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FCC RADIO TEST REPORT

Applicant's company	**PEGATRON CORPORATION**
Applicant Address	5F., NO. 76, LIGONG ST., BEITOU DISTRICT, TAIPEI CITY 11259, Taiwan
FCC ID	**VUI-WAP571E**
Manufacturer's company	**MAINTEK Computer (Suzhou) Co., Ltd.**
Manufacturer Address	233 Jin Feng Rd, Suzhou District Jiangsu China

Product Name	Wireless-AC/N Premium Dual Radio Outdoor Access Point
Brand Name	CISCO
Model No.	WAP571E
Test Rule Part(s)	47 CFR FCC Part 15 Subpart E § 15.407
Test Freq. Range	5150 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Received Date	Aug. 04, 2015
Final Test Date	Sep. 02, 2015
Submission Type	Original Equipment

Statement

Test result included is for the IEEE 802.11n and IEEE 802.11a/ac of the product.

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

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

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2013**, **47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01, KDB662911 D01 v02r01, KDB644545 D03 v01.**

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

Testing Laboratory
1190

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR580303AB	Rev. 01	Initial issue of report	Oct. 05, 2015

1. VERIFICATION OF COMPLIANCE

Product Name	:	Wireless-AC/N Premium Dual Radio Outdoor Access Point
Brand Name	:	CISCO
Model No.	:	WAP571E
Applicant	:	PEGATRON CORPORATION
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Aug. 04, 2015 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen

SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart E				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.207	AC Power Line Conducted Emissions	Complies	4.75 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	0.08 dB
4.5	15.407(a)	Power Spectral Density	Complies	0.06 dB
4.6	15.407(b)	Radiated Emissions	Complies	3.44 dB
4.7	15.407(b)	Band Edge Emissions	Complies	0.02 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 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 ~ 5350MHz / 5470 ~ 5725MHz / 5725 ~ 5850 MHz
Channel Number	24 for 20MHz bandwidth ; 11 for 40MHz bandwidth 5 for 80MHz bandwidth
Channel Band Width (99%)	Band 1: IEEE 802.11a: 16.92 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.88 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.20 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.40 MHz Band 2: IEEE 802.11a: 16.80 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.76 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.20 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.40 MHz Band 3: IEEE 802.11a: 16.80 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 17.88 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 36.80 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.40 MHz Band 4: IEEE 802.11a: 17.28 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.12 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.00 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 76.00 MHz

Maximum Conducted Output Power	Band 1: IEEE 802.11a: 19.84 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.87 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 19.84 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 19.81 dBm Band 2: IEEE 802.11a: 21.66 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 21.81 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.87 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 17.80 dBm Band 3: IEEE 802.11a: 21.74 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 21.85 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.92 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 23.37 dBm Band 4: IEEE 802.11a: 27.03 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 27.18 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 23.53 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 20.91 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Items	Description	
Communication Mode	☒ IP Based (Load Based)	☐ Frame Based
TPC Function	☒ With TPC	☐ Without TPC
Weather Band (5600~5650MHz)	☒ With 5600~5650MHz	☐ Without 5600~5650MHz
Beamforming Function	☐ With beamforming	☒ Without beamforming
Operating Mode	☒ Outdoor access point	
	☐ Indoor access point	
	☐ Fixed point-to-point access points	
	☐ Mobile and portable client devices	

Antenna and Band width

Antenna	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

Description
Wall-mounted rack*1 sets
RJ-45 cable*1: Shielded, 3m

3.3. Table for Filed Antenna

For EUT 1:

Ant.	Brand Holder	P/N	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	HL TECHNOLOGY GROUP LIMITED	290-30275	Metal Antenna	I-PEX	2.65	-
2	HL TECHNOLOGY GROUP LIMITED	290-30289	Metal Antenna	I-PEX	2.76	-
3	HL TECHNOLOGY GROUP LIMITED	290-30290	Metal Antenna	I-PEX	2.98	-
4	HL TECHNOLOGY GROUP LIMITED	290-30276	Metal Antenna	I-PEX	-	3.41
5	HL TECHNOLOGY GROUP LIMITED	290-30287	Metal Antenna	I-PEX	-	3.38
6	HL TECHNOLOGY GROUP LIMITED	290-30288	Metal Antenna	I-PEX	-	3.55

For EUT 2:

Ant.	Brand Holder	P/N	Antenna Type	Connector	Gain (dBi)	
					2.4GHz	5GHz
1	Advanced-Connectek Inc.	AGM8P-100000	Metal Antenna	I-PEX	2.4	-
2	Advanced-Connectek Inc.	AGM8P-100001	Metal Antenna	I-PEX	2	-
3	Advanced-Connectek Inc.	AGM8P-100002	Metal Antenna	I-PEX	2.1	-
4	Advanced-Connectek Inc.	AGM8P-100003	Metal Antenna	I-PEX	-	3.4
5	Advanced-Connectek Inc.	AGM8P-100004	Metal Antenna	I-PEX	-	3.3
6	Advanced-Connectek Inc.	AGM8P-100005	Metal Antenna	I-PEX	-	3.5

Note: The EUT has six 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.

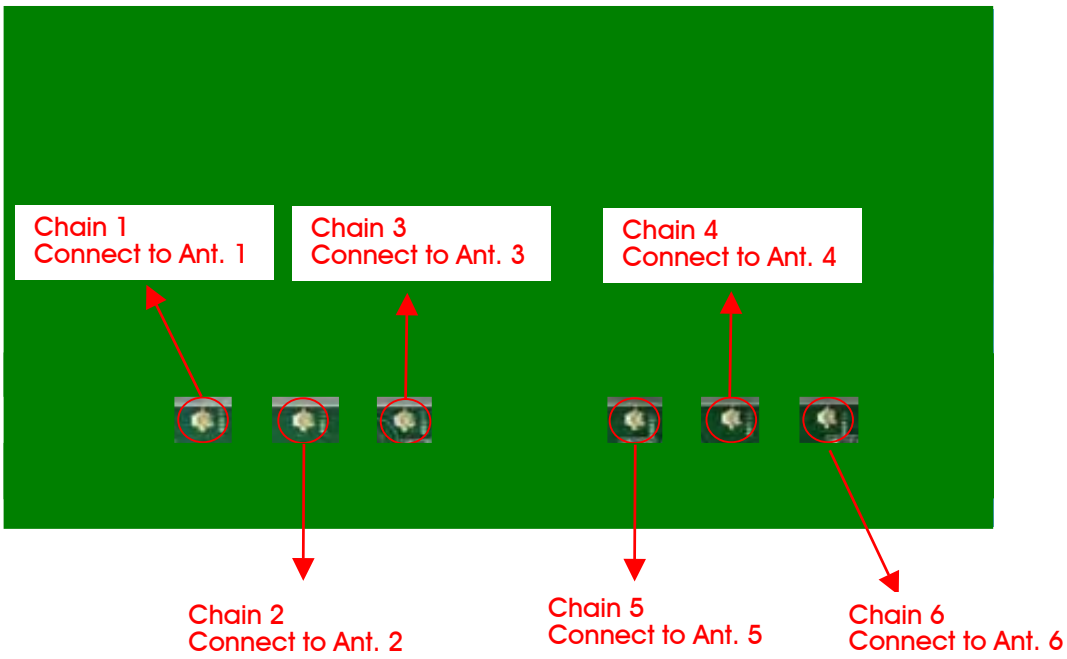
Ant. 1, Ant. 2 and Ant. 3 could transmit/receive simultaneously.

For 5GHz function:

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

Ant. 4, Ant. 5 and Ant. 6 can be used as transmitting/receiving antenna.

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


Chain 1
Connect to Ant. 1
Chain 3
Connect to Ant. 3
Chain 4
Connect to Ant. 4
Chain 2
Connect to Ant. 2
Chain 5
Connect to Ant. 5
Chain 6
Connect to Ant. 6

3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 36, 40, 44, 48, 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140, 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 38, 46, 54, 62, 102, 110, 118, 126, 134, 151, 159.

For 80MHz bandwidth systems, use Channel 42, 58, 106, 122, 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	-	-
5250~5350 MHz Band 2	52	5260 MHz	60	5300 MHz
	54	5270 MHz	62	5310 MHz
	56	5280 MHz	64	5320 MHz
	58	5290 MHz	-	-
5470~5725 MHz Band 3	100	5500 MHz	120	5600 MHz
	102	5510 MHz	122	5610 MHz
	104	5520 MHz	124	5620 MHz
	106	5530 MHz	126	5630 MHz
	108	5540 MHz	128	5640 MHz
	110	5550 MHz	132	5660 MHz
	112	5560 MHz	134	5670 MHz
	116	5580 MHz	136	5680 MHz
	118	5590 MHz	140	5700 MHz
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	Antenna
AC Power Conducted Emission	CTX		-	-	-
Max. Conducted Output Power	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/151/159	4+5+6
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/155	4+5+6
Power Spectral Density	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/151/159	4+5+6
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/155	4+5+6
26dB Spectrum Bandwidth & 99% Occupied Bandwidth Measurement	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6

	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/151/159	4+5+6
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/155	4+5+6
6dB Spectrum Bandwidth Measurement	11a/BPSK	Band 4	6Mbps	149/157/165	4+5+6
	11ac VHT20	Band 4	MCS0/Nss1	149/157/165	4+5+6
	11ac VHT40	Band 4	MCS0/Nss1	151/159	4+5+6
	11ac VHT80	Band 4	MCS0/Nss1	155	4+5+6
Radiated Emission Below 1GHz	CTX		-	-	-
Radiated Emission Above 1GHz	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/149/157/165/	4+5+6
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/151/159	4+5+6
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/155	4+5+6
Band Edge Emission	11a/BPSK	Band 1~4	6Mbps	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT20	Band 1~4	MCS0/Nss1	36/40/48/52/60/64/100/116/140/149/157/165	4+5+6
	11ac VHT40	Band 1~4	MCS0/Nss1	38/46/54/62/102/110/134/151/159	4+5+6
	11ac VHT80	Band 1~4	MCS0/Nss1	42/58/106/122/155	4+5+6
Frequency Stability	20 MHz	Band 1~4	-	40/60/116/157	6
	40 MHz	Band 1~4	-	38/62/110/151	6
	80 MHz	Band 1~4	-	42/58/106/155	6

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.
2. The PoE is for measurement only, would not be marketed.

Support Unit	Brand	Model	FCC ID
PoE	CISCO	SG300-10MPP	N/A
Adapter (For PoE use)	LEI	NUA5-6540277-I1	N/A

The following test modes were performed for all tests:

For Conducted Emission test:

Mode 1. CTX - EUT 1 + WLAN 2.4GHz/5GHz

Note: The difference between EUT 1 and EUT 2 is antenna location, and different antenna location doesn't affect Conducted Emission test. Thus, only EUT 1 was tested and recorded in this test report.

For Radiated Emission test below 1GHz:

Mode 1. CTX - Place EUT 1 in Y-axis + WLAN 2.4GHz/5GHz

Mode 2. CTX - Place EUT 1 in Z-axis + WLAN 2.4GHz/5GHz

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

Mode 3. CTX - Place EUT 2 in Y-axis + WLAN 2.4GHz/5GHz

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

For Radiated Emission test above 1GHz:

There are two modes of EUT, one is Place EUT in Y axis, and the other is Place EUT in Z axis, after evaluating, Place EUT in Y axis has been evaluated to be the worst case, so it was selected to test and record in this test report.

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

For Radiated Emission Co-location test:

There are two modes of EUT, one is Place EUT in Y axis, and the other is Place EUT in Z axis.

Place EUT in Y axis generated the worst test result for Radiated emission above 1GHz test, thus the measurement for Radiated emission co-location test will follow this same test configuration.

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 FA: 580303) 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 Reg. No.**	**IC File No.**	**VCCI Reg. No**
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D	-
CO01-CB	Conduction	Hsin Chu	262045	IC 4086D	-
TH01-CB	OVEN Room	Hsin Chu	-	-	-

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

3.7. Table for Multiple Listing

The EUTs are identical to each other in all aspects except for the following table:

EUT	Description
EUT 1	The brand holder antenna gain and the 2.4GHz antenna location of the antennas are different between these two EUTs.
EUT 2	

Note: EUT 1 and EUT 2 are the same type antennas, EUT 1' s gain is higher than that of EUT 2, so only EUT 1 was tested and recorded in this report.

3.8. Table for Supporting Units

For Test Site No: 03CH01-CB and TH01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E4300	DoC
PoE	CISCO	SG300-10MPP	N/A
Adapter (For PoE use)	LEI	NUA5-6540277-I1	N/A

For Test Site No: CO01-CB

Support Unit	Brand	Model	FCC ID
Notebook	DELL	E6430	DoC
PoE	CISCO	SG300-10MPP	N/A
Adapter (For PoE use)	LEI	NUA5-6540277-I1	N/A

3.9. Table for Parameters of Test Software Setting

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

Test Software Version	Mtool 2.0.2.3											
Mode	Test Frequency (MHz)											
	NCB: 20MHz											
	5180 MHz	5200 MHz	5240 MHz	5260 MHz	5300 MHz	5320 MHz	5500 MHz	5580 MHz	5700 MHz	5745 MHz	5785 MHz	5825 MHz
802.11a	58	57	56	64	64	64	64	65	65	76	83	88
802.11ac MCS0/Nss1 VHT20	58	57	56	65	65	65	65	65	65	76	88	86

Mode	NCB: 40MHz								
802.11ac MCS0/Nss1 VHT40	5190 MHz	5230 MHz	5270 MHz	5310 MHz	5510 MHz	5550 MHz	5670 MHz	5755 MHz	5795 MHz
	58	57	75	58	65	74	70	63	74

Mode	NCB: 80MHz				
802.11ac MCS0/Nss1 VHT80	5210 MHz	5290 MHz	5530 MHz	5610 MHz	5775 MHz
	58	49	64	72	63

3.10. EUT Operation during Test

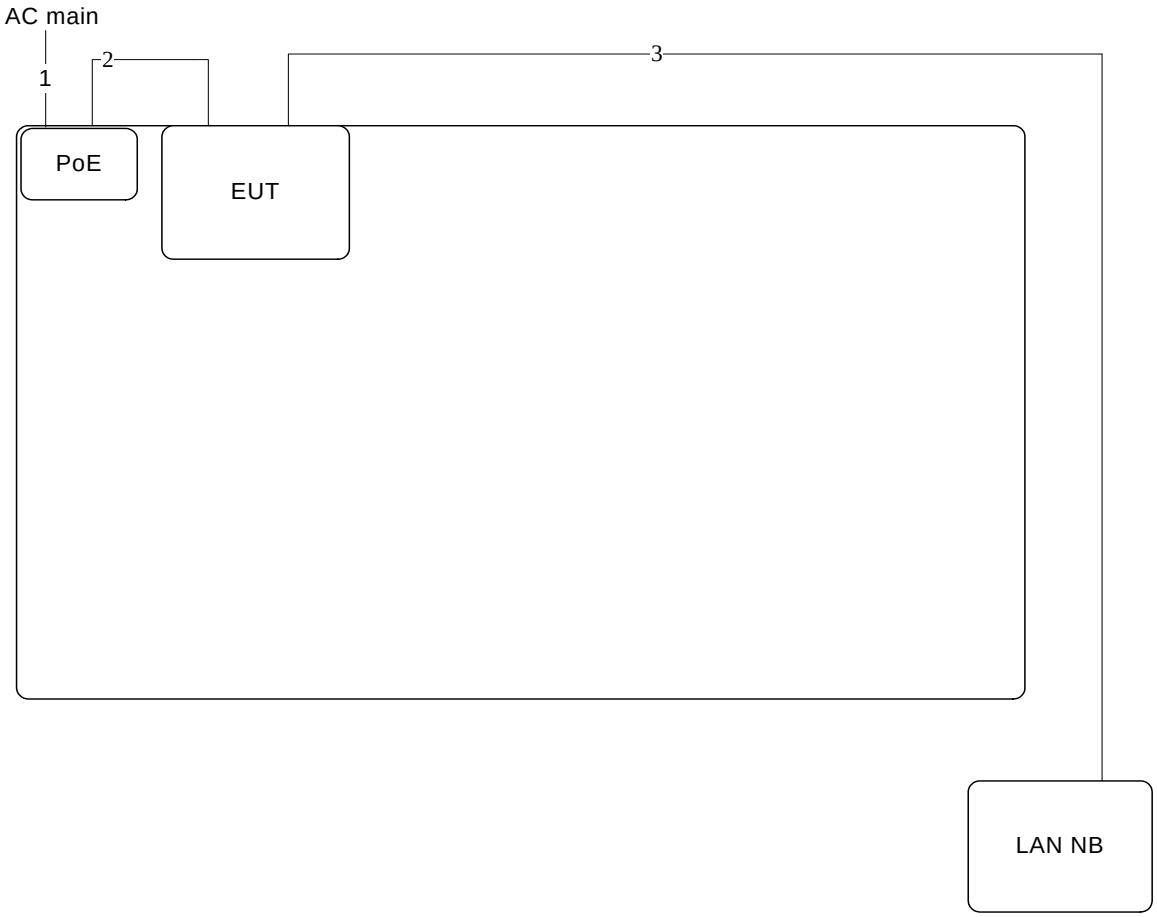
The EUT was programmed to be in continuously transmitting mode.

3.11. Duty Cycle

Mode	On Time (ms)	On+Off Time (ms)	Duty Cycle (%)	Duty Factor (dB)	1/T Minimum VBW (kHz)
802.11a	2.038	2.076	98.18	0.08	0.01
802.11ac MCS0/Nss1 VHT20	1.914	1.948	98.25	0.08	0.01
802.11ac MCS0/Nss1 VHT40	0.911	0.979	93.06	0.31	1.10
802.11ac MCS0/Nss1 VHT80	0.425	0.498	85.34	0.69	2.35

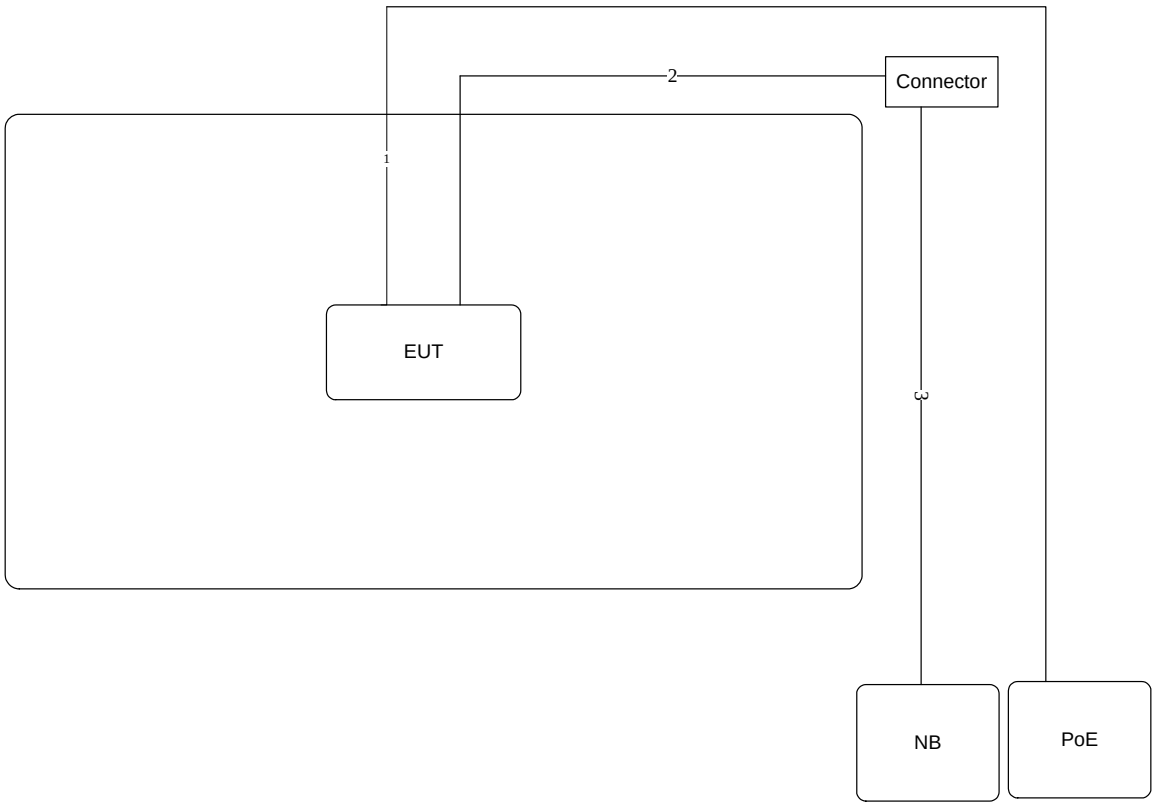
3.12. Test Configurations

3.12.1. AC Power Line Conduction Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	3.8m
2	RJ-45 cable	Yes	3m
3	RJ-45 cable	No	10m

3.12.2. Radiation Emissions Test Configuration



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

4. TEST RESULT

4.1. AC Power Line Conducted Emissions Measurement

4.1.1. Limit

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

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

4.1.2. Measuring Instruments and Setting

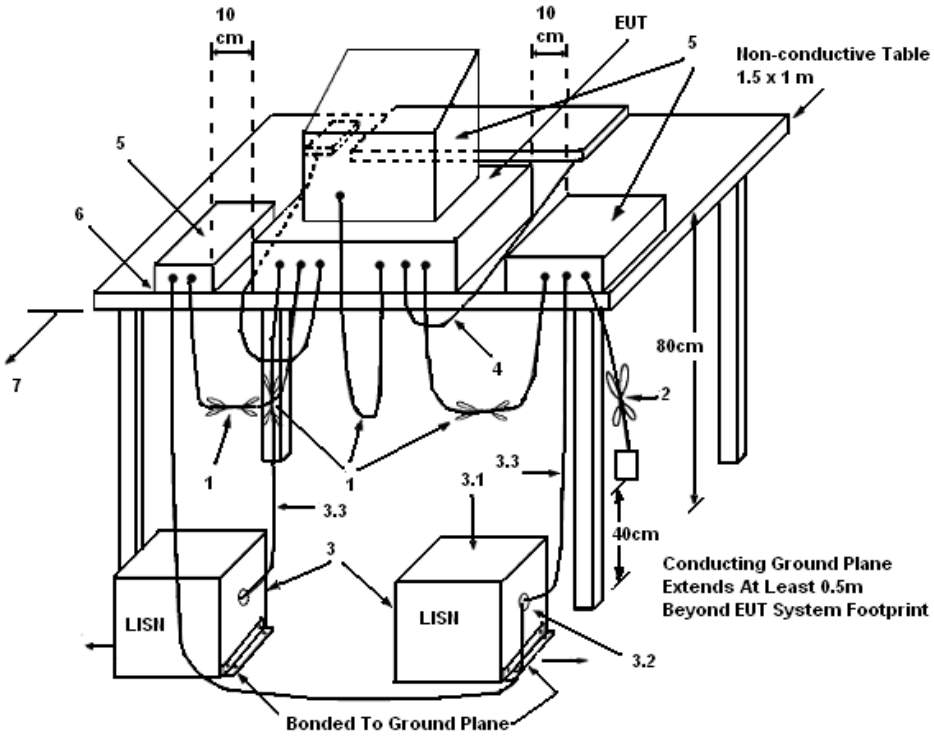
Please refer to section 5 of equipments list in this report. The following table is the setting of the receiver.

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

4.1.3. Test Procedures

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

4.1.4. Test Setup Layout



LEGEND:

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

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

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

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

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

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

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

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

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

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

4.1.5. Test Deviation

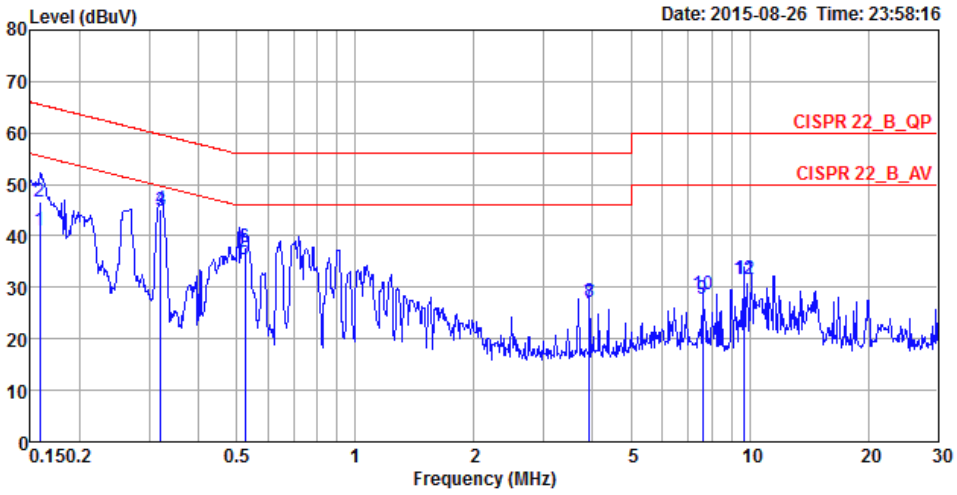
There is no deviation with the original standard.

4.1.6. EUT Operation during Test

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

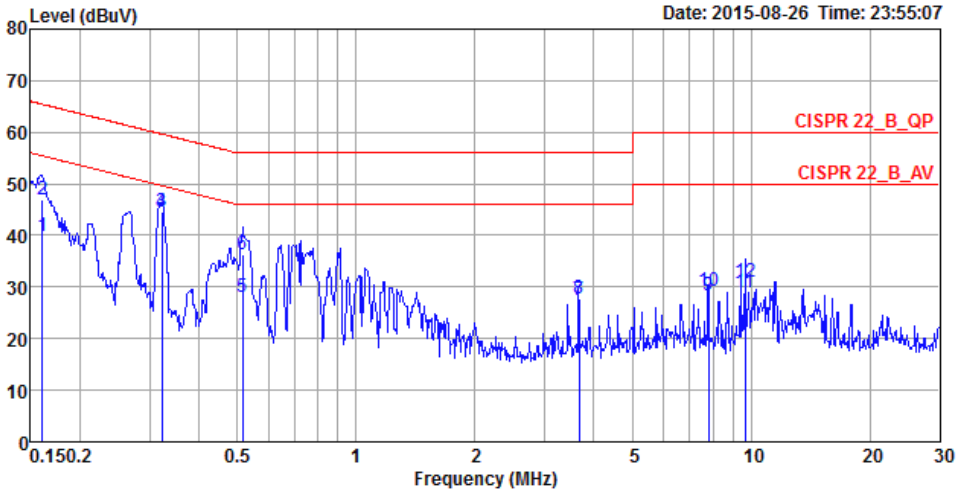
4.1.7. Results of AC Power Line Conducted Emissions Measurement

Temperature	25°C	Humidity	63%
Test Engineer	Edison Lin	Phase	Line
Configuration	CTX	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	0.1582	40.99	-14.57	55.56	31.04	9.93	0.02	LINE	Average
2	0.1582	46.72	-18.84	65.56	36.77	9.93	0.02	LINE	QP
3	0.3215	44.92	-4.75	49.67	34.95	9.93	0.04	LINE	Average
4	0.3215	45.06	-14.61	59.67	35.09	9.93	0.04	LINE	QP
5	0.5261	35.52	-10.48	46.00	25.54	9.94	0.04	LINE	Average
6	0.5261	37.87	-18.13	56.00	27.89	9.94	0.04	LINE	QP
7	3.9147	26.78	-19.22	46.00	16.69	10.02	0.07	LINE	Average
8	3.9147	27.24	-28.76	56.00	17.15	10.02	0.07	LINE	QP
9	7.6005	27.83	-22.17	50.00	17.54	10.13	0.16	LINE	Average
10	7.6005	28.65	-31.35	60.00	18.36	10.13	0.16	LINE	QP
11	9.6959	31.57	-18.43	50.00	21.17	10.17	0.23	LINE	Average
12	9.6959	31.71	-28.29	60.00	21.31	10.17	0.23	LINE	QP

Temperature	25°C	Humidity	63%
Test Engineer	Edison Lin	Phase	Neutral
Configuration	CTX	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	0.1607	39.72	-15.71	55.43	29.92	9.78	0.02	NEUTRAL	Average
2	0.1607	46.97	-18.46	65.43	37.17	9.78	0.02	NEUTRAL	QP
3	0.3218	44.69	-4.97	49.66	34.86	9.79	0.04	NEUTRAL	Average
4	0.3218	44.72	-14.94	59.66	34.89	9.79	0.04	NEUTRAL	QP
5	0.5155	28.16	-17.84	46.00	18.32	9.80	0.04	NEUTRAL	Average
6	0.5155	36.38	-19.62	56.00	26.54	9.80	0.04	NEUTRAL	QP
7	3.6783	27.32	-18.68	46.00	17.39	9.87	0.06	NEUTRAL	Average
8	3.6783	27.87	-28.13	56.00	17.94	9.87	0.06	NEUTRAL	QP
9	7.8172	28.42	-21.58	50.00	18.28	9.97	0.17	NEUTRAL	Average
10	7.8172	29.21	-30.79	60.00	19.07	9.97	0.17	NEUTRAL	QP
11	9.6664	28.91	-21.09	50.00	18.68	10.00	0.23	NEUTRAL	Average
12	9.6664	31.07	-28.93	60.00	20.84	10.00	0.23	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.

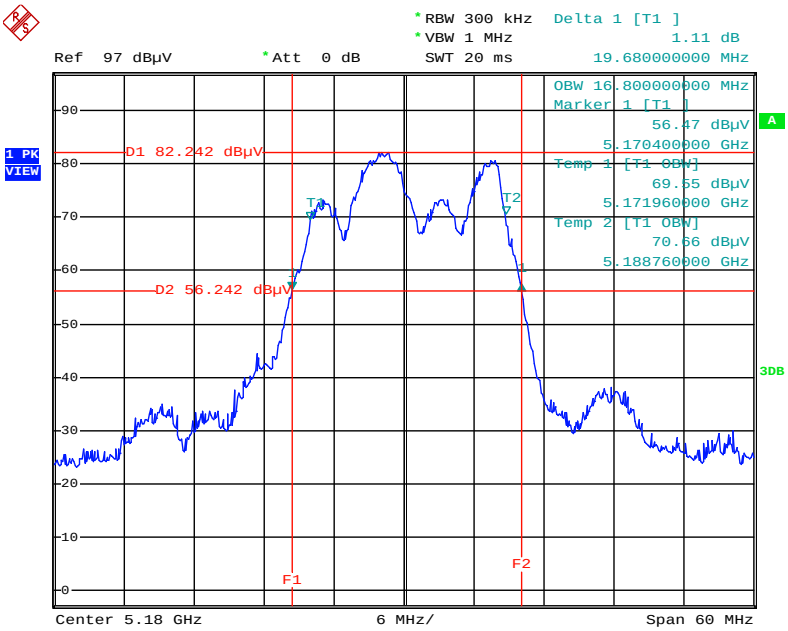
4.2.7. Test Result of 26dB Bandwidth and 99% Occupied Bandwidth

Temperature	20°C	Humidity	55%
Test Engineer	Eddie Weng		

Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11a	5180 MHz	19.68	16.80
	5200 MHz	19.68	16.92
	5240 MHz	19.56	16.92
	5260 MHz	19.44	16.80
	5300 MHz	19.56	16.80
	5320 MHz	19.68	16.68
	5500 MHz	19.68	16.68
	5580 MHz	19.68	16.80
	5700 MHz	19.44	16.56
	5745 MHz	19.44	16.68
	5785 MHz	20.28	16.68
	5825 MHz	23.04	17.28
802.11ac MCS0/Nss1 VHT20	5180 MHz	20.40	17.88
	5200 MHz	20.28	17.88
	5240 MHz	20.40	17.76
	5260 MHz	20.40	17.76
	5300 MHz	20.28	17.76
	5320 MHz	20.40	17.76
	5500 MHz	20.40	17.76
	5580 MHz	20.52	17.88
	5700 MHz	20.28	17.76
	5745 MHz	20.28	17.76
	5785 MHz	30.36	18.12
	5825 MHz	30.48	18.00

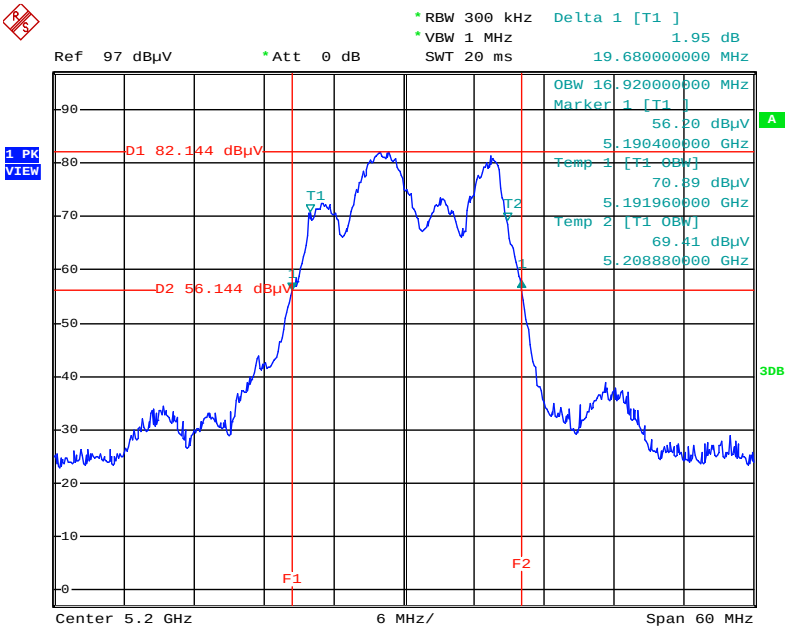
Mode	Frequency	26dB Bandwidth (MHz)	99% Occupied Bandwidth (MHz)
802.11ac MCS0/Nss1 VHT40	5190 MHz	41.20	37.20
	5230 MHz	40.80	37.00
	5270 MHz	40.80	37.20
	5310 MHz	40.80	36.80
	5510 MHz	41.20	36.80
	5550 MHz	41.00	36.80
	5670 MHz	40.80	36.80
	5755 MHz	41.00	37.00
	5795 MHz	40.80	37.00
802.11ac MCS0/Nss1 VHT80	5210 MHz	81.60	76.40
	5290 MHz	82.00	76.40
	5530 MHz	82.00	76.40
	5610 MHz	82.00	76.00
	5775 MHz	82.00	76.00

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5180 MHz



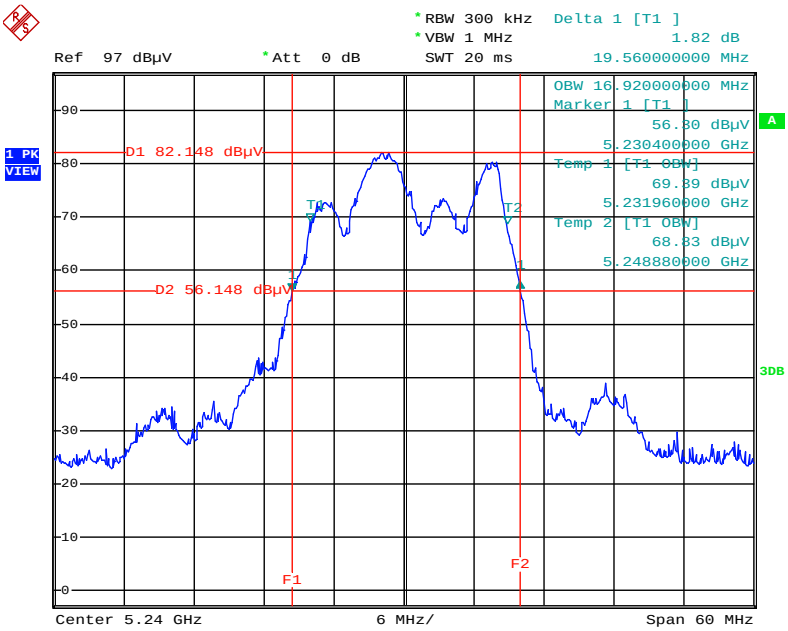
Date: 26.AUG.2015 15:05:12

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5200 MHz



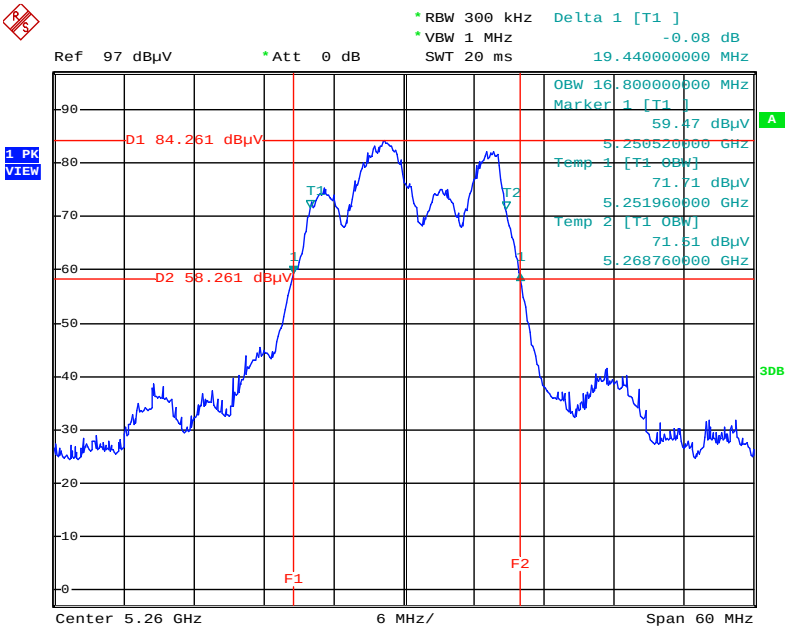
Date: 26.AUG.2015 15:07:35

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5240 MHz



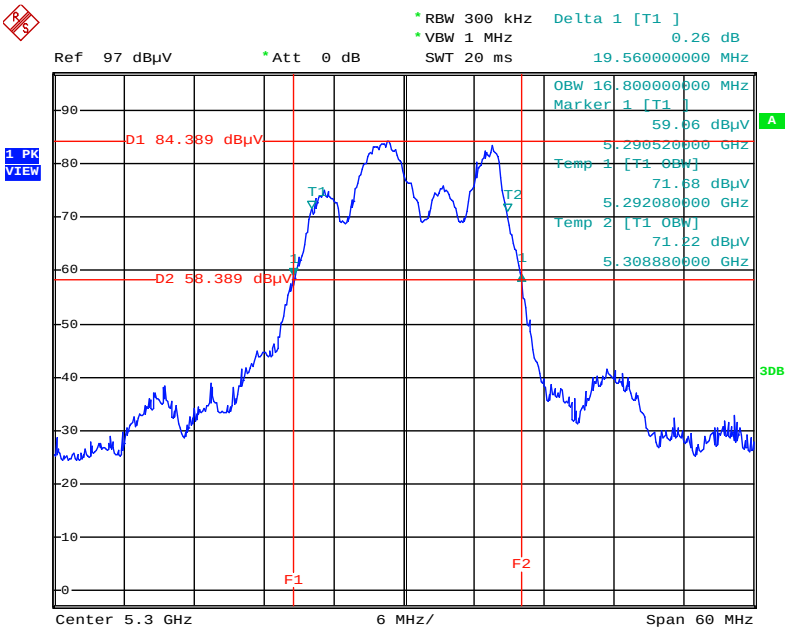
Date: 26.AUG.2015 15:08:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5260 MHz



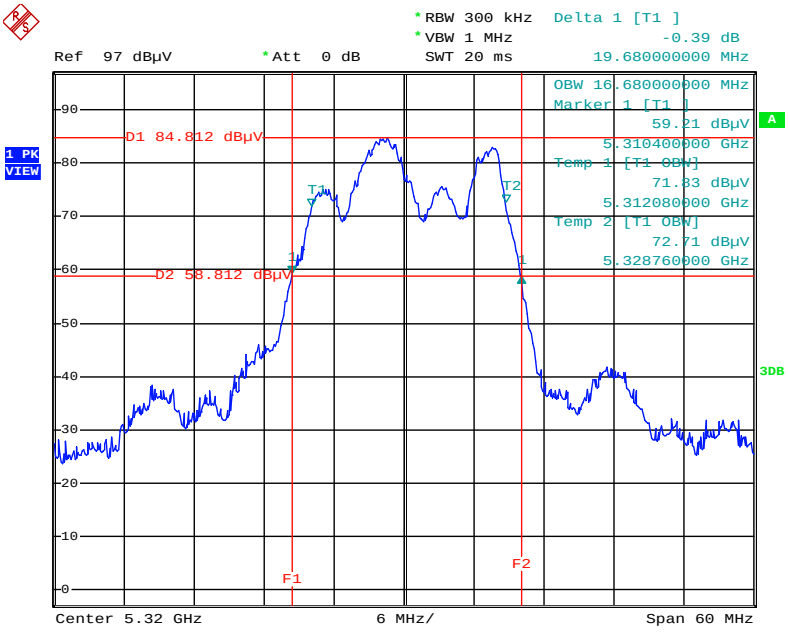
Date: 26.AUG.2015 15:09:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5300 MHz



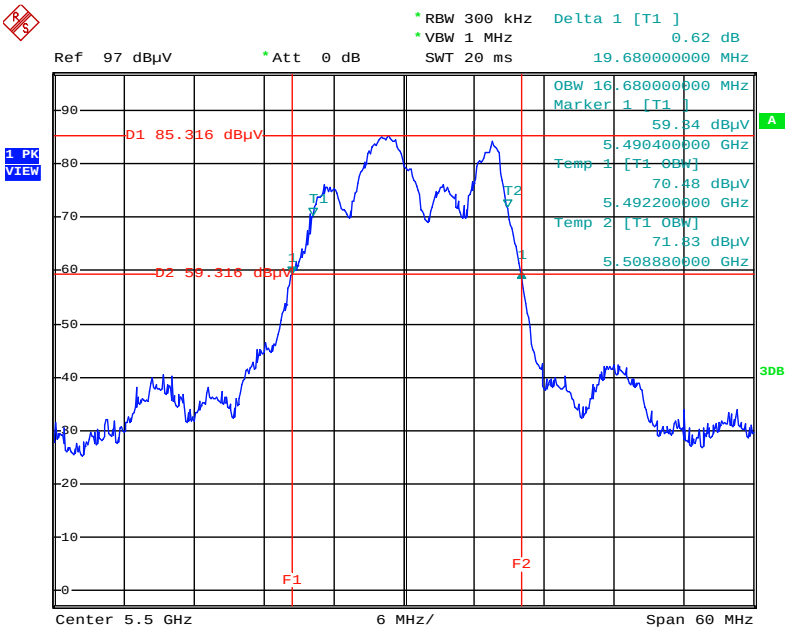
Date: 26.AUG.2015 15:10:47

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5320 MHz



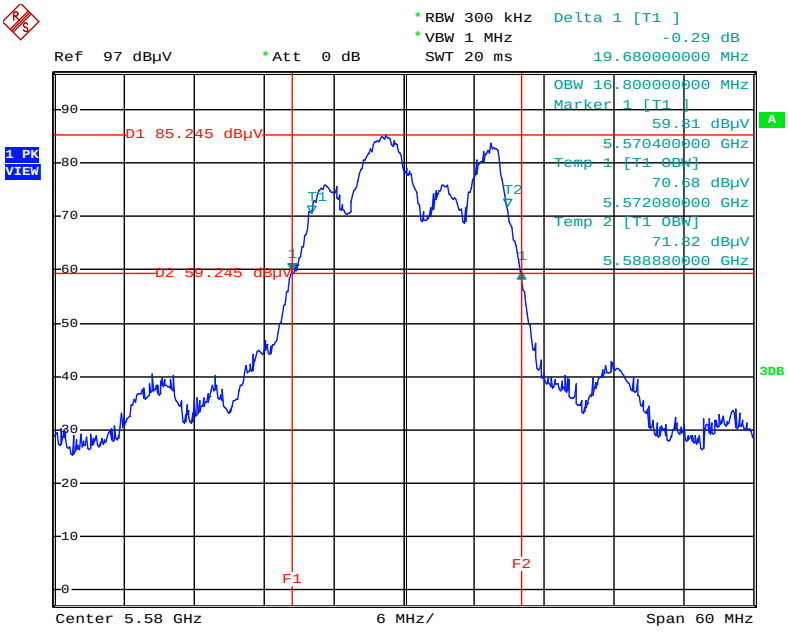
Date: 26.AUG.2015 15:11:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5500 MHz



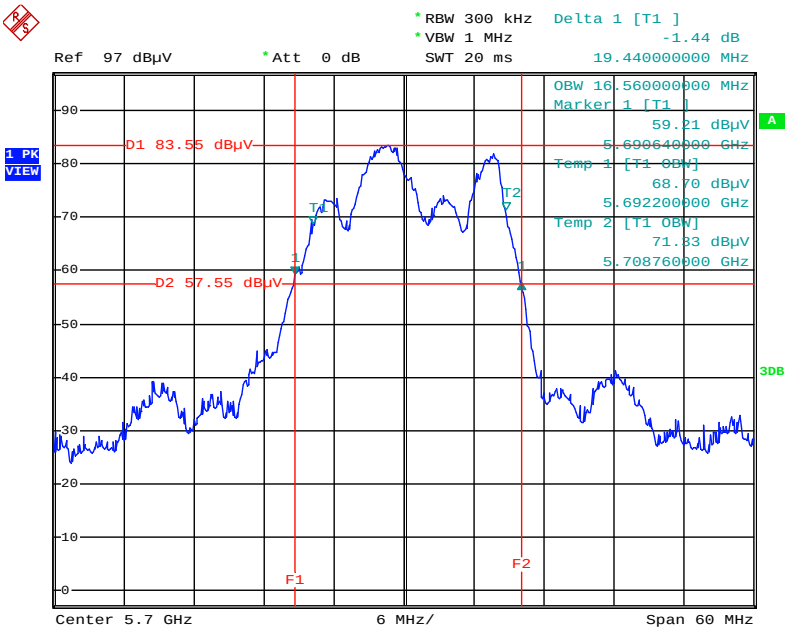
Date: 26.AUG.2015 15:11:57

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5580 MHz



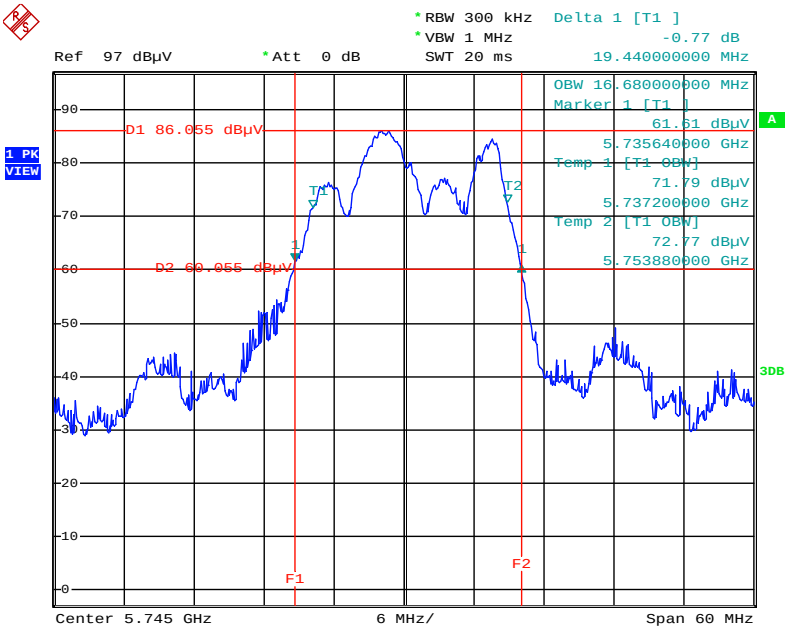
Date: 26.AUG.2015 15:12:44

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5700 MHz



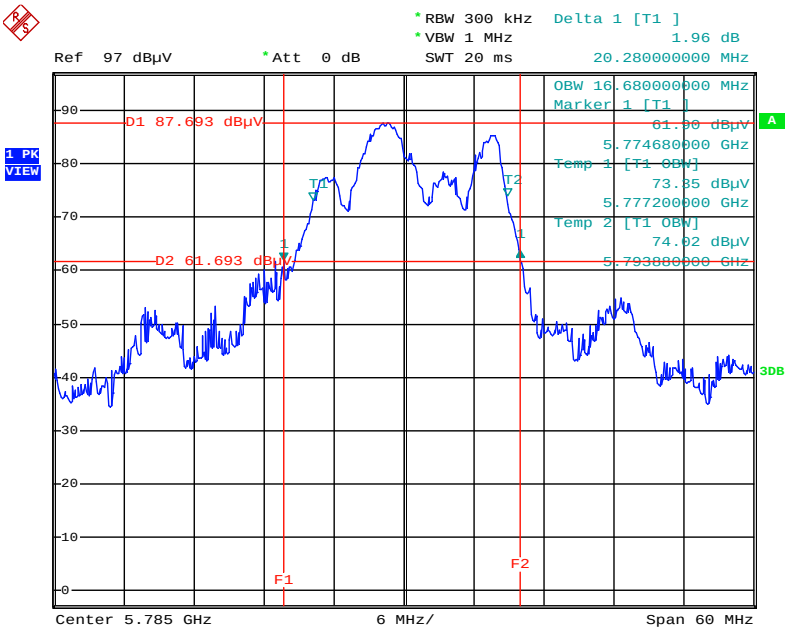
Date: 26.AUG.2015 15:13:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5745 MHz



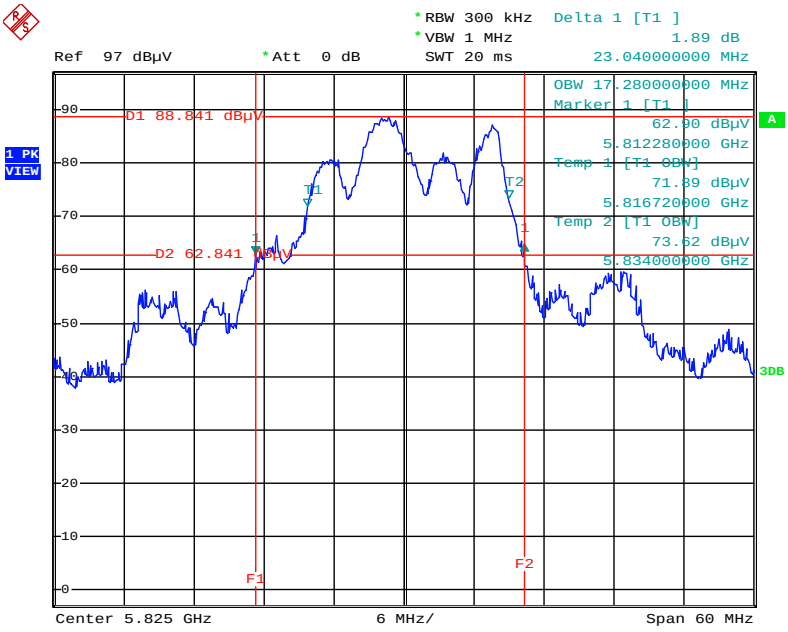
Date: 26.AUG.2015 15:14:33

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5785 MHz



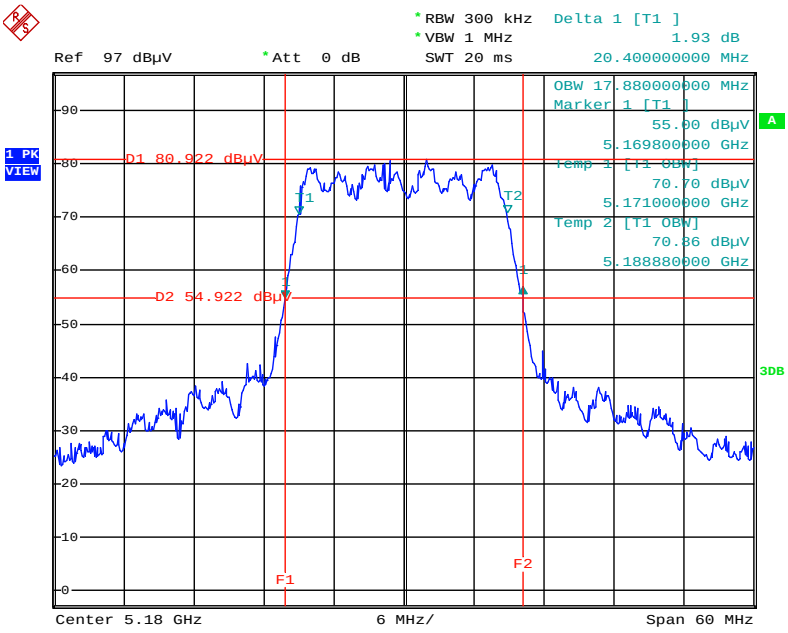
Date: 26.AUG.2015 15:16:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5825 MHz



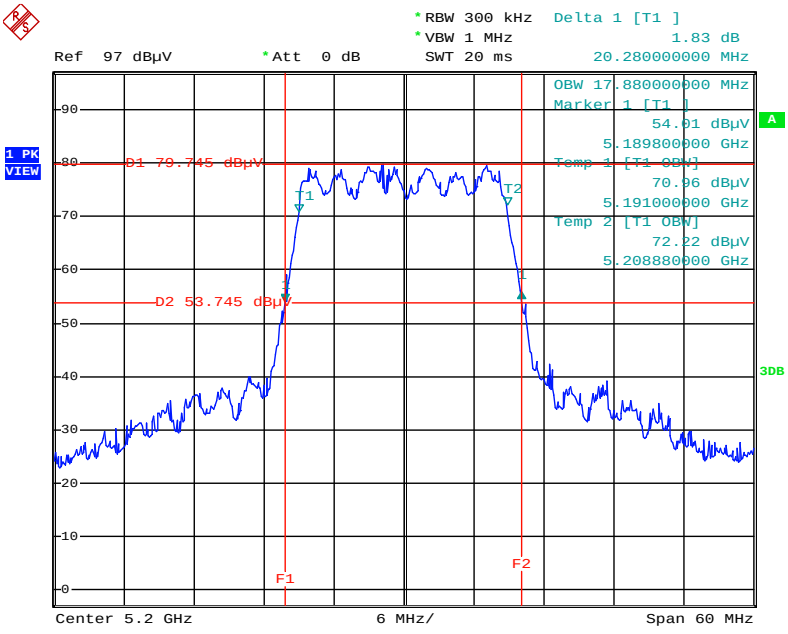
Date: 26.AUG.2015 15:17:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5180 MHz



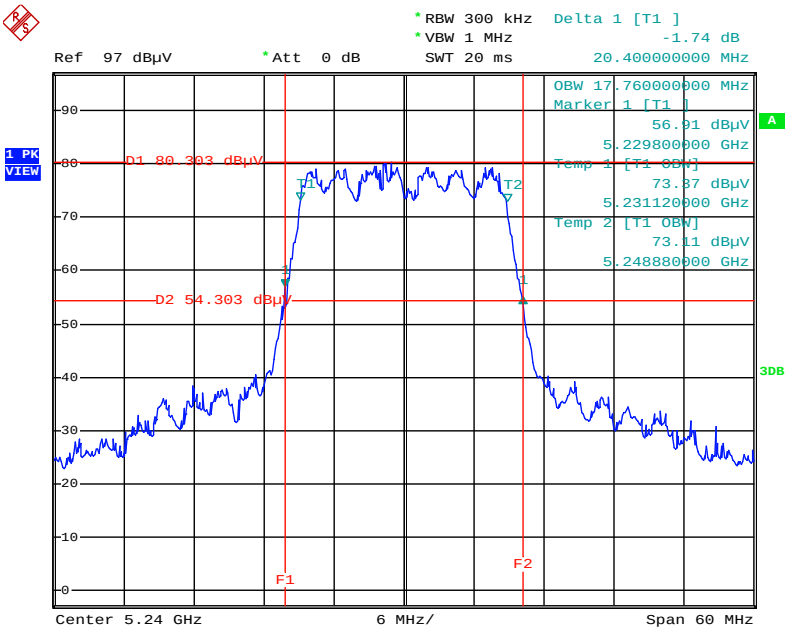
Date: 26.AUG.2015 15:21:05

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5200 MHz



Date: 26.AUG.2015 15:21:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5240 MHz



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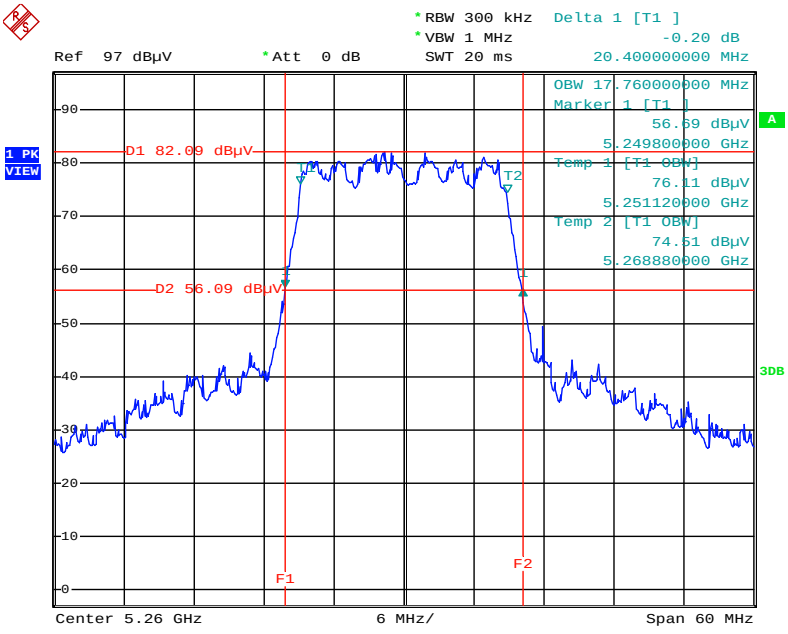
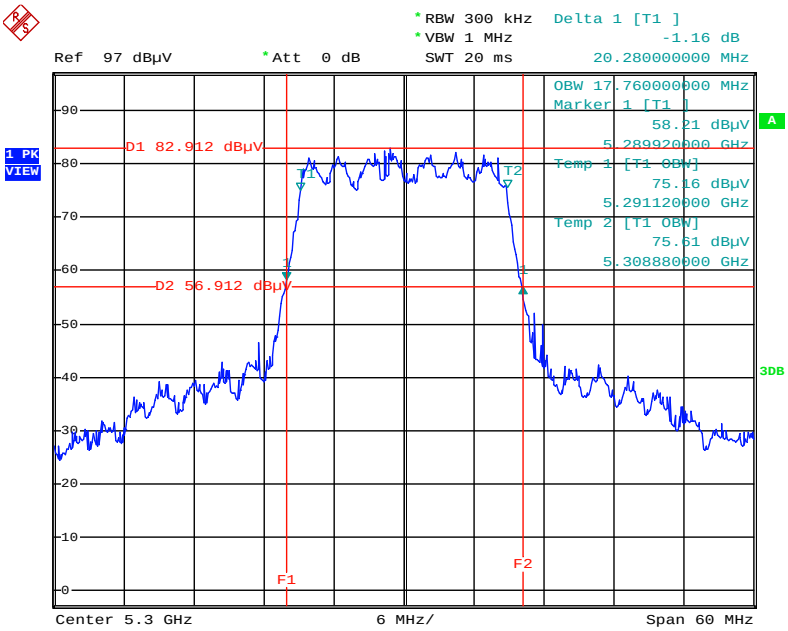
26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5260 MHz



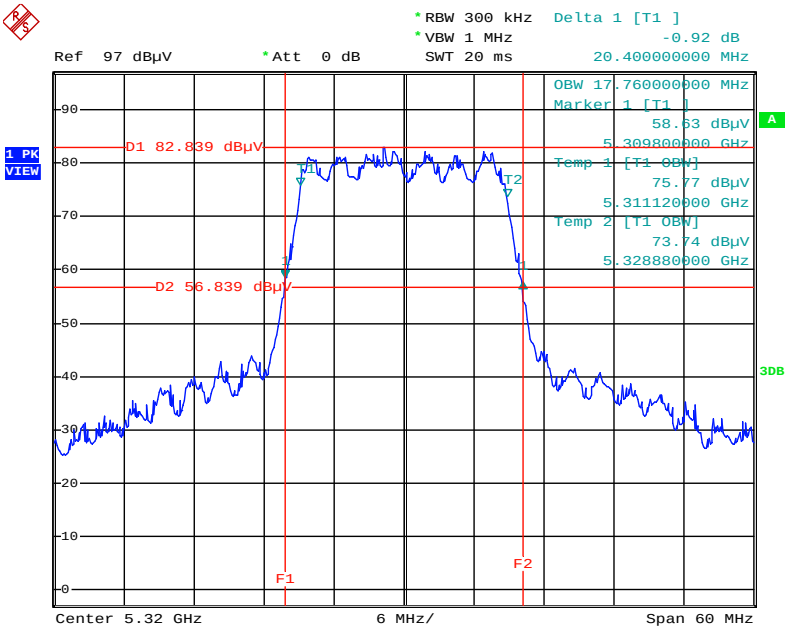
Date: 26.AUG.2015 15:23:17

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5300 MHz



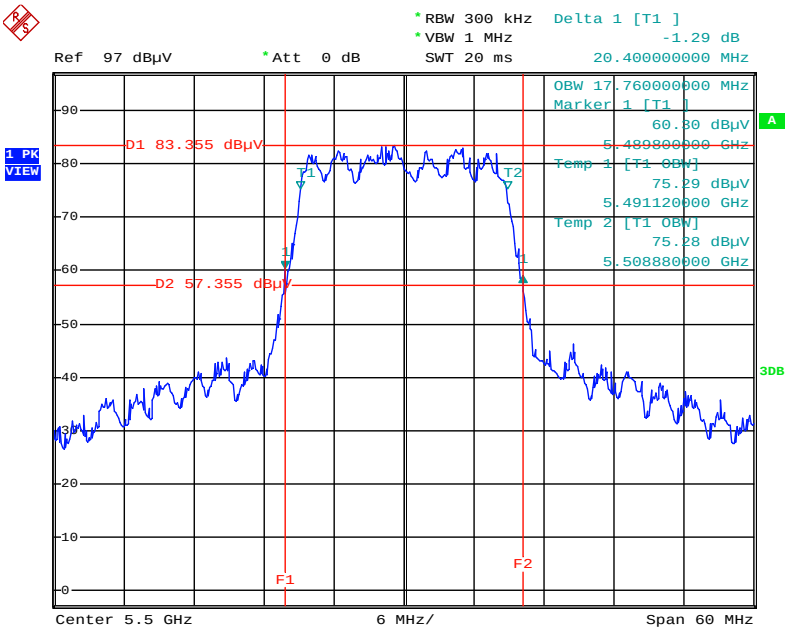
Date: 26.AUG.2015 15:23:55

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5320 MHz



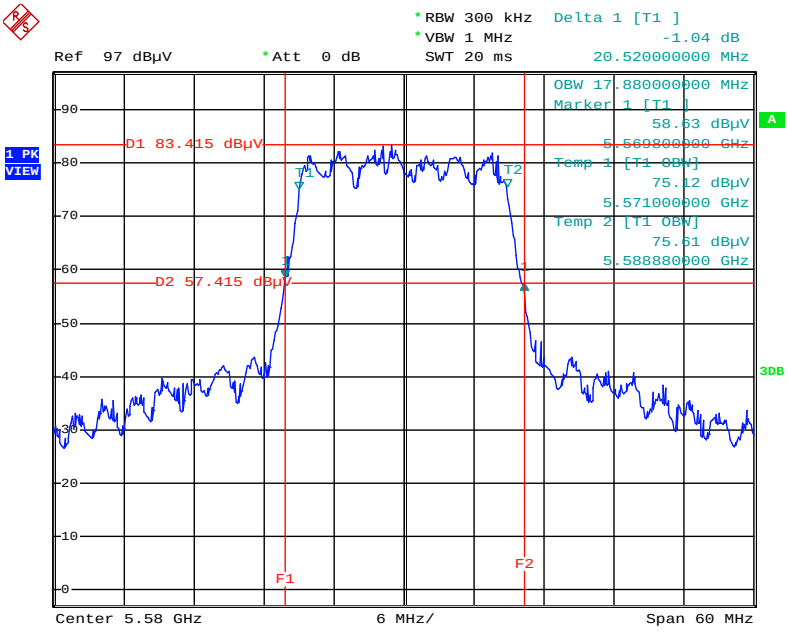
Date: 26.AUG.2015 15:24:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5500 MHz



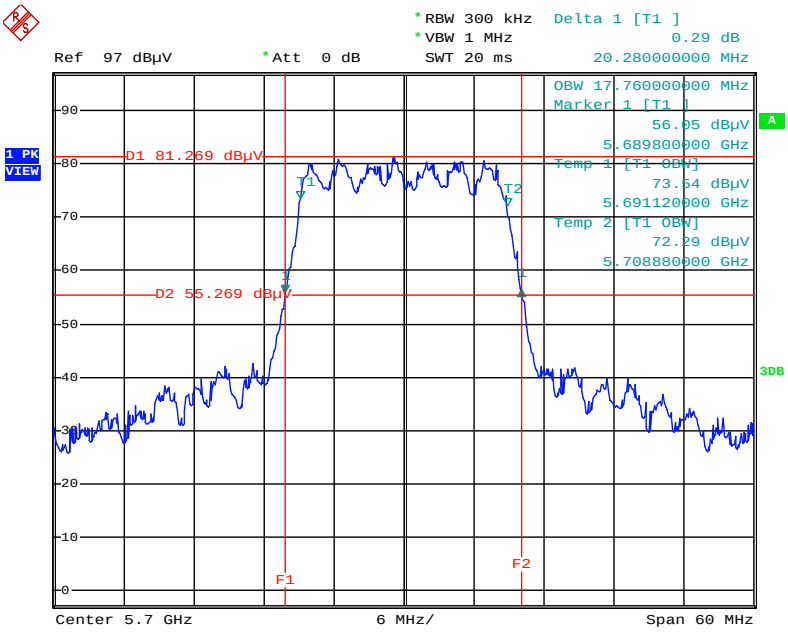
Date: 26.AUG.2015 15:25:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5580 MHz



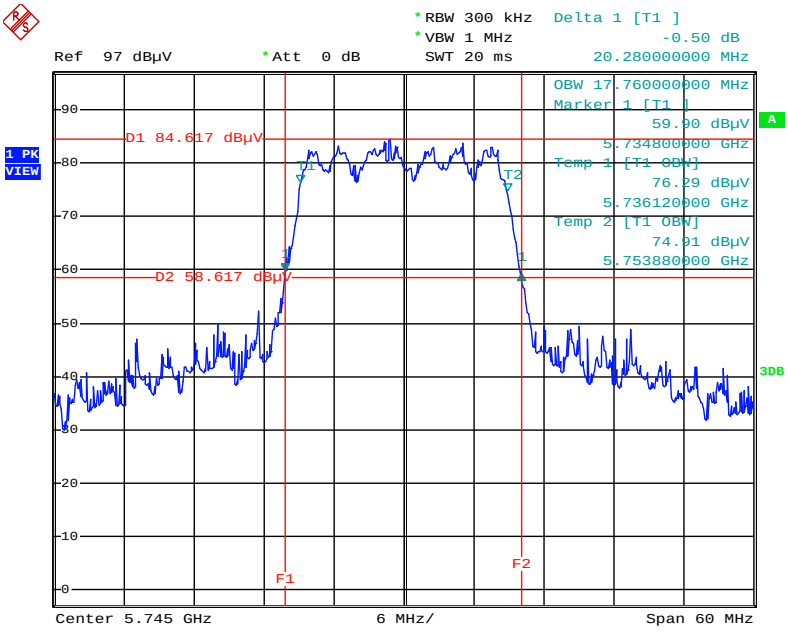
Date: 26.AUG.2015 15:26:26

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5700 MHz



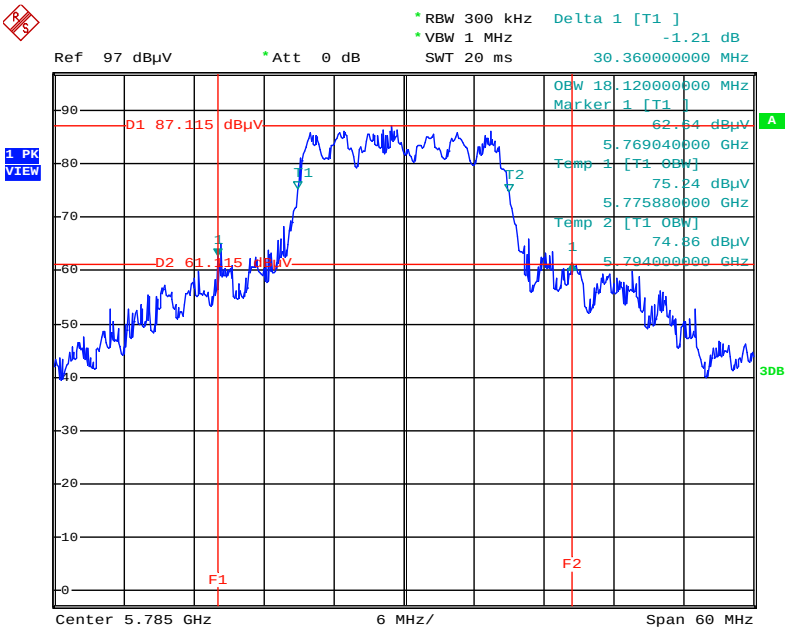
Date: 26.AUG.2015 15:27:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5745 MHz



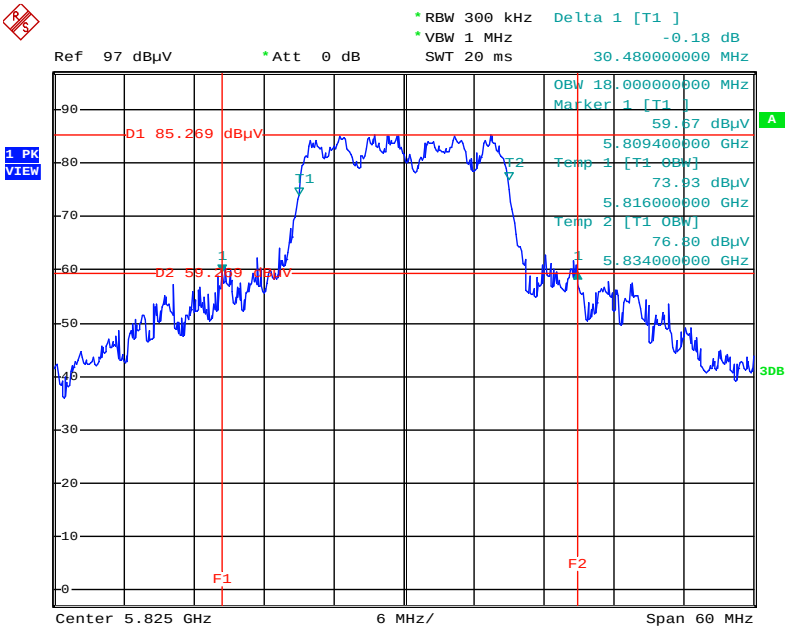
Date: 26.AUG.2015 15:28:04

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5785 MHz



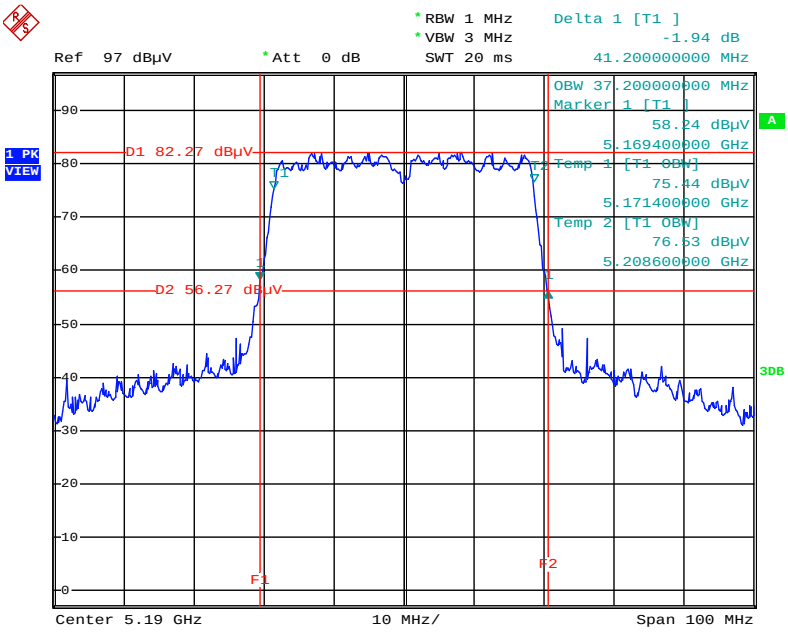
Date: 26.AUG.2015 15:28:39

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5825 MHz



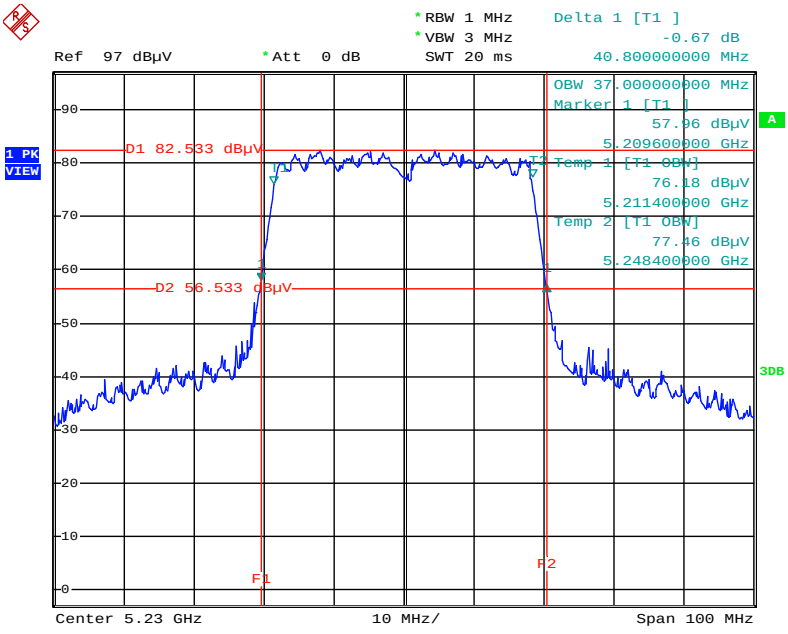
Date: 26.AUG.2015 15:29:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5190 MHz



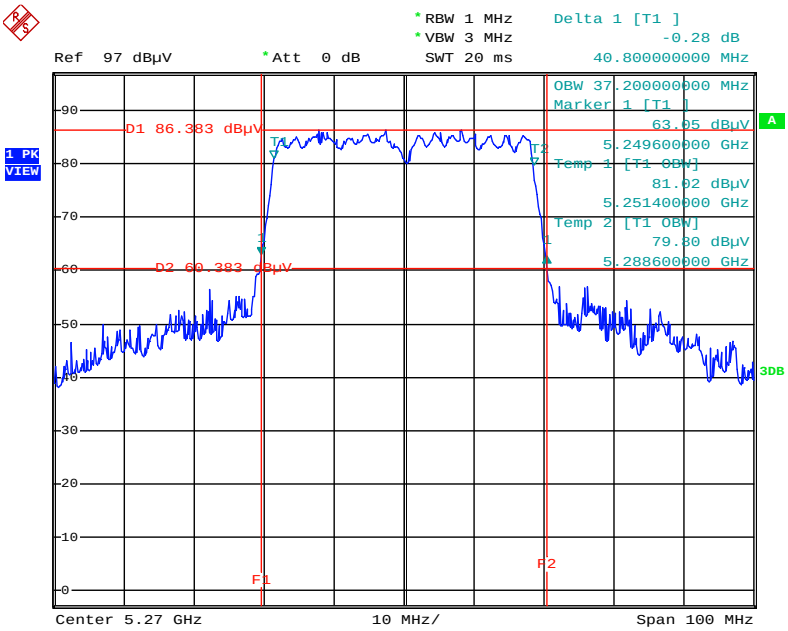
Date: 26.AUG.2015 15:44:27

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5230 MHz



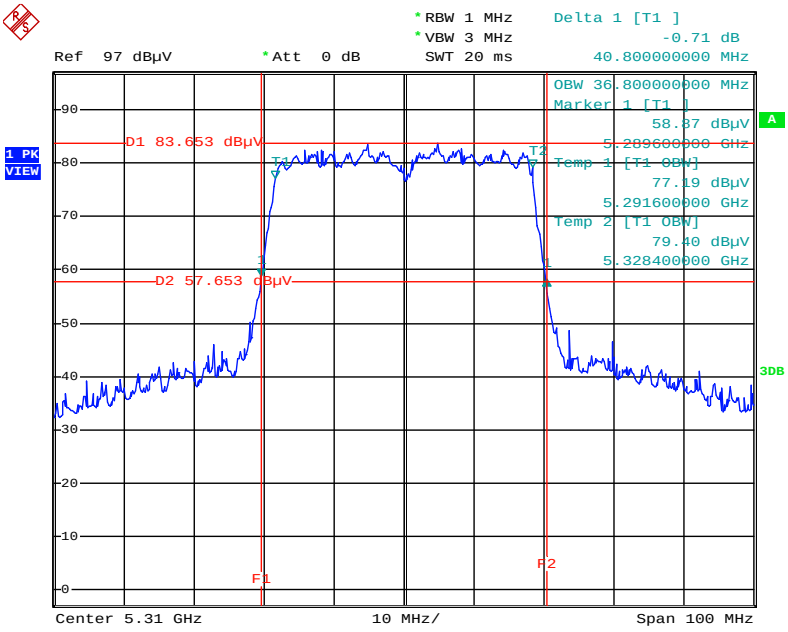
Date: 26.AUG.2015 15:45:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5270 MHz



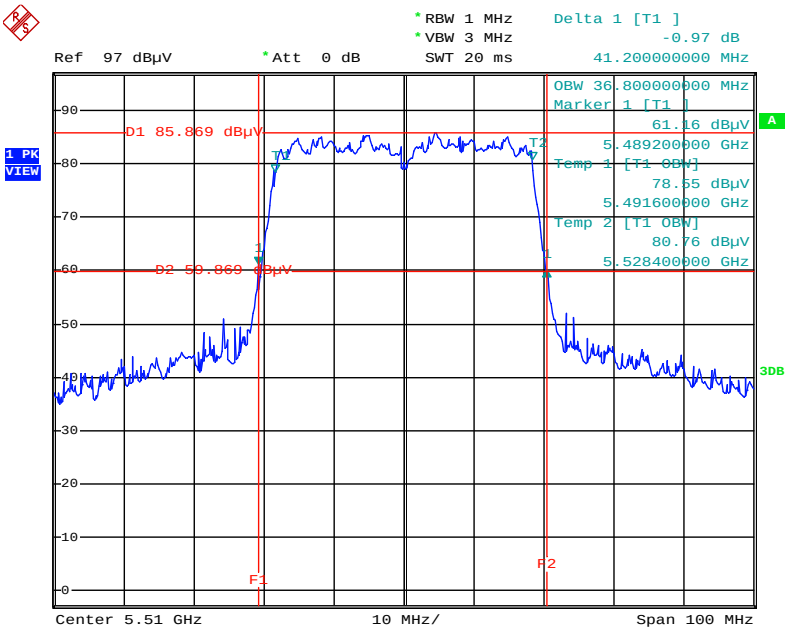
Date: 26.AUG.2015 15:46:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5310 MHz



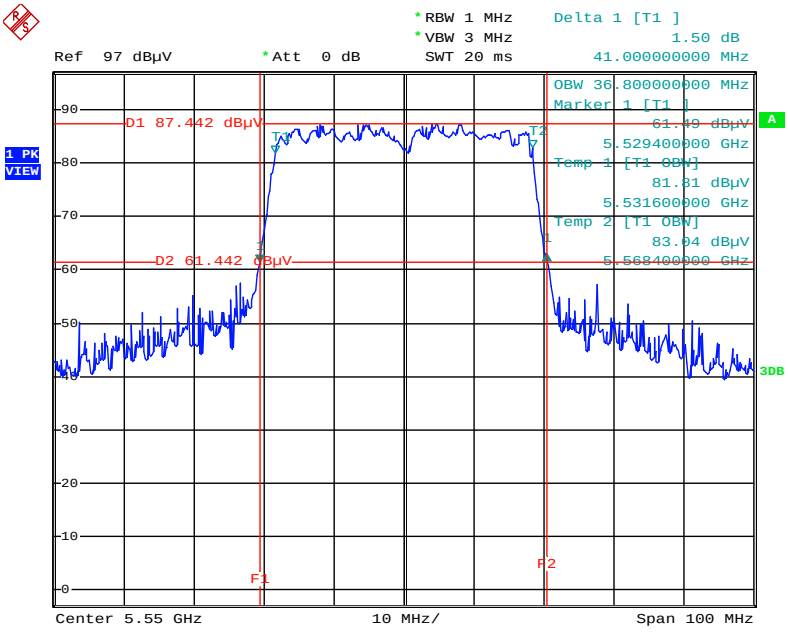
Date: 26.AUG.2015 15:47:07

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5510 MHz



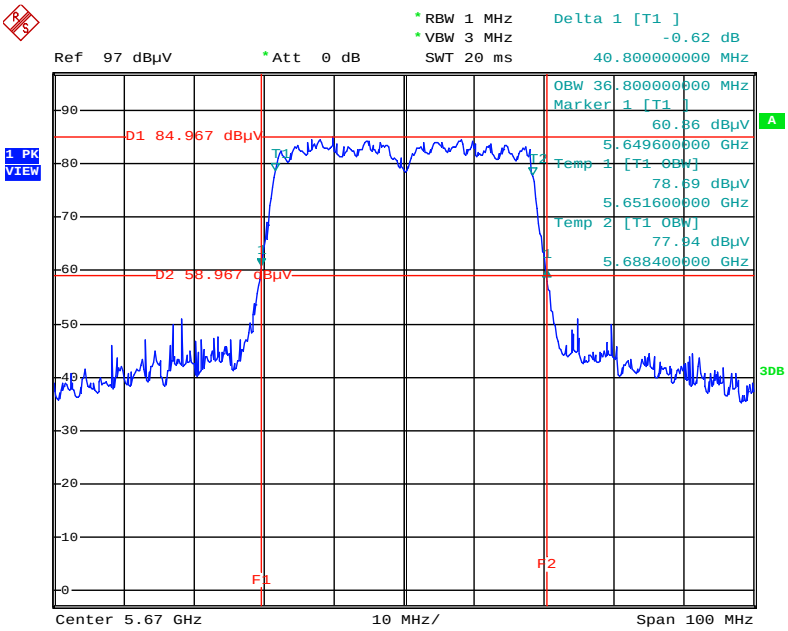
Date: 26.AUG.2015 15:47:40

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5550 MHz



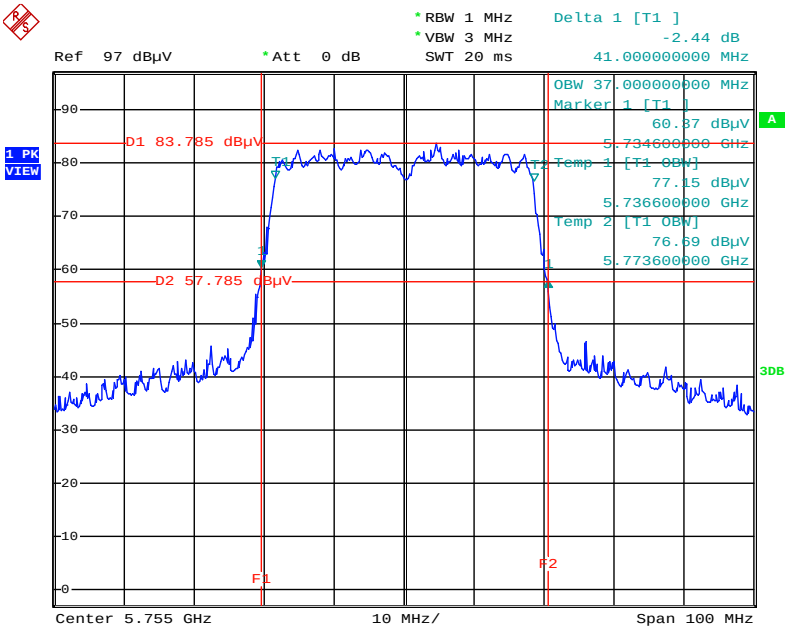
Date: 26.AUG.2015 15:48:34

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5670 MHz



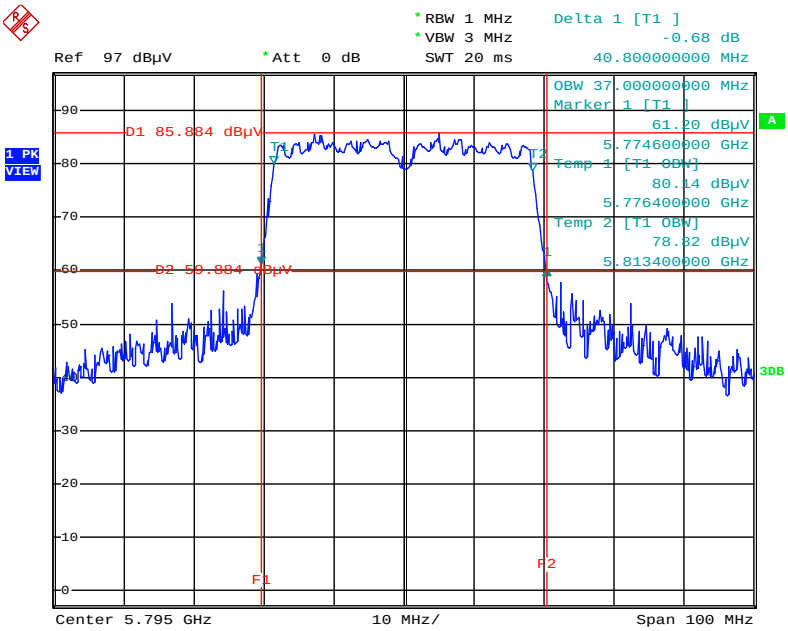
Date: 26.AUG.2015 15:49:21

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5755 MHz



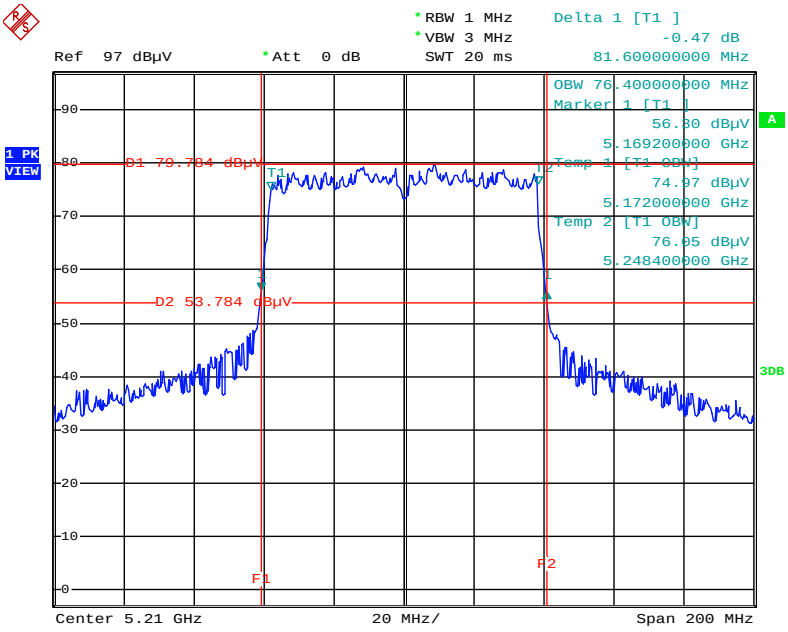
Date: 26.AUG.2015 15:50:04

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5795 MHz



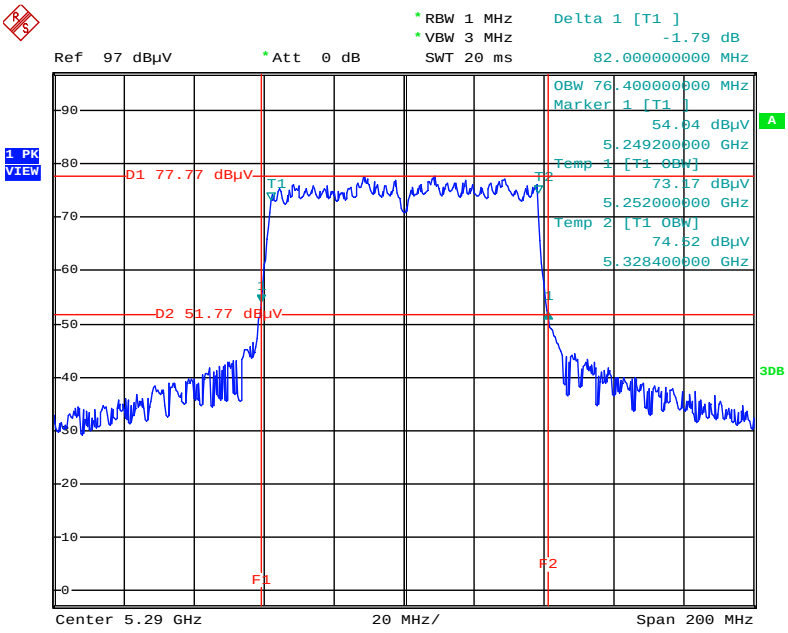
Date: 26.AUG.2015 15:50:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5210 MHz



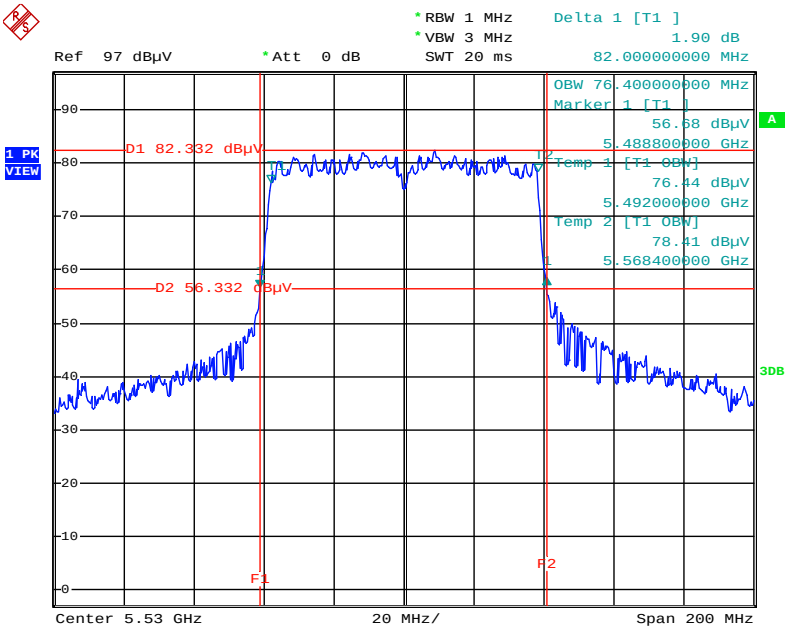
Date: 26.AUG.2015 15:53:32

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5290 MHz



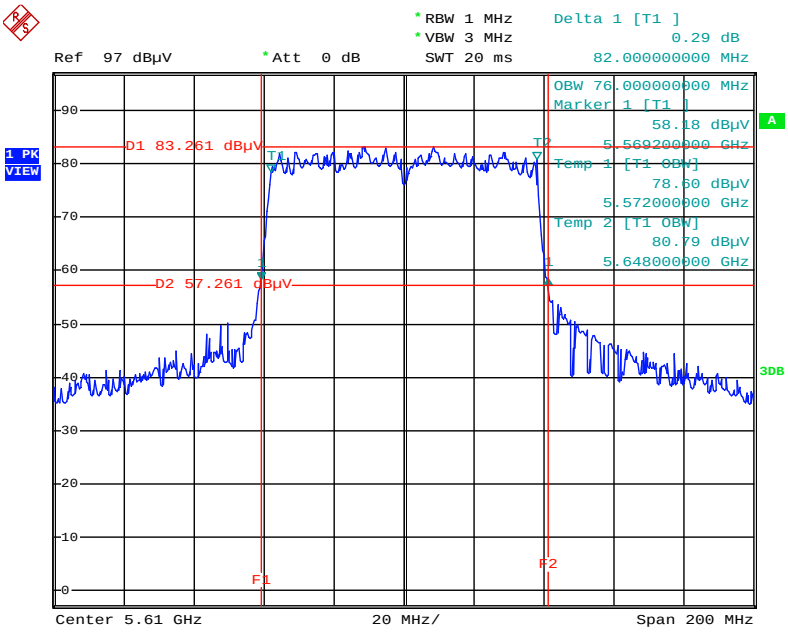
Date: 26.AUG.2015 15:54:24

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5530 MHz

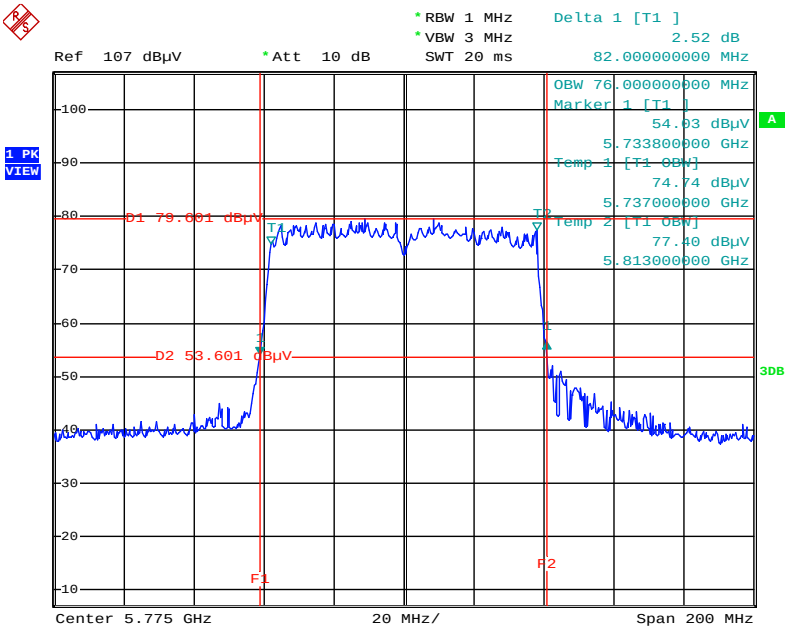


Date: 26.AUG.2015 15:55:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5610 MHz



26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5775 MHz



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 v01 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

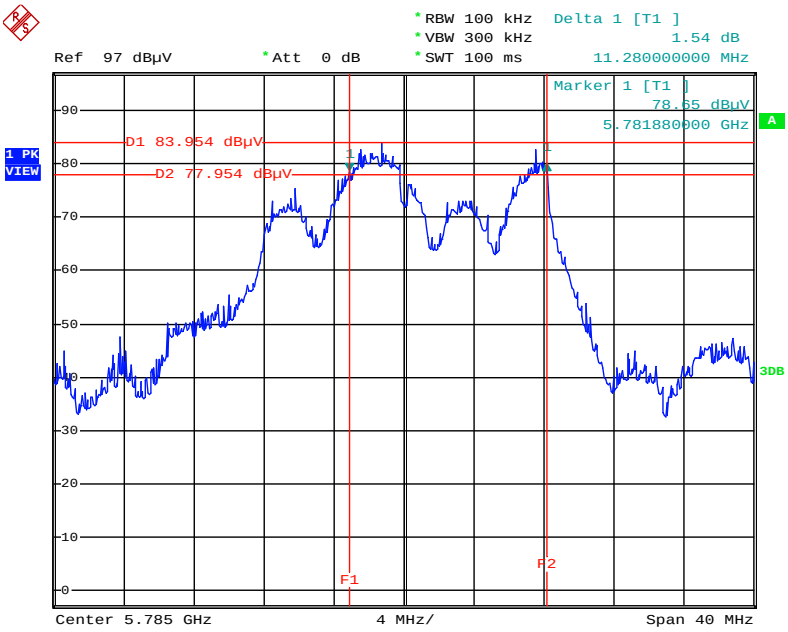
Temperature	20°C	Humidity	55%
Test Engineer	Eddie Weng		

Mode	Frequency	6dB Bandwidth (MHz)	Min. Limit (kHz)	Test Result
802.11a	5745 MHz	11.28	500	Complies
	5785 MHz	11.28	500	Complies
	5825 MHz	11.28	500	Complies
802.11ac MCS0/Nss1 VHT20	5745 MHz	13.84	500	Complies
	5785 MHz	16.32	500	Complies
	5825 MHz	12.64	500	Complies
802.11ac MCS0/Nss1 VHT40	5755 MHz	33.28	500	Complies
	5795 MHz	36.48	500	Complies
802.11ac MCS0/Nss1 VHT80	5775 MHz	73.20	500	Complies

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

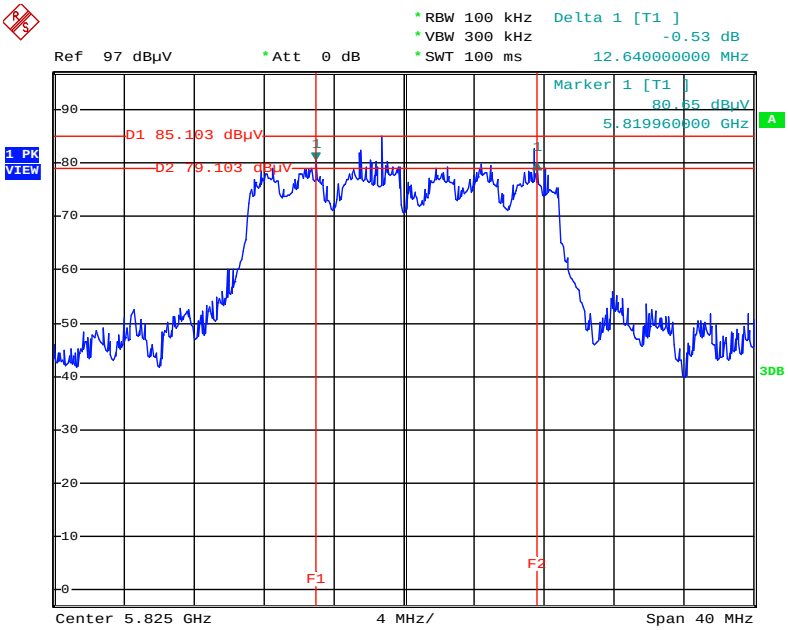
For plots, only the channel with worse result was shown.

6 dB Bandwidth Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5785 MHz



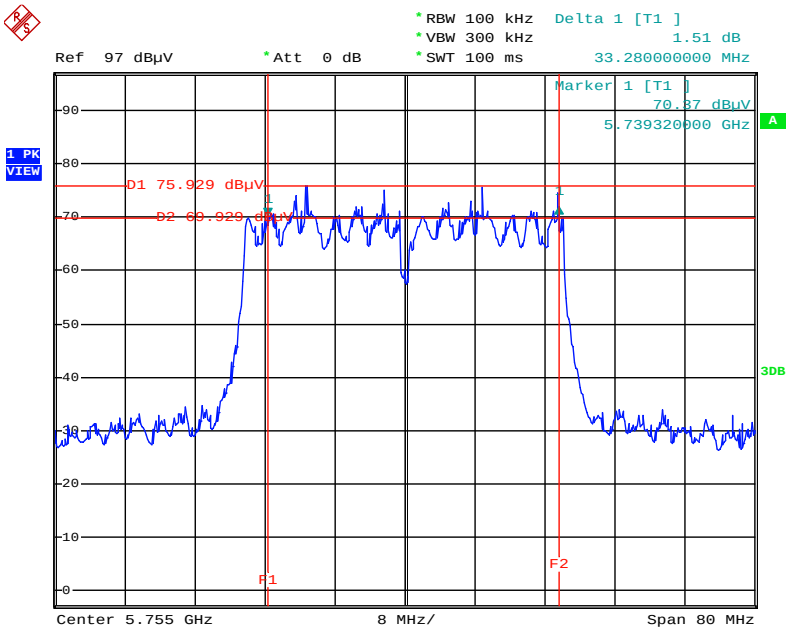
Date: 26.AUG.2015 16:41:19

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5825 MHz



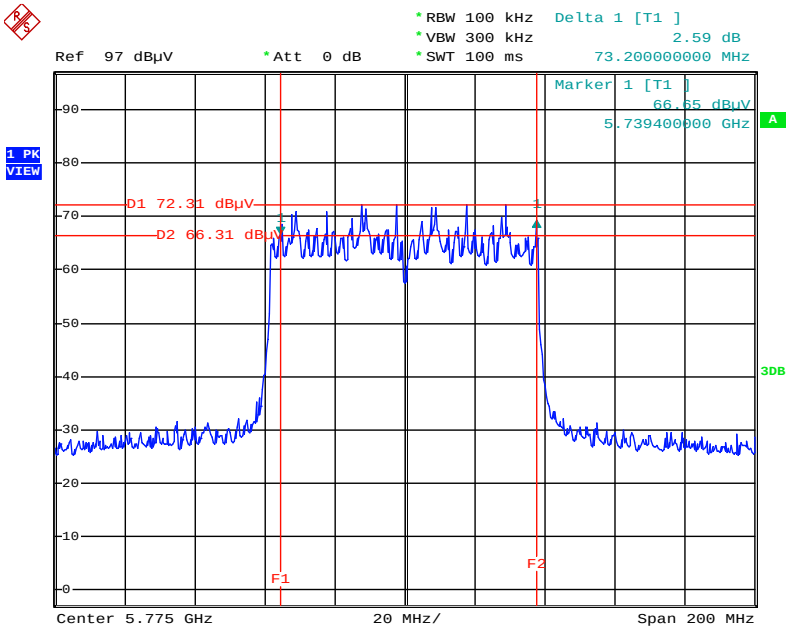
Date: 26.AUG.2015 16:42:43

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5755 MHz



Date: 26.AUG.2015 16:38:27

6 dB Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5775 MHz



Date: 26.AUG.2015 16:39:40

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.

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

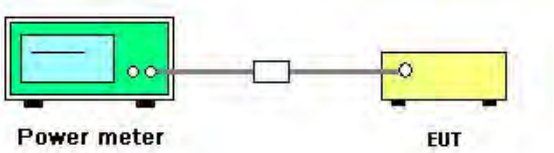
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

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

4.4.4. 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

Temperature	20°C	Humidity	55%
Test Engineer	Eddie Weng	Test Date	Aug. 12, 2015 ~ Aug. 26, 2015

Mode	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Antenna 4	Antenna 5	Antenna 6	Total		
802.11a	5180 MHz	14.46	15.53	15.16	19.84	30.00	Complies
	5200 MHz	14.53	15.05	15.20	19.71	30.00	Complies
	5240 MHz	14.28	15.24	15.15	19.68	30.00	Complies
	5260 MHz	16.35	16.63	17.60	21.66	24.00	Complies
	5300 MHz	16.32	16.68	17.53	21.64	24.00	Complies
	5320 MHz	16.10	16.97	17.48	21.66	24.00	Complies
	5500 MHz	16.74	16.78	17.27	21.71	24.00	Complies
	5580 MHz	16.85	16.76	17.28	21.74	24.00	Complies
	5700 MHz	16.74	16.80	17.25	21.71	24.00	Complies
	5745 MHz	19.03	19.21	19.94	24.18	30.00	Complies
	5785 MHz	20.53	21.09	21.58	25.86	30.00	Complies
	5825 MHz	21.77	22.25	22.71	27.03	30.00	Complies
802.11ac MCS0/Nss1 VHT20	5180 MHz	14.13	15.67	15.34	19.87	30.00	Complies
	5200 MHz	14.63	15.33	15.10	19.80	30.00	Complies
	5240 MHz	14.66	15.12	14.91	19.67	30.00	Complies
	5260 MHz	16.50	16.98	17.42	21.75	24.00	Complies
	5300 MHz	16.49	17.11	17.47	21.81	24.00	Complies
	5320 MHz	16.58	17.12	17.10	21.71	24.00	Complies
	5500 MHz	16.95	16.92	17.36	21.85	24.00	Complies
	5580 MHz	16.71	16.77	17.22	21.68	24.00	Complies
	5700 MHz	16.69	16.72	17.36	21.71	24.00	Complies
	5745 MHz	18.92	19.23	19.86	24.13	30.00	Complies
	5785 MHz	22.06	22.25	22.88	27.18	30.00	Complies
	5825 MHz	21.27	21.90	22.16	26.56	30.00	Complies

Mode	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Antenna 4	Antenna 5	Antenna 6	Total		
802.11ac MCS0/Nss1 VHT40	5190 MHz	14.55	15.35	15.23	19.83	30.00	Complies
	5230 MHz	14.86	15.25	15.08	19.84	30.00	Complies
	5270 MHz	18.87	19.19	19.24	23.87	24.00	Complies
	5310 MHz	15.26	15.32	15.67	20.19	24.00	Complies
	5510 MHz	16.78	17.16	17.36	21.88	24.00	Complies
	5550 MHz	19.11	19.22	19.12	23.92	24.00	Complies
	5670 MHz	17.89	18.17	18.23	22.87	24.00	Complies
	5755 MHz	16.17	16.06	16.42	20.99	30.00	Complies
	5795 MHz	18.48	18.73	19.04	23.53	30.00	Complies
802.11ac MCS0/Nss1 VHT80	5210 MHz	14.98	15.09	15.06	19.81	30.00	Complies
	5290 MHz	12.92	12.86	13.29	17.80	24.00	Complies
	5530 MHz	16.67	17.09	16.85	21.64	24.00	Complies
	5610 MHz	18.21	18.86	18.69	23.37	24.00	Complies
	5775 MHz	15.94	16.22	16.24	20.91	30.00	Complies

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
☒	5.25-5.35 GHz		11 dBm/MHz
☒	5.470-5.725 GHz		11 dBm/MHz
☒	5.725~5.85 GHz		30 dBm/500kHz

4.5.2. Measuring Instruments and Setting

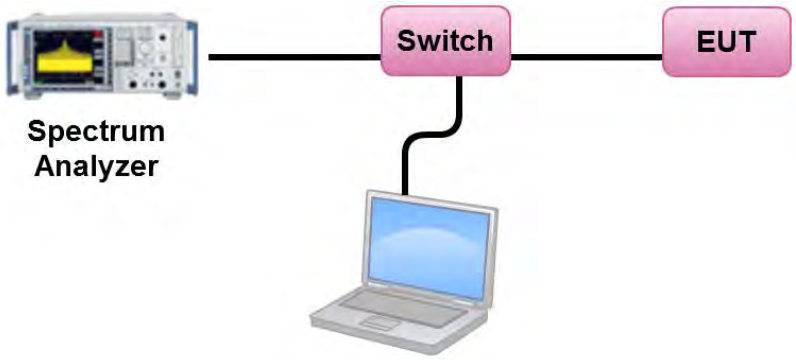
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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 v01 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements (a) Measure and sum the spectra across the outputs.
4. When measuring first spectral bin of output 1 is summed with that in the first spectral bin of output 2 and that from the first spectral bin of output 3 and so on up to the Nth output to obtain the value for the first frequency bin of the summed spectrum. The summed spectrum value for each of the other frequency bins is computed in the same way.
5. 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

Temperature	20°C	Humidity	55%
Test Engineer	Eddie Weng	Test Date	Aug. 12, 2015 ~ Aug. 26, 2015

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

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.86	14.78	Complies
40	5200 MHz	6.77	14.78	Complies
48	5240 MHz	6.79	14.78	Complies
52	5260 MHz	8.69	8.78	Complies
60	5300 MHz	8.62	8.78	Complies
64	5320 MHz	8.72	8.78	Complies
100	5500 MHz	8.67	8.78	Complies
116	5580 MHz	8.66	8.78	Complies
140	5700 MHz	8.64	8.78	Complies

Note:

Band 1= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=17–(8.22– 6)=14.78dBm/MHz.

Band 2= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=11–(8.22– 6)=8.78dBm/MHz.

Band 3= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=11–(8.22– 6)=8.78dBm/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	11.09	-3.01	8.08	27.78	Complies
157	5785 MHz	12.72	-3.01	9.71	27.78	Complies
165	5825 MHz	13.94	-3.01	10.93	27.78	Complies

Note: $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=30–(8.22 –6)=27.78dBm/500kHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
36	5180 MHz	6.96	14.78	Complies
40	5200 MHz	6.73	14.78	Complies
48	5240 MHz	6.56	14.78	Complies
52	5260 MHz	8.61	8.78	Complies
60	5300 MHz	8.66	8.78	Complies
64	5320 MHz	8.70	8.78	Complies
100	5500 MHz	8.72	8.78	Complies
116	5580 MHz	8.68	8.78	Complies
140	5700 MHz	8.69	8.78	Complies

Note:

Band 1= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=17–(8.22– 6)=14.78dBm/MHz.

Band 2= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=11–(8.22– 6)=8.78dBm/MHz.

Band 3= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=11–(8.22– 6)=8.78dBm/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	10.84	-3.01	7.83	27.78	Complies
157	5785 MHz	13.73	-3.01	10.72	27.78	Complies
165	5825 MHz	13.24	-3.01	10.23	27.78	Complies

Note: $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=30–(8.22 –6)=27.78dBm/500kHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
38	5190 MHz	3.72	14.78	Complies
46	5230 MHz	3.78	14.78	Complies
54	5270 MHz	7.71	8.78	Complies
62	5310 MHz	3.87	8.78	Complies
102	5510 MHz	5.54	8.78	Complies
110	5550 MHz	7.81	8.78	Complies
134	5670 MHz	6.56	8.78	Complies

Note:

Band 1= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=17–(8.22– 6)=14.78dBm/MHz.

Band 2= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=11–(8.22– 6)=8.78dBm/MHz.

Band 3= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=11–(8.22– 6)=8.78dBm/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	4.72	-3.01	1.71	27.78	Complies
159	5795 MHz	7.26	-3.01	4.25	27.78	Complies

Note: $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=30–(8.22 –6)=27.78dBm/500kHz.

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6

Channel	Frequency	Power Density (dBm/MHz)	Max. Limit (dBm/MHz)	Result
42	5210 MHz	0.48	14.78	Complies
58	5290 MHz	-1.57	8.78	Complies
106	5530 MHz	2.34	8.78	Complies
122	5610 MHz	4.10	8.78	Complies

Note:

Band 1= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=17–(8.22– 6)=14.78dBm/MHz.

Band 2= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=11–(8.22– 6)=8.78dBm/MHz.

Band 3= $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi >6dBi, so limit=11–(8.22– 6)=8.78dBm/MHz.

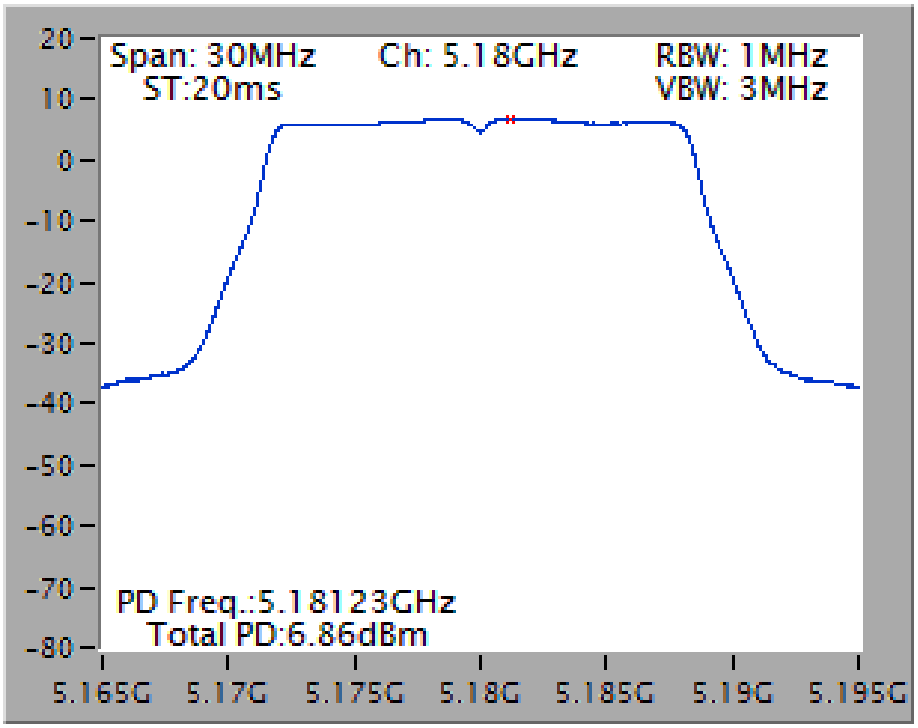
Channel	Frequency	Power Density (dBm/MHz)	10log(500kHz/RBW) Factor (dB)	Power Density (dBm/500kHz)	Power Density Limit (dBm/500kHz)	Result
155	5775 MHz	1.57	-3.01	-1.44	27.78	Complies

Note: $Directional Gain = 10\log\left[\frac{\sum_{j=1}^{Nss}\left\{\sum_{K=1}^{N_{ANT}} g_{j,k}\right\}^2}{N_{ANT}}\right]$ =8.22dBi>6dBi, so limit=30–(8.22 –6)=27.78dBm/500kHz.

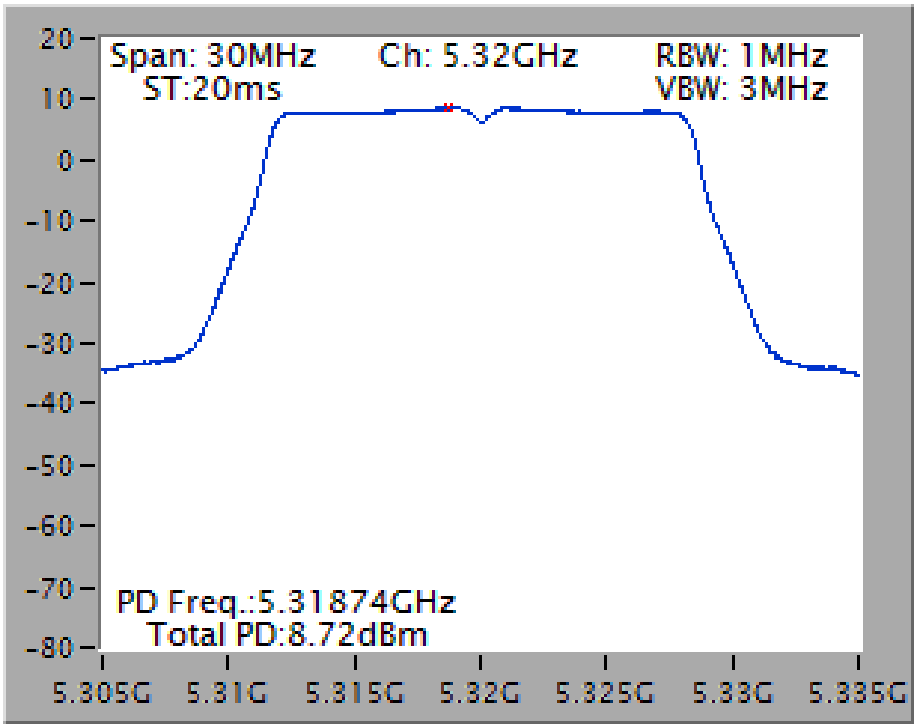
Note: All the test values were listed in the report.

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

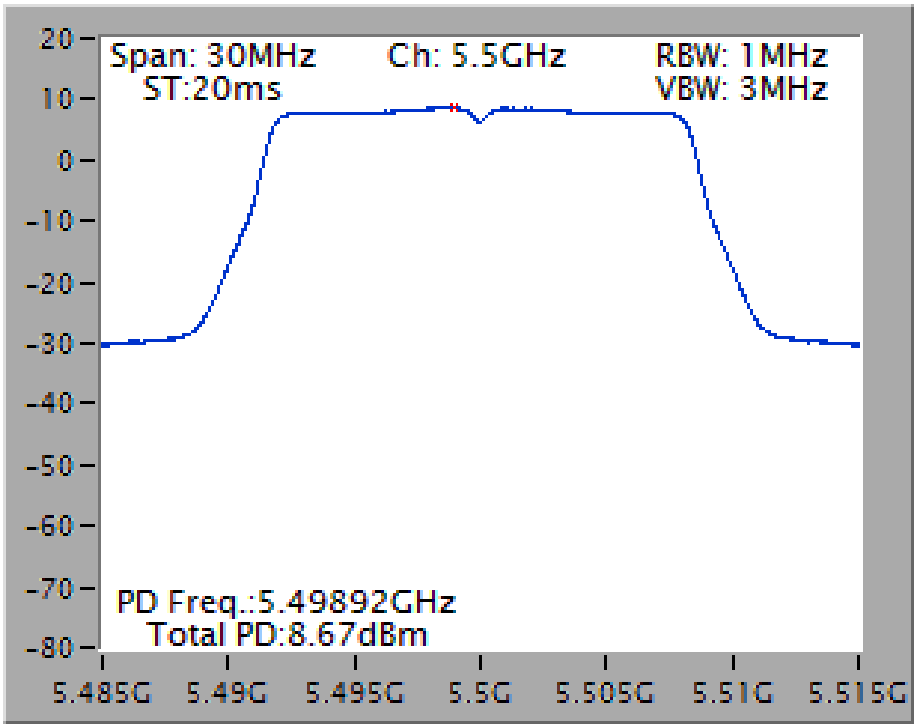
Power Density Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5180 MHz



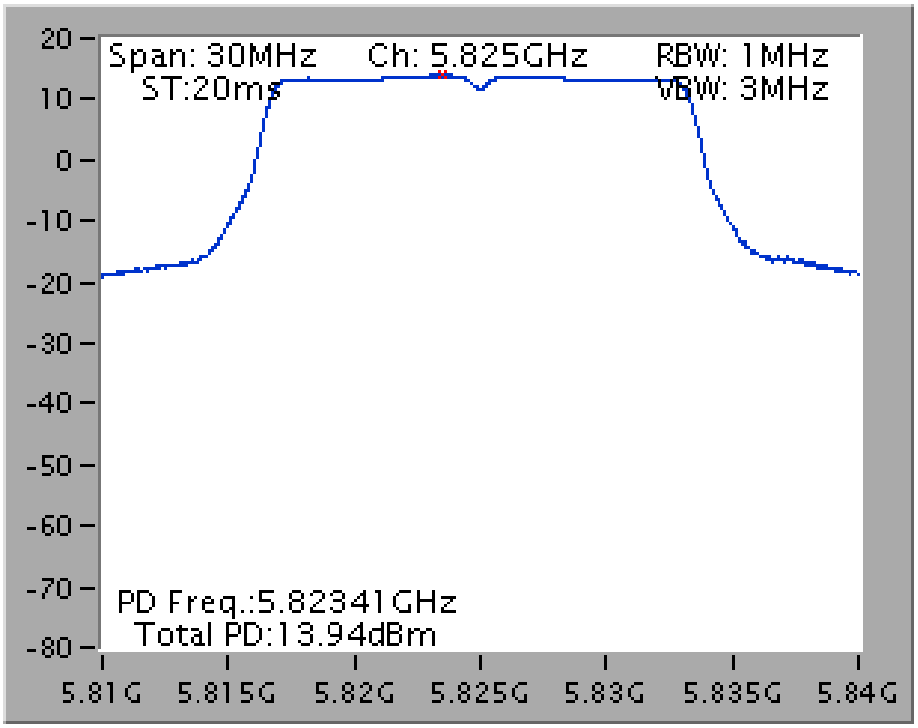
Power Density Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5320 MHz



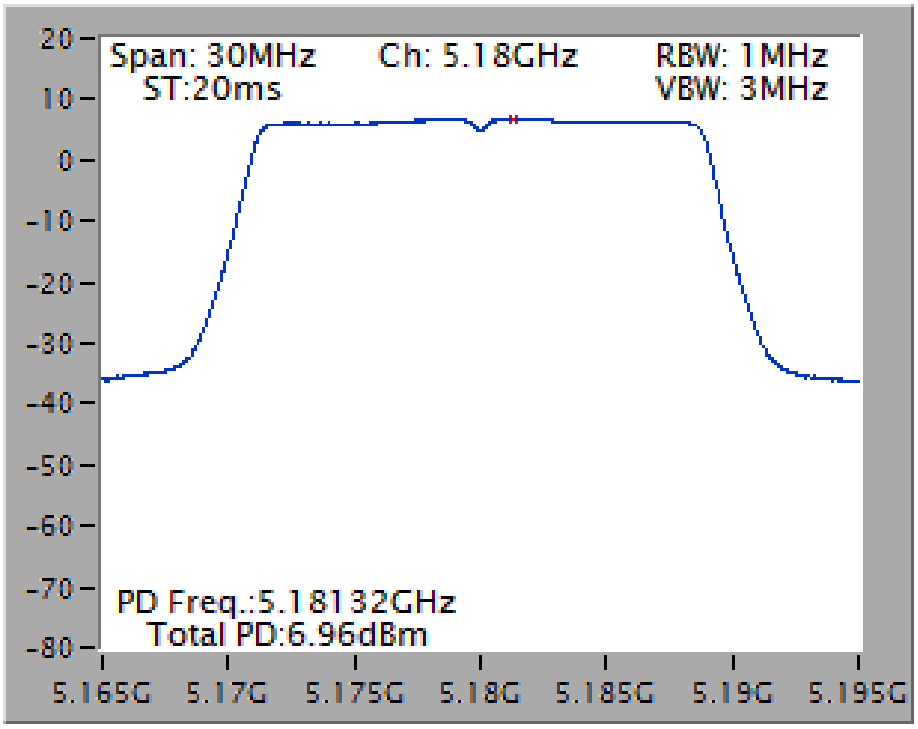
Power Density Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5500 MHz



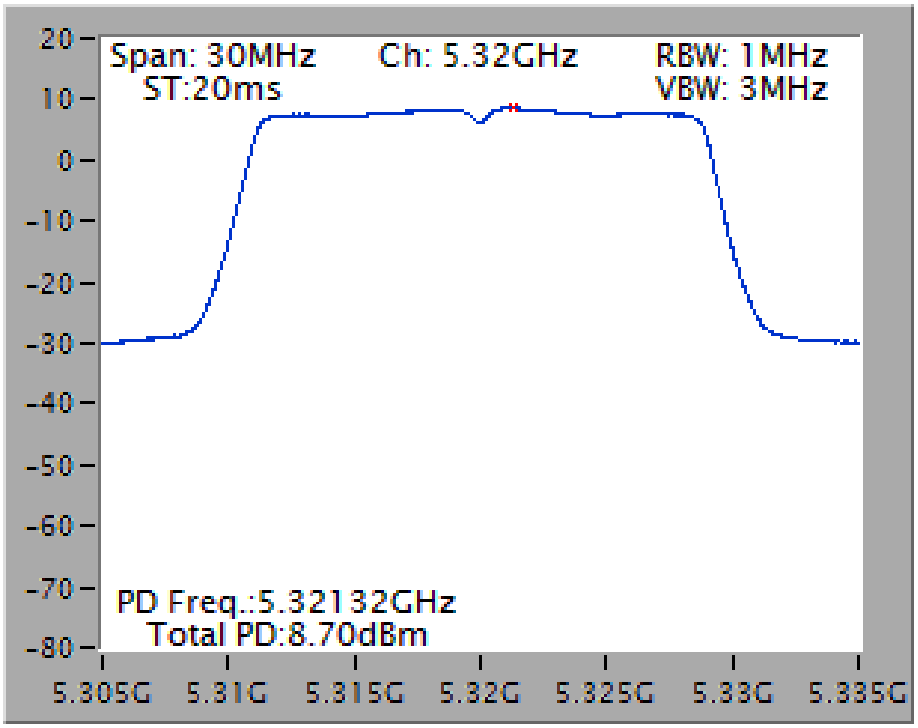
Power Density Plot on Configuration IEEE 802.11a / Antenna 4 + Antenna 5 + Antenna 6 / 5825 MHz



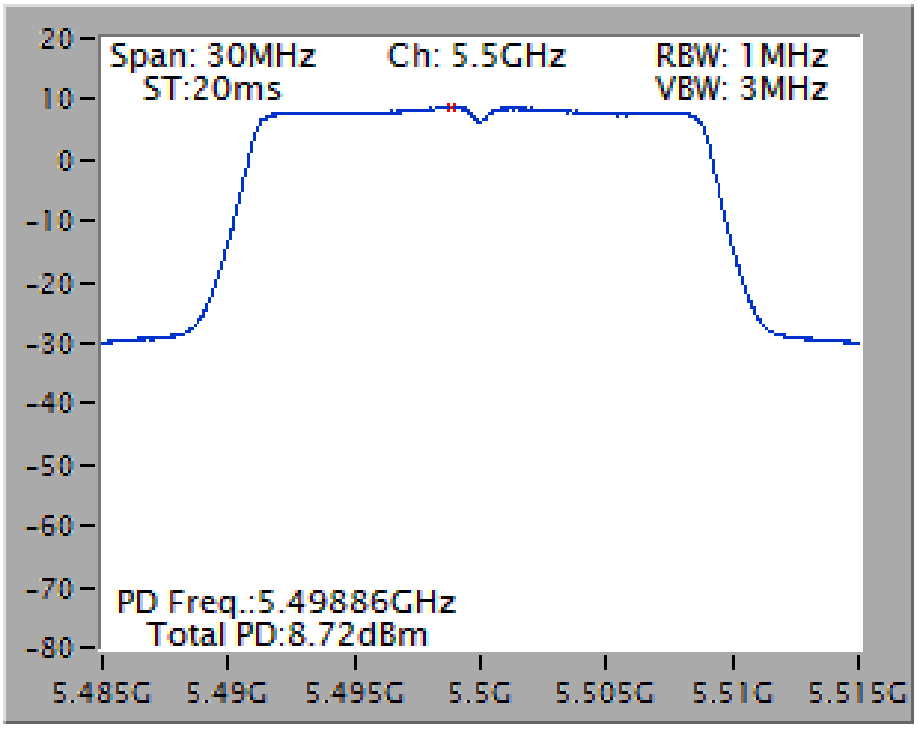
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5180 MHz



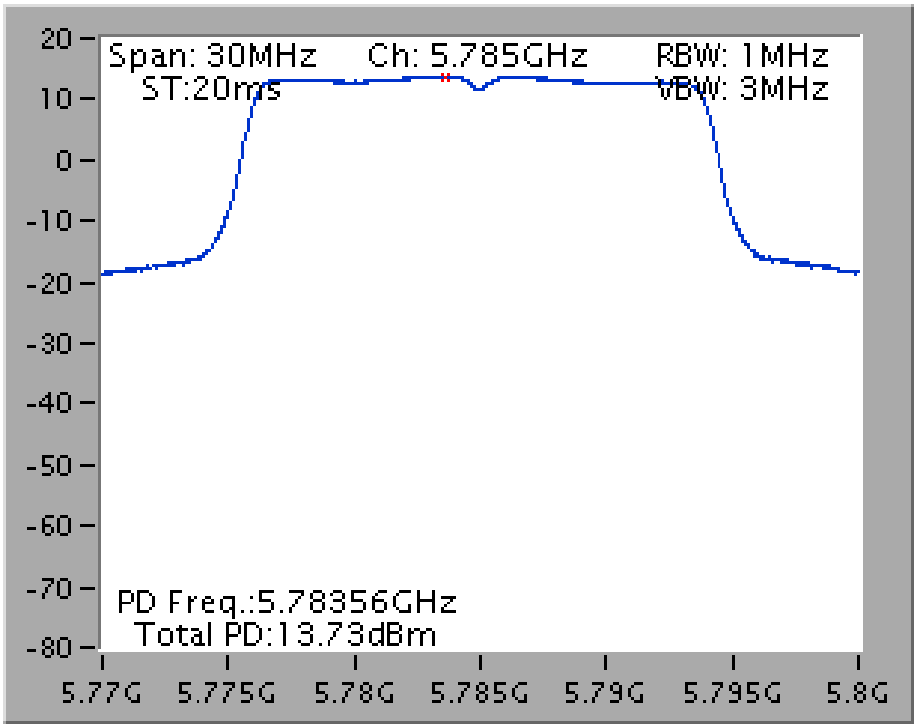
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5320 MHz



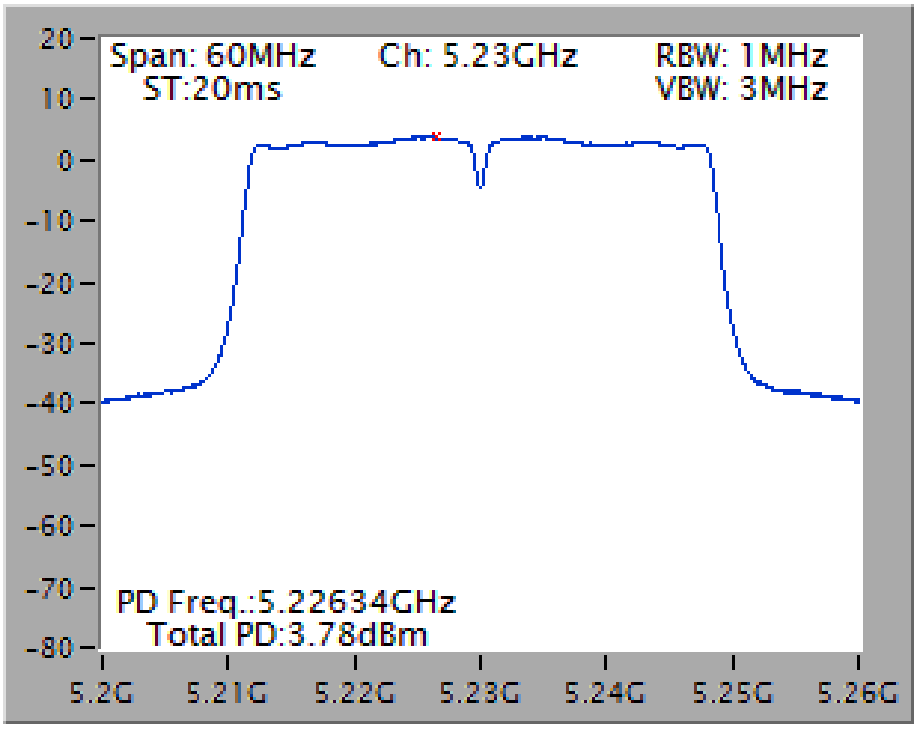
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5500 MHz



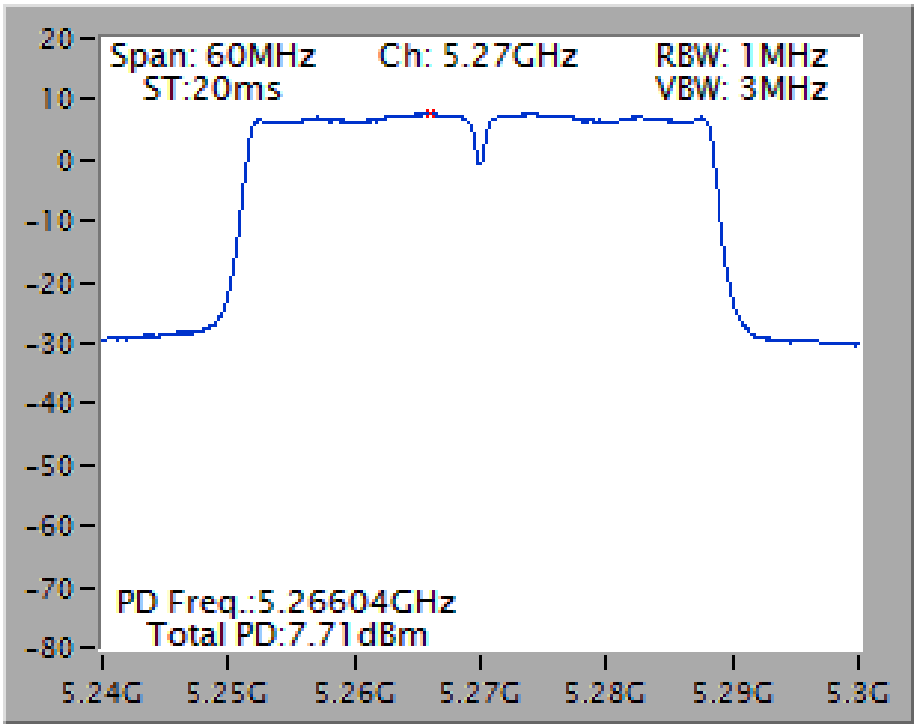
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Antenna 4 + Antenna 5 + Antenna 6 / 5785 MHz



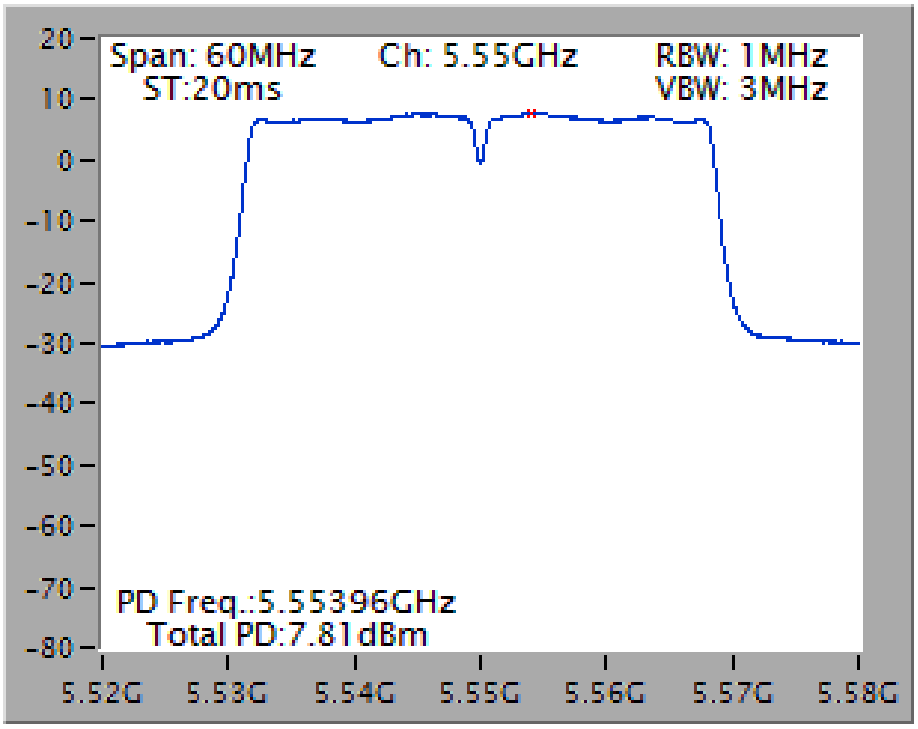
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5230 MHz



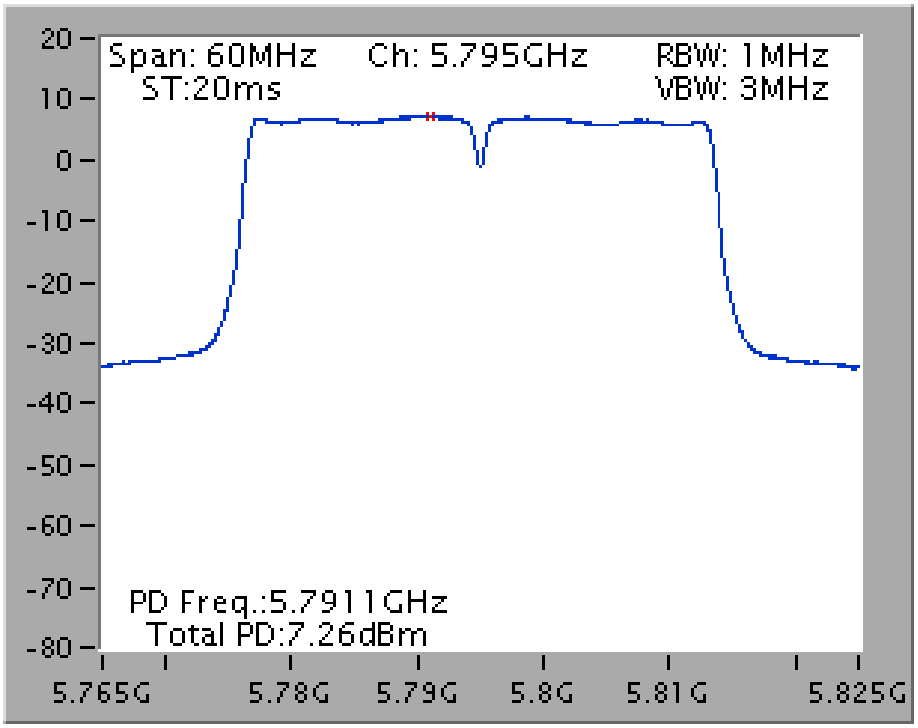
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5270 MHz



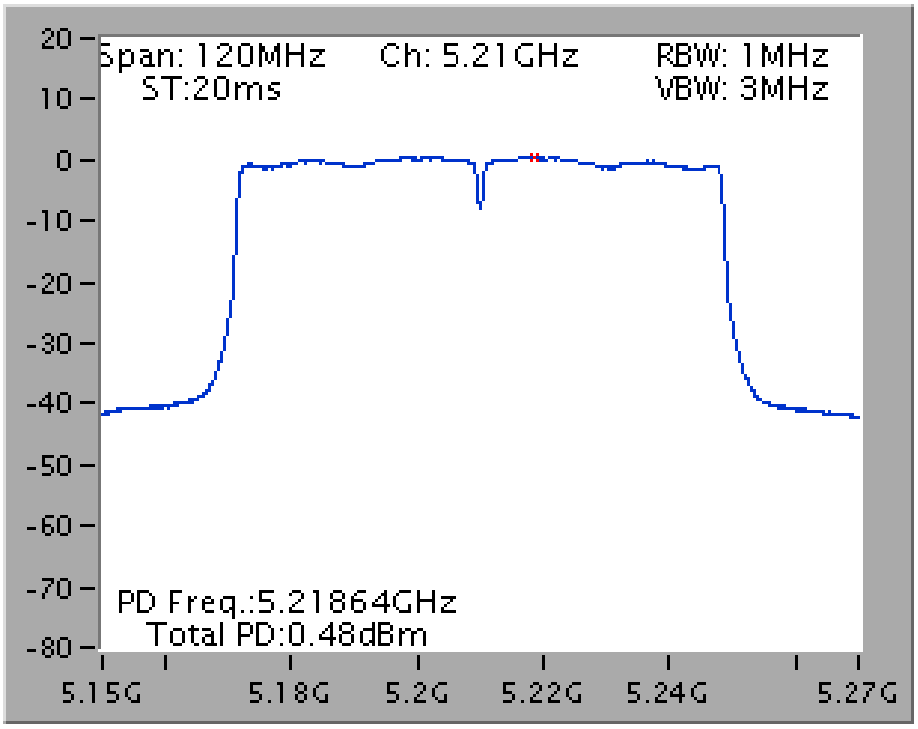
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5550 MHz



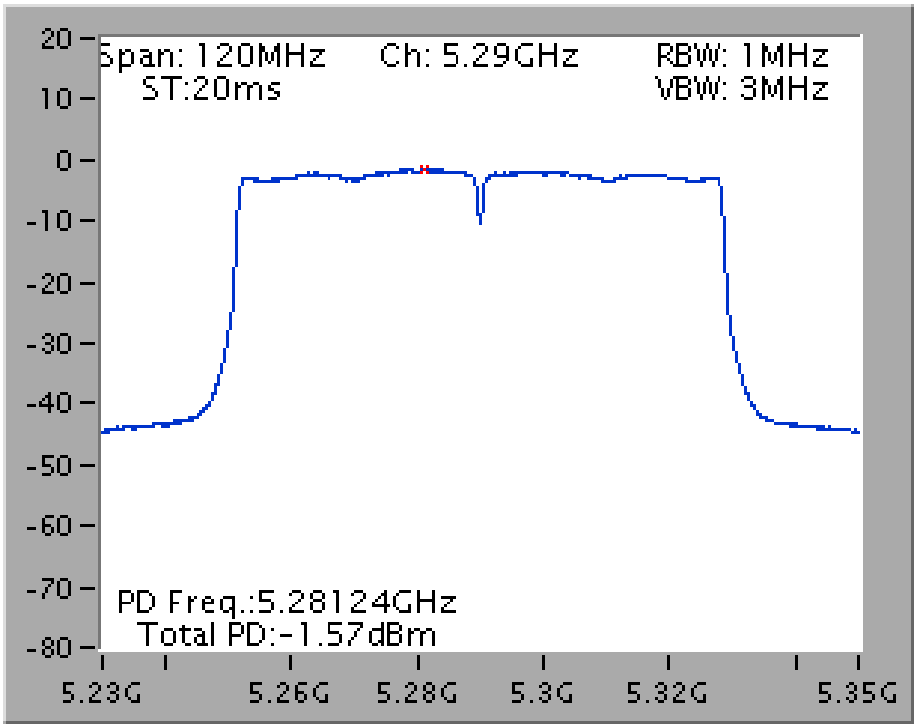
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Antenna 4 + Antenna 5 + Antenna 6 / 5795 MHz



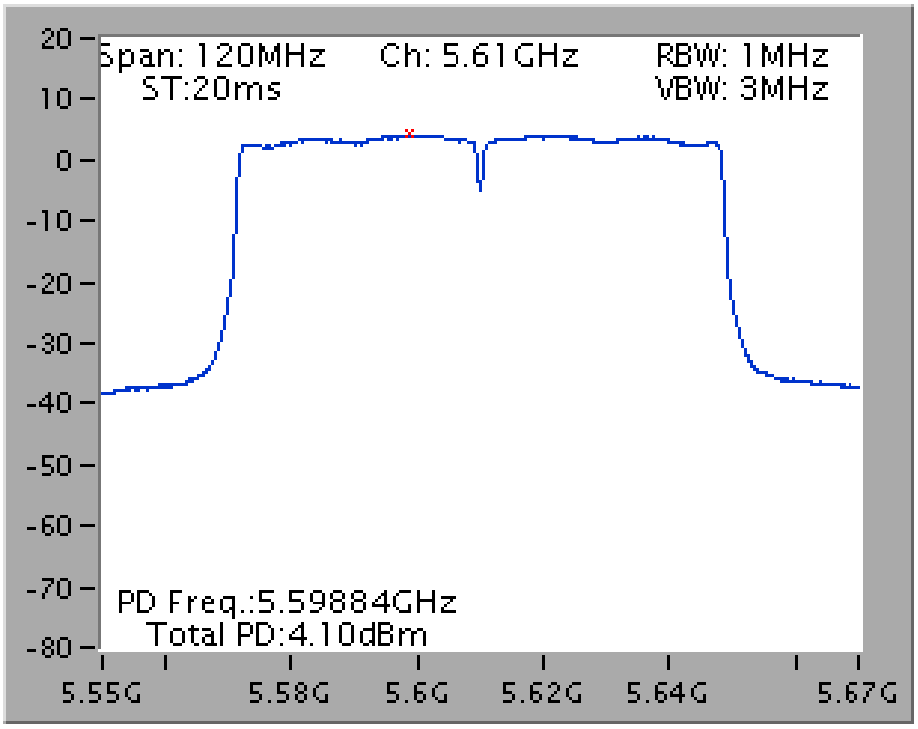
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5210 MHz



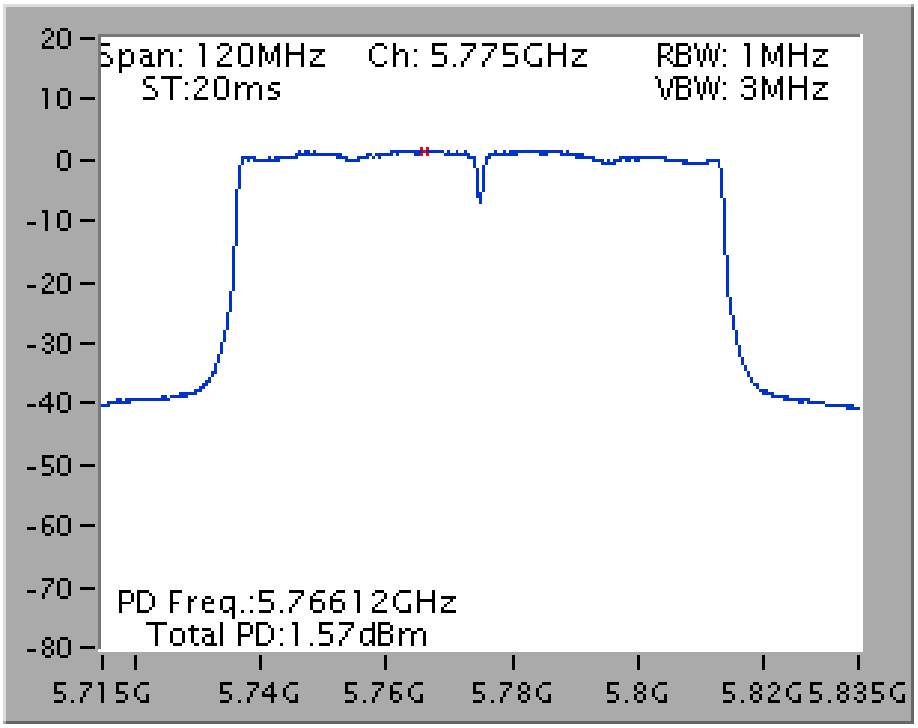
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5290 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5610 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Antenna 4 + Antenna 5 + Antenna 6 / 5775 MHz



4.6. Radiated Emissions Measurement

4.6.1. Limit

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

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

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

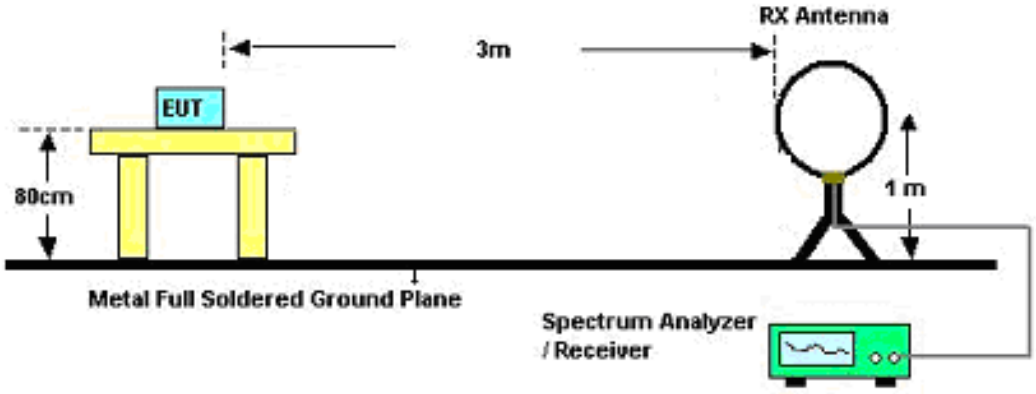
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RBW 120kHz for QP

4.6.3. Test Procedures

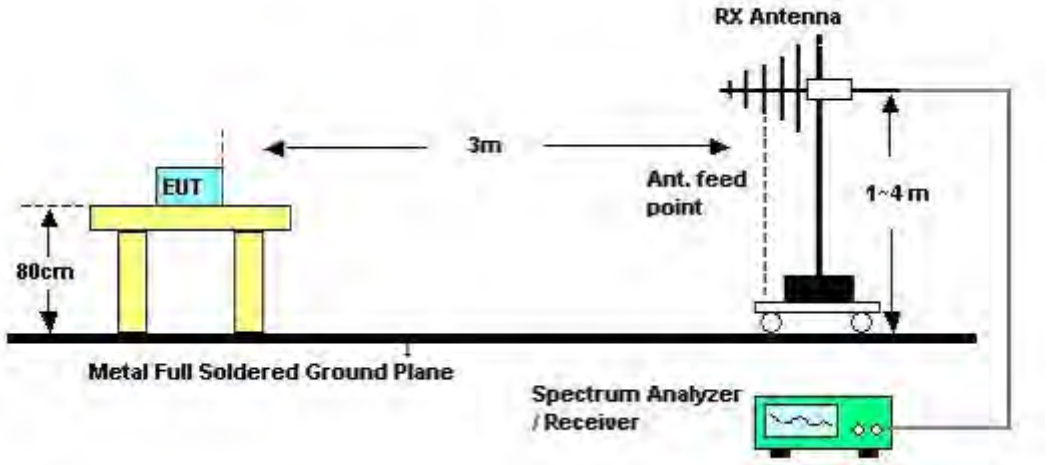
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting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

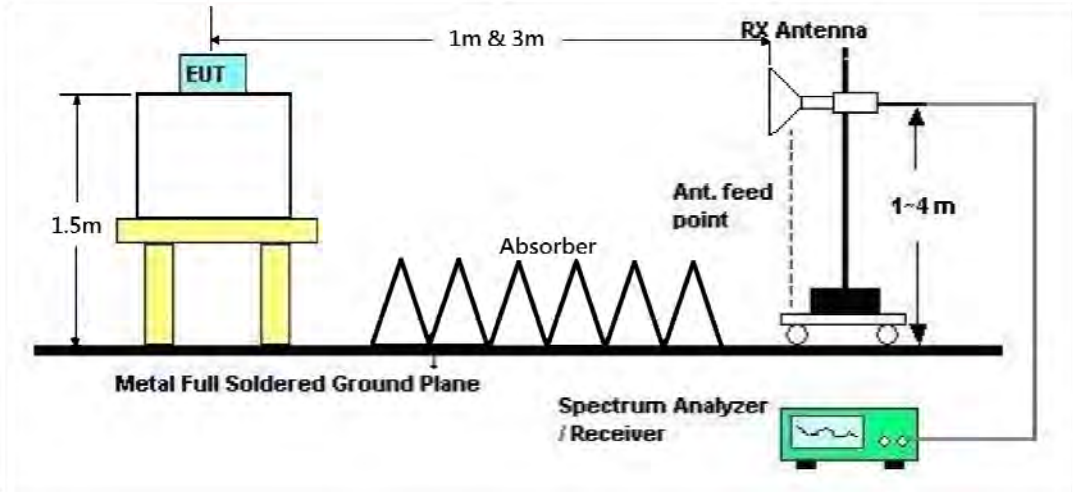
For Radiated Emissions: 9kHz ~30MHz



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)

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	CTX
Test Date	Sep. 02, 2015	Test Mode	Mode 3

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

Note:

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

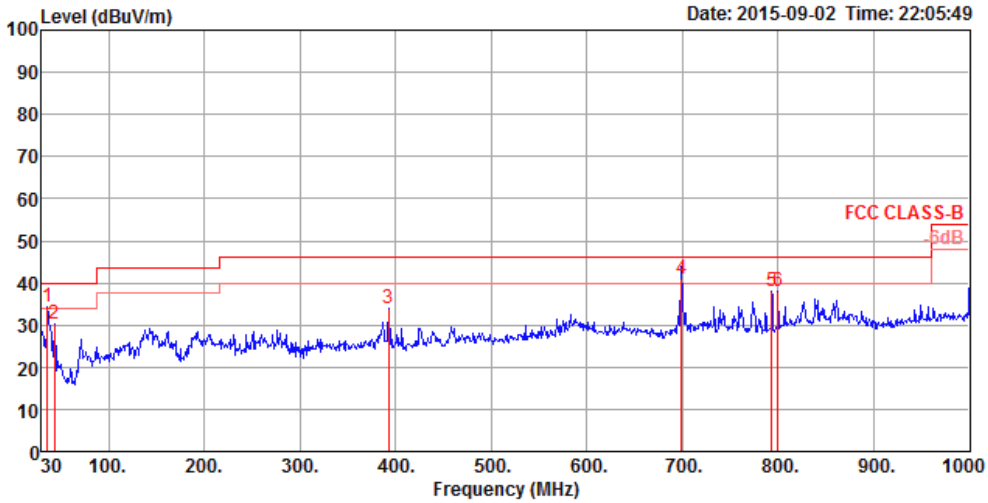
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

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

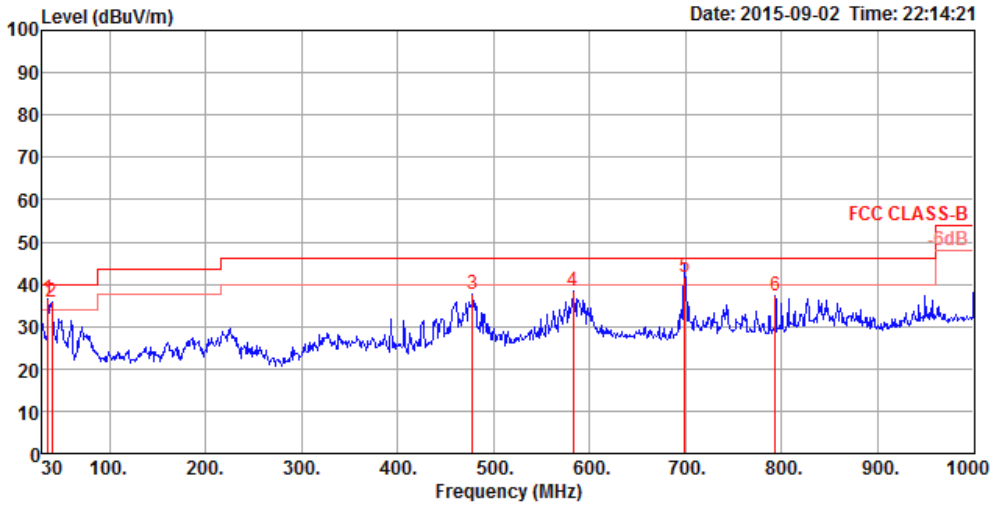
Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	CTX
Test Mode	Mode 3		

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	35.82	34.32	40.00	-5.68	49.52	0.65	16.55	32.40	125	358	Peak	HORIZONTAL
2	43.58	30.43	40.00	-9.57	50.04	0.68	12.12	32.41	150	287	Peak	HORIZONTAL
3	392.78	34.07	46.00	-11.93	48.38	1.71	16.31	32.33	100	343	Peak	HORIZONTAL
4	699.30	41.06	46.00	-4.94	51.58	2.14	19.70	32.36	100	21	QP	HORIZONTAL
5	793.39	38.04	46.00	-7.96	47.24	2.29	20.76	32.25	100	214	Peak	HORIZONTAL
6	800.18	37.84	46.00	-8.16	46.98	2.30	20.80	32.24	100	356	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	36.56	40.00	-3.44	51.76	0.65	16.55	32.40	125	359	Peak	VERTICAL
2	39.70	35.62	40.00	-4.38	53.10	0.67	14.26	32.41	100	255	Peak	VERTICAL
3	478.14	37.77	46.00	-8.23	50.73	1.87	17.52	32.35	100	1	Peak	VERTICAL
4	582.90	38.28	46.00	-7.72	49.68	2.03	18.97	32.40	100	360	Peak	VERTICAL
5	699.30	41.57	46.00	-4.43	52.09	2.14	19.70	32.36	100	1	QP	VERTICAL
6	793.39	37.20	46.00	-8.80	46.40	2.29	20.76	32.25	125	151	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)

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 36 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15535.89	46.73	54.00	-7.27	29.71	12.58	38.14	33.70	156	167	Average	HORIZONTAL
2	15536.64	59.66	74.00	-14.34	42.64	12.58	38.14	33.70	156	167	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	15548.42	59.96	74.00	-14.04	42.99	12.58	38.12	33.73	162	249	Peak	VERTICAL
2	15548.71	46.69	54.00	-7.31	29.72	12.58	38.12	33.73	162	249	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 40 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15590.68	45.98	54.00	-8.02	29.09	12.58	38.06	33.75	125	312	Average	HORIZONTAL
2	15595.40	60.29	74.00	-13.71	43.43	12.58	38.03	33.75	125	312	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	15590.22	46.59	54.00	-7.41	29.70	12.58	38.06	33.75	170	138	Average	VERTICAL
2	15602.84	59.42	74.00	-14.58	42.59	12.58	38.03	33.78	170	138	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 48 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15726.54	46.38	54.00	-7.62	29.87	12.57	37.84	33.90	165	239	Average	HORIZONTAL
2	15729.84	59.28	74.00	-14.72	42.77	12.57	37.84	33.90	165	239	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	15716.82	60.03	74.00	-13.97	43.50	12.57	37.84	33.88	102	352	Peak	VERTICAL
2	15719.42	46.47	54.00	-7.53	29.94	12.57	37.84	33.88	102	352	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 52 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15771.23	59.25	74.00	-14.75	42.85	12.57	37.76	33.93	128	360	Peak	HORIZONTAL
2	15777.63	45.65	54.00	-8.35	29.27	12.57	37.76	33.95	128	359	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	15770.22	46.50	54.00	-7.50	30.10	12.57	37.76	33.93	121	280	Average	VERTICAL
2	15779.25	59.64	74.00	-14.36	43.26	12.57	37.76	33.95	121	280	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 60 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15892.85	59.21	74.00	-14.79	43.12	12.57	37.57	34.05	161	135	Peak	HORIZONTAL
2	15907.96	46.06	54.00	-7.94	30.04	12.56	37.54	34.08	161	135	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	15895.17	59.15	74.00	-14.85	43.06	12.57	37.57	34.05	142	197	Peak	VERTICAL
2	15906.51	45.29	54.00	-8.71	29.27	12.56	37.54	34.08	142	197	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 64 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15964.60	45.07	54.00	-8.93	29.18	12.56	37.46	34.13	152	259	Average	HORIZONTAL
2	15968.48	58.70	74.00	-15.30	42.81	12.56	37.46	34.13	152	259	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	15955.17	58.53	74.00	-15.47	42.61	12.56	37.46	34.10	170	171	Peak	VERTICAL
2	15964.20	45.50	54.00	-8.50	29.61	12.56	37.46	34.13	170	171	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 100 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	10998.64	56.38	74.00	-17.62	40.81	10.55	38.40	33.38	162	237	Peak	HORIZONTAL
2	10998.84	43.21	54.00	-10.79	27.64	10.55	38.40	33.38	162	237	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	10992.82	42.87	54.00	-11.13	27.30	10.55	38.40	33.38	179	177	Average	VERTICAL
2	11002.52	56.24	74.00	-17.76	40.67	10.55	38.40	33.38	179	177	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 116 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11158.06	47.19	54.00	-6.81	31.40	10.60	38.57	33.38	164	303	Average	HORIZONTAL
2	11158.50	61.31	74.00	-12.69	45.52	10.60	38.57	33.38	164	303	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	11162.63	62.00	74.00	-12.00	46.20	10.61	38.57	33.38	144	307	Peak	VERTICAL
2	11162.84	48.80	54.00	-5.20	33.00	10.61	38.57	33.38	144	307	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 140 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11391.55	59.05	74.00	-14.95	42.95	10.69	38.78	33.37	155	40	Peak	HORIZONTAL
2	11403.21	44.93	54.00	-9.07	28.81	10.69	38.80	33.37	155	40	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	11393.78	59.84	74.00	-14.16	43.74	10.69	38.78	33.37	148	307	Peak	VERTICAL
2	11402.95	45.96	54.00	-8.04	29.84	10.69	38.80	33.37	148	307	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 149 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11493.59	57.46	74.00	-16.54	41.23	10.72	38.88	33.37	121	305	Peak	HORIZONTAL
2	11494.02	43.64	54.00	-10.36	27.41	10.72	38.88	33.37	121	305	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	11494.25	44.72	54.00	-9.28	28.49	10.72	38.88	33.37	122	348	Average	VERTICAL
2	11494.72	57.61	74.00	-16.39	41.38	10.72	38.88	33.37	122	348	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 157 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11571.94	45.81	54.00	-8.19	29.50	10.76	38.94	33.39	119	23	Average	HORIZONTAL
2	11572.20	58.77	74.00	-15.23	42.46	10.76	38.94	33.39	119	23	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	11569.54	60.33	74.00	-13.67	44.02	10.75	38.94	33.38	120	300	Peak	VERTICAL
2	11570.14	46.56	54.00	-7.44	30.25	10.76	38.94	33.39	120	300	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 165 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11653.13	60.52	74.00	-13.48	44.13	10.81	38.99	33.41	152	322	Peak	HORIZONTAL
2	11653.82	47.06	54.00	-6.94	30.67	10.81	38.99	33.41	152	322	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	11649.62	49.88	54.00	-4.12	33.50	10.81	38.98	33.41	134	304	Average	VERTICAL
2	11649.62	63.53	74.00	-10.47	47.15	10.81	38.98	33.41	134	304	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15535.63	46.58	54.00	-7.42	29.56	12.58	38.14	33.70	152	341	Average	HORIZONTAL
2	15539.91	60.00	74.00	-14.00	42.98	12.58	38.14	33.70	152	341	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	15538.15	46.85	54.00	-7.15	29.83	12.58	38.14	33.70	161	192	Average	VERTICAL
2	15546.11	59.68	74.00	-14.32	42.68	12.58	38.12	33.70	161	192	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 40 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15597.42	46.71	54.00	-7.29	29.85	12.58	38.03	33.75	151	102	Average	HORIZONTAL
2	15605.50	59.37	74.00	-14.63	42.54	12.58	38.03	33.78	151	102	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	15590.97	46.68	54.00	-7.32	29.79	12.58	38.06	33.75	148	234	Average	VERTICAL
2	15601.36	59.40	74.00	-14.60	42.57	12.58	38.03	33.78	148	234	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 48 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15726.45	59.71	74.00	-14.29	43.20	12.57	37.84	33.90	144	338	Peak	HORIZONTAL
2	15726.80	46.10	54.00	-7.90	29.59	12.57	37.84	33.90	144	338	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	15718.50	59.44	74.00	-14.56	42.91	12.57	37.84	33.88	157	259	Peak	VERTICAL
2	15727.58	46.69	54.00	-7.31	30.18	12.57	37.84	33.90	157	259	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15773.49	59.64	74.00	-14.36	43.24	12.57	37.76	33.93	163	208	Peak	HORIZONTAL
2	15788.83	46.34	54.00	-7.66	29.99	12.57	37.73	33.95	163	208	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	15782.95	60.11	74.00	-13.89	43.76	12.57	37.73	33.95	148	62	Peak	VERTICAL
2	15786.71	46.14	54.00	-7.86	29.79	12.57	37.73	33.95	148	62	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15897.06	58.61	74.00	-15.39	42.52	12.57	37.57	34.05	150	16	Peak	HORIZONTAL
2	15900.65	45.91	54.00	-8.09	29.85	12.57	37.54	34.05	150	16	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	15899.81	46.07	54.00	-7.93	29.98	12.57	37.57	34.05	150	23	Average	VERTICAL
2	15903.37	59.06	74.00	-14.94	43.00	12.57	37.54	34.05	150	23	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15959.29	45.53	54.00	-8.47	29.64	12.56	37.46	34.13	160	150	Average	HORIZONTAL
2	15961.43	58.30	74.00	-15.70	42.41	12.56	37.46	34.13	160	150	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	15956.50	45.40	54.00	-8.60	29.51	12.56	37.46	34.13	153	334	Average	VERTICAL
2	15957.35	58.35	74.00	-15.65	42.46	12.56	37.46	34.13	153	334	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	10997.58	44.01	54.00	-9.99	28.44	10.55	38.40	33.38	172	305	Average	HORIZONTAL
2	10998.22	58.22	74.00	-15.78	42.65	10.55	38.40	33.38	172	305	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	10998.94	45.44	54.00	-8.56	29.87	10.55	38.40	33.38	162	308	Average	VERTICAL
2	11003.95	58.86	74.00	-15.14	43.29	10.55	38.40	33.38	162	308	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11162.78	48.10	54.00	-5.90	32.30	10.61	38.57	33.38	194	26	Average	HORIZONTAL
2	11163.20	61.74	74.00	-12.26	45.94	10.61	38.57	33.38	194	26	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	11158.89	50.32	54.00	-3.68	34.53	10.60	38.57	33.38	149	310	Average	VERTICAL
2	11163.08	63.99	74.00	-10.01	48.19	10.61	38.57	33.38	149	310	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11399.71	44.16	54.00	-9.84	28.04	10.69	38.80	33.37	134	290	Average	HORIZONTAL
2	11402.11	58.02	74.00	-15.98	41.90	10.69	38.80	33.37	134	290	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	11398.26	57.80	74.00	-16.20	41.68	10.69	38.80	33.37	146	214	Peak	VERTICAL
2	11400.13	44.48	54.00	-9.52	28.36	10.69	38.80	33.37	146	214	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11487.76	57.16	74.00	-16.84	40.94	10.71	38.88	33.37	147	42	Peak	HORIZONTAL
2	11492.84	44.49	54.00	-9.51	28.27	10.71	38.88	33.37	147	42	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	11491.46	58.45	74.00	-15.55	42.23	10.71	38.88	33.37	147	313	Peak	VERTICAL
2	11492.92	44.79	54.00	-9.21	28.57	10.71	38.88	33.37	147	313	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 157 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11566.02	58.06	74.00	-15.94	41.75	10.75	38.94	33.38	148	331	Peak	HORIZONTAL
2	11566.74	44.99	54.00	-9.01	28.68	10.75	38.94	33.38	148	331	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	11569.99	48.14	54.00	-5.86	31.83	10.76	38.94	33.39	127	300	Average	VERTICAL
2	11570.14	61.45	74.00	-12.55	45.14	10.76	38.94	33.39	127	300	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 165 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11646.69	59.89	74.00	-14.11	43.51	10.81	38.98	33.41	135	294	Peak	HORIZONTAL
2	11652.34	47.14	54.00	-6.86	30.75	10.81	38.99	33.41	135	294	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	11650.06	49.24	54.00	-4.76	32.86	10.81	38.98	33.41	129	302	Average	VERTICAL
2	11650.10	62.85	74.00	-11.15	46.47	10.81	38.98	33.41	129	302	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15566.01	59.88	74.00	-14.12	42.94	12.58	38.09	33.73	155	52	Peak	HORIZONTAL
2	15570.33	46.32	54.00	-7.68	29.38	12.58	38.09	33.73	155	52	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	15573.34	59.74	74.00	-14.26	42.82	12.58	38.09	33.75	136	125	Peak	VERTICAL
2	15573.75	46.79	54.00	-7.21	29.87	12.58	38.09	33.75	136	125	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 46 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15690.41	59.95	74.00	-14.05	43.32	12.58	37.90	33.85	147	149	Peak	HORIZONTAL
2	15694.02	46.10	54.00	-7.90	29.47	12.58	37.90	33.85	147	149	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	15687.51	60.44	74.00	-13.56	43.81	12.58	37.90	33.85	159	249	Peak	VERTICAL
2	15692.91	45.90	54.00	-8.10	29.27	12.58	37.90	33.85	159	249	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15811.43	46.00	54.00	-8.00	29.71	12.57	37.70	33.98	167	328	Average	HORIZONTAL
2	15811.43	59.38	74.00	-14.62	43.09	12.57	37.70	33.98	167	328	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	15811.10	46.24	54.00	-7.76	29.95	12.57	37.70	33.98	160	262	Average	VERTICAL
2	15814.98	59.26	74.00	-14.74	42.97	12.57	37.70	33.98	160	262	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15925.28	59.48	74.00	-14.52	43.49	12.56	37.51	34.08	142	118	Peak	HORIZONTAL
2	15932.75	45.72	54.00	-8.28	29.75	12.56	37.51	34.10	142	118	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	15928.63	45.74	54.00	-8.26	29.75	12.56	37.51	34.08	132	237	Average	VERTICAL
2	15928.81	58.80	74.00	-15.20	42.81	12.56	37.51	34.08	132	237	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11017.26	55.99	74.00	-18.01	40.39	10.56	38.42	33.38	155	288	Peak	HORIZONTAL
2	11024.23	43.41	54.00	-10.59	27.80	10.56	38.43	33.38	155	288	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	11018.63	56.93	74.00	-17.07	41.33	10.56	38.42	33.38	140	164	Peak	VERTICAL
2	11023.91	43.55	54.00	-10.45	27.94	10.56	38.43	33.38	140	164	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11098.96	58.13	74.00	-15.87	42.43	10.58	38.50	33.38	139	246	Peak	HORIZONTAL
2	11100.75	44.55	54.00	-9.45	28.85	10.58	38.50	33.38	139	246	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	11096.25	44.17	54.00	-9.83	28.47	10.58	38.50	33.38	120	347	Average	VERTICAL
2	11103.63	57.53	74.00	-16.47	41.83	10.58	38.50	33.38	120	347	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11336.77	57.33	74.00	-16.67	41.31	10.66	38.73	33.37	146	267	Peak	HORIZONTAL
2	11342.13	43.78	54.00	-10.22	27.75	10.67	38.73	33.37	146	267	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	11342.79	57.29	74.00	-16.71	41.26	10.67	38.73	33.37	137	187	Peak	VERTICAL
2	11343.42	44.03	54.00	-9.97	28.00	10.67	38.73	33.37	137	187	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11509.22	57.59	74.00	-16.41	41.34	10.72	38.90	33.37	127	192	Peak	HORIZONTAL
2	11514.67	43.98	54.00	-10.02	27.72	10.72	38.91	33.37	127	192	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	11507.15	57.64	74.00	-16.36	41.39	10.72	38.90	33.37	176	289	Peak	VERTICAL
2	11512.91	43.63	54.00	-10.37	27.38	10.72	38.90	33.37	176	289	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 159 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11587.55	57.39	74.00	-16.61	41.07	10.76	38.95	33.39	157	320	Peak	HORIZONTAL
2	11589.49	43.95	54.00	-10.05	27.63	10.76	38.95	33.39	157	320	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	11585.89	57.35	74.00	-16.65	41.03	10.76	38.95	33.39	164	221	Peak	VERTICAL
2	11588.44	44.32	54.00	-9.68	28.00	10.76	38.95	33.39	164	221	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15626.53	59.12	74.00	-14.88	42.33	12.58	38.01	33.80	142	99	Peak	HORIZONTAL
2	15628.25	46.51	54.00	-7.49	29.72	12.58	38.01	33.80	142	99	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	15633.33	59.42	74.00	-14.58	42.66	12.58	37.98	33.80	153	164	Peak	VERTICAL
2	15633.83	46.12	54.00	-7.88	29.36	12.58	37.98	33.80	153	164	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	15866.79	60.40	74.00	-13.60	44.27	12.57	37.59	34.03	155	282	Peak	HORIZONTAL
2	15874.91	46.28	54.00	-7.72	30.15	12.57	37.59	34.03	155	282	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	15871.25	59.58	74.00	-14.42	43.45	12.57	37.59	34.03	141	172	Peak	VERTICAL
2	15874.92	46.07	54.00	-7.93	29.94	12.57	37.59	34.03	141	172	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11068.45	57.74	74.00	-16.26	42.07	10.58	38.47	33.38	134	158	Peak	HORIZONTAL
2	11069.58	44.21	54.00	-9.79	28.54	10.58	38.47	33.38	134	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	11062.78	44.10	54.00	-9.90	28.43	10.58	38.47	33.38	157	247	Average	VERTICAL
2	11063.07	57.20	74.00	-16.80	41.53	10.58	38.47	33.38	157	247	Peak	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11220.52	57.93	74.00	-16.07	42.06	10.63	38.62	33.38	164	243	Peak	HORIZONTAL
2	11223.65	44.65	54.00	-9.35	28.78	10.63	38.62	33.38	164	243	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	11214.76	58.64	74.00	-15.36	42.77	10.63	38.62	33.38	122	164	Peak	VERTICAL
2	11219.77	45.86	54.00	-8.14	29.99	10.63	38.62	33.38	122	164	Average	VERTICAL

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 155 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

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	11552.84	44.18	54.00	-9.82	27.88	10.75	38.93	33.38	170	190	Average	HORIZONTAL
2	11554.98	57.41	74.00	-16.59	41.11	10.75	38.93	33.38	170	190	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	11549.91	44.16	54.00	-9.84	27.86	10.75	38.93	33.38	155	306	Average	VERTICAL
2	11550.58	56.99	74.00	-17.01	40.69	10.75	38.93	33.38	155	306	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.

4.7. Band Edge Emissions Measurement

4.7.1. Limit

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

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

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 36, 40, 48 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 12, 2015		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5148.26	69.44	74.00	-4.56	63.52	7.33	32.94	31.53	VERTICAL	349	154	Peak
2	5150.00	53.76	54.00	-0.24	47.84	7.33	32.94	31.53	VERTICAL	349	154	Average
3	5181.74	110.86			104.90	7.36	32.94	31.54	VERTICAL	349	154	Average
4	5182.60	120.66			114.70	7.36	32.94	31.54	VERTICAL	349	154	Peak
5	5421.20	53.76	54.00	-0.24	47.51	7.59	32.92	31.58	VERTICAL	349	154	Average
6	5421.20	65.02	74.00	-8.98	58.77	7.59	32.92	31.58	VERTICAL	349	154	Peak

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

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5081.40	53.69	54.00	-0.31	47.85	7.26	32.94	31.52	VERTICAL	351	145	Average
2	5081.40	65.22	74.00	-8.78	59.38	7.26	32.94	31.52	VERTICAL	351	145	Peak
3	5201.74	111.19			105.21	7.38	32.94	31.54	VERTICAL	351	145	Average
4	5201.74	121.01			115.03	7.38	32.94	31.54	VERTICAL	351	145	Peak
5	5360.42	64.56	74.00	-9.44	58.39	7.53	32.93	31.57	VERTICAL	351	145	Peak
6	5361.29	53.64	54.00	-0.36	47.47	7.53	32.93	31.57	VERTICAL	351	145	Average

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

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5119.61	52.93	54.00	-1.07	47.05	7.30	32.94	31.52	VERTICAL	3	154	Average
2	5128.29	64.24	74.00	-9.76	58.34	7.31	32.94	31.53	VERTICAL	3	154	Peak
3	5239.13	110.30			104.27	7.42	32.94	31.55	VERTICAL	3	154	Average
4	5239.13	120.32			114.29	7.42	32.94	31.55	VERTICAL	3	154	Peak
5	5357.81	65.96	74.00	-8.04	59.79	7.53	32.93	31.57	VERTICAL	3	154	Peak
6	5358.68	53.91	54.00	-0.09	47.74	7.53	32.93	31.57	VERTICAL	3	154	Average

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 52, 60, 64 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 12, 2015		

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5139.58	53.45	54.00	-0.55	47.54	7.32	32.94	31.53	VERTICAL	359	145	Average
2	5139.58	65.08	74.00	-8.92	59.17	7.32	32.94	31.53	VERTICAL	359	145	Peak
3	5259.13	110.77			104.72	7.43	32.93	31.55	VERTICAL	359	145	Average
4	5259.13	120.08			114.03	7.43	32.93	31.55	VERTICAL	359	145	Peak
5	5378.65	53.82	54.00	-0.18	47.62	7.55	32.93	31.58	VERTICAL	359	145	Average
6	5379.52	65.21	74.00	-8.79	59.01	7.55	32.93	31.58	VERTICAL	359	145	Peak

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

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5299.13	111.16			105.06	7.47	32.93	31.56	VERTICAL	5	159	Average
2	5299.13	121.44			115.34	7.47	32.93	31.56	VERTICAL	5	159	Peak
3	5350.00	67.11	74.00	-6.89	60.95	7.52	32.93	31.57	VERTICAL	5	159	Peak
4	5417.73	53.89	54.00	-0.11	47.65	7.58	32.92	31.58	VERTICAL	5	159	Average

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5319.13	107.67			101.55	7.49	32.93	31.56	VERTICAL	360	154	Average
2	5319.13	117.85			111.73	7.49	32.93	31.56	VERTICAL	360	154	Peak
3	5350.00	68.25	74.00	-5.75	62.09	7.52	32.93	31.57	VERTICAL	360	154	Peak
4	5478.90	53.85	54.00	-0.15	47.54	7.64	32.92	31.59	VERTICAL	360	154	Average

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 100, 116, 140 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 12, 2015		

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5342.78	53.66	54.00	-0.34	47.51	7.51	32.93	31.57	VERTICAL	342	154	Average
2	5453.05	67.61	74.00	-6.39	61.32	7.62	32.92	31.59	VERTICAL	342	154	Peak
3	5467.40	71.40	74.00	-2.60	65.10	7.63	32.92	31.59	VERTICAL	342	154	Peak
4	5470.00	53.65	54.00	-0.35	47.35	7.63	32.92	31.59	VERTICAL	342	154	Average
5	5502.60	109.17			102.83	7.66	32.92	31.60	VERTICAL	342	154	Average
6	5502.60	119.25			112.91	7.66	32.92	31.60	VERTICAL	342	154	Peak

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

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5422.66	51.77	54.00	-2.23	45.52	7.59	32.92	31.58	VERTICAL	342	154	Average
2	5422.66	63.82	74.00	-10.18	57.57	7.59	32.92	31.58	VERTICAL	342	154	Peak
3	5461.74	50.89	54.00	-3.11	44.60	7.62	32.92	31.59	VERTICAL	342	154	Average
4	5462.60	62.49	74.00	-11.51	56.19	7.63	32.92	31.59	VERTICAL	342	154	Peak
5	5581.74	108.83			102.36	7.71	32.96	31.72	VERTICAL	342	154	Average
6	5581.74	118.68			112.21	7.71	32.96	31.72	VERTICAL	342	154	Peak
7	5741.51	53.83	54.00	-0.17	47.10	7.80	33.01	31.94	VERTICAL	342	154	Average
8	5742.37	65.34	74.00	-8.66	58.61	7.80	33.01	31.94	VERTICAL	342	154	Peak

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5706.95	105.08			98.41	7.78	33.00	31.89	HORIZONTAL	334	141	Average
2	5706.95	114.74			108.07	7.78	33.00	31.89	HORIZONTAL	334	141	Peak
3	5725.00	53.63	54.00	-0.37	46.93	7.79	33.00	31.91	HORIZONTAL	334	141	Average
4	5725.87	68.72	74.00	-5.28	62.02	7.79	33.00	31.91	HORIZONTAL	334	141	Peak

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11a CH 149, 157, 165 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 13, 2015		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5715.00	53.69	54.00	-0.31	47.01	7.79	33.00	31.89	VERTICAL	344	150	Average
2	5715.00	73.88	74.00	-0.12	67.20	7.79	33.00	31.89	VERTICAL	344	150	Peak
3	5725.00	77.72	78.20	-0.48	71.02	7.79	33.00	31.91	VERTICAL	344	150	Peak
4	5746.16	117.15			110.42	7.81	33.02	31.94	VERTICAL	344	150	Peak
5	5746.30	107.02			100.29	7.81	33.02	31.94	VERTICAL	344	150	Average

Item 4, 5 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5666.37	53.74	54.00	-0.26	47.14	7.76	32.98	31.82	VERTICAL	342	155	Average
2	5666.95	66.11	74.00	-7.89	59.49	7.76	32.98	31.84	VERTICAL	342	155	Peak
3	5724.42	60.55	78.20	-17.65	53.85	7.79	33.00	31.91	VERTICAL	342	155	Peak
4	5786.16	108.81			102.00	7.83	33.03	32.01	VERTICAL	342	155	Average
5	5786.16	118.46			111.65	7.83	33.03	32.01	VERTICAL	342	155	Peak
6	5867.95	62.90	74.00	-11.10	55.97	7.88	33.06	32.11	VERTICAL	342	155	Peak
7	5906.31	51.56	54.00	-2.44	44.55	7.90	33.07	32.18	VERTICAL	342	155	Average
8	5906.31	63.87	74.00	-10.13	56.86	7.90	33.07	32.18	VERTICAL	342	155	Peak

Item 4, 5 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5823.70	116.03			109.17	7.85	33.05	32.06	HORIZONTAL	347	153	Peak
2	5828.47	105.14			98.28	7.85	33.05	32.06	HORIZONTAL	347	153	Average
3	5857.54	77.50	78.20	-0.70	70.57	7.87	33.05	32.11	HORIZONTAL	347	153	Peak
4	5860.00	53.78	54.00	-0.22	46.86	7.87	33.06	32.11	HORIZONTAL	347	153	Average
5	5863.04	73.82	74.00	-0.18	66.90	7.87	33.06	32.11	HORIZONTAL	347	153	Peak

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 36, 40, 48 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 12, 2015 ~ Aug. 13, 2015		

Channel 36

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5144.79	69.78	74.00	-4.22	63.87	7.32	32.94	31.53	VERTICAL	355	155	Peak
2	5150.00	53.46	54.00	-0.54	47.54	7.33	32.94	31.53	VERTICAL	355	155	Average
3	5180.58	107.90			101.94	7.36	32.94	31.54	VERTICAL	355	155	Average
4	5185.79	118.34			112.38	7.36	32.94	31.54	VERTICAL	355	155	Peak

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

Channel 40

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5080.54	53.89	54.00	-0.11	48.05	7.26	32.94	31.52	VERTICAL	357	152	Average
2	5085.75	66.07	74.00	-7.93	60.22	7.27	32.94	31.52	VERTICAL	357	152	Peak
3	5195.22	121.04			115.07	7.37	32.94	31.54	VERTICAL	357	152	Peak
4	5200.43	110.49			104.51	7.38	32.94	31.54	VERTICAL	357	152	Average

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

Channel 48

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5120.61	53.88	54.00	-0.12	48.00	7.30	32.94	31.52	VERTICAL	357	147	Average
2	5120.91	66.12	74.00	-7.88	60.24	7.30	32.94	31.52	VERTICAL	357	147	Peak
3	5240.43	110.36			104.33	7.42	32.94	31.55	VERTICAL	357	147	Average
4	5245.64	120.76			114.72	7.42	32.93	31.55	VERTICAL	357	147	Peak
5	5355.21	66.37	74.00	-7.63	60.20	7.53	32.93	31.57	VERTICAL	357	147	Peak
6	5355.64	53.63	54.00	-0.37	47.46	7.53	32.93	31.57	VERTICAL	357	147	Average

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 13, 2015		

Channel 52

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5135.40	65.42	74.00	-8.58	59.52	7.31	32.94	31.53	VERTICAL	1	151	Peak
2	5145.08	53.85	54.00	-0.15	47.94	7.32	32.94	31.53	VERTICAL	1	151	Average
3	5259.13	120.01			113.96	7.43	32.93	31.55	VERTICAL	1	151	Peak
4	5260.43	109.76			103.70	7.44	32.93	31.55	VERTICAL	1	151	Average
5	5375.05	53.41	54.00	-0.59	47.23	7.54	32.93	31.57	VERTICAL	1	151	Average
6	5385.47	64.92	74.00	-9.08	58.72	7.55	32.93	31.58	VERTICAL	1	151	Peak

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

Channel 60

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5299.13	108.26			102.16	7.47	32.93	31.56	VERTICAL	332	155	Average
2	5299.13	118.18			112.08	7.47	32.93	31.56	VERTICAL	332	155	Peak
3	5419.03	53.82	54.00	-0.18	47.57	7.59	32.92	31.58	VERTICAL	332	155	Average
4	5419.46	65.16	74.00	-8.84	58.91	7.59	32.92	31.58	VERTICAL	332	155	Peak

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

Channel 64

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5320.43	106.50			100.38	7.49	32.93	31.56	VERTICAL	355	154	Average
2	5320.72	117.55			111.43	7.49	32.93	31.56	VERTICAL	355	154	Peak
3	5350.43	53.83	54.00	-0.17	47.67	7.52	32.93	31.57	VERTICAL	355	154	Average
4	5351.01	73.91	74.00	-0.09	67.75	7.52	32.93	31.57	VERTICAL	355	154	Peak

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 13, 2015		

Channel 100

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5458.41	69.65	74.00	-4.35	63.36	7.62	32.92	31.59	VERTICAL	343	168	Peak
2	5460.00	48.72	54.00	-5.28	42.43	7.62	32.92	31.59	VERTICAL	343	168	Average
3	5469.42	73.83	74.00	-0.17	67.53	7.63	32.92	31.59	VERTICAL	343	168	Peak
4	5470.00	52.77	54.00	-1.23	46.47	7.63	32.92	31.59	VERTICAL	343	168	Average
5	5501.01	106.99			100.65	7.66	32.92	31.60	VERTICAL	343	168	Average
6	5501.30	118.53			112.19	7.66	32.92	31.60	VERTICAL	343	168	Peak

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

Channel 116

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5455.95	64.94	74.00	-9.06	58.65	7.62	32.92	31.59	VERTICAL	347	166	Peak
2	5460.00	53.70	54.00	-0.30	47.41	7.62	32.92	31.59	VERTICAL	347	166	Average
3	5465.37	53.90	54.00	-0.10	47.60	7.63	32.92	31.59	VERTICAL	347	166	Average
4	5465.95	64.82	74.00	-9.18	58.52	7.63	32.92	31.59	VERTICAL	347	166	Peak
5	5580.58	109.14			102.69	7.71	32.96	31.70	VERTICAL	347	166	Average
6	5585.79	119.13			112.66	7.71	32.96	31.72	VERTICAL	347	166	Peak
7	5740.63	53.47	54.00	-0.53	46.74	7.80	33.01	31.94	VERTICAL	347	166	Average
8	5741.21	65.61	74.00	-8.39	58.88	7.80	33.01	31.94	VERTICAL	347	166	Peak

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

Channel 140

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5695.08	115.76			109.11	7.78	33.00	31.87	VERTICAL	348	166	Peak
2	5700.43	104.30			97.65	7.78	33.00	31.87	VERTICAL	348	166	Average
3	5725.14	53.69	54.00	-0.31	46.99	7.79	33.00	31.91	VERTICAL	348	166	Average
4	5725.43	69.52	74.00	-4.48	62.82	7.79	33.00	31.91	VERTICAL	348	166	Peak

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT20 CH 149, 157, 165 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 13, 2015		

Channel 149

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5710.95	71.03	74.00	-2.97	64.35	7.79	33.00	31.89	VERTICAL	345	173	Peak
2	5715.00	53.72	54.00	-0.28	47.04	7.79	33.00	31.89	VERTICAL	345	173	Average
3	5715.58	77.24	78.20	-0.96	70.56	7.79	33.00	31.89	VERTICAL	345	173	Peak
4	5740.66	115.59			108.86	7.80	33.01	31.94	VERTICAL	345	173	Peak
5	5745.58	105.09			98.36	7.81	33.02	31.94	VERTICAL	345	173	Average

Item 4, 5 are the fundamental frequency at 5745 MHz.

Channel 157

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5661.16	65.36	74.00	-8.64	58.76	7.76	32.98	31.82	VERTICAL	350	152	Peak
2	5665.80	53.80	54.00	-0.20	47.20	7.76	32.98	31.82	VERTICAL	350	152	Average
3	5725.00	63.89	78.20	-14.31	57.19	7.79	33.00	31.91	VERTICAL	350	152	Peak
4	5780.37	107.53			100.74	7.83	33.03	31.99	VERTICAL	350	152	Average
5	5780.37	118.01			111.22	7.83	33.03	31.99	VERTICAL	350	152	Peak
6	5855.37	61.80	78.20	-16.40	54.87	7.87	33.05	32.11	VERTICAL	350	152	Peak
7	5910.36	63.92	74.00	-10.08	56.91	7.90	33.07	32.18	VERTICAL	350	152	Peak
8	5945.09	51.37	54.00	-2.63	44.31	7.92	33.09	32.23	VERTICAL	350	152	Average

Item 4, 5 are the fundamental frequency at 5785 MHz.

Channel 165

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Preamp Factor	Antenna Factor	Pol/Phase	T/Pos	A/Pos	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB	dB/m		deg	cm	
1	5822.83	106.36			99.50	7.85	33.05	32.06	VERTICAL	26	139	Average
2	5823.12	116.92			110.06	7.85	33.05	32.06	VERTICAL	26	139	Peak
3	5852.32	77.57	78.20	-0.63	70.67	7.87	33.05	32.08	VERTICAL	26	139	Peak
4	5862.03	71.47	74.00	-2.53	64.55	7.87	33.06	32.11	VERTICAL	26	139	Peak
5	5862.32	53.98	54.00	-0.02	47.06	7.87	33.06	32.11	VERTICAL	26	139	Average

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 38, 46 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

Channel 38

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5144.40	69.17	74.00	-4.83	64.00	6.13	34.04	35.00	Peak	192	360	VERTICAL
2	5150.00	53.81	54.00	-0.19	48.64	6.13	34.04	35.00	Average	192	360	VERTICAL
3	5185.20	102.47			97.23	6.15	34.09	35.00	Average	192	360	VERTICAL
4	5185.20	111.67			106.43	6.15	34.09	35.00	Peak	192	360	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	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	53.69	54.00	-0.31	48.52	6.13	34.04	35.00	Average	176	2	VERTICAL
2	5150.00	68.18	74.00	-5.82	63.01	6.13	34.04	35.00	Peak	176	2	VERTICAL
3	5225.20	106.53			101.18	6.18	34.17	35.00	Average	176	2	VERTICAL
4	5234.80	116.50			111.15	6.18	34.17	35.00	Peak	176	2	VERTICAL

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

Channel 54

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5265.20	106.12			100.68	6.21	34.23	35.00	Average	181	2	VERTICAL
2	5274.80	115.65			110.21	6.21	34.23	35.00	Peak	181	2	VERTICAL
3	5350.00	53.83	54.00	-0.17	48.21	6.26	34.36	35.00	Average	181	2	VERTICAL
4	5351.60	66.93	74.00	-7.07	61.31	6.26	34.36	35.00	Peak	181	2	VERTICAL

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

Channel 62

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5316.40	99.80			94.25	6.24	34.31	35.00	Average	188	347	VERTICAL
2	5316.40	109.80			104.25	6.24	34.31	35.00	Peak	188	347	VERTICAL
3	5351.60	53.87	54.00	-0.13	48.25	6.26	34.36	35.00	Average	188	347	VERTICAL
4	5351.60	69.96	74.00	-4.04	64.34	6.26	34.36	35.00	Peak	188	347	VERTICAL

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

Channel 102

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5455.20	71.27	74.00	-2.73	65.41	6.33	34.52	34.99	Peak	181	14	VERTICAL
2	5460.00	52.10	54.00	-1.90	46.24	6.33	34.52	34.99	Average	181	14	VERTICAL
3	5469.60	53.66	54.00	-0.34	47.76	6.34	34.55	34.99	Average	181	14	VERTICAL
4	5470.00	71.54	74.00	-2.46	65.64	6.34	34.55	34.99	Peak	181	14	VERTICAL
5	5505.20	103.58			97.62	6.36	34.60	35.00	Average	181	14	VERTICAL
6	5505.60	113.59			107.63	6.36	34.60	35.00	Peak	181	14	VERTICAL

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

Channel 110

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5450.80	67.72	74.00	-6.28	61.86	6.33	34.52	34.99	Peak	176	14	VERTICAL
2	5460.00	52.35	54.00	-1.65	46.49	6.33	34.52	34.99	Average	176	14	VERTICAL
3	5468.40	68.52	74.00	-5.48	62.62	6.34	34.55	34.99	Peak	176	14	VERTICAL
4	5470.00	53.88	54.00	-0.12	47.98	6.34	34.55	34.99	Average	176	14	VERTICAL
5	5546.00	106.57			100.59	6.37	34.61	35.00	Average	176	14	VERTICAL
6	5560.40	115.89			109.91	6.38	34.61	35.01	Peak	176	14	VERTICAL

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

Channel 134

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5665.20	102.69			96.67	6.42	34.63	35.03	Average	153	13	VERTICAL
2	5665.20	112.14			106.12	6.42	34.63	35.03	Peak	153	13	VERTICAL
3	5725.00	73.20	74.00	-0.80	67.14	6.45	34.64	35.03	Peak	153	13	VERTICAL
4	5726.00	53.56	54.00	-0.44	47.50	6.45	34.64	35.03	Average	153	13	VERTICAL

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

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT40 CH 151, 159 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

Channel 151

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5714.20	73.48	74.00	-0.52	67.43	6.44	34.64	35.03	Peak	174	16	VERTICAL
2	5715.00	51.84	54.00	-2.16	45.79	6.44	34.64	35.03	Average	174	16	VERTICAL
3	5725.00	77.85	78.20	-0.35	71.79	6.45	34.64	35.03	Peak	174	16	VERTICAL
4	5750.20	100.74			94.68	6.45	34.65	35.04	Average	174	16	VERTICAL
5	5760.60	111.12			105.06	6.46	34.65	35.05	Peak	174	16	VERTICAL

Item 4, 5 are the fundamental frequency at 5755 MHz.

Channel 159

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5711.00	63.44	74.00	-10.56	57.39	6.44	34.64	35.03	Peak	161	347	VERTICAL
2	5713.40	48.86	54.00	-5.14	42.81	6.44	34.64	35.03	Average	161	347	VERTICAL
3	5720.20	66.63	78.20	-11.57	60.57	6.45	34.64	35.03	Peak	161	347	VERTICAL
4	5791.80	101.09			95.01	6.47	34.66	35.05	Average	161	347	VERTICAL
5	5801.40	112.61			106.53	6.47	34.66	35.05	Peak	161	347	VERTICAL
6	5850.00	72.98	78.20	-5.22	66.88	6.49	34.67	35.06	Peak	161	347	VERTICAL
7	5861.40	53.85	54.00	-0.15	47.75	6.50	34.67	35.07	Average	161	347	VERTICAL
8	5870.20	70.48	74.00	-3.52	64.38	6.50	34.67	35.07	Peak	161	347	VERTICAL

Item 4, 5 are the fundamental frequency at 5795 MHz.

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 42, 58 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

Channel 42

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5150.00	53.91	54.00	-0.09	48.74	6.13	34.04	35.00	Average	185	360	VERTICAL
2	5150.00	64.78	74.00	-9.22	59.61	6.13	34.04	35.00	Peak	185	360	VERTICAL
3	5200.00	98.03			92.75	6.16	34.12	35.00	Average	185	360	VERTICAL
4	5215.00	107.35			102.03	6.17	34.15	35.00	Peak	185	360	VERTICAL
5	5354.00	57.34	74.00	-16.66	51.72	6.26	34.36	35.00	Peak	185	360	VERTICAL
6	5355.00	48.78	54.00	-5.22	43.16	6.26	34.36	35.00	Average	185	360	VERTICAL

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

Channel 58

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5095.00	57.81	74.00	-16.19	52.76	6.10	33.96	35.01	Peak	190	2	VERTICAL
2	5150.00	47.03	54.00	-6.97	41.86	6.13	34.04	35.00	Average	190	2	VERTICAL
3	5280.00	95.59			90.12	6.22	34.25	35.00	Average	190	2	VERTICAL
4	5280.00	105.18			99.71	6.22	34.25	35.00	Peak	190	2	VERTICAL
5	5350.00	66.09	74.00	-7.91	60.47	6.26	34.36	35.00	Peak	190	2	VERTICAL
6	5356.00	53.63	54.00	-0.37	48.01	6.26	34.36	35.00	Average	190	2	VERTICAL

Item 3, 4 are the fundamental frequency at 5290 MHz.

Temperature	24°C	Humidity	55%
Test Engineer	Owen Hsu	Configurations	IEEE 802.11ac MCS0/Nss1 VHT80 CH 106, 122, 155 / Antenna 4 + Antenna 5 + Antenna 6
Test Date	Aug. 14, 2015		

Channel 106

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5453.00	52.89	54.00	-1.11	47.03	6.33	34.52	34.99	Average	168	13	VERTICAL
2	5456.00	71.30	74.00	-2.70	65.44	6.33	34.52	34.99	Peak	168	13	VERTICAL
3	5470.00	53.56	54.00	-0.44	47.66	6.34	34.55	34.99	Average	168	13	VERTICAL
4	5470.00	71.58	74.00	-2.42	65.68	6.34	34.55	34.99	Peak	168	13	VERTICAL
5	5541.00	100.51			94.53	6.37	34.61	35.00	Average	168	13	VERTICAL
6	5541.00	109.83			103.85	6.37	34.61	35.00	Peak	168	13	VERTICAL
7	5726.00	48.34	54.00	-5.66	42.28	6.45	34.64	35.03	Average	168	13	VERTICAL
8	5726.00	59.09	74.00	-14.91	53.03	6.45	34.64	35.03	Peak	168	13	VERTICAL

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

Channel 122

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5453.00	63.18	74.00	-10.82	57.32	6.33	34.52	34.99	Peak	164	10	VERTICAL
2	5460.00	51.39	54.00	-2.61	45.53	6.33	34.52	34.99	Average	164	10	VERTICAL
3	5465.00	61.80	74.00	-12.20	55.90	6.34	34.55	34.99	Peak	164	10	VERTICAL
4	5470.00	51.96	54.00	-2.04	46.06	6.34	34.55	34.99	Average	164	10	VERTICAL
5	5595.00	100.29			94.29	6.39	34.62	35.01	Average	164	10	VERTICAL
6	5621.00	108.91			102.89	6.41	34.62	35.01	Peak	164	10	VERTICAL
7	5725.00	53.78	54.00	-0.22	47.72	6.45	34.64	35.03	Average	164	10	VERTICAL
8	5725.00	69.34	74.00	-4.66	63.28	6.45	34.64	35.03	Peak	164	10	VERTICAL

Item 5, 6 are the fundamental frequency at 5610 MHz.

Channel 155

	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	A/Pos	T/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		cm	deg	
1	5715.00	52.23	54.00	-1.77	46.18	6.44	34.64	35.03	Average	173	13	VERTICAL
2	5715.00	71.56	74.00	-2.44	65.51	6.44	34.64	35.03	Peak	173	13	VERTICAL
3	5725.00	71.43	78.20	-6.77	65.37	6.45	34.64	35.03	Peak	173	13	VERTICAL
4	5765.00	97.84			91.78	6.46	34.65	35.05	Average	173	13	VERTICAL
5	5765.00	107.44			101.38	6.46	34.65	35.05	Peak	173	13	VERTICAL
6	5850.00	69.14	78.20	-9.06	63.04	6.49	34.67	35.06	Peak	173	13	VERTICAL
7	5860.00	53.87	54.00	-0.13	47.77	6.50	34.67	35.07	Average	173	13	VERTICAL
8	5860.00	71.17	74.00	-2.83	65.07	6.50	34.67	35.07	Peak	173	13	VERTICAL

Item 4, 5 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

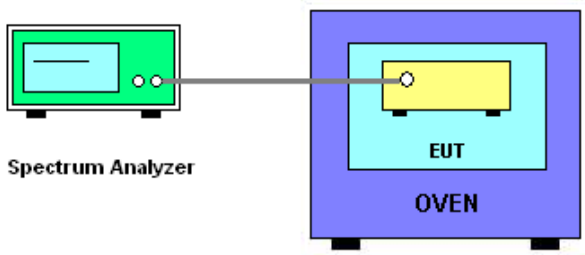
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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 -40°C~55°C.

4.8.4. Test Setup Layout



4.8.5. Test Deviation

There is no deviation with the original standard.

4.8.6. EUT Operation during Test

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

4.8.7. Test Result of Frequency Stability

Temperature	20°C	Humidity	55%
Test Engineer	Eddie Weng	Test Date	Aug. 12, 2015 ~ Aug. 26, 2015

Mode: 20 MHz / Antenna 6

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5200.0105	5200.0118	5200.0074	5200.0065
110.00	5200.0102	5200.0114	5200.0072	5200.0060
93.50	5200.0096	5200.0104	5200.0058	5200.0055
Max. Deviation (MHz)	**0.0105**	**0.0118**	**0.0074**	**0.0065**
Max. Deviation (ppm)	**2.02**	**2.27**	**1.42**	**1.25**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5200 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5200.0622	5200.0602	5200.0598	5200.0588
-30	5200.0544	5200.0534	5200.0528	5200.0518
-20	5200.0534	5200.0522	5200.0522	5200.0516
-10	5200.0510	5200.0414	5200.0396	5200.0402
0	5200.0360	5200.0240	5200.0210	5200.0216
10	5200.0180	5200.0042	5200.0024	5200.0024
20	5199.9994	5199.9832	5199.9808	5199.9808
30	5199.9610	5199.9574	5199.9550	5199.9526
40	5199.9556	5199.9514	5199.9520	5199.9538
50	5199.9520	5199.9592	5199.9646	5199.9682
55	5199.9388	5199.9376	5199.9368	5199.9356
Max. Deviation (MHz)	**0.0622**	**0.0624**	**0.0632**	**0.0644**
Max. Deviation (ppm)	**11.96**	**12.00**	**12.15**	**12.38**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5300 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5300.0052	5300.0050	5300.0038	5300.0016
110.00	5300.0048	5300.0048	5300.0036	5300.0012
93.50	5300.0038	5300.0036	5300.0032	5300.0008
Max. Deviation (MHz)	**0.0052**	**0.0050**	**0.0038**	**0.0016**
Max. Deviation (ppm)	**0.98**	**0.94**	**0.72**	**0.30**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5300 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5300.0624	5300.0612	5300.0588	5300.0576
-30	5300.0588	5300.0576	5300.0558	5300.0542
-20	5300.0525	5300.0523	5300.0532	5300.0534
-10	5300.0530	5300.0529	5300.0402	5300.0400
0	5300.0217	5300.0521	5300.0206	5300.0208
10	5300.0191	5300.0230	5300.0022	5300.0022
20	5299.9982	5299.9881	5299.9814	5299.9815
30	5299.9618	5299.9617	5299.9526	5299.9528
40	5299.9527	5299.9526	5299.9512	5299.9510
50	5299.9553	5299.9552	5299.9638	5299.9640
55	5299.9508	5299.9498	5299.9476	5299.9468
Max. Deviation (MHz)	**0.0624**	**0.0612**	**0.0588**	**0.0576**
Max. Deviation (ppm)	**11.77**	**11.55**	**11.09**	**10.87**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5580 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5580.0056	5580.0048	5580.0016	5580.0064
110.00	5580.0052	5580.0044	5580.0012	5580.0060
93.50	5580.0050	5580.0038	5580.0005	5580.0052
Max. Deviation (MHz)	**0.0056**	**0.0048**	**0.0016**	**0.0064**
Max. Deviation (ppm)	**1.00**	**0.86**	**0.29**	**1.15**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5580 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5580.0602	5580.0592	5580.0588	5580.0576
-30	5580.0586	5580.0574	5580.0556	5580.0534
-20	5580.0556	5580.0552	5580.0522	5580.0522
-10	5580.0556	5580.0525	5580.0408	5580.0408
0	5580.0022	5580.0021	5580.0242	5580.0242
10	5580.0017	5580.0010	5580.0031	5580.0031
20	5579.9988	5579.9891	5579.9813	5579.9814
30	5579.9596	5579.9596	5579.9559	5579.9559
40	5579.9505	5579.9505	5579.9498	5579.9498
50	5579.9531	5579.9535	5579.9642	5579.9642
55	5579.9504	5579.9492	5579.9442	5579.9428
Max. Deviation (MHz)	**0.0602**	**0.0592**	**0.0588**	**0.0576**
Max. Deviation (ppm)	**10.79**	**10.61**	**10.54**	**10.32**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5785.0022	5784.9979	5784.9974	5784.9968
110.00	5785.0000	5784.9976	5784.9970	5784.9964
93.50	5784.9886	5784.9966	5784.9958	5784.9955
Max. Deviation (MHz)	**0.0114**	**0.0034**	**0.0042**	**0.0045**
Max. Deviation (ppm)	**1.97**	**0.59**	**0.73**	**0.78**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5785 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5785.0624	5785.0598	5785.0586	5785.0566
-30	5785.0602	5785.0590	5785.0567	5785.0551
-20	5785.0573	5785.0588	5785.0542	5785.0542
-10	5785.0577	5785.0578	5785.0418	5785.0418
0	5785.0022	5785.0232	5785.0264	5785.0264
10	5785.0026	5785.0152	5785.0034	5785.0034
20	5784.9989	5784.9886	5784.9826	5784.9824
30	5784.9579	5784.9577	5784.9562	5784.9562
40	5784.9588	5784.9587	5784.9504	5784.9504
50	5784.9514	5784.9514	5784.9432	5784.9432
55	5784.9486	5784.9462	5784.9436	5784.9406
Max. Deviation (MHz)	**0.0624**	**0.0598**	**0.0586**	**0.0594**
Max. Deviation (ppm)	**10.79**	**10.34**	**10.13**	**10.27**
Result	Complies			

Mode: 40 MHz / Antenna 6

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5189.9986	5189.9976	5189.9966	5189.9962
110.00	5189.9976	5189.9970	5189.9964	5189.9960
93.50	5189.9954	5189.9952	5189.9944	5189.9928
Max. Deviation (MHz)	**0.0046**	**0.0048**	**0.0056**	**0.0072**
Max. Deviation (ppm)	**0.89**	**0.92**	**1.08**	**1.39**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5190 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5190.0568	5190.0554	5190.0542	5190.0538
-30	5190.0552	5190.0544	5190.0533	5190.0522
-20	5190.0509	5190.0502	5190.0518	5190.0509
-10	5190.0489	5190.0489	5190.0489	5190.0489
0	5190.0234	5190.0236	5190.0232	5190.0232
10	5190.0148	5190.0144	5190.0140	5190.0148
20	5189.9982	5189.9978	5189.9976	5189.9976
30	5189.9614	5189.9618	5189.9628	5189.9614
40	5189.9562	5189.9562	5189.9562	5189.9562
50	5189.9486	5189.9448	5189.9435	5189.9424
55	5189.9462	5189.9448	5189.9404	5189.9396
Max. Deviation (MHz)	**0.0568**	**0.0554**	**0.0596**	**0.0604**
Max. Deviation (ppm)	**10.94**	**10.67**	**11.48**	**11.64**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5310 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5310.0002	5309.9976	5309.9966	5310.0002
110.00	5309.9997	5309.9964	5309.9952	5309.9997
93.50	5309.9986	5309.9958	5309.9944	5309.9986
Max. Deviation (MHz)	**0.0014**	**0.0042**	**0.0056**	**0.0014**
Max. Deviation (ppm)	**0.26**	**0.79**	**1.05**	**0.26**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5310 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5310.0622	5310.0606	5310.0592	5310.0574
-30	5310.0564	5310.0552	5310.0544	5310.0536
-20	5310.0521	5310.0528	5310.0528	5310.0521
-10	5310.0482	5310.0482	5310.0484	5310.0482
0	5310.0227	5310.0227	5310.0227	5310.0228
10	5310.0151	5310.0151	5310.0152	5310.0151
20	5309.9986	5309.9980	5309.9980	5309.9980
30	5309.9618	5309.9618	5309.9616	5309.9618
40	5309.9526	5309.9521	5309.9528	5309.9530
50	5309.9492	5309.9488	5309.9418	5309.9428
55	5309.9464	5309.9442	5309.9416	5309.9404
Max. Deviation (MHz)	**0.0622**	**0.0606**	**0.0592**	**0.0596**
Max. Deviation (ppm)	**11.71**	**11.41**	**11.15**	**11.22**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5550 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5549.9966	5549.9958	5549.9948	5549.9936
110.00	5549.9962	5549.9952	5549.9942	5549.9928
93.50	5549.9955	5549.9946	5549.9936	5549.9922
Max. Deviation (MHz)	**0.0045**	**0.0054**	**0.0064**	**0.0078**
Max. Deviation (ppm)	**0.81**	**0.97**	**1.15**	**1.41**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5550 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5550.0588	5550.0578	5550.0572	5550.0566
-30	5550.0565	5550.0557	5550.0546	5550.0532
-20	5550.0512	5550.0518	5550.0512	5550.0510
-10	5550.0457	5550.0462	5550.0462	5550.0454
0	5550.0245	5550.0245	5550.0248	5550.0245
10	5550.0162	5550.0162	5550.0162	5550.0168
20	5549.9990	5549.9985	5549.9982	5549.9982
30	5549.9604	5549.9615	5549.9615	5549.9604
40	5549.9508	5549.9512	5549.9512	5549.9508
50	5549.9476	5549.9450	5549.9425	5549.9436
55	5549.9466	5549.9454	5549.9422	5549.9414
Max. Deviation (MHz)	**0.0588**	**0.0578**	**0.0578**	**0.0586**
Max. Deviation (ppm)	**10.59**	**10.41**	**10.41**	**10.56**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5754.9966	5754.9952	5754.9946	5754.9936
110.00	5754.9952	5754.9940	5754.9932	5754.9928
93.50	5754.9948	5754.9932	5754.9921	5754.9906
Max. Deviation (MHz)	**0.0052**	**0.0068**	**0.0079**	**0.0094**
Max. Deviation (ppm)	**0.90**	**1.18**	**1.37**	**1.63**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5755 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5755.0624	5755.0604	5755.0596	5755.0582
-30	5755.0584	5755.0572	5755.0558	5755.0542
-20	5755.0530	5755.0526	5755.0533	5755.0530
-10	5755.0477	5755.0472	5755.0477	5755.0477
0	5755.0248	5755.0242	5755.0242	5755.0248
10	5755.0183	5755.0183	5755.0185	5755.0183
20	5754.9986	5754.9982	5754.9982	5754.9982
30	5754.9662	5754.9662	5754.9662	5754.9662
40	5754.9504	5754.9508	5754.9508	5754.9504
50	5754.9466	5754.9426	5754.9428	5754.9426
55	5754.9452	5754.9422	5754.9412	5754.9402
Max. Deviation (MHz)	**0.0624**	**0.0604**	**0.0596**	**0.0598**
Max. Deviation (ppm)	**10.84**	**10.50**	**10.36**	**10.39**
Result	Complies			

Mode: 80 MHz / Antenna 6

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5209.9962	5209.9954	5209.9934	5209.9932
110.00	5209.9940	5209.9934	5209.9926	5209.9916
93.50	5209.9936	5209.9922	5209.9916	5209.9904
Max. Deviation (MHz)	**0.0064**	**0.0078**	**0.0084**	**0.0096**
Max. Deviation (ppm)	**1.23**	**1.50**	**1.61**	**1.84**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5210 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5210.0762	5210.0752	5210.0744	5210.0732
-30	5210.0751	5210.0744	5210.0732	5210.0708
-20	5210.0660	5210.0651	5210.0623	5210.0611
-10	5210.0566	5210.0558	5210.0545	5210.0533
0	5210.0364	5210.0356	5210.0342	5210.0328
10	5210.0233	5210.0222	5210.0205	5210.0183
20	5209.9940	5209.9934	5209.9926	5209.9916
30	5209.9886	5209.9877	5209.9854	5209.9832
40	5209.9763	5209.9755	5209.9732	5209.9705
50	5209.9564	5209.9555	5209.9528	5209.9504
55	5209.9556	5209.9538	5209.9522	5209.9506
Max. Deviation (MHz)	**0.0762**	**0.0752**	**0.0744**	**0.0732**
Max. Deviation (ppm)	**14.63**	**14.43**	**14.28**	**14.05**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5290 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5290.0012	5289.9964	5289.9946	5289.9932
110.00	5289.9946	5289.9936	5289.9924	5289.9910
93.50	5289.9932	5289.9922	5289.9916	5289.9904
Max. Deviation (MHz)	**0.0068**	**0.0078**	**0.0084**	**0.0096**
Max. Deviation (ppm)	**1.29**	**1.47**	**1.59**	**1.81**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5290 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5290.0665	5290.0624	5290.0598	5290.0576
-30	5290.0483	5290.0432	5290.0414	5290.0388
-20	5290.0234	5290.0245	5290.0510	5290.0510
-10	5290.0456	5290.0435	5290.0433	5290.0433
0	5290.0345	5290.0356	5290.0356	5290.0356
10	5290.0453	5290.0477	5290.0423	5290.0423
20	5289.9943	5289.9956	5289.9945	5289.9945
30	5289.9640	5289.9644	5289.9621	5289.9621
40	5289.9543	5289.9543	5289.9565	5289.9565
50	5289.9421	5289.9421	5289.9456	5289.9456
55	5289.9404	5289.9400	5289.9388	5289.9367
Max. Deviation (MHz)	**0.0665**	**0.0624**	**0.0612**	**0.0633**
Max. Deviation (ppm)	**12.57**	**11.80**	**11.57**	**11.97**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5530 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5529.9986	5529.9968	5529.9954	5529.9904
110.00	5529.9942	5529.9934	5529.9922	5529.9892
93.50	5529.9934	5529.9922	5529.9918	5529.9890
Max. Deviation (MHz)	**0.0066**	**0.0078**	**0.0082**	**0.0110**
Max. Deviation (ppm)	**1.19**	**1.41**	**1.48**	**1.99**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5530 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5530.0564	5530.0554	5530.0542	5530.0534
-30	5530.0436	5530.0428	5530.0416	5530.0398
-20	5530.0430	5530.0422	5530.0411	5530.0402
-10	5530.0324	5530.0316	5530.0312	5530.0302
0	5530.0236	5530.0228	5530.0222	5530.0206
10	5530.0153	5530.0132	5530.0118	5530.0102
20	5529.9991	5529.9981	5529.9968	5529.9955
30	5529.9350	5529.9342	5529.9332	5529.9240
40	5529.9324	5529.9320	5529.9312	5529.9304
50	5529.9302	5529.9295	5529.9288	5529.9272
55	5529.9284	5529.9276	5529.9266	5529.9254
Max. Deviation (MHz)	**0.0716**	**0.0724**	**0.0734**	**0.0760**
Max. Deviation (ppm)	**12.95**	**13.09**	**13.27**	**13.74**
Result	Complies			

Voltage vs. Frequency Stability

Voltage	Measurement Frequency (MHz)			
(V)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
126.50	5774.9932	5774.9928	5774.9904	5774.9895
110.00	5774.9916	5774.9912	5774.9892	5774.9886
93.50	5774.9908	5774.9902	5774.9890	5774.9878
Max. Deviation (MHz)	**0.0092**	**0.0098**	**0.0110**	**0.0122**
Max. Deviation (ppm)	**1.59**	**1.70**	**1.90**	**2.11**
Result	Complies			

Temperature vs. Frequency Stability

Temperature	Measurement Frequency (MHz)			
(°C)	5775 MHz			
	0 Minute	2 Minute	5 Minute	10 Minute
-40	5775.0558	5775.0552	5775.0544	5775.0532
-30	5775.0542	5775.0526	5775.0512	5775.0501
-20	5775.0484	5775.0475	5775.0466	5775.0444
-10	5775.0326	5775.0318	5775.0308	5775.0302
0	5775.0224	5775.0220	5775.0212	5775.0205
10	5775.0103	5775.0096	5775.0082	5775.0066
20	5774.9926	5774.9915	5774.9902	5774.9892
30	5774.9862	5774.9854	5774.9822	5774.9804
40	5774.9736	5774.9724	5774.9711	5774.9705
50	5774.9583	5774.9577	5774.9556	5774.9542
55	5774.9420	5774.9411	5774.9398	5774.9364
Max. Deviation (MHz)	**0.0580**	**0.0589**	**0.0602**	**0.0636**
Max. Deviation (ppm)	**10.04**	**10.20**	**10.42**	**11.01**
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 Test Receiver	R&S	ESCS 30	100355	9kHz ~ 2.75GHz	Apr. 22, 2015	Conduction (CO01-CB)
LISN	F.C.C.	FCC-LISN-50-16-2	04083	150kHz ~ 100MHz	Dec. 02, 2014	Conduction (CO01-CB)
LISN	Schwarzbeck	NSLK 8127	8127647	9kHz ~ 30MHz	Dec. 02, 2014	Conduction (CO01-CB)
COND Cable	Woken	Cable	01	150kHz ~ 30MHz	Dec. 03, 2014	Conduction (CO01-CB)
Software	Audix	E3	5.410e	-	N.C.R.	Conduction (CO01-CB)
BILOG ANTENNA	Schaffner	CBL6112D	22021	20MHz ~ 2GHz	May 06, 2015	Radiation (03CH01-CB)
Horn Antenna	EMCO	3115	00075790	750MHz ~ 18GHz	Oct. 28, 2014	Radiation (03CH01-CB)
Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170252	15GHz ~ 40GHz	Jul. 21, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Feb. 24, 2015	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8449B	3008A02310	1GHz ~ 26.5GHz	Jan. 12, 2015	Radiation (03CH01-CB)
Pre-Amplifier	WM	TF-130N-R1	923365	26GHz ~ 40GHz	Nov. 25, 2014	Radiation (03CH01-CB)
Spectrum Analyzer	R&S	FSP40	100056	9kHz ~ 40GHz	Nov. 06, 2014	Radiation (03CH01-CB)
EMI Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8.4GHz	Jan. 21, 2015	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz ~ 1 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-1	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
RF Cable-high	Woken	High Cable-40G-2	N/A	1 GHz ~ 40 GHz	Nov. 15, 2014	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9kHz - 30 MHz	Mar. 12, 2015*	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100979	9kHz~40GHz	Dec. 12, 2014	Conducted (TH01-CB)
Temp. and Humidity Chamber	Ten Billion	TTH-D3SP	TBN-931011	-30~100 degree	Jun. 02, 2015	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-7	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-8	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-9	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
RF Cable-high	Woken	RG402	High Cable-10	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
RF Cable-high	Woken	RG402	High Cable-6	1 GHz – 26.5 GHz	Nov. 15, 2014	Conducted (TH01-CB)
Power Sensor	Agilent	U2021XA	MY53410001	50MHz~18GHz	Nov. 03, 2014	Conducted (TH01-CB)

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

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

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

6. MEASUREMENT UNCERTAINTY

Test Items	Uncertainty	Remark
Conducted Emission (150kHz ~ 30MHz)	2.4 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%