SPORTON International Inc.
No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C.
Ph: 886-3-327-3456 / FAX: 886-3-327-0973 / www.sporton.com.tw

FCC RADIO TEST REPORT

Applicant's company	**Cambium Networks Inc.**
Applicant Address	3800 Golf Road, Suite 360 Rolling Meadows, IL 60008, USA
FCC ID	**Z8H89FT0018**
Manufacturer's company	**Joy Technology (Shen Zhen) Co. Ltd**
Manufacturer Address	Shangpai, Shangwu, Aiqun Rd., Heng Keng Industrial, Shiyan Town, Shenzhen Guangdong China

Product Name	cnPilot™ Indoor E400
Brand Name	Cambium Networks
Model No.	cnPilot Indoor E400
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Received Date	Jul. 07, 2015
Final Test Date	Oct. 16, 2015
Submission Type	Class III Change

Statement

Test result included is for the IEEE 802.11n and IEEE 802.11a/ac 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 C63.10-2013**, **47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01, KDB662911 D01 v02r01, KDB644545 D03 v01.**

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

Testing Laboratory
1190

Table of Contents

History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR570719-03	Rev. 01	Initial issue of report	Dec. 04, 2015

1. VERIFICATION OF COMPLIANCE

Product Name	:	cnPilot™ Indoor E400
Brand Name	:	Cambium Networks
Model No.	:	cnPilot Indoor E400
Applicant	:	Cambium 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 Jul. 07, 2015 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	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.2	15.407(a)	Maximum Conducted Output Power	Complies	0.05 dB
4.3	15.407(a)	Power Spectral Density	Complies	0.02 dB
4.4	15.407(b)	Radiated Emissions	Complies	1.40 dB
4.5	15.407(b)	Band Edge Emissions	Complies	0.05 dB
4.6	15.407(g)	Frequency Stability	Complies	-
4.7	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Product Type	IEEE 802.11a/n/ac: WLAN (2TX, 2RX)
Radio Type	Intentional Transceiver
Power Type	From PoE
Modulation	IEEE 802.11a: OFDM IEEE 802.11n/ac: see the below table
Data Modulation	IEEE 802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	IEEE 802.11a: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n/ac: see the below table
Frequency Range	5250 ~ 5350MHz / 5470 ~ 5725MHz
Channel Number	15 for 20MHz bandwidth ; 7 for 40MHz bandwidth 3 for 80MHz bandwidth
Channel Band Width (99%)	Band 2: IEEE 802.11a: 17.11 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.49 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 38.49 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.54 MHz Band 3: IEEE 802.11a: 17.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.67 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 39.07 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 77.86 MHz
Maximum Conducted Output Power	Band 2: IEEE 802.11a: 22.68 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 22.69 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.84 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 18.84 dBm Band 3: IEEE 802.11a: 22.98 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 22.86 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.95 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 21.24 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

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
Operating Mode	☐ Outdoor access point	
	☒ Indoor access point	
	☐ Fixed point-to-point access points	
	☐ Mobile and portable client devices	

Antenna and Band width

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

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	2	MCS 0-15
802.11n (HT40)	2	MCS 0-15
802.11ac (VHT20)	2	MCS 0-9/Nss1-2
802.11ac (VHT40)	2	MCS 0-9/Nss1-2
802.11ac (VHT80)	2	MCS 0-9/Nss1-2

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

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

Note 3: Modulation modes consist of below configuration:
HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

3.2. Accessories

Power	Brand	Model	Rating
PoE	ALFA	APoE48V-1G	Input: AC 100-240Vac, 50-60Hz, 0.55A Output: 48Vdc, 500mA +4,5pins, -7,8pins
Others			
Power Core*1: Non-shielded, 0.7m			
Wall-mounted rack*1			

3.3. Table for Filed Antenna

Ant.	Brand	P/N	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	LYNwave	ALA150-05102J-000000	Embedded Antenna	I-PEX	4.55	-
2	LYNwave	ALA150-05102K-000000	Embedded Antenna	I-PEX	4.50	-
3	LYNwave	ALA150-091025-000000	Embedded Antenna	I-PEX	-	4.14
4	LYNwave	ALA150-091026-000000	Embedded Antenna	I-PEX	-	4.25

Note: The EUT has four antennas.

<For 2.4GHz Band>

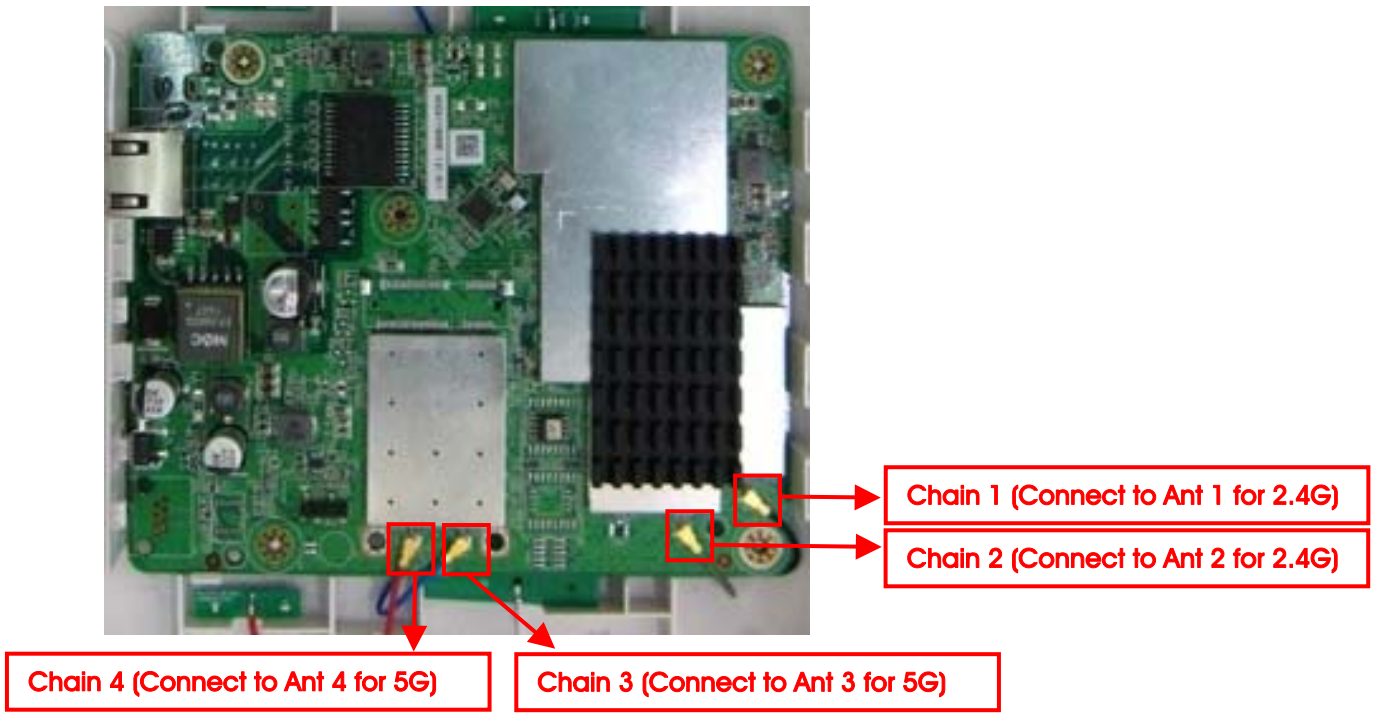
For IEEE 802.11b/g/n mode (2TX/2RX):

Both Chain 1 and Chain 2 could transmit/receive simultaneously.

<For 5GHz Band>

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

Both Chain 3 and Chain 4 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, 120, 124, 128, 132, 136, 140.

For 40MHz bandwidth systems, use Channel 54, 62, 102, 110, 118, 126, 134.

For 80MHz bandwidth systems, use Channel 58, 106, 122.

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	120	5600 MHz
	102	5510 MHz	122	5610 MHz
	104	5520 MHz	124	5620 MHz
	106	5530 MHz	126	5630 MHz
	108	5540 MHz	128	5640 MHz
	110	5550 MHz	132	5660 MHz
	112	5560 MHz	134	5670 MHz
	116	5580 MHz	136	5680 MHz
	118	5590 MHz	140	5700 MHz

3.5. Table for Test Modes

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

Test Items	Mode		Data Rate	Channel	Chain
Max. Conducted Output Power	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/ 116/140	3+4
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140	3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134	3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122	3+4
Power Spectral Density	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/ 116/140	3+4
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140	3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134	3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122	3+4
26dB Spectrum Bandwidth 99% Occupied Bandwidth Measurement	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/ 116/140	3+4
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140	3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134	3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122	3+4
Radiated Emission Above 1GHz	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/ 116/140	3+4
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140	3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134	3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122	3+4

Band Edge Emission	11a/BPSK	Band 2-3	6Mbps	52/60/64/100/ 116/140	3+4
	11ac VHT20	Band 2-3	MCS0/Nss1	52/60/64/100/ 116/140	3+4
	11ac VHT40	Band 2-3	MCS0/Nss1	54/62/102/110/134	3+4
	11ac VHT80	Band 2-3	MCS0/Nss1	58/106/122	3+4
Frequency Stability	20 MHz	Band 2-3	-	60/116	3
	40 MHz	Band 2-3	-	62/110	3
	80 MHz	Band 2-3	-	58/106	3

Note: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

The following test modes were performed for all tests:

For Radiated Emission test:

The EUT was performed at Z axis and Y axis position for Radiated emission test, and the worst case was found at Y axis. So the measurement will follow this same test configuration.

Mode 1. CTX in Y-axis

For Co-location MPE Test:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA570719-03) is added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.6. Table for Testing Locations

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

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

3.7. Table for Class III Change

This product is an extension of original one reported under Sporton project number: FR570719-01

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

Modifications	Performance Checking
Adding band 2 and band 3 (5250~5350 MHz, 5470~5725 MHz) for this device.	1. 26dB Spectrum Bandwidth. 2. 99% Occupied Bandwidth. 3. Maximum Conducted Output Power. 4. Power Spectral Density. 5. Radiated Emissions above 1GHz. 6. Band Edge Emissions. 7. Frequency Stability.

3.8. Table for Supporting Units

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC

For Test Site No: 03CH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC

3.9. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

Test Software Version	ART2-GUI Version2.3					
Mode	Test Frequency (MHz)					
	NCB: 20MHz					
	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz
802.11a	19	19	18.5	17	19	17
802.11ac MCS0/Nss1 VHT20	19	19	18.5	17.5	19	17
Mode	NCB: 40MHz					
802.11ac MCS0/Nss1 VHT40	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	
	21	17.5	15.5	20.5	18	
Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5290 MHz		5530 MHz		5610 MHz	
	16		12.5		18	

3.10. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

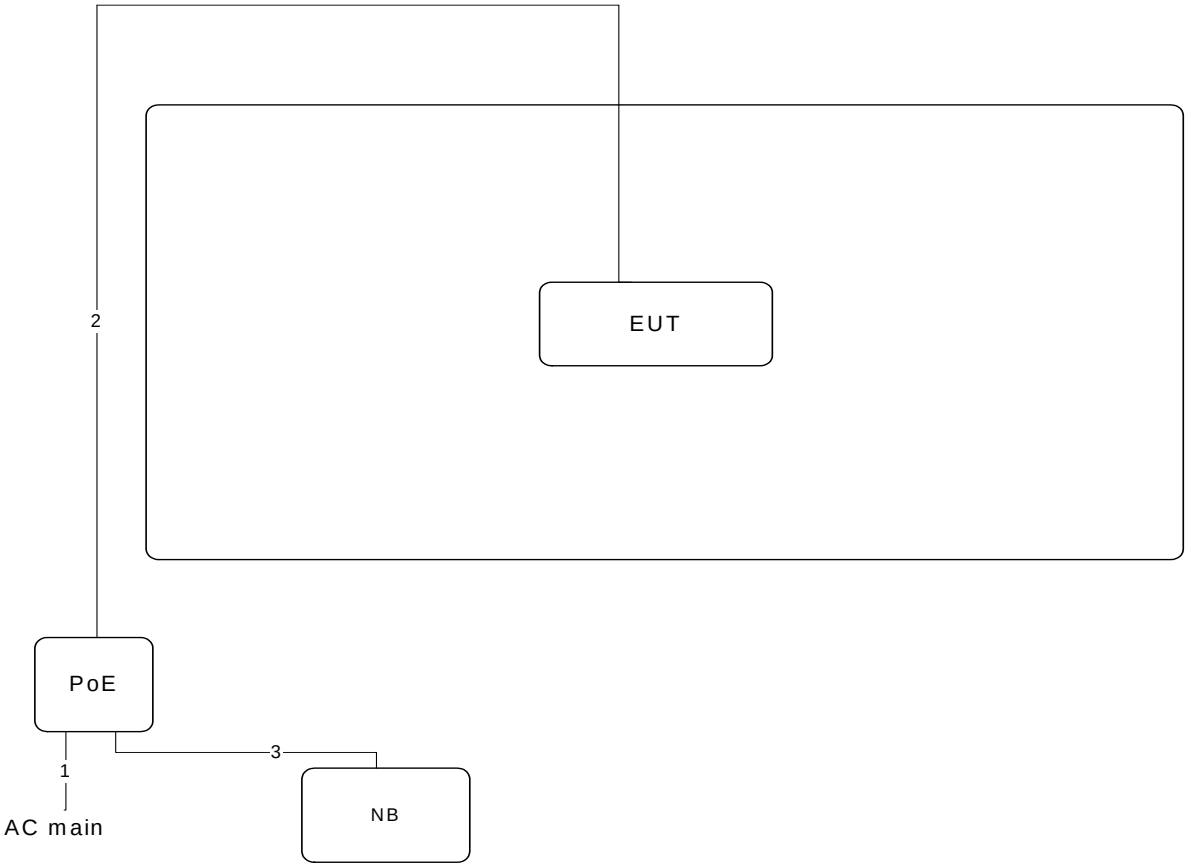
3.11. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.017	2.078	97.07	0.13	0.50
802.11ac MCS0/Nss1 VHT20	1.887	1.948	96.87	0.14	0.53
802.11ac MCS0/Nss1 VHT40	0.918	0.994	92.35	0.35	1.09
802.11ac MCS0/Nss1 VHT80	0.450	0.513	87.72	0.57	2.22

3.12. Test Configurations

3.12.1. Radiation Emissions Test Configuration

Test Configuration: above 1GHz



Item	Connection	Shielded	Length
1	Power cable	No	0.7m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	1.5m

4. TEST RESULT

4.1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.1.1. Limit

No restriction limits.

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 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

4.1.3. Test Procedures

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

1. The transmitter was radiated 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%.

4.1.4. Test Setup Layout

For Radiated 26dB Bandwidth and 99% Occupied Bandwidth Measurement:

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

4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

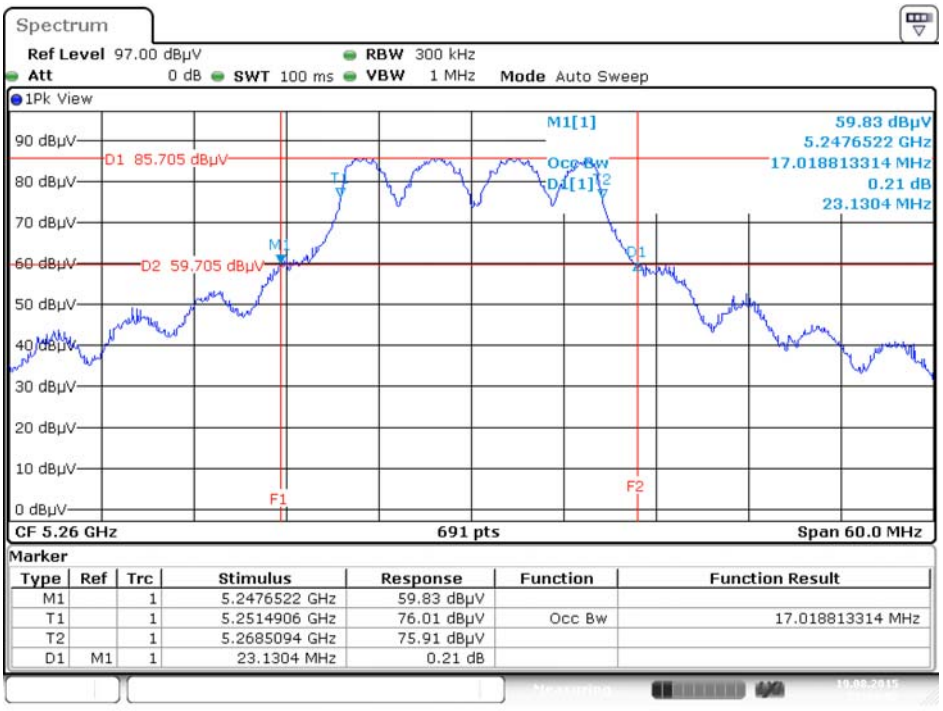
The EUT was programmed to be in continuously transmitting mode.

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

Temperature	24°C	Humidity	57%
Test Engineer	Andy Tsai		

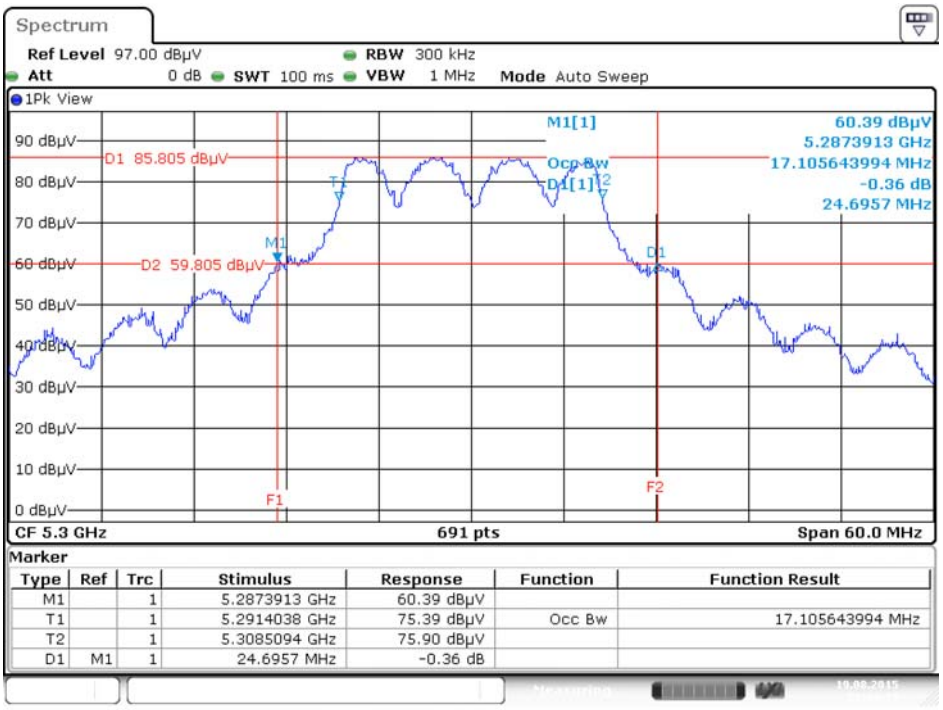
Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5260 MHz	23.13	17.02
	5300 MHz	24.70	17.11
	5320 MHz	22.09	16.24
	5500 MHz	21.65	16.15
	5580 MHz	25.39	17.19
	5700 MHz	21.48	17.11
802.11ac MCS0/Nss1 VHT20	5260 MHz	25.04	18.49
	5300 MHz	24.78	18.41
	5320 MHz	24.35	18.41
	5500 MHz	25.39	18.58
	5580 MHz	26.87	18.67
	5700 MHz	22.87	18.41
802.11ac MCS0/Nss1 VHT40	5270 MHz	51.16	38.49
	5310 MHz	46.38	37.77
	5510 MHz	46.09	37.77
	5550 MHz	69.13	39.07
	5670 MHz	45.65	37.92
802.11ac MCS0/Nss1 VHT80	5290 MHz	82.03	75.54
	5530 MHz	86.09	76.41
	5610 MHz	144.35	77.86

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5260 MHz



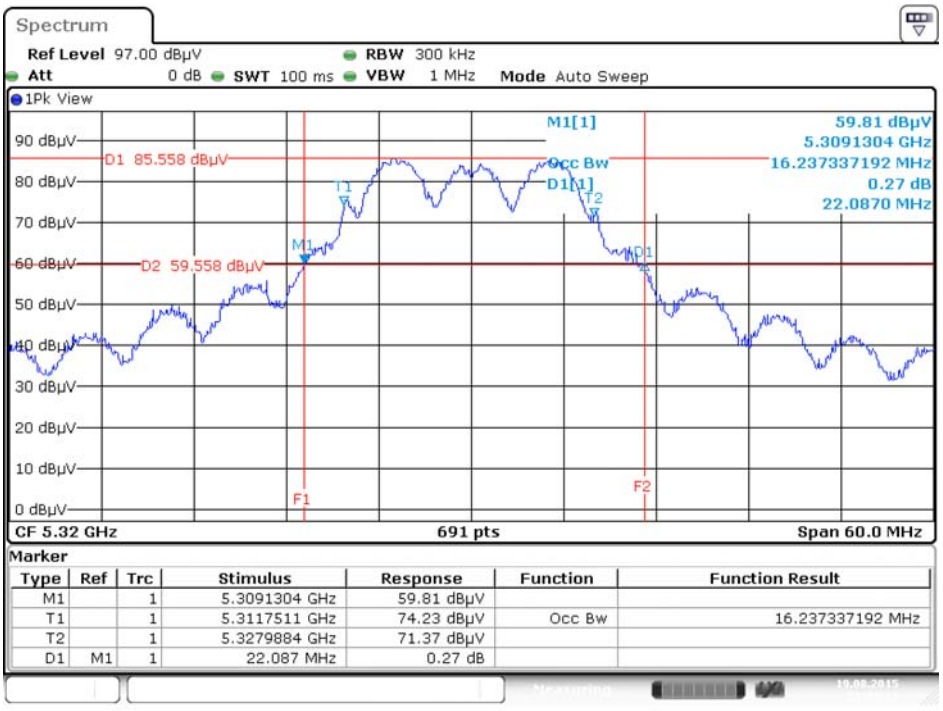
Date: 19.AUG.2015 21:34:02

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5300 MHz



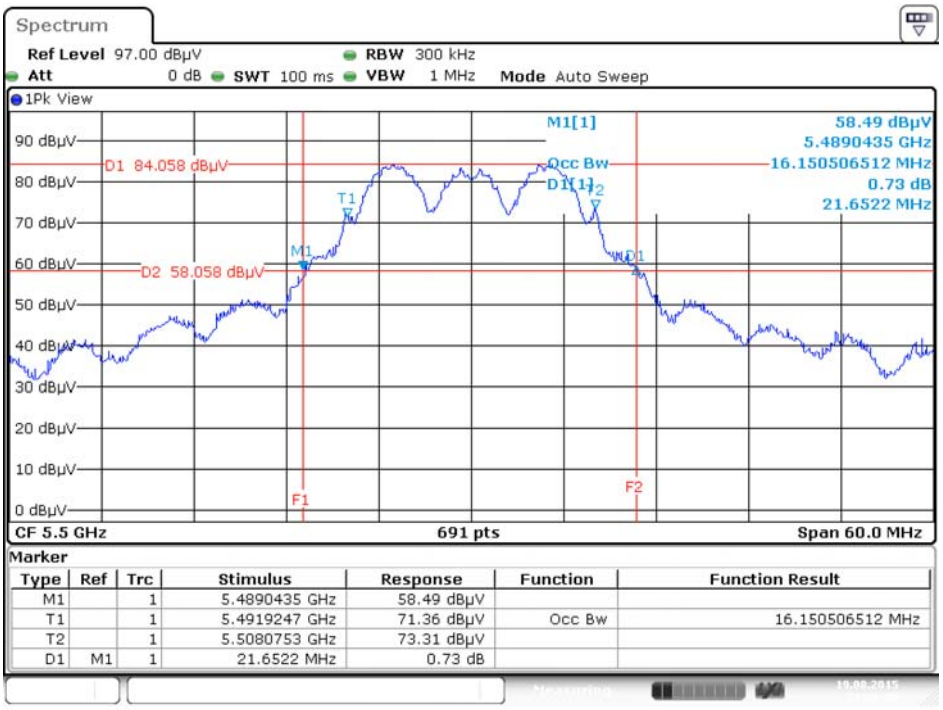
Date: 19.AUG.2015 21:34:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5320 MHz



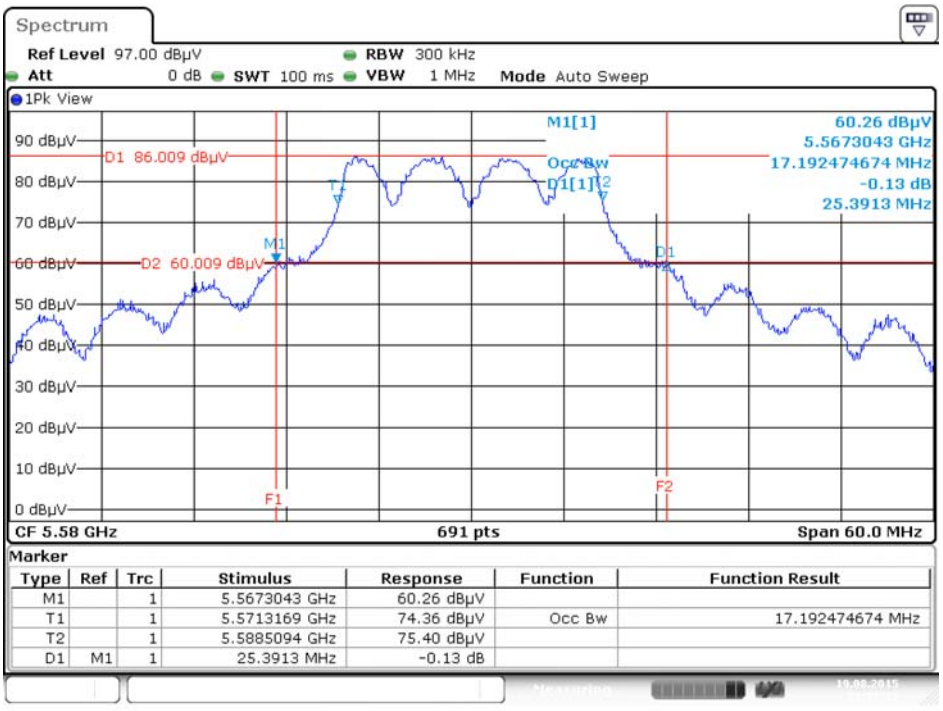
Date: 19.AUG.2015 21:35:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5500 MHz



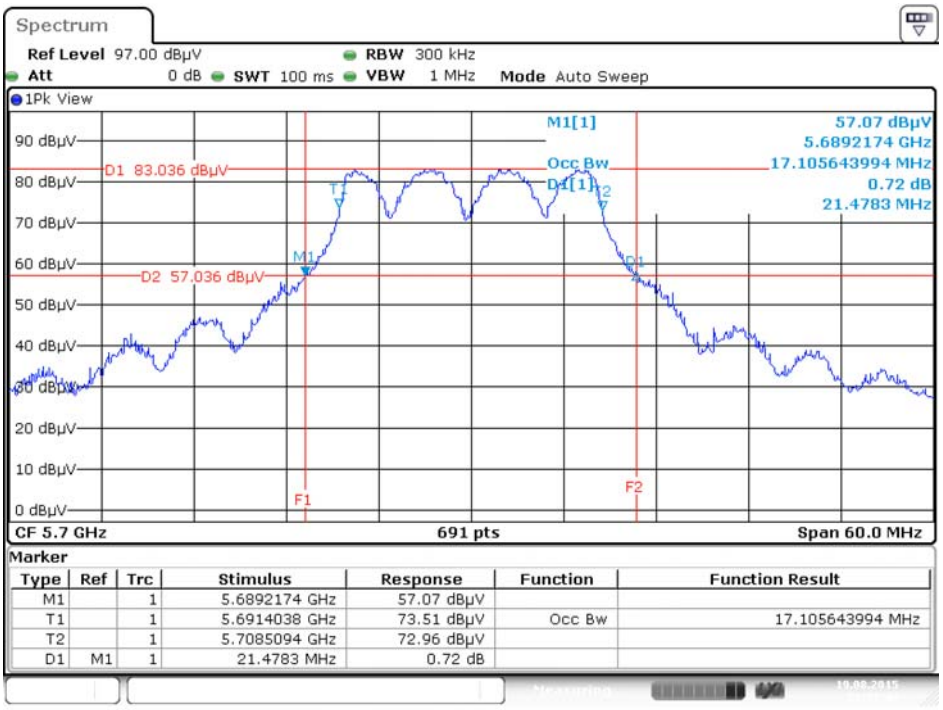
Date: 19.AUG.2015 21:36:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5580 MHz



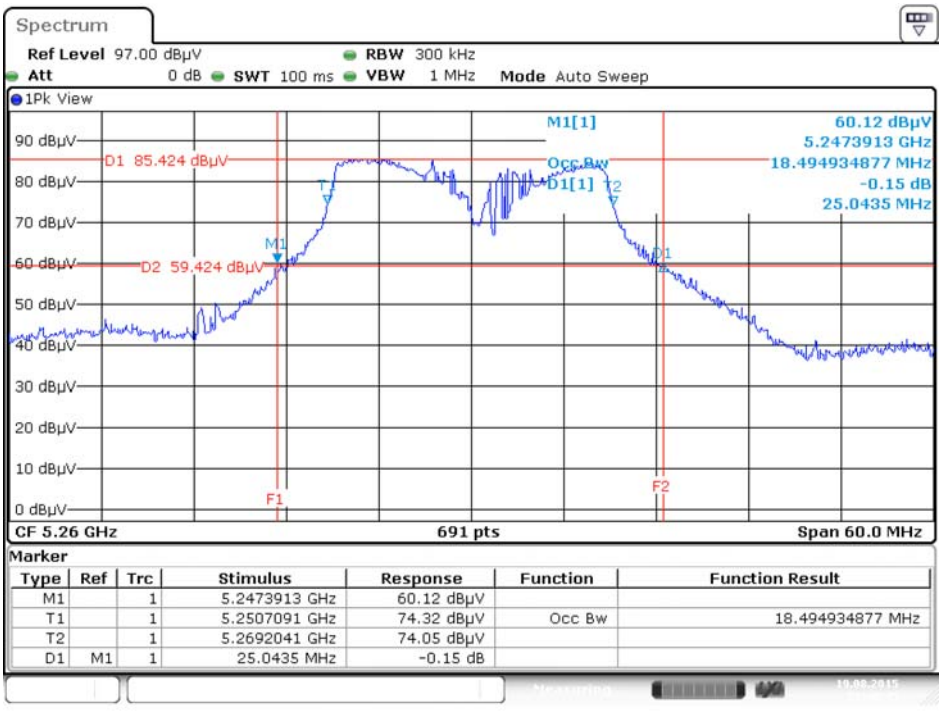
Date: 19.AUG.2015 21:37:22

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5700 MHz



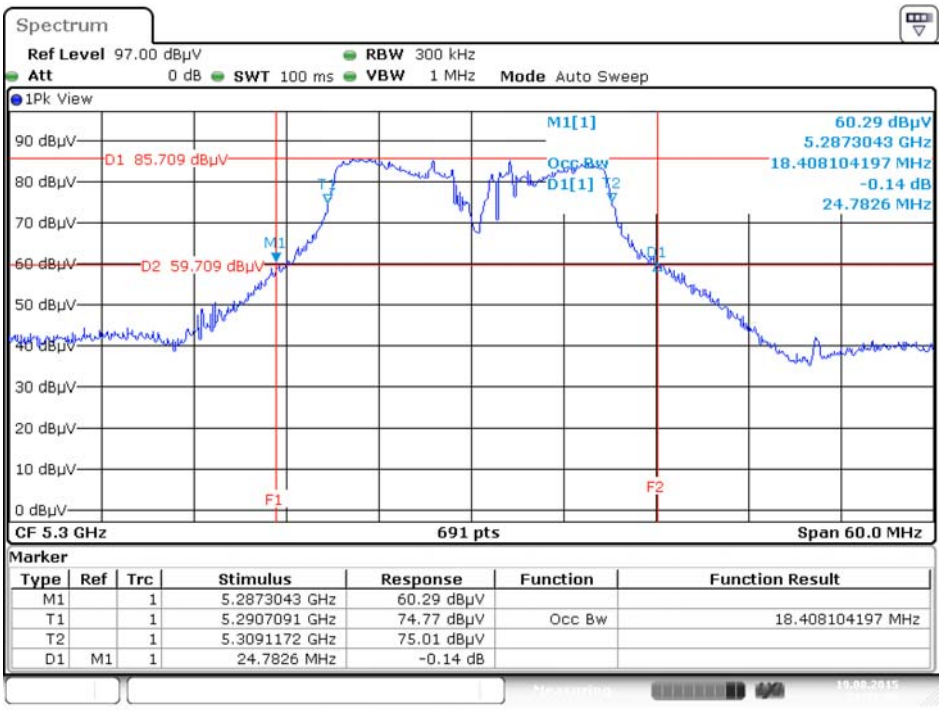
Date: 19.AUG.2015 21:37:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5260 MHz



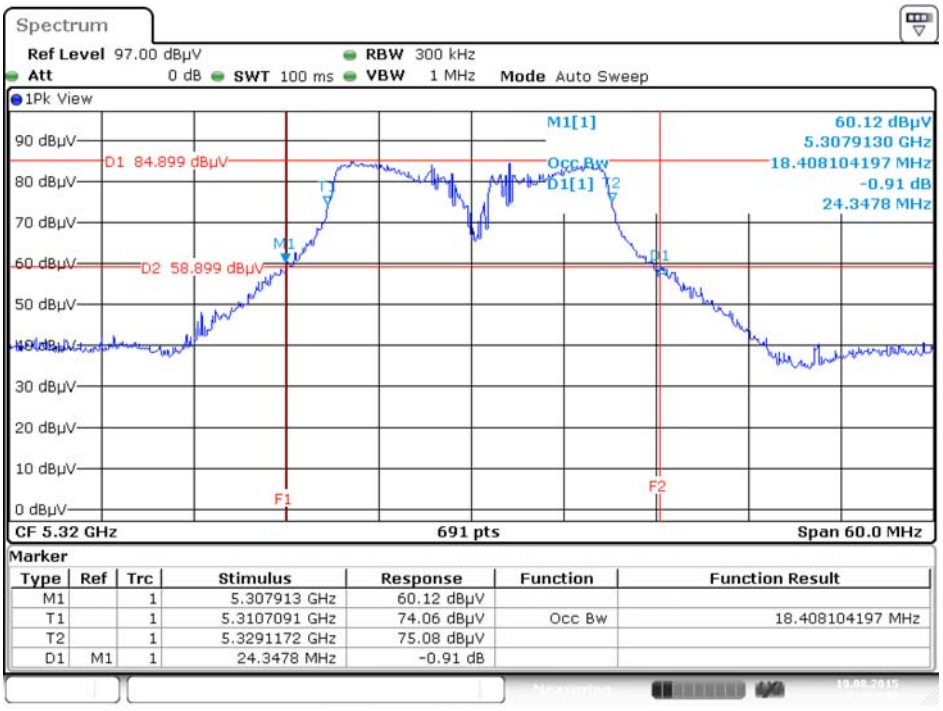
Date: 19.AUG.2015 21:45:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5300 MHz



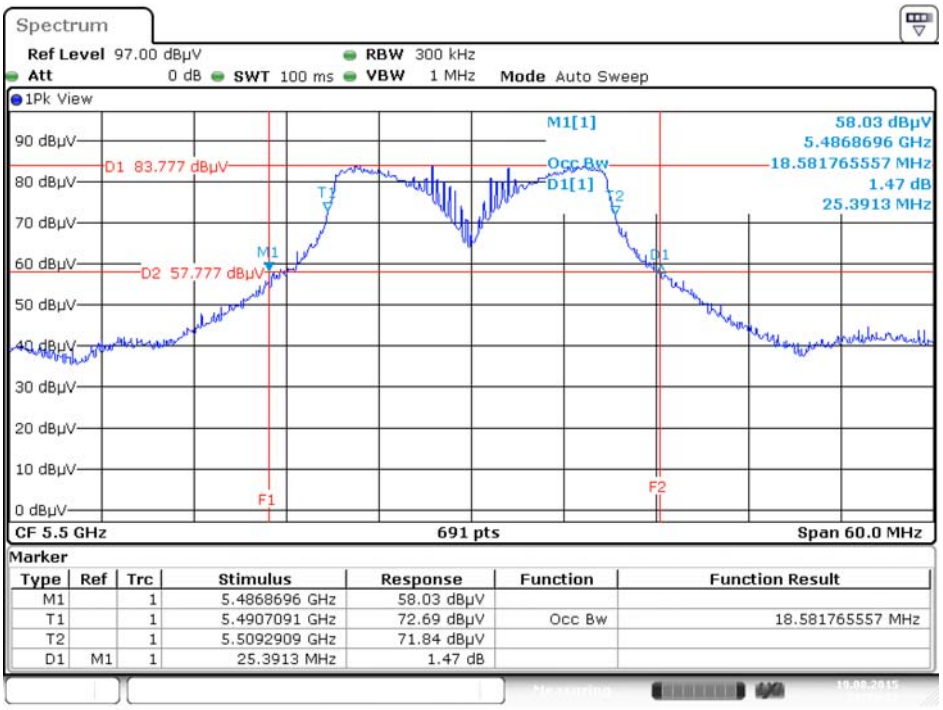
Date: 19.AUG.2015 21:52:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5320 MHz



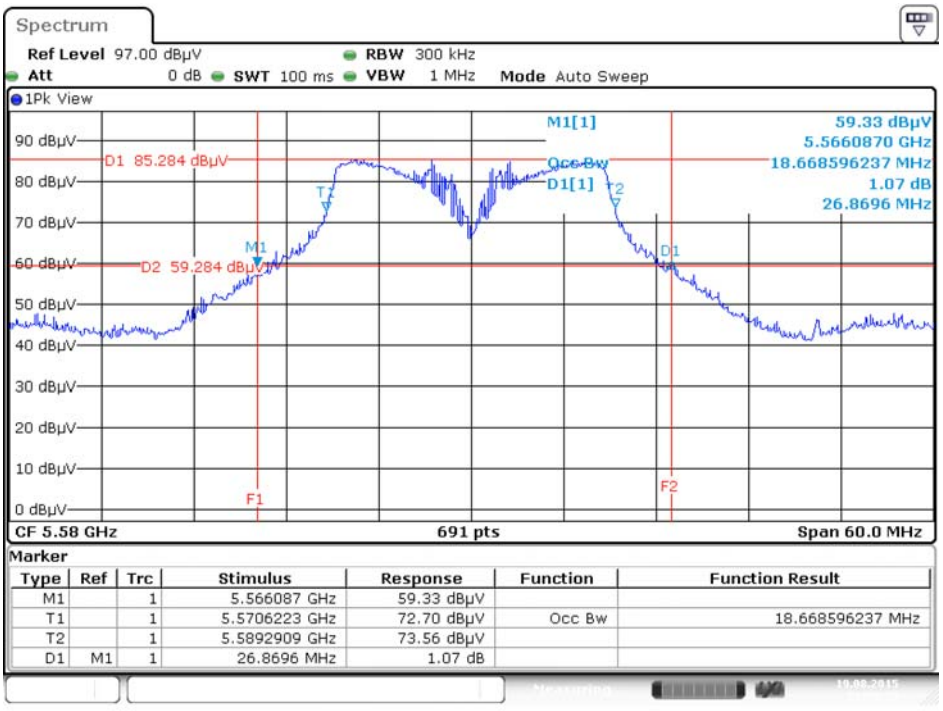
Date: 19.AUG.2015 21:54:00

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5500 MHz



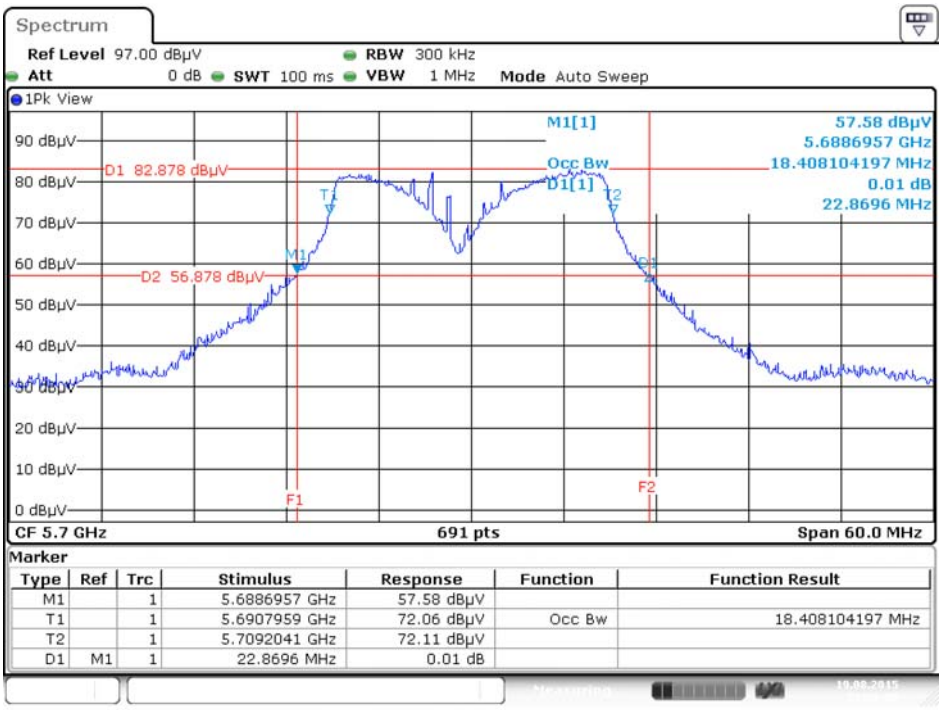
Date: 19.AUG.2015 21:54:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5580 MHz



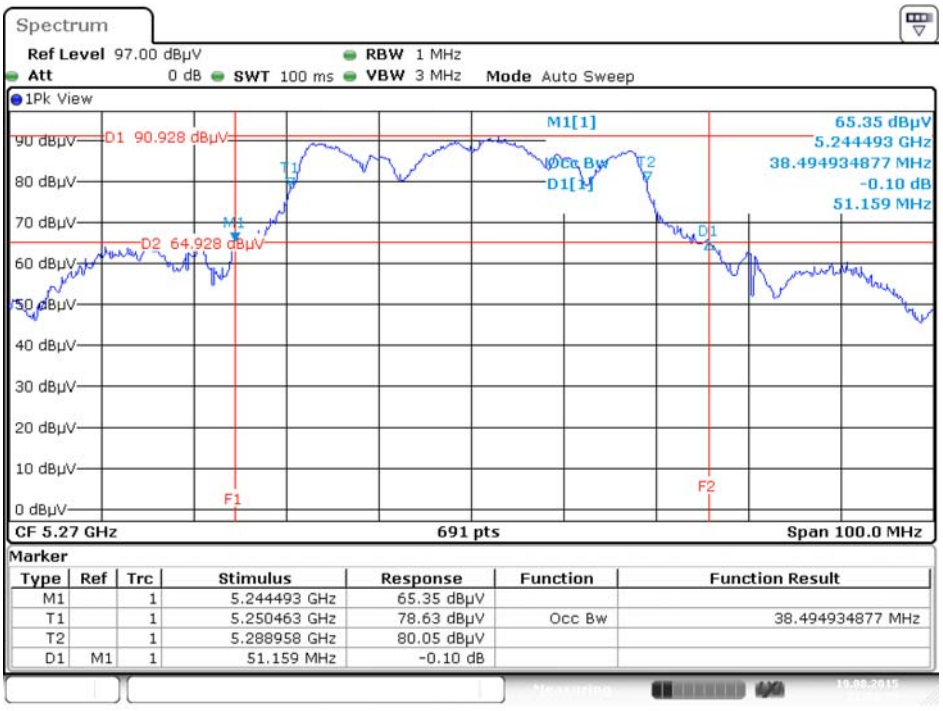
Date: 19.AUG.2015 21:55:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5700 MHz



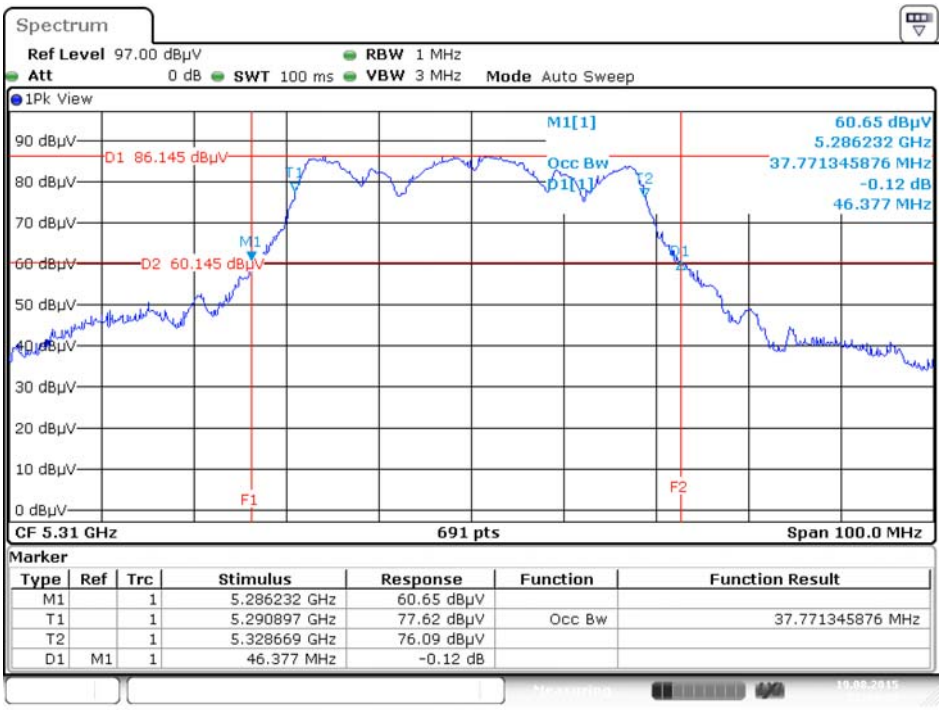
Date: 19.AUG.2015 21:56:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5270 MHz



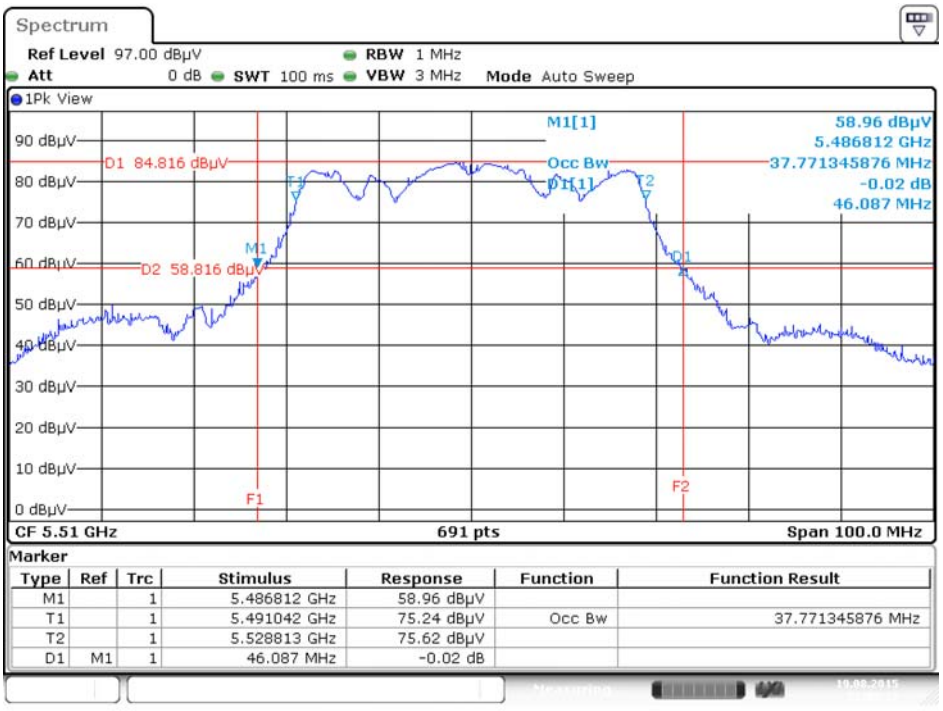
Date: 19.AUG.2015 22:03:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5310 MHz



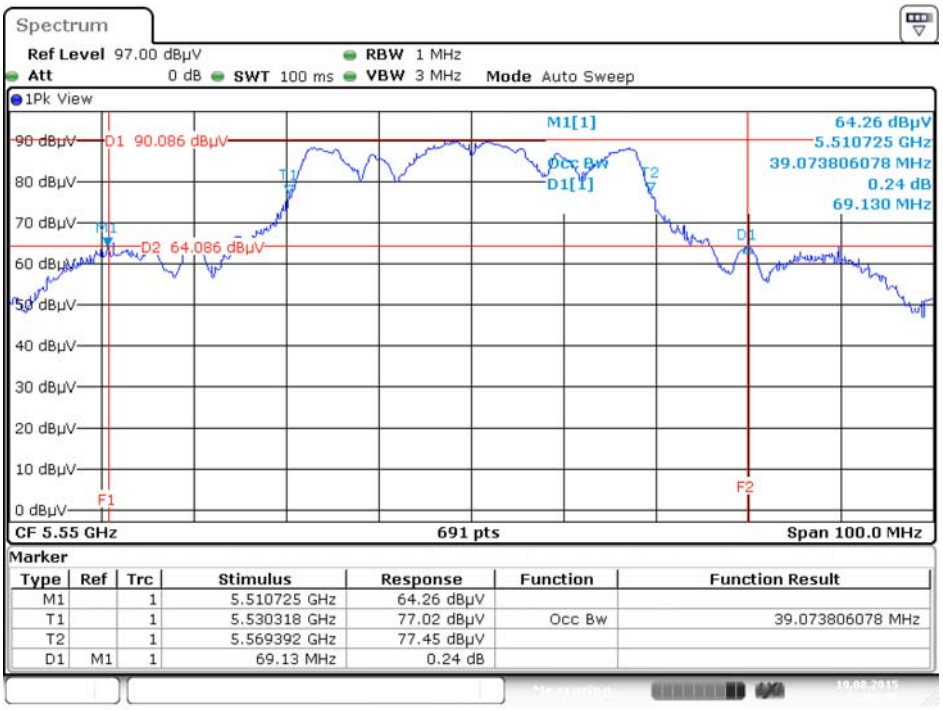
Date: 19.AUG.2015 22:04:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5510 MHz



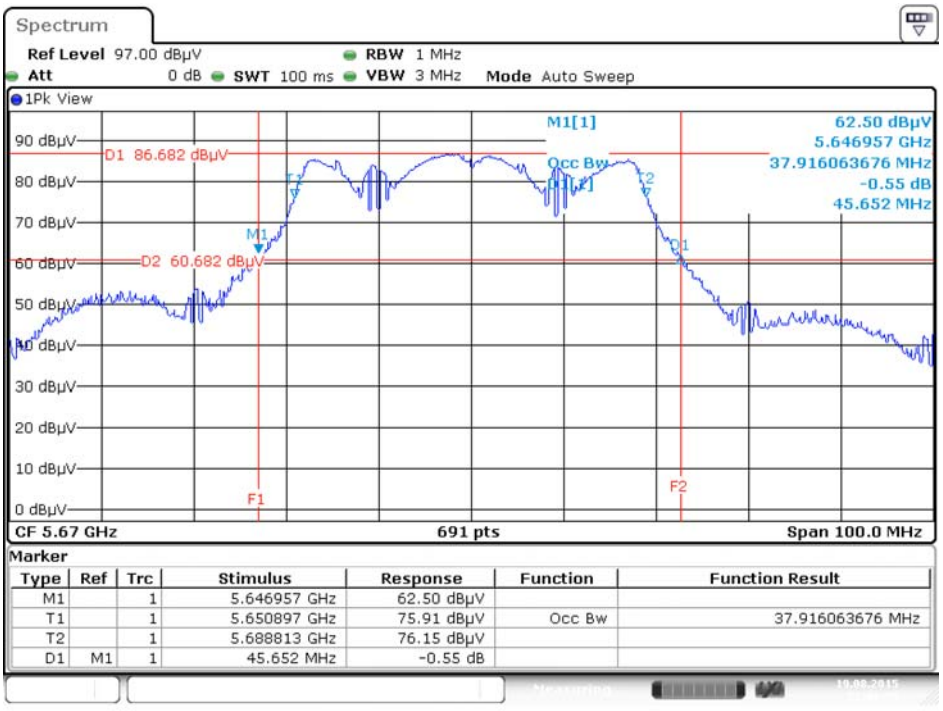
Date: 19.AUG.2015 22:05:13

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5550 MHz



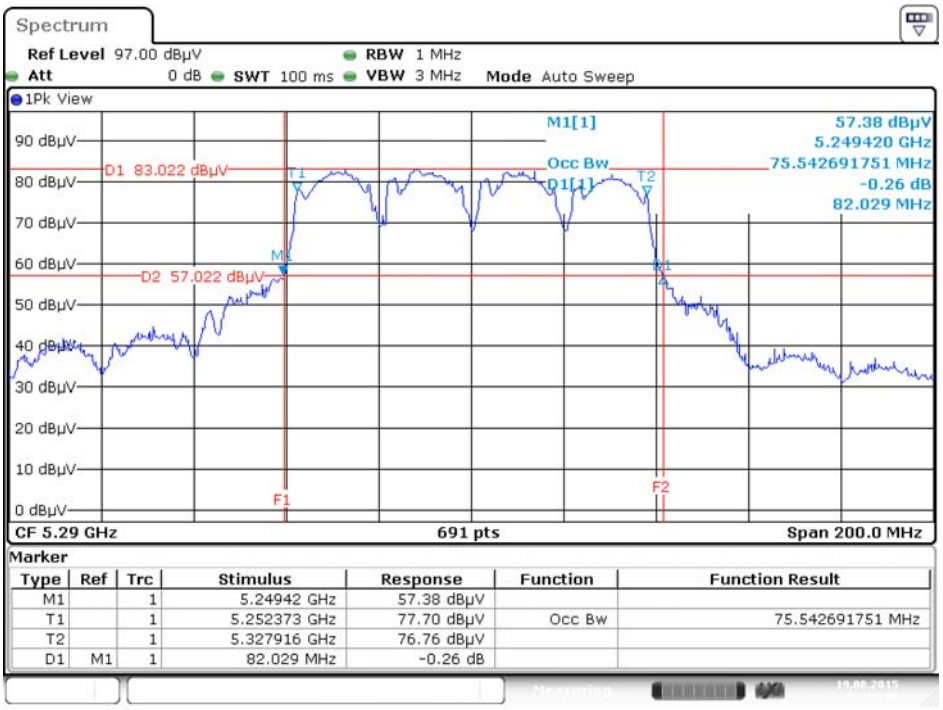
Date: 19.AUG.2015 22:05:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5670 MHz



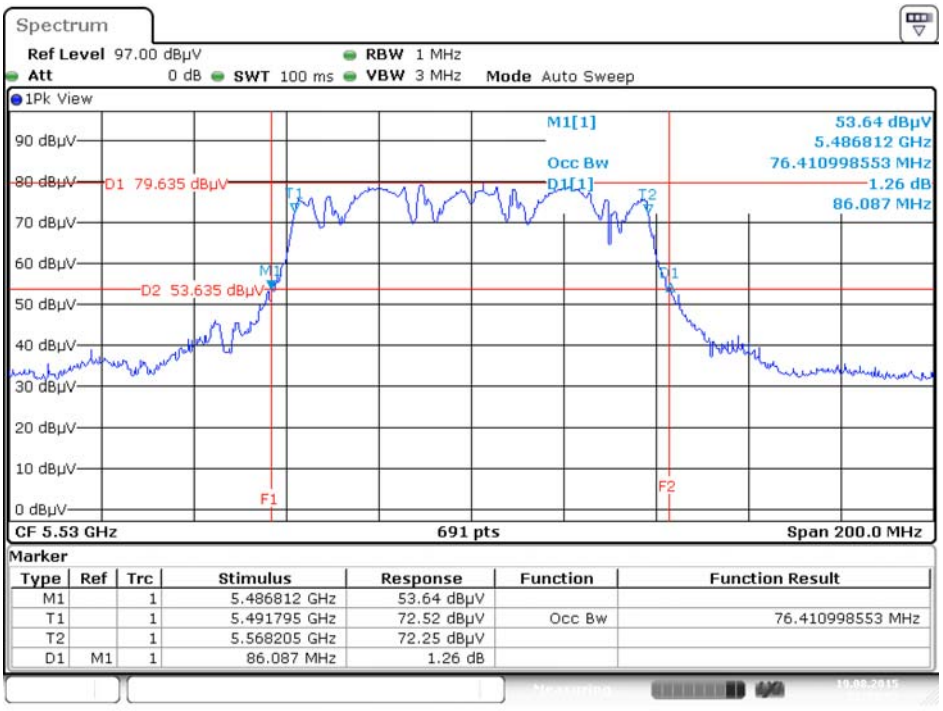
Date: 19.AUG.2015 22:06:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5290 MHz



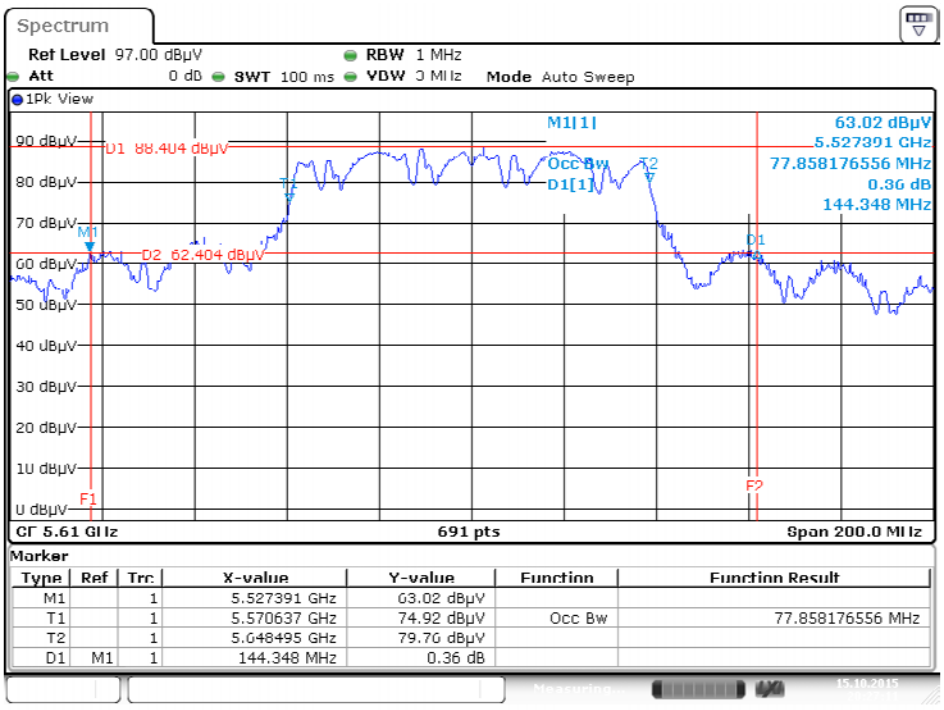
Date: 19.AUG.2015 22:35:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5530 MHz



Date: 19.AUG.2015 22:35:52

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5610 MHz



Date: 15.OCT.2015 20:27:11

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

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

4.2.2. Measuring Instruments and Setting

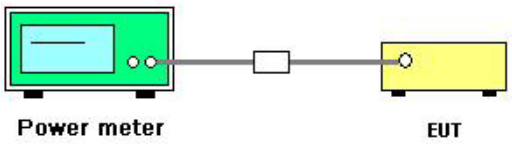
Please refer to section 5 of equipments list in this report The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

4.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems,add every result of the values by mathematic formula.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Conducted Output Power

Temperature	24°C	Humidity	57%
Test Engineer	Andy Tsai	Test Date	Aug. 18, 2015 ~ Aug. 19, 2015 / Oct. 15, 2015

Mode	Frequency	Conducted Power (dBm)			Max. Limit (dBm)	Result
		Chain 3	Chain 4	Total		
802.11a	5260 MHz	19.24	20.02	22.66	24.00	Complies
	5300 MHz	19.22	20.07	22.68	24.00	Complies
	5320 MHz	19.05	19.81	22.46	24.00	Complies
	5500 MHz	18.78	18.50	21.65	24.00	Complies
	5580 MHz	20.30	19.61	22.98	24.00	Complies
	5700 MHz	17.64	17.44	20.55	24.00	Complies
802.11ac MCS0/Nss1 VHT20	5260 MHz	19.36	19.96	22.68	24.00	Complies
	5300 MHz	19.22	20.10	22.69	24.00	Complies
	5320 MHz	19.15	19.78	22.49	24.00	Complies
	5500 MHz	18.84	18.92	21.89	24.00	Complies
	5580 MHz	20.19	19.47	22.86	24.00	Complies
	5700 MHz	17.70	17.31	20.52	24.00	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	20.45	21.17	23.84	24.00	Complies
	5310 MHz	17.06	17.91	20.52	24.00	Complies
	5510 MHz	16.79	16.55	19.68	24.00	Complies
	5550 MHz	21.02	20.85	23.95	24.00	Complies
	5670 MHz	18.41	17.96	21.20	24.00	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	15.41	16.22	18.84	24.00	Complies
	5530 MHz	13.45	12.81	16.15	24.00	Complies
	5610 MHz	18.12	18.33	21.24	24.00	Complies

4.3. Power Spectral Density Measurement

4.3.1. Limit

The following table is power spectral density limits and decrease power density limit rule refer to section 4.2.1.

Frequency Band		Limit
☒	5.25-5.35 GHz	11 dBm/MHz
☒	5.470-5.725 GHz	11 dBm/MHz

4.3.2. Measuring Instruments and Setting

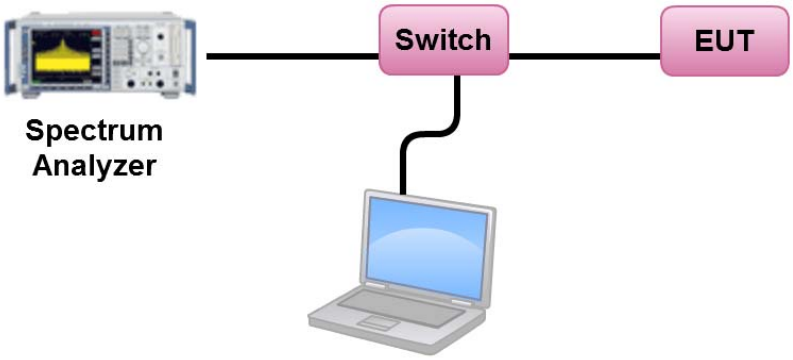
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	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

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 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.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

Temperature	24°C	Humidity	57%
Test Engineer	Andy Tsai	Test Date	Aug. 18, 2015 ~ Aug. 19, 2015 / Oct. 15, 2015

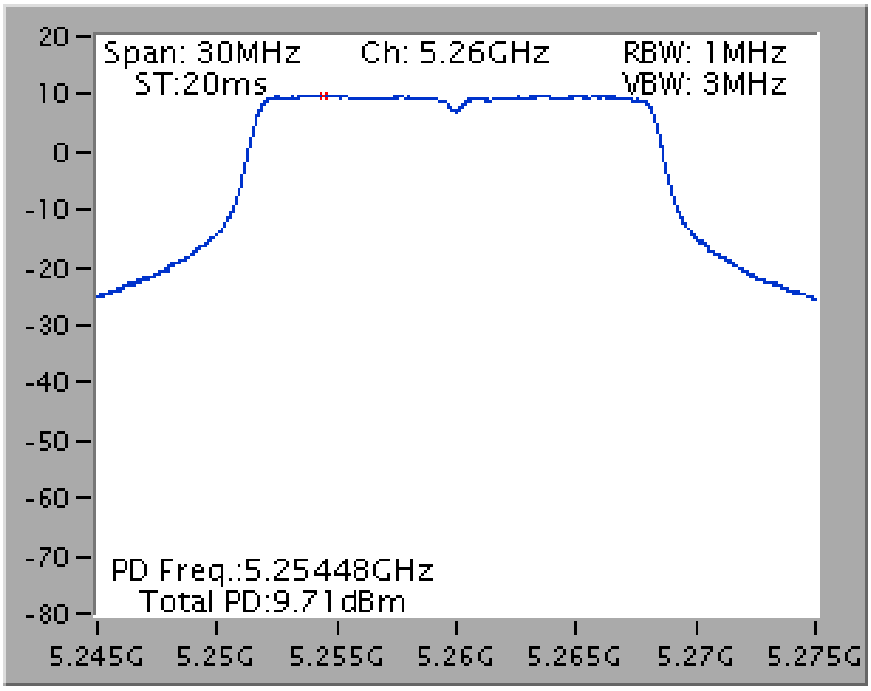
Mode	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
802.11a	5260 MHz	9.71	9.79	Complies
	5300 MHz	9.69	9.79	Complies
	5320 MHz	9.07	9.79	Complies
	5500 MHz	8.41	9.79	Complies
	5580 MHz	9.77	9.79	Complies
	5700 MHz	7.36	9.79	Complies
802.11ac MCS0/Nss1 VHT20	5260 MHz	9.62	9.79	Complies
	5300 MHz	9.62	9.79	Complies
	5320 MHz	9.17	9.79	Complies
	5500 MHz	8.41	9.79	Complies
	5580 MHz	9.71	9.79	Complies
	5700 MHz	7.21	9.79	Complies
802.11ac MCS0/Nss1 VHT40	5270 MHz	7.56	9.79	Complies
	5310 MHz	4.21	9.79	Complies
	5510 MHz	3.28	9.79	Complies
	5550 MHz	7.64	9.79	Complies
	5670 MHz	4.80	9.79	Complies
802.11ac MCS0/Nss1 VHT80	5290 MHz	-0.43	9.79	Complies
	5530 MHz	-3.09	9.79	Complies
	5610 MHz	4.50	9.79	Complies

Note: $Directional\ Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =7.21dBi >6dBi, so limit=11 – (7.21 – 6)=9.79dBm/MHz.

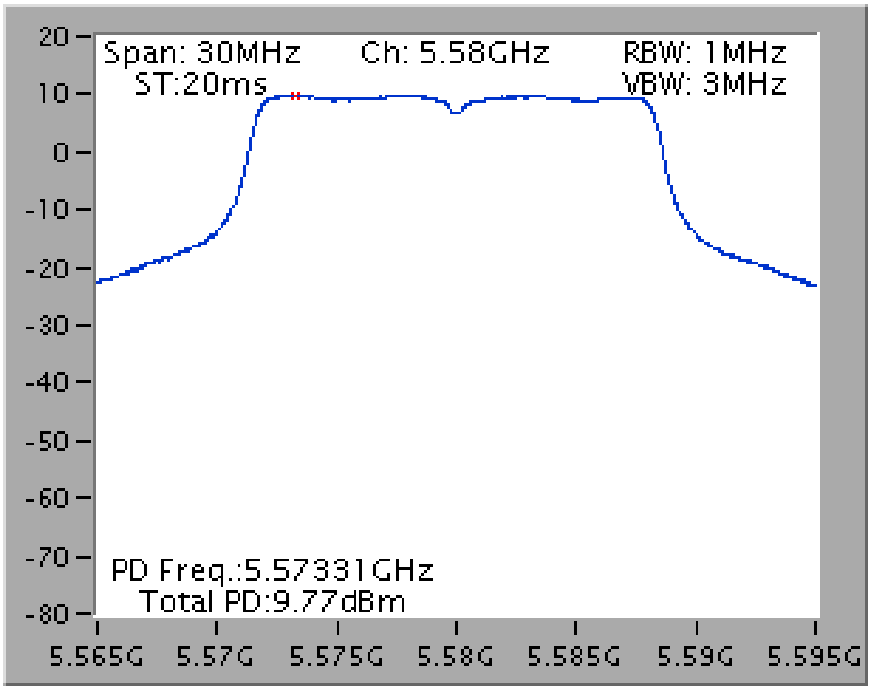
Note: All the test values were listed in the report.

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

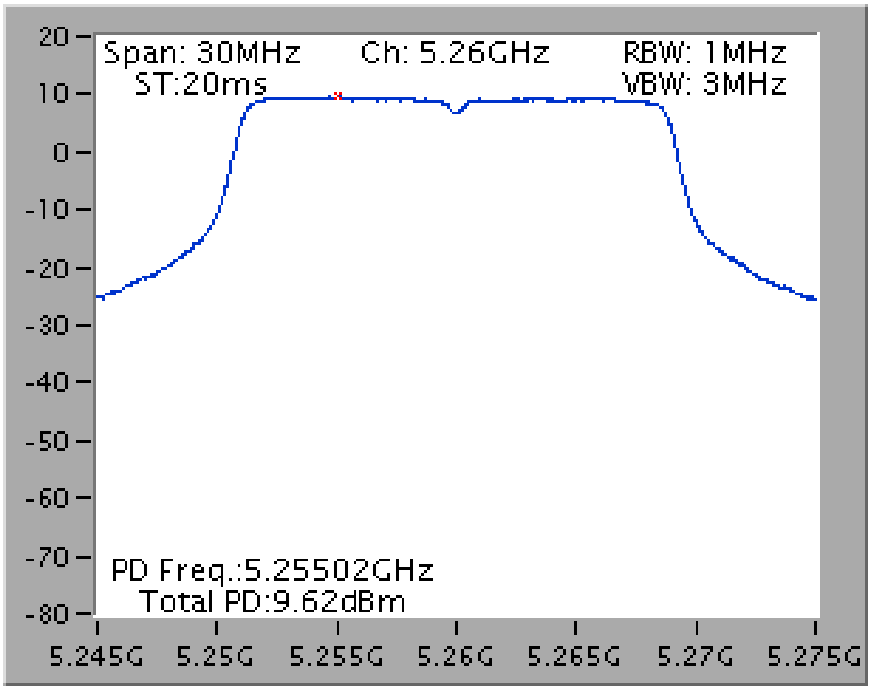
Power Density Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5260 MHz



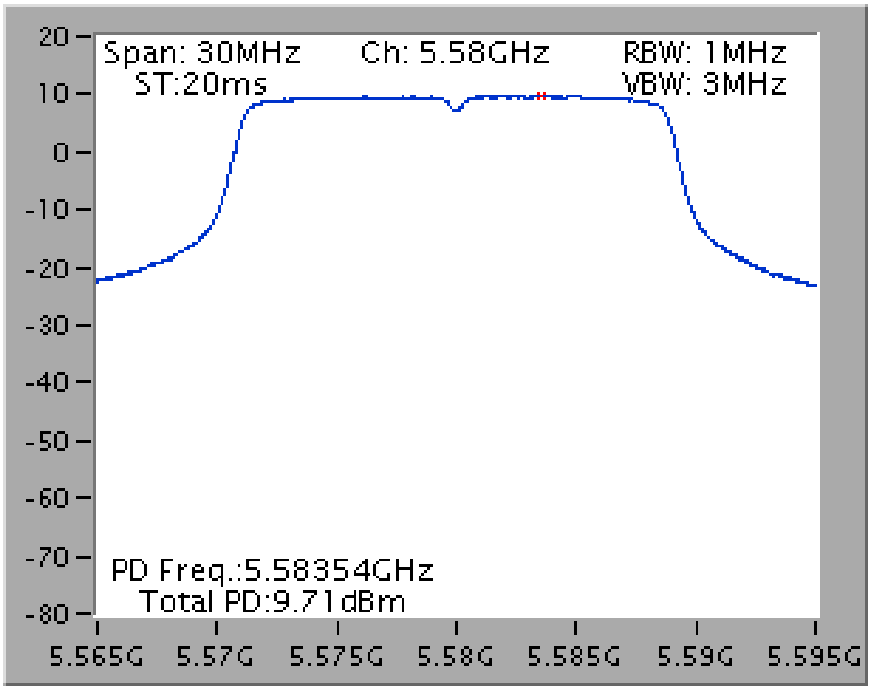
Power Density Plot on Configuration IEEE 802.11a / Chain 3 + Chain 4 / 5580 MHz



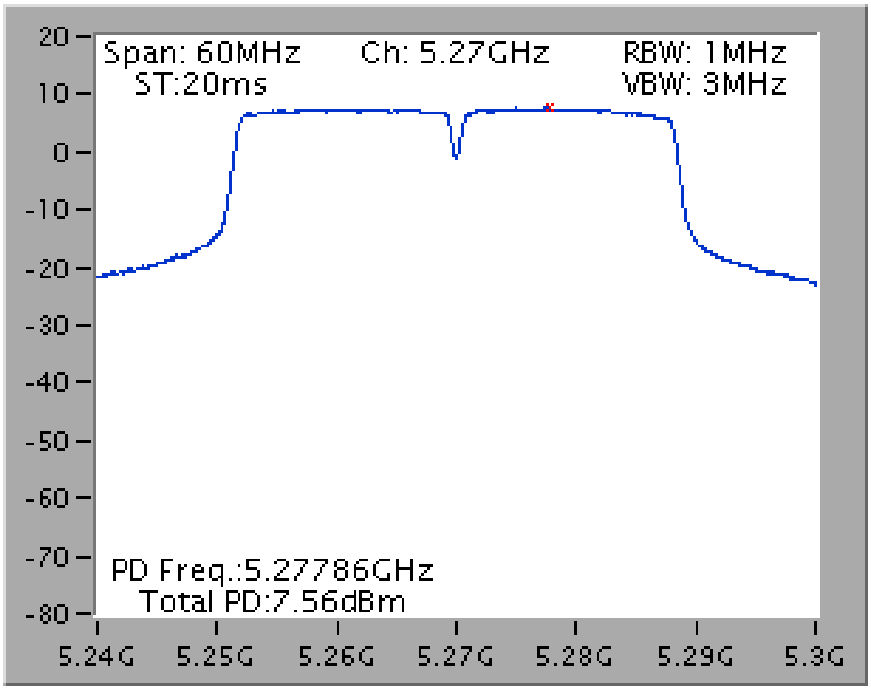
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5260 MHz



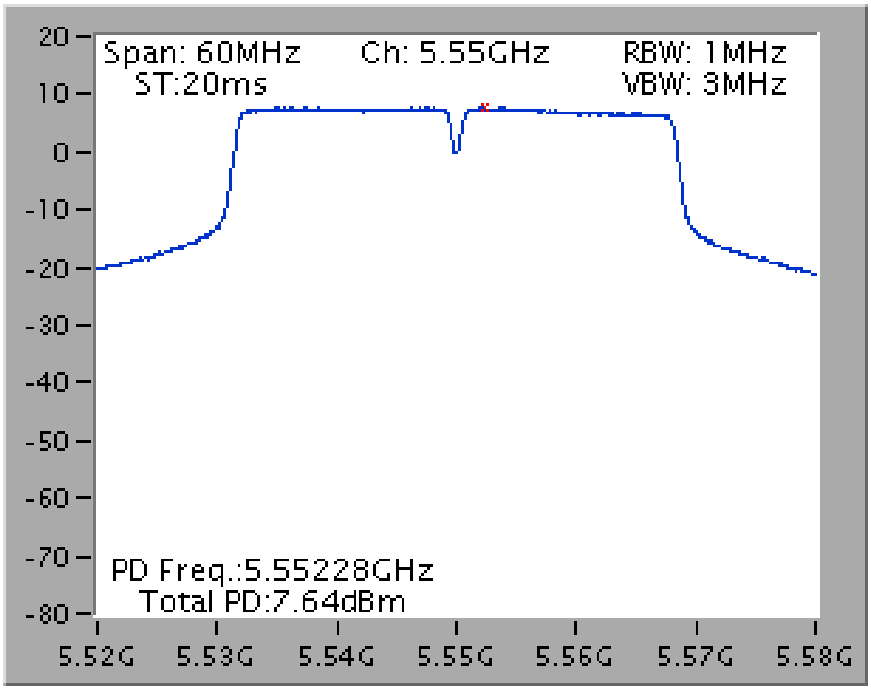
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 3 + Chain 4 / 5580 MHz



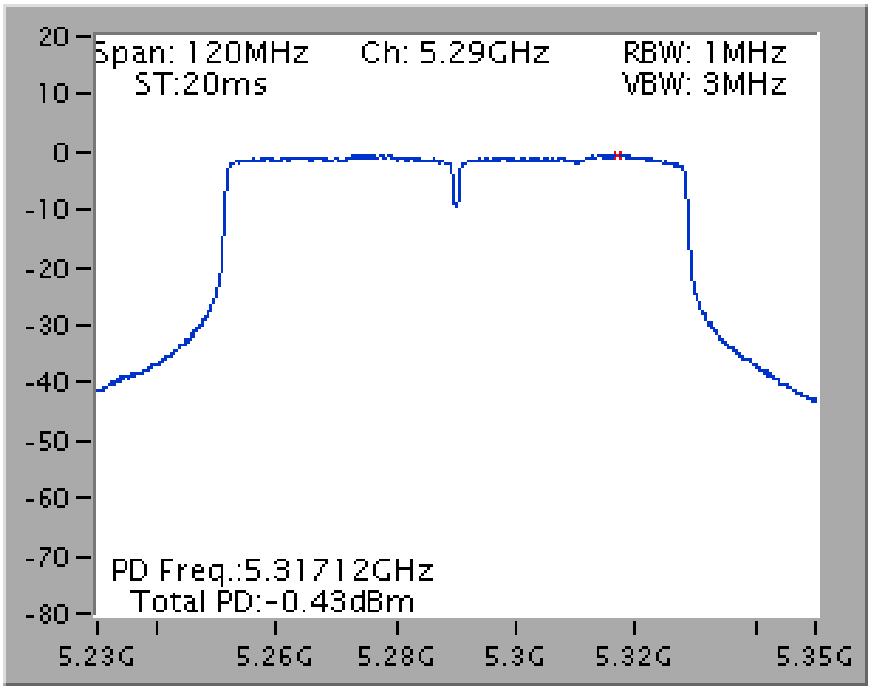
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5270 MHz



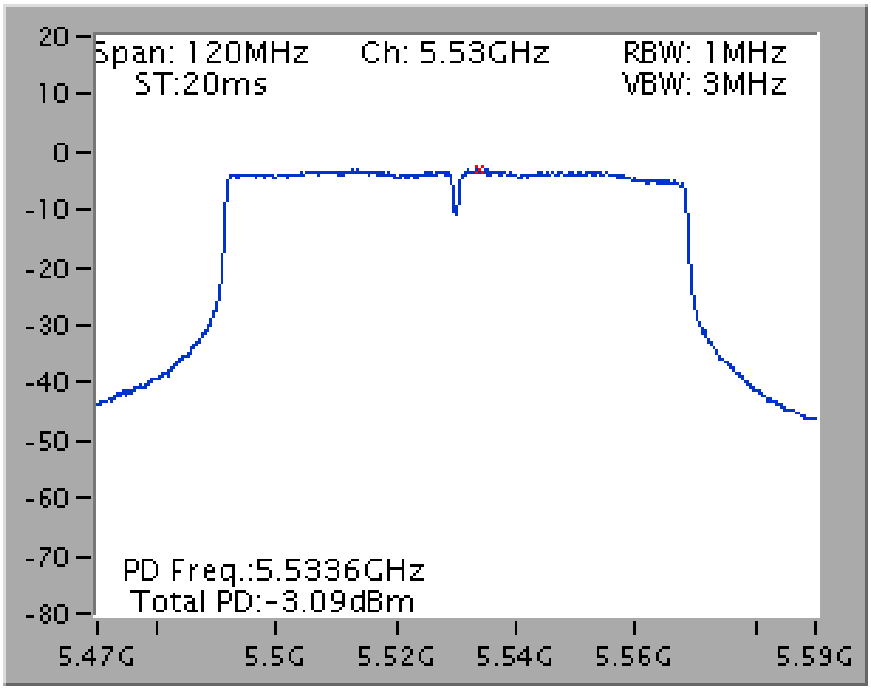
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 3 + Chain 4 / 5550 MHz



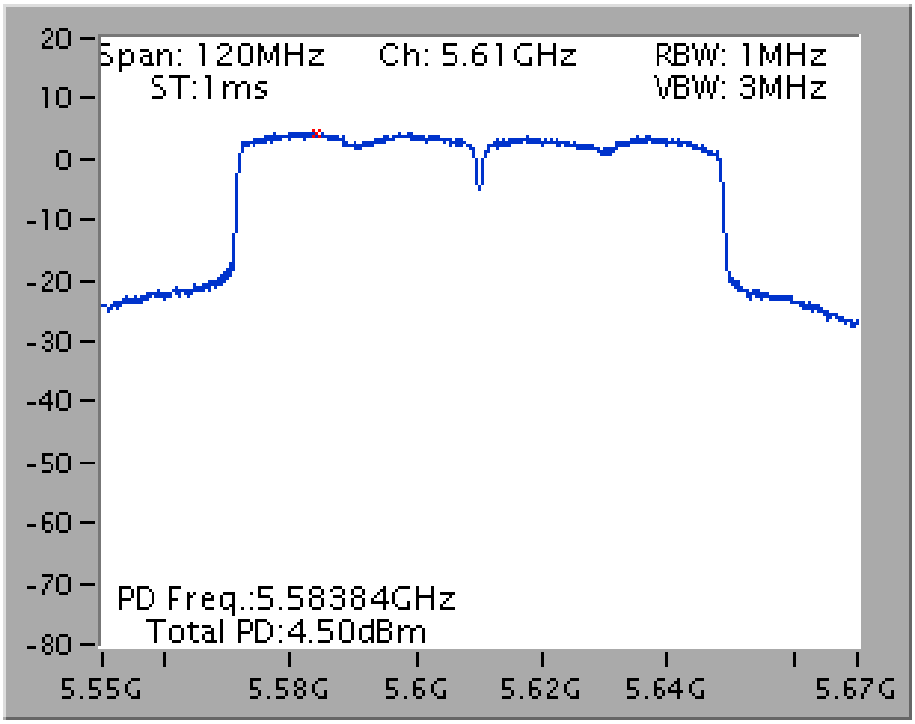
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5290 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5530 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 3 + Chain 4 / 5610 MHz



4.4. Radiated Emissions Measurement

4.4.1. Limit

For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

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

4.4.2. Measuring Instruments and Setting

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

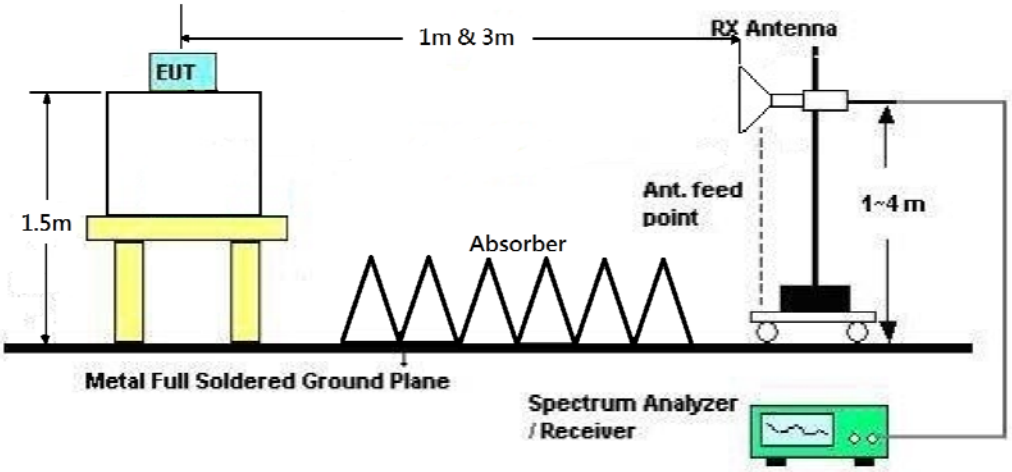
Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	40 GHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

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

4.4.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. 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.
8. 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.
9. 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.

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

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 52 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015		

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	15778.76	64.47	74.00	-9.53	51.08	10.80	37.91	35.32	Peak	160	195	HORIZONTAL
2	15779.08	49.53	54.00	-4.47	36.14	10.80	37.91	35.32	Average	160	195	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	15772.80	59.49	74.00	-14.51	46.09	10.80	37.91	35.31	Peak	164	26	VERTICAL
2	15783.60	46.48	54.00	-7.52	33.11	10.80	37.89	35.32	Average	164	26	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 60 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015		

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	10594.80	60.47	74.00	-13.53	48.23	8.62	38.58	34.96	Peak	166	125	HORIZONTAL
2	10600.16	47.50	54.00	-6.50	35.24	8.64	38.58	34.96	Average	166	125	HORIZONTAL
3	15890.68	63.56	74.00	-10.44	50.37	10.81	37.74	35.36	Peak	157	197	HORIZONTAL
4	15901.40	50.57	54.00	-3.43	37.40	10.81	37.72	35.36	Average	157	197	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	10597.88	45.36	54.00	-8.64	33.10	8.64	38.58	34.96	Average	173	190	VERTICAL
2	10597.96	57.46	74.00	-16.54	45.20	8.64	38.58	34.96	Peak	173	190	VERTICAL
3	15899.40	58.03	74.00	-15.97	44.84	10.81	37.74	35.36	Peak	158	92	VERTICAL
4	15906.20	45.67	54.00	-8.33	32.52	10.81	37.72	35.38	Average	158	92	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 64 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15958.19	63.00	74.00	-11.00	50.26	10.14	38.38	35.78	162	142	HORIZONTAL	Peak
2	15958.47	48.20	54.00	-5.80	35.46	10.14	38.38	35.78	162	142	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15956.35	45.80	54.00	-8.20	33.06	10.14	38.38	35.78	168	28	VERTICAL	Average
2	15957.37	59.92	74.00	-14.08	47.18	10.14	38.38	35.78	168	28	VERTICAL	Peak

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 100 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10996.92	57.36	74.00	-16.64	43.65	8.42	39.30	34.01	175	35	HORIZONTAL	Peak
2	11001.35	44.52	54.00	-9.48	30.80	8.43	39.30	34.01	175	35	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10996.31	43.93	54.00	-10.07	30.24	8.42	39.28	34.01	175	70	VERTICAL	Average
2	10997.50	57.41	74.00	-16.59	43.70	8.42	39.30	34.01	175	70	VERTICAL	Peak

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 116 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11160.16	52.16	54.00	-1.84	39.21	9.04	38.70	34.79	Average	157	171	HORIZONTAL
2	11160.64	65.98	74.00	-8.02	53.03	9.04	38.70	34.79	Peak	157	171	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	11154.64	59.16	74.00	-14.84	46.24	9.03	38.68	34.79	Peak	173	196	VERTICAL
2	11159.56	46.19	54.00	-7.81	33.24	9.04	38.70	34.79	Average	173	196	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 140 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11400.43	64.53	74.00	-9.47	50.93	8.66	39.22	34.28	165	114	HORIZONTAL	Peak
2	11400.52	49.14	54.00	-4.86	35.54	8.66	39.22	34.28	165	114	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11400.81	44.53	54.00	-9.47	30.93	8.66	39.22	34.28	175	210	VERTICAL	Average
2	11402.59	57.04	74.00	-16.96	43.44	8.66	39.22	34.28	175	210	VERTICAL	Peak

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015		

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	15774.96	63.77	74.00	-10.23	50.37	10.80	37.91	35.31	Peak	156	168	HORIZONTAL
2	15776.48	50.49	54.00	-3.51	37.09	10.80	37.91	35.31	Average	156	168	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	15774.64	46.49	54.00	-7.51	33.09	10.80	37.91	35.31	Average	164	23	VERTICAL
2	15789.60	59.89	74.00	-14.11	46.52	10.80	37.89	35.32	Peak	164	23	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015		

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	10598.92	59.09	74.00	-14.91	46.83	8.64	38.58	34.96	Peak	171	99	HORIZONTAL
2	10601.68	46.18	54.00	-7.82	33.91	8.64	38.58	34.95	Average	171	99	HORIZONTAL
3	15895.12	50.11	54.00	-3.89	36.92	10.81	37.74	35.36	Average	156	171	HORIZONTAL
4	15896.00	62.98	74.00	-11.02	49.79	10.81	37.74	35.36	Peak	156	171	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	10602.28	42.09	54.00	-11.91	29.82	8.64	38.58	34.95	Average	168	111	VERTICAL
2	10606.20	55.34	74.00	-18.66	43.07	8.64	38.58	34.95	Peak	168	111	VERTICAL
3	15892.72	46.46	54.00	-7.54	33.27	10.81	37.74	35.36	Average	162	24	VERTICAL
4	15893.40	59.38	74.00	-14.62	46.19	10.81	37.74	35.36	Peak	162	24	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15961.03	47.85	54.00	-6.15	35.11	10.14	38.38	35.78	163	140	HORIZONTAL	Average
2	15961.61	61.58	74.00	-12.42	48.83	10.15	38.38	35.78	163	140	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15956.47	45.61	54.00	-8.39	32.87	10.14	38.38	35.78	175	242	VERTICAL	Average
2	15959.55	58.50	74.00	-15.50	45.76	10.14	38.38	35.78	175	242	VERTICAL	Peak

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10998.61	57.13	74.00	-16.87	43.41	8.43	39.30	34.01	175	12	HORIZONTAL	Peak
2	11004.49	44.23	54.00	-9.77	30.51	8.43	39.30	34.01	175	12	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	10995.53	57.08	74.00	-16.92	43.39	8.42	39.28	34.01	175	56	VERTICAL	Peak
2	10999.03	43.40	54.00	-10.60	29.68	8.43	39.30	34.01	175	56	VERTICAL	Average

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Chain 3 + Chain 4
Test Date	Aug. 06, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11160.48	52.60	54.00	-1.40	39.65	9.04	38.70	34.79	Average	160	171	HORIZONTAL
2	11161.04	67.11	74.00	-6.89	54.16	9.04	38.70	34.79	Peak	160	171	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	11155.56	59.87	74.00	-14.13	46.95	9.03	38.68	34.79	Peak	173	196	VERTICAL
2	11159.00	46.54	54.00	-7.46	33.59	9.04	38.70	34.79	Average	173	196	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Chain 3 + Chain 4
Test Date	Aug. 06, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.60	44.83	54.00	-9.17	31.46	9.19	38.98	34.80	Average	161	166	HORIZONTAL
2	11401.52	58.10	74.00	-15.90	44.73	9.19	38.98	34.80	Peak	161	166	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	11400.40	54.97	74.00	-19.03	41.60	9.19	38.98	34.80	Peak	154	126	VERTICAL
2	11409.12	41.70	54.00	-12.30	28.33	9.19	38.98	34.80	Average	154	126	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Chain 3 + Chain 4
Test Date	Aug. 06, 2015		

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	15803.20	59.63	74.00	-14.37	46.29	10.80	37.87	35.33	Peak	156	138	HORIZONTAL
2	15805.60	46.83	54.00	-7.17	33.49	10.80	37.87	35.33	Average	156	138	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	15809.20	58.27	74.00	-15.73	44.93	10.80	37.87	35.33	Peak	159	164	VERTICAL
2	15818.40	45.07	54.00	-8.93	31.76	10.80	37.84	35.33	Average	159	164	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15931.16	58.47	74.00	-15.53	45.73	10.14	38.38	35.78	175	54	HORIZONTAL	Peak
2	15932.78	45.28	54.00	-8.72	32.54	10.14	38.38	35.78	175	54	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15925.60	58.08	74.00	-15.92	45.34	10.14	38.38	35.78	175	26	VERTICAL	Peak
2	15929.38	45.26	54.00	-8.74	32.52	10.14	38.38	35.78	175	26	VERTICAL	Average

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11020.77	43.16	54.00	-10.84	29.44	8.43	39.30	34.01	175	62	HORIZONTAL	Average
2	11023.08	56.82	74.00	-17.18	43.10	8.43	39.30	34.01	175	62	HORIZONTAL	Peak

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11015.21	56.52	74.00	-17.48	42.80	8.43	39.30	34.01	175	43	VERTICAL	Peak
2	11024.40	43.24	54.00	-10.76	29.52	8.43	39.30	34.01	175	43	VERTICAL	Average

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Chain 3 + Chain 4
Test Date	Aug. 06, 2015		

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	11100.36	58.95	74.00	-15.05	46.13	8.99	38.62	34.79	Peak	159	173	HORIZONTAL
2	11100.92	45.19	54.00	-8.81	32.37	8.99	38.62	34.79	Average	159	173	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	11097.68	54.40	74.00	-19.60	41.58	8.99	38.62	34.79	Peak	152	111	VERTICAL
2	11104.60	41.81	54.00	-12.19	28.99	8.99	38.62	34.79	Average	152	111	VERTICAL

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11337.87	56.77	74.00	-17.23	43.13	8.64	39.23	34.23	175	82	HORIZONTAL	Peak
2	11343.71	43.52	54.00	-10.48	29.88	8.64	39.23	34.23	175	82	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11335.98	57.54	74.00	-16.46	43.90	8.64	39.23	34.23	175	122	VERTICAL	Peak
2	11341.49	43.56	54.00	-10.44	29.92	8.64	39.23	34.23	175	122	VERTICAL	Average

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15870.23	58.60	74.00	-15.40	45.90	10.12	38.35	35.77	175	121	HORIZONTAL	Peak
2	15874.53	45.14	54.00	-8.86	32.43	10.12	38.36	35.77	175	121	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15866.25	58.40	74.00	-15.60	45.70	10.12	38.35	35.77	175	86	VERTICAL	Peak
2	15870.51	44.96	54.00	-9.04	32.26	10.12	38.35	35.77	175	86	VERTICAL	Average

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Chain 3 + Chain 4
Test Date	Aug. 11, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11063.72	56.27	74.00	-17.73	42.56	8.45	39.29	34.03	175	97	HORIZONTAL	Peak
2	11064.23	43.39	54.00	-10.61	29.68	8.45	39.29	34.03	175	97	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11058.70	56.52	74.00	-17.48	42.81	8.45	39.29	34.03	175	109	VERTICAL	Peak
2	11063.96	43.51	54.00	-10.49	29.80	8.45	39.29	34.03	175	109	VERTICAL	Average

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Chain 3 + Chain 4
Test Date	Oct. 16, 2015		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11218.32	57.42	74.00	-16.58	42.92	9.40	39.26	34.16	175	28	HORIZONTAL	Peak
2	11219.88	44.41	54.00	-9.59	29.91	9.40	39.26	34.16	175	28	HORIZONTAL	Average

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11219.52	57.45	74.00	-16.55	42.95	9.40	39.26	34.16	175	265	VERTICAL	Peak
2	11222.21	44.08	54.00	-9.92	29.59	9.40	39.25	34.16	175	265	VERTICAL	Average

Note:

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

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

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

4.5. Band Edge Emissions Measurement

4.5.1. Limit

For transmitters operating in the 5.25-5.35 GHz band: all emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

For transmitters operating in the 5.470-5.725 GHz band: all emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.

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

4.5.2. 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	100 MHz
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for Peak

4.5.3. Test Procedures

1. The test procedure is the same as section 4.4.3.

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 Band Edge and Fundamental Emissions

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 52, 60, 64 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015 ~ Aug. 10, 2015		

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	5134.60	47.49	54.00	-6.51	42.36	6.12	34.01	35.00	Average	197	358	VERTICAL
2	5149.40	59.55	74.00	-14.45	54.38	6.13	34.04	35.00	Peak	197	358	VERTICAL
3	5252.80	109.80			104.40	6.20	34.20	35.00	Average	197	358	VERTICAL
4	5267.80	120.57			115.13	6.21	34.23	35.00	Peak	197	358	VERTICAL
5	5356.60	47.92	54.00	-6.08	42.30	6.26	34.36	35.00	Average	197	358	VERTICAL
6	5367.40	60.24	74.00	-13.76	54.58	6.27	34.39	35.00	Peak	197	358	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	5306.80	109.47			103.96	6.23	34.28	35.00	Average	218	356	VERTICAL
2	5306.80	120.01			114.50	6.23	34.28	35.00	Peak	218	356	VERTICAL
3	5351.60	53.59	54.00	-0.41	47.97	6.26	34.36	35.00	Average	218	356	VERTICAL
4	5352.00	70.10	74.00	-3.90	64.48	6.26	34.36	35.00	Peak	218	356	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	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5316.53	106.69			101.97	5.58	33.47	34.33	200	360	VERTICAL	Average
2	5326.37	117.17			112.42	5.58	33.50	34.33	200	360	VERTICAL	Peak
3	5350.87	53.35	54.00	-0.65	48.55	5.59	33.53	34.32	200	360	VERTICAL	Average
4	5352.32	68.99	74.00	-5.01	64.19	5.59	33.53	34.32	200	360	VERTICAL	Peak

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

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11a CH 100, 116, 140 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015 ~ Aug. 10, 2015		

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5456.82	61.71	74.00	-12.29	56.67	5.63	33.72	34.31	198	12	VERTICAL	Peak
2	5460.00	48.55	54.00	-5.45	43.51	5.63	33.72	34.31	198	12	VERTICAL	Average
3	5470.00	53.95	54.00	-0.05	48.87	5.64	33.75	34.31	198	12	VERTICAL	Average
4	5470.00	70.59	74.00	-3.41	65.51	5.64	33.75	34.31	198	12	VERTICAL	Peak
5	5505.79	106.01			100.86	5.66	33.80	34.31	198	12	VERTICAL	Average
6	5505.79	116.47			111.32	5.66	33.80	34.31	198	12	VERTICAL	Peak

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

Channel 116

	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	5448.00	63.74	74.00	-10.26	57.88	6.33	34.52	34.99	Peak	205	8	VERTICAL
2	5460.00	47.86	54.00	-6.14	42.00	6.33	34.52	34.99	Average	205	8	VERTICAL
3	5466.40	63.47	74.00	-10.53	57.57	6.34	34.55	34.99	Peak	205	8	VERTICAL
4	5470.00	48.19	54.00	-5.81	42.29	6.34	34.55	34.99	Average	205	8	VERTICAL
5	5575.80	119.87			113.88	6.39	34.61	35.01	Peak	205	8	VERTICAL
6	5586.00	109.33			103.33	6.39	34.62	35.01	Average	205	8	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 MHz.

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5696.24	115.62			109.74	5.83	34.40	34.35	201	351	VERTICAL	Peak
2	5705.79	105.28			99.35	5.83	34.45	34.35	201	351	VERTICAL	Average
3	5725.29	53.04	54.00	-0.96	47.05	5.85	34.50	34.36	201	351	VERTICAL	Average
4	5725.58	68.90	74.00	-5.10	62.91	5.85	34.50	34.36	201	351	VERTICAL	Peak

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

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015 ~ Aug. 10, 2015		

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	5138.80	47.75	54.00	-6.25	42.62	6.12	34.01	35.00	Average	198	348	VERTICAL
2	5149.40	59.78	74.00	-14.22	54.61	6.13	34.04	35.00	Peak	198	348	VERTICAL
3	5253.40	110.04			104.64	6.20	34.20	35.00	Average	198	348	VERTICAL
4	5253.40	120.67			115.27	6.20	34.20	35.00	Peak	198	348	VERTICAL
5	5350.00	61.19	74.00	-12.81	55.57	6.26	34.36	35.00	Peak	198	348	VERTICAL
6	5351.20	47.92	54.00	-6.08	42.30	6.26	34.36	35.00	Average	198	348	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	5292.40	108.54			103.07	6.22	34.25	35.00	Average	215	4	VERTICAL
2	5294.00	118.95			113.44	6.23	34.28	35.00	Peak	215	4	VERTICAL
3	5350.00	53.61	54.00	-0.39	47.99	6.26	34.36	35.00	Average	215	4	VERTICAL
4	5350.00	69.57	74.00	-4.43	63.95	6.26	34.36	35.00	Peak	215	4	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	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5314.79	116.55			111.83	5.58	33.47	34.33	206	358	VERTICAL	Peak
2	5316.53	106.33			101.61	5.58	33.47	34.33	206	358	VERTICAL	Average
3	5350.87	53.31	54.00	-0.69	48.51	5.59	33.53	34.32	206	358	VERTICAL	Average
4	5353.47	69.91	74.00	-4.09	65.11	5.59	33.53	34.32	206	358	VERTICAL	Peak

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

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015 ~ Aug. 10, 2015		

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5460.00	50.29	54.00	-3.71	45.25	5.63	33.72	34.31	197	14	VERTICAL	Average
2	5460.00	65.77	74.00	-8.23	60.73	5.63	33.72	34.31	197	14	VERTICAL	Peak
3	5466.53	53.52	54.00	-0.48	48.45	5.63	33.75	34.31	197	14	VERTICAL	Average
4	5467.40	70.72	74.00	-3.28	65.65	5.63	33.75	34.31	197	14	VERTICAL	Peak
5	5503.76	106.36			101.22	5.65	33.80	34.31	197	14	VERTICAL	Average
6	5504.63	116.83			111.69	5.65	33.80	34.31	197	14	VERTICAL	Peak

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

Channel 116

	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	5443.80	63.46	74.00	-10.54	57.64	6.32	34.49	34.99	Peak	207	10	VERTICAL
2	5454.60	47.95	54.00	-6.05	42.09	6.33	34.52	34.99	Average	207	10	VERTICAL
3	5470.00	47.99	54.00	-6.01	42.09	6.34	34.55	34.99	Average	207	10	VERTICAL
4	5470.00	62.40	74.00	-11.60	56.50	6.34	34.55	34.99	Peak	207	10	VERTICAL
5	5573.40	109.52			103.53	6.39	34.61	35.01	Average	207	10	VERTICAL
6	5574.00	120.75			114.76	6.39	34.61	35.01	Peak	207	10	VERTICAL

Item 5, 6 are the fundamental frequency at 5580 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	5692.00	101.93			95.89	6.43	34.64	35.03	Average	214	6	VERTICAL
2	5692.00	111.88			105.84	6.43	34.64	35.03	Peak	214	6	VERTICAL
3	5725.00	53.16	54.00	-0.84	47.10	6.45	34.64	35.03	Average	214	6	VERTICAL
4	5726.00	69.18	74.00	-4.82	63.12	6.45	34.64	35.03	Peak	214	6	VERTICAL

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

Temperature	24℃	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015 ~ Aug. 10, 2015		

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	5286.80	112.65			107.18	6.22	34.25	35.00	Peak	205	358	VERTICAL
2	5287.40	102.87			97.40	6.22	34.25	35.00	Average	205	358	VERTICAL
3	5350.00	66.41	74.00	-7.59	60.79	6.26	34.36	35.00	Peak	205	358	VERTICAL
4	5350.40	53.47	54.00	-0.53	47.85	6.26	34.36	35.00	Average	205	358	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	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5306.53	112.27			107.58	5.57	33.45	34.33	188	2	VERTICAL	Peak
2	5308.26	101.98			97.27	5.57	33.47	34.33	188	2	VERTICAL	Average
3	5350.00	53.25	54.00	-0.75	48.45	5.59	33.53	34.32	188	2	VERTICAL	Average
4	5351.10	65.74	74.00	-8.26	60.94	5.59	33.53	34.32	188	2	VERTICAL	Peak

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

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Chain 3 + Chain 4
Test Date	Aug. 05, 2015 ~ Aug. 21, 2015		

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5459.35	65.95	74.00	-8.05	60.91	5.63	33.72	34.31	200	9	VERTICAL	Peak
2	5460.00	51.29	54.00	-2.71	46.25	5.63	33.72	34.31	200	9	VERTICAL	Average
3	5463.98	53.74	54.00	-0.26	48.67	5.63	33.75	34.31	200	9	VERTICAL	Average
4	5466.87	69.37	74.00	-4.63	64.30	5.63	33.75	34.31	200	9	VERTICAL	Peak
5	5500.74	101.61			96.47	5.65	33.80	34.31	200	9	VERTICAL	Average
6	5501.32	112.02			106.88	5.65	33.80	34.31	200	9	VERTICAL	Peak

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

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5455.80	51.64	54.00	-2.36	45.78	6.33	34.52	34.99	Average	196	9	VERTICAL
2	5457.00	67.37	74.00	-6.63	61.51	6.33	34.52	34.99	Peak	196	9	VERTICAL
3	5470.00	53.86	54.00	-0.14	47.96	6.34	34.55	34.99	Average	196	9	VERTICAL
4	5470.00	68.36	74.00	-5.64	62.46	6.34	34.55	34.99	Peak	196	9	VERTICAL
5	5534.40	114.87			108.89	6.37	34.61	35.00	Peak	196	9	VERTICAL
6	5535.60	104.77			98.79	6.37	34.61	35.00	Average	196	9	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	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5661.61	103.51			97.77	5.79	34.30	34.35	202	12	VERTICAL	Average
2	5662.47	113.94			108.20	5.79	34.30	34.35	202	12	VERTICAL	Peak
3	5725.28	53.26	54.00	-0.74	47.27	5.85	34.50	34.36	202	12	VERTICAL	Average
4	5727.31	69.42	74.00	-4.58	63.41	5.87	34.50	34.36	202	12	VERTICAL	Peak

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

Temperature	24°C	Humidity	57%
Test Engineer	Lucas Huang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58, 106, 122 / Chain 3 + Chain 4
Test Date	Aug. 10, 2015 / Oct. 16, 2015		

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5276.25	98.29			93.67	5.56	33.39	34.33	204	360	VERTICAL	Average
2	5277.70	109.44			104.79	5.56	33.42	34.33	204	360	VERTICAL	Peak
3	5353.68	53.69	54.00	-0.31	48.89	5.59	33.53	34.32	204	360	VERTICAL	Average
4	5356.57	65.57	74.00	-8.43	60.75	5.59	33.55	34.32	204	360	VERTICAL	Peak

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	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5457.64	65.13	74.00	-8.87	60.09	5.63	33.72	34.31	199	12	VERTICAL	Peak
2	5460.00	53.01	54.00	-0.99	47.97	5.63	33.72	34.31	199	12	VERTICAL	Average
3	5464.88	68.11	74.00	-5.89	63.04	5.63	33.75	34.31	199	12	VERTICAL	Peak
4	5465.60	53.82	54.00	-0.18	48.75	5.63	33.75	34.31	199	12	VERTICAL	Average
5	5503.23	95.46			90.32	5.65	33.80	34.31	199	12	VERTICAL	Average
6	5519.15	106.59			101.39	5.66	33.85	34.31	199	12	VERTICAL	Peak
7	5725.00	50.98	54.00	-3.02	44.99	5.85	34.50	34.36	199	12	VERTICAL	Average
8	5726.45	63.12	74.00	-10.88	57.13	5.85	34.50	34.36	199	12	VERTICAL	Peak

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

Channel 122

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5586.00	100.74			94.19	6.83	34.05	34.33	231	6	VERTICAL	Average
2	5599.00	111.04			104.44	6.83	34.10	34.33	231	6	VERTICAL	Peak
3	5725.00	53.25	54.00	-0.75	46.25	6.86	34.50	34.36	231	6	VERTICAL	Average
4	5725.00	68.68	74.00	-5.32	61.68	6.86	34.50	34.36	231	6	VERTICAL	Peak

Item 1, 2 are the fundamental frequency at 5610 MHz.

Note:

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

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

4.6. Frequency Stability Measurement

4.6.1. 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).

4.6.2. Measuring Instruments and Setting

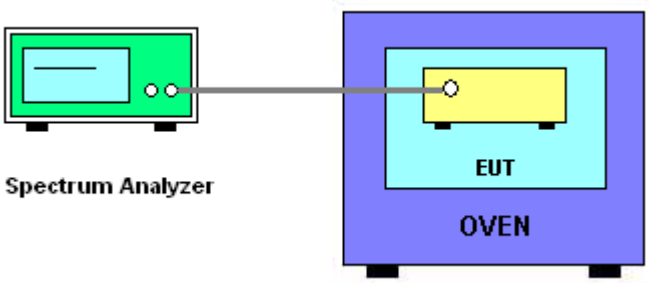
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.6.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10^6 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
6. Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 minutes.
7. The test extreme voltage is to change the primary supply voltage from 85 to 115 percent of the nominal value
8. Extreme temperature is 0°C~50°C.

4.6.4. Test Setup Layout



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 un-modulation transmitting mode.

4.6.7. Test Result of Frequency Stability

Temperature	24°C	Humidity	57%
Test Engineer	Andy Tsai	Test Date	Aug. 18, 2015 ~ Aug. 19, 2015

Mode: 20 MHz / Chain 3

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5300 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5299.9904	5299.9934	5299.9994	5300.0024
110.00	5299.9918	5299.9886	5299.9849	5299.9817
93.50	5299.9969	5299.9999	5300.0059	5300.0089
Max. Deviation (MHz)	0.0096	0.0114	0.0152	0.0184
Max. Deviation (ppm)	1.82	2.16	2.86	3.46
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5300 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5299.9902	5299.9932	5299.9992	5300.0022
10	5299.9904	5299.9934	5299.9994	5300.0024
20	5299.9918	5299.9886	5299.9849	5299.9817
30	5299.9969	5299.9999	5300.0059	5300.0089
40	5299.9981	5300.0011	5300.0071	5300.0101
50	5300.0032	5300.0062	5300.0122	5300.0152
Max. Deviation (MHz)	0.0098	0.0114	0.0152	0.0184
Max. Deviation (ppm)	1.86	2.16	2.86	3.46
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5580 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5579.9874	5579.9904	5579.9964	5579.9994
110.00	5579.9888	5579.9856	5579.9819	5579.9787
93.50	5579.9939	5579.9969	5580.0029	5580.0059
Max. Deviation (MHz)	0.0126	0.0144	0.0181	0.0213
Max. Deviation (ppm)	2.25	2.58	3.24	3.81
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5580 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5579.9872	5579.9902	5579.9962	5579.9992
10	5579.9874	5579.9904	5579.9964	5579.9994
20	5579.9888	5579.9856	5579.9819	5579.9787
30	5579.9939	5579.9969	5580.0029	5580.0059
40	5579.9951	5579.9981	5580.0041	5580.0071
50	5580.0002	5580.0032	5580.0092	5580.0122
Max. Deviation (MHz)	0.0128	0.0144	0.0181	0.0213
Max. Deviation (ppm)	2.29	2.58	3.24	3.81
Result	Complies			

Mode: 40 MHz / Chain 3

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5310 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5309.9924	5309.9954	5310.0014	5310.0044
110.00	5309.9938	5309.9906	5309.9869	5309.9837
93.50	5309.9989	5310.0019	5310.0079	5310.0109
Max. Deviation (MHz)	0.0076	0.0094	0.0131	0.0163
Max. Deviation (ppm)	1.43	1.77	2.47	3.07
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5310 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5309.9922	5309.9952	5310.0012	5310.0042
10	5309.9924	5309.9954	5310.0014	5310.0044
20	5309.9938	5309.9906	5309.9869	5309.9837
30	5309.9989	5310.0019	5310.0079	5310.0109
40	5310.0001	5310.0031	5310.0091	5310.0121
50	5310.0052	5310.0082	5310.0142	5310.0172
Max. Deviation (MHz)	0.0078	0.0094	0.0142	0.0172
Max. Deviation (ppm)	1.47	1.77	2.67	3.24
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5550 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5549.9915	5549.9945	5550.0005	5550.0035
110.00	5549.9929	5549.9897	5549.9860	5549.9828
93.50	5549.9980	5550.0010	5550.0070	5550.0100
Max. Deviation (MHz)	0.0085	0.0103	0.0140	0.0172
Max. Deviation (ppm)	1.53	1.86	2.52	3.10
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5550 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5549.9913	5549.9943	5550.0003	5550.0033
10	5549.9915	5549.9945	5550.0005	5550.0035
20	5549.9929	5549.9897	5549.9860	5549.9828
30	5549.9980	5550.0010	5550.0070	5550.0100
40	5549.9992	5550.0022	5550.0082	5550.0112
50	5550.0043	5550.0073	5550.0133	5550.0163
Max. Deviation (MHz)	0.0087	0.0103	0.0140	0.0172
Max. Deviation (ppm)	1.57	1.86	2.52	3.10
Result	Complies			

Mode: 80 MHz / Chain 3

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5290 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5289.9921	5289.9951	5290.0011	5290.0041
110.00	5289.9923	5289.9953	5290.0013	5290.0043
93.50	5289.9937	5289.9905	5289.9868	5289.9836
Max. Deviation (MHz)	0.0079	0.0095	0.0132	0.0164
Max. Deviation (ppm)	1.49	1.80	2.50	3.10
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5290 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5289.9921	5289.9951	5290.0011	5290.0041
10	5289.9923	5289.9953	5290.0013	5290.0043
20	5289.9937	5289.9905	5289.9868	5289.9836
30	5289.9988	5290.0018	5290.0078	5290.0108
40	5290.0000	5290.0030	5290.0090	5290.0120
50	5290.0051	5290.0081	5290.0141	5290.0171
Max. Deviation (MHz)	0.0079	0.0095	0.0141	0.0171
Max. Deviation (ppm)	1.49	1.80	2.67	3.23
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5530 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5529.9972	5530.0002	5530.0062	5530.0092
110.00	5529.9974	5530.0004	5530.0064	5530.0094
93.50	5529.9988	5529.9956	5529.9919	5529.9887
Max. Deviation (MHz)	0.0028	0.0044	0.0081	0.0113
Max. Deviation (ppm)	0.51	0.80	1.46	2.04
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5530 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
0	5529.9972	5530.0002	5530.0062	5530.0092
10	5529.9974	5530.0004	5530.0064	5530.0094
20	5529.9988	5529.9956	5529.9919	5529.9887
30	5530.0039	5530.0069	5530.0129	5530.0159
40	5530.0051	5530.0081	5530.0141	5530.0171
50	5530.0102	5530.0132	5530.0192	5530.0222
Max. Deviation (MHz)	0.0102	0.0132	0.0192	0.0222
Max. Deviation (ppm)	1.84	2.39	3.47	4.01
Result	Complies			

4.7. Antenna Requirements

4.7.1. 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.

4.7.2. 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
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 28, 2014	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 25, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 12, 2014	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)

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

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Radiated Emission (1GHz ~ 18GHz)	3.7 dB	Confidence levels of 95%
Radiated Emission (18GHz ~ 40GHz)	3.5 dB	Confidence levels of 95%
Conducted Emission	1.7 dB	Confidence levels of 95%