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FCC RADIO TEST REPORT

Applicant's company	**LITE-ON Technology Corp.**
Applicant Address	Bldg. C, 90, Chien 1 Rd., Chung-Ho, New Taipei City, 23585 Taiwan
FCC ID	**PPQ-O90N**
Manufacturer's company	**Lite-On Network Communication (Dongguan) Limited**
Manufacturer Address	30#Keji Rd.,Yin Hu Industrial Area,Qingxi Town,DongGuan City,Guangdong,China

Product Name	Access Point
Brand Name	MOJO
Model No.	O-90-N, O-90-N30, O-90-N120
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5250 MHz / 5725 ~ 5850 MHz
Received Date	Mar. 25, 2016
Final Test Date	May 05, 2016
Submission Type	Class II 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 v01r02, 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
FR631907-01AB	Rev. 01	Initial issue of report	May 18, 2016

1. VERIFICATION OF COMPLIANCE

Product Name	:	Access Point
Brand Name	:	MOJO
Model No.	:	O-90-N, O-90-N30, O-90-N120
Applicant	:	LITE-ON Technology Corp.
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 Mar. 25, 2016 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	4.08 dB
4.2	15.407(a)	26dB Spectrum Bandwidth and 99% Occupied Bandwidth	Complies	-
4.3	15.407(e)	6dB Spectrum Bandwidth	Complies	-
4.4	15.407(a)	Maximum Conducted Output Power	Complies	0.03 dB
4.5	15.407(a)	Power Spectral Density	Complies	0.09 dB
4.6	15.407(b)	Radiated Emissions	Complies	3.10 dB
4.7	15.407(b)	Band Edge Emissions	Complies	0.05 dB
4.8	15.407(g)	Frequency Stability	Complies	-
4.9	15.203	Antenna Requirements	Complies	-

3. GENERAL INFORMATION

3.1. Product Details

Items	Description
Product Type	WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	From Internal Power Supply or 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	5150 ~ 5250 MHz / 5725 ~ 5850 MHz
Channel Number	9 for 20MHz bandwidth ; 4 for 40MHz bandwidth 2 for 80MHz bandwidth
Channel Band Width (99%)	**<For EUT 1>** Band 1: IEEE 802.11a: 16.85 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.41 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.54 MHz Band 4: IEEE 802.11a: 16.93 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.41 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.63 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 73.23 MHz **<For EUT 2>** Band 1: IEEE 802.11a: 16.76 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.32 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.47 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 74.67 MHz Band 4: IEEE 802.11a: 16.76 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.90 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.25 MHz

Maximum Conducted Output Power	**<For EUT 1>** Band 1: IEEE 802.11a: 19.42 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.47 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.60 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 13.77 dBm Band 4: IEEE 802.11a: 24.21 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 23.95 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 24.21 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 12.41 dBm **<For EUT 2>** Band 1: IEEE 802.11a: 22.70 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 22.49 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 25.33 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 13.33 dBm Band 4: IEEE 802.11a: 27.15 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 27.09 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 24.27 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 14.51 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
Beamforming Function	☐ With beamforming	☒ Without beamforming
Operate Condition	☒ Indoor	☐ Outdoor

Antenna and Band width

Antenna	Three (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)	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 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 cable*1, Non-shielded, 5m.

3.3. Table for Filed Antenna

<For EUT 1>

Ant.	Brand	Model No.	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	LITE-ON	WP939i (30x30 deg.)	PIFA Antenna	MMCX	5.80	12.64
2	LITE-ON	WP939i (30x30 deg.)	PIFA Antenna	MMCX	4.89	11.71
3	LITE-ON	WP939i (30x30 deg.)	PIFA Antenna	MMCX	5.64	11.28
Correlated Composite Gain (3TX 1S)					10.22	16.50
Uncorrelated Composite Gain (3TX 3S)					5.46	11.76

Note: The EUT has three antennas.

For 2.4GHz function:

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

Ant. 1, Ant. 2 and Ant. 3 can be used as transmitting/receiving antenna.

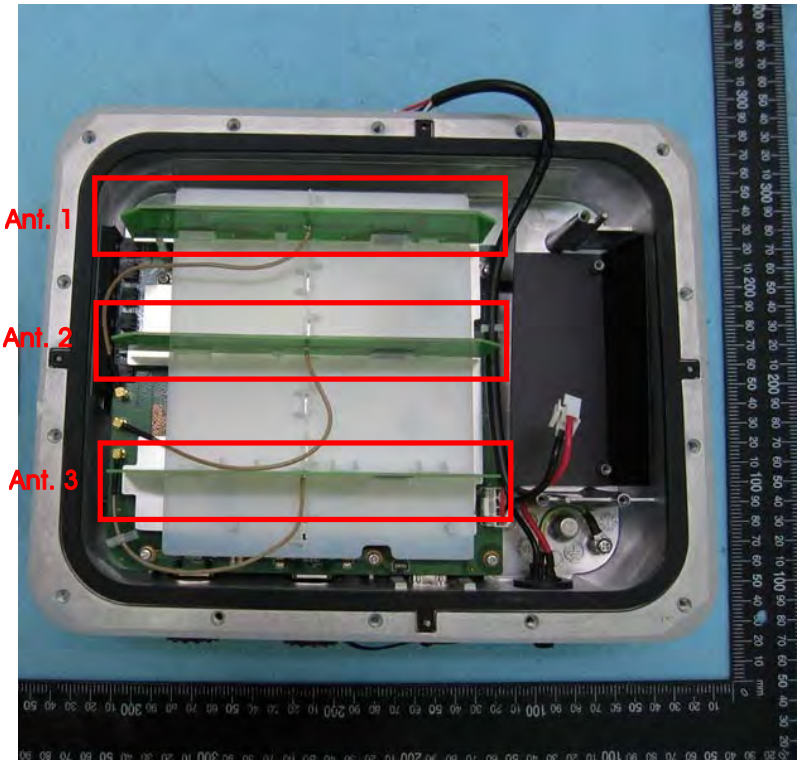
Ant. 1, Ant. 2 and Ant. 3 could transmit/receive simultaneously.

For 5GHz function:

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

Ant. 1, Ant. 2 and Ant. 3 can be used as transmitting/receiving antenna.

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



<For EUT 2>

Ant.	Brand	Model No.	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	LITE-ON	WP939i (30x120 deg.)	PIFA Antenna	MMCX	6.77	8.57
2	LITE-ON	WP939i (30x120 deg.)	PIFA Antenna	MMCX	6.47	9.34
3	LITE-ON	WP939i (30x120 deg.)	PIFA Antenna	MMCX	6.56	8.40
Correlated Composite Gain (3TX 1S)					11.37	13.55
Uncorrelated Composite Gain (3TX 3S)					6.60	8.79

Note: The EUT has three antennas.

For 2.4GHz function:

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

Ant. 1, Ant. 2 and Ant. 3 can be used as transmitting/receiving antenna.

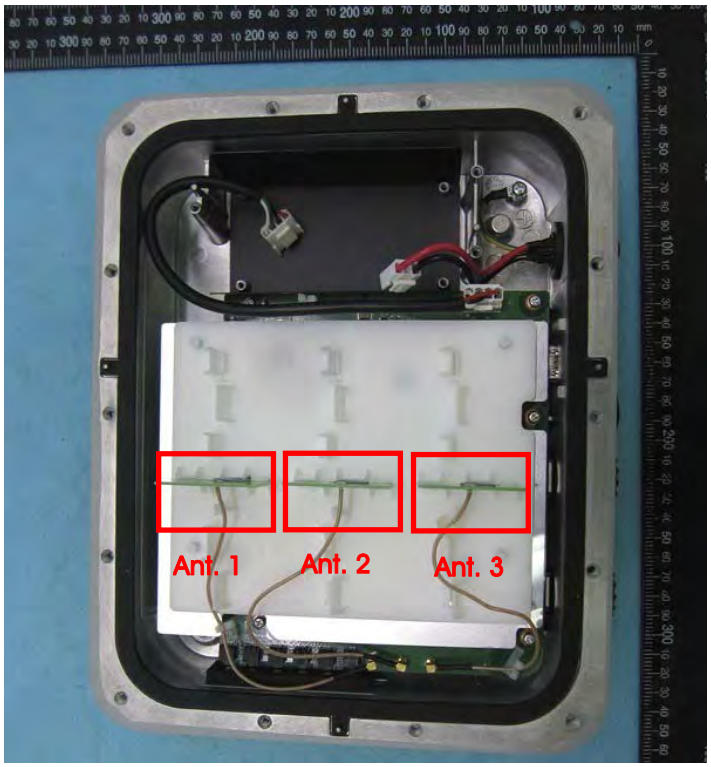
Ant. 1, Ant. 2 and Ant. 3 could transmit/receive simultaneously.

For 5GHz function:

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

Ant. 1, Ant. 2 and Ant. 3 can be used as transmitting/receiving antenna.

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



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 36, 40, 44, 48, 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 38, 46, 151, 159.

For 80MHz bandwidth systems, use Channel 42, 155.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5150~5250 MHz Band 1	36	5180 MHz	44	5220 MHz
	38	5190 MHz	46	5230 MHz
	40	5200 MHz	48	5240 MHz
	42	5210 MHz	-	-
5725~5850 MHz Band 4	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz

3.5. Table for Test Modes

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

Test Items	Mode		Data Rate	Channel	Ant.
AC Power Conducted Emission	Normal Link		-	-	-
Max. Conducted Output Power	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157/165	1+2+3
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157/165	1+2+3
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2+3
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2+3
Power Spectral Density	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157/165	1+2+3
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157/165	1+2+3
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2+3
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2+3
26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157/165	1+2+3
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157/165	1+2+3
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2+3
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2+3
6dB Spectrum Bandwidth Measurement	11a/BPSK	Band 4	6Mbps	149/157/165	1+2+3
	11ac VHT20	Band 4	MCS0/Nss1	149/157/165	1+2+3
	11ac VHT40	Band 4	MCS0/Nss1	151/159	1+2+3
	11ac VHT80	Band 4	MCS0/Nss1	155	1+2+3
Radiated Emission Below 1GHz	Normal Link		-	-	-
Radiated Emission Above 1GHz	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157/165	1+2+3
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157/165	1+2+3
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2+3
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2+3

Band Edge Emission	11a/BPSK	Band 1&4	6Mbps	36/40/48/149/157/165	1+2+3
	11ac VHT20	Band 1&4	MCS0/Nss1	36/40/48/149/157/165	1+2+3
	11ac VHT40	Band 1&4	MCS0/Nss1	38/46/151/159	1+2+3
	11ac VHT80	Band 1&4	MCS0/Nss1	42/155	1+2+3
Frequency Stability	20 MHz	Band 1&4	-	40/157	1
	40 MHz	Band 1&4	-	38/151	1
	80 MHz	Band 1&4	-	42/155	1

Note 1: 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.

Note 2: The PoE is for measurement only, would not be marketed and the information as below:

Support Unit	Brand	Model	FCC ID
PoE	Microsemi	PD-9501-10G/AC	DoC

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. EUT 1 with AC Power Supply 1

Mode 2. EUT 1 with AC Power Supply 2

Mode 3. EUT 1 with PoE

Mode 4. EUT 2 with AC Power Supply 1

Mode 5. EUT 2 with AC Power Supply 2

Mode 6. EUT 2 with PoE

Mode 1 and Mode 5 generated the worst test result, so it was recorded in this report.

For Radiated Emission test <Below 1GHz>:

Mode 1. EUT 1 with AC Power Supply 1 in Y-axis

Mode 2. EUT 1 with AC Power Supply 1 in Z-axis

Mode 1 has been evaluated to be the worst case among Mode 1~2, thus measurement for Mode 3 ~4 will follow this same test mode.

Mode 3. EUT 1 with AC Power Supply 2 in Y-axis

Mode 4. EUT 1 with PoE in Y-axis

Mode 5. EUT 2 with AC Power Supply 1 in Y-axis

Mode 6. EUT 2 with AC Power Supply 1 in Z-axis

Mode 5 has been evaluated to be the worst case among Mode 5~6, thus measurement for Mode 7~8 will follow this same test mode.

Mode 7. EUT 2 with AC Power Supply 2 in Y-axis

Mode 8. EUT 2 with PoE in Y-axis

Mode 3 and Mode 7 generated the worst test result, so it was recorded in this report.

For Radiated Emission test <Above 1GHz>:

Radiated Emissions above 1GHz test was performed at its 2-axis (Y-axis and Z-axis). Y-axis was the worst case, so it's recorded in this report.

Mode 1. CTX-Place EUT 1 in Y-axis

Mode 2. CTX-Place EUT 2 in Y-axis

All test results were recorded in the report.

For Radiated Emission Co-location:

Mode 1. CTX-Place EUT 1 in Y-axis

Mode 2. CTX-Place EUT 1 in Z-axis

Mode 3. CTX-Place EUT 2 in Y-axis

Mode 4. CTX-Place EUT 2 in Z-axis

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

For Co-location MPE and Radiated Emission Co-location Test:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA631907-01) and Radiated Emission Co-location (please refer to Appendix B) tests are 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 Designation No.**	**IC File No.**	**VCCI Reg. No**
03CH01-CB	SAC	Hsin Chu	TW0006	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	TW0006	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

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

3.7. Table for Multiple Listing

The EUT has three model names which are identical to each other in all aspects except for the following table:

Model Name	EUT	Description	Remark
O-90-N	-	The difference between these models is the antennas equipped.	Original
O-90-N30	EUT 1		New
O-90-N120	EUT 2		New

Note: Only the new models were tested and recorded in this test report.

3.8. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR631907AB

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

Modifications	Performance Checking
1. Adding two model names: O-90-N30, O-90-N120	1. AC Power Line Conducted 2. Maximum Conducted Output Power 3. Power Spectral Density 4. 6dB Spectrum Bandwidth 5. Radiated Emissions 6. Emissions Measurement 7. Radiated Emission Co-location
2. Adding two sets of new antennas with higher gains. (1) Model name: O-90-N30 / Brand: LITE-ON / Model: WP939i (30x30 deg.) / Type: PIFA Antenna (2) Model name: O-90-N120 / Brand: LITE-ON / Model: WP939i (30x120 deg.) / Type: PIFA Antenna	

3.9. Table for AC Power Supply

The EUT with two kinds of AC power supply system:

AC Power Supply System	Brand Name	Model Name
AC Power Supply 1	FSP	FSP045-1P65
AC Power Supply 2	ASIAN POWER	NW-30A54

3.10. Table for Supporting Units

For Test Site No: CO01-CB

Test Mode: Mode 1

Support Unit	Brand	Model	FCC ID
NB*5	DELL	E6430	DoC
Device	MOJO	O-90-N30	DoC

Test Mode: Mode 5

Support Unit	Brand	Model	FCC ID
NB*5	DELL	E6430	DoC
Device	MOJO	O-90-N120	DoC

For Test Site No: 03CH01-CB<Below 1GHz>

Test Mode: Mode 3

Support Unit	Brand	Model	FCC ID
NB*3	DELL	E4300	DoC
NB*2	Apple	Mac Book	DoC
Device	MOJO	O-90-N30	DoC

Test Mode: Mode 7

Support Unit	Brand	Model	FCC ID
NB*3	DELL	E4300	DoC
NB*2	Apple	Mac Book	DoC
Device	MOJO	O-90-N120	DoC

For Test Site No: 03CH01-CB<Above 1GHz>

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC
PoE	Microsemi	PD-9501-10G/AC	DoC

For Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	E4300	DoC
PoE	Microsemi	PD-9501-10G/AC	DoC

3.11. Table for Parameters of Test Software Setting

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

<For EUT 1>

Test Software Version	Artgui					
Mode	Test Frequency (MHz)					
	NCB: 20MHz					
	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	14.5	14.5	14.5	17	19	18.5
802.11ac MCS0/Nss1 VHT20	14.5	14.5	14.5	17	19	19
Mode	NCB: 40MHz					
802.11ac MCS0/Nss1 VHT40	5190 MHz		5230 MHz		5755 MHz	5795 MHz
	13.5		18		11	20
Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5210 MHz				5775 MHz	
	9.5				8	

<For EUT 2>

Test Software Version	Artgui					
Mode	Test Frequency (MHz)					
	NCB: 20MHz					
	5180 MHz	5200 MHz	5240 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	17	17	17	20	22.5	21
802.11ac MCS0/Nss1 VHT20	17	17	17	19	22.5	20
Mode	NCB: 40MHz					
802.11ac MCS0/Nss1 VHT40	5190 MHz		5230 MHz		5755 MHz	5795 MHz
	12.5		20.5		14	20
Mode	NCB: 80MHz					
802.11ac MCS0/Nss1 VHT80	5210 MHz				5775 MHz	
	9.5				11	

3.12. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.13. Duty Cycle

<For EUT 1>

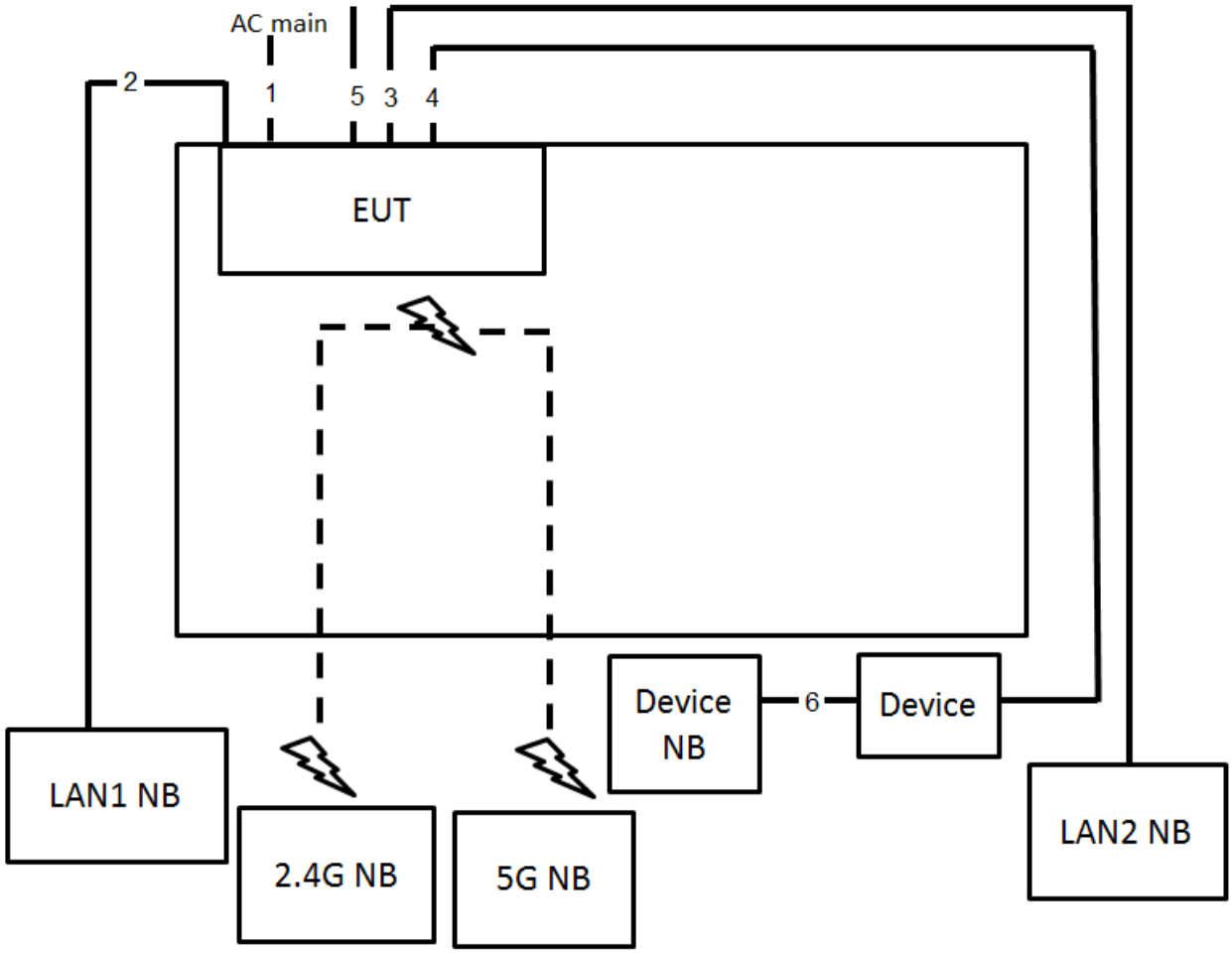
Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.050	2.110	97.16%	0.13	0.49
802.11ac MCS0/Nss1 VHT20	1.890	1.970	95.94%	0.18	0.53
802.11ac MCS0/Nss1 VHT40	0.924	1.008	91.67%	0.38	1.08
802.11ac MCS0/Nss1 VHT80	0.440	0.502	87.65%	0.57	2.27

<For EUT 2>

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.027	2.099	96.57%	0.15	0.49
802.11ac MCS0/Nss1 VHT20	1.890	2.035	92.87%	0.32	0.53
802.11ac MCS0/Nss1 VHT40	0.913	1.003	91.05%	0.41	1.09
802.11ac MCS0/Nss1 VHT80	0.458	0.518	88.44%	0.53	2.18

3.14.Test Configurations

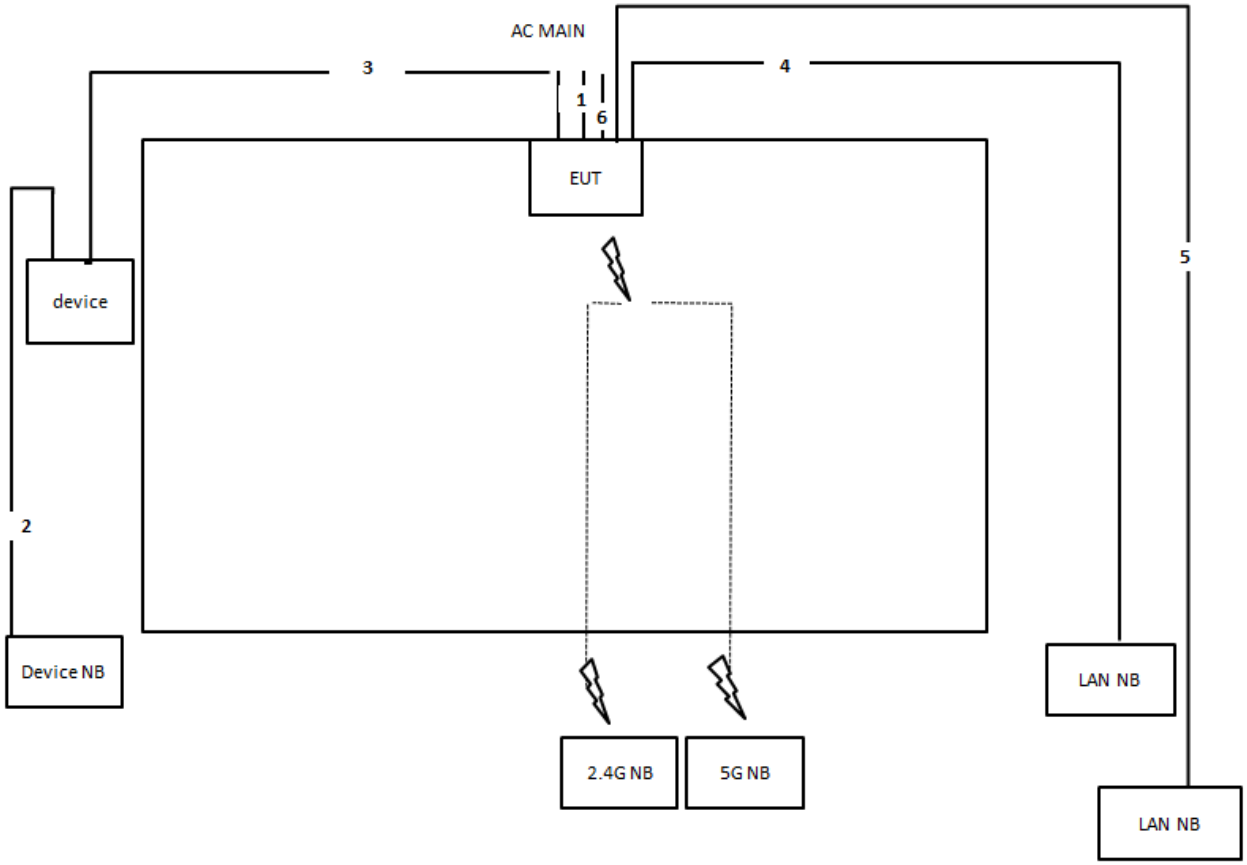
3.14.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	5m
2	RJ-45 cable	No	10m
3	RJ-45 cable	No	10m
4	Fiber cable	No	10m
5	Ground cable	Yes	1.5m
6	RJ-45 cable	No	1.5m

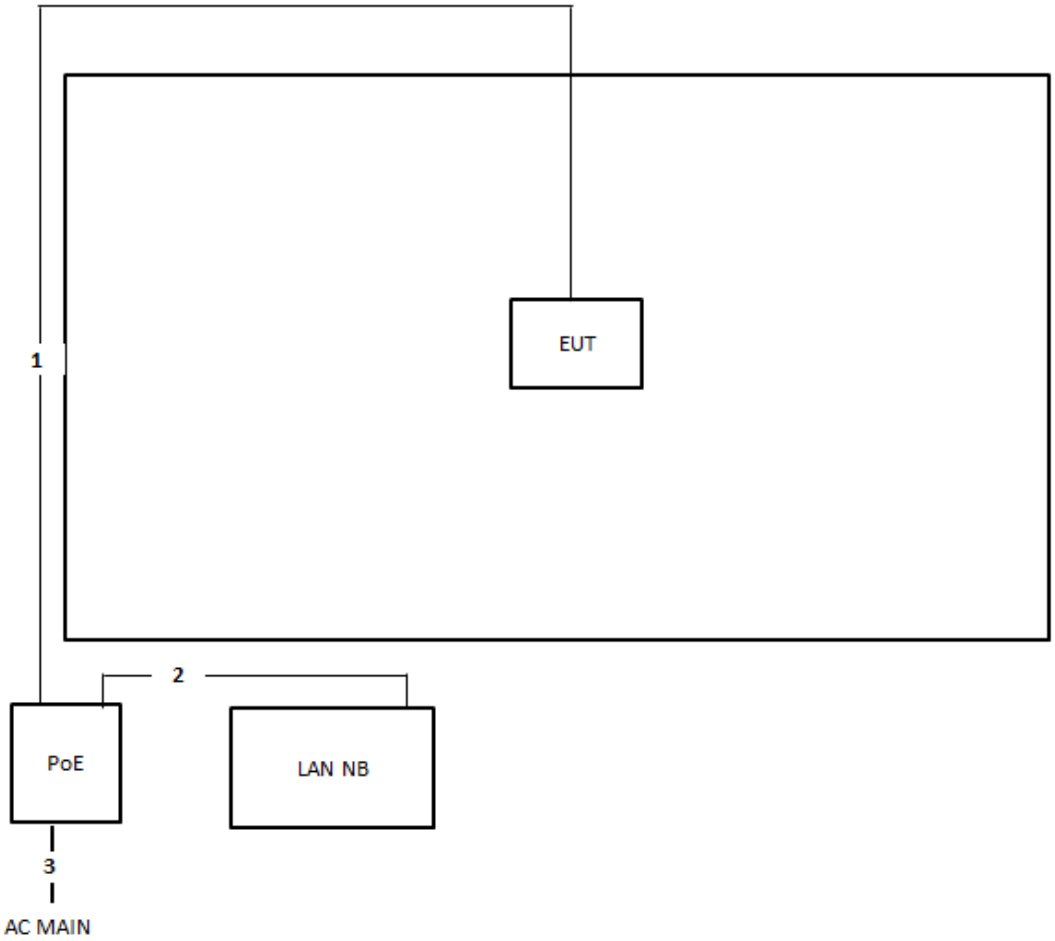
3.14.2. Radiation Emissions Test Configuration

Test Configuration: 30MHz~1GHz



Item	Connection	Shielded	Length
1	Power cable	No	5m
2	RJ-45 cable	No	1.5m
3	Fiber cable	No	10m
4	RJ-45 cable	No	10m
5	RJ-45 cable	No	10m
6	Ground cable	Yes	1.5m

Test Configuration: above 1GHz



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

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

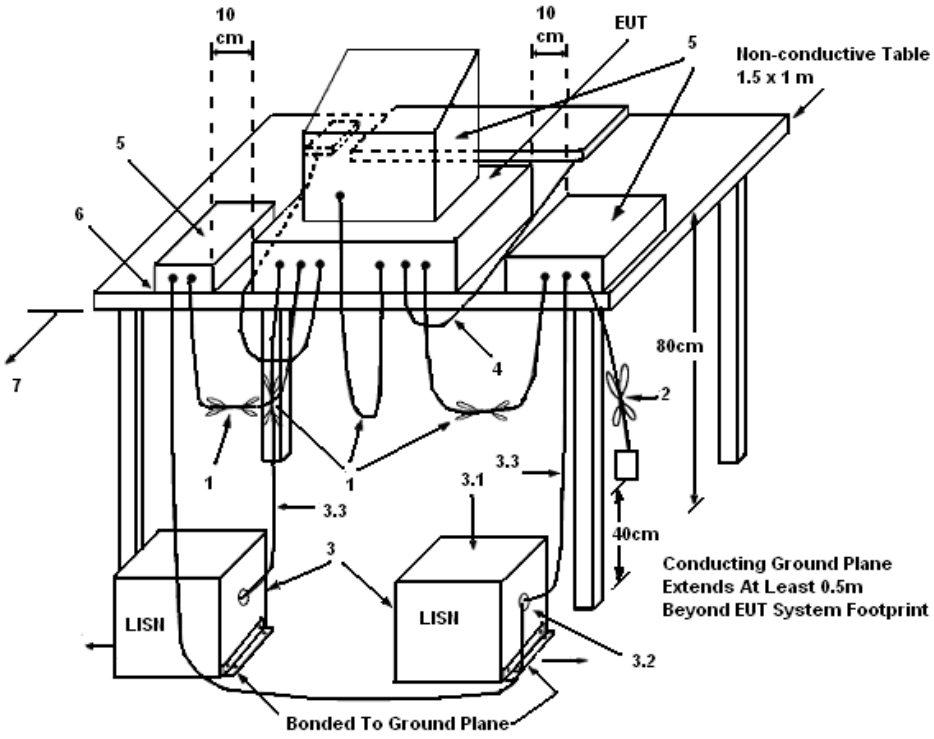
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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.

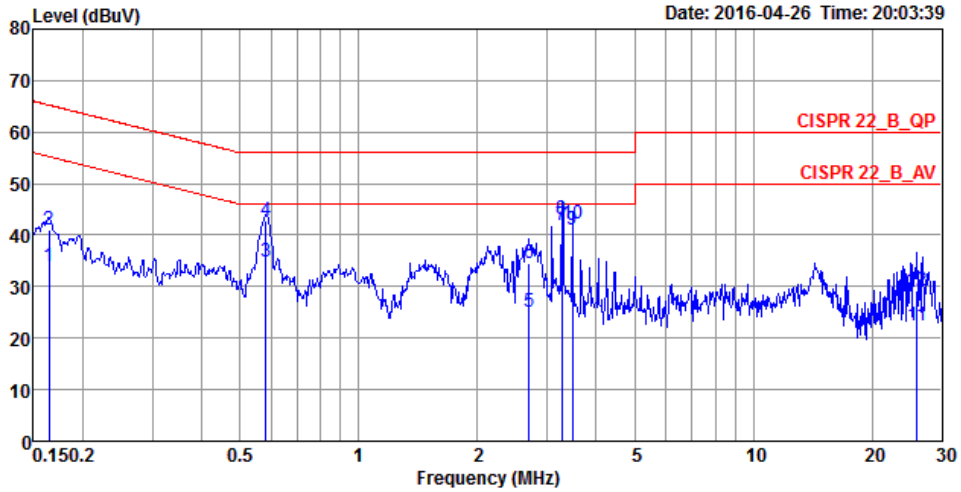
4.1.6. EUT Operation during Test

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

4.1.7. Results of AC Power Line Conducted Emissions Measurement

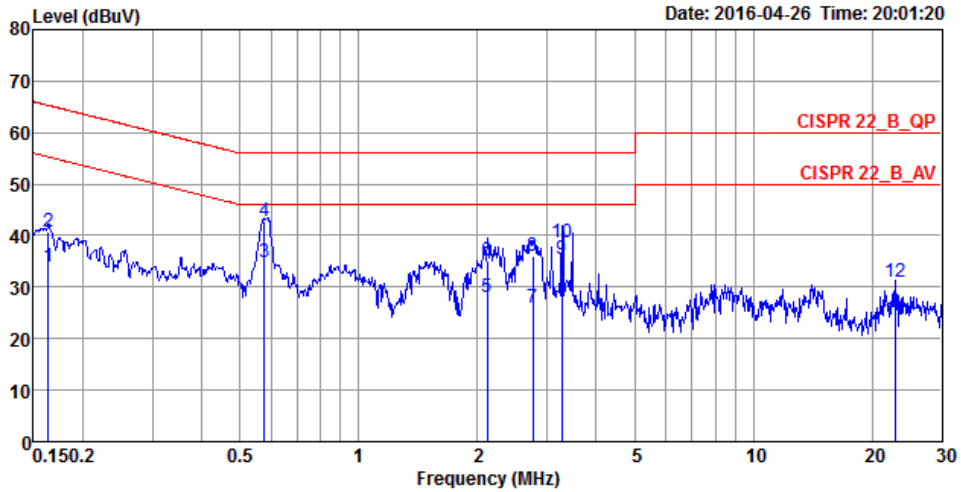
<For EUT 1>

Temperature	23℃	Humidity	58%
Test Engineer	Deven Huang	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	0.1641	33.86	-21.39	55.25	23.82	10.02	0.02	LINE	Average
2	0.1641	41.00	-24.25	65.25	30.96	10.02	0.02	LINE	QP
3	0.5823	34.97	-11.03	46.00	25.00	9.93	0.04	LINE	Average
4	0.5823	42.80	-13.20	56.00	32.83	9.93	0.04	LINE	QP
5	2.7068	25.01	-20.99	46.00	14.99	9.97	0.05	LINE	Average
6	2.7068	34.50	-21.50	56.00	24.48	9.97	0.05	LINE	QP
7	3.2756	41.92	-4.08	46.00	31.88	9.98	0.06	LINE	Average
8	3.2756	43.23	-12.77	56.00	33.19	9.98	0.06	LINE	QP
9	3.4722	41.14	-4.86	46.00	31.10	9.98	0.06	LINE	Average
10	3.4722	42.27	-13.73	56.00	32.23	9.98	0.06	LINE	QP
11	26.0012	22.58	-27.42	50.00	11.84	10.47	0.27	LINE	Average
12	26.0012	29.29	-30.71	60.00	18.55	10.47	0.27	LINE	QP

Temperature	23°C	Humidity	58%
Test Engineer	Deven Huang	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 1



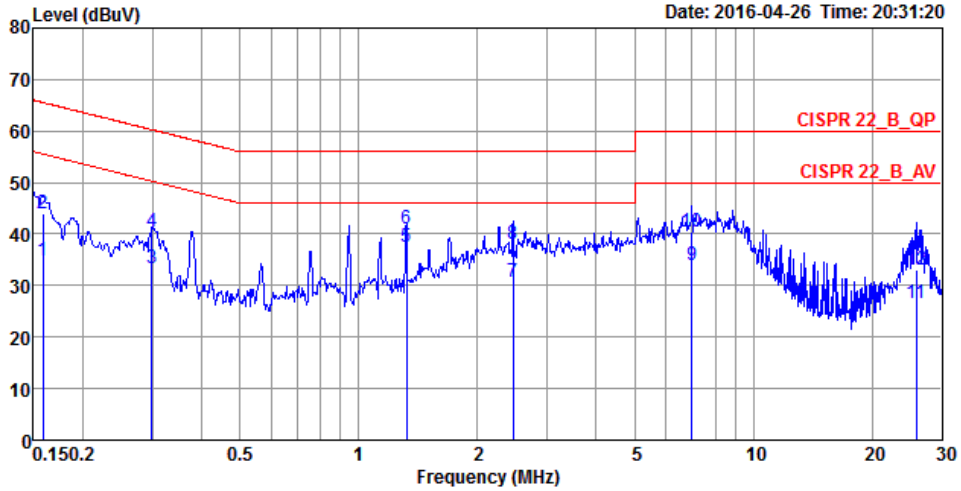
	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1633	33.88	-21.42	55.30	23.84	10.02	0.02	NEUTRAL	Average
2	0.1633	40.75	-24.55	65.30	30.71	10.02	0.02	NEUTRAL	QP
3	0.5762	34.84	-11.16	46.00	24.87	9.93	0.04	NEUTRAL	Average
4	0.5762	42.86	-13.14	56.00	32.89	9.93	0.04	NEUTRAL	QP
5	2.1213	27.92	-18.08	46.00	17.90	9.96	0.06	NEUTRAL	Average
6	2.1213	35.24	-20.76	56.00	25.22	9.96	0.06	NEUTRAL	QP
7	2.7648	26.08	-19.92	46.00	16.06	9.97	0.05	NEUTRAL	Average
8	2.7648	36.08	-19.92	56.00	26.06	9.97	0.05	NEUTRAL	QP
9	3.2756	35.47	-10.53	46.00	25.43	9.98	0.06	NEUTRAL	Average
10	3.2756	38.79	-17.21	56.00	28.75	9.98	0.06	NEUTRAL	QP
11	22.8965	23.67	-26.33	50.00	13.02	10.38	0.27	NEUTRAL	Average
12	22.8965	30.88	-29.12	60.00	20.23	10.38	0.27	NEUTRAL	QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

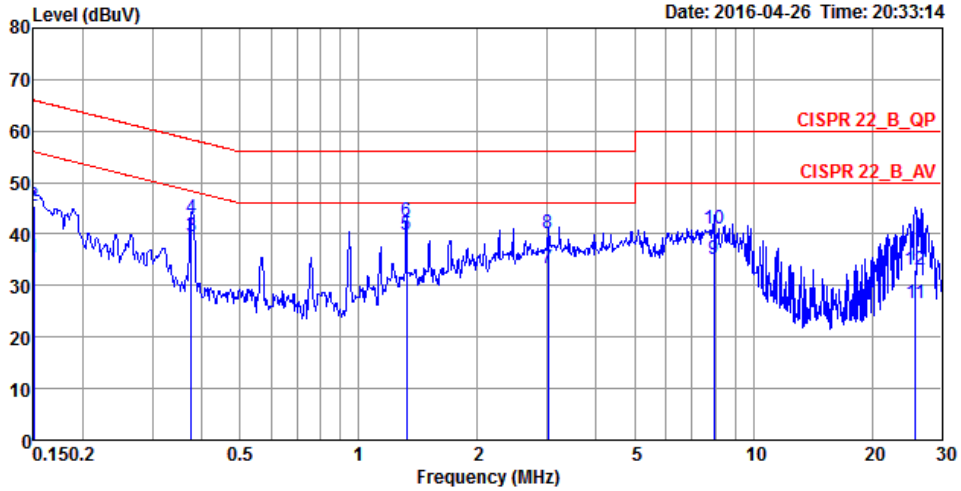
<For EUT 2>

Temperature	23℃	Humidity	58%
Test Engineer	Deven Huang	Phase	Line
Configuration	Normal Link	Test Mode	Mode 5



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1582	34.69	-20.87	55.56	24.65	10.02	0.02	LINE	Average
2	0.1582	44.07	-21.49	65.56	34.03	10.02	0.02	LINE	QP
3	0.2987	33.35	-16.93	50.28	23.39	9.92	0.04	LINE	Average
4	0.2987	40.37	-19.91	60.28	30.41	9.92	0.04	LINE	QP
5	1.3238	37.47	-8.53	46.00	27.47	9.95	0.05	LINE	Average
6	1.3238	41.13	-14.87	56.00	31.13	9.95	0.05	LINE	QP
7	2.4606	30.81	-15.19	46.00	20.79	9.97	0.05	LINE	Average
8	2.4606	37.94	-18.06	56.00	27.92	9.97	0.05	LINE	QP
9	6.9878	33.85	-16.15	50.00	23.66	10.07	0.12	LINE	Average
10	6.9878	40.39	-19.61	60.00	30.20	10.07	0.12	LINE	QP
11	25.8638	26.52	-23.48	50.00	15.79	10.46	0.27	LINE	Average
12	25.8638	33.21	-26.79	60.00	22.48	10.46	0.27	LINE	QP

Temperature	23°C	Humidity	58%
Test Engineer	Deven Huang	Phase	Neutral
Configuration	Normal Link	Test Mode	Mode 5



	Freq	Level	Over Limit	Limit Line	Read Level	LISN Factor	Cable Loss	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB		
1	0.1500	35.38	-20.62	56.00	25.34	10.02	0.02	NEUTRAL	Average
2	0.1500	45.45	-20.55	66.00	35.41	10.02	0.02	NEUTRAL	QP
3	0.3771	39.46	-8.88	48.34	29.50	9.92	0.04	NEUTRAL	Average
4	0.3771	43.09	-15.25	58.34	33.13	9.92	0.04	NEUTRAL	QP
5	1.3238	39.91	-6.09	46.00	29.91	9.95	0.05	NEUTRAL	Average
6	1.3238	42.63	-13.37	56.00	32.63	9.95	0.05	NEUTRAL	QP
7	3.0253	33.49	-12.51	46.00	23.46	9.98	0.05	NEUTRAL	Average
8	3.0253	40.17	-15.83	56.00	30.14	9.98	0.05	NEUTRAL	QP
9	7.9353	35.06	-14.94	50.00	24.80	10.09	0.17	NEUTRAL	Average
10	7.9353	41.17	-18.83	60.00	30.91	10.09	0.17	NEUTRAL	QP
11	25.7271	26.57	-23.43	50.00	15.84	10.46	0.27	NEUTRAL	Average
12	25.7271	33.19	-26.81	60.00	22.46	10.46	0.27	NEUTRAL	QP

Note:

Level = Read Level + LISN Factor + Cable Loss.

4.2. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.2.1. Limit

No restriction limits.

4.2.2. Measuring Instruments and Setting

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

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

4.2.3. Test Procedures

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%.

4.2.4. Test Setup Layout

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

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

4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

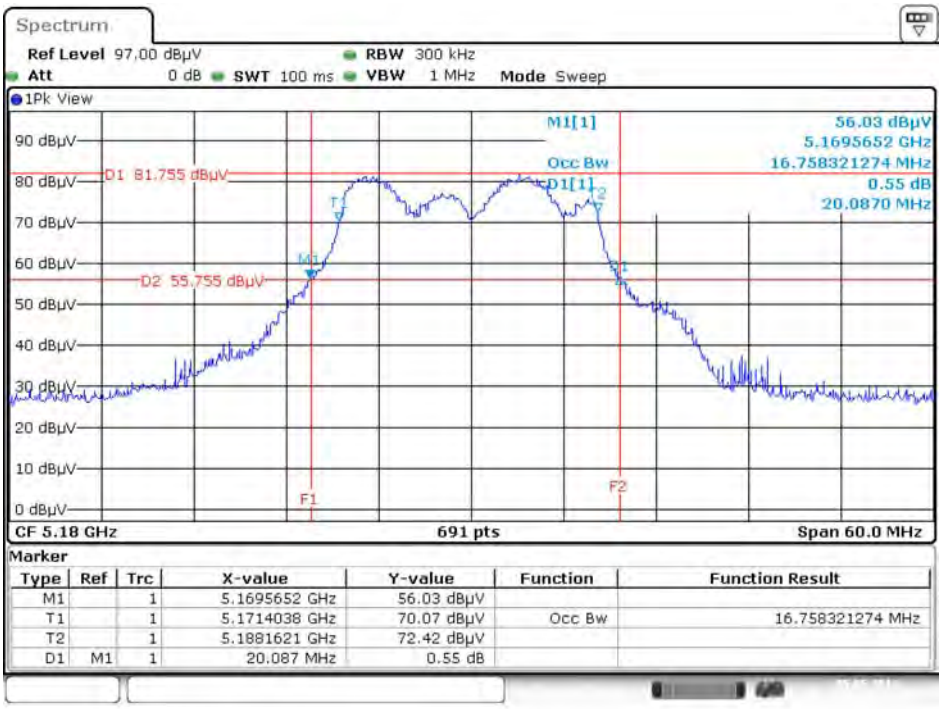
4.2.7. Test Result of 26dB Bandwidth and 99% Occupied Bandwidth

<For EUT 1>

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li		

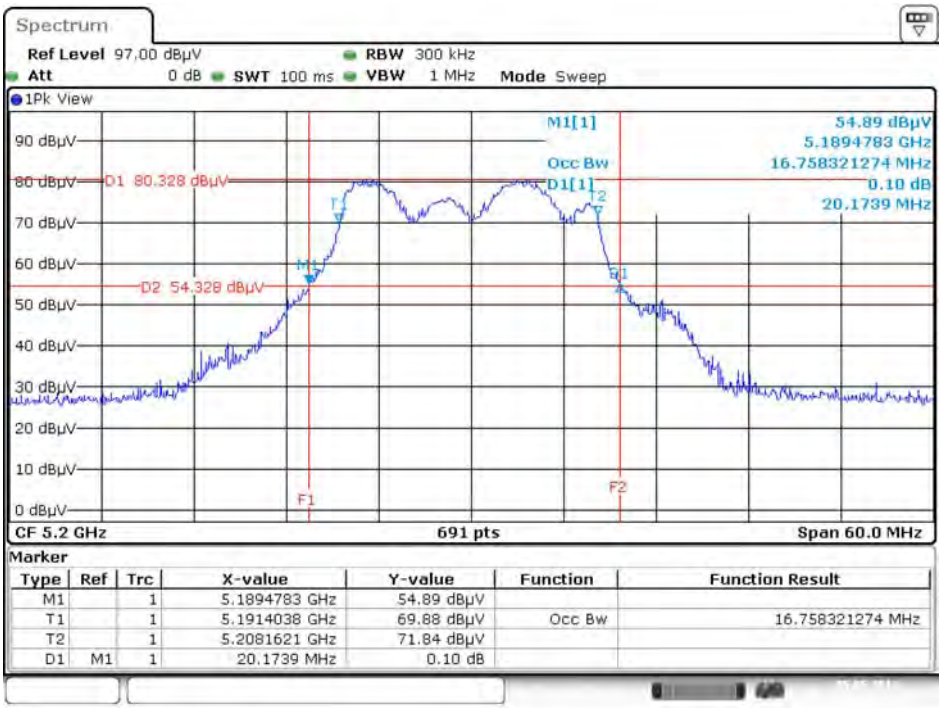
Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	20.09	16.76
	5200 MHz	20.17	16.76
	5240 MHz	20.09	16.85
	5745 MHz	21.91	16.93
	5785 MHz	21.04	16.85
	5825 MHz	22.00	16.85
802.11ac MCS0/Nss1 VHT20	5180 MHz	23.48	18.32
	5200 MHz	22.87	18.32
	5240 MHz	23.04	18.41
	5745 MHz	22.52	18.32
	5785 MHz	23.04	18.41
	5825 MHz	22.43	18.32
802.11ac MCS0/Nss1 VHT40	5190 MHz	44.06	37.63
	5230 MHz	44.64	37.63
	5755 MHz	44.35	37.63
	5795 MHz	43.62	36.61
802.11ac MCS0/Nss1 VHT80	5210 MHz	86.96	75.54
	5775 MHz	81.16	73.23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5180 MHz



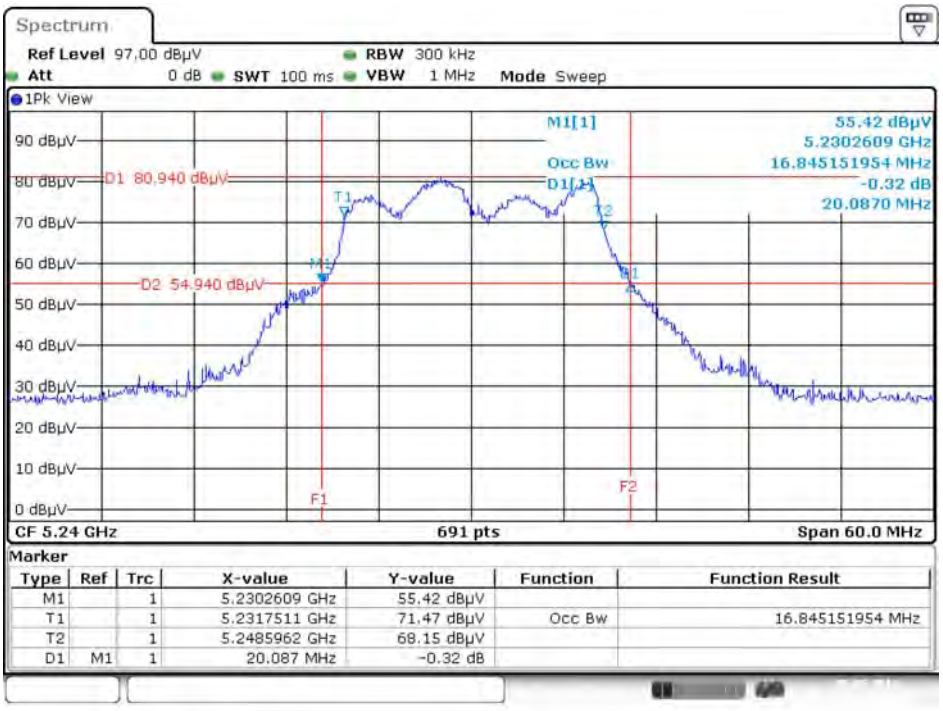
Date: 5.MAY.2016 20:19:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5200 MHz



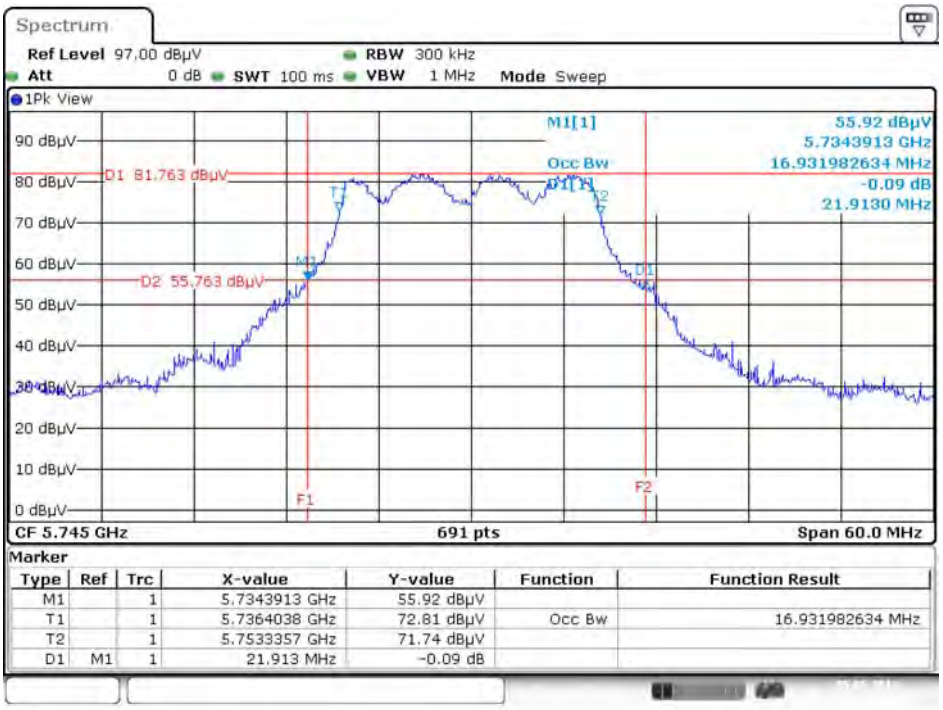
Date: 5.MAY.2016 20:11:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5240 MHz



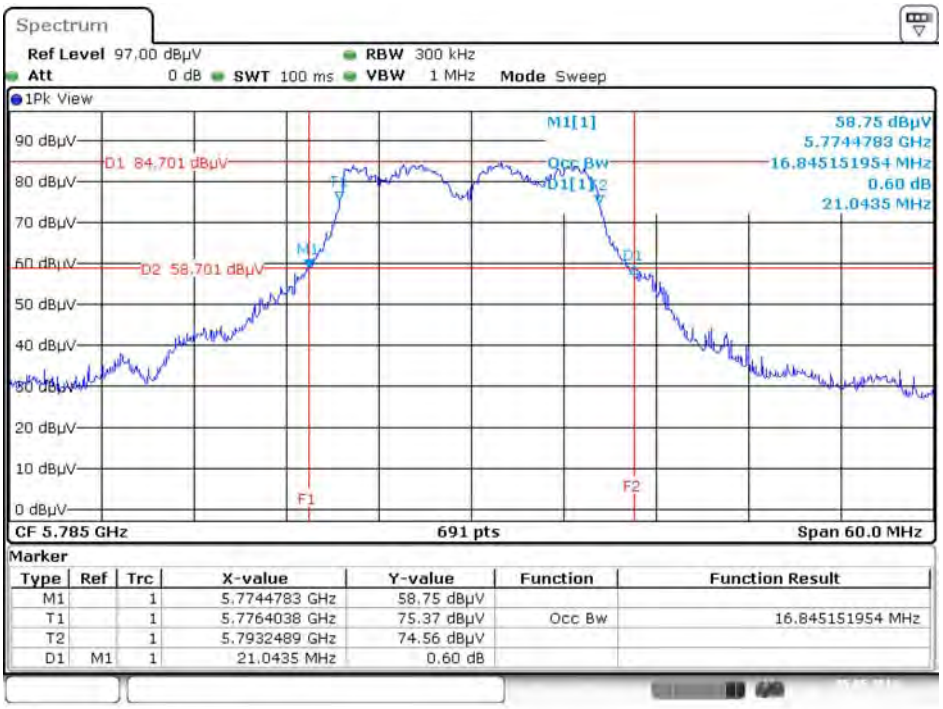
Date: 5.MAY.2016 20:13:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5745 MHz



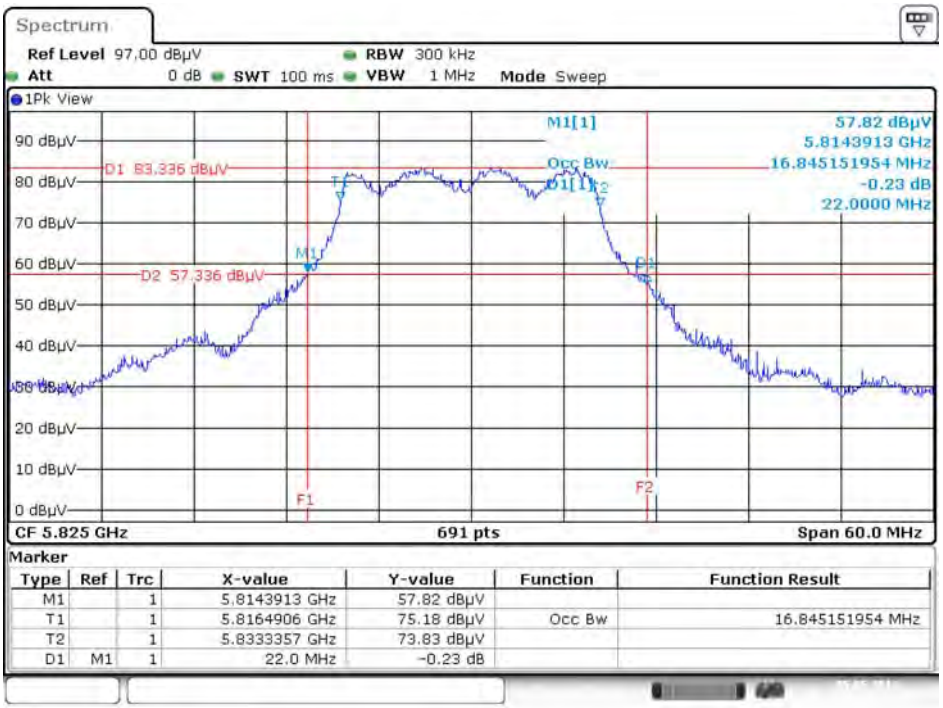
Date: 5.MAY.2016 20:14:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



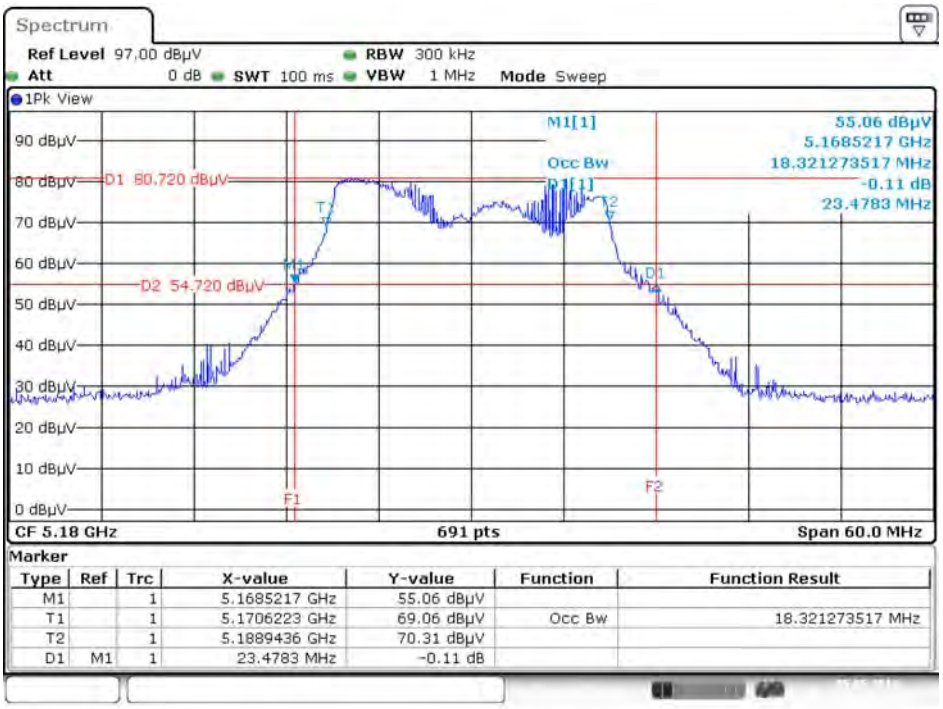
Date: 5.MAY.2016 20:15:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



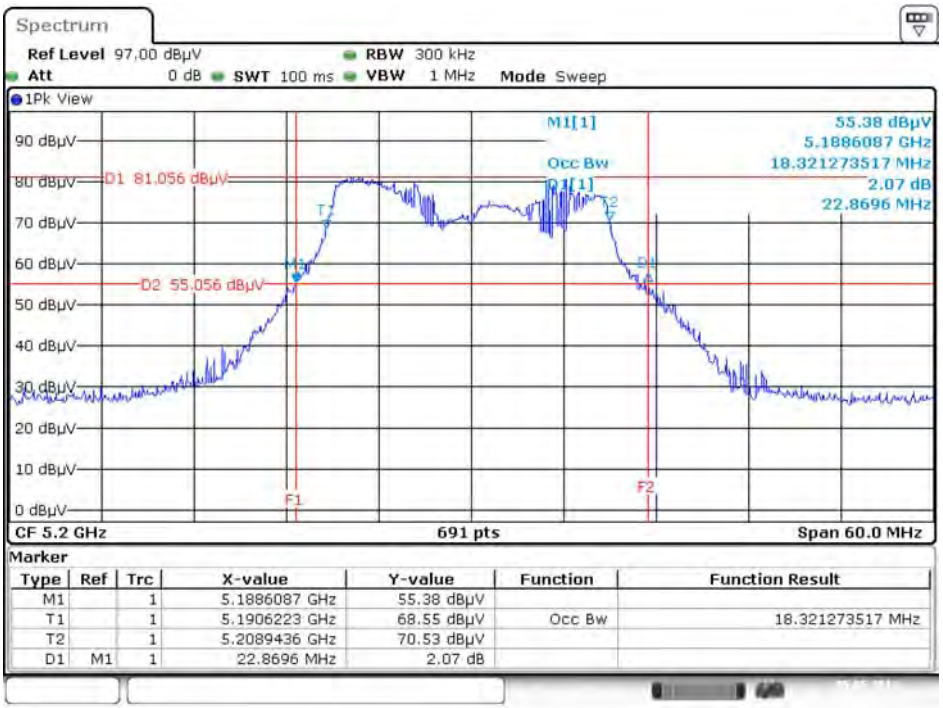
Date: 5.MAY.2016 20:17:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5180 MHz



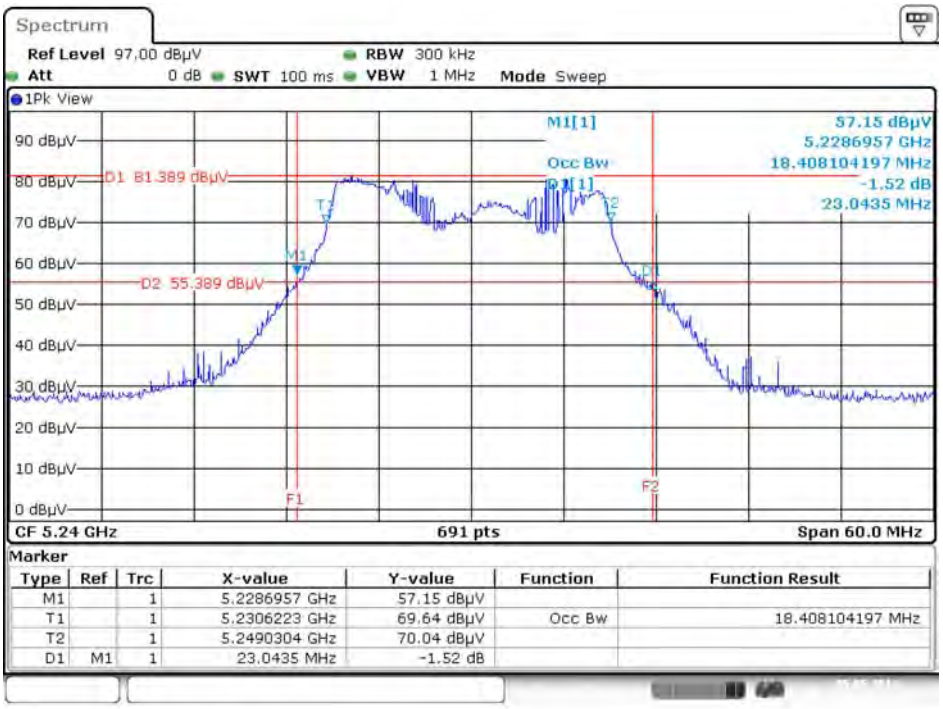
Date: 5.MAY.2016 20:21:31

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5200 MHz



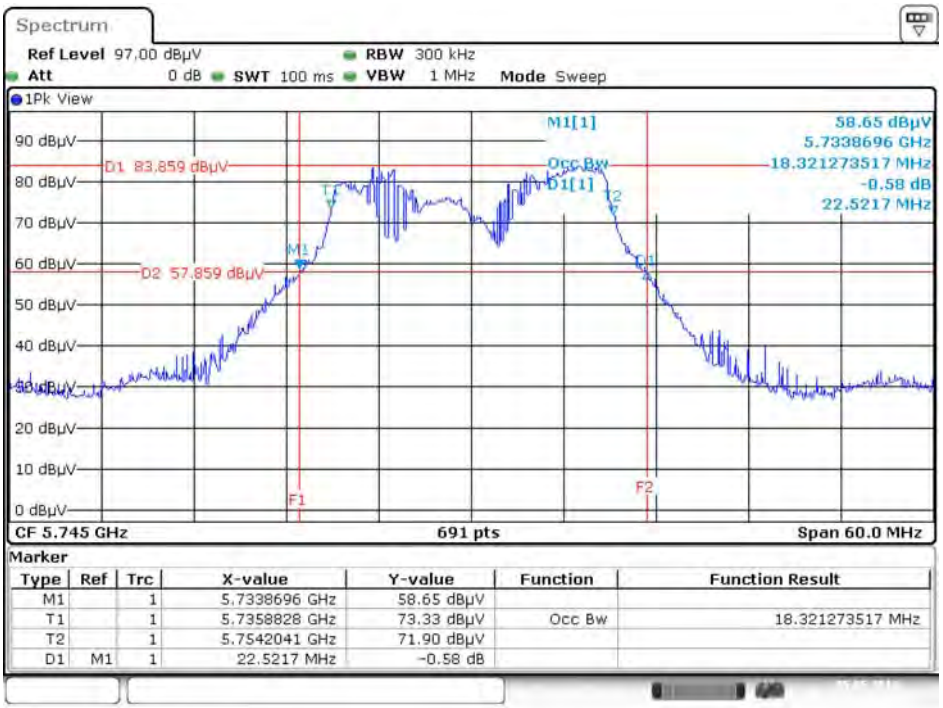
Date: 5.MAY.2016 20:23:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5240 MHz



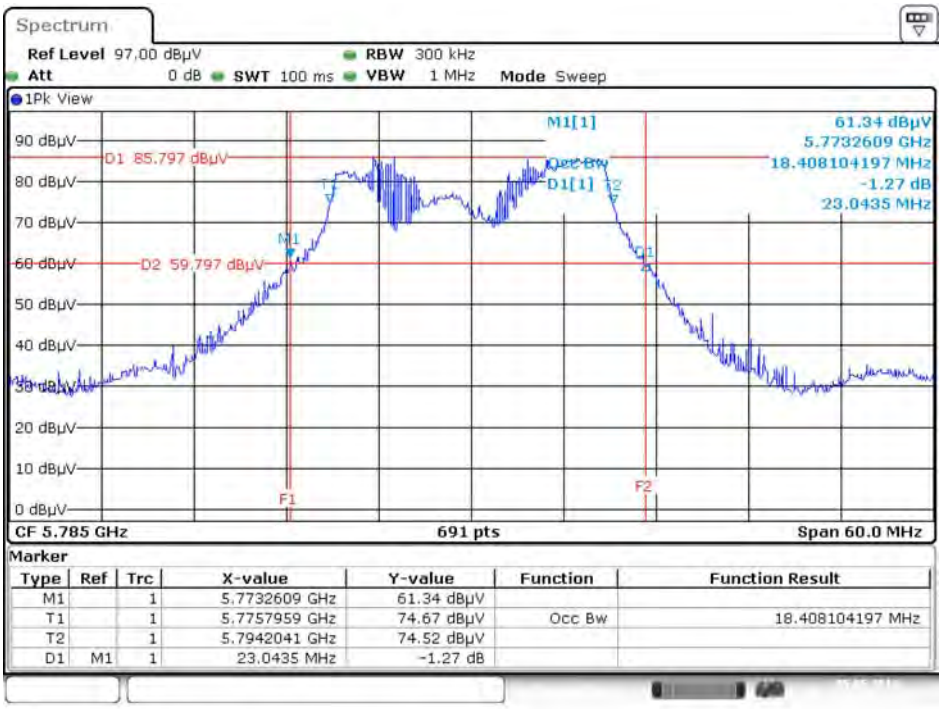
Date: 5.MAY.2016 20:24:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5745 MHz



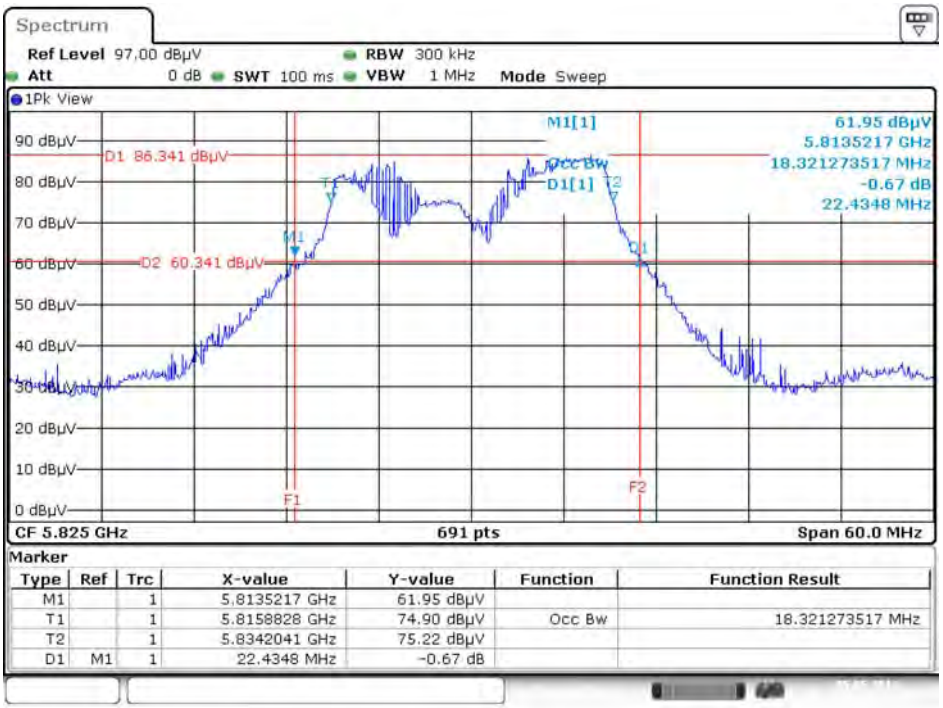
Date: 5.MAY.2016 20:25:49

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



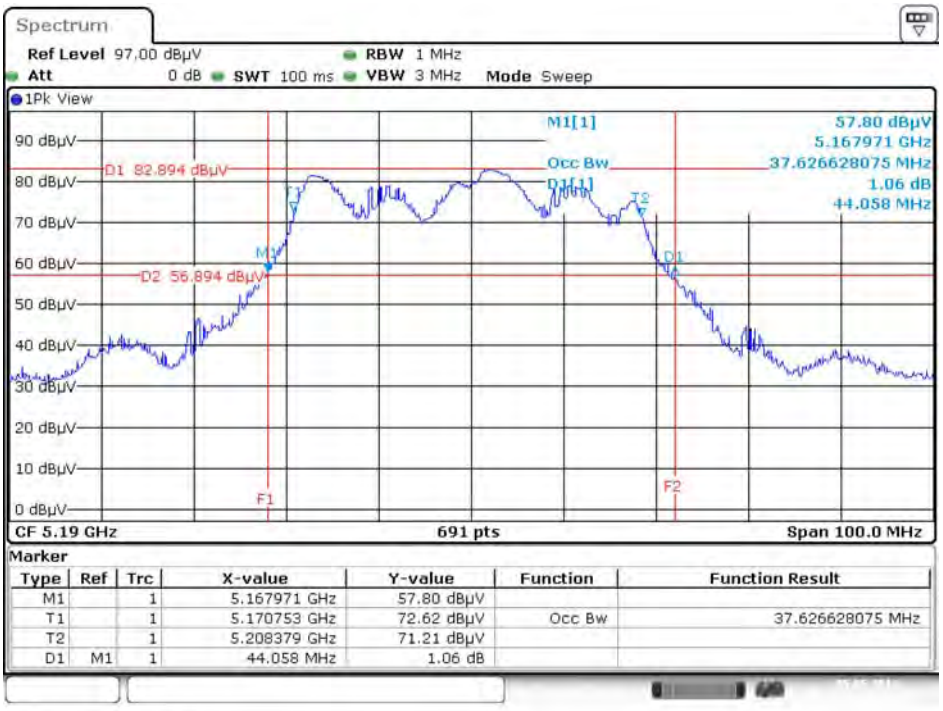
Date: 5.MAY.2016 20:27:29

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



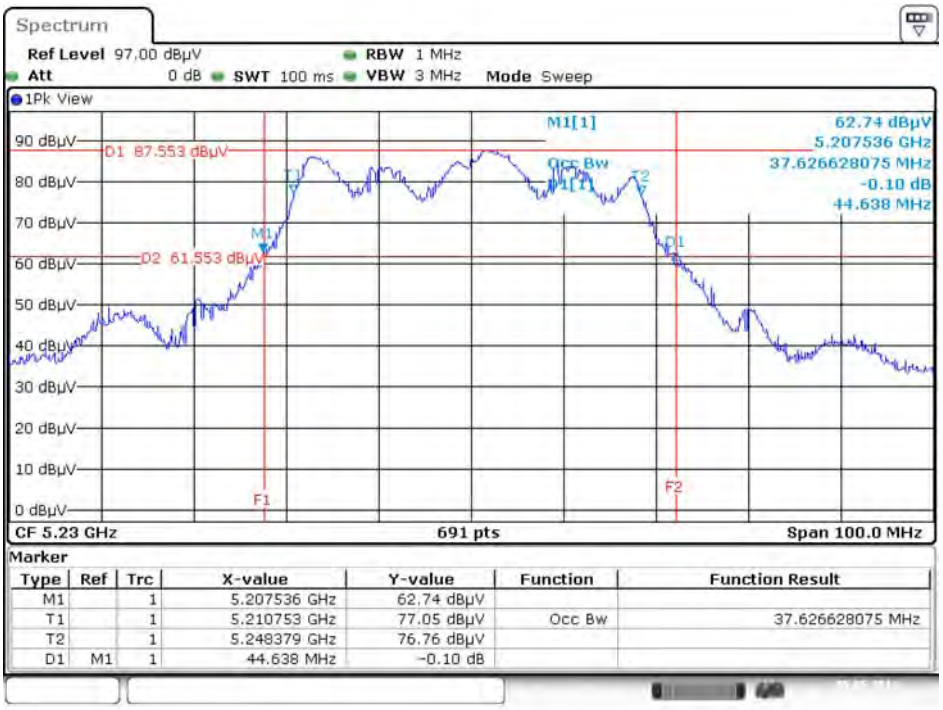
Date: 5.MAY.2016 20:28:59

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5190 MHz



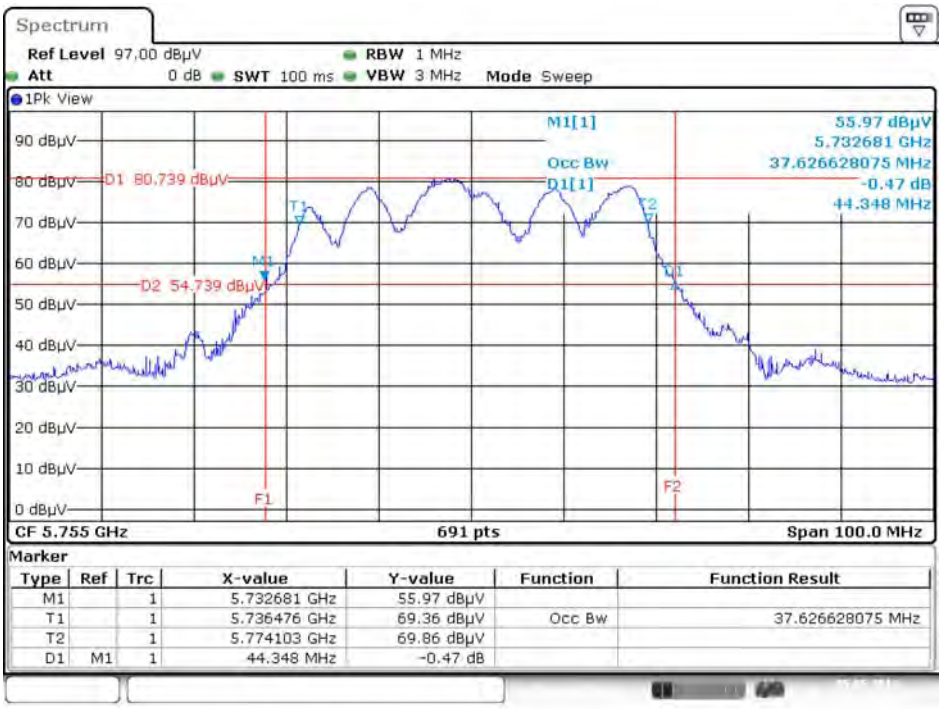
Date: 5.MAY.2016 20:31:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5230 MHz



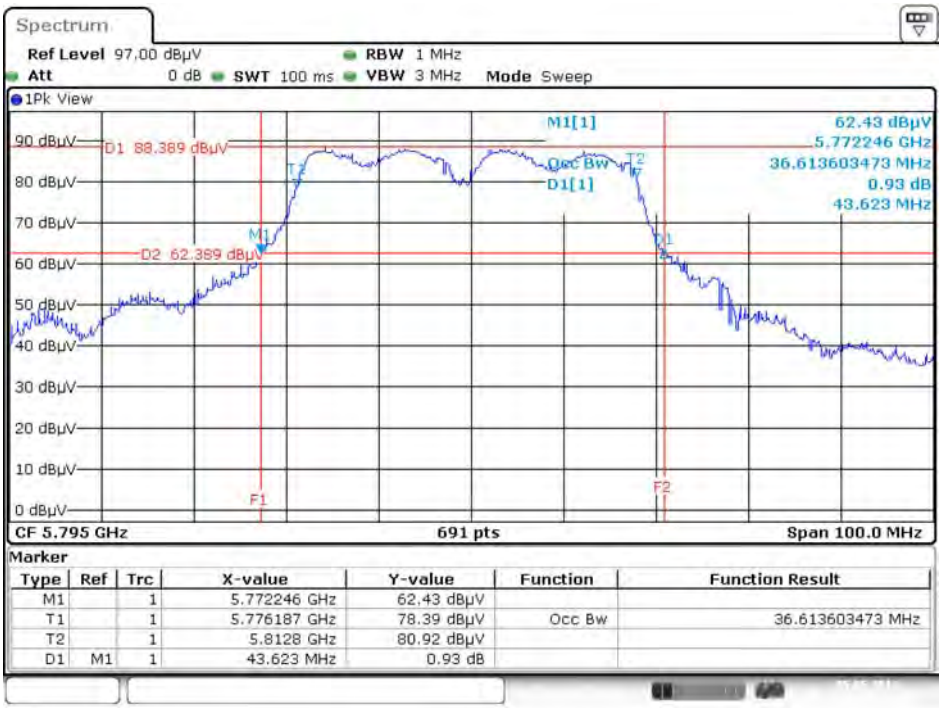
Date: 5.MAY.2016 20:32:23

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5755 MHz



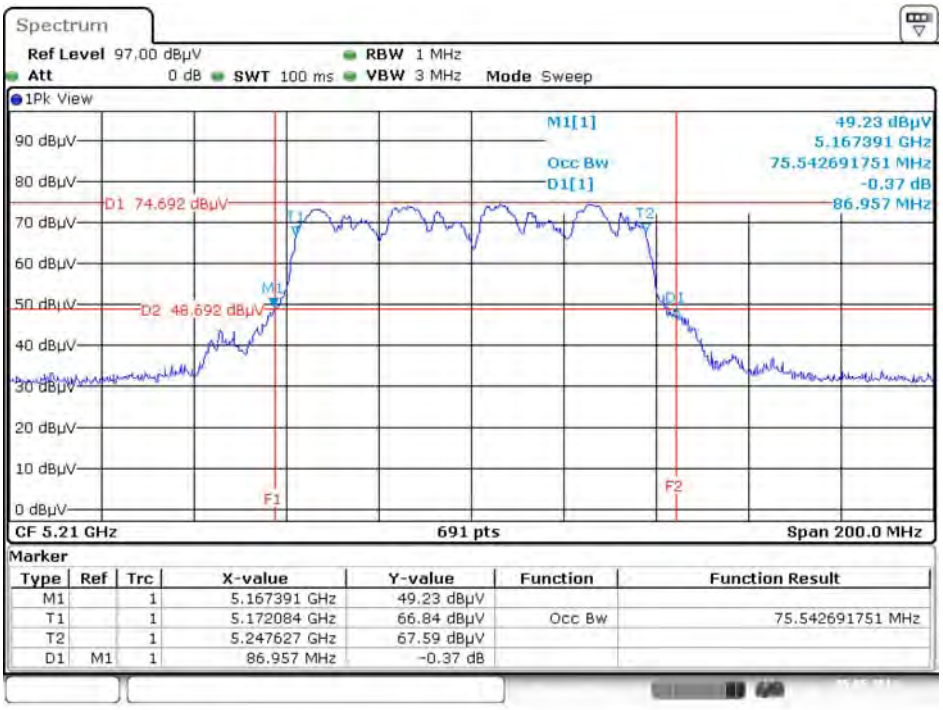
Date: 5.MAY.2016 20:33:56

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5795 MHz



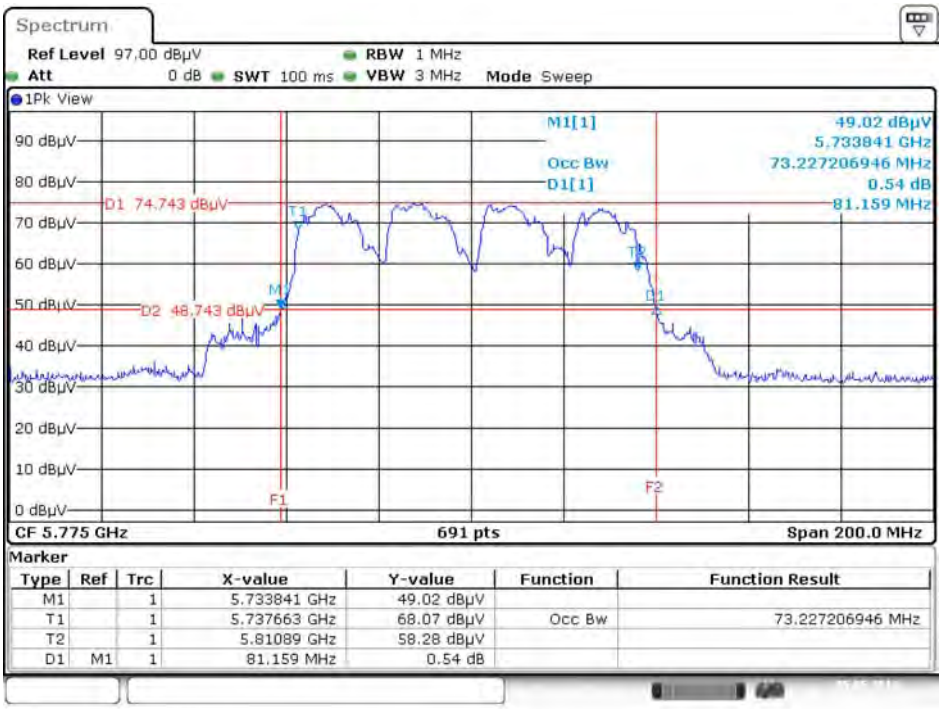
Date: 5.MAY.2016 20:35:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5210 MHz



Date: 5.MAY.2016 20:38:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5775 MHz



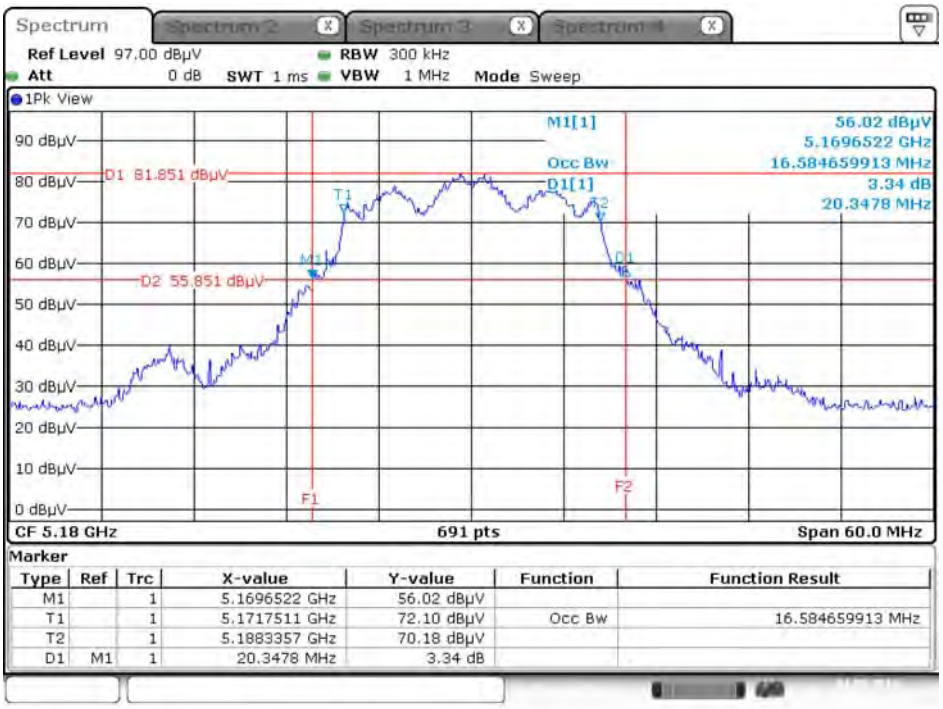
Date: 5.MAY.2016 20:39:25

<For EUT 2>

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li		

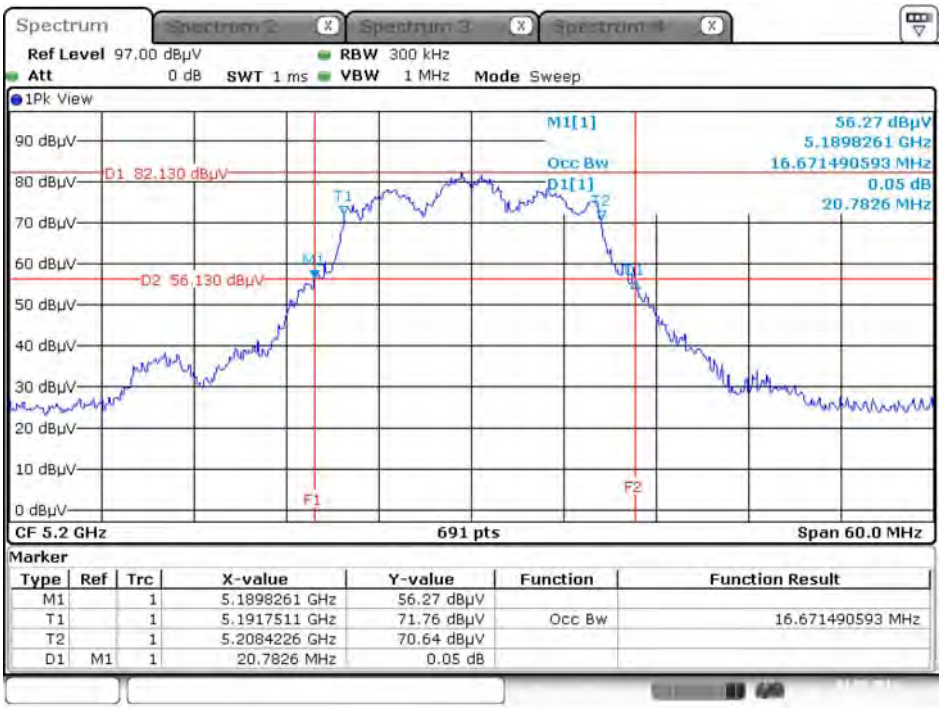
Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	20.35	16.59
	5200 MHz	20.78	16.67
	5240 MHz	20.35	16.76
	5745 MHz	20.96	16.76
	5785 MHz	20.44	16.67
	5825 MHz	18.78	16.15
802.11ac MCS0/Nss1 VHT20	5180 MHz	22.26	18.32
	5200 MHz	22.35	18.32
	5240 MHz	22.96	18.32
	5745 MHz	22.70	17.97
	5785 MHz	22.00	18.15
	5825 MHz	21.74	18.15
802.11ac MCS0/Nss1 VHT40	5190 MHz	44.78	36.04
	5230 MHz	42.61	36.47
	5755 MHz	43.91	36.90
	5795 MHz	44.78	36.76
802.11ac MCS0/Nss1 VHT80	5210 MHz	82.61	74.67
	5775 MHz	82.90	75.25

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5180 MHz



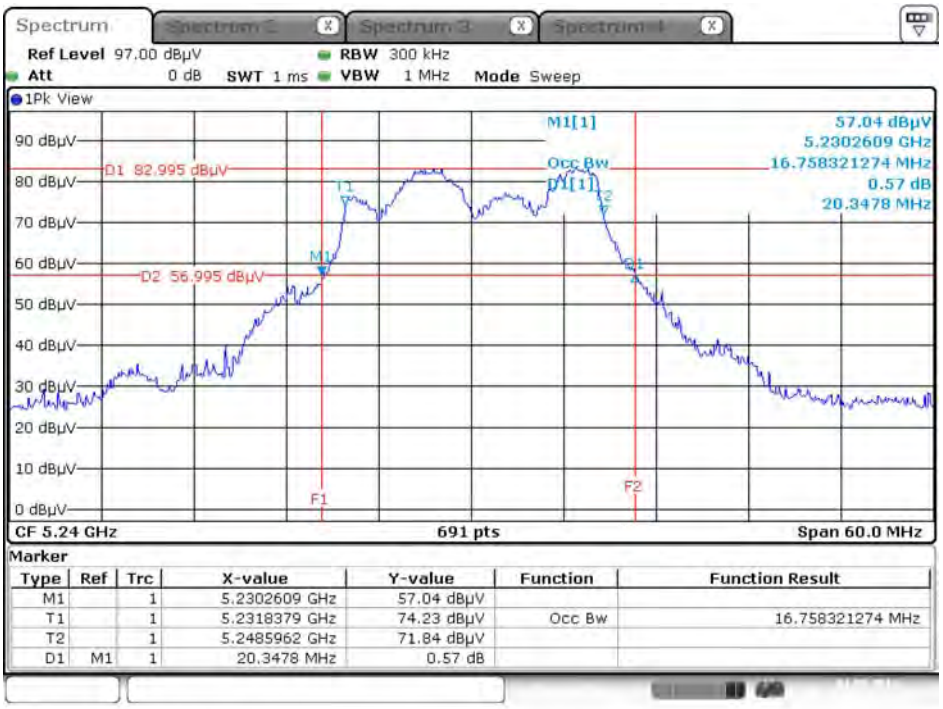
Date: 4.MAY.2016 10:45:20

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5200 MHz



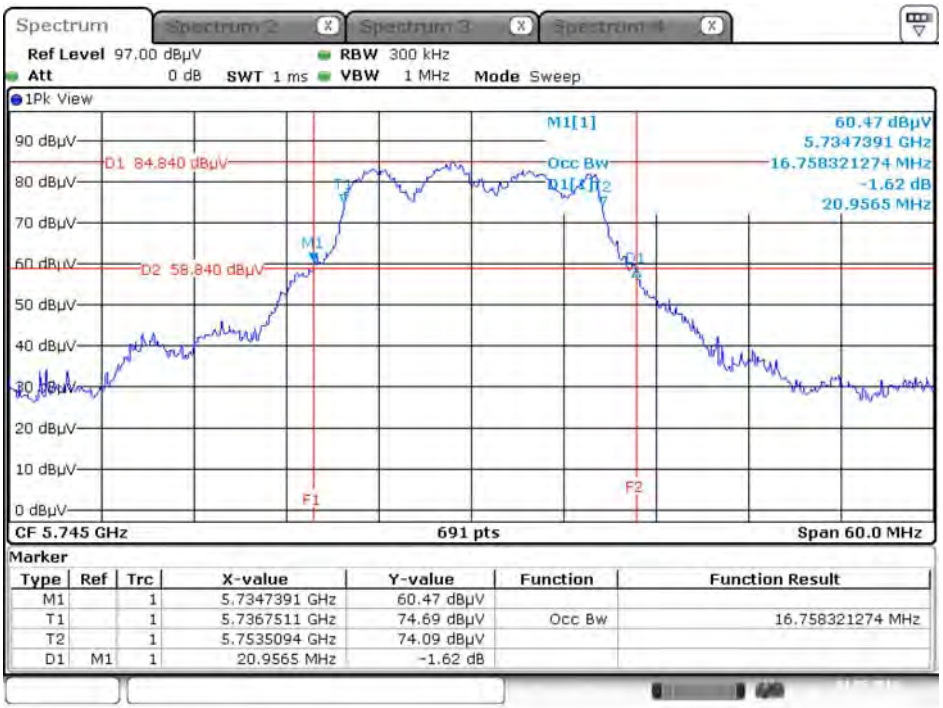
Date: 4.MAY.2016 10:46:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5240 MHz



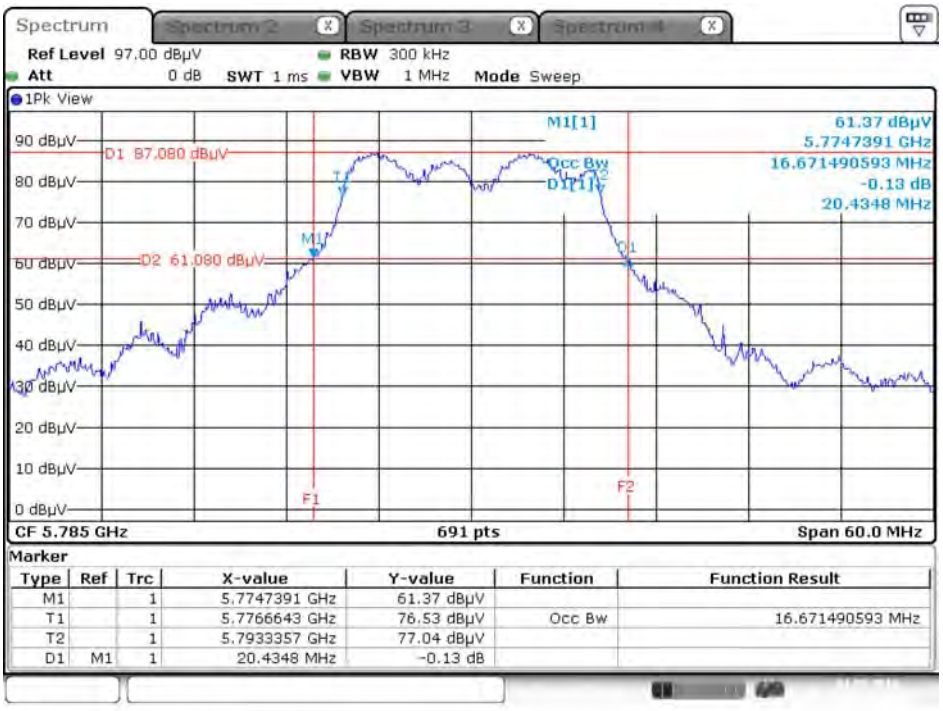
Date: 4.MAY.2016 10:46:58

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5745 MHz



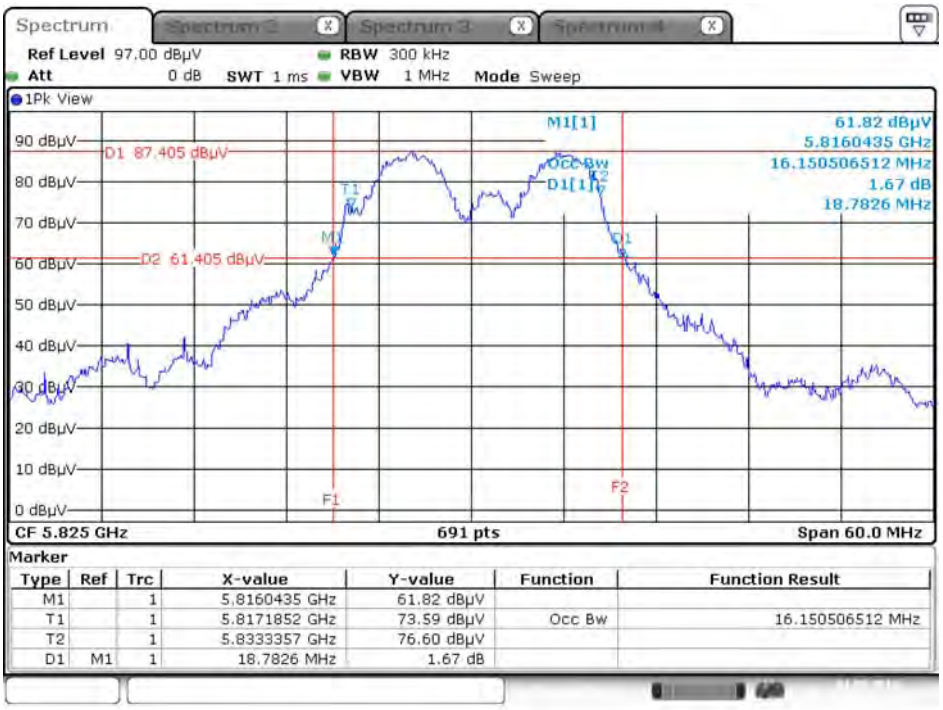
Date: 4.MAY.2016 10:48:03

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



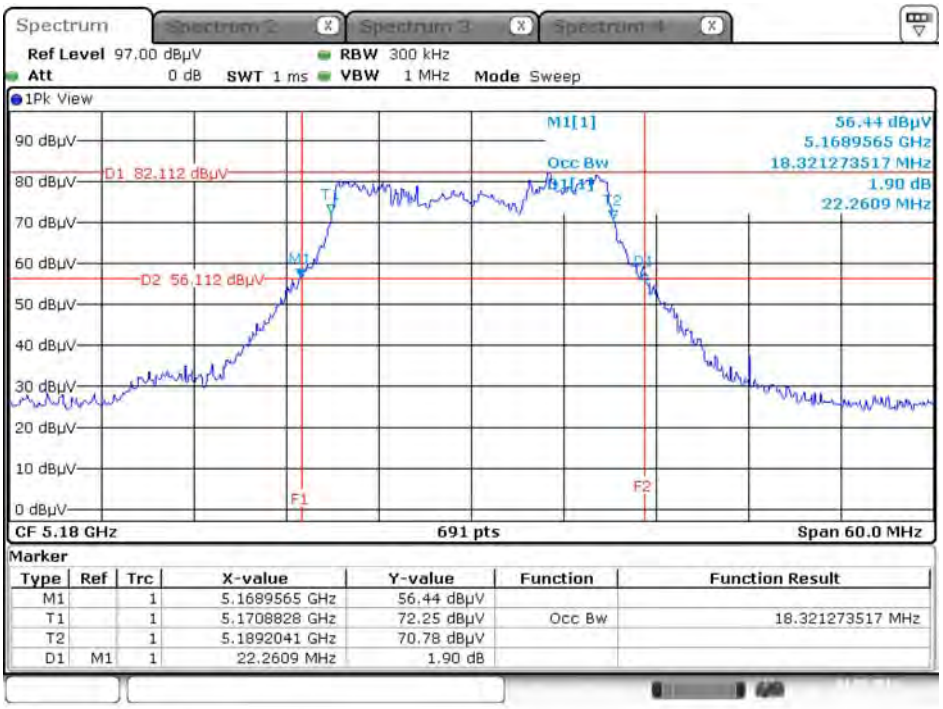
Date: 4.MAY.2016 10:49:06

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



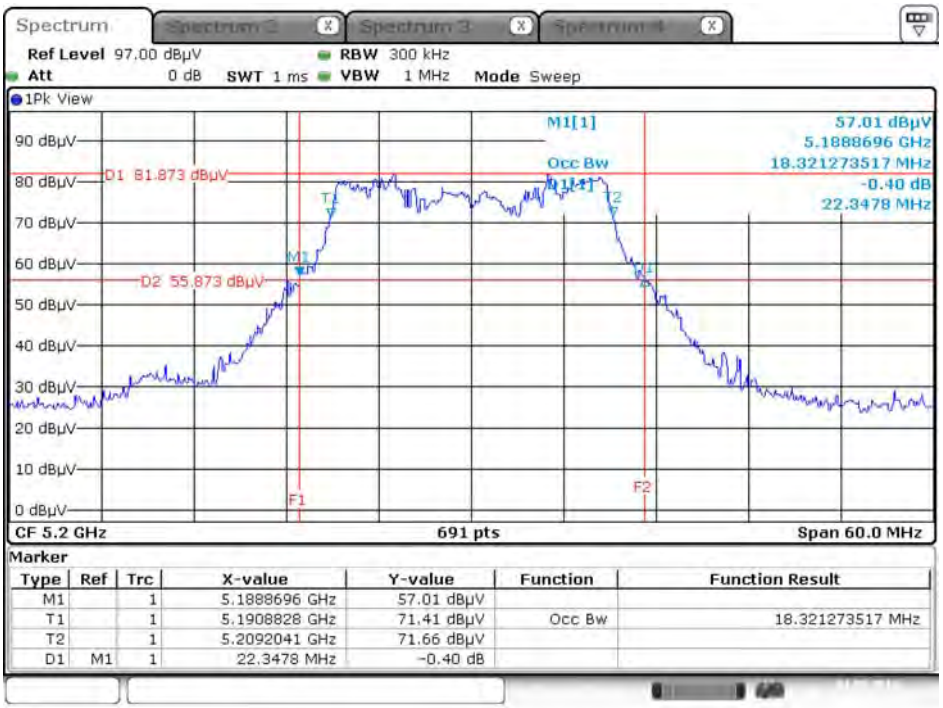
Date: 4.MAY.2016 10:49:30

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5180 MHz



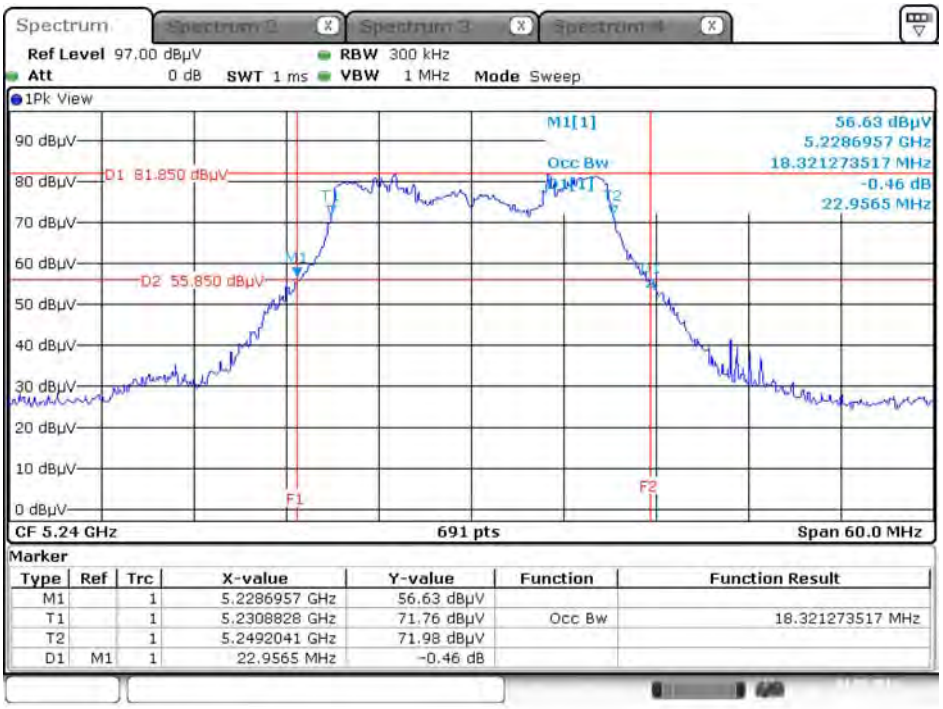
Date: 4.MAY.2016 10:50:15

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5200 MHz



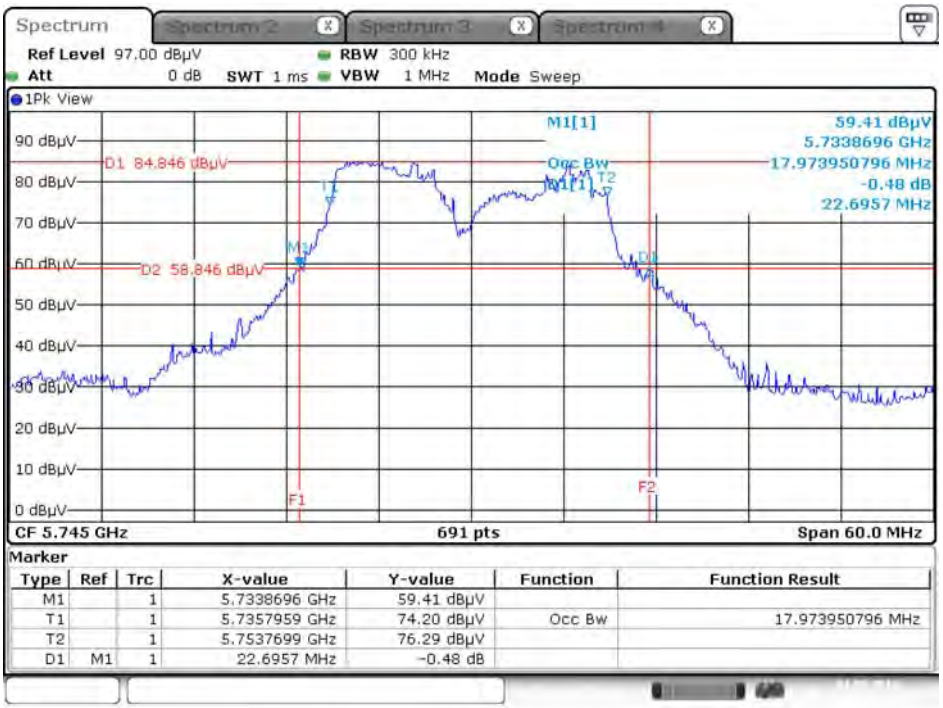
Date: 4.MAY.2016 10:52:14

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5240 MHz



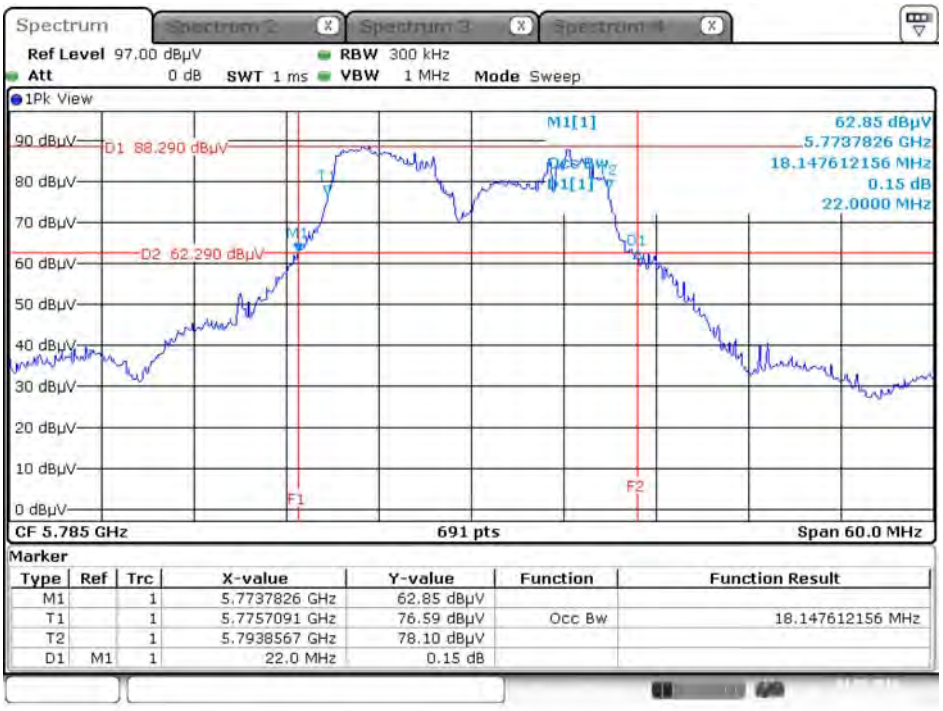
Date: 4.MAY.2016 10:52:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5745 MHz



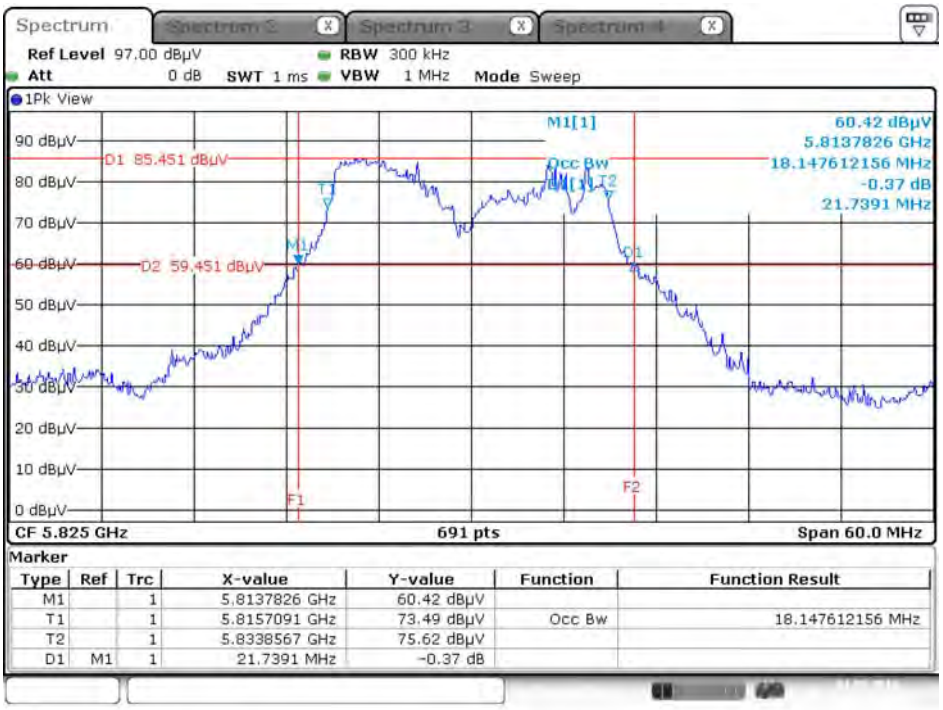
Date: 4.MAY.2016 10:53:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



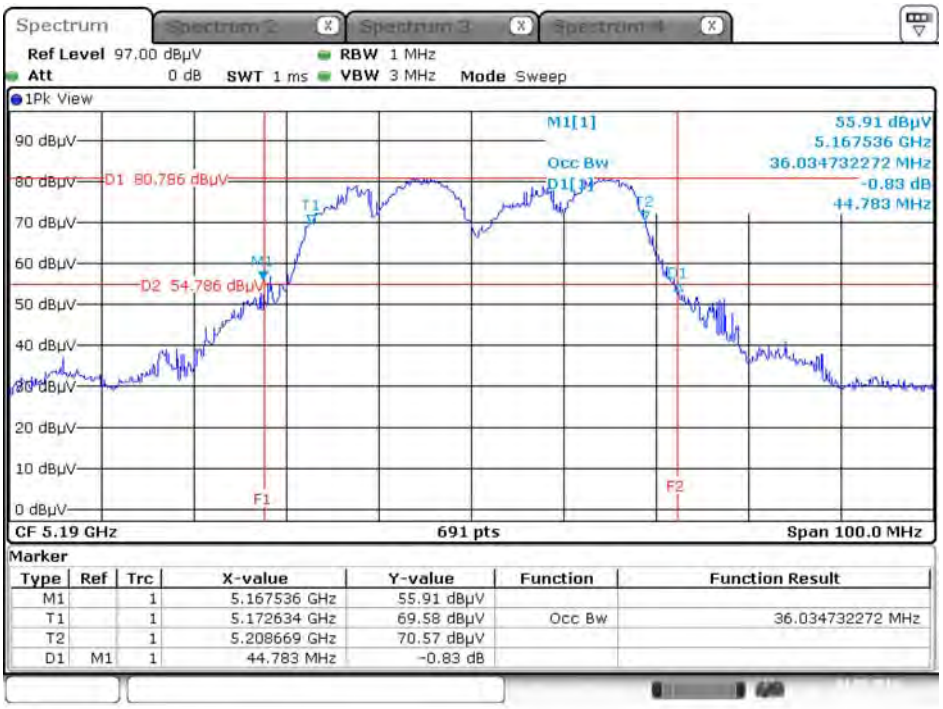
Date: 4.MAY.2016 10:54:53

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



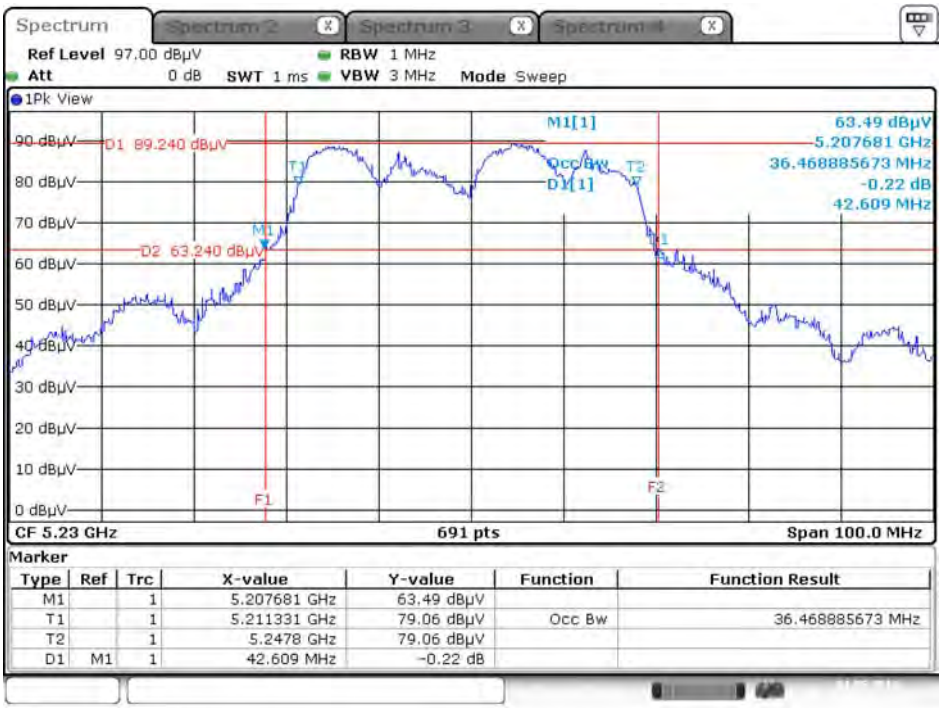
Date: 4.MAY.2016 10:55:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5190 MHz



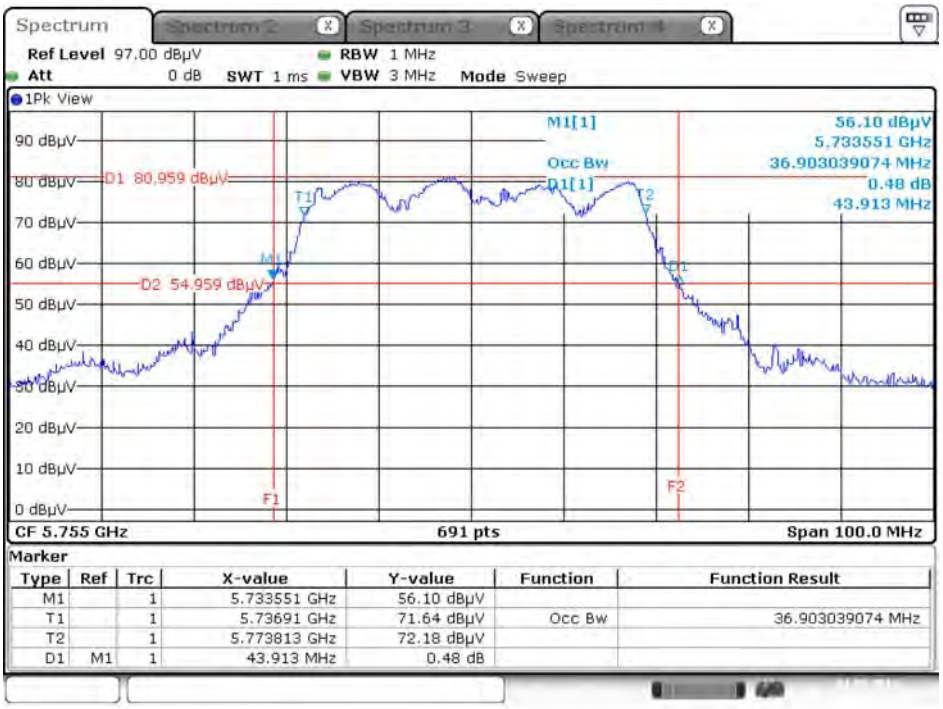
Date: 4.MAY.2016 10:56:10

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5230 MHz



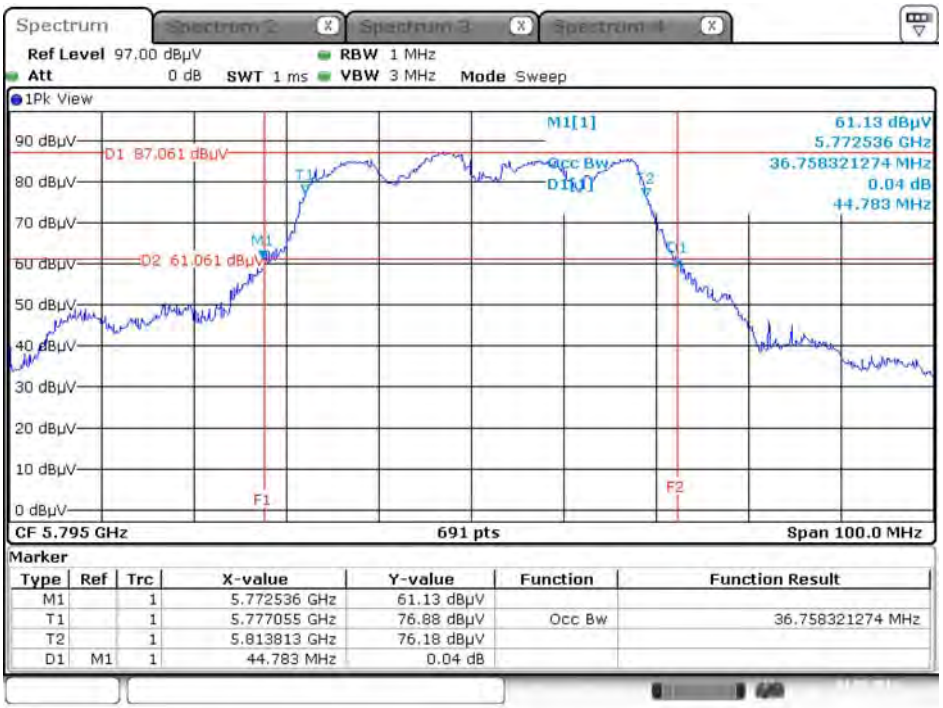
Date: 4.MAY.2016 10:56:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5755 MHz



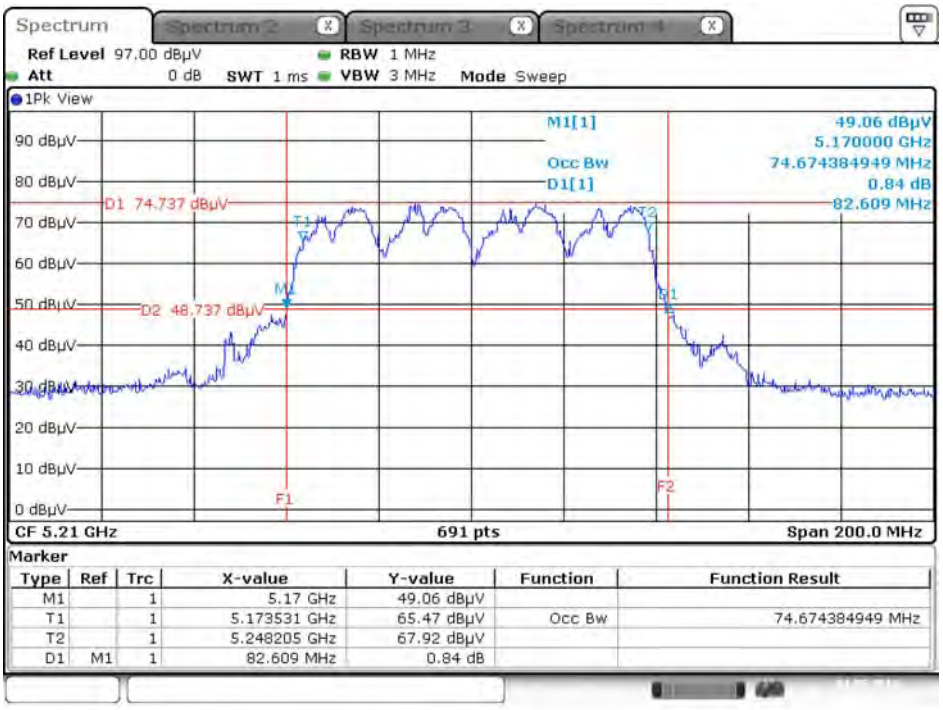
Date: 4.MAY.2016 10:57:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5795 MHz



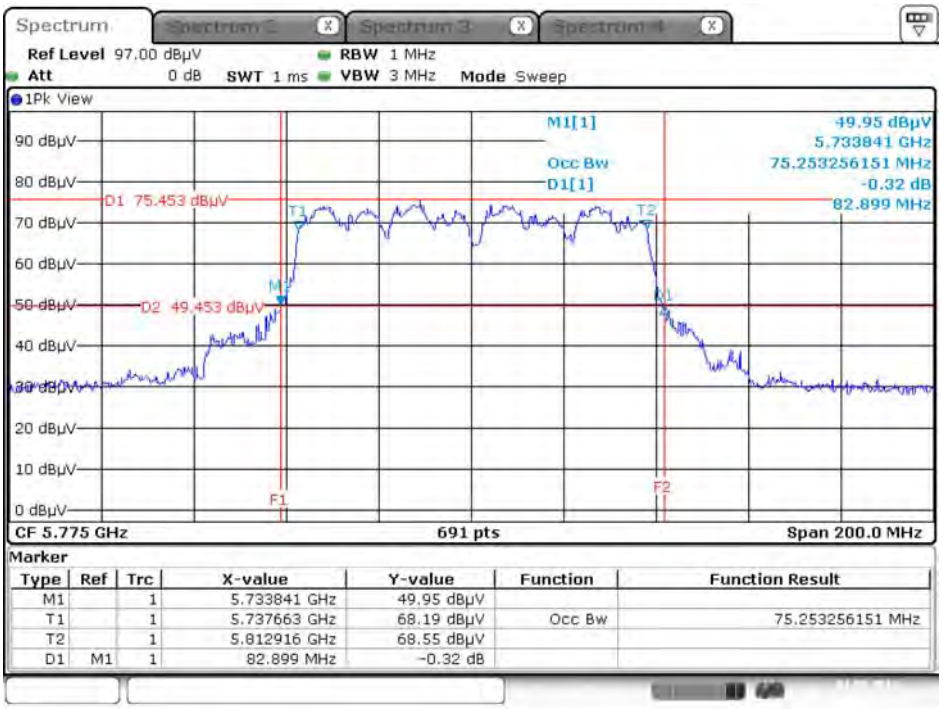
Date: 4.MAY.2016 10:57:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5210 MHz



Date: 4.MAY.2016 10:58:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5775 MHz



Date: 4.MAY.2016 10:59:46

4.3. 6dB Spectrum Bandwidth Measurement

4.3.1. Limit

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

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 spectrum analyzer.

6dB Spectrum Bandwidth	
Spectrum Parameters	**Setting**
Attenuation	Auto
Span Frequency	> 6dB Bandwidth
RBW	100kHz
VBW	≥ 3 x RBW
Detector	Peak
Trace	Max Hold
Sweep Time	Auto

4.3.3. Test Procedures

For Radiated 6dB Bandwidth Measurement:

1. The transmitter was radiated to the spectrum analyzer in peak hold mode.
2. Test was performed in accordance with KDB789033 D02 v01r02 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (C) Emission Bandwidth.
3. Multiple antenna system was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. Measured the spectrum width with power higher than 6dB below carrier.

4.3.4. Test Setup Layout

For Radiated 6dB Bandwidth Measurement:

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

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 6dB Spectrum Bandwidth

<For EUT 1>

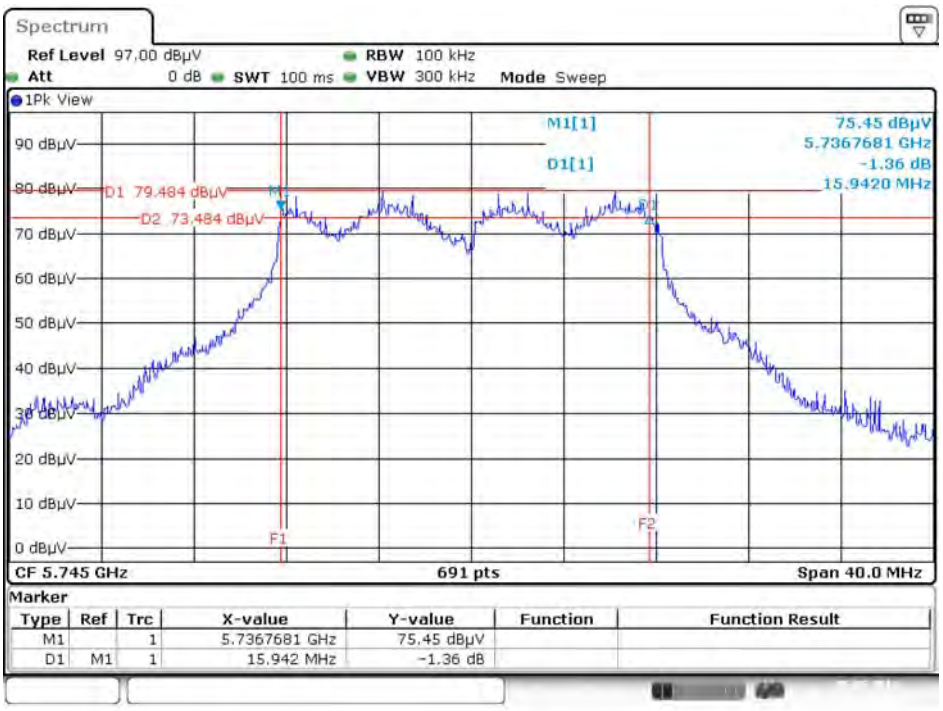
Temperature	23°C	Humidity	63%
Test Engineer	Serway Li		

Mode	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11a	5745 MHz	15.94	500	Complies
	5785 MHz	16.29	500	Complies
	5825 MHz	16.29	500	Complies
802.11ac MCS0/Nss1 VHT20	5745 MHz	16.23	500	Complies
	5785 MHz	17.57	500	Complies
	5825 MHz	16.29	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	35.59	500	Complies
	5795 MHz	35.71	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	71.59	500	Complies

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

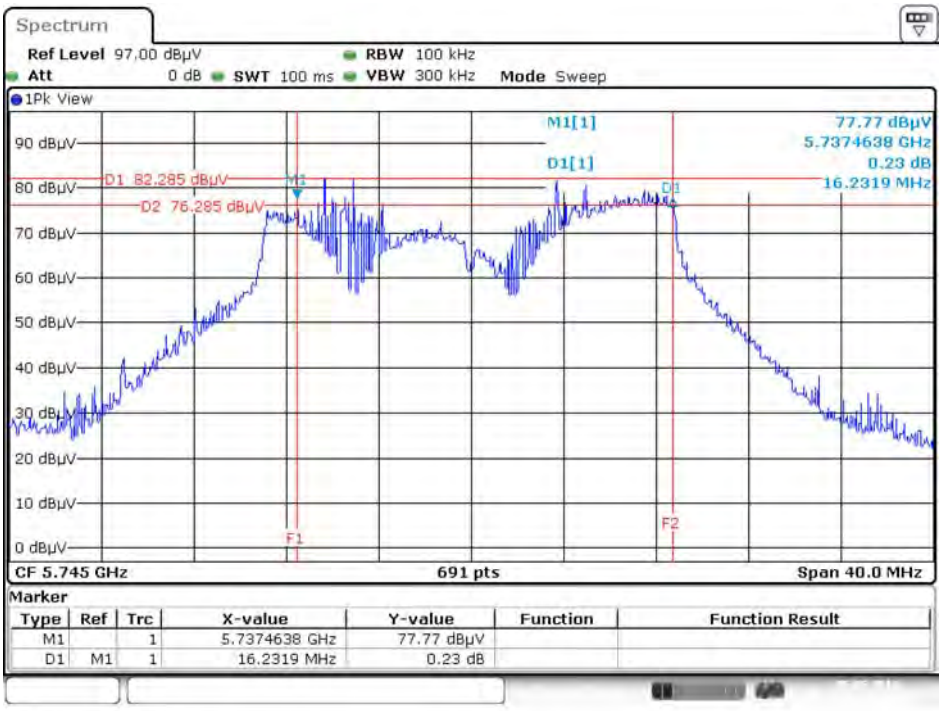
For plots, only the channel with worse result was shown.

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5745 MHz



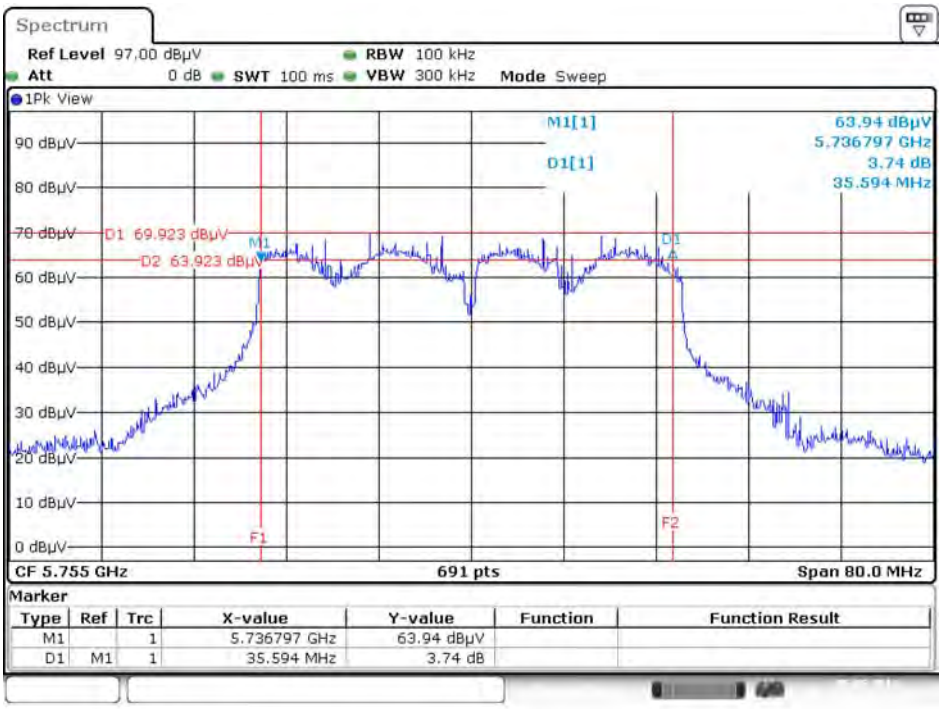
Date: 5.MAY.2016 20:55:02

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5745 MHz



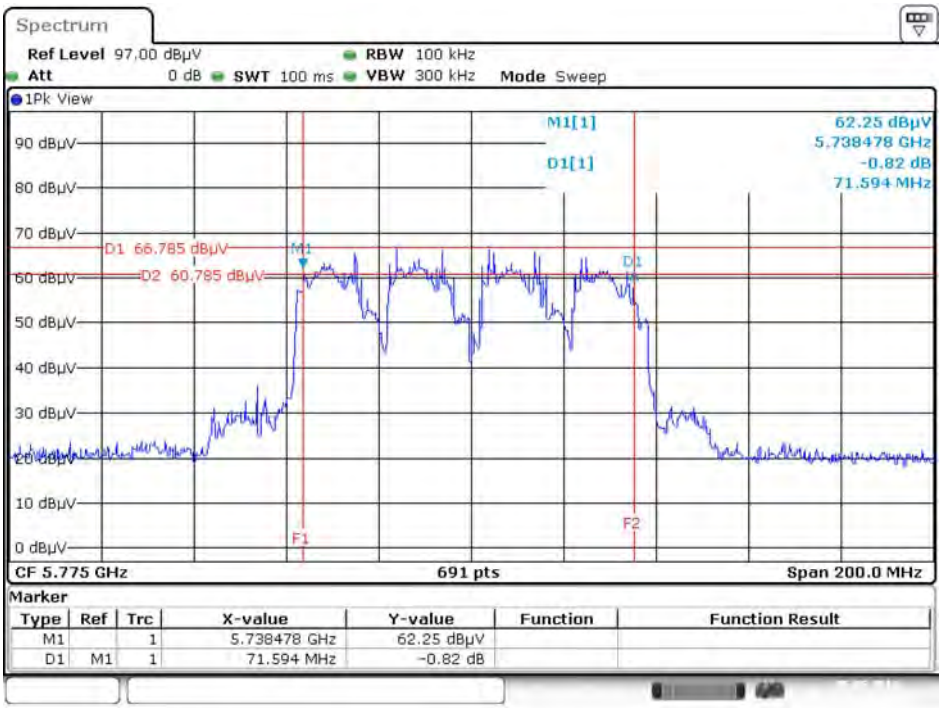
Date: 5.MAY.2016 20:49:49

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5755MHz



Date: 5.MAY.2016 20:45:28

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5775 MHz



Date: 5.MAY.2016 20:41:20

<For EUT 2>

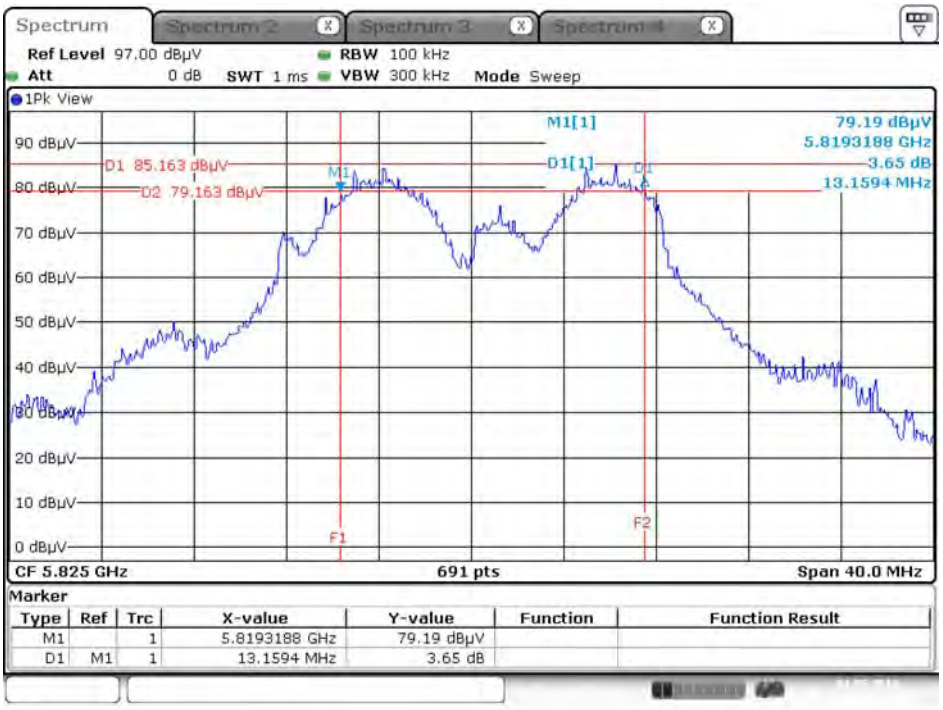
Temperature	23°C	Humidity	63%
Test Engineer	Serway Li		

Mode	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11a	5745 MHz	13.57	500	Complies
	5785 MHz	16.06	500	Complies
	5825 MHz	13.16	500	Complies
802.11ac MCS0/Nss1 VHT20	5745 MHz	15.36	500	Complies
	5785 MHz	16.35	500	Complies
	5825 MHz	16.41	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	35.13	500	Complies
	5795 MHz	34.20	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	70.15	500	Complies

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

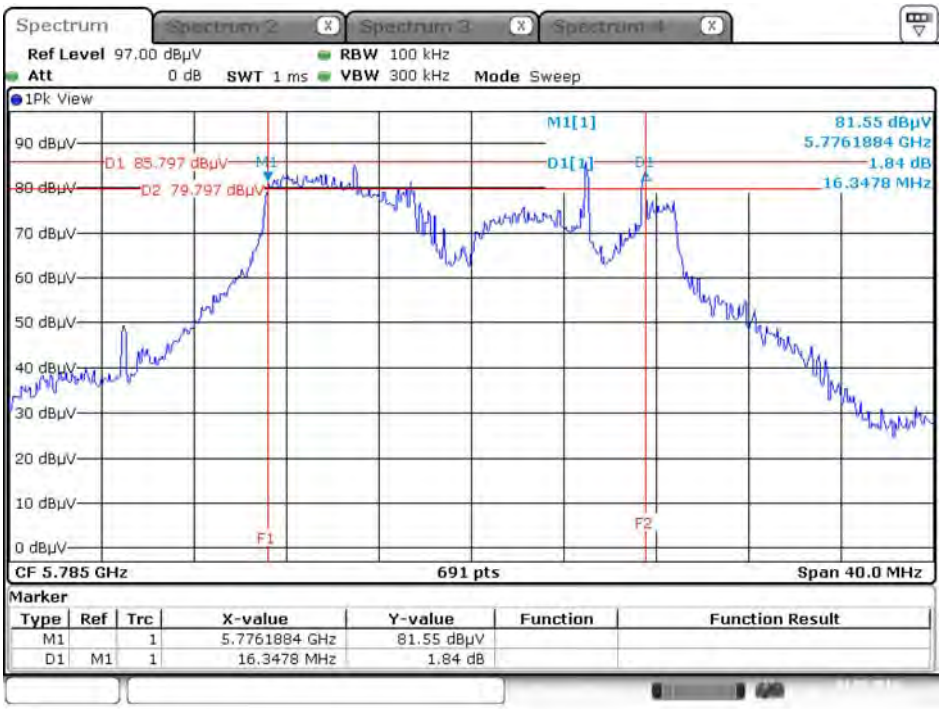
For plots, only the channel with worse result was shown.

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



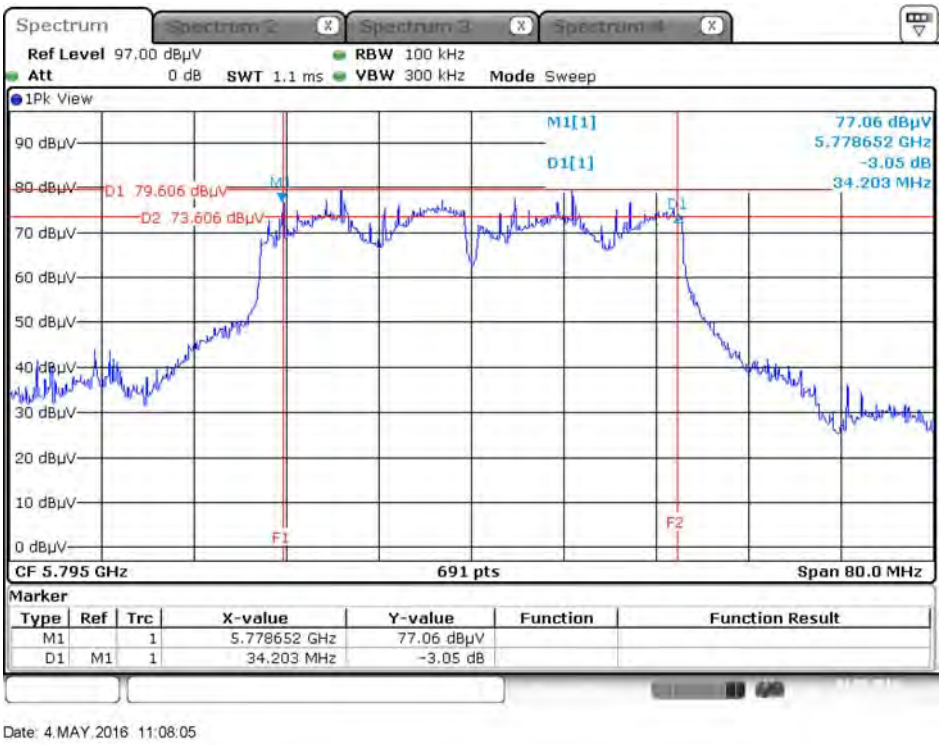
Date: 4.MAY.2016 11:06:04

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



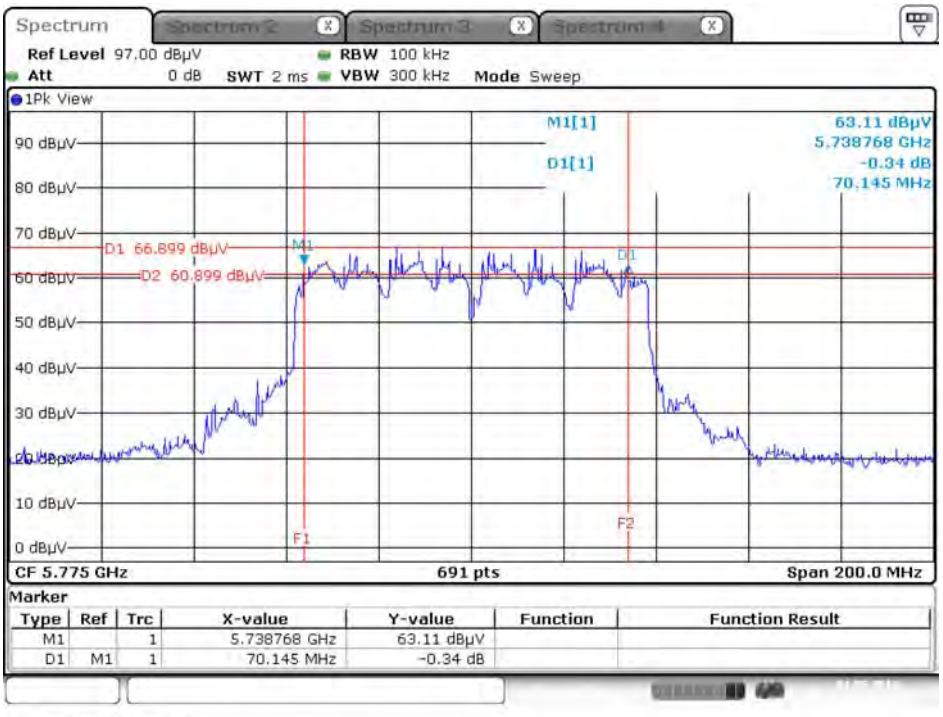
Date: 4.MAY.2016 11:06:56

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5795MHz



Date: 4.MAY.2016 11:08:05

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5775 MHz



Date: 4.MAY.2016 11:09:47

4.4. Maximum Conducted Output Power Measurement

4.4.1. Limit

Frequency Band			Limit
☒	5.15~5.25 GHz		
	Operating Mode		
	☐	Outdoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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. The maximum e.i.r.p. at any elevation angle above 30 degrees as measured from the horizon must not exceed 125 mW (21 dBm).
	☒	Indoor access point	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.
	☐	Fixed point-to-point access points	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). Fixed point-to-point U-NII devices may employ antennas with directional gain up to 23 dBi without any corresponding reduction in the maximum conducted output power or maximum power spectral density. For fixed point-to-point transmitters that employ a directional antenna gain greater than 23 dBi, a 1 dB reduction in maximum conducted output power and maximum power spectral density is required for each 1 dB of antenna gain in excess of 23 dBi.
	☐	Mobile and portable client devices	The maximum conducted output power over the frequency band of operation shall not exceed 250 mW (24dBm) provided the maximum antenna gain does not exceed 6 dBi. 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.

☒	5.725~5.85 GHz	The maximum conducted output power over the frequency band of operation shall not exceed 1 W (30dBm). 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. However, fixed point-to-point U-NII devices operating in this band may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted power.

4.4.2. Measuring Instruments and Setting

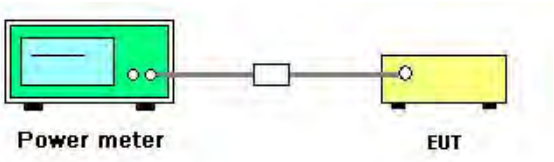
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	AVERAGE

4.4.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01r02 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.

4.4.4. 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 Maximum Conducted Output Power

<For EUT 1>

Temperature	23℃	Humidity	63%
Test Engineer	Serway Li	Test Date	Apr. 26, 2016~May 05, 2016

Mode	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total		
802.11a	5180 MHz	14.92	14.52	14.31	19.36	24.24	Complies
	5200 MHz	15.02	14.55	14.27	19.40	24.24	Complies
	5240 MHz	14.88	14.62	14.43	19.42	24.24	Complies
	5745 MHz	17.83	16.56	17.21	22.00	24.24	Complies
	5785 MHz	19.72	18.55	19.88	24.19	24.24	Complies
	5825 MHz	19.48	19.05	19.75	24.21	24.24	Complies
802.11ac MCS0/Nss1 VHT20	5180 MHz	15.02	14.65	14.14	19.39	24.24	Complies
	5200 MHz	14.98	14.66	14.45	19.47	24.24	Complies
	5240 MHz	14.88	14.56	14.52	19.43	24.24	Complies
	5745 MHz	17.66	16.78	17.33	22.04	24.24	Complies
	5785 MHz	19.46	18.39	19.60	23.95	24.24	Complies
	5825 MHz	19.42	18.46	19.55	23.94	24.24	Complies
802.11ac MCS0/Nss1 VHT40	5190 MHz	13.02	12.47	12.95	17.59	24.24	Complies
	5230 MHz	18.02	17.85	17.62	22.60	24.24	Complies
	5755 MHz	11.88	10.92	11.61	16.26	24.24	Complies
	5795 MHz	19.55	18.87	19.83	24.21	24.24	Complies
802.11ac MCS0/Nss1 VHT80	5210 MHz	9.07	8.91	9.01	13.77	24.24	Complies
	5775 MHz	7.98	7.03	7.86	12.41	24.24	Complies

Note: Uncorrelated Composite Gain =11.76 dBi, so limit =30-(11.76-6)=24.24 (dBm)

<For EUT 2>

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Test Date	Apr. 27, 2016~May 04, 2016

Mode	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Ant. 1	Ant. 2	Ant. 3	Total		
802.11a	5180 MHz	17.88	17.70	17.64	22.51	27.21	Complies
	5200 MHz	17.96	17.79	18.02	22.70	27.21	Complies
	5240 MHz	18.02	17.63	17.51	22.50	27.21	Complies
	5745 MHz	20.63	19.56	20.09	24.89	27.21	Complies
	5785 MHz	22.83	21.40	22.75	27.15	27.21	Complies
	5825 MHz	21.26	20.53	21.49	25.88	27.21	Complies
802.11ac MCS0/Nss1 VHT20	5180 MHz	17.88	17.45	17.58	22.41	27.21	Complies
	5200 MHz	18.01	17.38	17.54	22.42	27.21	Complies
	5240 MHz	18.12	17.54	17.46	22.49	27.21	Complies
	5745 MHz	19.78	18.64	19.32	24.04	27.21	Complies
	5785 MHz	22.60	21.53	22.74	27.09	27.21	Complies
	5825 MHz	20.34	19.37	20.45	24.85	27.21	Complies
802.11ac MCS0/Nss1 VHT40	5190 MHz	13.02	12.47	12.95	17.59	27.21	Complies
	5230 MHz	20.76	20.38	20.54	25.33	27.21	Complies
	5755 MHz	13.87	12.97	13.85	18.35	27.21	Complies
	5795 MHz	19.55	18.97	19.93	24.27	27.21	Complies
802.11ac MCS0/Nss1 VHT80	5210 MHz	8.73	8.27	8.66	13.33	27.21	Complies
	5775 MHz	10.17	9.15	9.83	14.51	27.21	Complies

Note: Uncorrelated Composite Gain =8.79 dBi, so limit =30-(8.79-6)=27.21 (dBm)

4.5. Power Spectral Density Measurement

4.5.1. Limit

The following table is power spectral density limits and decrease power density limit rule refer to section 4.4.1.

Frequency Band			Limit
☒	5.15~5.25 GHz		
	Operating Mode		
	☐	Outdoor access point	17 dBm/MHz
	☒	Indoor access point	17 dBm/MHz
	☐	Fixed point-to-point access points	17 dBm/MHz
	☐	Mobile and portable client devices	11 dBm/MHz
☒	5.725~5.85 GHz		30 dBm/500kHz

4.5.2. Measuring Instruments and Setting

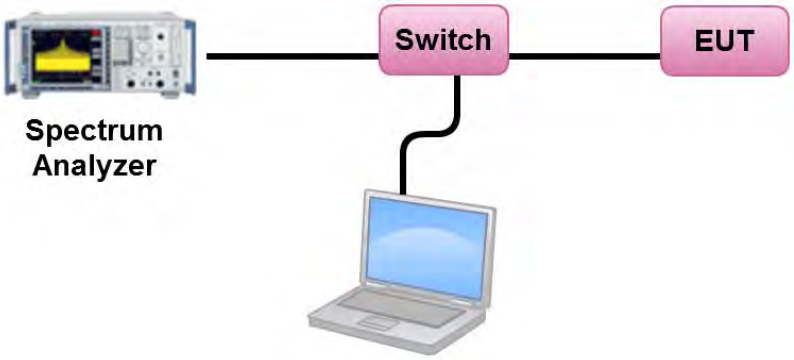
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

Spectrum Parameter	Setting
Attenuation	Auto
Span Frequency	Encompass the entire emissions bandwidth (EBW) of the signal
RBW	1000 kHz
VBW	3000 kHz
Detector	RMS
Trace	AVERAGE
Sweep Time	Auto
Trace Average	100 times
Note: If measurement bandwidth of Maximum PSD is specified in 500 kHz, add 10log(500kHz/RBW) to the measured result, whereas RBW (< 500 kHz) is the reduced resolution bandwidth of the spectrum analyzer set during measurement.	

4.5.3. 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 v01r02 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 and sum the spectra across the outputs.
4. For 5.725~5.85 GHz, the measured result of PSD level must add 10log(500kHz/RBW) and the final result should ≤ 30 dBm.

4.5.4. Test Setup Layout



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 Power Spectral Density

<For EUT 1>

Temperature	23℃	Humidity	63%
Test Engineer	Serway Li	Test Date	Apr. 26, 2016~May 05, 2016

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

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	5.98	6.50	Complies
40	5200 MHz	5.98	6.50	Complies
48	5240 MHz	6.11	6.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =17-(16.50-6)=6.50 (dBm/MHz)

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	8.69	-3.01	5.68	19.50	Complies
157	5785 MHz	10.78	-3.01	7.77	19.50	Complies
165	5825 MHz	10.82	-3.01	7.81	19.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =30-(16.50-6)=19.50 (dBm/500kHz)

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.08	6.50	Complies
40	5200 MHz	6.12	6.50	Complies
48	5240 MHz	6.10	6.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =17-(16.50-6)=6.50 (dBm/MHz)

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	8.63	-3.01	5.62	19.50	Complies
157	5785 MHz	10.54	-3.01	7.53	19.50	Complies
165	5825 MHz	10.58	-3.01	7.57	19.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =30-(16.50-6)=19.50 (dBm/500kHz)

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	1.48	6.50	Complies
46	5230 MHz	6.41	6.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =17-(16.50-6)=6.50 (dBm/MHz)

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	0.20	-3.01	-2.81	19.50	Complies
159	5795 MHz	8.11	-3.01	5.10	19.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =30-(16.50-6)=19.50 (dBm/500kHz)

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-5.43	6.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =17-(16.50-6)=6.50 (dBm/MHz)

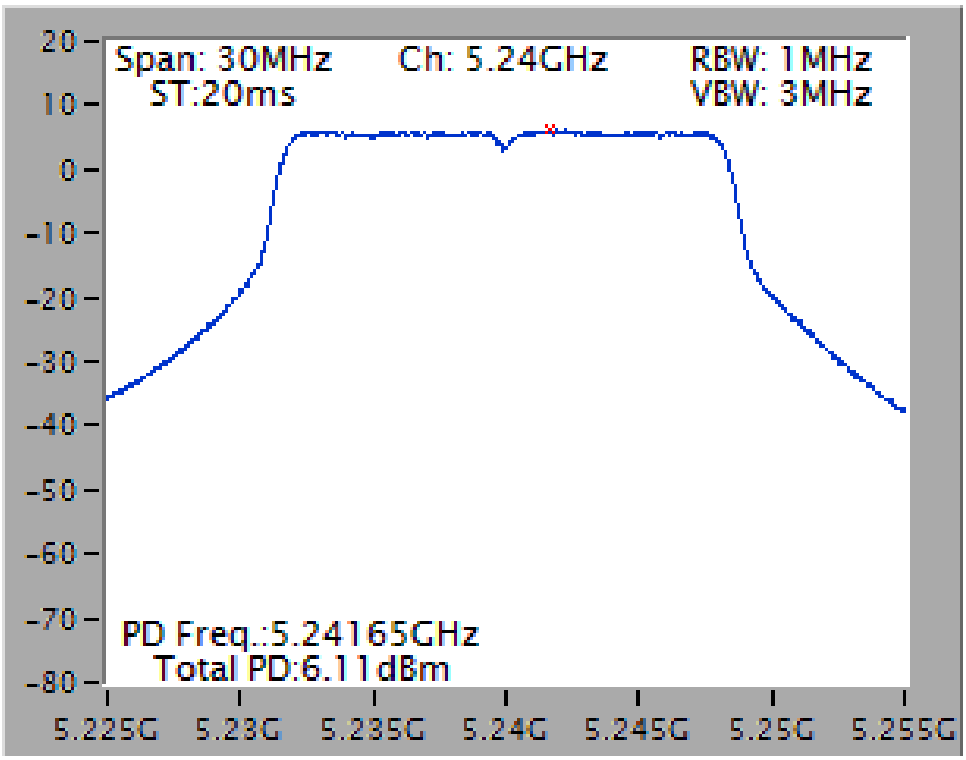
Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-6.66	-3.01	-9.67	19.50	Complies

Note: Uncorrelated Composite Gain=16.50 dBi, so limit =30-(16.50-6)=19.50 (dBm/500kHz)

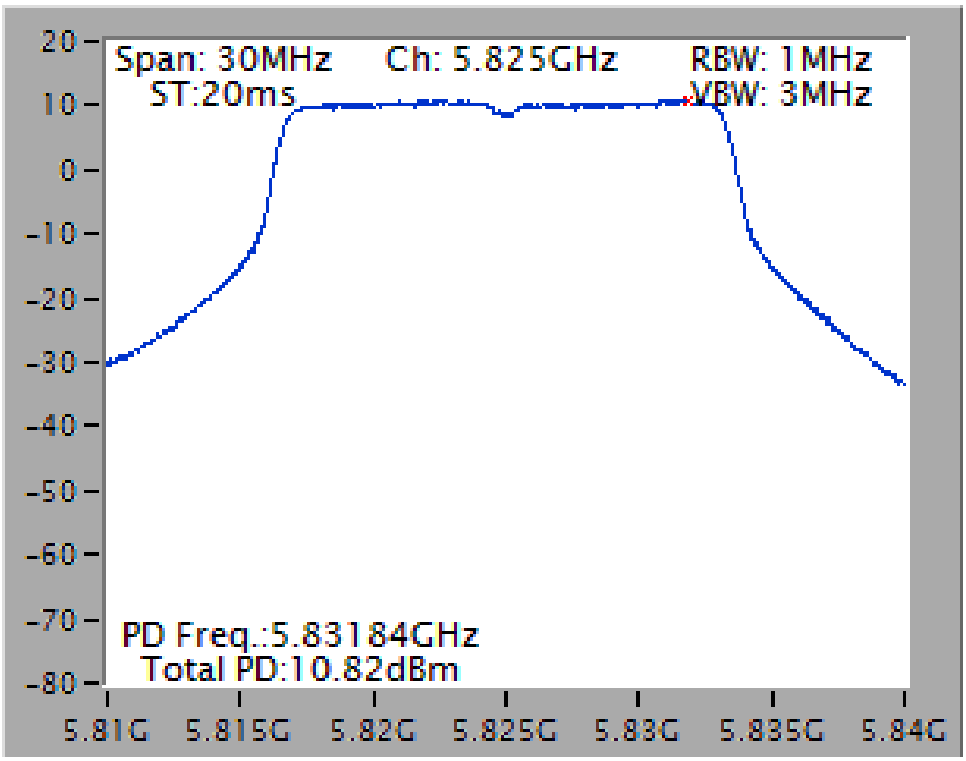
Note: All the test values were listed in the report.

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

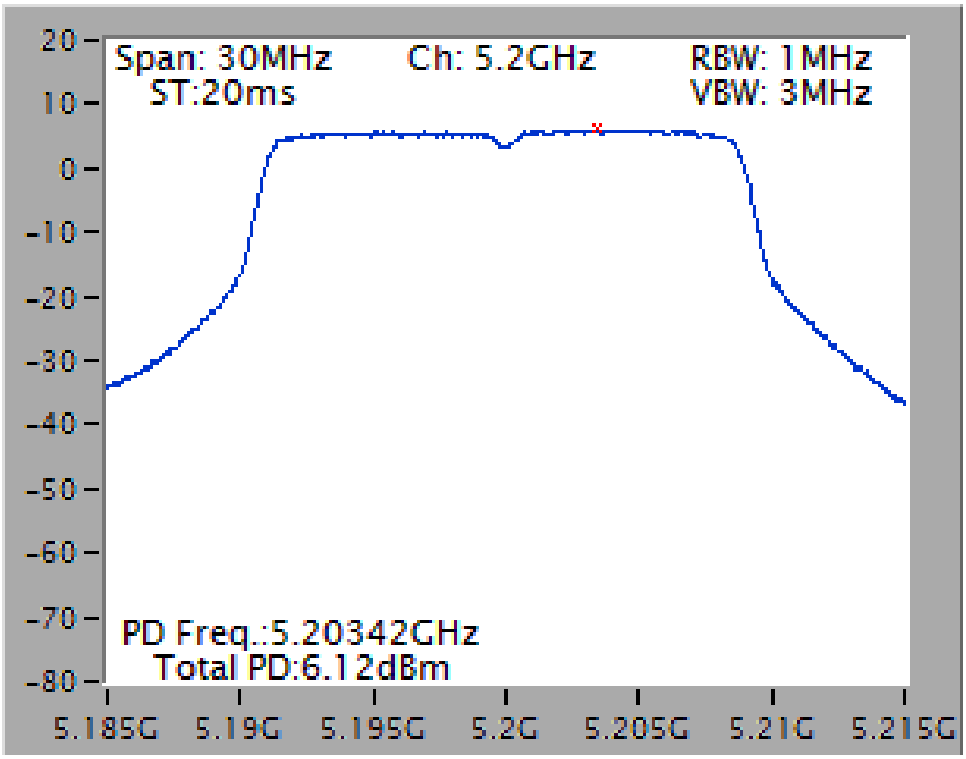
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5240 MHz



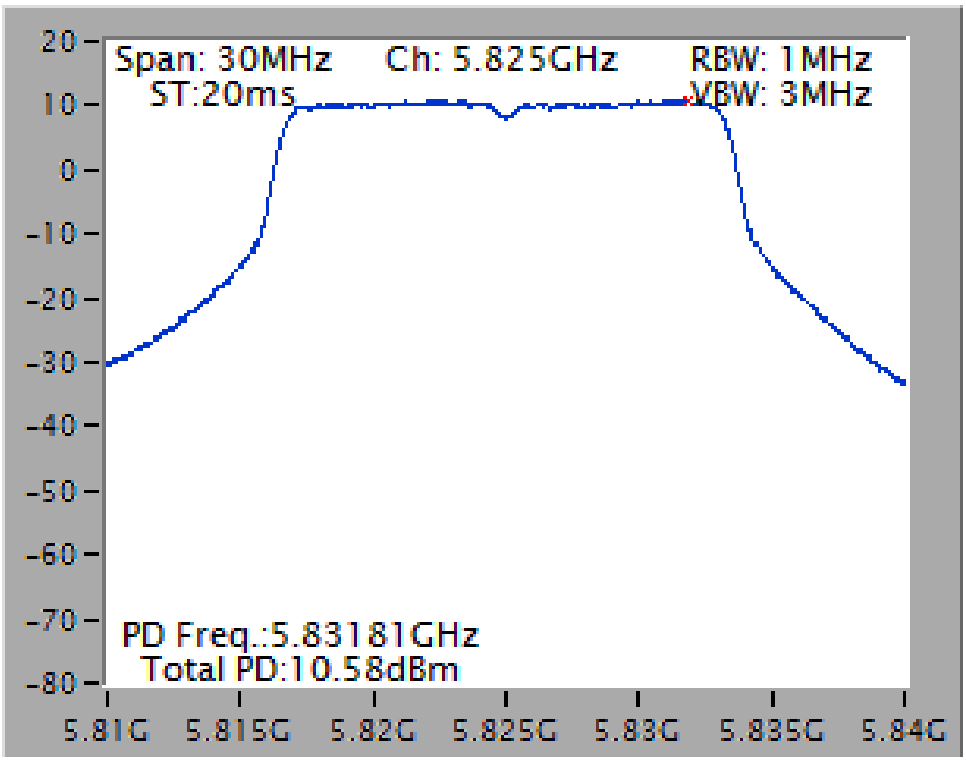
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



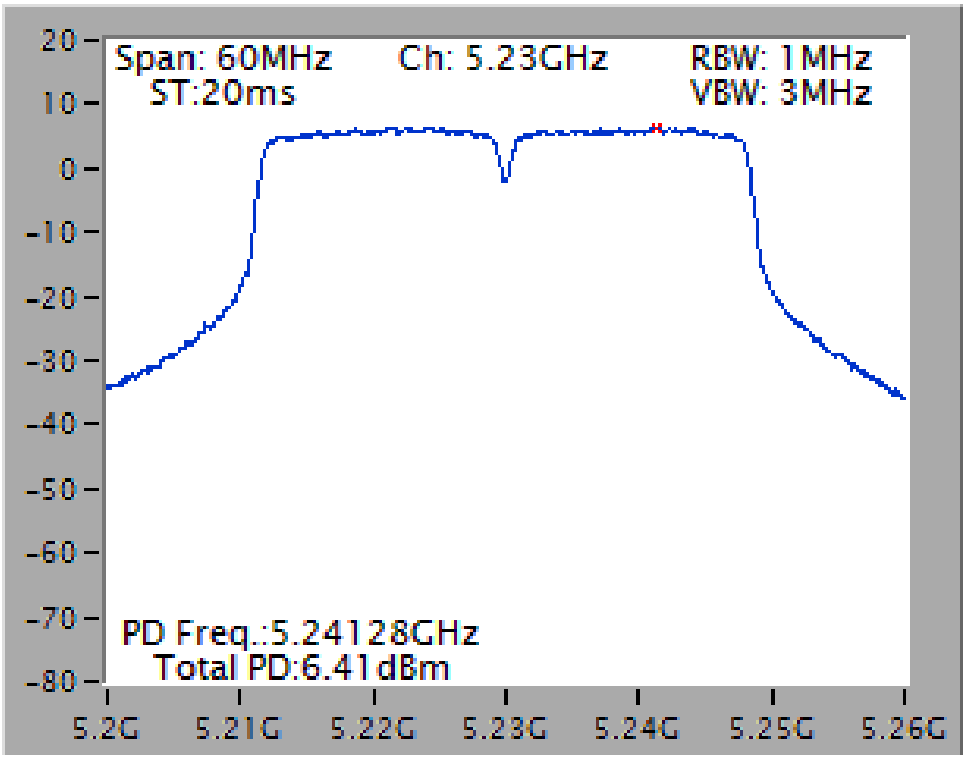
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5200 MHz



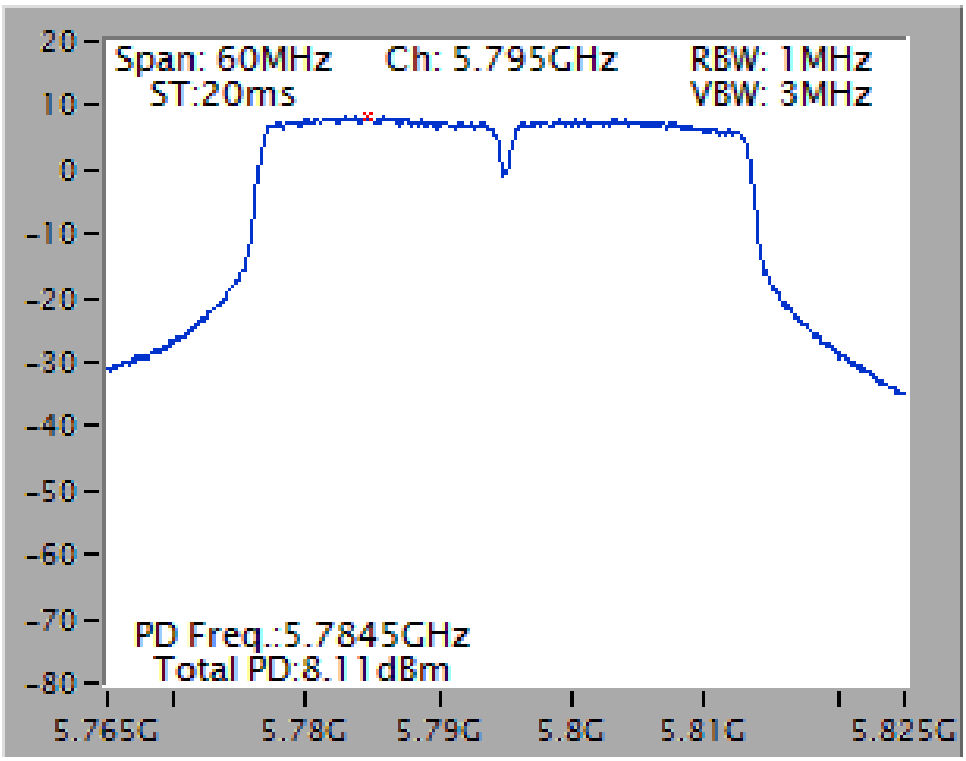
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5825 MHz



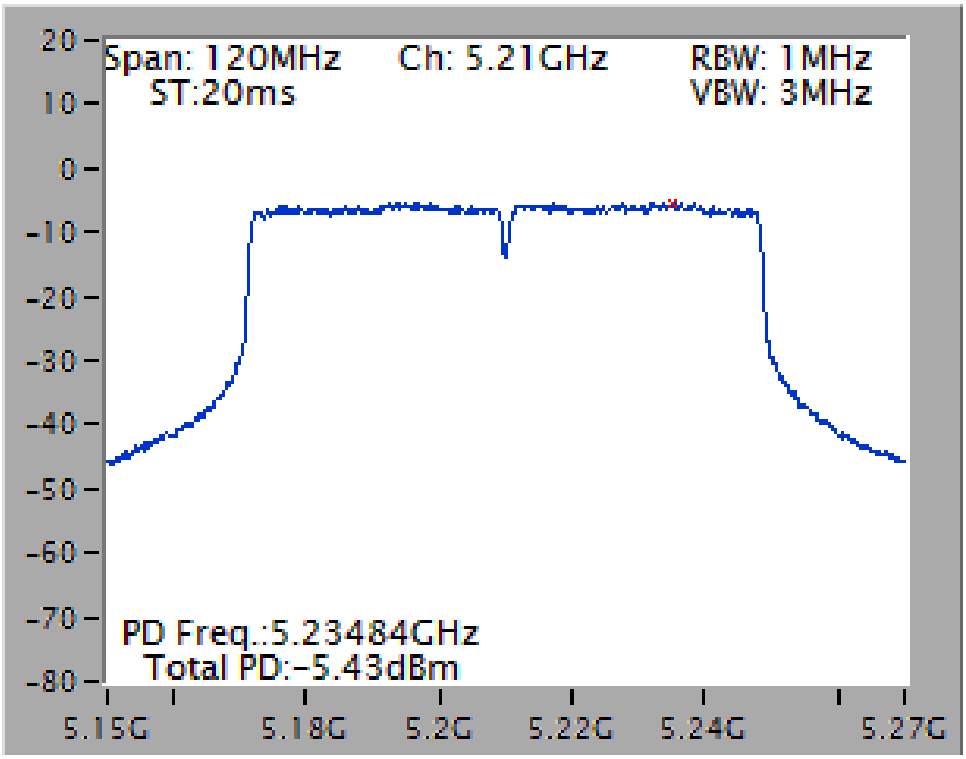
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5230 MHz



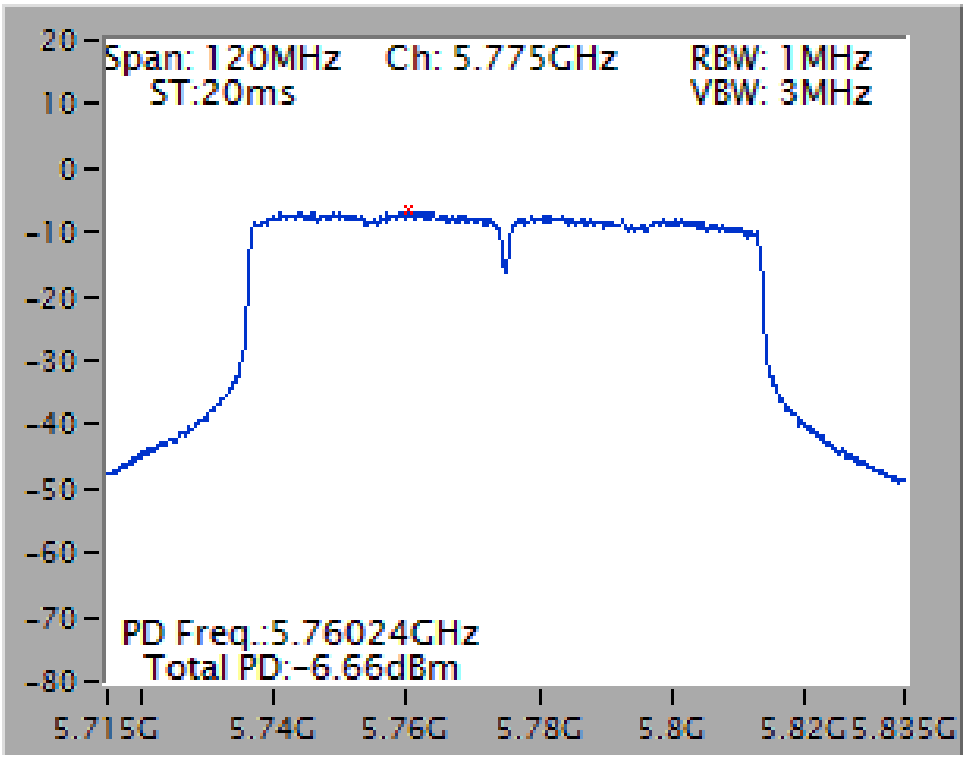
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5795 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5210 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5775 MHz



<For EUT 2>

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Test Date	Apr. 27, 2016~May 04, 2016

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

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.12	9.45	Complies
40	5200 MHz	9.29	9.45	Complies
48	5240 MHz	9.19	9.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =17-(13.55-6)=9.45 (dBm/MHz)

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	11.40	-3.01	8.39	22.45	Complies
157	5785 MHz	13.79	-3.01	10.78	22.45	Complies
165	5825 MHz	12.50	-3.01	9.49	22.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =30-(13.55-6)=22.45 (dBm/500kHz)

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	9.08	9.45	Complies
40	5200 MHz	9.08	9.45	Complies
48	5240 MHz	9.14	9.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =17-(13.55-6)=9.45 (dBm/MHz)

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
149	5745 MHz	10.72	-3.01	7.71	22.45	Complies
157	5785 MHz	13.69	-3.01	10.68	22.45	Complies
165	5825 MHz	11.39	-3.01	8.38	22.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =30-(13.55-6)=22.45 (dBm/500kHz)

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	1.39	9.45	Complies
46	5230 MHz	9.22	9.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =17-(13.55-6)=9.45 (dBm/MHz)

Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
151	5755 MHz	2.31	-3.01	-0.70	22.45	Complies
159	5795 MHz	8.13	-3.01	5.12	22.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =30-(13.55-6)=22.45 (dBm/500kHz)

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	-5.73	9.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =17-(13.55-6)=9.45 (dBm/MHz)

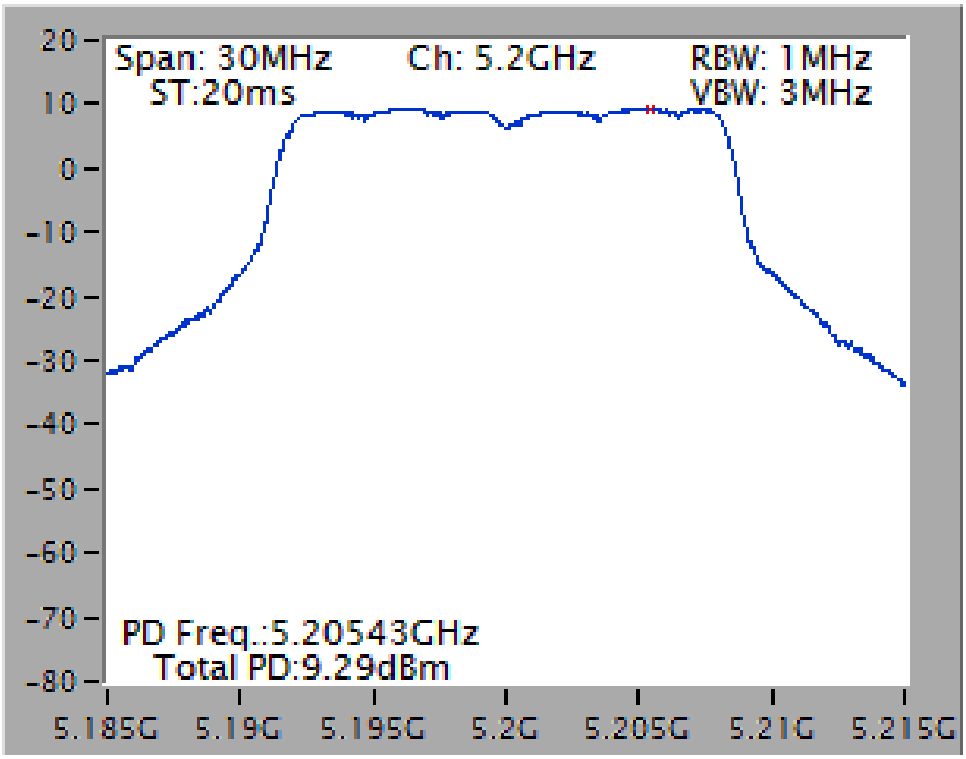
Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	-4.50	-3.01	-7.51	22.45	Complies

Note: Uncorrelated Composite Gain=13.55 dBi, so limit =30-(13.55-6)=22.45 (dBm/500kHz)

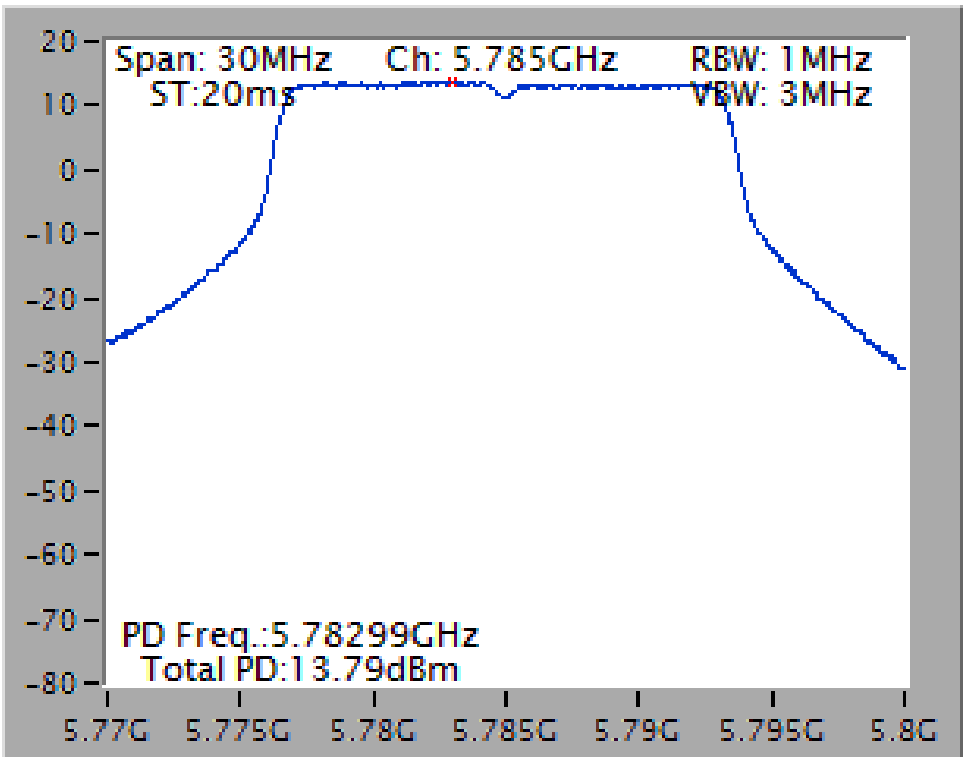
Note: All the test values were listed in the report.

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

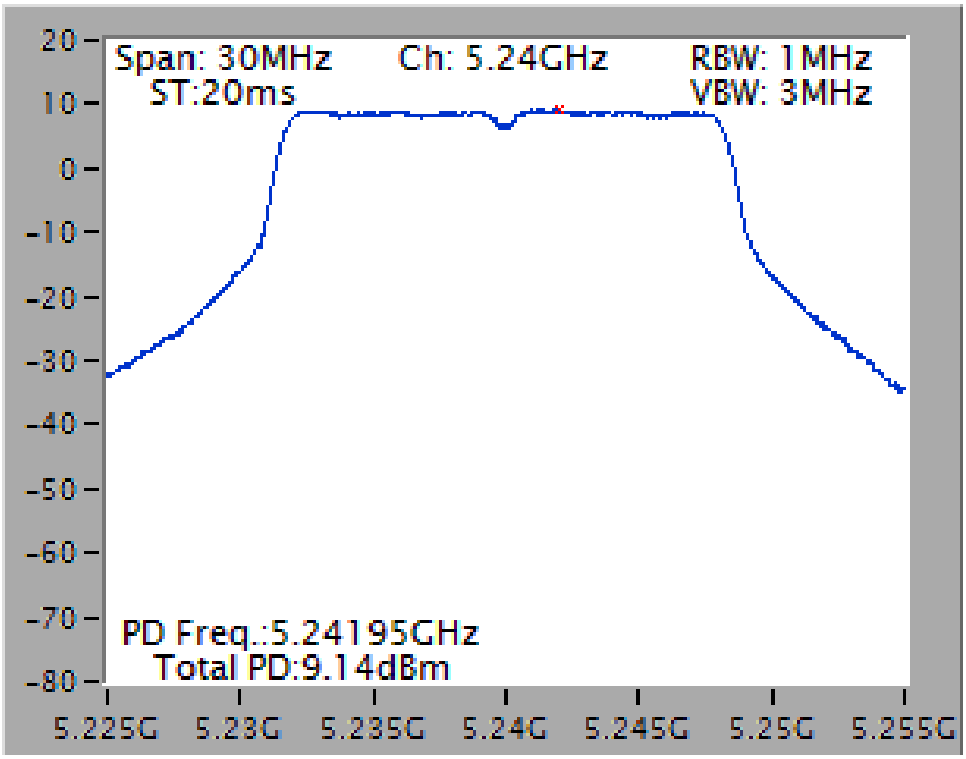
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5200 MHz



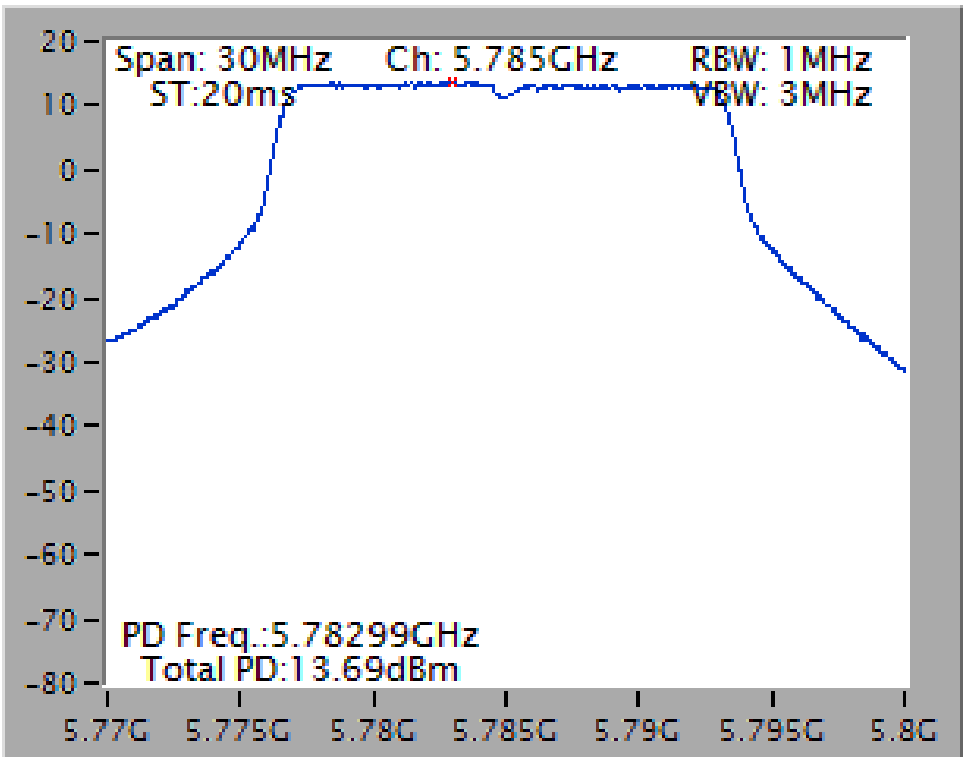
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



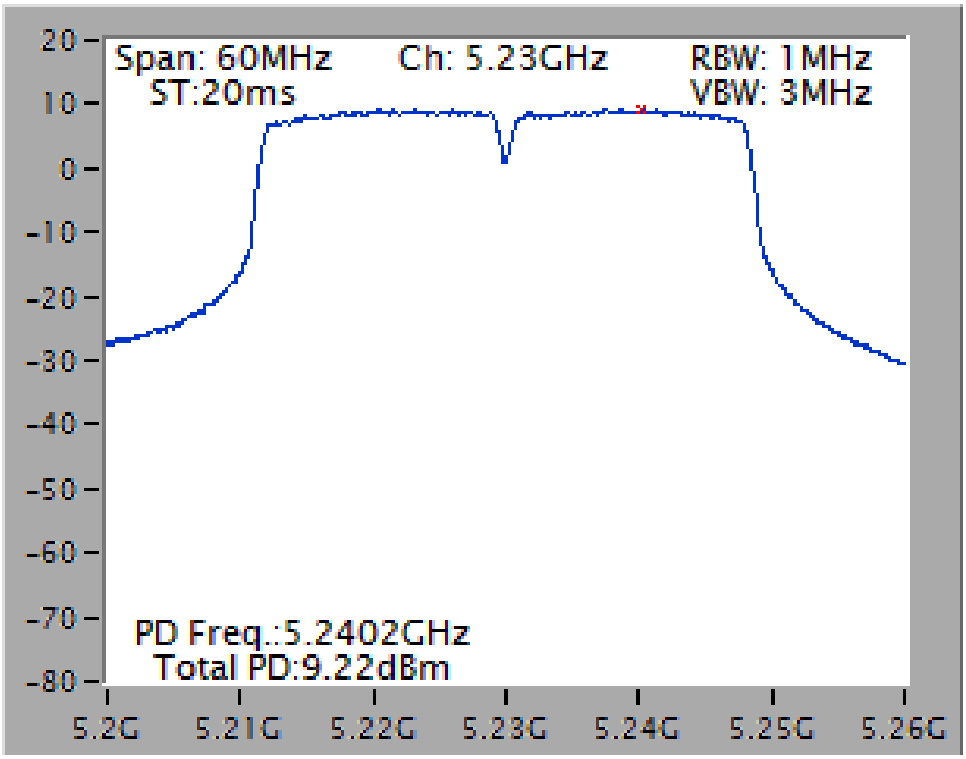
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5240 MHz



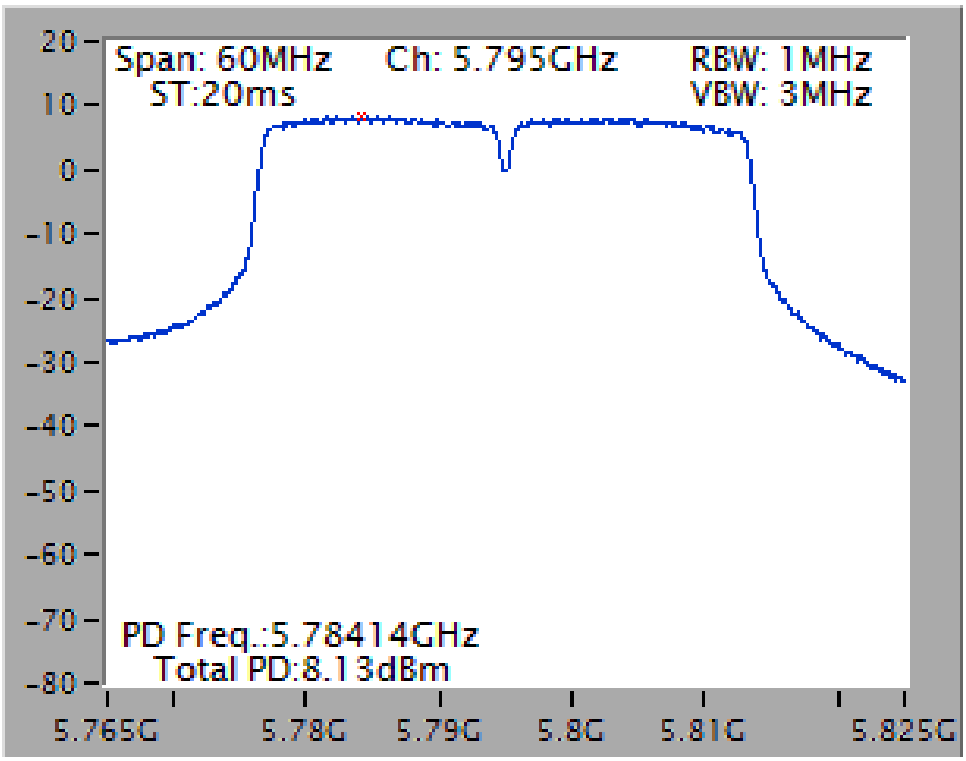
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5785 MHz



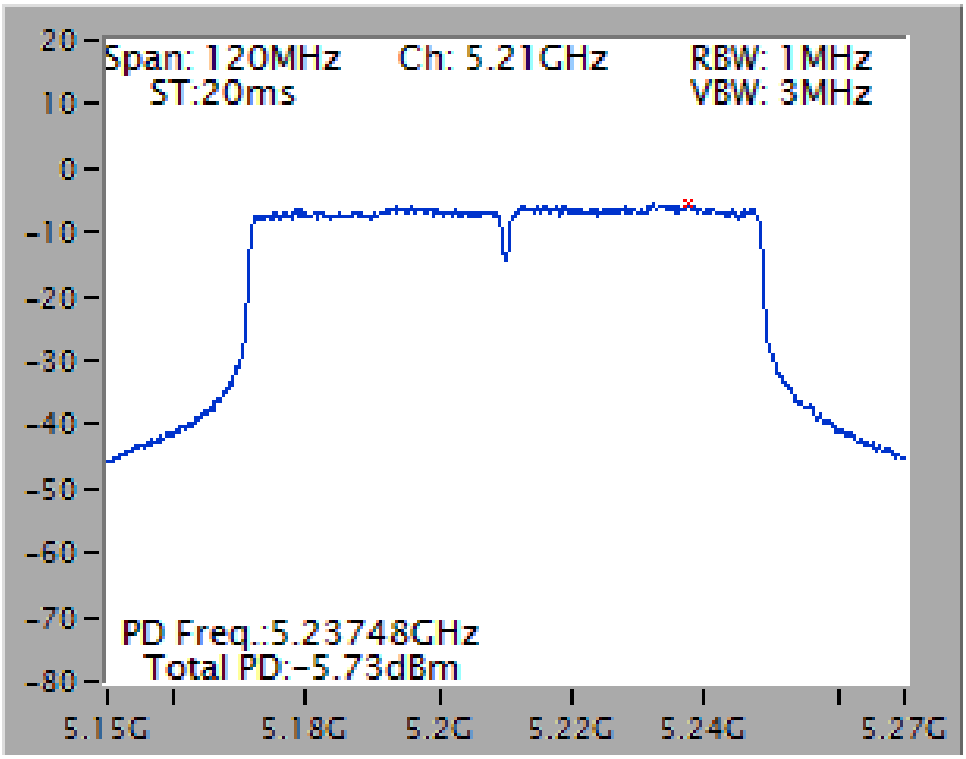
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5230 MHz



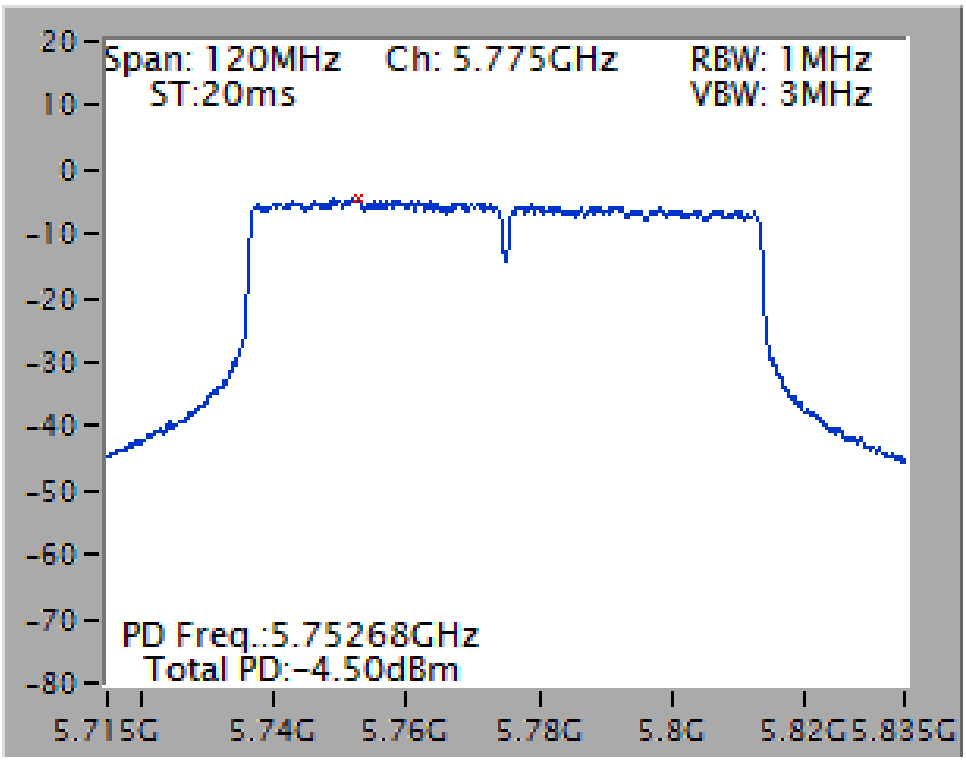
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5795 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5210 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5775 MHz



4.6. Radiated Emissions Measurement

4.6.1. Limit

For transmitters operating in the 5.15-5.25 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 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions 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

4.6.2. 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 / 1/T for Average
RBW / VBW (Emission in non-restricted band)	1MHz / 3MHz for peak

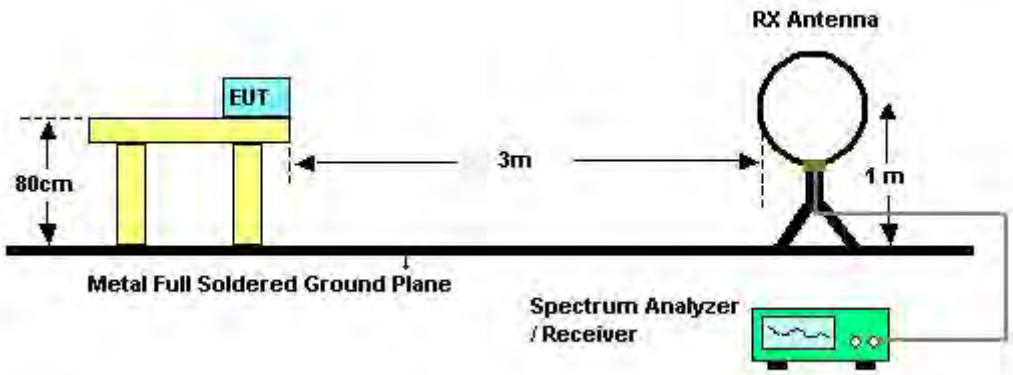
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

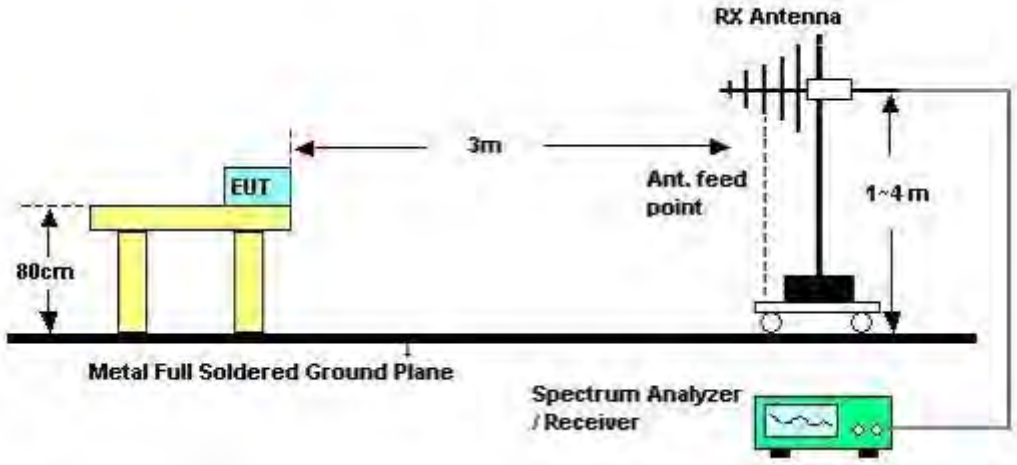
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting 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.

4.6.4. Test Setup Layout

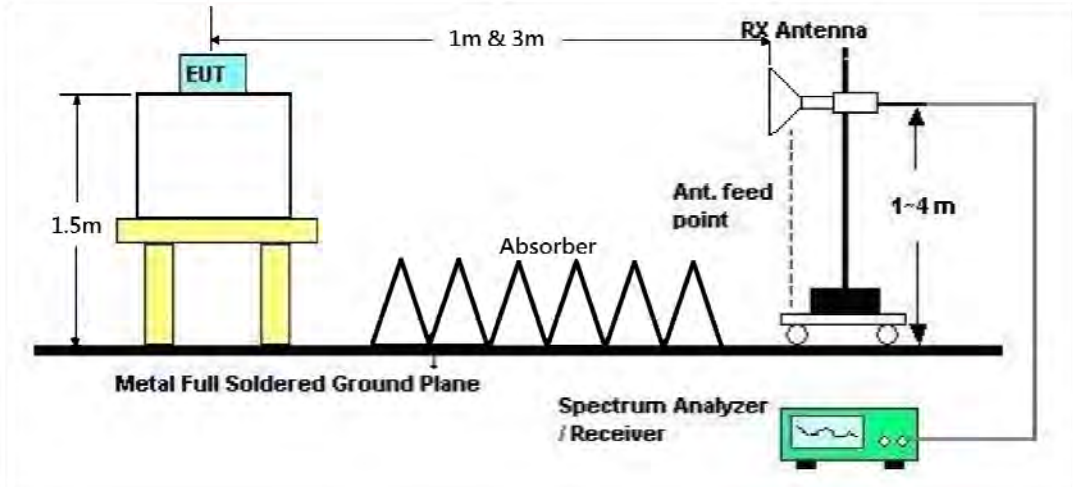
For Radiated Emissions: 9kHz ~30MHz



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)

<For EUT 1>

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	Normal Link
Test Date	Apr. 22, 2016	Test Mode	Mode 3

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

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB 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.

<For EUT 2>

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	Normal Link
Test Date	Apr. 22, 2016	Test Mode	Mode 7

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

Note:

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

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

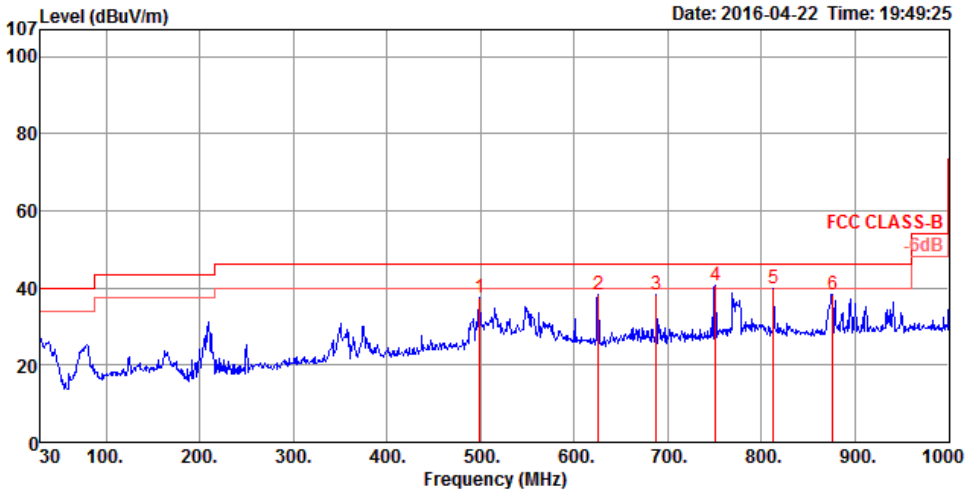
Limit line = specific limits (dBuV) + distance extrapolation factor.

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

<For EUT 1>

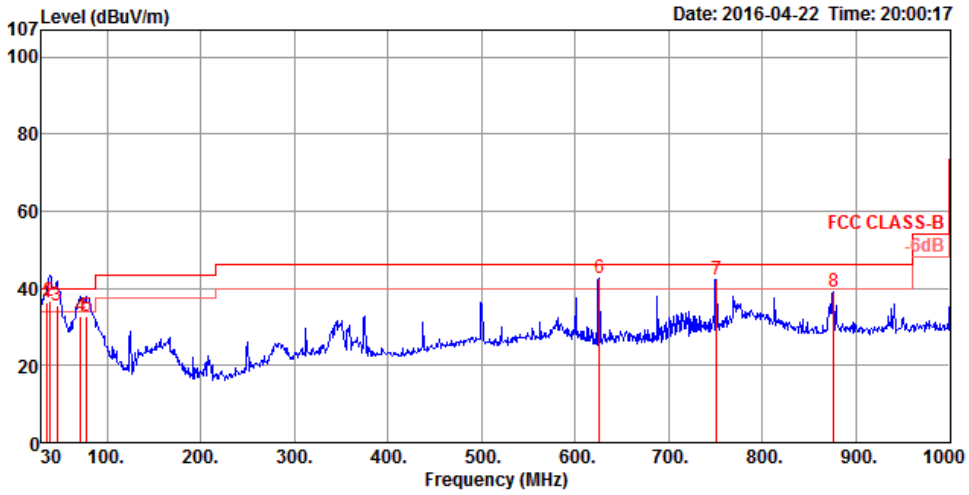
Temperature	22℃	Humidity	54%
Test Engineer	John Tang	Configurations	Normal Link
Test Mode	Mode 3		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	499.48	37.51	46.00	-8.49	40.72	1.76	23.70	28.67	125	337	Peak	HORIZONTAL
2	625.58	38.17	46.00	-7.83	39.83	1.97	25.06	28.69	200	360	Peak	HORIZONTAL
3	687.66	38.47	46.00	-7.53	39.63	2.07	25.38	28.61	150	0	Peak	HORIZONTAL
4	750.71	40.48	46.00	-5.52	40.66	2.19	26.10	28.47	150	10	Peak	HORIZONTAL
5	812.79	39.73	46.00	-6.27	39.06	2.31	26.64	28.28	200	335	Peak	HORIZONTAL
6	875.84	38.49	46.00	-7.51	36.87	2.38	27.20	27.96	100	9	Peak	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	35.82	36.24	40.00	-3.76	42.46	0.53	21.75	28.50	100	72	QP	VERTICAL
2	38.73	36.75	40.00	-3.25	44.70	0.53	20.01	28.49	100	260	QP	VERTICAL
3	46.49	35.53	40.00	-4.47	47.55	0.61	15.84	28.47	100	168	QP	VERTICAL
4	71.71	32.72	40.00	-7.28	48.01	0.75	12.35	28.39	150	360	QP	VERTICAL
5	78.50	32.89	40.00	-7.11	47.64	0.75	12.87	28.37	150	124	QP	VERTICAL
6	625.58	42.73	46.00	-3.27	44.39	1.97	25.06	28.69	125	356	Peak	VERTICAL
7	750.71	42.27	46.00	-3.73	42.45	2.19	26.10	28.47	100	9	Peak	VERTICAL
8	875.84	39.17	46.00	-6.83	37.55	2.38	27.20	27.96	100	2	Peak	VERTICAL

Note:

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

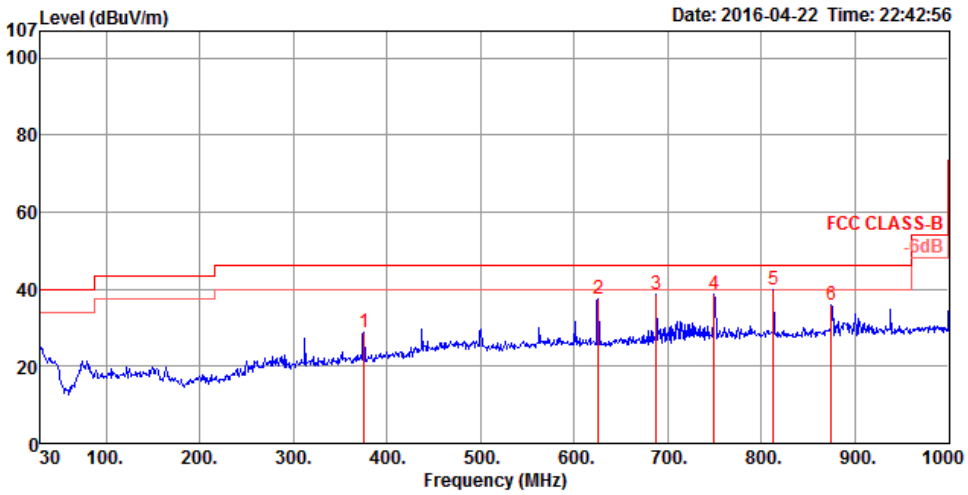
Emission level (dBuV/m) = 20 log Emission level (uV/m).

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

<For EUT 2>

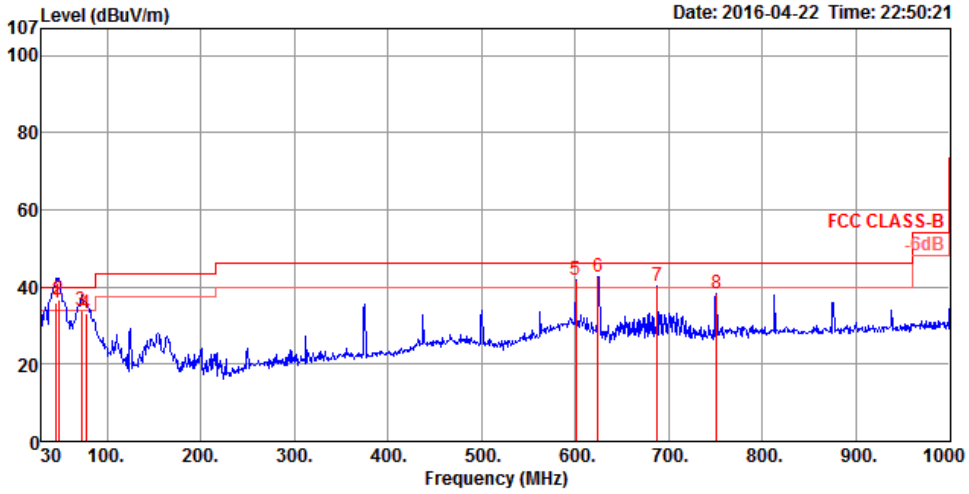
Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	Normal Link
Test Mode	Mode 7		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	375.32	28.90	46.00	-17.10	33.86	1.50	21.58	28.04	100	24	Peak	HORIZONTAL
2	625.58	37.56	46.00	-8.44	39.22	1.97	25.06	28.69	200	60	Peak	HORIZONTAL
3	687.66	38.87	46.00	-7.13	40.03	2.07	25.38	28.61	150	4	Peak	HORIZONTAL
4	749.74	38.71	46.00	-7.29	38.89	2.19	26.10	28.47	200	34	Peak	HORIZONTAL
5	812.79	39.90	46.00	-6.10	39.23	2.31	26.64	28.28	200	40	Peak	HORIZONTAL
6	874.87	36.07	46.00	-9.93	34.46	2.38	27.20	27.97	100	9	Peak	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	45.49	35.97	40.00	-4.03	47.56	0.61	16.28	28.48	100	156	QP	VERTICAL
2	48.43	36.90	40.00	-3.10	49.80	0.61	14.96	28.47	150	360	QP	VERTICAL
3	72.68	33.77	40.00	-6.23	49.00	0.75	12.41	28.39	150	85	QP	VERTICAL
4	77.53	33.01	40.00	-6.99	47.82	0.75	12.81	28.37	150	26	QP	VERTICAL
5	600.36	41.98	46.00	-4.02	43.97	1.93	24.80	28.72	100	0	Peak	VERTICAL
6	624.61	42.69	46.00	-3.31	44.35	1.97	25.06	28.69	100	14	Peak	VERTICAL
7	687.66	40.15	46.00	-5.85	41.31	2.07	25.38	28.61	100	338	Peak	VERTICAL
8	750.71	38.15	46.00	-7.85	38.33	2.19	26.10	28.47	150	199	Peak	VERTICAL

Note:

The amplitude of spurious emissions which are attenuated by more than 20 dB 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)

<For EUT 1>

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 36 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15503.30	59.18	74.00	-14.82	42.41	13.38	38.50	35.11	152	92	Peak	HORIZONTAL
2	15549.46	46.57	54.00	-7.43	29.88	13.38	38.45	35.14	152	92	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15525.42	59.03	74.00	-14.97	42.34	13.38	38.45	35.14	210	118	Peak	VERTICAL
2	15551.22	46.45	54.00	-7.55	29.76	13.38	38.45	35.14	210	118	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 40 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15620.19	59.99	74.00	-14.01	43.46	13.38	38.34	35.19	124	177	Peak	HORIZONTAL
2	15627.08	46.32	54.00	-7.68	29.79	13.38	38.34	35.19	124	177	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15558.97	58.43	74.00	-15.57	41.82	13.38	38.39	35.16	164	209	Peak	VERTICAL
2	15630.29	46.31	54.00	-7.69	29.78	13.38	38.34	35.19	164	209	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15704.13	45.83	54.00	-8.17	29.45	13.39	38.23	35.24	174	187	Average	HORIZONTAL
2	15760.71	58.47	74.00	-15.53	42.17	13.39	38.17	35.26	174	187	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15677.21	58.61	74.00	-15.39	42.15	13.39	38.28	35.21	131	217	Peak	VERTICAL
2	15699.33	45.45	54.00	-8.55	29.07	13.39	38.23	35.24	131	217	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 149 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11454.74	44.74	54.00	-9.26	29.08	10.74	39.66	34.74	148	166	Average	HORIZONTAL
2	11476.70	57.41	74.00	-16.59	41.75	10.74	39.66	34.74	148	166	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11480.93	44.31	54.00	-9.69	28.65	10.74	39.66	34.74	172	193	Average	VERTICAL
2	11485.35	56.97	74.00	-17.03	41.27	10.75	39.70	34.75	172	193	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 157 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11571.15	57.29	74.00	-16.71	41.64	10.76	39.65	34.76	201	160	Peak	HORIZONTAL
2	11574.90	43.49	54.00	-10.51	27.84	10.76	39.65	34.76	201	160	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11563.94	57.27	74.00	-16.73	41.62	10.76	39.65	34.76	177	190	Peak	VERTICAL
2	11573.75	43.74	54.00	-10.26	28.09	10.76	39.65	34.76	177	190	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11643.27	44.15	54.00	-9.85	28.56	10.77	39.59	34.77	188	152	Average	HORIZONTAL
2	11655.06	57.49	74.00	-16.51	41.93	10.77	39.57	34.78	188	152	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11655.06	56.99	74.00	-17.01	41.43	10.77	39.57	34.78	180	181	Peak	VERTICAL
2	11658.08	44.06	54.00	-9.94	28.50	10.77	39.57	34.78	180	181	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15542.79	46.25	54.00	-7.75	29.56	13.38	38.45	35.14	192	138	Average	HORIZONTAL
2	15548.14	59.78	74.00	-14.22	43.09	13.38	38.45	35.14	192	138	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15545.32	59.32	74.00	-14.68	42.63	13.38	38.45	35.14	212	168	Peak	VERTICAL
2	15548.62	46.22	54.00	-7.78	29.53	13.38	38.45	35.14	212	168	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15541.63	46.21	54.00	-7.79	29.52	13.38	38.45	35.14	181	126	Average	HORIZONTAL
2	15544.52	59.21	74.00	-14.79	42.52	13.38	38.45	35.14	181	126	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15534.26	46.22	54.00	-7.78	29.53	13.38	38.45	35.14	141	147	Average	VERTICAL
2	15543.24	59.43	74.00	-14.57	42.74	13.38	38.45	35.14	141	147	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15710.06	58.29	74.00	-15.71	41.91	13.39	38.23	35.24	161	179	Peak	HORIZONTAL
2	15713.43	45.44	54.00	-8.56	29.06	13.39	38.23	35.24	161	179	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15711.60	58.48	74.00	-15.52	42.10	13.39	38.23	35.24	174	128	Peak	VERTICAL
2	15715.22	45.42	54.00	-8.58	29.04	13.39	38.23	35.24	174	128	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11480.61	44.49	54.00	-9.51	28.83	10.74	39.66	34.74	148	173	Average	HORIZONTAL
2	11481.41	57.75	74.00	-16.25	42.09	10.74	39.66	34.74	148	173	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11490.61	56.91	74.00	-17.09	41.21	10.75	39.70	34.75	172	211	Peak	VERTICAL
2	11494.71	44.52	54.00	-9.48	28.82	10.75	39.70	34.75	172	211	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11571.89	56.61	74.00	-17.39	40.96	10.76	39.65	34.76	220	248	Peak	HORIZONTAL
2	11575.96	43.61	54.00	-10.39	27.96	10.76	39.65	34.76	220	248	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11572.76	56.47	74.00	-17.53	40.82	10.76	39.65	34.76	195	229	Peak	VERTICAL
2	11576.25	43.59	54.00	-10.41	27.94	10.76	39.65	34.76	195	229	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11645.10	57.46	74.00	-16.54	41.87	10.77	39.59	34.77	178	182	Peak	HORIZONTAL
2	11646.70	44.05	54.00	-9.95	28.46	10.77	39.59	34.77	178	182	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11646.76	58.38	74.00	-15.62	42.79	10.77	39.59	34.77	200	151	Peak	VERTICAL
2	11651.99	44.25	54.00	-9.75	28.69	10.77	39.57	34.78	200	151	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15563.81	46.14	54.00	-7.86	29.53	13.38	38.39	35.16	225	174	Average	HORIZONTAL
2	15566.19	59.07	74.00	-14.93	42.46	13.38	38.39	35.16	225	174	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15567.95	59.24	74.00	-14.76	42.63	13.38	38.39	35.16	212	156	Peak	VERTICAL
2	15569.42	46.26	54.00	-7.74	29.65	13.38	38.39	35.16	212	156	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15681.83	58.92	74.00	-15.08	42.46	13.39	38.28	35.21	169	184	Peak	HORIZONTAL
2	15697.82	45.69	54.00	-8.31	29.31	13.39	38.23	35.24	169	184	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15688.43	45.74	54.00	-8.26	29.28	13.39	38.28	35.21	197	147	Average	VERTICAL
2	15692.50	58.99	74.00	-15.01	42.61	13.39	38.23	35.24	197	147	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11511.67	44.26	54.00	-9.74	28.56	10.75	39.70	34.75	164	178	Average	HORIZONTAL
2	11512.66	57.65	74.00	-16.35	41.95	10.75	39.70	34.75	164	178	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11505.83	44.28	54.00	-9.72	28.58	10.75	39.70	34.75	145	150	Average	VERTICAL
2	11518.72	56.89	74.00	-17.11	41.23	10.75	39.67	34.76	145	150	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11586.83	56.87	74.00	-17.13	41.26	10.76	39.62	34.77	121	185	Peak	HORIZONTAL
2	11591.63	43.50	54.00	-10.50	27.89	10.76	39.62	34.77	121	185	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11581.41	56.64	74.00	-17.36	40.99	10.76	39.65	34.76	148	216	Peak	VERTICAL
2	11596.54	43.61	54.00	-10.39	28.00	10.76	39.62	34.77	148	216	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15626.22	59.77	74.00	-14.23	43.24	13.38	38.34	35.19	162	176	Peak	HORIZONTAL
2	15628.21	46.02	54.00	-7.98	29.49	13.38	38.34	35.19	162	176	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15628.37	58.87	74.00	-15.13	42.34	13.38	38.34	35.19	174	147	Peak	VERTICAL
2	15637.56	46.10	54.00	-7.90	29.57	13.38	38.34	35.19	174	147	Average	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11542.31	43.81	54.00	-10.19	28.15	10.75	39.67	34.76	156	122	Average	HORIZONTAL
2	11557.56	56.56	74.00	-17.44	40.91	10.76	39.65	34.76	156	122	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11540.64	43.66	54.00	-10.34	28.00	10.75	39.67	34.76	138	153	Average	VERTICAL
2	11541.47	56.57	74.00	-17.43	40.91	10.75	39.67	34.76	138	153	Peak	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.

<For EUT 2>

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 36 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15536.06	59.05	74.00	-14.95	42.36	13.38	38.45	35.14	171	326	Peak	HORIZONTAL
2	15541.35	46.62	54.00	-7.38	29.93	13.38	38.45	35.14	171	326	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15536.47	60.53	74.00	-13.47	43.84	13.38	38.45	35.14	133	143	Peak	VERTICAL
2	15542.60	46.50	54.00	-7.50	29.81	13.38	38.45	35.14	133	143	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 40 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15601.52	58.75	74.00	-15.25	42.22	13.38	38.34	35.19	165	287	Peak	HORIZONTAL
2	15602.63	46.46	54.00	-7.54	29.93	13.38	38.34	35.19	165	287	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15597.13	59.93	74.00	-14.07	43.32	13.38	38.39	35.16	154	236	Peak	VERTICAL
2	15602.18	46.56	54.00	-7.44	30.03	13.38	38.34	35.19	154	236	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15717.92	45.53	54.00	-8.47	29.15	13.39	38.23	35.24	128	137	Average	HORIZONTAL
2	15723.83	58.11	74.00	-15.89	41.73	13.39	38.23	35.24	128	137	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15715.82	45.46	54.00	-8.54	29.08	13.39	38.23	35.24	188	198	Average	VERTICAL
2	15715.87	57.56	74.00	-16.44	41.18	13.39	38.23	35.24	188	198	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 149 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11486.59	44.39	54.00	-9.61	28.69	10.75	39.70	34.75	147	195	Average	HORIZONTAL
2	11491.27	57.51	74.00	-16.49	41.81	10.75	39.70	34.75	147	195	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11485.22	57.20	74.00	-16.80	41.50	10.75	39.70	34.75	208	254	Peak	VERTICAL
2	11486.22	44.80	54.00	-9.20	29.10	10.75	39.70	34.75	208	254	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 157 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11566.91	56.47	74.00	-17.53	40.82	10.76	39.65	34.76	155	182	Peak	HORIZONTAL
2	11572.71	43.34	54.00	-10.66	27.69	10.76	39.65	34.76	155	182	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11568.86	57.60	74.00	-16.40	41.95	10.76	39.65	34.76	185	219	Peak	VERTICAL
2	11570.38	43.43	54.00	-10.57	27.78	10.76	39.65	34.76	185	219	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11645.67	56.37	74.00	-17.63	40.78	10.77	39.59	34.77	155	113	Peak	HORIZONTAL
2	11649.71	44.59	54.00	-9.41	29.00	10.77	39.59	34.77	155	113	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11649.46	44.29	54.00	-9.71	28.70	10.77	39.59	34.77	191	169	Average	VERTICAL
2	11654.63	57.38	74.00	-16.62	41.82	10.77	39.57	34.78	191	169	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15535.46	59.52	74.00	-14.48	42.83	13.38	38.45	35.14	164	252	Peak	HORIZONTAL
2	15541.41	46.03	54.00	-7.97	29.34	13.38	38.45	35.14	164	252	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15540.35	46.32	54.00	-7.68	29.63	13.38	38.45	35.14	174	184	Average	VERTICAL
2	15540.90	59.65	74.00	-14.35	42.96	13.38	38.45	35.14	174	184	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15596.39	59.89	74.00	-14.11	43.28	13.38	38.39	35.16	181	276	Peak	HORIZONTAL
2	15599.42	46.49	54.00	-7.51	29.88	13.38	38.39	35.16	181	276	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15602.85	58.67	74.00	-15.33	42.14	13.38	38.34	35.19	168	245	Peak	VERTICAL
2	15604.94	46.26	54.00	-7.74	29.73	13.38	38.34	35.19	168	245	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15716.44	44.75	54.00	-9.25	28.37	13.39	38.23	35.24	155	156	Average	HORIZONTAL
2	15717.36	58.67	74.00	-15.33	42.29	13.39	38.23	35.24	155	156	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15716.49	45.14	54.00	-8.86	28.76	13.39	38.23	35.24	159	183	Average	VERTICAL
2	15721.47	57.88	74.00	-16.12	41.50	13.39	38.23	35.24	159	183	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11486.35	58.08	74.00	-15.92	42.38	10.75	39.70	34.75	177	85	Peak	HORIZONTAL
2	11491.38	44.66	54.00	-9.34	28.96	10.75	39.70	34.75	177	85	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11486.27	44.58	54.00	-9.42	28.88	10.75	39.70	34.75	133	148	Average	VERTICAL
2	11486.35	57.64	74.00	-16.36	41.94	10.75	39.70	34.75	133	148	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11571.27	55.87	74.00	-18.13	40.22	10.76	39.65	34.76	162	179	Peak	HORIZONTAL
2	11572.44	43.49	54.00	-10.51	27.84	10.76	39.65	34.76	162	179	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11567.48	56.19	74.00	-17.81	40.54	10.76	39.65	34.76	187	230	Peak	VERTICAL
2	11569.28	43.51	54.00	-10.49	27.86	10.76	39.65	34.76	187	230	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11570.64	56.55	74.00	-17.45	40.90	10.76	39.65	34.76	147	315	Peak	HORIZONTAL
2	11574.50	43.66	54.00	-10.34	28.01	10.76	39.65	34.76	147	315	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11568.11	43.54	54.00	-10.46	27.89	10.76	39.65	34.76	168	239	Average	VERTICAL
2	11571.76	57.42	74.00	-16.58	41.77	10.76	39.65	34.76	168	239	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15569.34	58.66	74.00	-15.34	42.05	13.38	38.39	35.16	122	158	Peak	HORIZONTAL
2	15573.89	46.42	54.00	-7.58	29.81	13.38	38.39	35.16	122	158	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15566.39	59.56	74.00	-14.44	42.95	13.38	38.39	35.16	136	203	Peak	VERTICAL
2	15570.42	46.38	54.00	-7.62	29.77	13.38	38.39	35.16	136	203	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15685.21	57.50	74.00	-16.50	41.04	13.39	38.28	35.21	167	198	Peak	HORIZONTAL
2	15686.43	44.88	54.00	-9.12	28.42	13.39	38.28	35.21	167	198	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15690.26	44.85	54.00	-9.15	28.39	13.39	38.28	35.21	183	198	Average	VERTICAL
2	15691.12	57.85	74.00	-16.15	41.47	13.39	38.23	35.24	183	198	Peak	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11509.26	44.47	54.00	-9.53	28.77	10.75	39.70	34.75	148	134	Average	HORIZONTAL
2	11511.35	56.69	74.00	-17.31	40.99	10.75	39.70	34.75	148	134	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11505.90	56.93	74.00	-17.07	41.23	10.75	39.70	34.75	156	180	Peak	VERTICAL
2	11507.84	44.27	54.00	-9.73	28.57	10.75	39.70	34.75	156	180	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11592.74	43.56	54.00	-10.44	27.95	10.76	39.62	34.77	186	274	Average	HORIZONTAL
2	11593.24	56.78	74.00	-17.22	41.17	10.76	39.62	34.77	186	274	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11585.22	56.79	74.00	-17.21	41.18	10.76	39.62	34.77	162	172	Peak	VERTICAL
2	11589.29	43.54	54.00	-10.46	27.93	10.76	39.62	34.77	162	172	Average	VERTICAL

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15629.09	45.83	54.00	-8.17	29.30	13.38	38.34	35.19	175	284	Average	HORIZONTAL
2	15630.19	58.43	74.00	-15.57	41.90	13.38	38.34	35.19	175	284	Peak	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	15626.78	45.96	54.00	-8.04	29.43	13.38	38.34	35.19	127	218	Average	VERTICAL
2	15629.05	58.49	74.00	-15.51	41.96	13.38	38.34	35.19	127	218	Peak	VERTICAL

Temperature	22℃	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Horizontal

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11550.88	55.99	74.00	-18.01	40.34	10.76	39.65	34.76	152	125	Peak	HORIZONTAL
2	11551.25	43.70	54.00	-10.30	28.05	10.76	39.65	34.76	152	125	Average	HORIZONTAL

Vertical

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	11550.63	56.27	74.00	-17.73	40.62	10.76	39.65	34.76	134	56	Peak	VERTICAL
2	11552.56	43.63	54.00	-10.37	27.98	10.76	39.65	34.76	134	56	Average	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 5.15-5.25 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 5.725-5.85 GHz band: all emissions within the frequency range from the band edge to 10 MHz above or below the band edge shall not exceed an e.i.r.p. of −17 dBm/MHz; for frequencies 10 MHz or greater above or below the band edge, emissions 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

4.7.2. 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 / 1/T 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.

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

<For EUT 1>

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 20, 2016~Apr. 21, 2016		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	T/Pos	A/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	deg	cm		
1	5147.60	51.25	54.00	-2.75	46.21	6.20	33.31	34.47	357	209	Average	HORIZONTAL
2	5149.60	64.67	74.00	-9.33	59.63	6.20	33.31	34.47	357	209	Peak	HORIZONTAL
3	5178.40	120.49			115.37	6.24	33.35	34.47	357	209	Peak	HORIZONTAL
4	5178.40	111.00			105.88	6.24	33.35	34.47	357	209	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5144.00	62.78	74.00	-11.22	55.36	7.48	34.85	34.91	204	180	Peak	HORIZONTAL
2	5150.00	52.46	54.00	-1.54	45.04	7.48	34.85	34.91	204	180	Average	HORIZONTAL
3	5205.60	124.43			116.94	7.49	34.91	34.91	204	180	Peak	HORIZONTAL
4	5206.00	115.23			107.74	7.49	34.91	34.91	204	180	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5101.40	59.84	74.00	-14.16	52.45	7.48	34.81	34.90	183	137	Peak	HORIZONTAL
2	5150.00	47.67	54.00	-6.33	40.25	7.48	34.85	34.91	183	137	Average	HORIZONTAL
3	5241.20	101.48			93.95	7.50	34.94	34.91	183	137	Average	HORIZONTAL
4	5241.80	110.85			103.32	7.50	34.94	34.91	183	137	Peak	HORIZONTAL
5	5350.00	48.10	54.00	-5.90	40.40	7.56	35.05	34.91	183	137	Average	HORIZONTAL
6	5366.60	60.59	74.00	-13.41	52.88	7.56	35.06	34.91	183	137	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5711.40	67.56	68.20	-0.64	59.45	7.81	35.24	34.94	152	354	Peak	HORIZONTAL
2	5724.60	74.17	78.20	-4.03	66.07	7.79	35.25	34.94	152	354	Peak	HORIZONTAL
3	5746.20	122.42			114.34	7.77	35.25	34.94	152	354	Peak	HORIZONTAL
4	5746.60	112.49			104.41	7.77	35.25	34.94	152	354	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5697.00	66.65	68.20	-1.55	58.53	7.82	35.24	34.94	298	354	Peak	HORIZONTAL
2	5725.00	65.70	78.20	-12.50	57.60	7.79	35.25	34.94	298	354	Peak	HORIZONTAL
3	5785.80	118.91			110.87	7.73	35.26	34.95	298	354	Average	HORIZONTAL
4	5786.20	128.48			120.44	7.73	35.26	34.95	298	354	Peak	HORIZONTAL
5	5850.60	65.13	78.20	-13.07	57.02	7.80	35.27	34.96	298	354	Peak	HORIZONTAL
6	5860.00	63.62	68.20	-4.58	55.49	7.82	35.27	34.96	298	354	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5826.20	116.49			108.40	7.77	35.27	34.95	160	356	Average	HORIZONTAL
2	5827.00	126.72			118.63	7.77	35.27	34.95	160	356	Peak	HORIZONTAL
3	5851.00	70.58	78.20	-7.62	62.47	7.80	35.27	34.96	160	356	Peak	HORIZONTAL
4	5861.00	67.75	68.20	-0.45	59.62	7.82	35.27	34.96	160	356	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5825 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5114.00	63.17	74.00	-10.83	55.77	7.48	34.82	34.90	182	181	Peak	HORIZONTAL
2	5141.60	51.70	54.00	-2.30	44.29	7.48	34.84	34.91	182	181	Average	HORIZONTAL
3	5174.40	121.78			114.33	7.48	34.88	34.91	182	181	Peak	HORIZONTAL
4	5175.20	111.82			104.37	7.48	34.88	34.91	182	181	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5147.60	51.85	54.00	-2.15	44.43	7.48	34.85	34.91	232	180	Average	HORIZONTAL
2	5148.00	64.36	74.00	-9.64	56.94	7.48	34.85	34.91	232	180	Peak	HORIZONTAL
3	5193.20	113.39			105.92	7.48	34.90	34.91	232	180	Average	HORIZONTAL
4	5193.20	122.74			115.27	7.48	34.90	34.91	232	180	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5123.00	50.84	54.00	-3.16	43.44	7.48	34.82	34.90	228	180	Average	HORIZONTAL
2	5127.80	63.56	74.00	-10.44	56.15	7.48	34.84	34.91	228	180	Peak	HORIZONTAL
3	5241.20	123.37			115.84	7.50	34.94	34.91	228	180	Peak	HORIZONTAL
4	5242.40	113.90			106.37	7.50	34.94	34.91	228	180	Average	HORIZONTAL
5	5380.40	53.22	54.00	-0.78	45.49	7.57	35.08	34.92	228	180	Average	HORIZONTAL
6	5386.40	66.19	74.00	-7.81	58.44	7.58	35.09	34.92	228	180	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5707.80	68.06	68.20	-0.14	59.95	7.81	35.24	34.94	176	354	Peak	HORIZONTAL
2	5725.00	72.78	78.20	-5.42	64.68	7.79	35.25	34.94	176	354	Peak	HORIZONTAL
3	5748.60	122.22			114.14	7.77	35.25	34.94	176	354	Peak	HORIZONTAL
4	5749.00	112.97			104.89	7.77	35.25	34.94	176	354	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5705.00	66.69	68.20	-1.51	58.57	7.82	35.24	34.94	179	356	Peak	HORIZONTAL
2	5725.00	65.90	78.20	-12.30	57.80	7.79	35.25	34.94	179	356	Peak	HORIZONTAL
3	5793.00	119.05			111.03	7.71	35.26	34.95	179	356	Average	HORIZONTAL
4	5793.00	128.78			120.76	7.71	35.26	34.95	179	356	Peak	HORIZONTAL
5	5850.00	62.98	78.20	-15.22	54.87	7.80	35.27	34.96	179	356	Peak	HORIZONTAL
6	5867.40	64.80	68.20	-3.40	56.67	7.82	35.27	34.96	179	356	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5830.20	125.46			117.37	7.77	35.27	34.95	181	356	Peak	HORIZONTAL
2	5833.40	115.27			107.18	7.77	35.27	34.95	181	356	Average	HORIZONTAL
3	5850.60	74.64	78.20	-3.56	66.53	7.80	35.27	34.96	181	356	Peak	HORIZONTAL
4	5866.60	66.29	68.20	-1.91	58.16	7.82	35.27	34.96	181	356	Peak	HORIZONTAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5140.40	63.93	74.00	-10.07	56.52	7.48	34.84	34.91	197	180	Peak	HORIZONTAL
2	5142.80	50.63	54.00	-3.37	43.21	7.48	34.85	34.91	197	180	Average	HORIZONTAL
3	5199.60	114.30			106.83	7.48	34.90	34.91	197	180	Peak	HORIZONTAL
4	5200.00	104.29			96.82	7.48	34.90	34.91	197	180	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5055.00	52.26	54.00	-1.74	44.92	7.48	34.76	34.90	204	177	Average	HORIZONTAL
2	5056.00	63.47	74.00	-10.53	56.13	7.48	34.76	34.90	204	177	Peak	HORIZONTAL
3	5216.00	114.01			106.52	7.49	34.91	34.91	204	177	Average	HORIZONTAL
4	5235.00	124.70			117.17	7.50	34.94	34.91	204	177	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5714.60	68.03	68.20	-0.17	59.92	7.81	35.24	34.94	172	1	Peak	HORIZONTAL
2	5725.00	76.31	78.20	-1.89	68.21	7.79	35.25	34.94	172	1	Peak	HORIZONTAL
3	5756.60	105.51			97.46	7.75	35.25	34.95	172	1	Average	HORIZONTAL
4	5757.00	115.63			107.58	7.75	35.25	34.95	172	1	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5704.60	66.80	68.20	-1.40	58.68	7.82	35.24	34.94	153	360	Peak	HORIZONTAL
2	5725.00	66.70	78.20	-11.50	58.60	7.79	35.25	34.94	153	360	Peak	HORIZONTAL
3	5785.40	115.23			107.19	7.73	35.26	34.95	153	360	Average	HORIZONTAL
4	5803.80	124.65			116.63	7.71	35.26	34.95	153	360	Peak	HORIZONTAL
5	5859.00	67.03	78.20	-11.17	58.90	7.82	35.27	34.96	153	360	Peak	HORIZONTAL
6	5866.20	65.08	68.20	-3.12	56.95	7.82	35.27	34.96	153	360	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.00	65.12	74.00	-8.88	57.70	7.48	34.85	34.91	225	182	Peak	HORIZONTAL
2	5149.00	53.95	54.00	-0.05	46.53	7.48	34.85	34.91	225	182	Average	HORIZONTAL
3	5199.00	108.19			100.72	7.48	34.90	34.91	225	182	Peak	HORIZONTAL
4	5227.00	96.67			89.15	7.50	34.93	34.91	225	182	Average	HORIZONTAL
5	5388.00	62.76	74.00	-11.24	55.01	7.58	35.09	34.92	225	182	Peak	HORIZONTAL
6	5447.00	51.21	54.00	-2.79	43.33	7.66	35.14	34.92	225	182	Average	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5708.00	68.07	68.20	-0.13	59.96	7.81	35.24	34.94	174	360	Peak	HORIZONTAL
2	5725.00	76.22	78.20	-1.98	68.12	7.79	35.25	34.94	174	360	Peak	HORIZONTAL
3	5748.00	99.28			91.20	7.77	35.25	34.94	174	360	Average	HORIZONTAL
4	5760.00	110.06			102.01	7.75	35.25	34.95	174	360	Peak	HORIZONTAL
5	5850.00	61.85	78.20	-16.35	53.74	7.80	35.27	34.96	174	360	Peak	HORIZONTAL
6	5889.00	62.16	68.20	-6.04	53.99	7.85	35.28	34.96	174	360	Peak	HORIZONTAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

Note:

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

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

<For EUT 2>

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5146.35	66.88	74.00	-7.12	59.46	7.48	34.85	34.91	152	216	Peak	VERTICAL
2	5149.23	53.14	54.00	-0.86	45.72	7.48	34.85	34.91	152	216	Average	VERTICAL
3	5178.72	112.27			104.82	7.48	34.88	34.91	152	216	Average	VERTICAL
4	5178.72	122.17			114.72	7.48	34.88	34.91	152	216	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5036.54	52.06	54.00	-1.94	44.75	7.48	34.73	34.90	153	9	Average	VERTICAL
2	5147.92	62.85	74.00	-11.15	55.43	7.48	34.85	34.91	153	9	Peak	VERTICAL
3	5206.41	113.17			105.68	7.49	34.91	34.91	153	9	Average	VERTICAL
4	5206.41	122.94			115.45	7.49	34.91	34.91	153	9	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5073.33	52.43	54.00	-1.57	45.07	7.48	34.78	34.90	168	333	Average	VERTICAL
2	5074.14	62.78	74.00	-11.22	55.42	7.48	34.78	34.90	168	333	Peak	VERTICAL
3	5233.59	122.22			114.69	7.50	34.94	34.91	168	333	Peak	VERTICAL
4	5244.01	112.50			104.97	7.50	34.94	34.91	168	333	Average	VERTICAL
5	5398.65	62.24	74.00	-11.76	54.49	7.58	35.09	34.92	146	332	Peak	VERTICAL
6	5399.46	50.24	54.00	-3.76	42.49	7.58	35.09	34.92	146	332	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11a CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5708.14	67.01	68.20	-1.19	58.90	7.81	35.24	34.94	179	358	Peak	VERTICAL
2	5722.89	76.22	78.20	-1.98	68.12	7.79	35.25	34.94	179	358	Peak	VERTICAL
3	5738.27	113.35			105.25	7.79	35.25	34.94	179	358	Average	VERTICAL
4	5738.59	122.78			114.68	7.79	35.25	34.94	179	358	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5700.06	65.72	68.20	-2.48	57.60	7.82	35.24	34.94	167	2	Peak	VERTICAL
2	5721.22	67.43	78.20	-10.77	59.32	7.81	35.24	34.94	167	2	Peak	VERTICAL
3	5782.76	114.55			106.51	7.73	35.26	34.95	167	2	Average	VERTICAL
4	5783.08	125.08			117.04	7.73	35.26	34.95	167	2	Peak	VERTICAL
5	5852.24	63.01	78.20	-15.19	54.90	7.80	35.27	34.96	167	2	Peak	VERTICAL
6	5880.19	63.35	68.20	-4.85	55.18	7.85	35.28	34.96	167	2	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5818.27	111.81			103.76	7.74	35.26	34.95	176	2	Average	VERTICAL
2	5818.59	121.87			113.82	7.74	35.26	34.95	176	2	Peak	VERTICAL
3	5852.89	69.86	78.20	-8.34	61.75	7.80	35.27	34.96	176	2	Peak	VERTICAL
4	5864.10	65.30	68.20	-2.90	57.17	7.82	35.27	34.96	176	2	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5148.27	52.25	54.00	-1.75	44.83	7.48	34.85	34.91	158	336	Average	VERTICAL
2	5150.00	65.18	74.00	-8.82	57.76	7.48	34.85	34.91	158	336	Peak	VERTICAL
3	5187.37	121.04			113.57	7.48	34.90	34.91	158	336	Peak	VERTICAL
4	5187.69	111.62			104.15	7.48	34.90	34.91	158	336	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5180 MHz.

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5035.74	62.51	74.00	-11.49	55.20	7.48	34.73	34.90	195	358	Peak	VERTICAL
2	5149.52	51.65	54.00	-2.35	44.23	7.48	34.85	34.91	195	358	Average	VERTICAL
3	5195.19	112.21			104.74	7.48	34.90	34.91	195	358	Average	VERTICAL
4	5195.99	121.77			114.30	7.48	34.90	34.91	195	358	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5200 MHz.

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5076.54	62.27	74.00	-11.73	54.91	7.48	34.78	34.90	146	332	Peak	VERTICAL
2	5077.34	51.42	54.00	-2.58	44.06	7.48	34.78	34.90	146	332	Average	VERTICAL
3	5235.99	121.12			113.59	7.50	34.94	34.91	146	332	Peak	VERTICAL
4	5236.80	111.78			104.25	7.50	34.94	34.91	146	332	Average	VERTICAL
5	5391.44	62.28	74.00	-11.72	54.53	7.58	35.09	34.92	146	332	Peak	VERTICAL
6	5398.65	50.11	54.00	-3.89	42.36	7.58	35.09	34.92	146	332	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5240 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5711.99	65.94	68.20	-2.26	57.83	7.81	35.24	34.94	165	1	Peak	VERTICAL
2	5722.89	77.04	78.20	-1.16	68.94	7.79	35.25	34.94	165	1	Peak	VERTICAL
3	5740.51	110.81			102.73	7.77	35.25	34.94	165	1	Average	VERTICAL
4	5741.47	121.07			112.99	7.77	35.25	34.94	165	1	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5695.90	64.46	68.20	-3.74	56.34	7.82	35.24	34.94	190	2	Peak	VERTICAL
2	5723.40	65.75	78.20	-12.45	57.65	7.79	35.25	34.94	190	2	Peak	VERTICAL
3	5781.80	123.96			115.92	7.73	35.26	34.95	190	2	Peak	VERTICAL
4	5782.12	114.17			106.13	7.73	35.26	34.95	190	2	Average	VERTICAL
5	5850.32	61.59	78.20	-16.61	53.48	7.80	35.27	34.96	190	2	Peak	VERTICAL
6	5879.87	62.82	68.20	-5.38	54.65	7.85	35.28	34.96	190	2	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5817.31	111.88			103.83	7.74	35.26	34.95	198	2	Average	VERTICAL
2	5817.63	120.98			112.93	7.74	35.26	34.95	198	2	Peak	VERTICAL
3	5850.00	66.72	78.20	-11.48	58.61	7.80	35.27	34.96	198	2	Peak	VERTICAL
4	5860.58	63.80	68.20	-4.40	55.67	7.82	35.27	34.96	198	2	Peak	VERTICAL

Item 1, 2 are the fundamental frequency at 5825 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5140.96	63.07	74.00	-10.93	55.66	7.48	34.84	34.91	186	34	Peak	VERTICAL
2	5142.56	51.19	54.00	-2.81	43.77	7.48	34.85	34.91	186	34	Average	VERTICAL
3	5198.97	103.67			96.20	7.48	34.90	34.91	186	34	Average	VERTICAL
4	5198.97	112.86			105.39	7.48	34.90	34.91	186	34	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5190 MHz.

Channel 46

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5084.17	63.33	74.00	-10.67	55.96	7.48	34.79	34.90	199	358	Peak	VERTICAL
2	5147.47	52.61	54.00	-1.39	45.19	7.48	34.85	34.91	199	358	Average	VERTICAL
3	5225.19	113.08			105.56	7.50	34.93	34.91	199	358	Average	VERTICAL
4	5225.99	123.14			115.62	7.50	34.93	34.91	199	358	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5230 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5714.62	67.78	68.20	-0.42	59.67	7.81	35.24	34.94	179	2	Peak	VERTICAL
2	5725.00	75.46	78.20	-2.74	67.36	7.79	35.25	34.94	179	2	Peak	VERTICAL
3	5756.28	113.51			105.46	7.75	35.25	34.95	179	2	Peak	VERTICAL
4	5756.60	103.25			95.20	7.75	35.25	34.95	179	2	Average	VERTICAL

Item 3, 4 are the fundamental frequency at 5755 MHz.

Channel 159

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5646.92	64.76	68.20	-3.44	56.58	7.88	35.23	34.93	173	2	Peak	VERTICAL
2	5722.60	65.23	78.20	-12.97	57.13	7.79	35.25	34.94	173	2	Peak	VERTICAL
3	5780.10	107.79			99.75	7.73	35.26	34.95	173	2	Average	VERTICAL
4	5781.06	118.38			110.34	7.73	35.26	34.95	173	2	Peak	VERTICAL
5	5850.00	63.76	78.20	-14.44	55.65	7.80	35.27	34.96	173	2	Peak	VERTICAL
6	5869.52	63.11	68.20	-5.09	54.98	7.82	35.27	34.96	173	2	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5795 MHz.

Temperature	22°C	Humidity	54%
Test Engineer	John Tang	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 155 / Ant. 1 + Ant. 2 + Ant. 3
Test Date	Apr. 21, 2016		

Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5147.50	67.74	74.00	-6.26	60.32	7.48	34.85	34.91	150	330	Peak	VERTICAL
2	5150.00	53.69	54.00	-0.31	46.27	7.48	34.85	34.91	150	330	Average	VERTICAL
3	5187.56	95.63			88.16	7.48	34.90	34.91	150	330	Average	VERTICAL
4	5218.81	107.80			100.28	7.50	34.93	34.91	150	330	Peak	VERTICAL
5	5350.00	48.12	54.00	-5.88	40.42	7.56	35.05	34.91	150	330	Average	VERTICAL
6	5352.40	60.19	74.00	-13.81	52.49	7.56	35.05	34.91	150	330	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5210 MHz.

Channel 155

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	A/Pos	T/Pos	Remark	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB	cm	deg		
1	5714.10	68.14	68.20	-0.06	60.03	7.81	35.24	34.94	190	2	Peak	VERTICAL
2	5723.72	76.89	78.20	-1.31	68.79	7.79	35.25	34.94	190	2	Peak	VERTICAL
3	5751.76	95.65			87.57	7.77	35.25	34.94	190	2	Average	VERTICAL
4	5763.78	109.50			101.45	7.75	35.25	34.95	190	2	Peak	VERTICAL
5	5850.00	60.52	78.20	-17.68	52.41	7.80	35.27	34.96	190	2	Peak	VERTICAL
6	5883.17	61.75	68.20	-6.45	53.58	7.85	35.28	34.96	190	2	Peak	VERTICAL

Item 3, 4 are the fundamental frequency at 5775 MHz.

Note:

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

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

4.8. Frequency Stability Measurement

4.8.1. Limit

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

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

4.8.2. Measuring Instruments and Setting

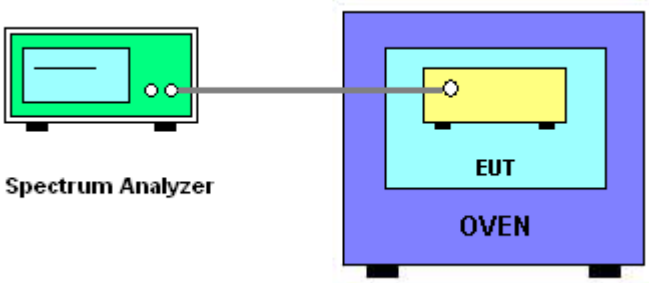
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.8.3. Test Procedures

1. The transmitter output (antenna port) was connected to the spectrum analyzer.
2. EUT have transmitted absence of modulation signal and fixed channelize.
3. Set the spectrum analyzer span to view the entire absence of modulation emissions bandwidth.
4. Set RBW = 10 kHz, VBW = 10 kHz with peak detector and maxhold settings.
5. fc is declaring of channel frequency. Then the frequency error formula is (fc-f)/fc × 10^6 ppm and the limit is less than ±20ppm (IEEE 802.11nspecification).
6. 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 -20°C~65°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

<For EUT 1>

Temperature	23℃	Humidity	63%
Test Engineer	Serway Li	Test Date	Apr. 26, 2016~May 05, 2016

Mode: 20 MHz / Ant. 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5199.9658	5199.9657	5199.9654	5199.9645
110.00	5199.9653	5199.9648	5199.9638	5199.9632
93.50	5199.9652	5199.9642	5199.9637	5199.9629
Max. Deviation (MHz)	0.0348	0.0358	0.0363	0.0371
Max. Deviation (ppm)	6.70	6.89	6.99	7.14
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(℃)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5199.9711	5199.9709	5199.9701	5199.9699
-10	5199.9699	5199.9696	5199.9686	5199.9676
0	5199.9687	5199.9685	5199.9681	5199.9673
10	5199.9674	5199.9667	5199.9660	5199.9659
20	5199.9654	5199.9646	5199.9641	5199.9635
30	5199.9653	5199.9648	5199.9640	5199.9638
40	5199.9641	5199.9635	5199.9631	5199.9625
50	5199.9635	5199.9633	5199.9624	5199.9620
60	5199.9633	5199.9632	5199.9627	5199.9626
65	5199.9631	5199.9627	5199.9619	5199.9613
Max. Deviation (MHz)	0.0369	0.0373	0.0381	0.0387
Max. Deviation (ppm)	7.10	7.17	7.33	7.44
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9663	5784.9662	5784.9656	5784.9653
110.00	5784.9653	5784.9652	5784.9642	5784.9641
93.50	5784.9646	5784.9640	5784.9636	5784.9632
Max. Deviation (MHz)	0.0354	0.0360	0.0364	0.0368
Max. Deviation (ppm)	6.12	6.23	6.30	6.37
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5784.9685	5784.9678	5784.9669	5784.9667
-10	5784.9681	5784.9675	5784.9666	5784.9658
0	5784.9675	5784.9670	5784.9665	5784.9663
10	5784.9663	5784.9660	5784.9653	5784.9650
20	5784.9656	5784.9648	5784.9643	5784.9639
30	5784.9653	5784.9644	5784.9641	5784.9636
40	5784.9641	5784.9634	5784.9626	5784.9624
50	5784.9635	5784.9631	5784.9623	5784.9617
60	5784.9629	5784.9619	5784.9614	5784.9612
65	5784.9612	5784.9605	5784.9597	5784.9594
Max. Deviation (MHz)	0.0388	0.0395	0.0403	0.0406
Max. Deviation (ppm)	6.71	6.83	6.97	7.02
Result	Complies			

Mode: 40 MHz / Ant. 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5189.9663	5189.9660	5189.9656	5189.9650
110.00	5189.9653	5189.9646	5189.9638	5189.9633
93.50	5189.9649	5189.9639	5189.9635	5189.9630
Max. Deviation (MHz)	0.0351	0.0361	0.0365	0.0370
Max. Deviation (ppm)	6.77	6.96	7.04	7.13
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5189.9706	5189.9696	5189.9687	5189.9680
-10	5189.9701	5189.9691	5189.9682	5189.9676
0	5189.9693	5189.9690	5189.9681	5189.9679
10	5189.9675	5189.9671	5189.9668	5189.9665
20	5189.9661	5189.9654	5189.9649	5189.9648
30	5189.9653	5189.9652	5189.9650	5189.9643
40	5189.9641	5189.9632	5189.9626	5189.9622
50	5189.9624	5189.9621	5189.9617	5189.9612
60	5189.9606	5189.9605	5189.9601	5189.9598
65	5189.9602	5189.9597	5189.9594	5189.9587
Max. Deviation (MHz)	0.0398	0.0403	0.0406	0.0413
Max. Deviation (ppm)	7.67	7.76	7.82	7.96
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9657	5754.9649	5754.9644	5754.9643
110.00	5754.9653	5754.9651	5754.9643	5754.9642
93.50	5754.9651	5754.9643	5754.9639	5754.9636
Max. Deviation (MHz)	0.0349	0.0357	0.0361	0.0364
Max. Deviation (ppm)	6.07	6.21	6.28	6.33
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5754.9730	5754.9724	5754.9717	5754.9708
-10	5754.9713	5754.9706	5754.9697	5754.9691
0	5754.9693	5754.9690	5754.9688	5754.9686
10	5754.9679	5754.9669	5754.9660	5754.9654
20	5754.9671	5754.9670	5754.9668	5754.9665
30	5754.9653	5754.9652	5754.9650	5754.9644
40	5754.9641	5754.9638	5754.9635	5754.9630
50	5754.9630	5754.9629	5754.9622	5754.9619
60	5754.9613	5754.9605	5754.9604	5754.9601
65	5754.9596	5754.9591	5754.9581	5754.9578
Max. Deviation (MHz)	0.0404	0.0409	0.0419	0.0422
Max. Deviation (ppm)	7.02	7.11	7.28	7.33
Result	Complies			

Mode: 80 MHz / Ant. 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5209.9663	5209.9658	5209.9656	5209.9653
110.00	5209.9653	5209.9649	5209.9647	5209.9643
93.50	5209.9643	5209.9641	5209.9633	5209.9632
Max. Deviation (MHz)	0.0357	0.0359	0.0367	0.0368
Max. Deviation (ppm)	6.86	6.90	7.05	7.07
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5209.9714	5209.9708	5209.9705	5209.9704
-10	5209.9702	5209.9700	5209.9698	5209.9694
0	5209.9695	5209.9686	5209.9677	5209.9668
10	5209.9677	5209.9673	5209.9668	5209.9665
20	5209.9666	5209.9664	5209.9660	5209.9654
30	5209.9653	5209.9651	5209.9646	5209.9640
40	5209.9641	5209.9631	5209.9625	5209.9624
50	5209.9635	5209.9632	5209.9622	5209.9614
60	5209.9630	5209.9624	5209.9622	5209.9618
65	5209.9612	5209.9603	5209.9597	5209.9591
Max. Deviation (MHz)	0.0388	0.0397	0.0403	0.0409
Max. Deviation (ppm)	7.45	7.62	7.74	7.85
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9662	5774.9656	5774.9654	5774.9649
110.00	5774.9653	5774.9643	5774.9640	5774.9634
93.50	5774.9652	5774.9648	5774.9640	5774.9631
Max. Deviation (MHz)	0.0348	0.0357	0.0360	0.0369
Max. Deviation (ppm)	6.03	6.19	6.24	6.39
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5774.9712	5774.9710	5774.9705	5774.9696
-10	5774.9697	5774.9694	5774.9690	5774.9687
0	5774.9686	5774.9676	5774.9675	5774.9669
10	5774.9674	5774.9664	5774.9658	5774.9649
20	5774.9657	5774.9647	5774.9641	5774.9639
30	5774.9653	5774.9650	5774.9647	5774.9641
40	5774.9641	5774.9631	5774.9629	5774.9624
50	5774.9630	5774.9629	5774.9627	5774.9621
60	5774.9613	5774.9603	5774.9595	5774.9593
65	5774.9600	5774.9593	5774.9589	5774.9584
Max. Deviation (MHz)	0.0400	0.0407	0.0411	0.0416
Max. Deviation (ppm)	6.93	7.05	7.12	7.20
Result	Complies			

<For EUT 2>

Temperature	23°C	Humidity	63%
Test Engineer	Serway Li	Test Date	Apr. 27, 2016~May 04, 2016

Mode: 20 MHz / Ant. 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5199.9658	5199.9657	5199.9654	5199.9645
110.00	5199.9653	5199.9648	5199.9638	5199.9632
93.50	5199.9652	5199.9642	5199.9637	5199.9629
Max. Deviation (MHz)	0.0348	0.0358	0.0363	0.0371
Max. Deviation (ppm)	6.70	6.89	6.99	7.14
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5199.9711	5199.9709	5199.9701	5199.9699
-10	5199.9699	5199.9696	5199.9686	5199.9676
0	5199.9687	5199.9685	5199.9681	5199.9673
10	5199.9674	5199.9667	5199.9660	5199.9659
20	5199.9654	5199.9646	5199.9641	5199.9635
30	5199.9653	5199.9648	5199.9640	5199.9638
40	5199.9641	5199.9635	5199.9631	5199.9625
50	5199.9635	5199.9633	5199.9624	5199.9620
60	5199.9633	5199.9632	5199.9627	5199.9626
65	5199.9631	5199.9627	5199.9619	5199.9613
Max. Deviation (MHz)	0.0369	0.0373	0.0381	0.0387
Max. Deviation (ppm)	7.10	7.17	7.33	7.44
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5784.9663	5784.9662	5784.9656	5784.9653
110.00	5784.9653	5784.9652	5784.9642	5784.9641
93.50	5784.9646	5784.9640	5784.9636	5784.9632
Max. Deviation (MHz)	0.0354	0.0360	0.0364	0.0368
Max. Deviation (ppm)	6.12	6.23	6.30	6.37
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5784.9685	5784.9678	5784.9669	5784.9667
-10	5784.9681	5784.9675	5784.9666	5784.9658
0	5784.9675	5784.9670	5784.9665	5784.9663
10	5784.9663	5784.9660	5784.9653	5784.9650
20	5784.9656	5784.9648	5784.9643	5784.9639
30	5784.9653	5784.9644	5784.9641	5784.9636
40	5784.9641	5784.9634	5784.9626	5784.9624
50	5784.9635	5784.9631	5784.9623	5784.9617
60	5784.9629	5784.9619	5784.9614	5784.9612
65	5784.9612	5784.9605	5784.9597	5784.9594
Max. Deviation (MHz)	0.0388	0.0395	0.0403	0.0406
Max. Deviation (ppm)	6.71	6.83	6.97	7.02
Result	Complies			

Mode: 40 MHz / Ant. 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5189.9663	5189.9660	5189.9656	5189.9650
110.00	5189.9653	5189.9646	5189.9638	5189.9633
93.50	5189.9649	5189.9639	5189.9635	5189.9630
Max. Deviation (MHz)	0.0351	0.0361	0.0365	0.0370
Max. Deviation (ppm)	6.77	6.96	7.04	7.13
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5189.9706	5189.9696	5189.9687	5189.9680
-10	5189.9701	5189.9691	5189.9682	5189.9676
0	5189.9693	5189.9690	5189.9681	5189.9679
10	5189.9675	5189.9671	5189.9668	5189.9665
20	5189.9661	5189.9654	5189.9649	5189.9648
30	5189.9653	5189.9652	5189.9650	5189.9643
40	5189.9641	5189.9632	5189.9626	5189.9622
50	5189.9624	5189.9621	5189.9617	5189.9612
60	5189.9606	5189.9605	5189.9601	5189.9598
65	5189.9602	5189.9597	5189.9594	5189.9587
Max. Deviation (MHz)	0.0398	0.0403	0.0406	0.0413
Max. Deviation (ppm)	7.67	7.76	7.82	7.96
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9657	5754.9649	5754.9644	5754.9643
110.00	5754.9653	5754.9651	5754.9643	5754.9642
93.50	5754.9651	5754.9643	5754.9639	5754.9636
Max. Deviation (MHz)	0.0349	0.0357	0.0361	0.0364
Max. Deviation (ppm)	6.07	6.21	6.28	6.33
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5754.9730	5754.9724	5754.9717	5754.9708
-10	5754.9713	5754.9706	5754.9697	5754.9691
0	5754.9693	5754.9690	5754.9688	5754.9686
10	5754.9679	5754.9669	5754.9660	5754.9654
20	5754.9671	5754.9670	5754.9668	5754.9665
30	5754.9653	5754.9652	5754.9650	5754.9644
40	5754.9641	5754.9638	5754.9635	5754.9630
50	5754.9630	5754.9629	5754.9622	5754.9619
60	5754.9613	5754.9605	5754.9604	5754.9601
65	5754.9596	5754.9591	5754.9581	5754.9578
Max. Deviation (MHz)	0.0404	0.0409	0.0419	0.0422
Max. Deviation (ppm)	7.02	7.11	7.28	7.33
Result	Complies			

Mode: 80 MHz / Ant. 1

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5209.9663	5209.9658	5209.9656	5209.9653
110.00	5209.9653	5209.9649	5209.9647	5209.9643
93.50	5209.9643	5209.9641	5209.9633	5209.9632
Max. Deviation (MHz)	0.0357	0.0359	0.0367	0.0368
Max. Deviation (ppm)	6.86	6.90	7.05	7.07
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5209.9714	5209.9708	5209.9705	5209.9704
-10	5209.9702	5209.9700	5209.9698	5209.9694
0	5209.9695	5209.9686	5209.9677	5209.9668
10	5209.9677	5209.9673	5209.9668	5209.9665
20	5209.9666	5209.9664	5209.9660	5209.9654
30	5209.9653	5209.9651	5209.9646	5209.9640
40	5209.9641	5209.9631	5209.9625	5209.9624
50	5209.9635	5209.9632	5209.9622	5209.9614
60	5209.9630	5209.9624	5209.9622	5209.9618
65	5209.9612	5209.9603	5209.9597	5209.9591
Max. Deviation (MHz)	0.0388	0.0397	0.0403	0.0409
Max. Deviation (ppm)	7.45	7.62	7.74	7.85
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9662	5774.9656	5774.9654	5774.9649
110.00	5774.9653	5774.9643	5774.9640	5774.9634
93.50	5774.9652	5774.9648	5774.9640	5774.9631
Max. Deviation (MHz)	0.0348	0.0357	0.0360	0.0369
Max. Deviation (ppm)	6.03	6.19	6.24	6.39
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-20	5774.9712	5774.9710	5774.9705	5774.9696
-10	5774.9697	5774.9694	5774.9690	5774.9687
0	5774.9686	5774.9676	5774.9675	5774.9669
10	5774.9674	5774.9664	5774.9658	5774.9649
20	5774.9657	5774.9647	5774.9641	5774.9639
30	5774.9653	5774.9650	5774.9647	5774.9641
40	5774.9641	5774.9631	5774.9629	5774.9624
50	5774.9630	5774.9629	5774.9627	5774.9621
60	5774.9613	5774.9603	5774.9595	5774.9593
65	5774.9600	5774.9593	5774.9589	5774.9584
Max. Deviation (MHz)	0.0400	0.0407	0.0411	0.0416
Max. Deviation (ppm)	6.93	7.05	7.12	7.20
Result	Complies			

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 Receiver	Agilent	N9038A	My52260123	9kHz ~ 8.45GHz	Jan. 27, 2016	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 08, 2015	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 23, 2015	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	May 25, 2015	Conduction (CO01-CB)
Software	Audix	E3	6.120210n	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	37880	20MHz ~ 2GHz	Sep. 03, 2015	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 16, 2016*	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 22, 2015	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Mar. 15, 2016	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 18, 2016	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 13, 2015	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Oct. 27, 2015	Radiation (03CH01-CB)
EMI Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8.4GHz	Jan. 27, 2016	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-16	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-17	N/A	1 GHz ~ 18 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	18GHz ~ 40 GHz	Nov. 02, 2015	Radiation (03CH01-CB)
Test Software	Audix	E3	6.2009-I0-7	N/A	N/A	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSV40	100979	9kHz~40GHz	Dec. 09, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 02, 2015	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 02, 2015	Conducted (TH01-CB)

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

*Calibration Interval of instruments listed above is two year.

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

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	3.2 dB	Confidence levels of 95%
Radiated Emission (30MHz ~ 1,000MHz)	3.6 dB	Confidence levels of 95%
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%