.03	13	**Complies**
16QAM (MCS3)	5290 MHz	11.97	13	**Complies**
64QAM (MCS5)	5290 MHz	10.01	13	**Complies**
256QAM (MCS8)	5290 MHz	10.98	13	**Complies**
BSPK (MCS0)	5530 MHz	8.14	13	**Complies**
QPSK (MCS1)	5530 MHz	9.54	13	**Complies**
16QAM (MCS3)	5530 MHz	9.99	13	**Complies**
64QAM (MCS5)	5530 MHz	10.03	13	**Complies**
256QAM (MCS8)	5530 MHz	10.49	13	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Mode	Mode 1 (EUT 1)		

Configuration IEEE 802.11a / Chain 4

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (6Mbps)	5260 MHz	9.54	13	**Complies**
QPSK (12Mbps)	5260 MHz	8.47	13	**Complies**
16QAM (24Mbps)	5260 MHz	9.55	13	**Complies**
64QAM (48Mbps)	5260 MHz	10.40	13	**Complies**
BSPK (6Mbps)	5580 MHz	9.16	13	**Complies**
QPSK (12Mbps)	5580 MHz	9.12	13	**Complies**
16QAM (24Mbps)	5580 MHz	9.21	13	**Complies**
64QAM (48Mbps)	5580 MHz	9.34	13	**Complies**

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (6Mbps)	5320 MHz	8.85	13	**Complies**
QPSK (12Mbps)	5320 MHz	8.43	13	**Complies**
16QAM (24Mbps)	5320 MHz	8.77	13	**Complies**
64QAM (48Mbps)	5320 MHz	10.03	13	**Complies**
BSPK (6Mbps)	5700 MHz	9.34	13	**Complies**
QPSK (12Mbps)	5700 MHz	8.18	13	**Complies**
16QAM (24Mbps)	5700 MHz	8.93	13	**Complies**
64QAM (48Mbps)	5700 MHz	9.49	13	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11ac
Test Mode	Mode 2 (EUT 2)		

Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (MCS0)	5260 MHz	9.08	13	**Complies**
QPSK (MCS1)	5260 MHz	8.49	13	**Complies**
16QAM (MCS3)	5260 MHz	9.11	13	**Complies**
64QAM (MCS5)	5260 MHz	9.62	13	**Complies**
256QAM (MCS8)	5260 MHz	9.18	13	**Complies**
BSPK (MCS0)	5580 MHz	9.00	13	**Complies**
QPSK (MCS1)	5580 MHz	8.56	13	**Complies**
16QAM (MCS3)	5580 MHz	9.25	13	**Complies**
64QAM (MCS5)	5580 MHz	9.34	13	**Complies**
256QAM (MCS8)	5580 MHz	9.88	13	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (MCS0)	5270 MHz	9.20	13	**Complies**
QPSK (MCS1)	5270 MHz	8.45	13	**Complies**
16QAM (MCS3)	5270 MHz	9.36	13	**Complies**
64QAM (MCS5)	5270 MHz	9.68	13	**Complies**
256QAM (MCS8)	5270 MHz	9.57	13	**Complies**
BSPK (MCS0)	5550 MHz	9.49	13	**Complies**
QPSK (MCS1)	5550 MHz	8.93	13	**Complies**
16QAM (MCS3)	5550 MHz	9.13	13	**Complies**
64QAM (MCS5)	5550 MHz	9.92	13	**Complies**
256QAM (MCS8)	5550 MHz	10.84	13	**Complies**

Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (MCS0)	5290 MHz	9.28	13	**Complies**
QPSK (MCS1)	5290 MHz	9.31	13	**Complies**
16QAM (MCS3)	5290 MHz	11.06	13	**Complies**
64QAM (MCS5)	5290 MHz	10.57	13	**Complies**
256QAM (MCS8)	5290 MHz	10.91	13	**Complies**
BSPK (MCS0)	5530 MHz	10.25	13	**Complies**
QPSK (MCS1)	5530 MHz	10.07	13	**Complies**
16QAM (MCS3)	5530 MHz	10.80	13	**Complies**
64QAM (MCS5)	5530 MHz	10.76	13	**Complies**
256QAM (MCS8)	5530 MHz	11.15	13	**Complies**

Temperature	25℃	Humidity	56%
Test Engineer	Benson Peng	Configurations	IEEE 802.11a
Test Mode	Mode 2 (EUT 2)		

Configuration IEEE 802.11a / Chain 4

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (6Mbps)	5300 MHz	9.34	13	**Complies**
QPSK (12Mbps)	5300 MHz	9.19	13	**Complies**
16QAM (24Mbps)	5300 MHz	9.32	13	**Complies**
64QAM (48Mbps)	5300 MHz	9.52	13	**Complies**
BSPK (6Mbps)	5580 MHz	9.01	13	**Complies**
QPSK (12Mbps)	5580 MHz	8.87	13	**Complies**
16QAM (24Mbps)	5580 MHz	9.50	13	**Complies**
64QAM (48Mbps)	5580 MHz	9.07	13	**Complies**

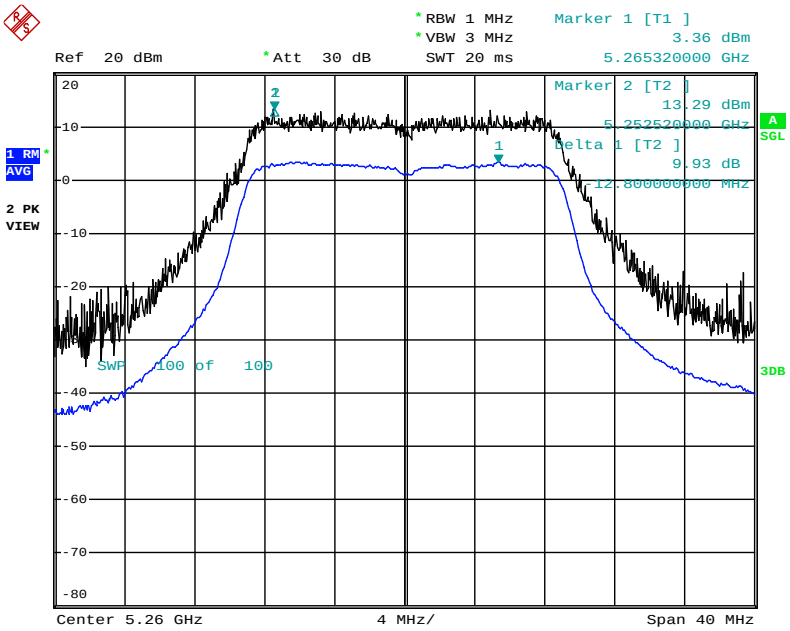
Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Configurations	IEEE 802.11a
Test Mode	Mode 2 (EUT 2)		

Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6

Modulation	Frequency	Peak Excursion (dB)	Max. Limit (dB)	Result
BSPK (6Mbps)	5300 MHz	9.40	13	**Complies**
QPSK (12Mbps)	5300 MHz	9.59	13	**Complies**
16QAM (24Mbps)	5300 MHz	9.33	13	**Complies**
64QAM (48Mbps)	5300 MHz	9.46	13	**Complies**
BSPK (6Mbps)	5580 MHz	9.30	13	**Complies**
QPSK (12Mbps)	5580 MHz	8.06	13	**Complies**
16QAM (24Mbps)	5580 MHz	9.44	13	**Complies**
64QAM (48Mbps)	5580 MHz	9.27	13	**Complies**

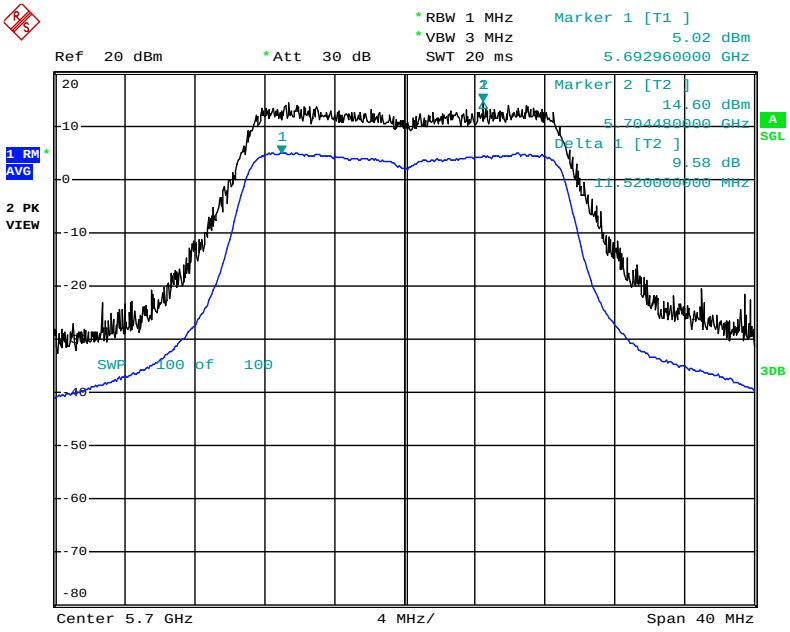
Note: Only the channel with maximum results was listed in the report.

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 64QAM (MCS5) / 5260 MHz / Test Mode: Mode 1 (EUT 1)



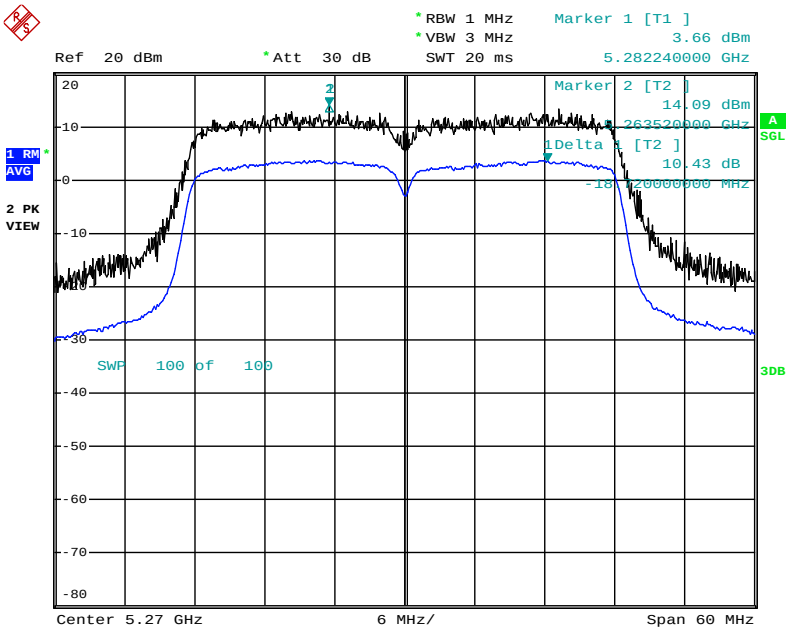
Date: 3.JUL.2013 16:26:15

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 16QAM (MCS3) / 5700 MHz / Test Mode: Mode 1 (EUT 1)



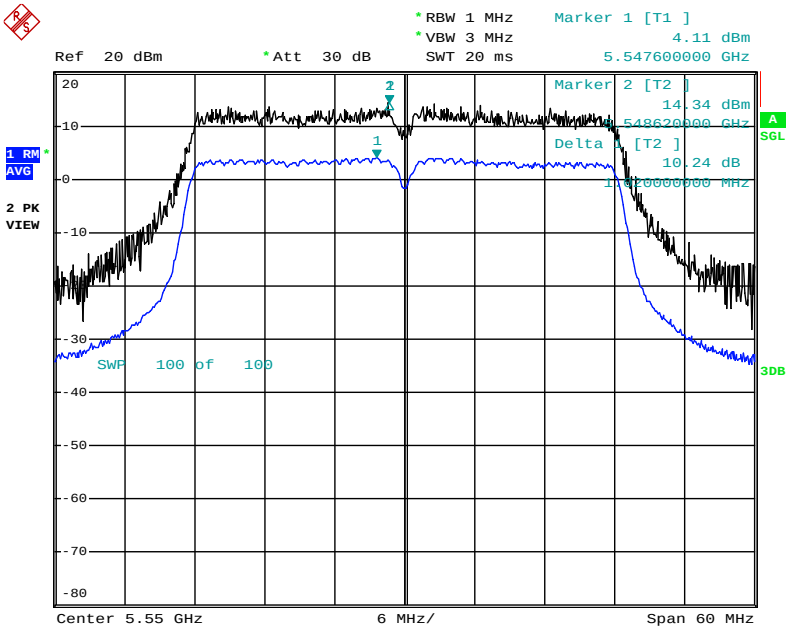
Date: 3.JUL.2013 16:30:43

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 16QAM (MCS3) / 5270 MHz / Test Mode: Mode 1 (EUT 1)



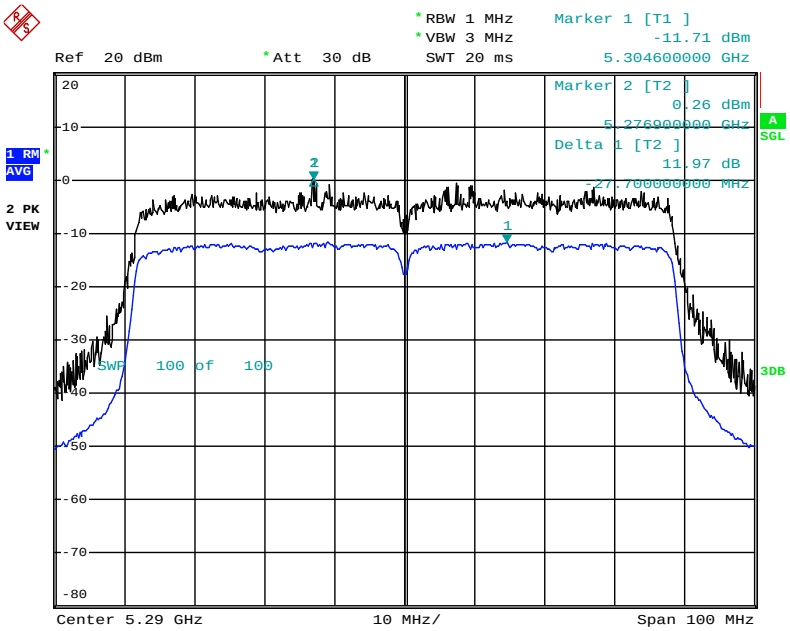
Date: 3.JUL.2013 16:38:04

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 256QAM (MCS8) / 5550 MHz / Test Mode: Mode 1 (EUT 1)



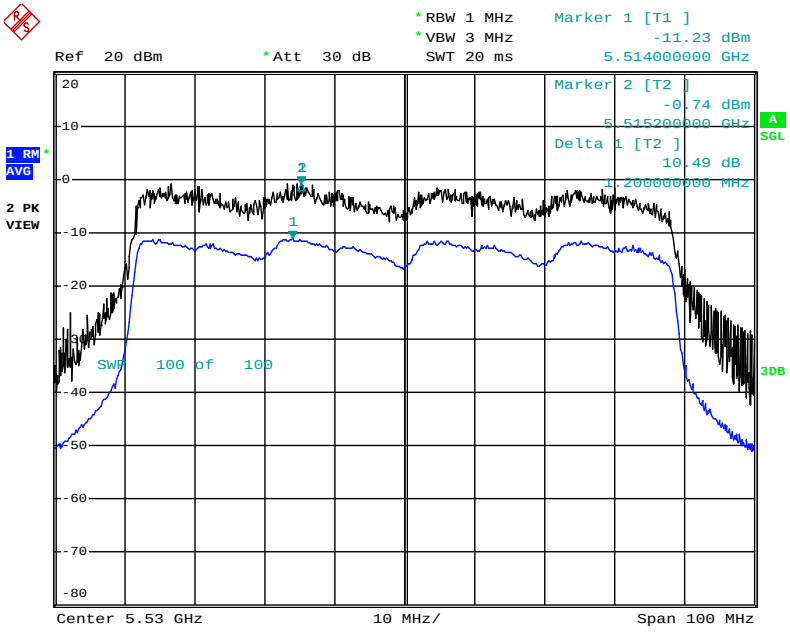
Date: 3.JUL.2013 16:35:25

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 16QAM (MCS3) / 5290 MHz / Test Mode: Mode 1 (EUT 1)



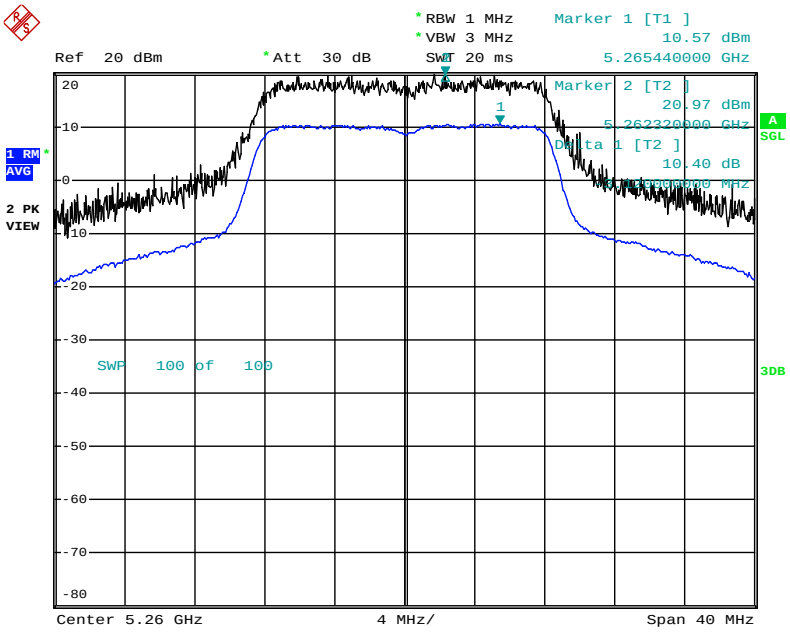
Date: 3.JUL.2013 16:50:46

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 256QAM (MCS8) / 5530 MHz / Test Mode: Mode 1 (EUT 1)



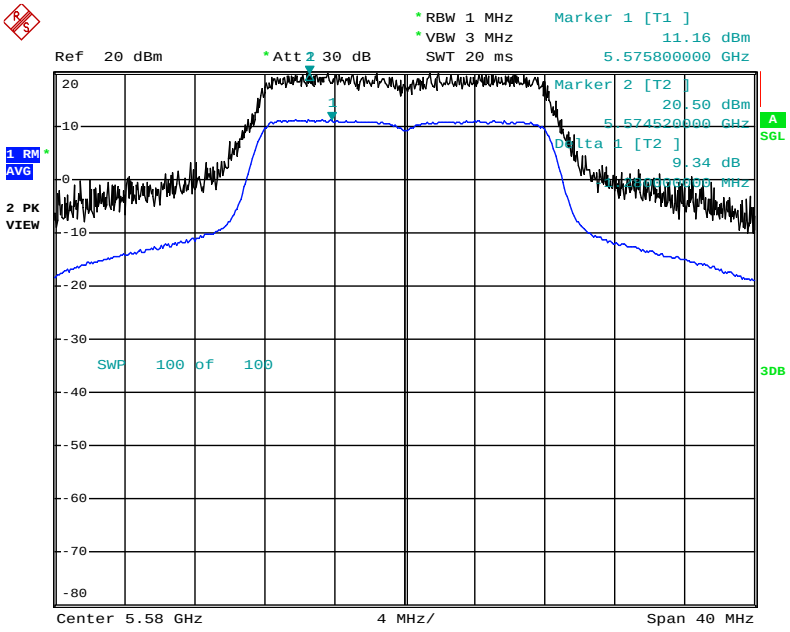
Date: 3.JUL.2013 16:59:21

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4 / 64QAM (48Mbps) / 5260 MHz / Test Mode: Mode 1 (EUT 1)



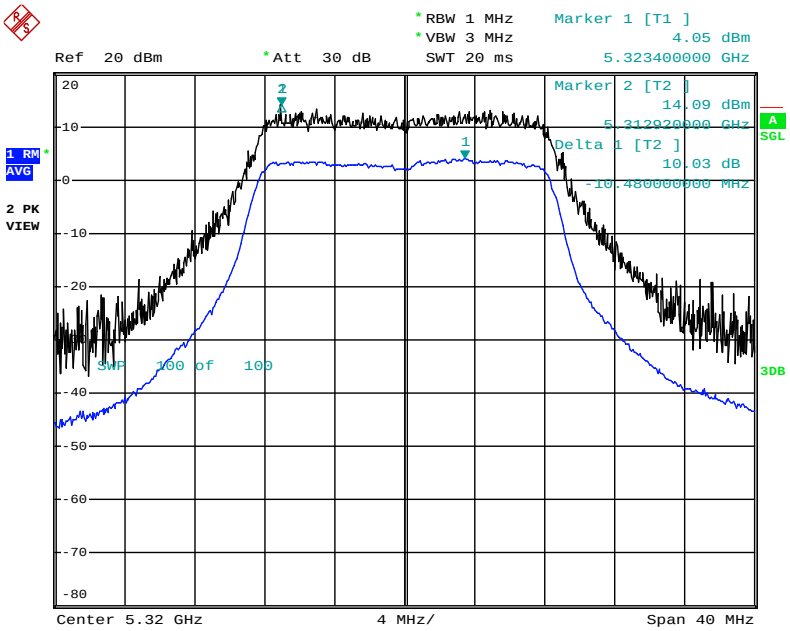
Date: 3.JUL.2013 12:55:27

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4 / 64QAM (48Mbps) / 5580 MHz / Test Mode: Mode 1 (EUT 1)



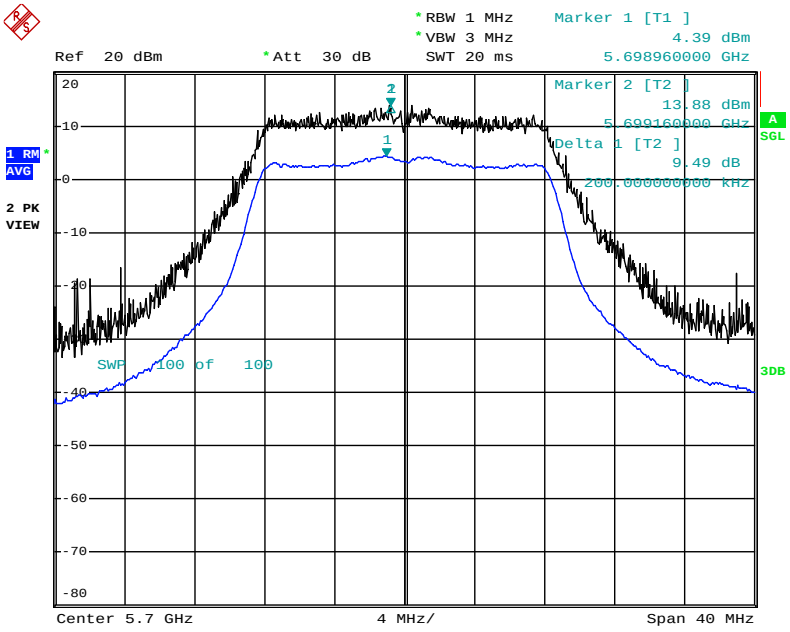
Date: 3.JUL.2013 13:00:25

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 64QAM (48Mbps) / 5320 MHz / Test Mode: Mode 1 (EUT 1)



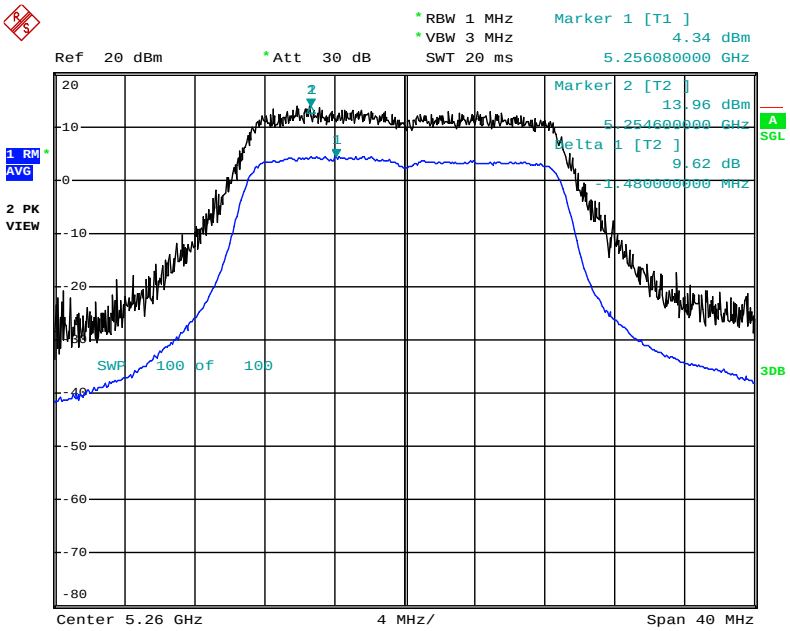
Date: 3.JUL.2013 16:13:50

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 64QAM (48Mbps) / 5700 MHz / Test Mode: Mode 1 (EUT 1)



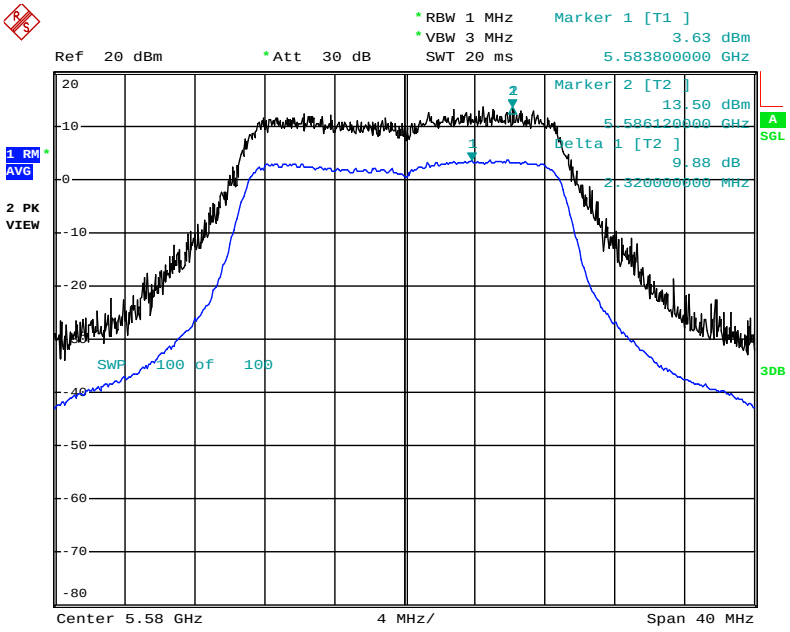
Date: 3.JUL.2013 16:19:00

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 64QAM (MCS5) / 5260 MHz / Test Mode: Mode 2 (EUT 2)



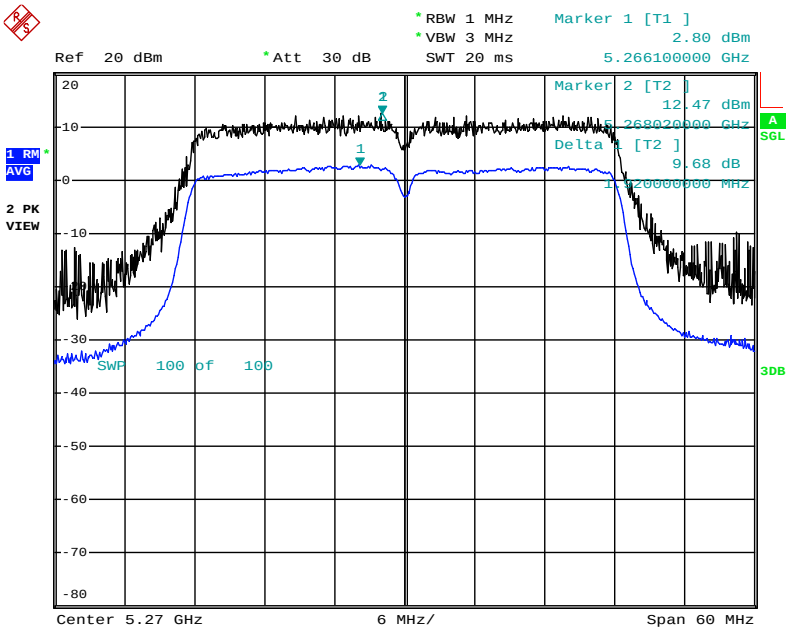
Date: 28.JUL.2013 14:29:16

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 20MHz / Chain 4+ Chain 5+ Chain 6 / 256QAM (MCS8) / 5580 MHz / Test Mode: Mode 2 (EUT 2)



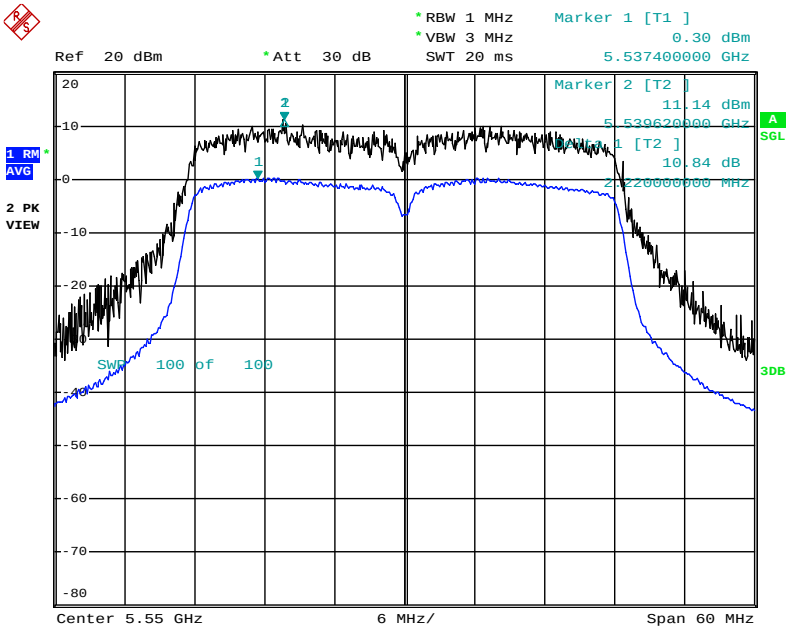
Date: 28.JUL.2013 14:27:11

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 64QAM (MCS5) / 5270 MHz / Test Mode: Mode 1 (EUT 1)



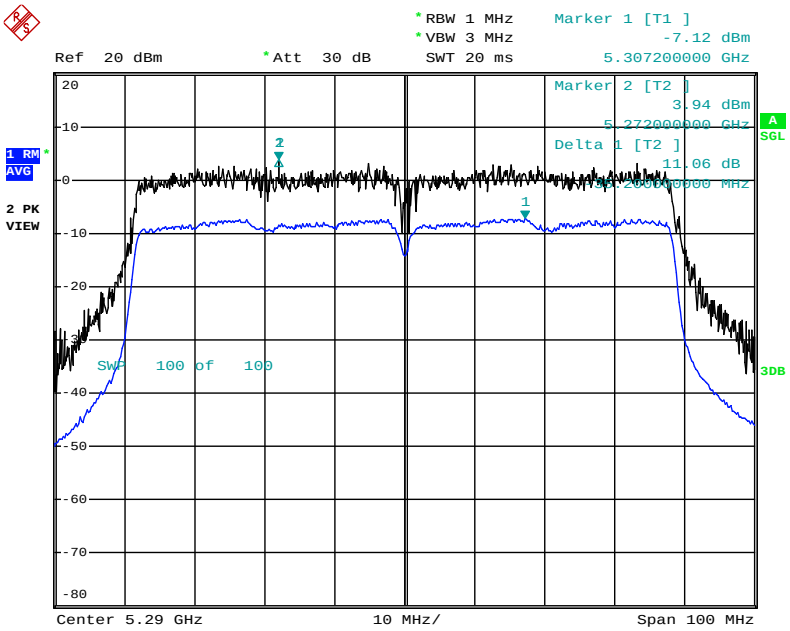
Date: 28.JUL.2013 14:20:56

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 40MHz / Chain 4+ Chain 5+ Chain 6 / 256QAM (MCS8) / 5550 MHz / Test Mode: Mode 2 (EUT 2)



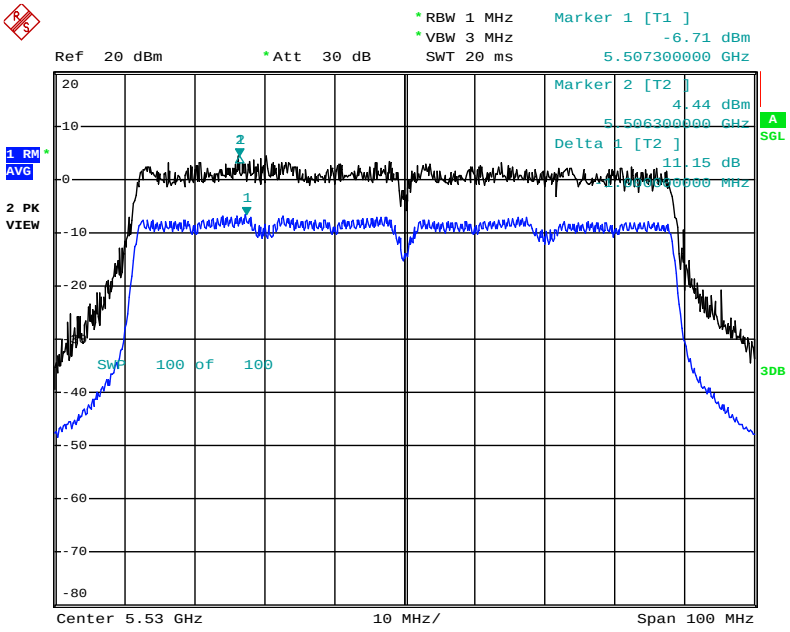
Date: 28.JUL.2013 14:22:14

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 16QAM (MCS3) / 5290 MHz / Test Mode: Mode 2 (EUT 2)



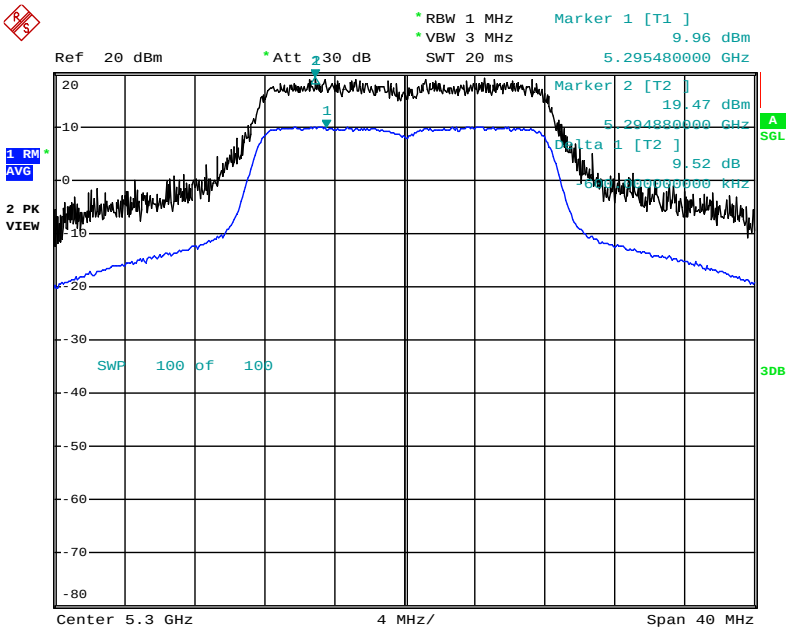
Date: 28.JUL.2013 14:17:36

Peak Excursion Plot on Configuration IEEE 802.11ac MCS0, Nss1 80MHz / Chain 4+ Chain 5+ Chain 6 / 256QAM (MCS8) / 5530 MHz / Test Mode: Mode 2 (EUT 2)



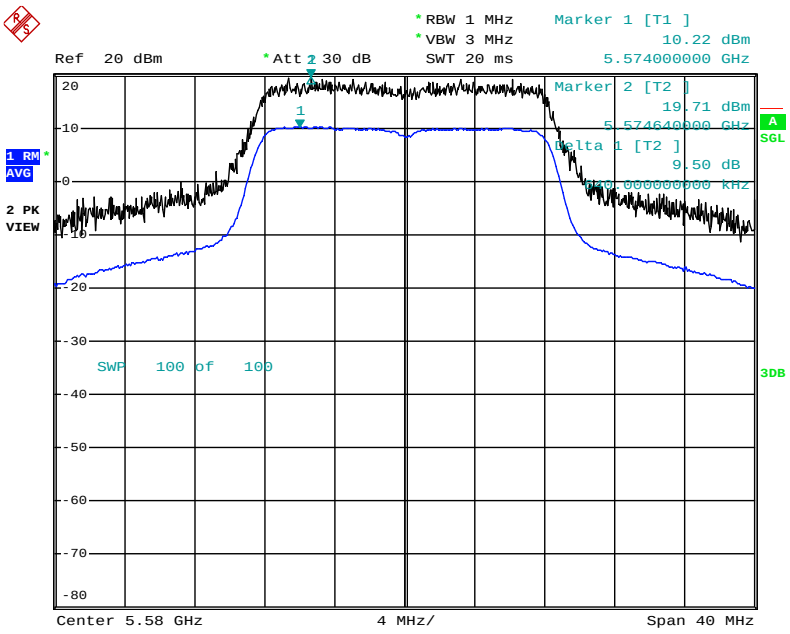
Date: 28.JUL.2013 14:15:20

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4 / 64QAM (48Mbps) / 5300 MHz / Test Mode: Mode 2 (EUT 2)



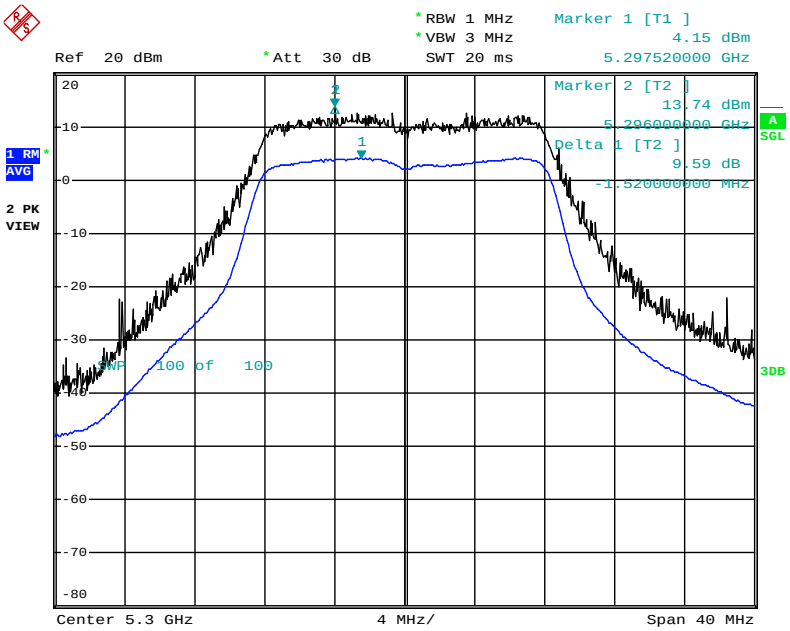
Date: 28.JUL.2013 14:47:12

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4 / 16QAM (24Mbps) / 5580 MHz / Test Mode: Mode 2 (EUT 2)



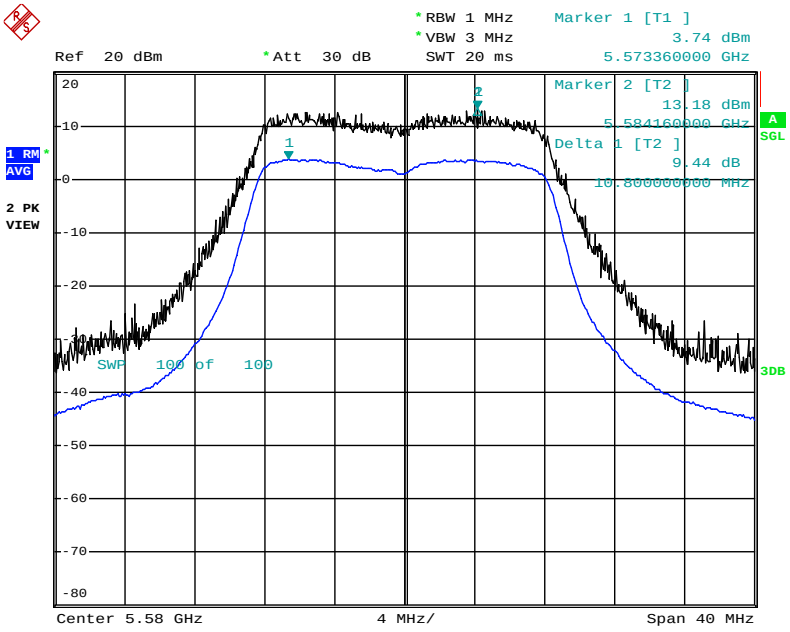
Date: 28.JUL.2013 14:45:53

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / QPSK (12Mbps) / 5300 MHz / Test Mode: Mode 2 (EUT 2)



Date: 28.JUL.2013 14:32:53

Peak Excursion Plot on Configuration IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 / 16QAM (24Mbps) / 5580 MHz / Test Mode: Mode 2 (EUT 2)



Date: 28.JUL.2013 14:35:16

4.6. Radiated Emissions Measurement

4.6.1. Limit

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

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

4.6.2. Measuring Instruments and Setting

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

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

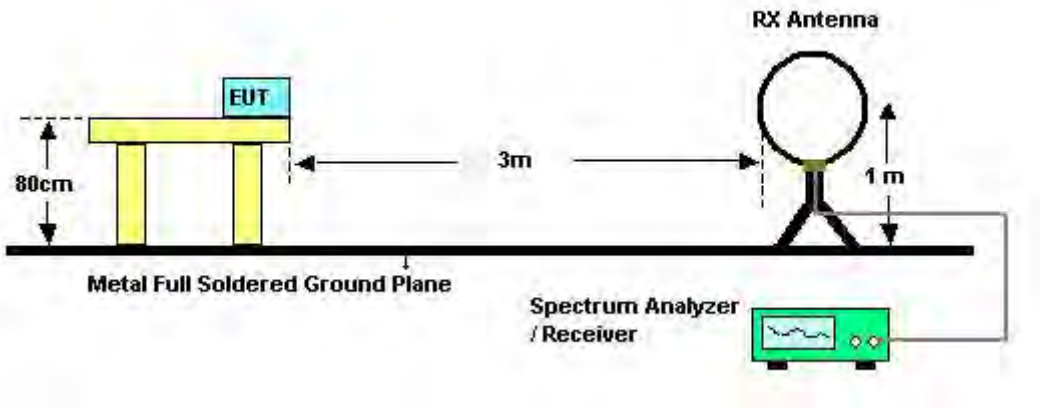
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

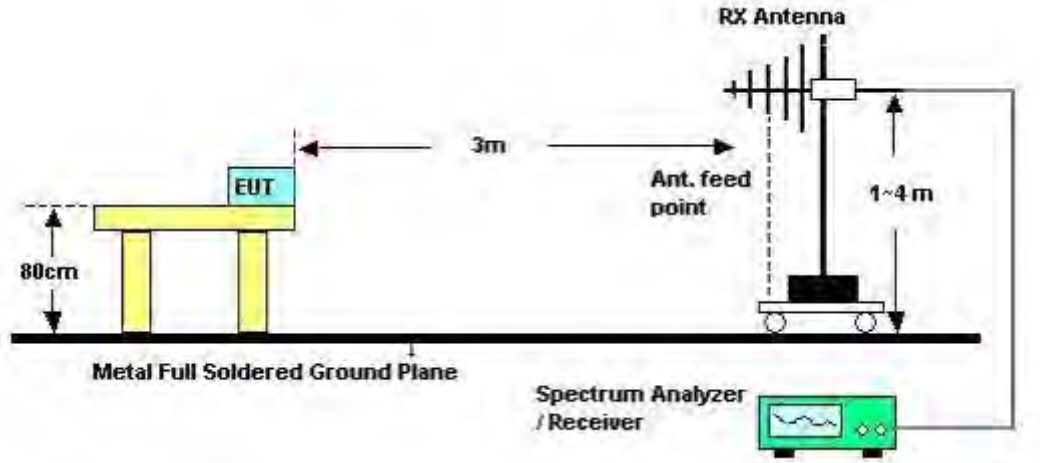
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting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

4.6.4. Test Setup Layout

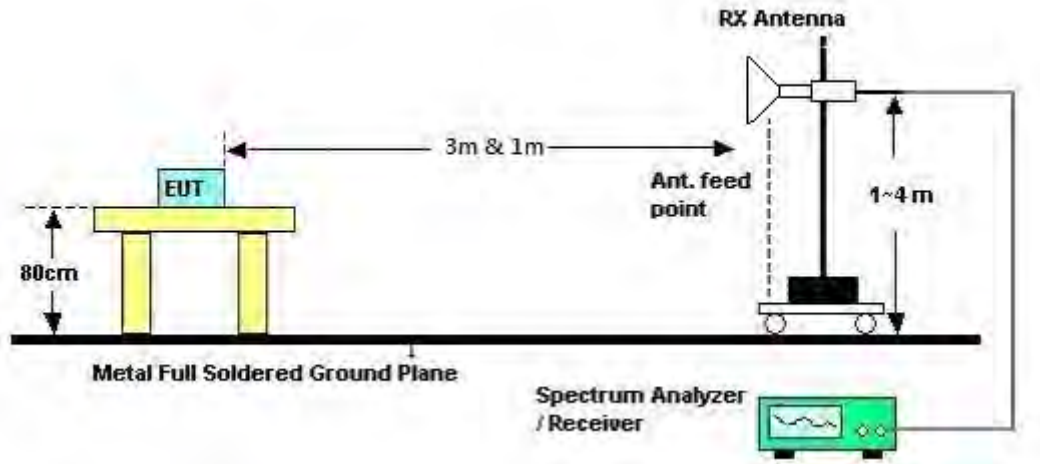
For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



For Radiated Emissions: Above 1GHz



4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

Temperature	24.5℃	Humidity	57%
Test Engineer	Serway Li	Configurations	Normal Link
Test Date	Jul. 27, 2013		

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

Note:

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

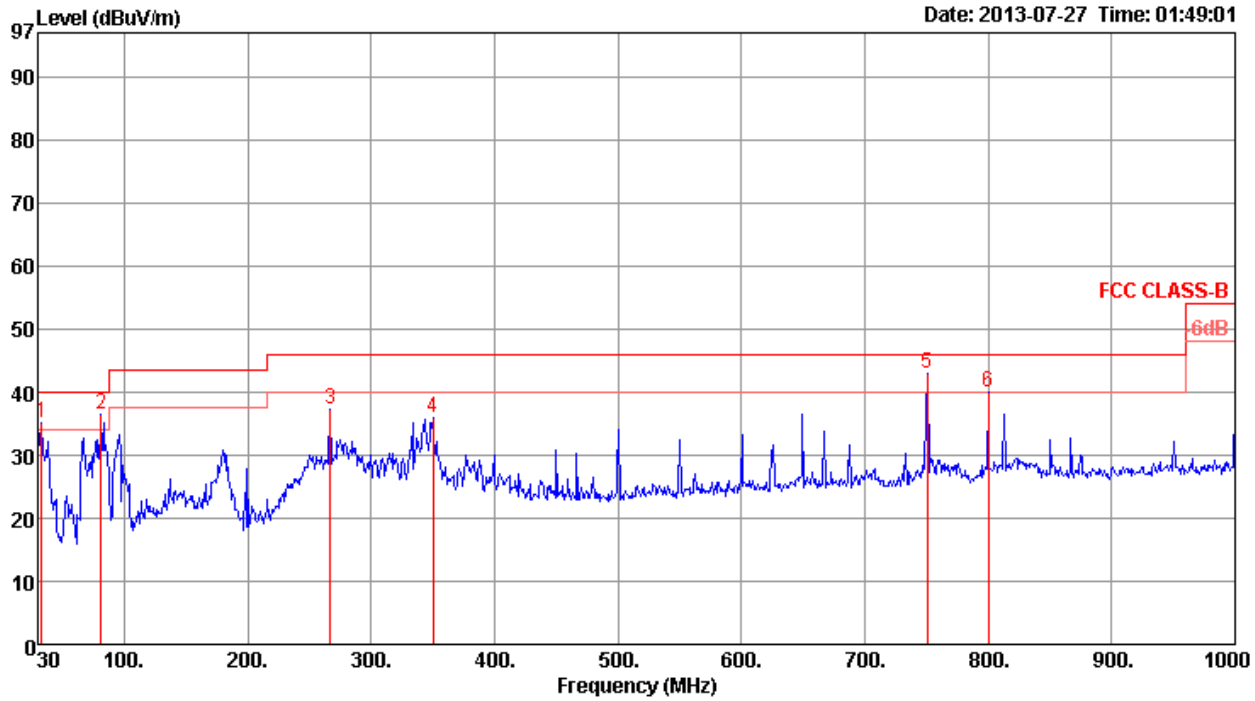
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

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

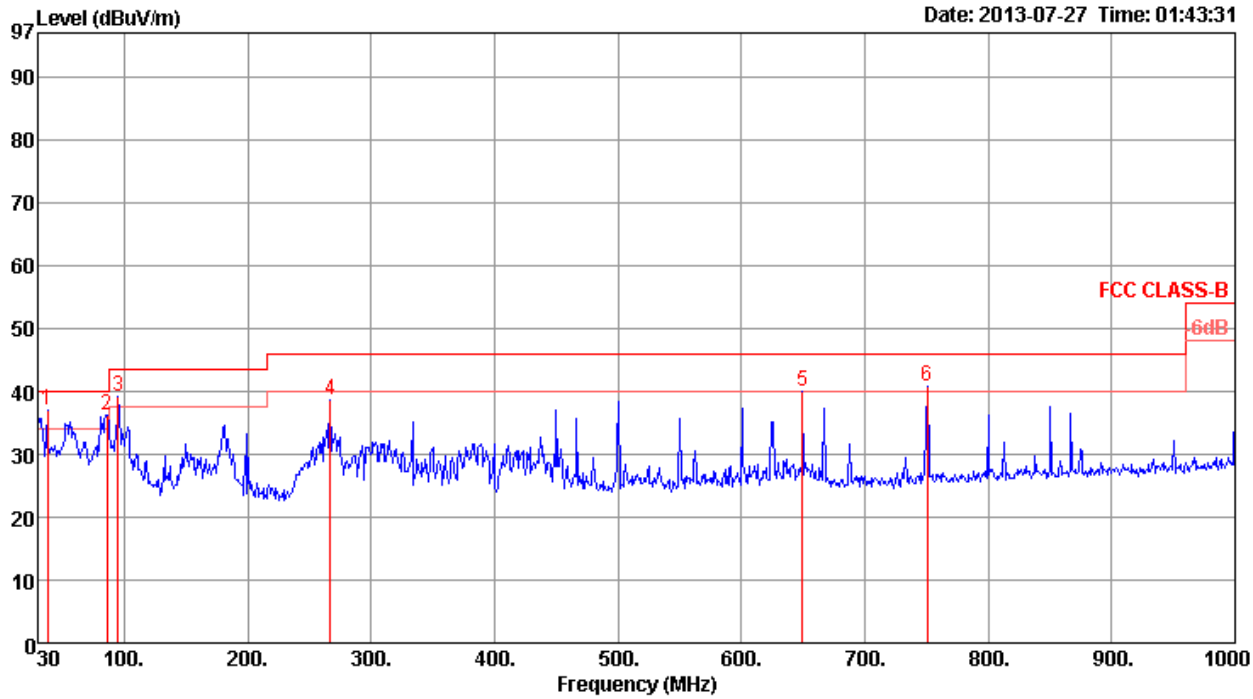
Temperature	24.5℃	Humidity	57%
Test Engineer	Serway Li	Configurations	Normal Link
Test Mode	Mode 3		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	32.91	35.19	40.00	-4.81	45.18	0.66	17.15	27.80	Peak	400	0	HORIZONTAL
2	81.41	36.61	40.00	-3.39	55.94	1.00	7.35	27.68	Peak	400	0	HORIZONTAL
3	266.68	37.18	46.00	-8.82	49.32	1.86	12.97	26.97	Peak	400	0	HORIZONTAL
4	350.10	35.90	46.00	-10.10	46.33	2.10	14.72	27.25	Peak	400	0	HORIZONTAL
5	750.71	42.97	46.00	-3.03	48.14	3.20	19.43	27.80	Peak	400	0	HORIZONTAL
6	800.18	40.05	46.00	-5.95	44.66	3.22	19.77	27.60	Peak	400	0	HORIZONTAL

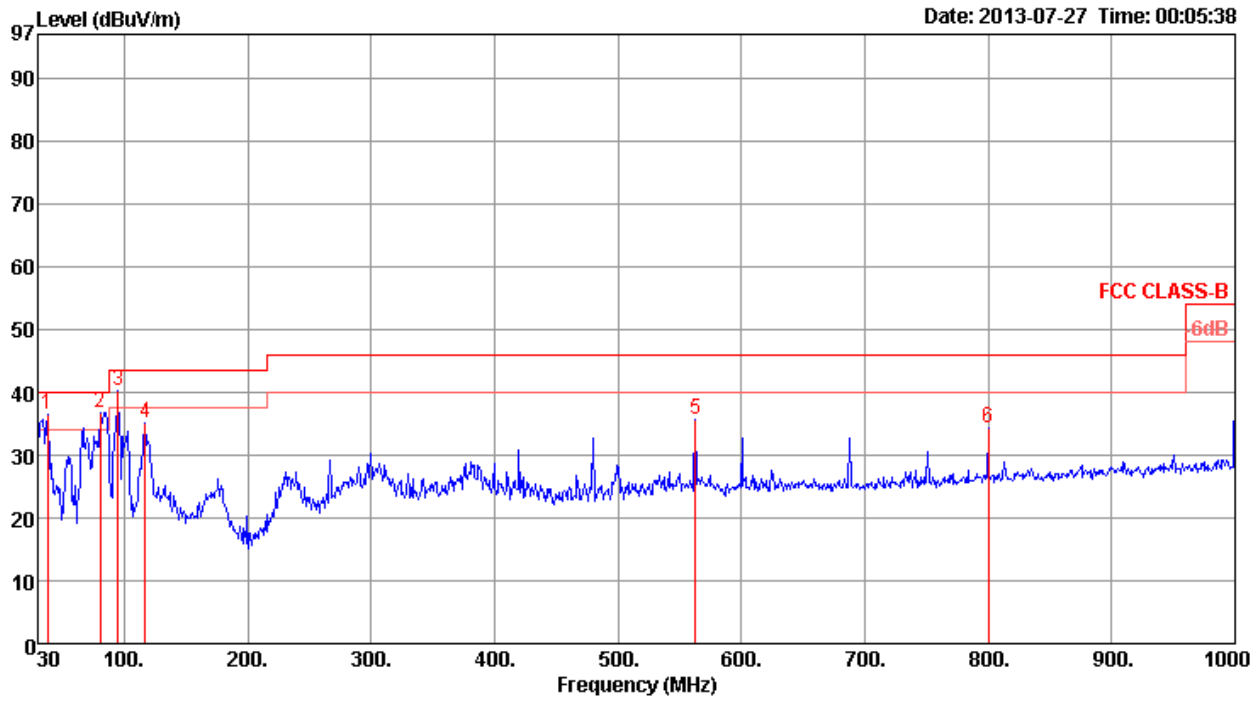
Vertical



	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	37.76	36.92	40.00	-3.08	49.74	0.68	14.30	27.80	Peak	400	0	VERTICAL
2	86.26	36.24	40.00	-3.76	54.53	1.11	8.26	27.66	Peak	400	0	VERTICAL
3	94.99	39.31	43.50	-4.19	55.76	1.19	9.98	27.62	Peak	400	0	VERTICAL
4	266.68	38.69	46.00	-7.31	50.83	1.86	12.97	26.97	Peak	400	0	VERTICAL
5	649.83	40.06	46.00	-5.94	46.19	2.99	18.93	28.05	Peak	400	0	VERTICAL
6	750.71	40.85	46.00	-5.15	46.02	3.20	19.43	27.80	Peak	400	0	VERTICAL

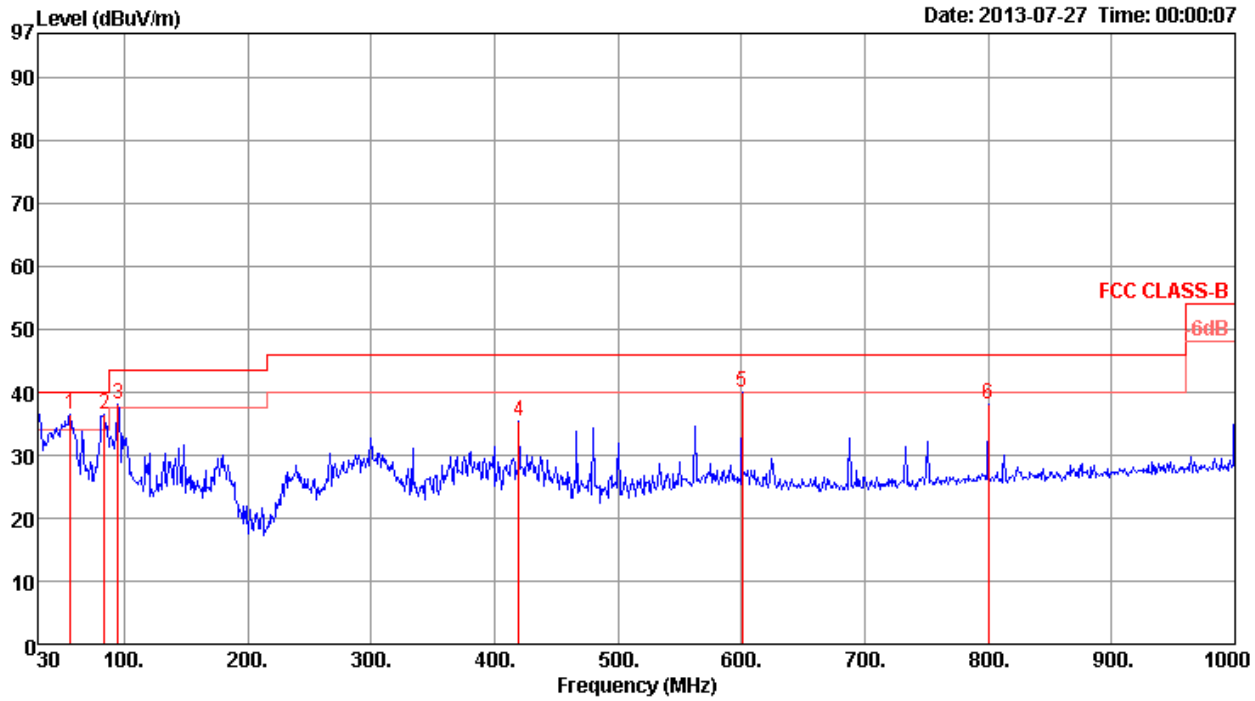
Temperature	24.5℃	Humidity	57%
Test Engineer	Serway Li	Configurations	Normal Link
Test Mode	Mode 6		

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	37.76	36.34	40.00	-3.66	49.16	0.68	14.30	27.80	Peak	400	0	HORIZONTAL
2	80.44	36.74	40.00	-3.26	56.28	0.97	7.17	27.68	Peak	400	0	HORIZONTAL
3	94.99	40.35	43.50	-3.15	56.80	1.19	9.98	27.62	Peak	400	0	HORIZONTAL
4	117.30	35.23	43.50	-8.27	49.16	1.28	12.31	27.52	Peak	400	0	HORIZONTAL
5	562.53	35.75	46.00	-10.25	42.72	2.79	18.34	28.10	Peak	400	0	HORIZONTAL
6	800.18	34.29	46.00	-11.71	38.90	3.22	19.77	27.60	Peak	400	0	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	56.19	36.37	40.00	-3.63	55.83	0.85	7.47	27.78	Peak	400	0	VERTICAL
2	84.32	36.53	40.00	-3.47	55.20	1.10	7.89	27.66	Peak	400	0	VERTICAL
3	94.99	38.17	43.50	-5.33	54.62	1.19	9.98	27.62	Peak	400	0	VERTICAL
4	419.94	35.51	46.00	-10.49	44.46	2.37	16.38	27.70	Peak	400	0	VERTICAL
5	600.36	40.09	46.00	-5.91	46.61	2.81	18.77	28.10	Peak	400	0	VERTICAL
6	800.18	38.12	46.00	-7.88	42.73	3.22	19.77	27.60	Peak	400	0	VERTICAL

Note:

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

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

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch52 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15775.66	56.73	74.00	-17.27	43.70	10.80	37.77	35.54	Peak	100	86	HORIZONTAL
2	15782.26	43.97	54.00	-10.03	30.96	10.80	37.75	35.54	Average	100	86	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	15783.84	56.17	74.00	-17.83	43.16	10.80	37.75	35.54	Peak	100	222	VERTICAL
2	15784.50	43.87	54.00	-10.13	30.86	10.80	37.75	35.54	Average	100	222	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch60 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.18	42.26	54.00	-11.74	28.86	8.64	39.90	35.14	Average	100	175	HORIZONTAL
2	10600.28	54.03	74.00	-19.97	40.63	8.64	39.90	35.14	Peak	100	175	HORIZONTAL
3	15901.42	57.50	74.00	-16.50	44.65	10.81	37.56	35.52	Peak	100	273	HORIZONTAL
4	15903.84	44.32	54.00	-9.68	31.47	10.81	37.56	35.52	Average	100	273	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.94	41.80	54.00	-12.20	28.40	8.64	39.90	35.14	Average	100	128	VERTICAL
2	10600.94	52.66	74.00	-21.34	39.26	8.64	39.90	35.14	Peak	100	128	VERTICAL
3	15896.94	44.30	54.00	-9.70	31.45	10.81	37.56	35.52	Average	100	263	VERTICAL
4	15904.78	56.71	74.00	-17.29	43.86	10.81	37.56	35.52	Peak	100	263	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10636.10	54.17	74.00	-19.83	40.74	8.66	39.86	35.09	Peak	100	143	HORIZONTAL
2	10644.12	41.68	54.00	-12.32	28.25	8.66	39.86	35.09	Average	100	143	HORIZONTAL
3	15958.36	44.60	54.00	-9.40	31.81	10.82	37.48	35.51	Average	100	266	HORIZONTAL
4	15963.66	57.03	74.00	-16.97	44.24	10.82	37.48	35.51	Peak	100	266	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.16	41.66	54.00	-12.34	28.23	8.66	39.86	35.09	Average	100	178	VERTICAL
2	10639.76	54.10	74.00	-19.90	40.67	8.66	39.86	35.09	Peak	100	178	VERTICAL
3	15955.68	44.67	54.00	-9.33	31.88	10.82	37.48	35.51	Average	100	252	VERTICAL
4	15958.52	57.24	74.00	-16.76	44.45	10.82	37.48	35.51	Peak	100	252	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch100 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11000.18	52.63	74.00	-21.37	39.00	8.93	39.50	34.80	Peak	100	151	HORIZONTAL
2	11003.52	40.14	54.00	-13.86	26.51	8.93	39.50	34.80	Average	100	151	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	10999.48	40.09	54.00	-13.91	26.46	8.93	39.50	34.80	Average	100	257	VERTICAL
2	11001.18	52.75	74.00	-21.25	39.12	8.93	39.50	34.80	Peak	100	257	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch116 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11161.84	57.38	74.00	-16.62	43.73	9.04	39.50	34.89	Peak	100	55	HORIZONTAL
2	11162.44	43.96	54.00	-10.04	30.31	9.04	39.50	34.89	Average	100	55	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11158.80	56.71	74.00	-17.29	43.06	9.04	39.50	34.89	Peak	100	314	VERTICAL
2	11158.88	44.53	54.00	-9.47	30.88	9.04	39.50	34.89	Average	100	314	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11397.42	41.27	54.00	-12.73	27.62	9.19	39.50	35.04	Average	100	136	HORIZONTAL
2	11399.68	53.75	74.00	-20.25	40.10	9.19	39.50	35.04	Peak	100	136	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	11396.62	41.11	54.00	-12.89	27.46	9.19	39.50	35.04	Average	100	230	VERTICAL
2	11403.68	54.40	74.00	-19.60	40.75	9.19	39.50	35.04	Peak	100	230	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch54 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15813.40	56.00	74.00	-18.00	43.04	10.80	37.69	35.53	Peak	100	238	HORIZONTAL
2	15814.96	43.88	54.00	-10.12	30.92	10.80	37.69	35.53	Average	100	238	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	15805.44	56.70	74.00	-17.30	43.72	10.80	37.72	35.54	Peak	100	114	VERTICAL
2	15806.94	43.92	54.00	-10.08	30.94	10.80	37.72	35.54	Average	100	114	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch62 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10616.26	41.87	54.00	-12.13	28.46	8.65	39.88	35.12	Average	100	126	HORIZONTAL
2	10624.10	54.44	74.00	-19.56	41.03	8.65	39.88	35.12	Peak	100	126	HORIZONTAL
3	15926.62	44.91	54.00	-9.09	32.08	10.81	37.53	35.51	Average	100	234	HORIZONTAL
4	15930.40	57.58	74.00	-16.42	44.77	10.81	37.51	35.51	Peak	100	234	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10616.16	41.55	54.00	-12.45	28.14	8.65	39.88	35.12	Average	100	358	VERTICAL
2	10619.06	54.56	74.00	-19.44	41.15	8.65	39.88	35.12	Peak	100	358	VERTICAL
3	15925.18	57.47	74.00	-16.53	44.64	10.81	37.53	35.51	Peak	100	106	VERTICAL
4	15930.36	44.77	54.00	-9.23	31.96	10.81	37.51	35.51	Average	100	106	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch102 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11015.66	53.48	74.00	-20.52	39.85	8.94	39.50	34.81	Peak	100	244	HORIZONTAL
2	11021.62	40.40	54.00	-13.60	26.76	8.95	39.50	34.81	Average	100	244	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	11022.10	40.51	54.00	-13.49	26.87	8.95	39.50	34.81	Average	100	103	VERTICAL
2	11022.44	52.99	74.00	-21.01	39.35	8.95	39.50	34.81	Peak	100	103	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch110 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11096.28	41.24	54.00	-12.76	27.61	8.99	39.50	34.86	Average	100	96	HORIZONTAL
2	11104.54	53.52	74.00	-20.48	39.89	8.99	39.50	34.86	Peak	100	96	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	11095.72	41.01	54.00	-12.99	27.38	8.99	39.50	34.86	Average	100	249	VERTICAL
2	11097.80	54.09	74.00	-19.91	40.46	8.99	39.50	34.86	Peak	100	249	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch134 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11337.04	54.97	74.00	-19.03	41.32	9.14	39.50	34.99	Peak	100	239	HORIZONTAL
2	11340.38	41.26	54.00	-12.74	27.61	9.14	39.50	34.99	Average	100	239	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	11338.14	53.12	74.00	-20.88	39.47	9.14	39.50	34.99	Peak	100	82	VERTICAL
2	11339.46	41.36	54.00	-12.64	27.71	9.14	39.50	34.99	Average	100	82	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 80MHz Ch58 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15874.66	44.14	54.00	-9.86	31.25	10.81	37.61	35.53	Average	100	282	HORIZONTAL
2	15874.82	56.32	74.00	-17.68	43.43	10.81	37.61	35.53	Peak	100	282	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	15869.56	56.31	74.00	-17.69	43.42	10.81	37.61	35.53	Peak	100	187	VERTICAL
2	15874.32	44.24	54.00	-9.76	31.35	10.81	37.61	35.53	Average	100	187	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 80MHz Ch106 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11055.94	41.17	54.00	-12.83	27.53	8.97	39.50	34.83	Average	100	98	HORIZONTAL
2	11057.30	53.54	74.00	-20.46	39.90	8.97	39.50	34.83	Peak	100	98	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	11055.44	41.20	54.00	-12.80	27.57	8.96	39.50	34.83	Average	100	289	VERTICAL
2	11064.46	53.57	74.00	-20.43	39.94	8.97	39.50	34.84	Peak	100	289	VERTICAL

Note:

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

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15788.56	39.76	54.00	-14.24	31.63	6.14	37.41	35.42	Average	100	163	HORIZONTAL
2	15789.48	52.28	74.00	-21.72	44.15	6.14	37.41	35.42	Peak	100	163	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	15787.04	39.85	54.00	-14.15	31.72	6.14	37.41	35.42	Average	100	281	VERTICAL
2	15789.96	52.60	74.00	-21.40	44.47	6.14	37.41	35.42	Peak	100	281	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 60 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10591.28	49.75	74.00	-24.25	41.80	5.01	38.38	35.44	Peak	100	321	HORIZONTAL
2	10599.24	37.34	54.00	-16.66	29.37	5.01	38.38	35.42	Average	100	321	HORIZONTAL
3	15893.36	39.33	54.00	-14.67	31.32	6.15	37.30	35.44	Average	100	221	HORIZONTAL
4	15908.88	52.16	74.00	-21.84	44.16	6.15	37.29	35.44	Peak	100	221	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10601.08	46.86	74.00	-27.14	38.89	5.01	38.38	35.42	Peak	100	187	VERTICAL
2	10601.20	35.88	54.00	-18.12	27.91	5.01	38.38	35.42	Average	100	187	VERTICAL
3	15891.40	39.28	54.00	-14.72	31.27	6.15	37.30	35.44	Average	100	119	VERTICAL
4	15893.76	52.49	74.00	-21.51	44.48	6.15	37.30	35.44	Peak	100	119	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 64 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10631.92	48.48	74.00	-25.52	40.49	5.01	38.37	35.39	Peak	100	176	HORIZONTAL
2	10637.80	35.89	54.00	-18.11	27.90	5.01	38.37	35.39	Average	100	176	HORIZONTAL
3	15960.04	39.30	54.00	-14.70	31.36	6.15	37.23	35.44	Average	100	230	HORIZONTAL
4	15964.76	52.43	74.00	-21.57	44.50	6.15	37.22	35.44	Peak	100	230	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10639.56	35.79	54.00	-18.21	27.80	5.01	38.37	35.39	Average	100	82	VERTICAL
2	10640.84	49.18	74.00	-24.82	41.19	5.01	38.37	35.39	Peak	100	82	VERTICAL
3	15954.68	52.20	74.00	-21.80	44.26	6.15	37.23	35.44	Peak	100	152	VERTICAL
4	15962.80	39.26	54.00	-14.74	31.32	6.15	37.23	35.44	Average	100	152	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11000.72	36.09	54.00	-17.91	27.86	5.01	38.32	35.10	Average	100	214	HORIZONTAL
2	11005.00	48.60	74.00	-25.40	40.37	5.01	38.32	35.10	Peak	100	214	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10997.84	48.81	74.00	-25.19	40.60	5.01	38.30	35.10	Peak	100	299	VERTICAL
2	11003.64	35.98	54.00	-18.02	27.77	5.01	38.30	35.10	Average	100	299	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 116 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11161.20	52.15	74.00	-21.85	43.81	5.04	38.47	35.17	Peak	100	293	HORIZONTAL
2	11161.64	39.50	54.00	-14.50	31.16	5.04	38.47	35.17	Average	100	293	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	11159.64	55.57	74.00	-18.43	47.23	5.04	38.47	35.17	Peak	104	314	VERTICAL
2	11160.84	42.21	54.00	-11.79	33.87	5.04	38.47	35.17	Average	104	314	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 140 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11397.60	49.26	74.00	-24.74	40.71	5.10	38.70	35.25	Peak	100	186	HORIZONTAL
2	11403.84	36.78	54.00	-17.22	28.23	5.10	38.70	35.25	Average	100	186	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	11409.56	48.68	74.00	-25.32	40.13	5.10	38.70	35.25	Peak	100	88	VERTICAL
2	11410.00	36.77	54.00	-17.23	28.22	5.10	38.70	35.25	Average	100	88	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15777.82	59.12	74.00	-14.88	46.11	10.80	37.75	35.54	Peak	100	300	HORIZONTAL
2	15779.44	46.33	54.00	-7.67	33.32	10.80	37.75	35.54	Average	100	300	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	15777.20	56.59	74.00	-17.41	43.58	10.80	37.75	35.54	Peak	100	14	VERTICAL
2	15780.14	44.46	54.00	-9.54	31.45	10.80	37.75	35.54	Average	100	14	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 60 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.70	42.35	54.00	-11.65	28.95	8.64	39.90	35.14	Average	100	316	HORIZONTAL
2	10601.32	54.70	74.00	-19.30	41.30	8.64	39.90	35.14	Peak	100	316	HORIZONTAL
3	15901.18	44.03	54.00	-9.97	31.18	10.81	37.56	35.52	Average	100	170	HORIZONTAL
4	15901.18	54.04	74.00	-19.96	41.19	10.81	37.56	35.52	Peak	100	170	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10600.76	42.09	54.00	-11.91	28.69	8.64	39.90	35.14	Average	100	218	VERTICAL
2	10600.76	53.28	74.00	-20.72	39.88	8.64	39.90	35.14	Peak	100	218	VERTICAL
3	15900.42	57.00	74.00	-17.00	44.15	10.81	37.56	35.52	Peak	100	112	VERTICAL
4	15902.88	44.44	54.00	-9.56	31.59	10.81	37.56	35.52	Average	100	112	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10636.42	54.67	74.00	-19.33	41.24	8.66	39.86	35.09	Peak	100	200	HORIZONTAL
2	10644.94	42.02	54.00	-11.98	28.59	8.66	39.86	35.09	Average	100	200	HORIZONTAL
3	15957.20	44.70	54.00	-9.30	31.91	10.82	37.48	35.51	Average	45	279	HORIZONTAL
4	15957.88	57.33	74.00	-16.67	44.54	10.82	37.48	35.51	Peak	100	279	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	10642.06	55.13	74.00	-18.87	41.70	8.66	39.86	35.09	Peak	100	224	VERTICAL
2	10644.56	41.48	54.00	-12.52	28.05	8.66	39.86	35.09	Average	100	224	VERTICAL
3	15956.06	44.63	54.00	-9.37	31.84	10.82	37.48	35.51	Average	100	313	VERTICAL
4	15959.92	56.78	74.00	-17.22	43.99	10.82	37.48	35.51	Peak	100	313	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	10999.66	52.67	74.00	-21.33	39.04	8.93	39.50	34.80	Peak	100	296	HORIZONTAL
2	11002.84	40.25	54.00	-13.75	26.62	8.93	39.50	34.80	Average	100	296	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	11002.54	52.49	74.00	-21.51	38.86	8.93	39.50	34.80	Peak	100	192	VERTICAL
2	11004.54	40.27	54.00	-13.73	26.63	8.94	39.50	34.80	Average	100	192	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 116 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11159.94	56.63	74.00	-17.37	42.98	9.04	39.50	34.89	Peak	100	58	HORIZONTAL
2	11161.70	44.09	54.00	-9.91	30.44	9.04	39.50	34.89	Average	100	58	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	11156.78	57.66	74.00	-16.34	44.02	9.03	39.50	34.89	Peak	100	313	VERTICAL
2	11159.72	44.81	54.00	-9.19	31.16	9.04	39.50	34.89	Average	100	313	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11395.86	53.97	74.00	-20.03	40.32	9.19	39.50	35.04	Peak	100	263	HORIZONTAL
2	11397.90	41.21	54.00	-12.79	27.56	9.19	39.50	35.04	Average	100	263	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	11398.46	53.21	74.00	-20.79	39.56	9.19	39.50	35.04	Peak	100	168	VERTICAL
2	11400.06	41.12	54.00	-12.88	27.47	9.19	39.50	35.04	Average	100	168	VERTICAL

Note:

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

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch52 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15781.20	60.48	74.00	-13.52	49.12	7.93	35.01	38.44	Peak	302	100	HORIZONTAL
2 a	15782.80	45.88	54.00	-8.12	34.51	7.94	35.01	38.44	Average	302	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 a	15781.68	44.10	54.00	-9.90	32.73	7.94	35.01	38.44	Average	359	100	VERTICAL
2 p	15781.72	57.84	74.00	-16.16	46.47	7.94	35.01	38.44	Peak	359	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch60 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10602.14	51.97	74.00	-22.03	41.99	6.60	35.10	38.48	Peak	147	100	HORIZONTAL
2		10602.88	39.17	54.00	-14.83	29.19	6.60	35.10	38.48	Average	147	100	HORIZONTAL
3	p	15898.86	56.39	74.00	-17.61	45.09	7.97	35.09	38.42	Peak	246	100	HORIZONTAL
4	a	15898.96	43.77	54.00	-10.23	32.47	7.97	35.09	38.42	Average	246	100	HORIZONTAL

Vertical

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10601.02	40.13	54.00	-13.87	30.15	6.60	35.10	38.48	Average	2	100	VERTICAL
2		10601.58	52.52	74.00	-21.48	42.54	6.60	35.10	38.48	Peak	2	100	VERTICAL
3	a	15899.64	43.87	54.00	-10.13	32.57	7.97	35.09	38.42	Average	256	100	VERTICAL
4	p	15904.00	56.54	74.00	-17.46	45.23	7.98	35.09	38.42	Peak	256	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10633.76	51.84	74.00	-22.16	41.86	6.59	35.08	38.47	Peak	145	100	HORIZONTAL
2		10635.84	39.04	54.00	-14.96	29.06	6.59	35.08	38.47	Average	145	100	HORIZONTAL
3	a	15957.52	43.46	54.00	-10.54	32.21	8.00	35.16	38.41	Average	255	100	HORIZONTAL
4	p	15958.88	56.10	74.00	-17.90	44.85	8.00	35.16	38.41	Peak	255	100	HORIZONTAL

Vertical

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10638.24	39.07	54.00	-14.93	29.09	6.59	35.08	38.47	Average	164	100	VERTICAL
2		10639.28	51.20	74.00	-22.80	41.22	6.59	35.08	38.47	Peak	164	100	VERTICAL
3	p	15953.92	56.48	74.00	-17.52	45.21	8.00	35.14	38.41	Peak	283	100	VERTICAL
4	a	15954.48	43.63	54.00	-10.37	32.36	8.00	35.14	38.41	Average	283	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch100 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	10990.64	51.43	74.00	-22.57	41.38	6.46	34.81	38.40	Peak	156	100	HORIZONTAL
2 a	10990.76	39.00	54.00	-15.00	28.95	6.46	34.81	38.40	Average	156	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11000.04	51.31	74.00	-22.69	41.26	6.46	34.81	38.40	Peak	232	100	VERTICAL
2 a	11001.48	39.58	54.00	-14.42	29.53	6.46	34.81	38.40	Average	232	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch116 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	p 11159.40	51.74	74.00	-22.26	41.56	6.56	34.81	38.43	Peak	256	100	HORIZONTAL
2	a 11161.24	39.93	54.00	-14.07	29.75	6.56	34.81	38.43	Average	256	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 11162.96	43.17	54.00	-10.83	32.99	6.56	34.81	38.43	Average	166	100	VERTICAL
2	p 11164.56	56.80	74.00	-17.20	46.62	6.56	34.81	38.43	Peak	166	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 a	11395.88	39.67	54.00	-14.33	29.32	6.69	34.82	38.48	Average	201	100	HORIZONTAL
2 p	11407.20	51.76	74.00	-22.24	41.41	6.69	34.82	38.48	Peak	201	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11404.20	52.12	74.00	-21.88	41.77	6.69	34.82	38.48	Peak	89	100	VERTICAL
2 a	11408.08	39.61	54.00	-14.39	29.26	6.69	34.82	38.48	Average	89	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch54 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15810.00	55.82	74.00	-18.18	44.46	7.95	35.03	38.44	Peak	252	100	HORIZONTAL
2 a	15816.40	42.78	54.00	-11.22	31.43	7.95	35.03	38.43	Average	252	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15805.96	55.29	74.00	-18.71	43.93	7.95	35.03	38.44	Peak	168	100	VERTICAL
2 a	15807.80	42.80	54.00	-11.20	31.44	7.95	35.03	38.44	Average	168	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch62 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10615.72	38.91	54.00	-15.09	28.93	6.60	35.10	38.48	Average	186	100	HORIZONTAL
2		10621.36	51.09	74.00	-22.91	41.11	6.60	35.10	38.48	Peak	186	100	HORIZONTAL
3	a	15925.40	43.30	54.00	-10.70	32.02	7.99	35.12	38.41	Average	319	100	HORIZONTAL
4	p	15926.24	55.36	74.00	-18.64	44.08	7.99	35.12	38.41	Peak	319	100	HORIZONTAL

Vertical

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10610.96	51.47	74.00	-22.53	41.49	6.60	35.10	38.48	Peak	101	100	VERTICAL
2		10611.76	38.98	54.00	-15.02	29.00	6.60	35.10	38.48	Average	101	100	VERTICAL
3	a	15920.60	43.12	54.00	-10.88	31.84	7.99	35.12	38.41	Average	216	100	VERTICAL
4	p	15929.44	55.92	74.00	-18.08	44.64	7.99	35.12	38.41	Peak	216	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch102 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11020.80	52.23	74.00	-21.77	42.17	6.47	34.81	38.40	Peak	241	100	HORIZONTAL
2 a	11029.12	38.71	54.00	-15.29	28.63	6.48	34.81	38.41	Average	241	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11025.80	51.03	74.00	-22.97	40.95	6.48	34.81	38.41	Peak	172	100	VERTICAL
2 a	11028.16	38.84	54.00	-15.16	28.76	6.48	34.81	38.41	Average	172	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch110 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11097.52	51.67	74.00	-22.33	41.54	6.52	34.81	38.42	Peak	228	100	HORIZONTAL
2 a	11099.24	39.23	54.00	-14.77	29.10	6.52	34.81	38.42	Average	228	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11094.76	53.06	74.00	-20.94	42.93	6.52	34.81	38.42	Peak	24	100	VERTICAL
2 a	11097.52	40.54	54.00	-13.46	30.41	6.52	34.81	38.42	Average	24	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch134 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 11330.48	39.49	54.00	-14.51	29.19	6.65	34.82	38.47	Average	290	100	HORIZONTAL
2	p 11336.16	52.43	74.00	-21.57	42.13	6.65	34.82	38.47	Peak	290	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	p 11335.68	52.68	74.00	-21.32	42.38	6.65	34.82	38.47	Peak	189	100	VERTICAL
2	a 11341.28	40.02	54.00	-13.98	29.72	6.65	34.82	38.47	Average	189	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 80MHz Ch58 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15877.04	55.83	74.00	-18.17	44.51	7.97	35.07	38.42	Peak	127	100	HORIZONTAL
2 a	15879.32	43.42	54.00	-10.58	32.12	7.97	35.09	38.42	Average	127	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15862.68	56.60	74.00	-17.40	45.28	7.96	35.07	38.43	Peak	238	100	VERTICAL
2 a	15868.44	43.36	54.00	-10.64	32.04	7.97	35.07	38.42	Average	238	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 80MHz Ch106 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11056.64	52.02	74.00	-21.98	41.92	6.50	34.81	38.41	Peak	138	100	HORIZONTAL
2 a	11065.24	39.01	54.00	-14.99	28.91	6.50	34.81	38.41	Average	138	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 a	11061.08	39.18	54.00	-14.82	29.08	6.50	34.81	38.41	Average	226	100	VERTICAL
2 p	11067.64	51.25	74.00	-22.75	41.15	6.50	34.81	38.41	Peak	226	100	VERTICAL

Note:

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

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15782.12	56.73	74.00	-17.27	45.36	7.94	35.01	38.44	Peak	250	100	HORIZONTAL
2 a	15783.88	43.32	54.00	-10.68	31.95	7.94	35.01	38.44	Average	250	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	15782.20	56.56	74.00	-17.44	45.19	7.94	35.01	38.44	Peak	323	100	VERTICAL
2 a	15783.36	43.04	54.00	-10.96	31.67	7.94	35.01	38.44	Average	323	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 60 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10601.20	50.47	74.00	-23.53	40.49	6.60	35.10	38.48	Peak	185	100	HORIZONTAL
2		10601.20	39.39	54.00	-14.61	29.41	6.60	35.10	38.48	Average	185	100	HORIZONTAL
3	p	15902.76	57.54	74.00	-16.46	46.23	7.98	35.09	38.42	Peak	311	100	HORIZONTAL
4	a	15902.88	44.66	54.00	-9.34	33.35	7.98	35.09	38.42	Average	311	100	HORIZONTAL

Vertical

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10601.58	39.90	54.00	-14.10	29.92	6.60	35.10	38.48	Average	266	100	VERTICAL
2		10602.94	53.73	74.00	-20.27	43.75	6.60	35.10	38.48	Peak	266	100	VERTICAL
3	a	15898.78	44.33	54.00	-9.67	33.03	7.97	35.09	38.42	Average	148	100	VERTICAL
4	p	15902.04	57.48	74.00	-16.52	46.17	7.98	35.09	38.42	Peak	148	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 64 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10637.90	39.35	54.00	-14.65	29.37	6.59	35.08	38.47	Average	285	100	HORIZONTAL
2		10641.26	51.95	74.00	-22.05	41.97	6.59	35.08	38.47	Peak	285	100	HORIZONTAL
3	p	15960.74	56.24	74.00	-17.76	44.99	8.00	35.16	38.41	Peak	339	100	HORIZONTAL
4	a	15962.86	44.05	54.00	-9.95	32.80	8.00	35.16	38.41	Average	339	100	HORIZONTAL

Vertical

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10639.48	39.62	54.00	-14.38	29.64	6.59	35.08	38.47	Average	153	100	VERTICAL
2		10642.40	52.60	74.00	-21.40	42.62	6.59	35.08	38.47	Peak	153	100	VERTICAL
3	p	15956.04	57.19	74.00	-16.81	45.94	8.00	35.16	38.41	Peak	223	100	VERTICAL
4	a	15957.84	43.99	54.00	-10.01	32.74	8.00	35.16	38.41	Average	223	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 10996.40	39.16	54.00	-14.84	29.11	6.46	34.81	38.40	Average	293	100	HORIZONTAL
2	p 10997.84	52.70	74.00	-21.30	42.65	6.46	34.81	38.40	Peak	293	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	p 10999.80	51.52	74.00	-22.48	41.47	6.46	34.81	38.40	Peak	204	100	VERTICAL
2	a 11000.12	39.17	54.00	-14.83	29.12	6.46	34.81	38.40	Average	204	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 116 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11158.20	51.45	74.00	-22.55	41.27	6.56	34.81	38.43	Peak	156	100	HORIZONTAL
2 a	11163.28	39.44	54.00	-14.56	29.26	6.56	34.81	38.43	Average	156	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11155.52	53.91	74.00	-20.09	43.74	6.55	34.81	38.43	Peak	192	100	VERTICAL
2 a	11161.24	41.51	54.00	-12.49	31.33	6.56	34.81	38.43	Average	192	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 140 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11400.84	52.46	74.00	-21.54	42.11	6.69	34.82	38.48	Peak	132	100	HORIZONTAL
2 a	11406.76	40.00	54.00	-14.00	29.65	6.69	34.82	38.48	Average	132	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 a	11400.68	40.52	54.00	-13.48	30.17	6.69	34.82	38.48	Average	214	100	VERTICAL
2 p	11405.80	52.50	74.00	-21.50	42.15	6.69	34.82	38.48	Peak	214	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 15776.04	45.90	54.00	-8.10	34.52	7.93	34.99	38.44	Average	299	100	HORIZONTAL
2	p 15776.92	60.52	74.00	-13.48	49.14	7.93	34.99	38.44	Peak	299	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 15776.04	44.93	54.00	-9.07	33.55	7.93	34.99	38.44	Average	0	100	VERTICAL
2	p 15786.48	57.16	74.00	-16.84	45.79	7.94	35.01	38.44	Peak	0	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 60 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10601.60	39.08	54.00	-14.92	29.10	6.60	35.10	38.48	Average	166	100	HORIZONTAL
2	10606.64	51.95	74.00	-22.05	41.97	6.60	35.10	38.48	Peak	166	100	HORIZONTAL
3 a	15905.64	44.06	54.00	-9.94	32.78	7.98	35.12	38.42	Average	258	100	HORIZONTAL
4 p	15907.08	56.48	74.00	-17.52	45.20	7.98	35.12	38.42	Peak	258	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	10601.04	52.75	74.00	-21.25	42.77	6.60	35.10	38.48	Peak	360	100	VERTICAL
2	10601.72	40.13	54.00	-13.87	30.15	6.60	35.10	38.48	Average	360	100	VERTICAL
3 a	15894.56	44.03	54.00	-9.97	32.73	7.97	35.09	38.42	Average	200	100	VERTICAL
4 p	15899.12	56.16	74.00	-17.84	44.86	7.97	35.09	38.42	Peak	200	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10635.68	38.97	54.00	-15.03	28.99	6.59	35.08	38.47	Average	165	100	HORIZONTAL
2		10645.72	51.39	74.00	-22.61	41.41	6.59	35.08	38.47	Peak	165	100	HORIZONTAL
3	p	15954.80	56.24	74.00	-17.76	44.97	8.00	35.14	38.41	Peak	253	100	HORIZONTAL
4	a	15958.88	43.32	54.00	-10.68	32.07	8.00	35.16	38.41	Average	253	100	HORIZONTAL

Vertical

		Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1		10630.36	52.37	74.00	-21.63	42.37	6.60	35.08	38.48	Peak	96	100	VERTICAL
2		10636.72	39.16	54.00	-14.84	29.18	6.59	35.08	38.47	Average	96	100	VERTICAL
3	p	15951.36	56.62	74.00	-17.38	45.36	7.99	35.14	38.41	Peak	287	100	VERTICAL
4	a	15955.72	43.37	54.00	-10.63	32.10	8.00	35.14	38.41	Average	287	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	10994.80	51.30	74.00	-22.70	41.25	6.46	34.81	38.40	Peak	263	100	HORIZONTAL
2 a	10999.88	38.94	54.00	-15.06	28.89	6.46	34.81	38.40	Average	263	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 a	10997.44	39.37	54.00	-14.63	29.32	6.46	34.81	38.40	Average	120	100	VERTICAL
2 p	10997.96	52.60	74.00	-21.40	42.55	6.46	34.81	38.40	Peak	120	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 116 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 11159.00	40.11	54.00	-13.89	29.93	6.56	34.81	38.43	Average	59	100	HORIZONTAL
2	p 11159.48	52.67	74.00	-21.33	42.49	6.56	34.81	38.43	Peak	59	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	a 11162.00	43.31	54.00	-10.69	33.13	6.56	34.81	38.43	Average	167	100	VERTICAL
2	p 11162.68	57.25	74.00	-16.75	47.07	6.56	34.81	38.43	Peak	167	100	VERTICAL

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 p	11396.24	52.60	74.00	-21.40	42.25	6.69	34.82	38.48	Peak	256	100	HORIZONTAL
2 a	11397.84	39.59	54.00	-14.41	29.24	6.69	34.82	38.48	Average	256	100	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1 a	11406.40	40.17	54.00	-13.83	29.82	6.69	34.82	38.48	Average	158	100	VERTICAL
2 p	11407.96	52.55	74.00	-21.45	42.20	6.69	34.82	38.48	Peak	158	100	VERTICAL

Note:

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

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

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

4.7. Band Edge Emissions Measurement

4.7.1. Limit

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

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

4.7.2. Measuring Instruments and Setting

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

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

4.7.3. Test Procedures

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

4.7.4. Test Setup Layout

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

4.7.5. Test Deviation

There is no deviation with the original standard.

4.7.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.7.7. Test Result of Band Edge and Fundamental Emissions

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch 52, 60, 64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 52

	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	5150.00	50.08	54.00	-3.92	12.98	3.43	33.67	0.00	Average	123	72	HORIZONTAL
2	5150.00	62.06	74.00	-11.94	24.96	3.43	33.67	0.00	Peak	123	72	HORIZONTAL
3	5258.20	112.32			75.01	3.46	33.85	0.00	Average	123	72	HORIZONTAL
4	5258.80	122.64			85.33	3.46	33.85	0.00	Peak	123	72	HORIZONTAL
5	5350.00	50.91	54.00	-3.09	13.39	3.49	34.03	0.00	Average	123	72	HORIZONTAL
6	5357.20	64.93	74.00	-9.07	27.41	3.49	34.03	0.00	Peak	123	72	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5306.80	120.53			83.11	3.48	33.94	0.00	Peak	110	66	HORIZONTAL
2	5307.20	110.07			72.65	3.48	33.94	0.00	Average	110	66	HORIZONTAL
3	5350.00	53.68	54.00	-0.32	16.16	3.49	34.03	0.00	Average	110	66	HORIZONTAL
4	5350.00	72.35	74.00	-1.65	34.83	3.49	34.03	0.00	Peak	110	66	HORIZONTAL

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5312.60	106.37			68.95	3.48	33.94	0.00	Average	185	308	HORIZONTAL
2	5325.40	117.44			79.98	3.49	33.97	0.00	Peak	185	308	HORIZONTAL
3	5350.00	50.48	54.00	-3.52	12.96	3.49	34.03	0.00	Average	185	308	HORIZONTAL
4	5350.20	73.97	74.00	-0.03	36.45	3.49	34.03	0.00	Peak	185	308	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch 100, 140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5453.20	68.57	74.00	-5.43	30.86	3.52	34.19	0.00	Peak	115	321	HORIZONTAL
2	5456.40	44.84	54.00	-9.16	7.13	3.52	34.19	0.00	Average	115	321	HORIZONTAL
3	5469.40	73.72	74.00	-0.28	35.99	3.52	34.21	0.00	Peak	115	321	HORIZONTAL
4	5470.00	49.49	54.00	-4.51	11.76	3.52	34.21	0.00	Average	115	321	HORIZONTAL
5	5493.00	104.65			66.89	3.53	34.23	0.00	Average	115	321	HORIZONTAL
6	5493.20	116.14			78.38	3.53	34.23	0.00	Peak	115	321	HORIZONTAL

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5705.60	117.50			79.56	3.60	34.34	0.00	Peak	108	303	HORIZONTAL
2	5706.60	106.11			68.17	3.60	34.34	0.00	Average	108	303	HORIZONTAL
3	5725.00	50.43	54.00	-3.57	12.49	3.60	34.34	0.00	Average	108	303	HORIZONTAL
4	5725.60	73.10	74.00	-0.90	35.16	3.60	34.34	0.00	Peak	108	303	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch 54, 62 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 54

	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	5258.80	104.79			67.48	3.46	33.85	0.00	Average	122	75	HORIZONTAL
2	5258.80	116.17			78.86	3.46	33.85	0.00	Peak	122	75	HORIZONTAL
3	5350.00	53.85	54.00	-0.15	16.33	3.49	34.03	0.00	Average	122	75	HORIZONTAL
4	5350.80	72.01	74.00	-1.99	34.49	3.49	34.03	0.00	Peak	122	75	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5294.00	110.07			72.69	3.47	33.91	0.00	Peak	191	303	HORIZONTAL
2	5311.60	99.53			62.11	3.48	33.94	0.00	Average	191	303	HORIZONTAL
3	5350.00	53.53	54.00	-0.47	16.01	3.49	34.03	0.00	Average	191	303	HORIZONTAL
4	5350.00	70.24	74.00	-3.76	32.72	3.49	34.03	0.00	Peak	191	303	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch 102, 110, 134 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	46.38	54.00	-7.62	8.67	3.52	34.19	0.00	Average	114	287	HORIZONTAL
2	5460.00	60.12	74.00	-13.88	22.41	3.52	34.19	0.00	Peak	114	287	HORIZONTAL
3	5470.00	53.78	54.00	-0.22	16.05	3.52	34.21	0.00	Average	114	287	HORIZONTAL
4	5470.00	72.80	74.00	-1.20	35.07	3.52	34.21	0.00	Peak	114	287	HORIZONTAL
5	5508.80	112.02			74.23	3.54	34.25	0.00	Peak	114	287	HORIZONTAL
6	5511.60	100.97			63.18	3.54	34.25	0.00	Average	114	287	HORIZONTAL

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

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.40	70.38	74.00	-3.62	32.67	3.52	34.19	0.00	Peak	122	287	HORIZONTAL
2	5460.00	51.24	54.00	-2.76	13.53	3.52	34.19	0.00	Average	122	287	HORIZONTAL
3	5469.20	70.41	74.00	-3.59	32.68	3.52	34.21	0.00	Peak	122	287	HORIZONTAL
4	5469.60	53.86	54.00	-0.14	16.13	3.52	34.21	0.00	Average	122	287	HORIZONTAL
5	5548.80	106.61			68.77	3.55	34.29	0.00	Average	122	287	HORIZONTAL
6	5548.80	118.16			80.32	3.55	34.29	0.00	Peak	122	287	HORIZONTAL

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

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5658.40	104.51			66.59	3.59	34.33	0.00	Average	115	281	HORIZONTAL
2	5678.80	116.22			78.30	3.59	34.33	0.00	Peak	115	281	HORIZONTAL
3	5728.20	49.84	54.00	-4.16	11.90	3.60	34.34	0.00	Average	115	281	HORIZONTAL
4	5728.20	73.73	74.00	-0.27	35.79	3.60	34.34	0.00	Peak	115	281	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 80MHz Ch 58, 106 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5292.00	106.71			69.33	3.47	33.91	0.00	Peak	194	303	HORIZONTAL
2	5293.00	95.00			57.62	3.47	33.91	0.00	Average	194	303	HORIZONTAL
3	5352.00	53.62	54.00	-0.38	16.10	3.49	34.03	0.00	Average	194	303	HORIZONTAL
4	5353.00	69.56	74.00	-4.44	32.04	3.49	34.03	0.00	Peak	194	303	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5290 MHz.

Channel 106

	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	5452.00	50.12	54.00	-3.88	12.41	3.52	34.19	0.00	Average	122	291	HORIZONTAL
2	5453.00	64.52	74.00	-9.48	26.81	3.52	34.19	0.00	Peak	122	291	HORIZONTAL
3	5470.00	53.50	54.00	-0.50	15.77	3.52	34.21	0.00	Average	122	291	HORIZONTAL
4	5470.00	73.47	74.00	-0.53	35.74	3.52	34.21	0.00	Peak	122	291	HORIZONTAL
5	5550.00	96.32			58.48	3.55	34.29	0.00	Average	122	291	HORIZONTAL
6	5550.00	108.69			70.85	3.55	34.29	0.00	Peak	122	291	HORIZONTAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Note:

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52, 60, 64 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 52

	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	5253.20	109.16			71.85	3.46	33.85	0.00	Average	112	301	HORIZONTAL
2	5258.00	119.84			82.53	3.46	33.85	0.00	Peak	112	301	HORIZONTAL
3	5350.80	49.43	54.00	-4.57	11.91	3.49	34.03	0.00	Average	112	301	HORIZONTAL
4	5351.60	62.00	74.00	-12.00	24.48	3.49	34.03	0.00	Peak	112	301	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5305.60	120.63			83.21	3.48	33.94	0.00	Peak	123	298	HORIZONTAL
2	5306.00	109.24			71.82	3.48	33.94	0.00	Average	123	298	HORIZONTAL
3	5350.40	52.93	54.00	-1.07	15.41	3.49	34.03	0.00	Average	123	298	HORIZONTAL
4	5352.00	73.34	74.00	-0.66	35.82	3.49	34.03	0.00	Peak	123	298	HORIZONTAL

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5325.60	115.98			78.52	3.49	33.97	0.00	Peak	108	307	HORIZONTAL
2	5327.20	105.01			67.55	3.49	33.97	0.00	Average	108	307	HORIZONTAL
3	5350.00	51.13	54.00	-2.87	13.61	3.49	34.03	0.00	Average	108	307	HORIZONTAL
4	5351.80	73.46	74.00	-0.54	35.94	3.49	34.03	0.00	Peak	108	307	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100, 140 / Chain 4
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	49.18	54.00	-4.82	11.47	3.52	34.19	0.00	Average	109	291	HORIZONTAL
2	5460.00	67.20	74.00	-6.80	29.49	3.52	34.19	0.00	Peak	109	291	HORIZONTAL
3	5468.80	73.85	74.00	-0.15	36.12	3.52	34.21	0.00	Peak	109	291	HORIZONTAL
4	5470.00	52.62	54.00	-1.38	14.89	3.52	34.21	0.00	Average	109	291	HORIZONTAL
5	5494.80	105.45			67.69	3.53	34.23	0.00	Average	109	291	HORIZONTAL
6	5505.20	115.97			78.18	3.54	34.25	0.00	Peak	109	291	HORIZONTAL

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5705.80	115.06			77.12	3.60	34.34	0.00	Peak	115	286	HORIZONTAL
2	5706.40	104.15			66.21	3.60	34.34	0.00	Average	115	286	HORIZONTAL
3	5725.00	49.89	54.00	-4.11	11.95	3.60	34.34	0.00	Average	115	286	HORIZONTAL
4	5725.40	73.73	74.00	-0.27	35.79	3.60	34.34	0.00	Peak	115	286	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52, 60, 64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 52

	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	5150.00	49.72	54.00	-4.28	12.62	3.43	33.67	0.00	Average	111	67	HORIZONTAL
2	5150.00	60.55	74.00	-13.45	23.45	3.43	33.67	0.00	Peak	111	67	HORIZONTAL
3	5258.80	112.70			75.39	3.46	33.85	0.00	Average	111	67	HORIZONTAL
4	5258.80	123.22			85.91	3.46	33.85	0.00	Peak	111	67	HORIZONTAL
5	5350.00	50.66	54.00	-3.34	13.14	3.49	34.03	0.00	Average	111	67	HORIZONTAL
6	5350.00	65.90	74.00	-8.10	28.38	3.49	34.03	0.00	Peak	111	67	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5301.60	111.35			73.93	3.48	33.94	0.00	Average	121	77	HORIZONTAL
2	5302.00	122.35			84.93	3.48	33.94	0.00	Peak	121	77	HORIZONTAL
3	5351.60	53.58	54.00	-0.42	16.06	3.49	34.03	0.00	Average	121	77	HORIZONTAL
4	5351.60	73.59	74.00	-0.41	36.07	3.49	34.03	0.00	Peak	121	77	HORIZONTAL

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5319.40	106.35			68.90	3.48	33.97	0.00	Average	116	302	HORIZONTAL
2	5319.40	116.42			78.97	3.48	33.97	0.00	Peak	116	302	HORIZONTAL
3	5350.00	73.48	74.00	-0.52	35.96	3.49	34.03	0.00	Peak	116	302	HORIZONTAL
4	5350.40	49.68	54.00	-4.32	12.16	3.49	34.03	0.00	Average	116	302	HORIZONTAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100, 140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 26, 2013	Test Mode	Mode 1 (EUT 1)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5459.00	65.72	74.00	-8.28	28.01	3.52	34.19	0.00	Peak	100	305	HORIZONTAL
2	5459.60	45.78	54.00	-8.22	8.07	3.52	34.19	0.00	Average	100	305	HORIZONTAL
3	5469.80	50.09	54.00	-3.91	12.36	3.52	34.21	0.00	Average	100	305	HORIZONTAL
4	5469.80	73.91	74.00	-0.09	36.18	3.52	34.21	0.00	Peak	100	305	HORIZONTAL
5	5499.20	107.31			69.55	3.53	34.23	0.00	Average	100	305	HORIZONTAL
6	5499.40	117.89			80.13	3.53	34.23	0.00	Peak	100	305	HORIZONTAL

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5695.20	117.09			79.16	3.59	34.34	0.00	Peak	106	307	HORIZONTAL
2	5695.40	105.73			67.80	3.59	34.34	0.00	Average	106	307	HORIZONTAL
3	5725.00	48.75	54.00	-5.25	10.81	3.60	34.34	0.00	Average	106	307	HORIZONTAL
4	5725.60	73.25	74.00	-0.75	35.31	3.60	34.34	0.00	Peak	106	307	HORIZONTAL

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

Note:

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch 52, 60, 64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 52

	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	5150.00	45.97	54.00	-8.03	8.87	3.43	33.67	0.00	Average	100	16	VERTICAL
2	5150.00	57.27	74.00	-16.73	20.17	3.43	33.67	0.00	Peak	100	16	VERTICAL
3	5267.69	114.55			77.21	3.46	33.88	0.00	Average	100	16	VERTICAL
4	5268.17	123.94			86.60	3.46	33.88	0.00	Peak	100	16	VERTICAL
5	5350.00	46.82	54.00	-7.18	9.30	3.49	34.03	0.00	Average	100	16	VERTICAL
6	5351.92	61.91	74.00	-12.09	24.39	3.49	34.03	0.00	Peak	100	16	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5292.63	112.96			75.58	3.47	33.91	0.00	Average	100	24	VERTICAL
2	5293.27	122.35			84.97	3.47	33.91	0.00	Peak	100	24	VERTICAL
3	5350.64	53.05	54.00	-0.95	15.53	3.49	34.03	0.00	Average	100	24	VERTICAL
4	5352.89	71.45	74.00	-2.55	33.93	3.49	34.03	0.00	Peak	100	24	VERTICAL

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5312.47	107.27			69.85	3.48	33.94	0.00	Average	100	31	VERTICAL
2	5325.45	118.90			81.44	3.49	33.97	0.00	Peak	100	31	VERTICAL
3	5350.00	51.05	54.00	-2.95	13.53	3.49	34.03	0.00	Average	100	31	VERTICAL
4	5351.44	73.45	74.00	-0.55	35.93	3.49	34.03	0.00	Peak	100	31	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 20MHz Ch 100, 140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5459.68	62.94	74.00	-11.06	25.21	3.52	34.21	0.00	Peak	100	215	VERTICAL
2	5460.00	45.97	54.00	-8.03	8.24	3.52	34.21	0.00	Average	100	215	VERTICAL
3	5467.12	73.17	74.00	-0.83	35.41	3.52	34.24	0.00	Peak	100	215	VERTICAL
4	5468.72	49.39	54.00	-4.61	11.63	3.52	34.24	0.00	Average	100	215	VERTICAL
5	5504.33	118.79			80.97	3.54	34.28	0.00	Peak	100	215	VERTICAL
6	5504.65	107.78			69.96	3.54	34.28	0.00	Average	100	215	VERTICAL

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5693.91	117.02			79.09	3.59	34.34	0.00	Peak	100	310	VERTICAL
2	5694.55	106.47			68.54	3.59	34.34	0.00	Average	100	310	VERTICAL
3	5725.00	50.32	54.00	-3.68	12.38	3.60	34.34	0.00	Average	100	310	VERTICAL
4	5725.80	73.82	74.00	-0.18	35.88	3.60	34.34	0.00	Peak	100	310	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch 54, 62 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 54

	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	5268.40	107.93			70.59	3.46	33.88	0.00	Average	100	24	VERTICAL
2	5268.72	119.43			82.09	3.46	33.88	0.00	Peak	100	24	VERTICAL
3	5350.00	53.87	54.00	-0.13	16.35	3.49	34.03	0.00	Average	100	24	VERTICAL
4	5350.32	71.70	74.00	-2.30	34.18	3.49	34.03	0.00	Peak	100	24	VERTICAL

Item 1, 2 are the fundamental frequency at 5270 MHz.

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5307.76	112.64			75.22	3.48	33.94	0.00	Peak	100	337	VERTICAL
2	5308.08	100.33			62.91	3.48	33.94	0.00	Average	100	337	VERTICAL
3	5350.00	53.62	54.00	-0.38	16.10	3.49	34.03	0.00	Average	100	337	VERTICAL
4	5350.32	68.27	74.00	-5.73	30.75	3.49	34.03	0.00	Peak	100	337	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 40MHz Ch 102, 110, 134 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	48.89	54.00	-5.11	11.16	3.52	34.21	0.00	Average	100	203	VERTICAL
2	5460.00	63.36	74.00	-10.64	25.63	3.52	34.21	0.00	Peak	100	203	VERTICAL
3	5470.00	53.47	54.00	-0.53	15.71	3.52	34.24	0.00	Average	100	203	VERTICAL
4	5470.00	71.60	74.00	-2.40	33.84	3.52	34.24	0.00	Peak	100	203	VERTICAL
5	5511.28	113.64			75.82	3.54	34.28	0.00	Peak	100	203	VERTICAL
6	5511.60	102.05			64.23	3.54	34.28	0.00	Average	100	203	VERTICAL

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

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5450.00	46.98	54.00	-7.02	9.28	3.52	34.18	0.00	Average	100	178	VERTICAL
2	5451.92	64.34	74.00	-9.66	26.61	3.52	34.21	0.00	Peak	100	178	VERTICAL
3	5469.36	72.55	74.00	-1.45	34.79	3.52	34.24	0.00	Peak	100	178	VERTICAL
4	5470.00	53.08	54.00	-0.92	15.32	3.52	34.24	0.00	Average	100	178	VERTICAL
5	5551.60	106.79			68.93	3.55	34.31	0.00	Average	100	178	VERTICAL
6	5551.60	117.89			80.03	3.55	34.31	0.00	Peak	100	178	VERTICAL

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

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5668.72	114.02			76.10	3.59	34.33	0.00	Peak	100	314	VERTICAL
2	5671.28	101.91			63.99	3.59	34.33	0.00	Average	100	314	VERTICAL
3	5728.21	49.73	54.00	-4.27	11.79	3.60	34.34	0.00	Average	100	314	VERTICAL
4	5728.85	73.81	74.00	-0.19	35.87	3.60	34.34	0.00	Peak	100	314	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11ac MCS0, Nss1 80MHz Ch 58, 106 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 58

	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	5269.17	95.07			57.73	3.46	33.88	0.00	Average	100	25	VERTICAL
2	5320.45	108.09			70.64	3.48	33.97	0.00	Peak	100	25	VERTICAL
3	5350.00	53.60	54.00	-0.40	16.08	3.49	34.03	0.00	Average	100	25	VERTICAL
4	5350.00	68.48	74.00	-5.52	30.96	3.49	34.03	0.00	Peak	100	25	VERTICAL

Item 1, 2 are the fundamental frequency at 5290 MHz.

Channel 106

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.40	65.15	74.00	-8.85	27.42	3.52	34.21	0.00	Peak	100	170	VERTICAL
2	5460.00	51.33	54.00	-2.67	13.60	3.52	34.21	0.00	Average	100	170	VERTICAL
3	5463.59	53.20	54.00	-0.80	15.47	3.52	34.21	0.00	Average	100	170	VERTICAL
4	5465.99	72.82	74.00	-1.18	35.09	3.52	34.21	0.00	Peak	100	170	VERTICAL
5	5505.16	96.67			58.85	3.54	34.28	0.00	Average	100	170	VERTICAL
6	5505.16	109.96			72.14	3.54	34.28	0.00	Peak	100	170	VERTICAL

Item 5, 6 are the fundamental frequency at 5530 MHz.

Note:

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

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52, 60, 64 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 52

	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	5134.14	58.35	74.00	-15.65	21.28	3.43	33.64	0.00	Peak	101	253	VERTICAL
2	5137.02	46.31	54.00	-7.69	9.24	3.43	33.64	0.00	Average	101	253	VERTICAL
3	5258.08	110.32			73.01	3.46	33.85	0.00	Average	101	253	VERTICAL
4	5259.04	121.59			84.28	3.46	33.85	0.00	Peak	101	253	VERTICAL
5	5355.77	61.31	74.00	-12.69	23.79	3.49	34.03	0.00	Peak	101	253	VERTICAL
6	5363.94	47.80	54.00	-6.20	10.28	3.49	34.03	0.00	Average	101	253	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5296.15	107.72			70.34	3.47	33.91	0.00	Average	101	245	VERTICAL
2	5301.92	118.44			81.02	3.48	33.94	0.00	Peak	101	245	VERTICAL
3	5350.00	53.86	54.00	-0.14	16.34	3.49	34.03	0.00	Average	101	245	VERTICAL
4	5350.96	71.96	74.00	-2.04	34.44	3.49	34.03	0.00	Peak	101	245	VERTICAL

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5315.35	105.72			68.27	3.48	33.97	0.00	Average	100	252	VERTICAL
2	5315.35	115.80			78.35	3.48	33.97	0.00	Peak	100	252	VERTICAL
3	5350.00	53.59	54.00	-0.41	16.07	3.49	34.03	0.00	Average	100	252	VERTICAL
4	5350.00	72.96	74.00	-1.04	35.44	3.49	34.03	0.00	Peak	100	252	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100, 140 / Chain 4
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5458.88	69.94	74.00	-4.06	32.21	3.52	34.21	0.00	Peak	103	234	VERTICAL
2	5460.00	49.21	54.00	-4.79	11.48	3.52	34.21	0.00	Average	103	234	VERTICAL
3	5469.84	73.23	74.00	-0.77	35.47	3.52	34.24	0.00	Peak	103	234	VERTICAL
4	5470.00	52.86	54.00	-1.14	15.10	3.52	34.24	0.00	Average	103	234	VERTICAL
5	5504.97	115.44			77.62	3.54	34.28	0.00	Peak	103	234	VERTICAL
6	5505.93	105.18			67.36	3.54	34.28	0.00	Average	103	234	VERTICAL

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5692.79	100.75			62.82	3.59	34.34	0.00	Average	100	246	VERTICAL
2	5694.39	111.07			73.14	3.59	34.34	0.00	Peak	100	246	VERTICAL
3	5725.00	47.23	54.00	-6.77	9.29	3.60	34.34	0.00	Average	100	246	VERTICAL
4	5725.00	73.16	74.00	-0.84	35.22	3.60	34.34	0.00	Peak	100	246	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 52, 60, 64 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 52

	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	5150.00	48.24	54.00	-5.76	11.14	3.43	33.67	0.00	Average	100	339	VERTICAL
2	5150.00	61.76	74.00	-12.24	24.66	3.43	33.67	0.00	Peak	100	339	VERTICAL
3	5260.96	115.09			77.78	3.46	33.85	0.00	Average	100	339	VERTICAL
4	5260.96	124.73			87.42	3.46	33.85	0.00	Peak	100	339	VERTICAL
5	5350.00	48.43	54.00	-5.57	10.91	3.49	34.03	0.00	Average	100	339	VERTICAL
6	5350.48	62.29	74.00	-11.71	24.77	3.49	34.03	0.00	Peak	100	339	VERTICAL

Item 3, 4 are the fundamental frequency at 5260 MHz.

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5300.64	123.32			85.90	3.48	33.94	0.00	Peak	100	24	VERTICAL
2	5300.96	113.98			76.56	3.48	33.94	0.00	Average	100	24	VERTICAL
3	5351.28	53.70	54.00	-0.30	16.18	3.49	34.03	0.00	Average	100	24	VERTICAL
4	5351.92	71.46	74.00	-2.54	33.94	3.49	34.03	0.00	Peak	100	24	VERTICAL

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5313.27	108.40			70.98	3.48	33.94	0.00	Average	100	26	VERTICAL
2	5313.43	119.27			81.85	3.48	33.94	0.00	Peak	100	26	VERTICAL
3	5350.00	52.16	54.00	-1.84	14.64	3.49	34.03	0.00	Average	100	26	VERTICAL
4	5350.00	73.29	74.00	-0.71	35.77	3.49	34.03	0.00	Peak	100	26	VERTICAL

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

Temperature	24℃	Humidity	58%
Test Engineer	Wen Chao	Configurations	IEEE 802.11a Ch 100, 140 / Chain 4+ Chain 5+ Chain 6
Test Date	Jun. 27, 2013	Test Mode	Mode 3 (EUT 2)

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5460.00	48.00	54.00	-6.00	10.27	3.52	34.21	0.00	Average	100	214	VERTICAL
2	5460.00	67.91	74.00	-6.09	30.18	3.52	34.21	0.00	Peak	100	214	VERTICAL
3	5469.84	73.50	74.00	-0.50	35.74	3.52	34.24	0.00	Peak	100	214	VERTICAL
4	5470.00	50.93	54.00	-3.07	13.17	3.52	34.24	0.00	Average	100	214	VERTICAL
5	5500.48	108.79			71.00	3.53	34.26	0.00	Average	100	214	VERTICAL
6	5500.80	119.89			82.09	3.54	34.26	0.00	Peak	100	214	VERTICAL

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5695.03	106.57			68.64	3.59	34.34	0.00	Average	100	309	VERTICAL
2	5695.51	118.10			80.17	3.59	34.34	0.00	Peak	100	309	VERTICAL
3	5725.00	50.20	54.00	-3.80	12.26	3.60	34.34	0.00	Average	100	309	VERTICAL
4	5725.00	73.35	74.00	-0.65	35.41	3.60	34.34	0.00	Peak	100	309	VERTICAL

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

Note:

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

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

4.8. Frequency Stability Measurement

4.8.1. Limit

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

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

4.8.2. Measuring Instruments and Setting

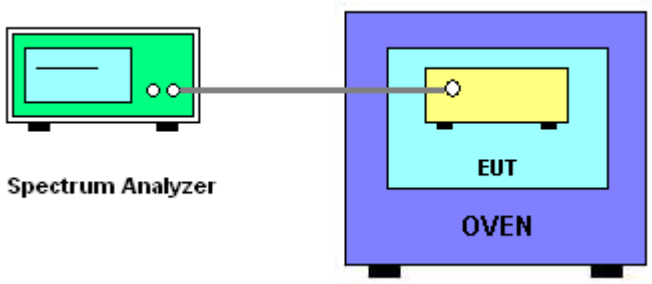
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.8.3. Test Procedures

2. The transmitter output (antenna port) was connected to the spectrum analyzer.
3. EUT have transmitted absence of modulation signal and fixed channelize.
4. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
5. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
6. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10^6 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
7. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
8. Extreme temperature: Mode 1 (EUT 1) is 0°C~40°C, Mode 3 (EUT 2) is 0°C~55°C.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

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

4.8.7. Test Result of Frequency Stability

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Test Date	Jul. 28, 2013
Test Mode	Mode 1 (EUT 1)		

Voltage vs. Frequency Stability / Chain 4

Voltage	Measurement Frequency (MHz)	
(V)	5300	5500
126.50	5300.0316	5500.0317
110.00	5300.0318	5500.0318
93.50	5300.0320	5500.0316
Max. Deviation (MHz)	0.032000	0.031800
Max. Deviation (ppm)	6.04	5.78

Temperature vs. Frequency Stability / Chain 4

Temperature	Measurement Frequency (MHz)	
(℃)	5300	5500
0	5300.0321	5500.0321
10	5300.0319	5500.0319
20	5300.0318	5500.0318
30	5300.0317	5500.0316
40	5300.0314	5500.0314
Max. Deviation (MHz)	0.032700	0.032500
Max. Deviation (ppm)	6.1698	5.91

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Test Date	Jul. 28, 2013
Test Mode	Mode 1 (EUT 1)		

Voltage vs. Frequency Stability / Chain 4+ Chain 5+ Chain 6

Voltage	Measurement Frequency (MHz)	
(V)	5300	5500
126.50	5300.0036	5500.0036
110.00	5300.0075	5500.0075
93.50	5300.0014	5500.0014
Max. Deviation (MHz)	0.007500	0.007500
Max. Deviation (ppm)	1.42	1.36

Temperature vs. Frequency Stability / Chain 4+ Chain 5+ Chain 6

Temperature	Measurement Frequency (MHz)	
(℃)	5300	5500
0	5300.0018	5500.0018
10	5300.0035	5500.0035
20	5300.0026	5500.0026
30	5300.0036	5500.0036
40	5300.0045	5500.0045
Max. Deviation (MHz)	0.004500	0.004500
Max. Deviation (ppm)	0.8491	0.82

Temperature	25℃	Humidity	56%
Test Engineer	Benson Peng	Test Date	Jul. 26, 2013
Test Mode	Mode 3 (EUT 2)		

Voltage vs. Frequency Stability / Chain 4

Voltage	Measurement Frequency (MHz)	
(V)	5300	5500
126.50	5300.0062	5500.0317
110.00	5300.0078	5500.0318
93.50	5300.0022	5500.0316
Max. Deviation (MHz)	0.007800	0.031800
Max. Deviation (ppm)	1.47	5.78

Temperature vs. Frequency Stability / Chain 4

Temperature	Measurement Frequency (MHz)	
(℃)	5300	5500
0	5300.0078	5500.0321
10	5300.0038	5500.0319
20	5300.0046	5500.0318
30	5300.0042	5500.0316
40	5300.0028	5500.0314
50	5300.0032	5500.0313
55	5300.0048	5500.0485
Max. Deviation (MHz)	0.0078	0.032500
Max. Deviation (ppm)	1.47	5.91

Temperature	25℃	Humidity	56%
Test Engineer	Denis Su	Test Date	Jul. 28, 2013
Test Mode	Mode 3 (EUT 2)		

Voltage vs. Frequency Stability / Chain 4+ Chain 5+ Chain 6

Voltage	Measurement Frequency (MHz)	
(V)	5300	5500
126.50	5300.0062	5500.0036
110.00	5300.0068	5500.0075
93.50	5300.0022	5500.0014
Max. Deviation (MHz)	0.006800	0.007500
Max. Deviation (ppm)	1.28	1.36

Temperature vs. Frequency Stability / Chain 4+ Chain 5+ Chain 6

Temperature	Measurement Frequency (MHz)	
(℃)	5300	5500
0	5300.0022	5500.0018
10	5300.0036	5500.0035
20	5300.0020	5500.0026
30	5300.0034	5500.0036
40	5300.0043	5500.0045
50	5300.0035	5500.0032
55	5300.0045	5500.0048
Max. Deviation (MHz)	0.004300	0.004500
Max. Deviation (ppm)	0.81	0.82

4.9. Antenna Requirements

4.9.1. Limit

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

4.9.2. Antenna Connector Construction

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

5. LIST OF MEASURING EQUIPMENTS

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

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

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

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

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

6. TEST LOCATION

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

7. MEASUREMENT UNCERTAINTY

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

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

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

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

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

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

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

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

Uncertainty of Conducted Emission Measurement

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

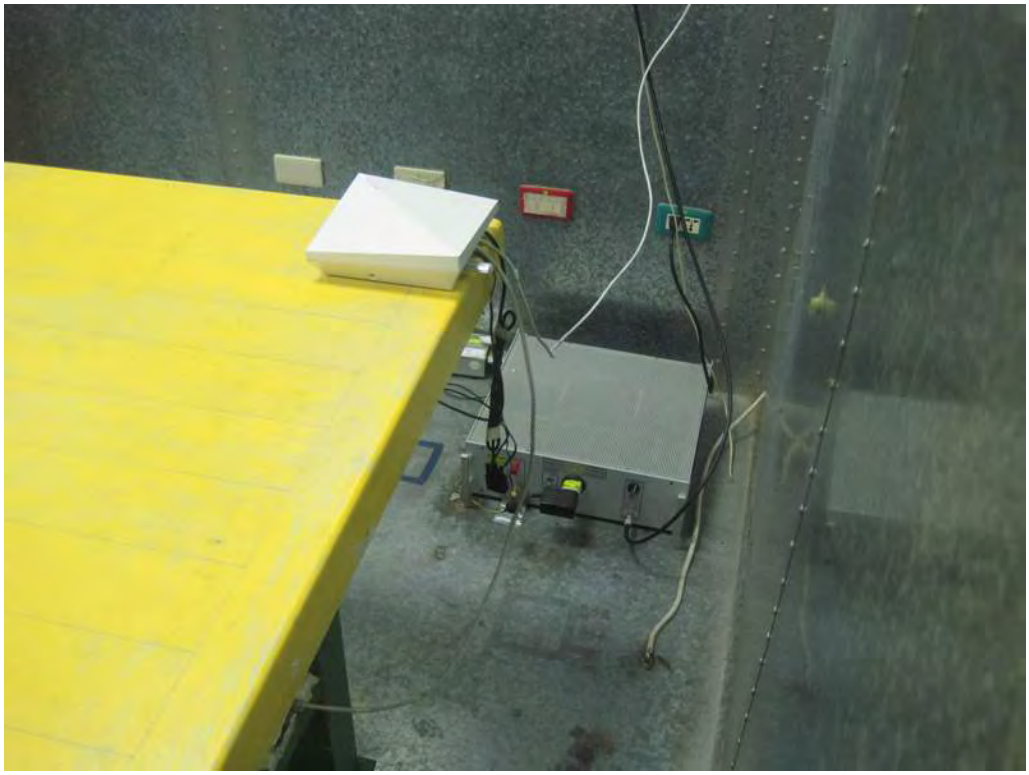
Appendix A. Test Photos

1. Photographs of Conducted Emissions Test Configuration

Test Mode: Mode 1

FRONT VIEW

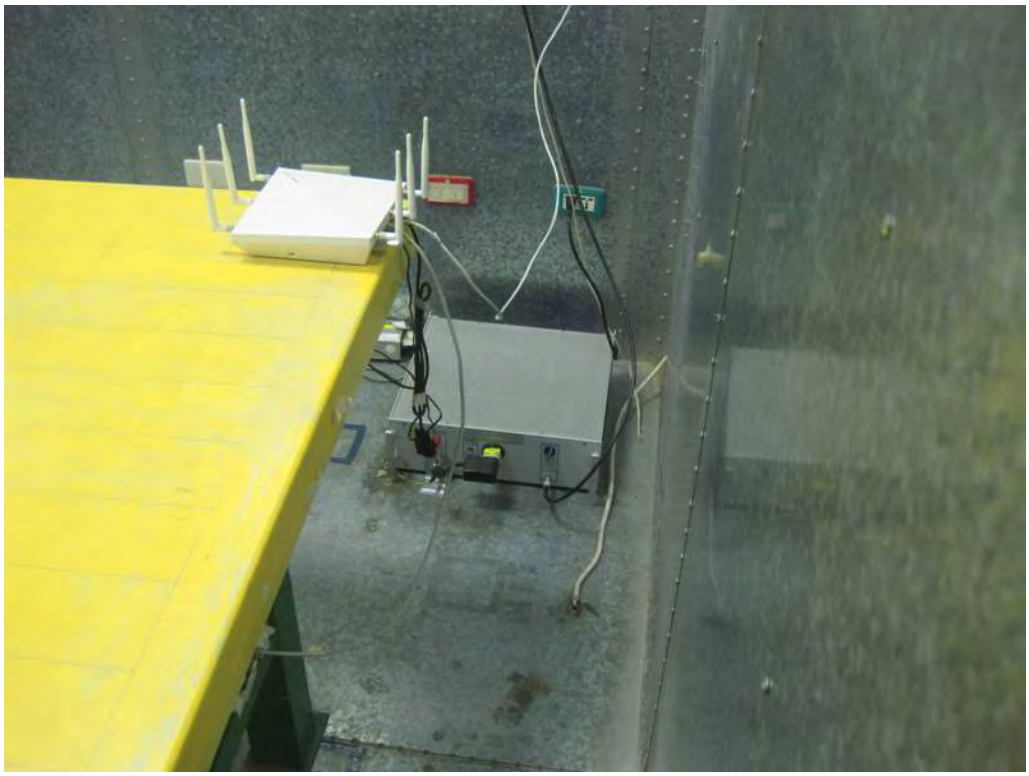
REAR VIEW



Test Mode: Mode 3

FRONT VIEW

REAR VIEW



2. Photographs of Radiated Emissions Test Configuration

Test Configuration: 9kHz ~30MHz

FRONT VIEW

REAR VIEW

Test Configuration: 30MHz~1GHz / Test Mode: Mode 3

FRONT VIEW

REAR VIEW

Test Mode: Mode 6

FRONT VIEW

REAR VIEW

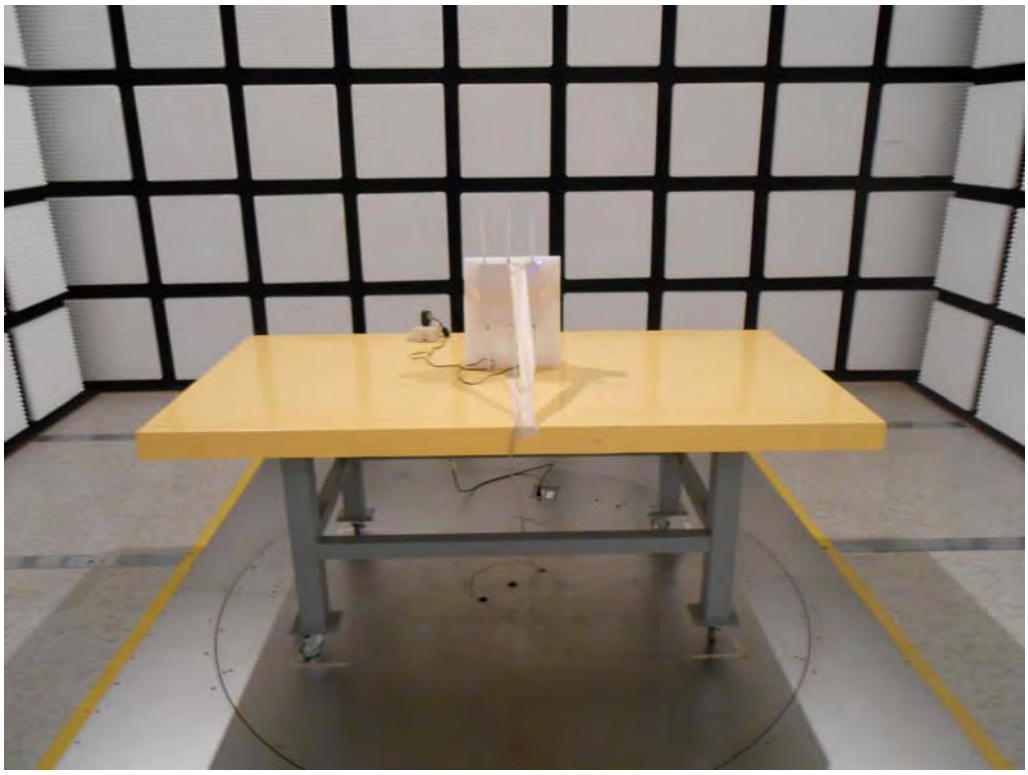
Test Configuration: Above 1GHz / Test Mode: Mode 1

FRONT VIEW

REAR VIEW

Test Mode: Mode 3

FRONT VIEW



REAR VIEW

Appendix B. Maximum Permissible Exposure

1. Maximum Permissible Exposure

1.1. Applicable Standard

Systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess limit for maximum permissible exposure. In accordance with 47 CFR FCC Part 2 Subpart J, section 2.1091 this device has been defined as a mobile device whereby a distance of 0.2 m normally can be maintained between the user and the device.

(A) Limits for Occupational / Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|², |H|² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842 / f	4.89 / f	(900 / f)*	6
30-300	61.4	0.163	1.0	6
300-1500			F/300	6
1500-100,000			5	6

(B) Limits for General Population / Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/ cm²)	Averaging Time |E|², |H|² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f)*	30
30-300	27.5	0.073	0.2	30
300-1500			F/1500	30
1500-100,000			1.0	30

Note: f = frequency in MHz ; *Plane-wave equivalent power density

1.2. MPE Calculation Method

E (V/m) = $\frac{\sqrt{30 \times P \times G}}{d}$ Power Density: *Pd* (W/m²) = $\frac{E^2}{377}$

E = Electric field (V/m)

P = Average RF output power (W)

G = EUT Antenna numeric gain (numeric)

d = Separation distance between radiator and human body (m)

The formula can be changed to

Pd = $\frac{30 \times P \times G}{377 \times d^2}$

From the EUT RF output power, the minimum mobile separation distance, d=0.2m, as well as the gain of the used antenna, the RF power density can be obtained.

1.3. Calculated Result and Limit

EUT 1 (Model No. AP370)

For 5GHz UNII Band:

Antenna Type : PIFA Antenna

Max Conducted Power for IEEE 802.11a / Chain 4 : 23.68dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
4.54	2.8445	23.6800	233.3458	0.132114	1	**Complies**

For 5GHz ISM Band:

Antenna Type : PIFA Antenna

Max Conducted Power for IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 : 28.86dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
4.54	2.8445	28.8565	768.5113	0.435112	1	**Complies**

For 2.4GHz Band:

Antenna Type : PIFA Antenna

Max Conducted Power for IEEE 802.11b / Chain 1+ Chain 2+ Chain 3 : 28.35dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
4.42	2.7669	28.3519	684.2161	0.376828	1	**Complies**

CONCULSION:

Both of the WLAN 2.4GHz Band and WLAN 5GHz Band can transmit simultaneously, the formula of calculatedthe MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ...etc. < 1

CPD = Calculation power density

LPD = Limit of power density

Therefore, the worst-case situation is 0.376828 / 1 + 0.435112 / 1 = 0.81194, which isless than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

For EUT 2 (Model No. AP390)

For 5GHz UNII Band:

Antenna Type : Dipole Antenna

Max Conducted Power for IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 : 23.89dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
3.30	2.1380	23.8900	244.9063	0.104220	1	**Complies**

For 5GHz ISM Band:

Antenna Type : Dipole Antenna

Max Conducted Power for IEEE 802.11a / Chain 4+ Chain 5+ Chain 6 : 28.86dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
3.30	2.1380	28.8638	769.8001	0.327588	1	**Complies**

For 2.4GHz Band:

Antenna Type : Dipole Antenna

Max Conducted Power for IEEE 802.11n MCS0 20MHz / Chain 1+ Chain 2+ Chain 3 : 26.25dBm

Antenna Gain (dBi)	Antenna Gain (numeric)	Average Output Power (dBm)	Average Output Power (mW)	Power Density (S) (mW/cm²)	Limit of Power Density (S) (mW/cm²)	Test Result
3.60	2.2909	26.2546	422.1440	0.192491	1	**Complies**

CONCULSION:

Both of the WLAN 2.4GHz Band and WLAN 5GHz Band can transmit simultaneously, the formula of calculatedthe MPE is:

CPD1 / LPD1 + CPD2 / LPD2 + ...etc. < 1

CPD = Calculation power density

LPD = Limit of power density

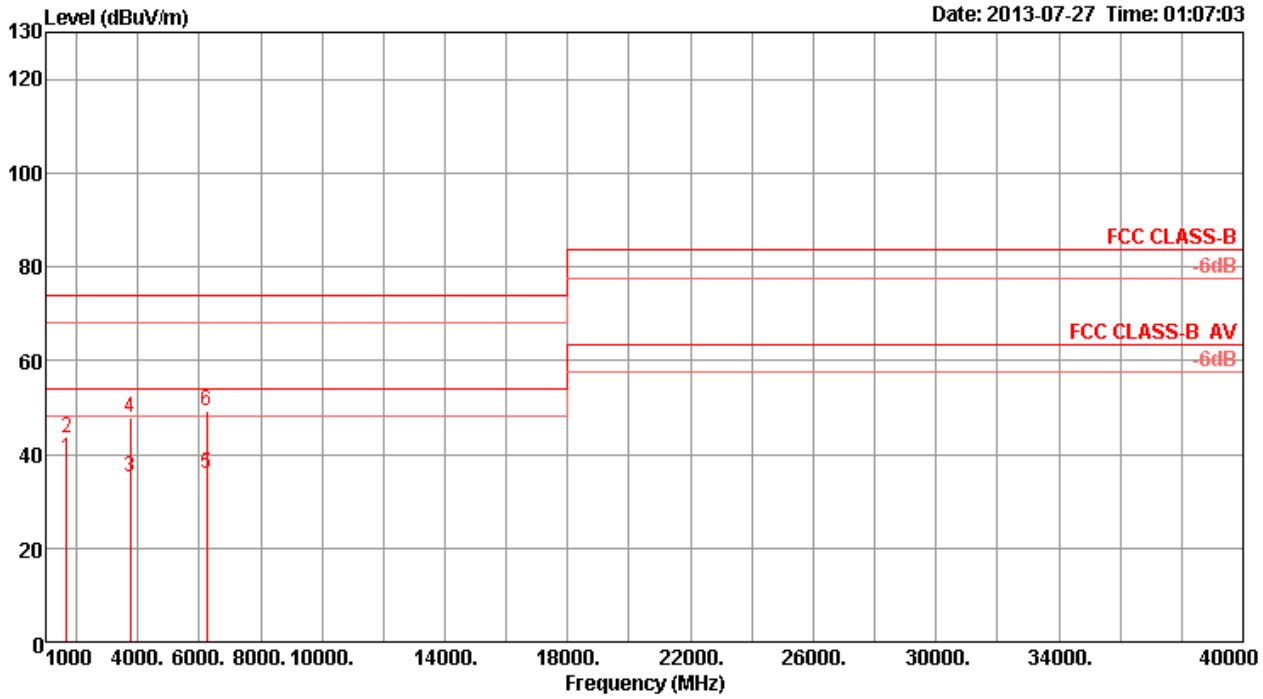
Therefore, the worst-case situation is 0.192491 / 1 + 0.327588 / 1 = 0.520079, which isless than “1”. This confirmed that the device comply with FCC 1.1310 MPE limit.

Appendix C. Co-location

1. Results of Radiated Emissions for Co-located

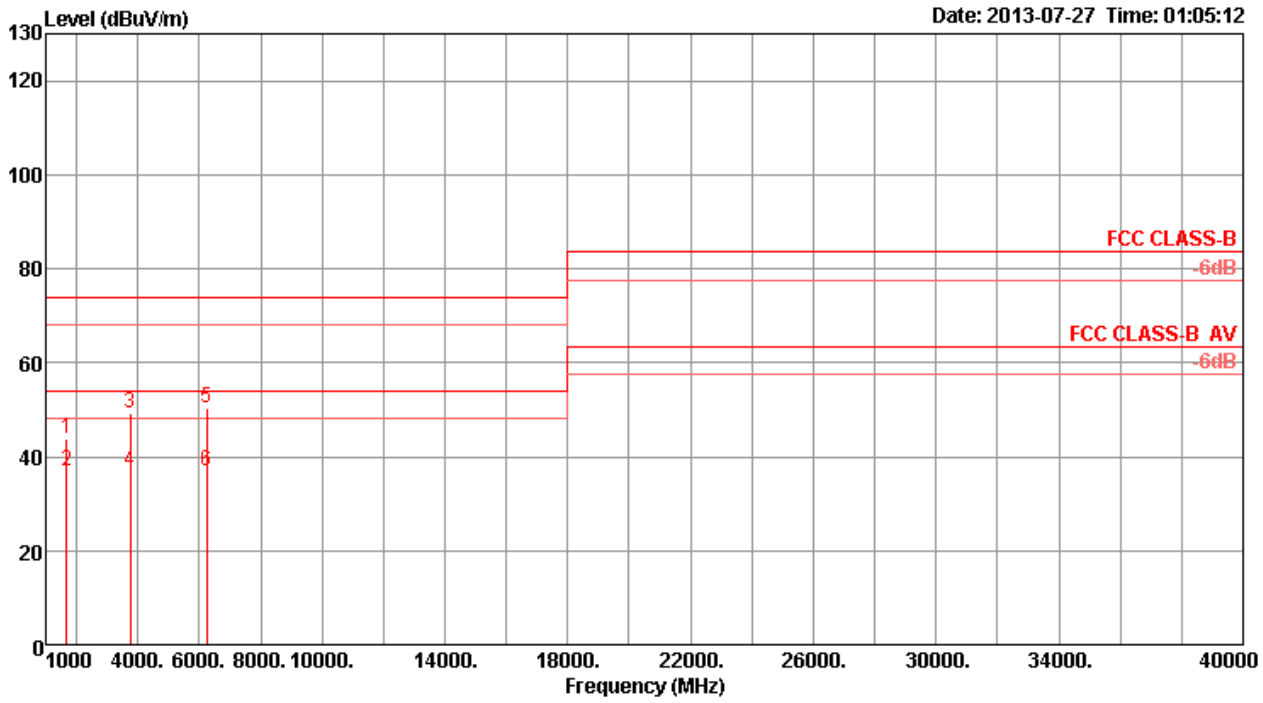
Temperature	24.5℃	Humidity	57%
Test Engineer	Serway Li	Configurations	Normal Link / 2.4G + 5G
Test Mode	Mode 1. EUT 1 put vertically+PoE		

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	1666.65	38.97	54.00	-15.03	44.43	3.37	26.07	34.90	Average	104	172	HORIZONTAL
2	1666.94	43.49	74.00	-30.51	48.95	3.37	26.07	34.90	Peak	104	172	HORIZONTAL
3	3749.90	35.04	54.00	-18.96	33.17	5.24	31.83	35.20	Average	101	235	HORIZONTAL
4	3750.06	47.88	74.00	-26.12	46.01	5.24	31.83	35.20	Peak	101	235	HORIZONTAL
5	6249.91	35.83	54.00	-18.17	29.39	6.64	35.05	35.25	Average	100	147	HORIZONTAL
6	6250.07	49.29	74.00	-24.71	42.85	6.64	35.05	35.25	Peak	100	147	HORIZONTAL

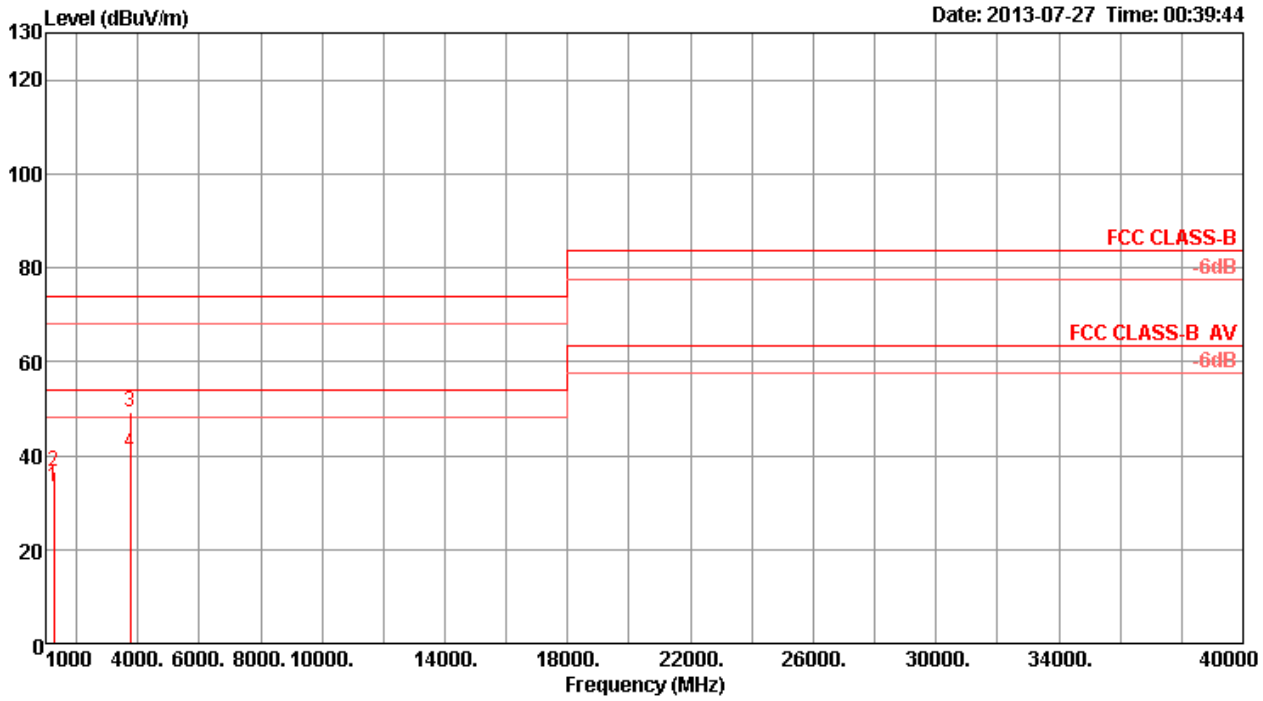
Vertial



	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	1666.66	43.93	74.00	-30.07	49.39	3.37	26.07	34.90	Peak	100	195	VERTICAL
2	1666.73	36.97	54.00	-17.03	42.43	3.37	26.07	34.90	Average	100	195	VERTICAL
3	3749.72	49.43	74.00	-24.57	47.56	5.24	31.83	35.20	Peak	119	169	VERTICAL
4	3749.96	36.79	54.00	-17.21	34.92	5.24	31.83	35.20	Average	119	169	VERTICAL
5	6249.65	50.33	74.00	-23.67	43.89	6.64	35.05	35.25	Peak	108	221	VERTICAL
6	6249.87	36.85	54.00	-17.15	30.41	6.64	35.05	35.25	Average	108	221	VERTICAL

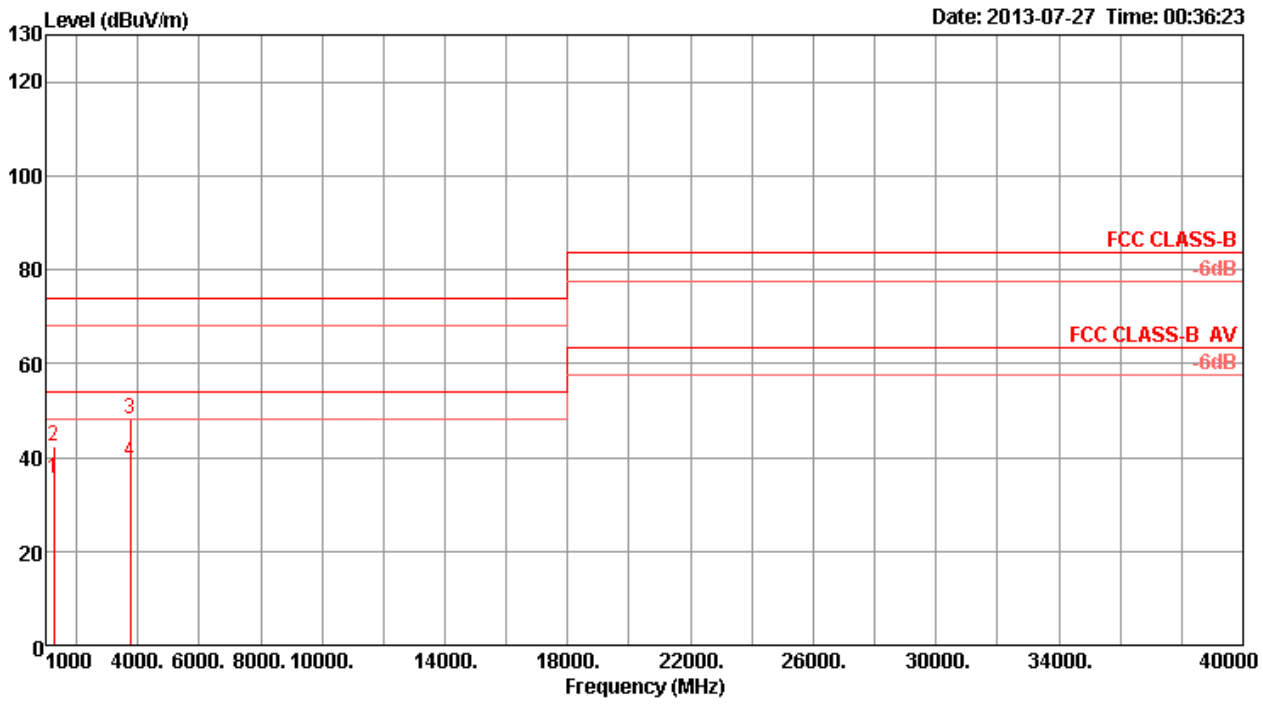
Temperature	24.5℃	Humidity	57%
Test Engineer	Serway Li	Configurations	Normal Link / 2.4G + 5G
Test Mode	Mode 2. EUT 2 put vertically+PoE		

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	1249.96	33.38	54.00	-20.62	40.28	2.88	24.80	34.58	Average	110	190	HORIZONTAL
2	1250.40	36.40	74.00	-37.60	43.30	2.88	24.80	34.58	Peak	110	190	HORIZONTAL
3	3749.72	49.14	74.00	-24.86	47.27	5.24	31.83	35.20	Peak	103	186	HORIZONTAL
4	3749.95	40.40	54.00	-13.60	38.53	5.24	31.83	35.20	Average	103	186	HORIZONTAL

Vertial



	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	1249.97	35.57	54.00	-18.43	42.47	2.88	24.80	34.58	Average	100	288	VERTICAL
2	1250.15	42.41	74.00	-31.59	49.31	2.88	24.80	34.58	Peak	100	288	VERTICAL
3	3749.90	48.15	74.00	-25.85	46.28	5.24	31.83	35.20	Peak	144	232	VERTICAL
4	3749.97	39.05	54.00	-14.95	37.18	5.24	31.83	35.20	Average	144	232	VERTICAL

Appendix D. 20dB Bandwidth Report

1. Results of Conducted Emissions for 20dB Bandwidth

20dB bandwidth of the adjacent channels to 5600~5650MHz. Please refer to as below:

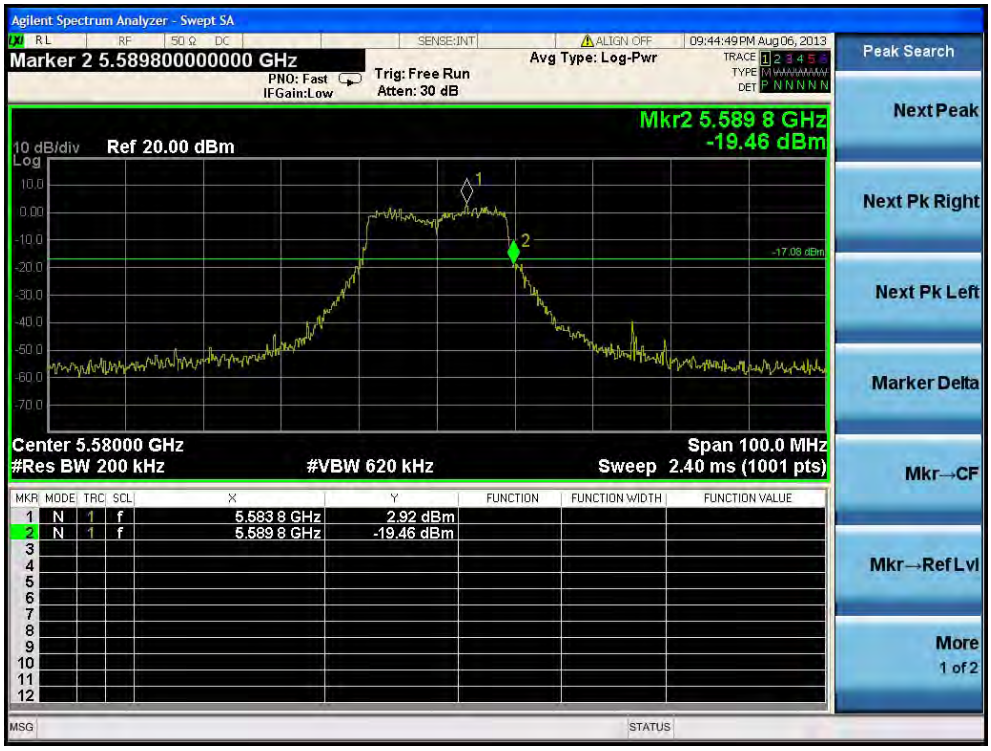
Temperature	25℃	Humidity	56%
Test Engineer	Satoshi Yang	Test Mode	Mode 1 (EUT 1)

Bandwidth	Frequency (MHz)	20dB Bandwidth Mark Frequency (MHz)	Limit (MHz)	Test Result
20MHz	5580	5589.8	FL < 5600	Complies
	5660	5650.4	FH > 5650	Complies
40MHz	5550	5569.0	FL < 5600	Complies
	5670	5650.8	FH > 5650	Complies
80MHz	5530	5570.0	FL < 5600	Complies

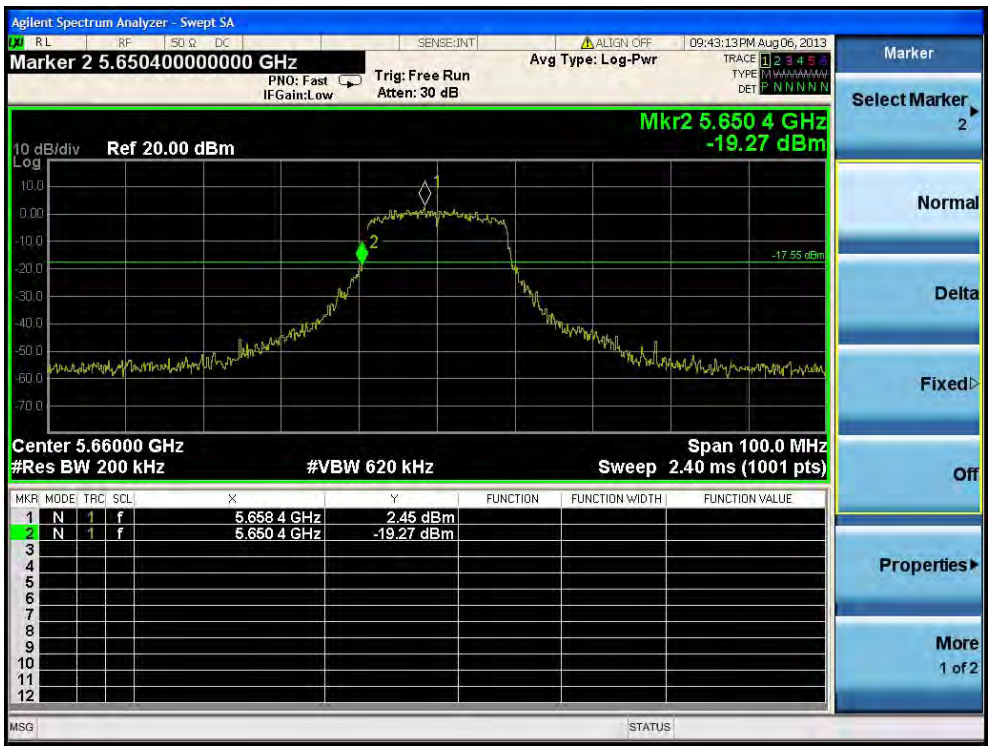
Temperature	25℃	Humidity	56%
Test Engineer	Satoshi Yang	Test Mode	Mode 2 (EUT 2)

Bandwidth	Frequency (MHz)	20dB Bandwidth Mark Frequency (MHz)	Limit (MHz)	Test Result
20MHz	5580	5590.4	FL < 5600	Complies
	5660	5650.4	FH > 5650	Complies
40MHz	5550	5570.0	FL < 5600	Complies
	5670	5650.2	FH > 5650	Complies
80MHz	5530	5570.6	FL < 5600	Complies

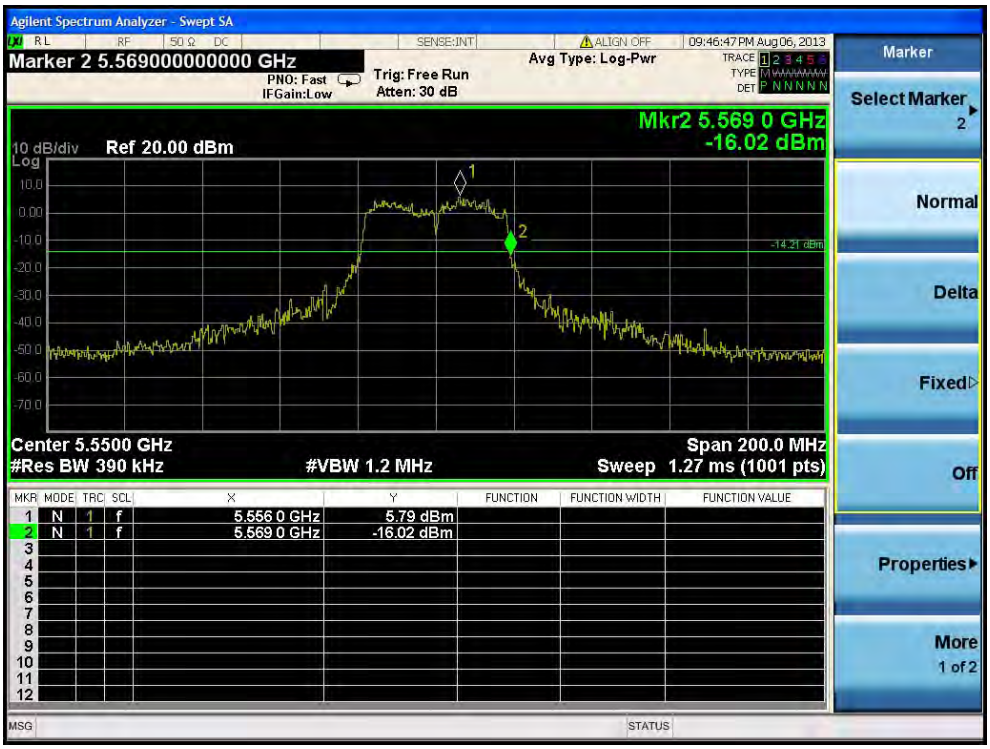
20dB Bandwidth Plot on Configuration IEEE 802.11n 20MHz / 5580 MHz / Mode 1 (EUT 1)



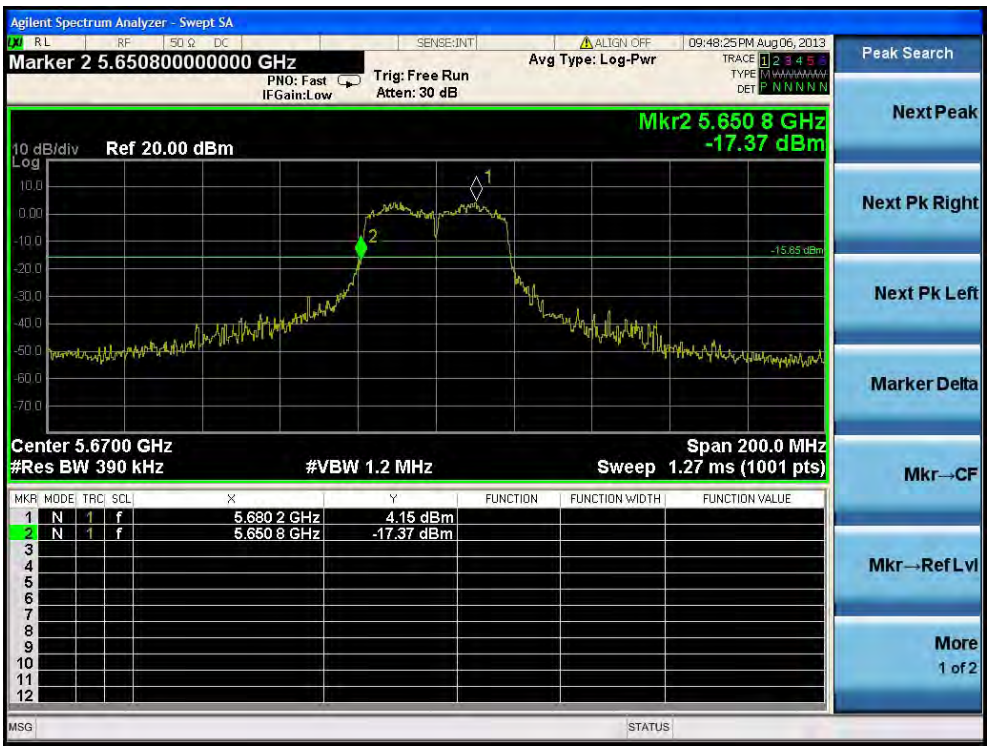
20dB Bandwidth Plot on Configuration IEEE 802.11n 20MHz / 5660 MHz / Mode 1 (EUT 1)



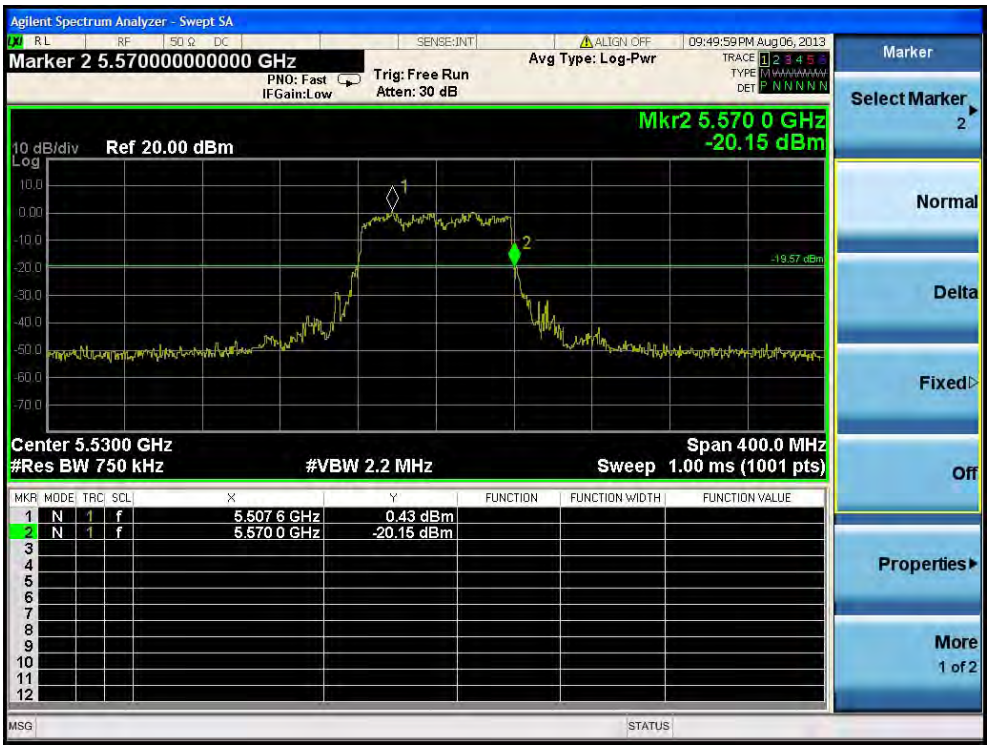
20dB Bandwidth Plot on Configuration IEEE 802.11n 40MHz / 5550 MHz / Mode 1 (EUT 1)



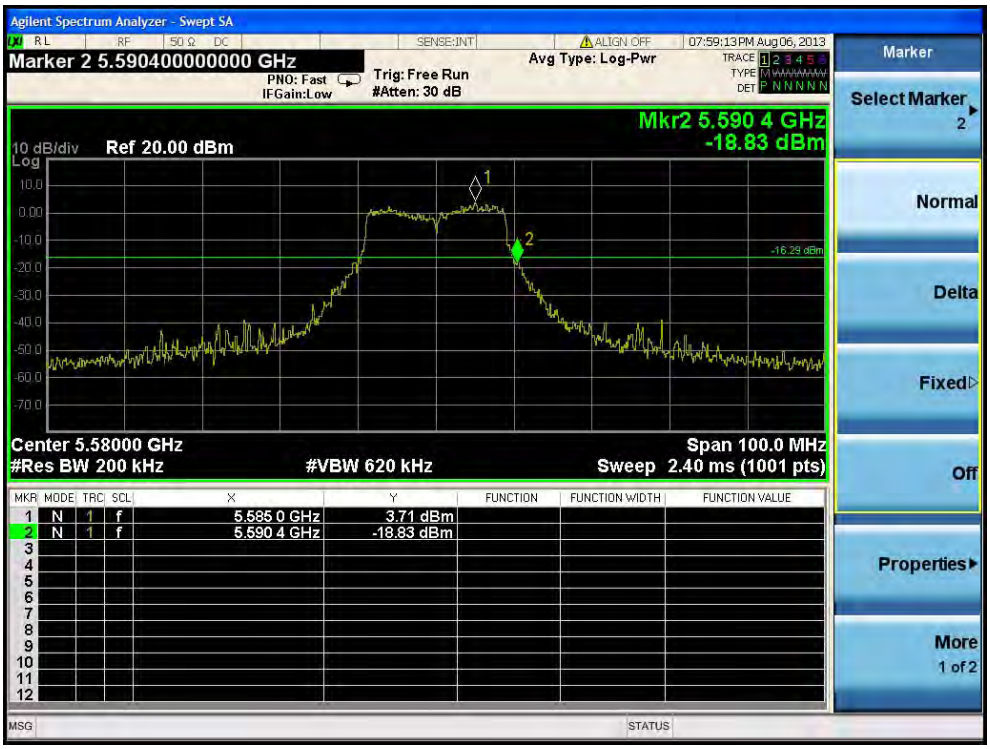
20dB Bandwidth Plot on Configuration IEEE 802.11n 40MHz / 5670 MHz / Mode 1 (EUT 1)



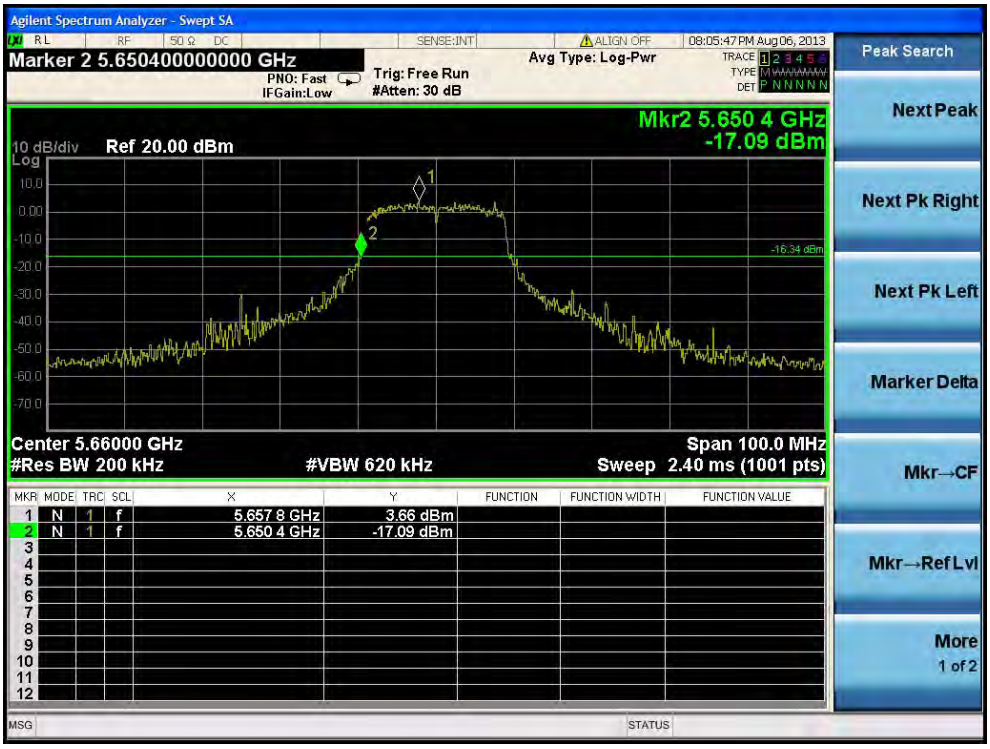
20dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz / 5530 MHz / Mode 1 (EUT 1)



20dB Bandwidth Plot on Configuration IEEE 802.11n 20MHz / 5580 MHz / Mode 2 (EUT 2)



20dB Bandwidth Plot on Configuration IEEE 802.11n 20MHz / 5660 MHz) / Mode 2 (EUT 2)



20dB Bandwidth Plot on Configuration IEEE 802.11n 40MHz / 5550 MHz / Mode 2 (EUT 2)

20dB Bandwidth Plot on Configuration IEEE 802.11n 40MHz / 5670 MHz / Mode 2 (EUT 2)

20dB Bandwidth Plot on Configuration IEEE 802.11ac 80MHz / 5530 MHz / Mode 2 (EUT 2)