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FCC RADIO TEST REPORT

| | |
|------------------------|---|
| Applicant's company | Mojo Networks, Inc. |
| Applicant Address | 339 N. Bernardo Avenue, Suite #200, Mountain View, CA USA |
| FCC ID | TOR-C75 |
| Manufacturer's company | Life-On Network Communication (Dongguan) Limited |
| Manufacturer Address | 30#Keji Rd., Yin Hu Industrial Area, Qingxi Town, DongGuan City, Guangdong, China |

| | |
|-------------------|---------------------------------------|
| Product Name | AirTight Access Point |
| Brand Name | MOJO, WatchGuard |
| Model No. | C-75, C-75-E, AP320 |
| Test Rule Part(s) | 47 CFR FCC Part 15 Subpart E § 15.407 |
| Test Freq. Range | 5250 ~ 5350MHz / 5470 ~ 5725MHz |
| Received Date | Jan. 10, 2014 |
| Final Test Date | Aug. 09, 2016 |
| Submission Type | Class II Change |

Statement

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

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

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

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in ANSI C63.10-2013, 47 CFR FCC Part 15 Subpart E, KDB789033 D02 v01r03, KDB662911 D01 v02r01, KDB644545 D03 v01.

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



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History of This Test Report

| REPORT NO. | VERSION | DESCRIPTION | ISSUED DATE |
|-------------|---------|-------------------------|---------------|
| FR411023-09 | Rev. 01 | Initial issue of report | Mar. 03, 2017 |
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1. VERIFICATION OF COMPLIANCE

Product Name : AirTight Access Point
Brand Name : MOJO, WatchGuard
Model No. : C-75, C-75-E, AP320
Applicant : Mojo Networks, Inc.
Test Rule Part(s) : 47 CFR FCC Part 15 Subpart E § 15.407

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Jan. 10, 2014 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

A handwritten signature in blue ink that reads 'Sam Chen'. The signature is written in a cursive style and is positioned above a horizontal line.

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 |
| 4.1 | 15.407(a) | 26dB Spectrum Bandwidth and 99% Occupied Bandwidth | Complies |
| 4.2 | 15.407(a) | Maximum Conducted Output Power | Complies |
| 4.3 | 15.407(a) | Power Spectral Density | Complies |
| 4.4 | 15.407(b) | Radiated Emissions | Complies |
| 4.5 | 15.407(b) | Band Edge Emissions | Complies |
| 4.6 | 15.407(g) | Frequency Stability | Complies |
| 4.7 | 15.203 | Antenna Requirements | Complies |

3. GENERAL INFORMATION

3.1. Product Details

| Items | Description |
|--------------------------------|--|
| Product Type | IEEE 802.11a: WLAN (1TX, 1RX) IEEE 802.11n/ac: WLAN (3TX, 3RX) |
| Radio Type | Intentional Transceiver |
| Power Type | From adapter or PoE |
| Modulation | IEEE 802.11a: OFDM IEEE 802.11n/ac: see the below table |
| Data Modulation | IEEE 802.11a/n: OFDM (BPSK / QPSK / 16QAM / 64QAM) IEEE 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM) |
| Data Rate (Mbps) | IEEE 802.11a: OFDM (6/9/12/18/24/36/48/54) IEEE 802.11n/ac: see the below table |
| Frequency Range | 5250 ~ 5350MHz / 5470 ~ 5725MHz |
| Channel Number | 15 for 20MHz bandwidth ; 7 for 40MHz bandwidth 3 for 80MHz bandwidth |
| Channel Bandwidth (99%) | Band 2: IEEE 802.11a: 22.14 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.23 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 35.75 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 74.67 MHz Band 3: IEEE 802.11a: 17.45 MHz IEEE 802.11ac MCS0/Nss1 (VHT20): 18.15 MHz IEEE 802.11ac MCS0/Nss1 (VHT40): 37.19 MHz IEEE 802.11ac MCS0/Nss1 (VHT80): 75.83 MHz |
| Maximum Conducted Output Power | Band 2: IEEE 802.11a: 23.22 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.01 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 21.80 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 16.30 dBm Band 3: IEEE 802.11a: 21.34 dBm IEEE 802.11ac MCS0/Nss1 (VHT20): 19.12 dBm IEEE 802.11ac MCS0/Nss1 (VHT40): 22.02 dBm IEEE 802.11ac MCS0/Nss1 (VHT80): 23.29 dBm |

| | |
|---------------------|-----------------------------|
| Carrier Frequencies | Please refer to section 3.4 |
| Antenna | Please refer to section 3.3 |

| Items | Description | |
|-----------------------------|---|---|
| Communication Mode | <input checked="" type="checkbox"/> IP Based (Load Based) | <input type="checkbox"/> Frame Based |
| TPC Function | <input checked="" type="checkbox"/> With TPC | <input type="checkbox"/> Without TPC |
| Weather Band (5600~5650MHz) | <input checked="" type="checkbox"/> With 5600~5650MHz | <input type="checkbox"/> Without 5600~5650MHz |
| Beamforming Function | <input type="checkbox"/> With beamforming | <input checked="" type="checkbox"/> Without beamforming |
| Operate Condition | <input checked="" type="checkbox"/> Indoor | <input type="checkbox"/> Outdoor |

Antenna and Band width

| Antenna | Single (TX) | | | Three (TX) | | |
|---------------|-------------|--------|--------|------------|--------|--------|
| | 20 MHz | 40 MHz | 80 MHz | 20 MHz | 40 MHz | 80 MHz |
| IEEE 802.11a | V | X | X | X | X | X |
| IEEE 802.11n | X | X | X | V | V | X |
| IEEE 802.11ac | X | X | X | V | V | V |

IEEE 11n/ac Spec.

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

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

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

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

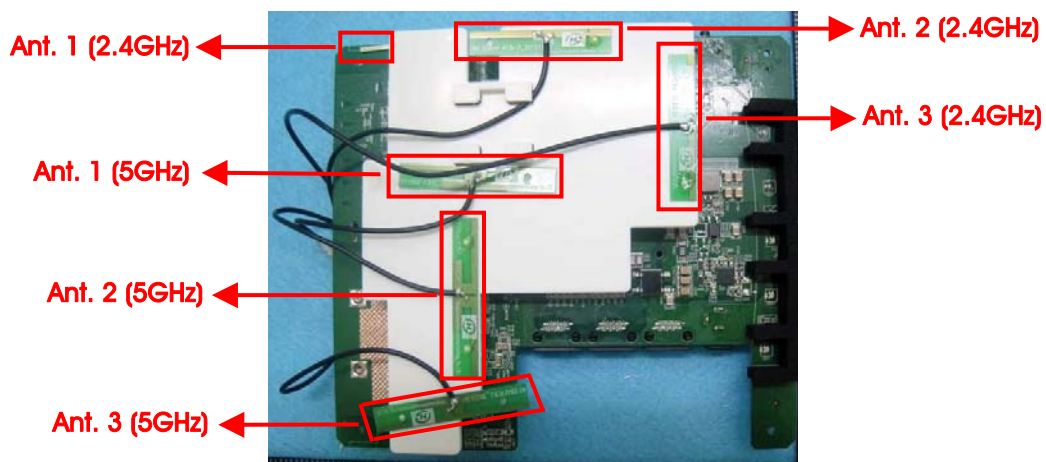
3.2. Accessories

| Power | Brand | Model No. | Rating |
|--------------|-------|-----------|--|
| Adapter | APD | WA-24Q12R | Input: 100-240Vac, 50-60Hz, 0.7A Max. Output: 12Vdc, 2A |
| Other | | | |
| Plug*1 | | | |

3.3. Table for Filed Antenna

Model No.: C-75 / AP320: Internal Ant. (low gain)

| Ant. | Brand | Model No. | Type | Connector | Antenna Gain | | Cable loss | | True Gain (dBi) | |
|------|--------|-----------|------|-----------|--------------|------|------------|------|-----------------|------|
| | | | | | 2.4GHz | 5GHz | 2.4GHz | 5GHz | 2.4GHz | 5GHz |
| 1 | LITEON | WP838 AP | PCB | I-PEX | 3.5 | 6.5 | 0.2 | - | 3.3 | 6.5 |
| 2 | LITEON | WP838 AP | PCB | I-PEX | 6 | 5.8 | - | - | 6 | 5.8 |
| 3 | LITEON | WP838 AP | PCB | I-PEX | 5.4 | 6.6 | - | - | 5.4 | 6.6 |



Model No.: C-75-E: External Ant.

| Ant. | Brand | Model No. | Type | Connector | Gain (dBi) | |
|------|------------|-------------------|--------|-------------|------------|------|
| | | | | | 2.4GHz | 5GHz |
| 1 | MAG.LAYERS | EDA-1713-25GR2-A7 | Dipole | SMA Male RP | 5 | 5 |
| 2 | MAG.LAYERS | EDA-1713-25GR2-A7 | Dipole | SMA Male RP | 5 | 5 |
| 3 | MAG.LAYERS | EDA-1713-25GR2-A7 | Dipole | SMA Male RP | 5 | 5 |



Model No.: C-75 / AP320: Internal Ant. (higher gain)

| Ant. | Brand | P/N | Antenna Type | Connector | Gain (dBi) | |
|------|------------|--------------|--------------|-----------|------------|------|
| | | | | | 2.4GHz | 5GHz |
| 1 | Galtronics | 001174B2AD5F | Dipole Ant. | I-PEX | 6.36 | 6.31 |
| 2 | Galtronics | 001174B2AD5F | Dipole Ant. | I-PEX | 6.69 | 6.64 |
| 3 | Galtronics | 001174B2AD5F | Dipole Ant. | I-PEX | 4.78 | 6.04 |

<For 2.4GHz Band>

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

Only Ant. 1 could transmit/receive simultaneously.

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

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

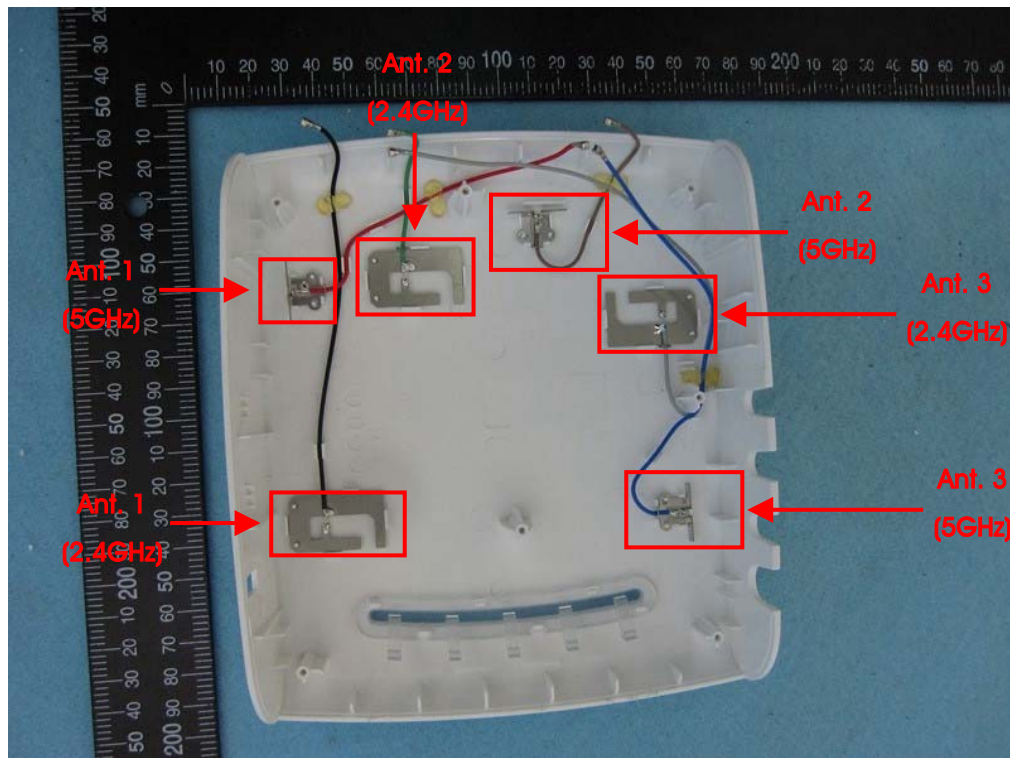
<For 5GHz Band>

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

Only Ant. 1 could transmit/receive simultaneously.

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

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



3.4. Table for Carrier Frequencies

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 52, 56, 60, 64, 100, 104, 108, 112, 116, 120, 124, 128, 132, 136, 140.

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

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

| Frequency Band | Channel No. | Frequency | Channel No. | Frequency |
|-------------------------|-------------|-----------|-------------|-----------|
| 5250~5350 MHz Band 2 | 52 | 5260 MHz | 60 | 5300 MHz |
| | 54 | 5270 MHz | 62 | 5310 MHz |
| | 56 | 5280 MHz | 64 | 5320 MHz |
| | 58 | 5290 MHz | - | - |
| 5470~5725 MHz Band 3 | 100 | 5500 MHz | 120 | 5600 MHz |
| | 102 | 5510 MHz | 122 | 5610 MHz |
| | 104 | 5520 MHz | 124 | 5620 MHz |
| | 106 | 5530 MHz | 126 | 5630 MHz |
| | 108 | 5540 MHz | 128 | 5640 MHz |
| | 110 | 5550 MHz | 132 | 5660 MHz |
| | 112 | 5560 MHz | 134 | 5670 MHz |
| | 116 | 5580 MHz | 136 | 5680 MHz |
| | 118 | 5590 MHz | 140 | 5700 MHz |

3.5. Table for Test Modes

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

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

| | | | | | |
|---------------------|------------|----------|-----------|--------------------------|-------|
| | 11ac VHT20 | Band 2-3 | MCS0/Nss1 | 52/60/64/ 100/116/140 | 1+2+3 |
| | 11ac VHT40 | Band 2-3 | MCS0/Nss1 | 54/62/ 102/110/134 | 1+2+3 |
| | 11ac VHT80 | Band 2-3 | MCS0/Nss1 | 58/106/122 | 1+2+3 |
| Frequency Stability | 20 MHz | Band 2-3 | - | 60/116 | 1 |
| | 40 MHz | Band 2-3 | - | 62/110 | 1 |
| | 80 MHz | Band 2-3 | - | 58/106 | 1 |

Note 1: All the specification of test configurations and test mode was base on customer's request.

Note 2: VHT20/VHT40 covers HT20/HT40, due to same modulation. The power setting for 802.11n HT20 and HT40 are the same or lower than 802.11ac VHT20 and VHT40.

The following test modes were performed for all tests:

For Radiated Emission test <Above 1GHz>:

The EUT can be placed in Y-axis and Z-axis. After evaluating, Y-axis was the worst case, so it's recorded in this report.

Mode 1. CTX_EUT in Y axis

For Co-location MPE:

The EUT could be applied with 2.4GHz WLAN function and 5GHz WLAN function; therefore Co-location Maximum Permissible Exposure (Please refer to FA411023-09) tests is added for simultaneously transmit between 2.4GHz WLAN function and 5GHz WLAN function.

3.6. Table for Testing Locations

| Test Site Location | | | | | |
|--------------------|--|----------|---------------------|-------------|--------------|
| Address: | No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C. | | | | |
| TEL: | 886-3-656-9065 | | | | |
| FAX: | 886-3-656-9085 | | | | |
| Test Site No. | Site Category | Location | FCC Designation No. | IC File No. | VCCI Reg. No |
| 03CH01-CB | SAC | Hsin Chu | TW0006 | IC 4086D | - |
| TH01-CB | OVEN Room | Hsin Chu | - | - | - |

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

3.7. Table for Multiple Listing

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

| Brand Name | Model No. | Antenna |
|------------|-----------|------------------|
| MOJO | C-75 | Internal antenna |
| | C-75-E | External antenna |
| WatchGuard | AP320 | Internal antenna |

Note: Model: C-75 was tested for Internal Ant. (higher gain). This test result has been recorded in this test report. Model: C-75 was tested for Internal Ant. (low gain) and model: C-75-E was tested for External Ant. This test result has been recorded in Sporton test report: 411023-07.

3.8. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR411023-08AB

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

| Modifications | Performance Checking |
|---|--|
| Adding 5GHz Band 2 and Band 3 (5250~5350 MHz, 5470~5725 MHz) for this device. | <ol style="list-style-type: none"> 1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement 2. Maximum Conducted Output Power Measurement 3. Power Spectral Density Measurement 4. Radiated Emissions above 1GHz 5. Band Edge Emissions Measurement 6. Frequency Stability Measurement |

3.9. Table for Supporting Units

For Test Site No: 03CH01-CB

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook | DELL | E4300 | DoC |

For Test Site No: TH01-CB

| Support Unit | Brand | Model | FCC ID |
|--------------|-------|-------|--------|
| Notebook | DELL | E4300 | DoC |

3.10. Table for Parameters of Test Software Setting

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

| Test Software Version | ART2-GUI Version 2.3 | | | | | |
|--------------------------|----------------------|----------|----------|----------|----------|----------|
| Mode | Test Frequency (MHz) | | | | | |
| | NCB: 20MHz | | | | | |
| | 5260 MHz | 5300 MHz | 5320 MHz | 5500 MHz | 5580 MHz | 5700 MHz |
| 802.11a | 18.5 | 22 | 17.5 | 16 | 20 | 17 |
| 802.11ac MCS0/Nss1 VHT20 | 13 | 13 | 12.5 | 13 | 13.5 | 13.5 |
| Mode | NCB: 40MHz | | | | | |
| | 5270 MHz | 5310 MHz | 5510 MHz | 5550 MHz | 5670 MHz | |
| | 16 | 13.5 | 12.5 | 16.5 | 17 | |
| Mode | NCB: 80MHz | | | | | |
| | 5290 MHz | | 5530 MHz | | 5610 MHz | |
| | 11 | | 8 | | 20 | |

3.11. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

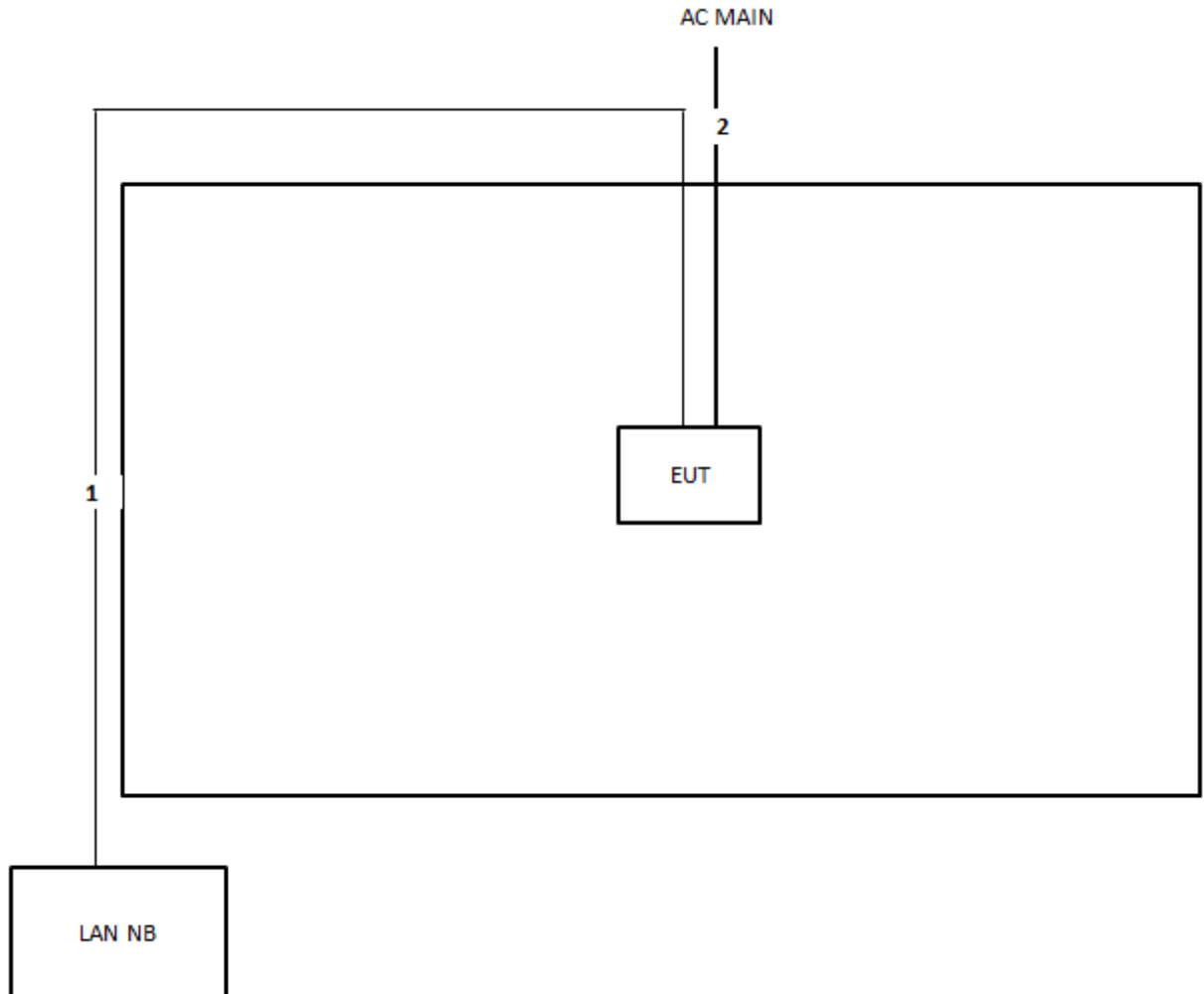
3.12. Duty Cycle

| Mode | On Time (ms) | On+Off Time (ms) | Duty Cycle (%) | Duty Factor (dB) | 1/T Minimum VBW (kHz) |
|--------------------------|--------------|------------------|----------------|------------------|-----------------------|
| 802.11a | 2.010 | 2.030 | 99.01% | 0.04 | 0.01 |
| 802.11ac MCS0/Nss1 VHT20 | 1.904 | 2.040 | 93.33% | 0.30 | 0.53 |
| 802.11ac MCS0/Nss1 VHT40 | 0.930 | 1.009 | 92.17% | 0.35 | 1.08 |
| 802.11ac MCS0/Nss1 VHT80 | 0.440 | 0.499 | 88.18% | 0.55 | 2.27 |

3.13. Test Configurations

3.13.1. Radiation Emissions Test Configuration

Test Configuration: above 1GHz



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

4. TEST RESULT

4.1. 26dB Bandwidth and 99% Occupied Bandwidth Measurement

4.1.1. Limit

No restriction limits.

4.1.2. Measuring Instruments and Setting

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

| 26dB Bandwidth | |
|------------------------|--|
| Spectrum Parameters | Setting |
| Attenuation | Auto |
| Span Frequency | > 26dB Bandwidth |
| RBW | Approximately 1% of the emission bandwidth |
| VBW | VBW > RBW |
| Detector | Peak |
| Trace | Max Hold |
| Sweep Time | Auto |
| 99% Occupied Bandwidth | |
| Spectrum Parameters | Setting |
| Span | 1.5 times to 5.0 times the OBW |
| RBW | 1 % to 5 % of the OBW |
| VBW | $\geq 3 \times \text{RBW}$ |
| Detector | Peak |
| Trace | Max Hold |

4.1.3. Test Procedures

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

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

4.1.4. Test Setup Layout

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

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

4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

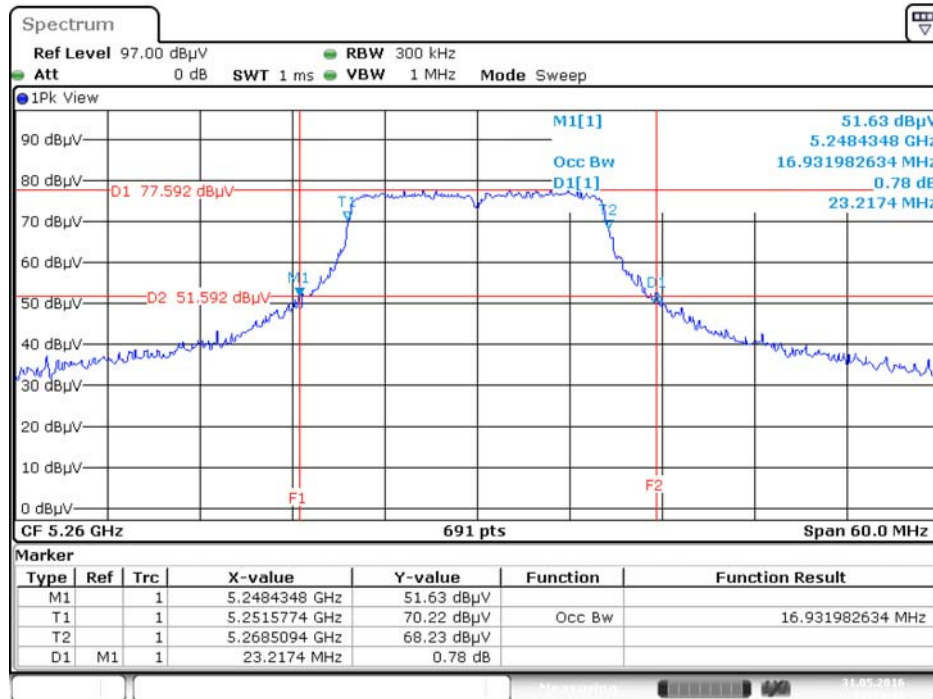
The EUT was programmed to be in continuously transmitting mode.

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

| | | | |
|---------------|----------|----------|-----|
| Temperature | 24°C | Humidity | 60% |
| Test Engineer | Gary Chu | | |

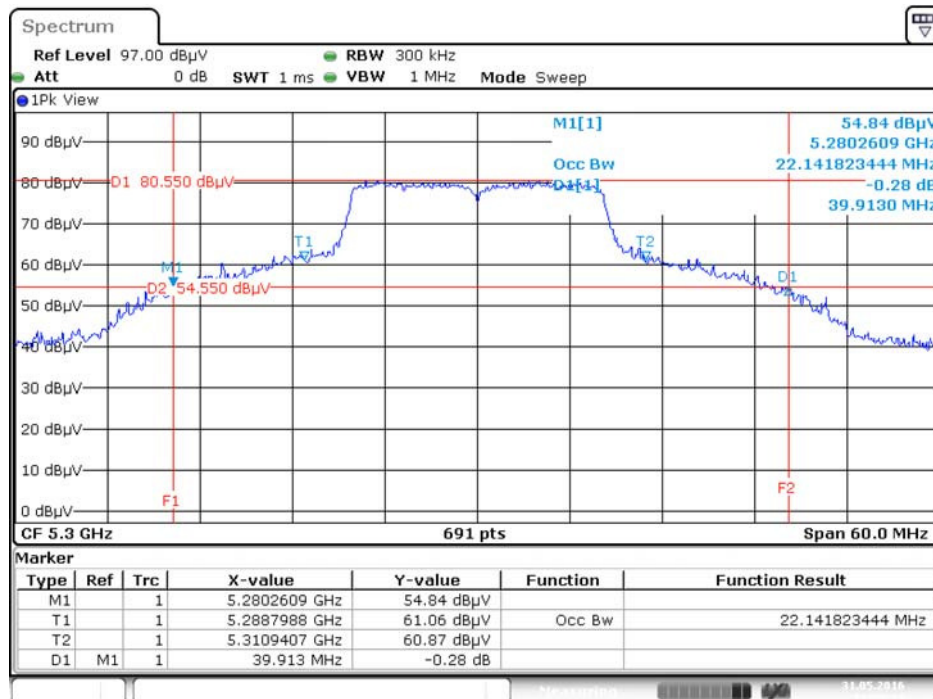
| Mode | Frequency | 26dB Bandwidth (MHz) | 99% Occupied Bandwidth (MHz) |
|-----------------------------|-----------|----------------------|------------------------------|
| 802.11a | 5260 MHz | 23.22 | 16.93 |
| | 5300 MHz | 39.91 | 22.14 |
| | 5320 MHz | 21.91 | 16.85 |
| | 5500 MHz | 22.09 | 16.85 |
| | 5580 MHz | 30.44 | 17.45 |
| | 5700 MHz | 21.91 | 16.85 |
| 802.11ac MCS0/Nss1 VHT20 | 5260 MHz | 22.70 | 18.23 |
| | 5300 MHz | 20.61 | 17.54 |
| | 5320 MHz | 20.44 | 17.54 |
| | 5500 MHz | 22.52 | 18.15 |
| | 5580 MHz | 23.48 | 18.15 |
| | 5700 MHz | 21.30 | 17.97 |
| 802.11ac MCS0/Nss1 VHT40 | 5270 MHz | 42.32 | 35.60 |
| | 5310 MHz | 41.16 | 35.75 |
| | 5510 MHz | 43.33 | 36.61 |
| | 5550 MHz | 43.33 | 37.19 |
| | 5670 MHz | 43.04 | 36.32 |
| 802.11ac MCS0/Nss1 VHT80 | 5290 MHz | 82.32 | 74.67 |
| | 5530 MHz | 82.61 | 75.83 |
| | 5610 MHz | 87.99 | 74.10 |

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / 5260 MHz



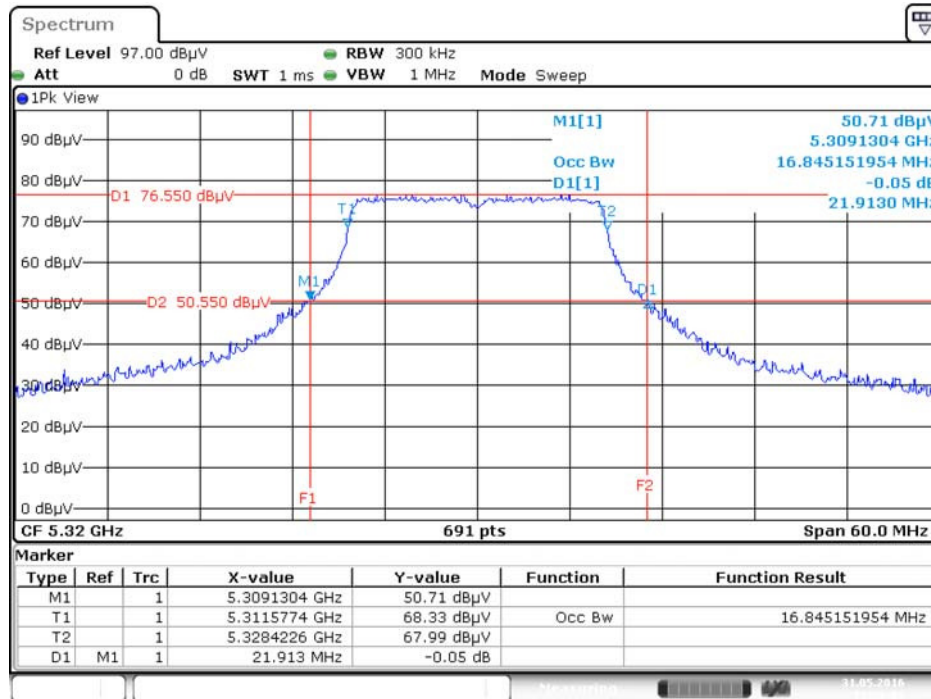
Date: 31.MAY.2016 11:54:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / 5300 MHz



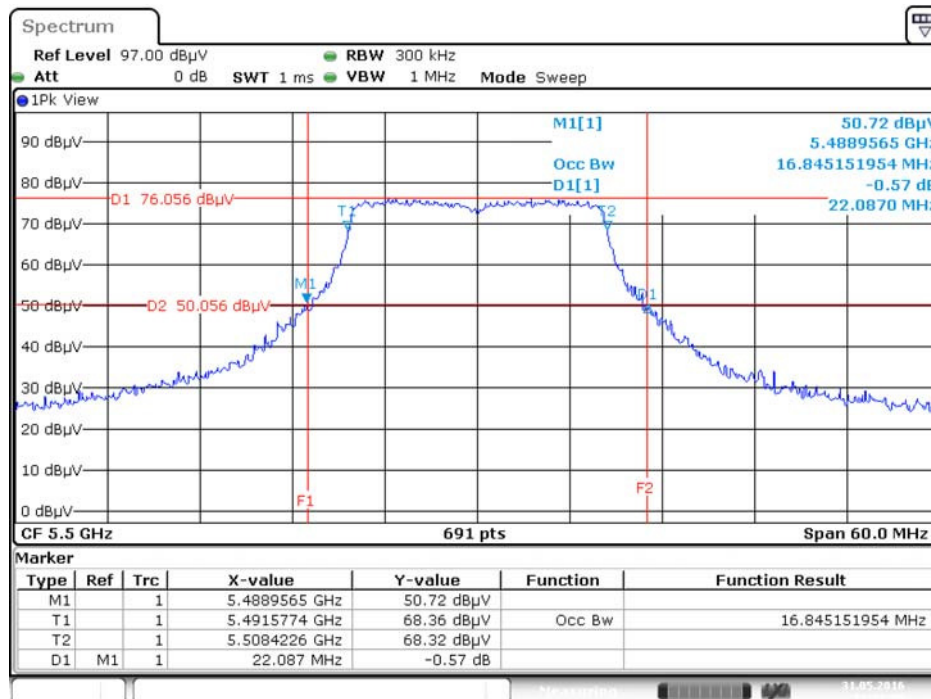
Date: 31.MAY.2016 11:55:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / 5320 MHz



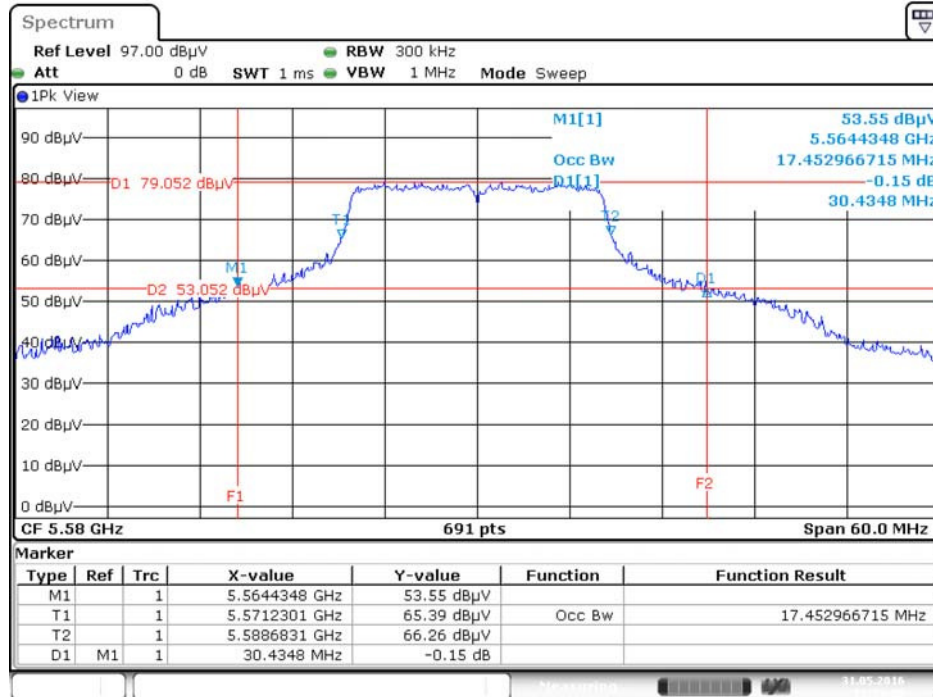
Date: 31.MAY.2016 11:56:01

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / 5500 MHz



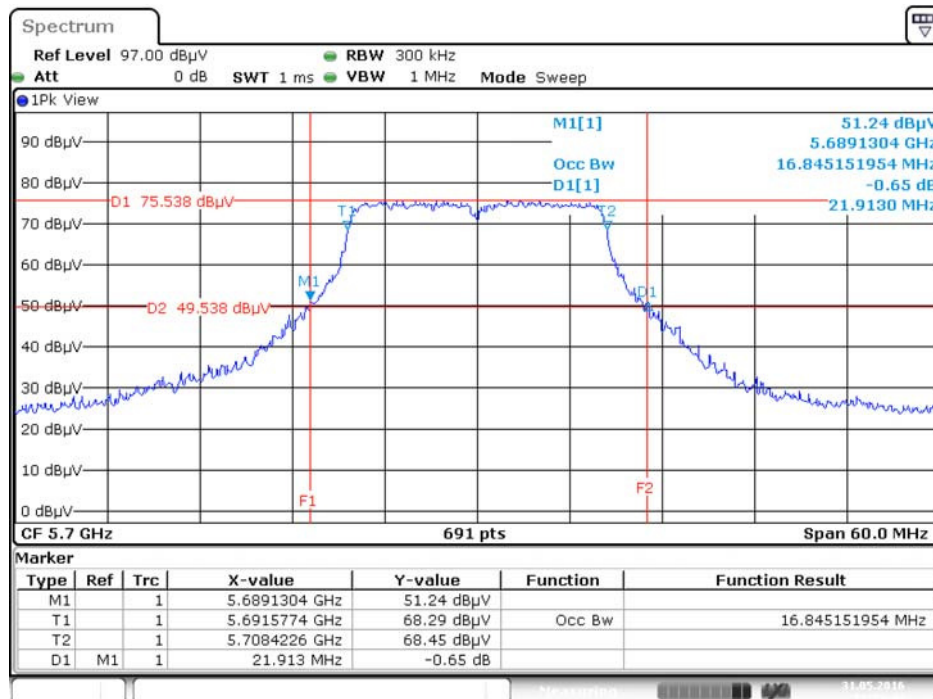
Date: 31.MAY.2016 13:38:28

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / 5580 MHz



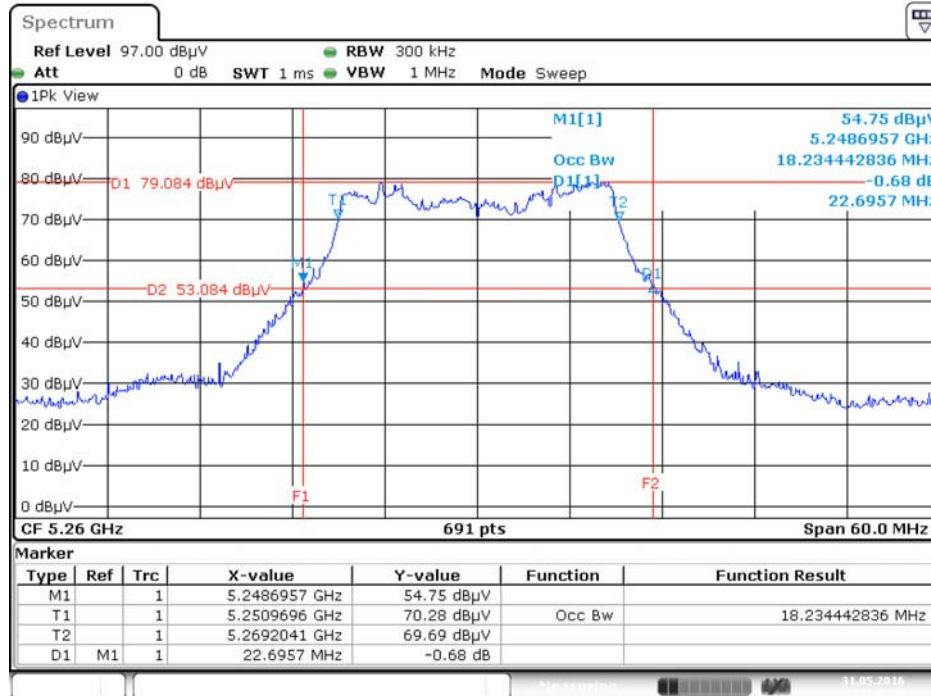
Date: 31.MAY.2016 13:39:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11a / Ant. 1 / 5700 MHz



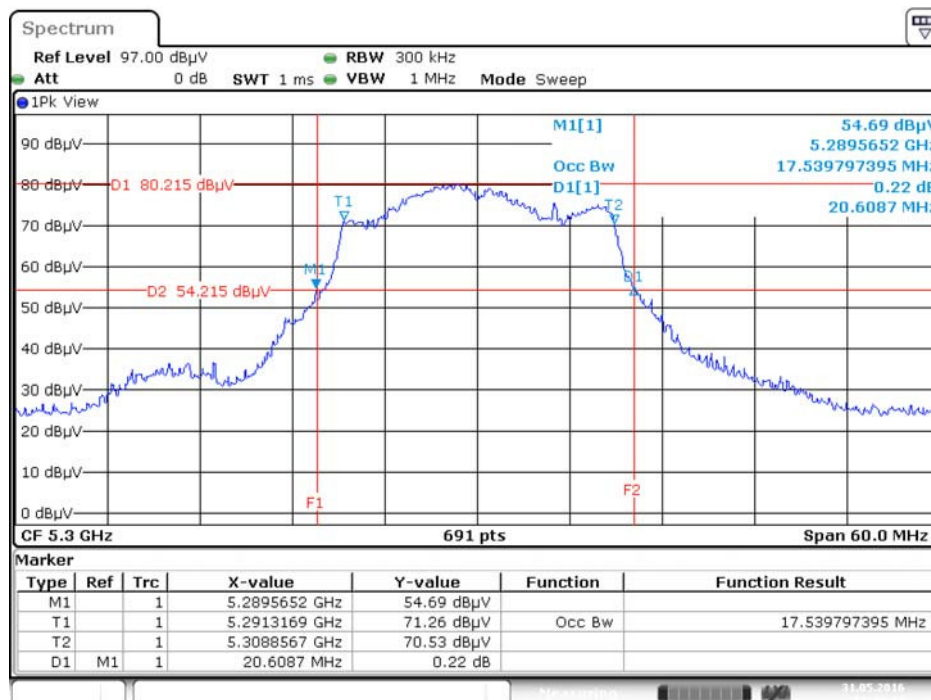
Date: 31.MAY.2016 13:39:50

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5260 MHz



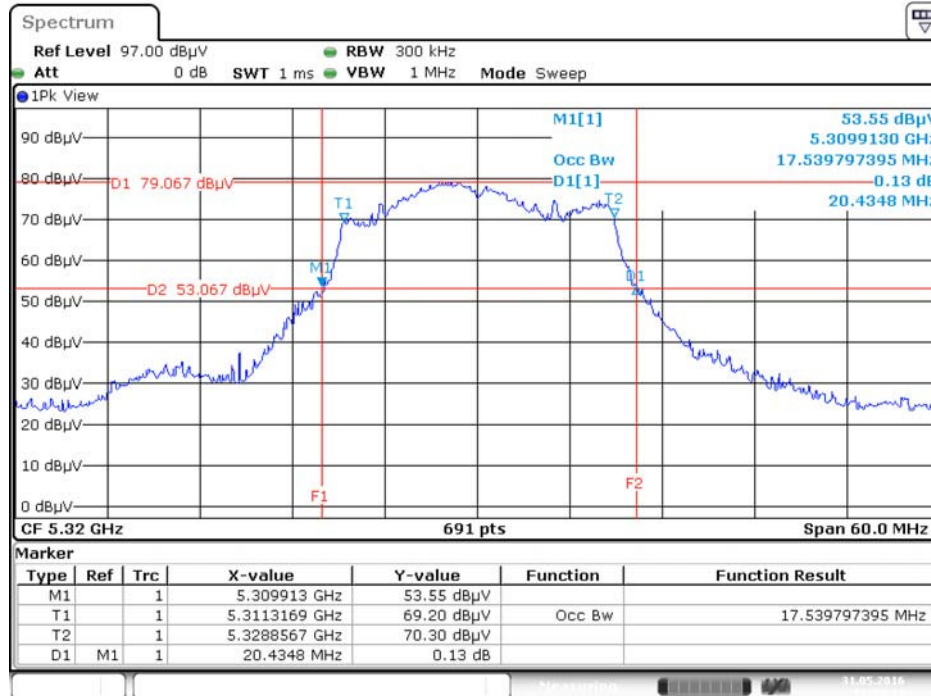
Date: 31.MAY.2016 13:48:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5300 MHz



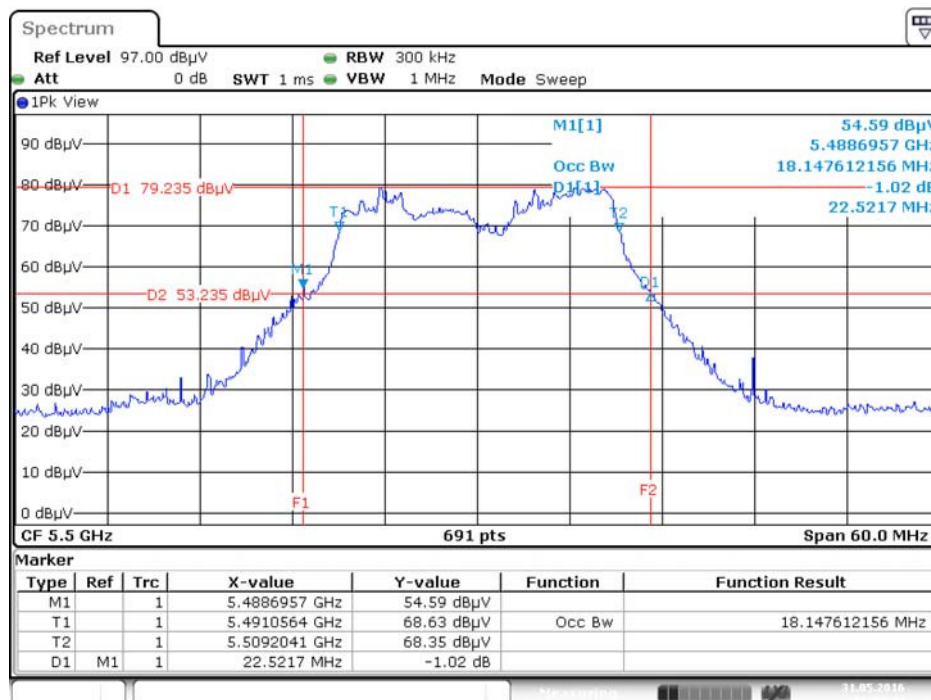
Date: 31.MAY.2016 13:49:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5320 MHz



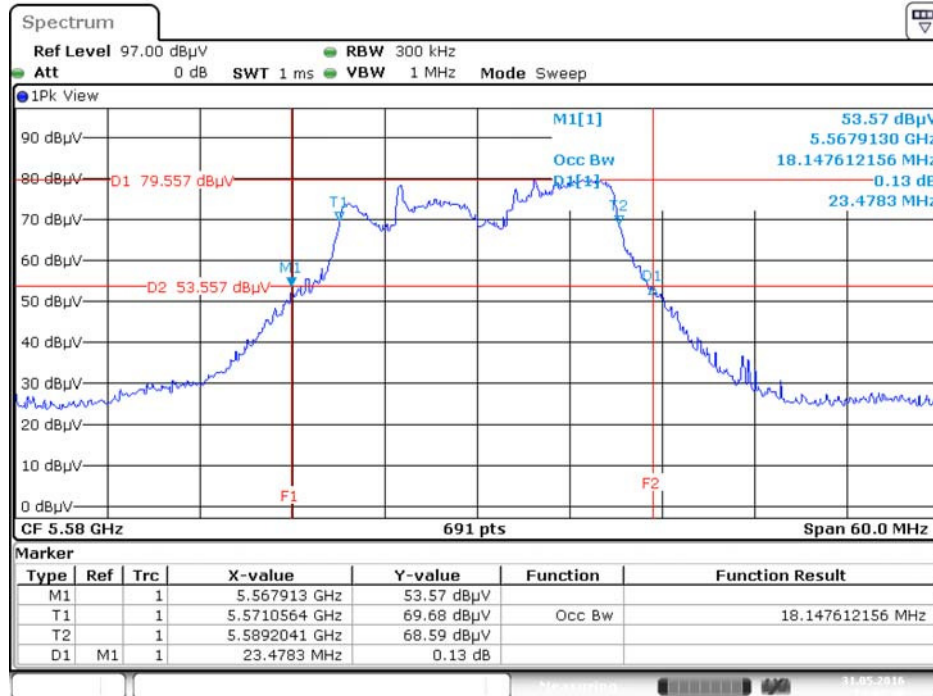
Date: 31.MAY.2016 13:53:19

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5500 MHz



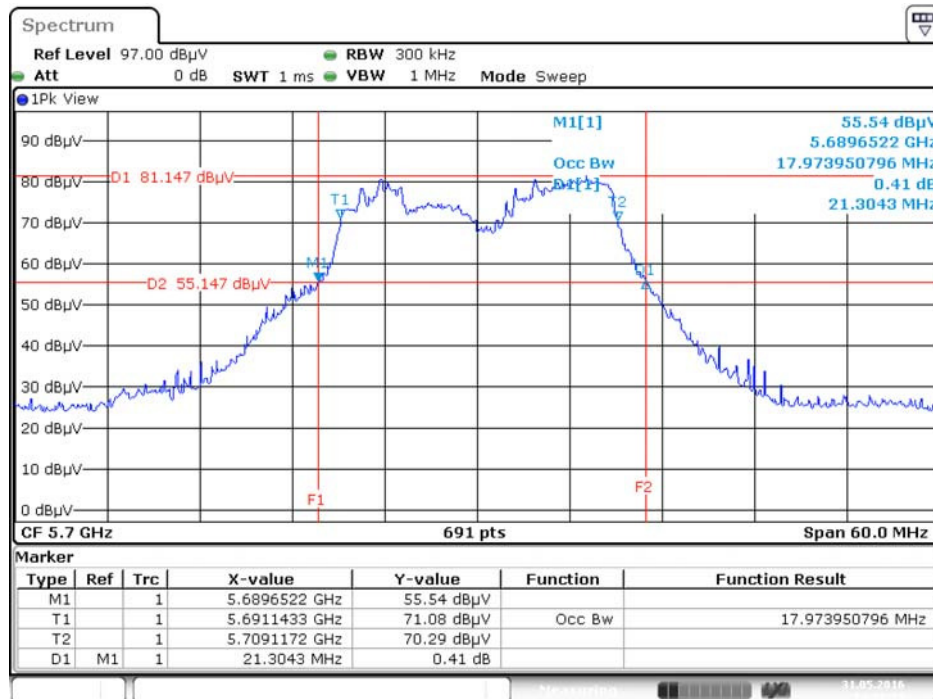
Date: 31.MAY.2016 13:59:43

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5580 MHz



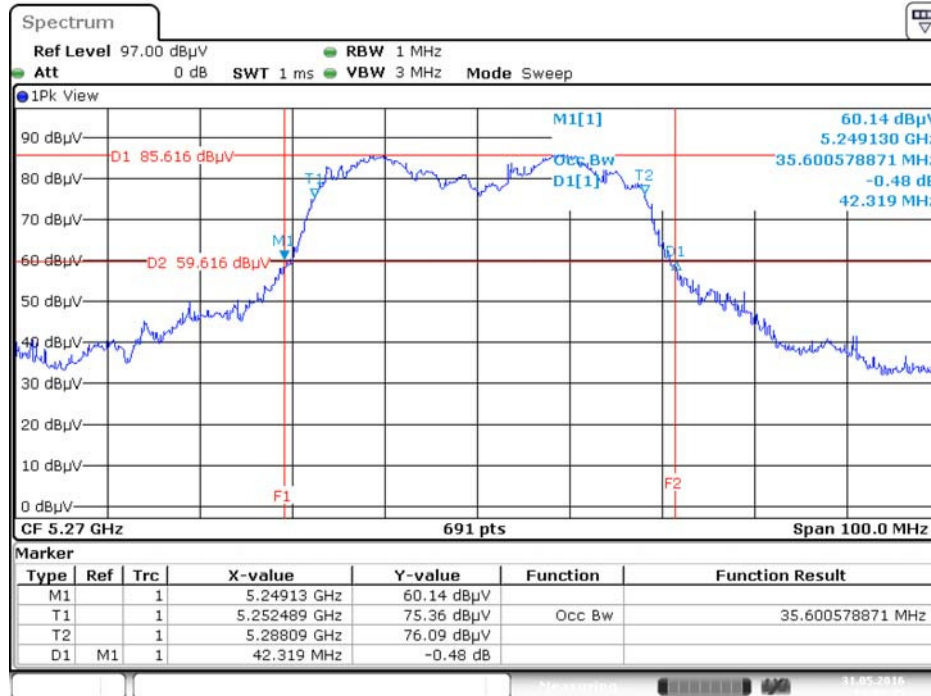
Date: 31.MAY.2016 14:00:48

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5700 MHz



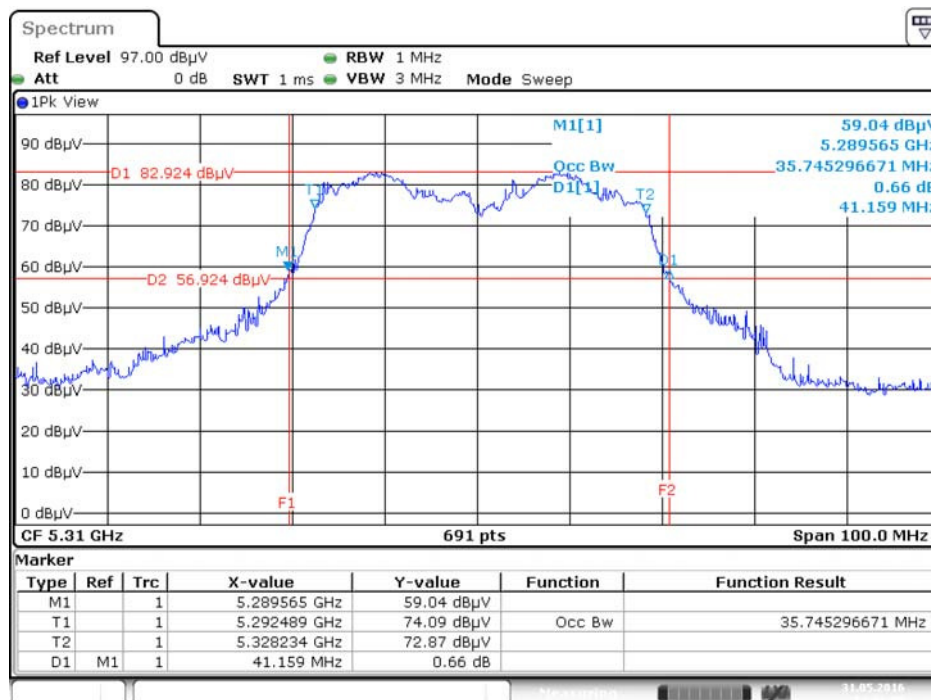
Date: 31.MAY.2016 14:01:38

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5270 MHz



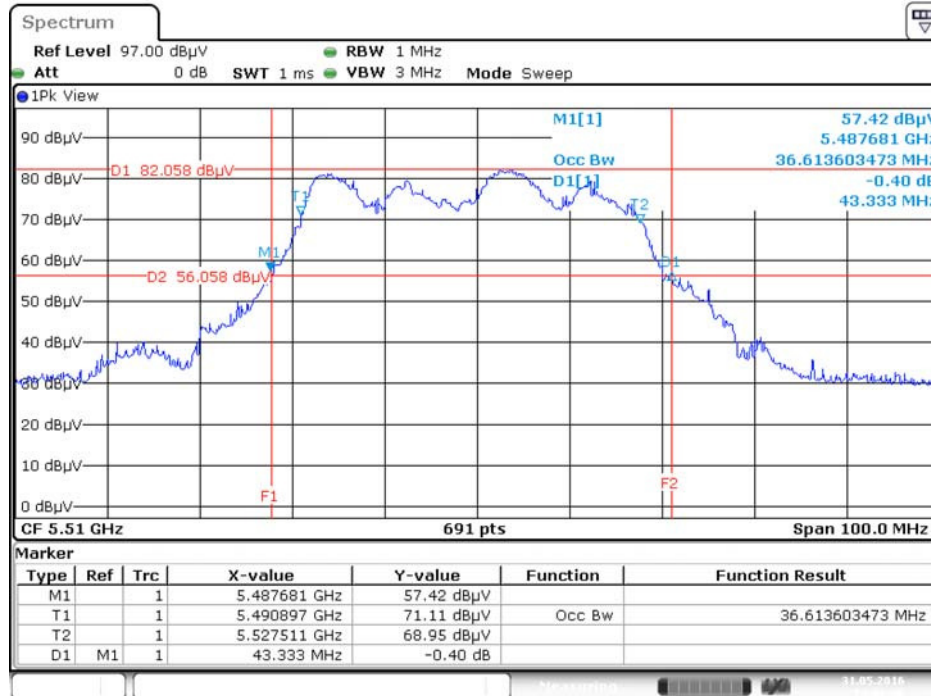
Date: 31.MAY.2016 14:05:45

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5310 MHz



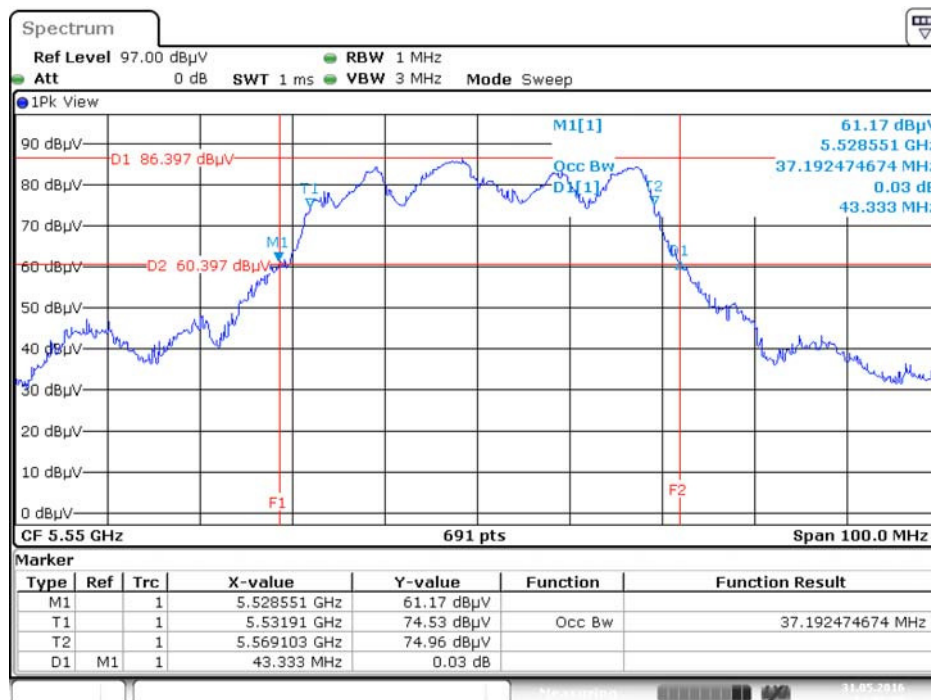
Date: 31.MAY.2016 14:06:09

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5510 MHz



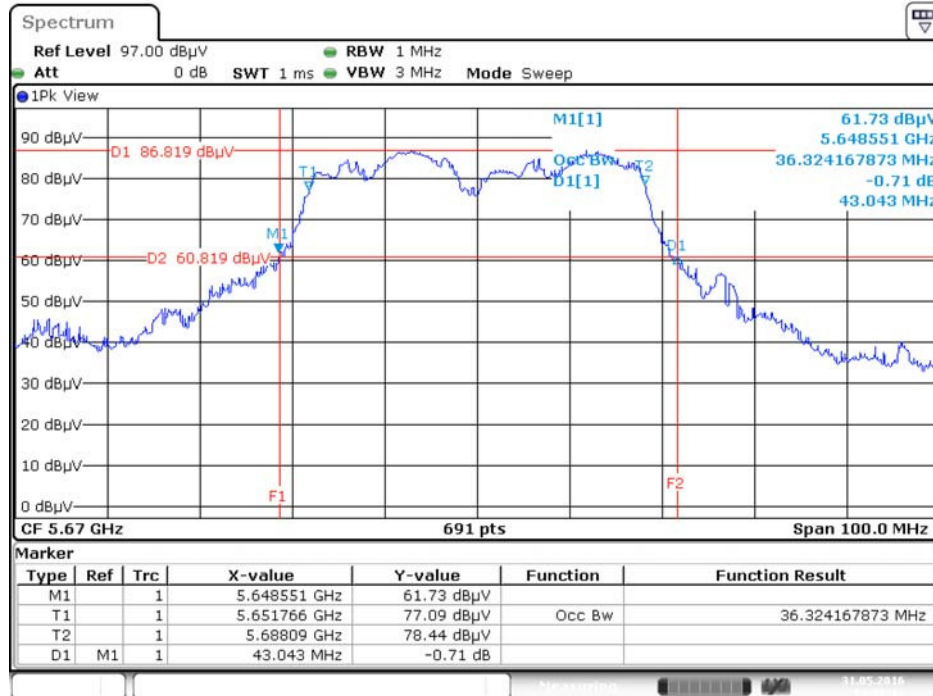
Date: 31.MAY.2016 14:06:46

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5550 MHz



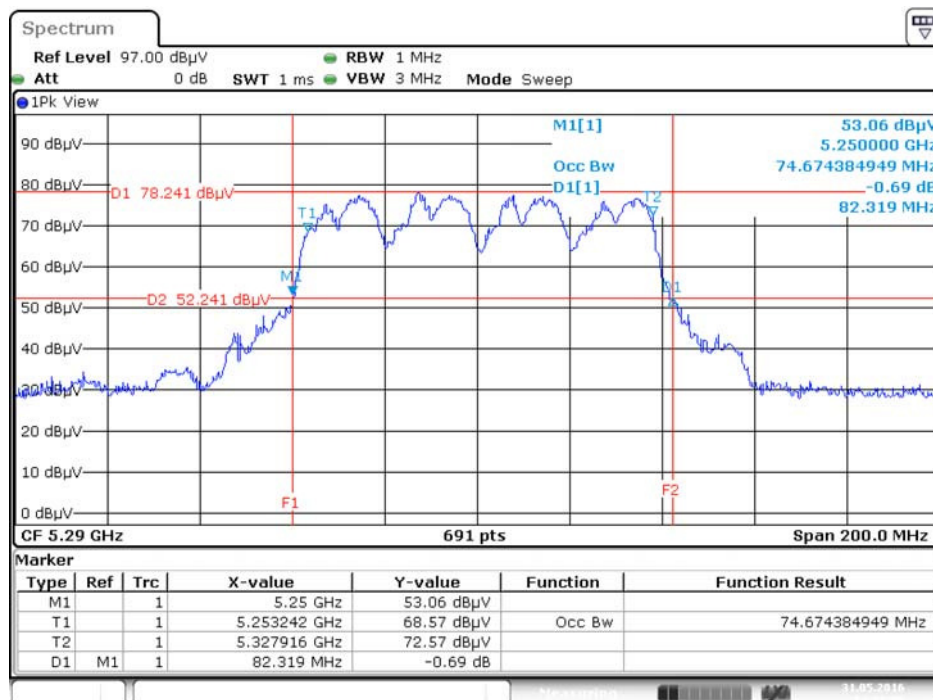
Date: 31.MAY.2016 14:08:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5670 MHz



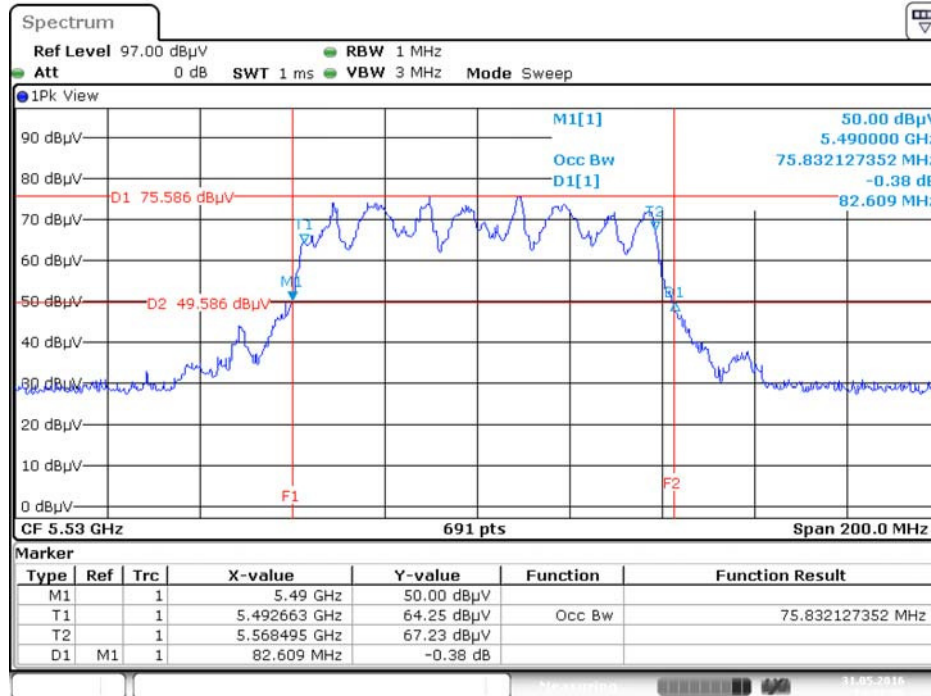
Date: 31.MAY.2016 14:08:41

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5290 MHz



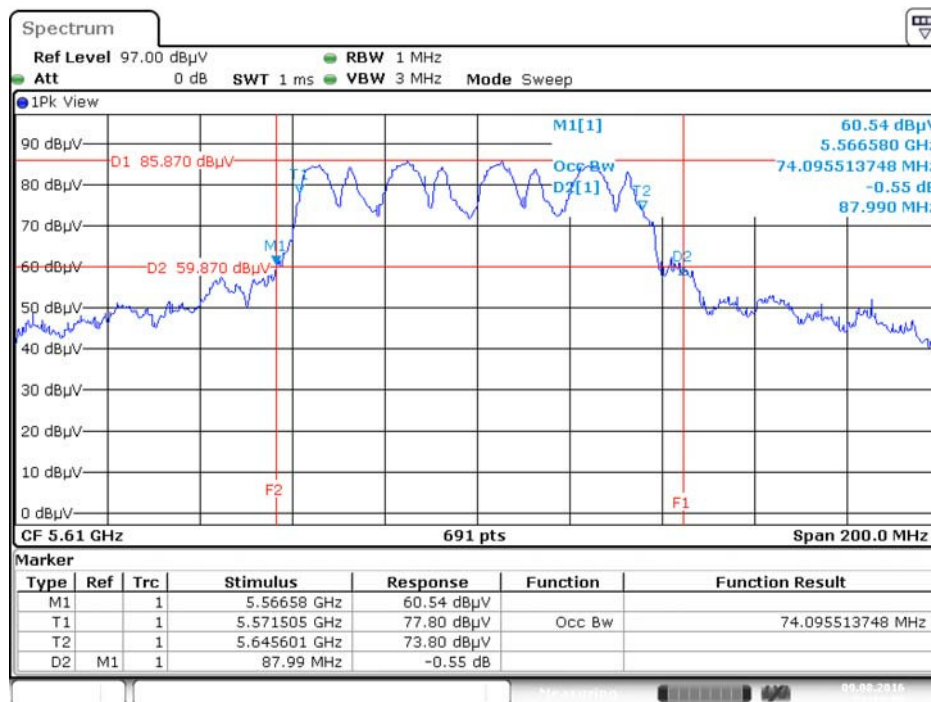
Date: 31.MAY.2016 14:11:08

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5530 MHz



Date: 31.MAY.2016 14:11:36

26dB Bandwidth and 99% Occupied Bandwidth Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5610 MHz



Date: 9.AUG.2016 21:13:58

4.2. Maximum Conducted Output Power Measurement

4.2.1. Limit

| Frequency Band | | Limit |
|-------------------------------------|-----------------|--|
| <input checked="" type="checkbox"/> | 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. |
| <input checked="" type="checkbox"/> | 5.470-5.725 GHz | |

4.2.2. Measuring Instruments and Setting

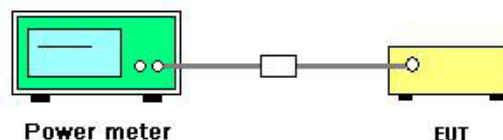
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

| Power Meter Parameter | Setting |
|-----------------------|---------|
| Detector | AVERAGE |

4.2.3. Test Procedures

1. The transmitter output (antenna port) was connected to the power meter.
2. Test was performed in accordance with KDB789033 D02 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (E) Maximum conducted output power =>3. Measurement using a Power Meter (PM) =>b) Method PM-G (Measurement using a gated RF average power meter).
3. Multiple antenna systems was performed in accordance with KDB662911 D01 v02r01 Emissions Testing of Transmitters with Multiple Outputs in the Same Band.
4. When measuring maximum conducted output power with multiple antenna systems, add every result of the values by mathematic formula.

4.2.4. Test Setup Layout



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Test Result of Maximum Conducted Output Power

| | | | |
|---------------|----------|-----------|----------------------------|
| Temperature | 24°C | Humidity | 60% |
| Test Engineer | Gary Chu | Test Date | May 31, 2016~Aug. 09, 2016 |

| Mode | Frequency | Conducted Power (dBm) | | | | Max. Limit (dBm) | Result |
|--------------------------------|-----------|-----------------------|--------|--------|-------|------------------|----------|
| | | Ant. 1 | | | | | |
| 802.11a | 5260 MHz | 20.35 | | | | 23.67 | Complies |
| | 5300 MHz | 23.22 | | | | 23.67 | Complies |
| | 5320 MHz | 19.37 | | | | 23.67 | Complies |
| | 5500 MHz | 18.23 | | | | 23.67 | Complies |
| | 5580 MHz | 21.34 | | | | 23.67 | Complies |
| | 5700 MHz | 18.09 | | | | 23.67 | Complies |
| Mode | Frequency | Conducted Power (dBm) | | | | Max. Limit (dBm) | Result |
| | | Ant. 1 | Ant. 2 | Ant. 3 | Total | | |
| 802.11ac MCS0/Nss1 VHT20 | 5260 MHz | 14.69 | 13.84 | 14.08 | 18.99 | 23.34 | Complies |
| | 5300 MHz | 14.56 | 13.88 | 14.24 | 19.01 | 23.34 | Complies |
| | 5320 MHz | 14.08 | 13.38 | 14.72 | 18.87 | 23.34 | Complies |
| | 5500 MHz | 14.42 | 13.45 | 15.02 | 19.12 | 23.34 | Complies |
| | 5580 MHz | 13.98 | 13.39 | 14.89 | 18.90 | 23.34 | Complies |
| | 5700 MHz | 14.24 | 13.01 | 14.89 | 18.89 | 23.34 | Complies |
| 802.11ac MCS0/Nss1 VHT40 | 5270 MHz | 17.49 | 16.52 | 17.02 | 21.80 | 23.34 | Complies |
| | 5310 MHz | 14.54 | 13.47 | 14.73 | 19.05 | 23.34 | Complies |
| | 5510 MHz | 12.87 | 12.14 | 14.06 | 17.87 | 23.34 | Complies |
| | 5550 MHz | 16.71 | 16.48 | 17.58 | 21.72 | 23.34 | Complies |
| | 5670 MHz | 17.35 | 16.77 | 17.59 | 22.02 | 23.34 | Complies |
| 802.11ac MCS0/Nss1 VHT80 | 5290 MHz | 11.83 | 11.02 | 11.68 | 16.30 | 23.34 | Complies |
| | 5530 MHz | 8.57 | 8.13 | 9.22 | 13.43 | 23.34 | Complies |
| | 5610 MHz | 18.03 | 18.15 | 19.26 | 23.29 | 23.34 | Complies |

Note:

802.11a: Ant. Gain=6.31dBi, so limit =23.98-(6.31-6)=23.67 dBm

802.11ac MCS0/Nss1 VHT20/VHT40/VHT80: Ant. Gain=6.64dBi, so limit =23.98-(6.64-6)=23.34 dBm

4.3. Power Spectral Density Measurement

4.3.1. Limit

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

| | Frequency Band | Limit |
|-------------------------------------|-----------------|------------|
| <input checked="" type="checkbox"/> | 5.25-5.35 GHz | 11 dBm/MHz |
| <input checked="" type="checkbox"/> | 5.470-5.725 GHz | 11 dBm/MHz |

4.3.2. Measuring Instruments and Setting

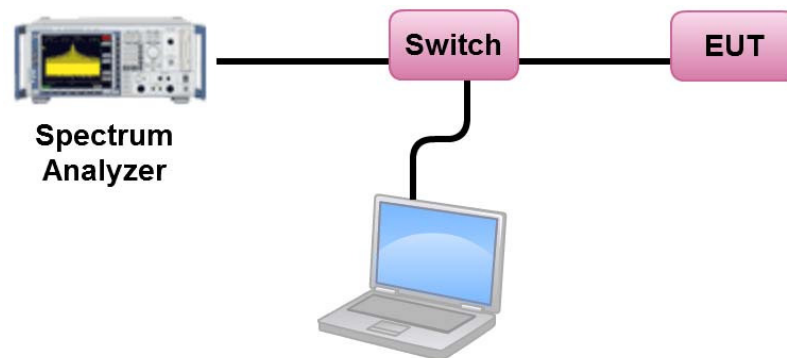
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.3.3. Test Procedures

1. The transmitter output (antenna port) was connected RF switch to the spectrum analyzer.
2. Test was performed in accordance with KDB789033 D02 v01r03 for Compliance Testing of Unlicensed National Information Infrastructure (U-NII) Devices - section (F) Maximum Power Spectral Density (PSD).
3. Multiple antenna systems was performed in accordance KDB662911 D01 v02r01 in-Band Power Spectral Density (PSD) Measurements and sum the spectra across the outputs.

4.3.4. Test Setup Layout



4.3.5. Test Deviation

There is no deviation with the original standard.

4.3.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.3.7. Test Result of Power Spectral Density

| | | | |
|---------------|----------|-----------|----------------------------|
| Temperature | 24°C | Humidity | 60% |
| Test Engineer | Gary Chu | Test Date | May 31, 2016~Aug. 09, 2016 |

| Mode | Frequency | Power Density (dBm/MHz) | Max. Limit (dBm/MHz) | Result |
|-----------------------------|-----------|-------------------------|----------------------|----------|
| 802.11a | 5260 MHz | 7.07 | 10.69 | Complies |
| | 5300 MHz | 10.00 | 10.69 | Complies |
| | 5320 MHz | 6.22 | 10.69 | Complies |
| | 5500 MHz | 5.06 | 10.69 | Complies |
| | 5580 MHz | 8.22 | 10.69 | Complies |
| | 5700 MHz | 4.89 | 10.69 | Complies |
| 802.11ac MCS0/Nss1 VHT20 | 5260 MHz | 5.84 | 5.90 | Complies |
| | 5300 MHz | 5.86 | 5.90 | Complies |
| | 5320 MHz | 5.78 | 5.90 | Complies |
| | 5500 MHz | 5.83 | 5.90 | Complies |
| | 5580 MHz | 5.74 | 5.90 | Complies |
| | 5700 MHz | 5.82 | 5.90 | Complies |
| 802.11ac MCS0/Nss1 VHT40 | 5270 MHz | 5.80 | 5.90 | Complies |
| | 5310 MHz | 2.75 | 5.90 | Complies |
| | 5510 MHz | 1.55 | 5.90 | Complies |
| | 5550 MHz | 5.47 | 5.90 | Complies |
| | 5670 MHz | 5.85 | 5.90 | Complies |
| 802.11ac MCS0/Nss1 VHT80 | 5290 MHz | -2.85 | 5.90 | Complies |
| | 5530 MHz | -5.69 | 5.90 | Complies |
| | 5610 MHz | 4.23 | 5.90 | Complies |

Note: 802.11a : Ant. Gain = 6.31dBi, so limit = 11-(6.31-6)=10.69 (dBm/MHz)

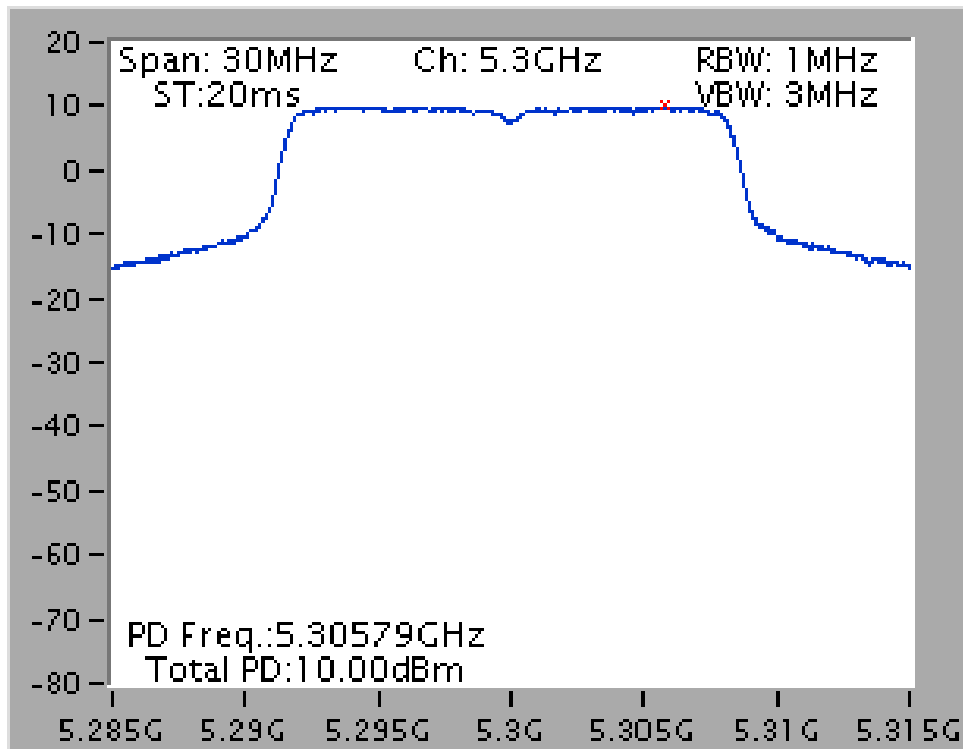
Note: 802.11ac MCS0/Nss1 VHT20/VHT40/VHT80:

$$Directional\ Gain = 10 \log \left[\frac{\sum_{j=1}^{N_{SS}} \left\{ \sum_{K=1}^{N_{ANT}} g_{j,k} \right\}^2}{N_{ANT}} \right] = 11.10 \text{dBi, so limit} = 11 - (11.10 - 6) = 5.90 \text{(dBm/MHz)}$$

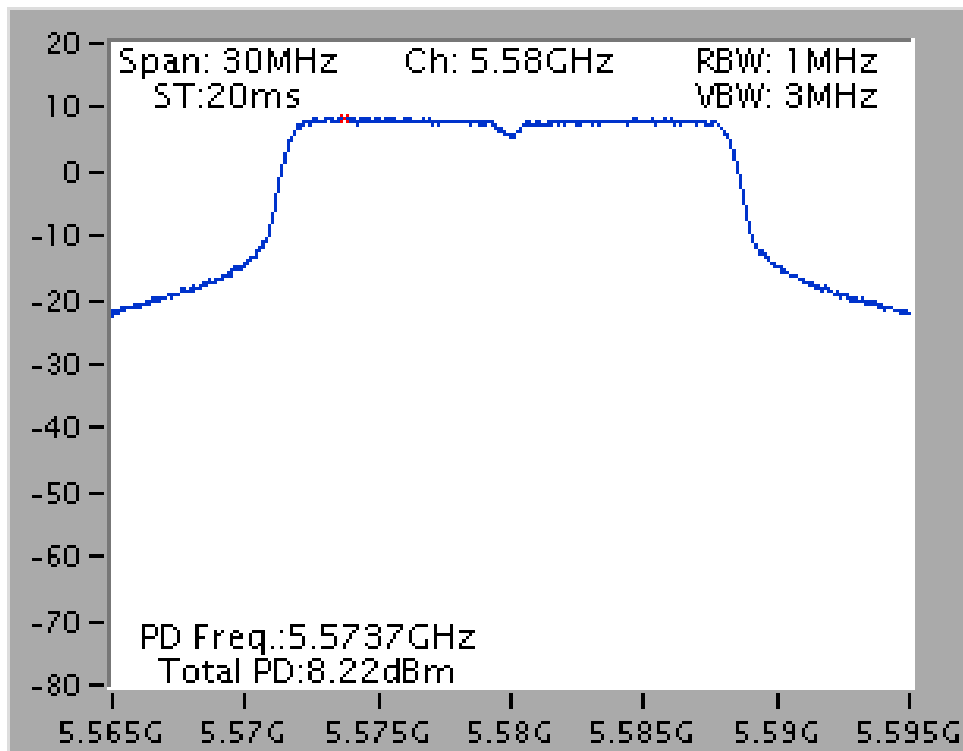
Note: All the test values were listed in the report.

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

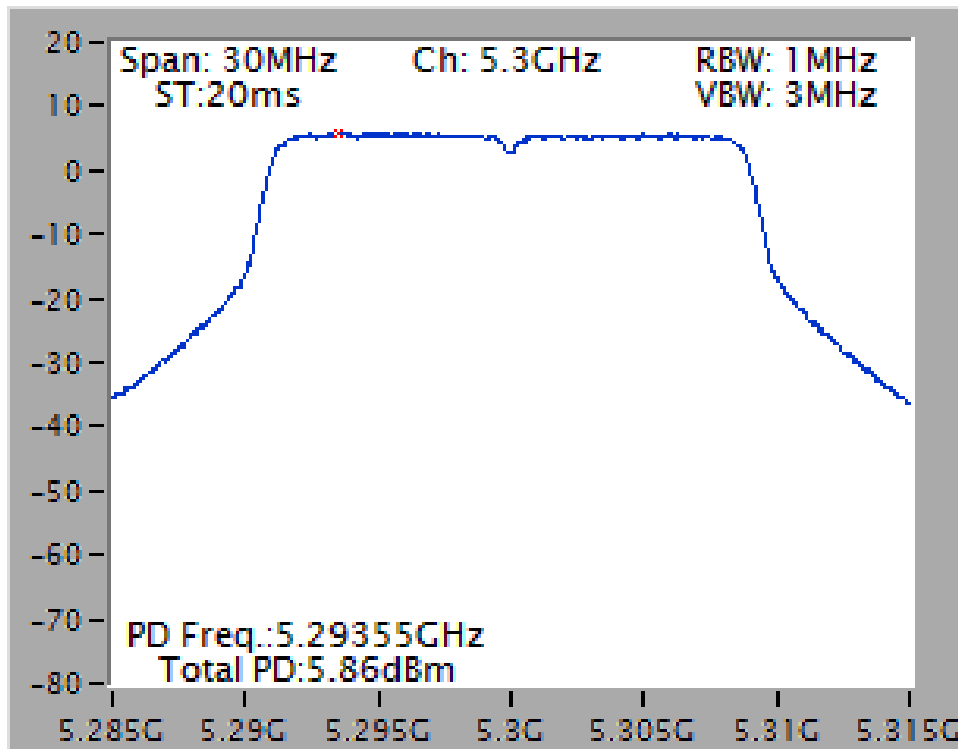
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 / 5300 MHz



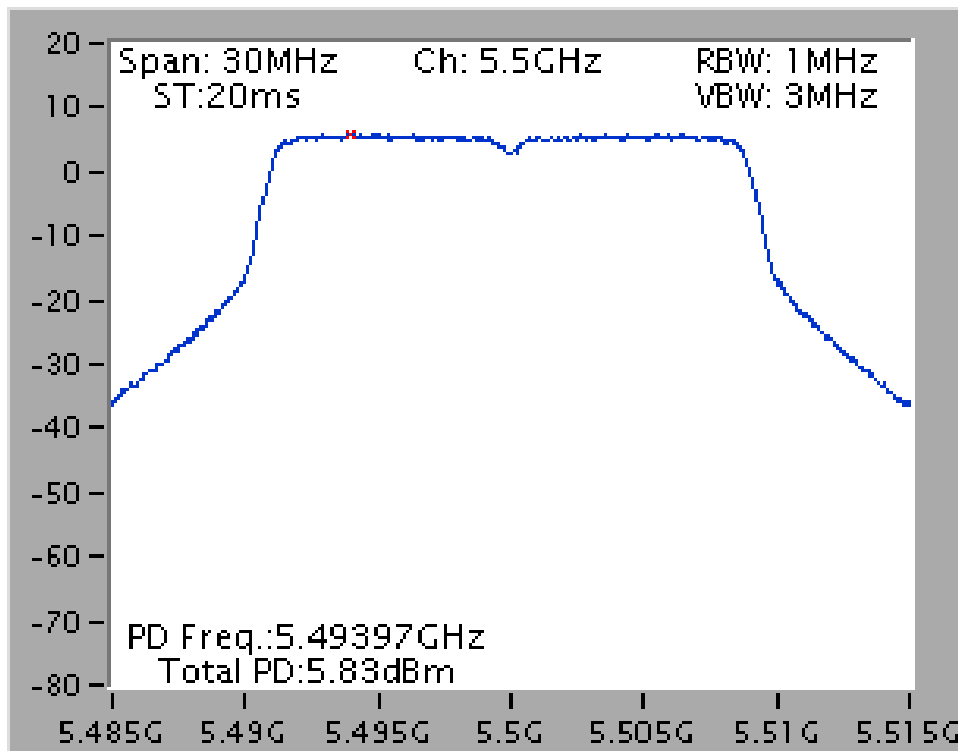
Power Density Plot on Configuration IEEE 802.11a / Ant. 1 / 5580 MHz



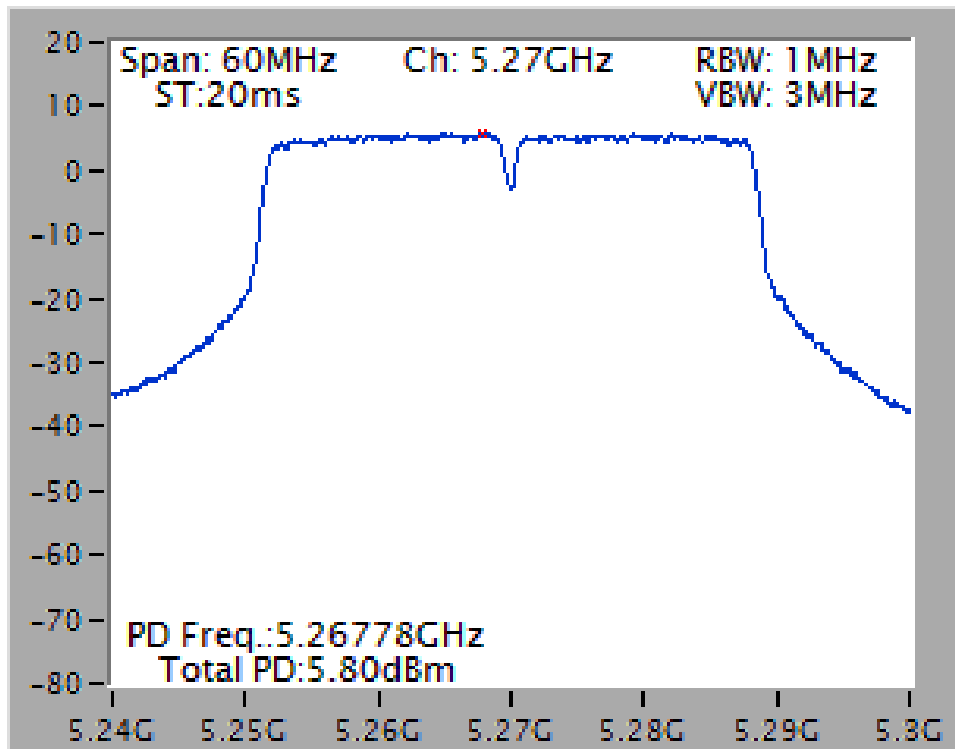
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5300 MHz



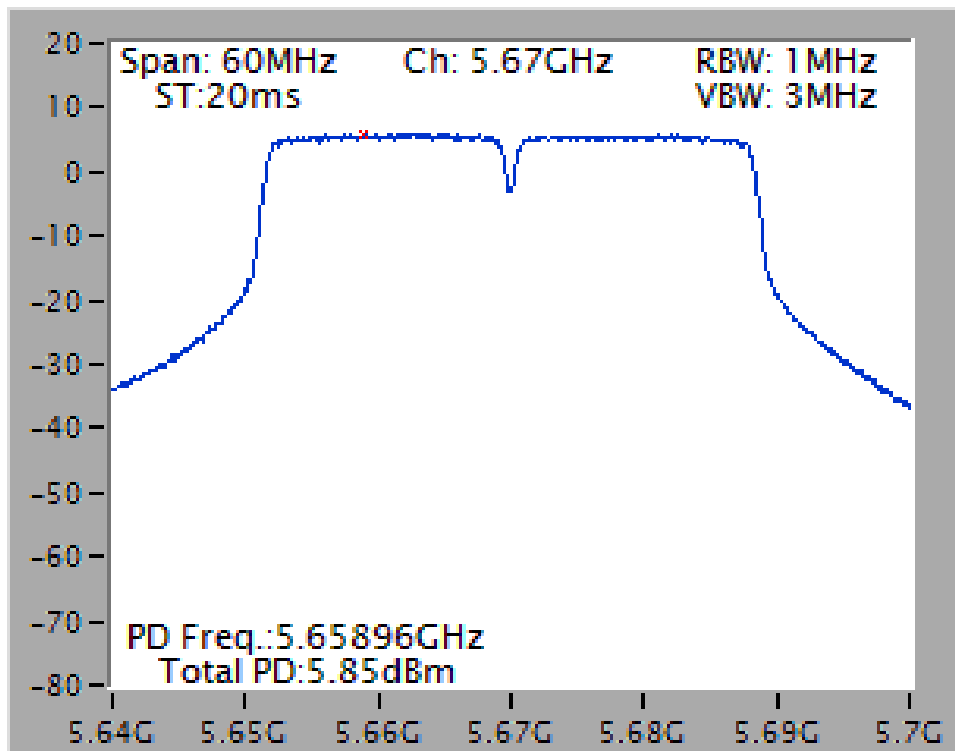
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Ant. 1 + Ant. 2 + Ant. 3 / 5500 MHz



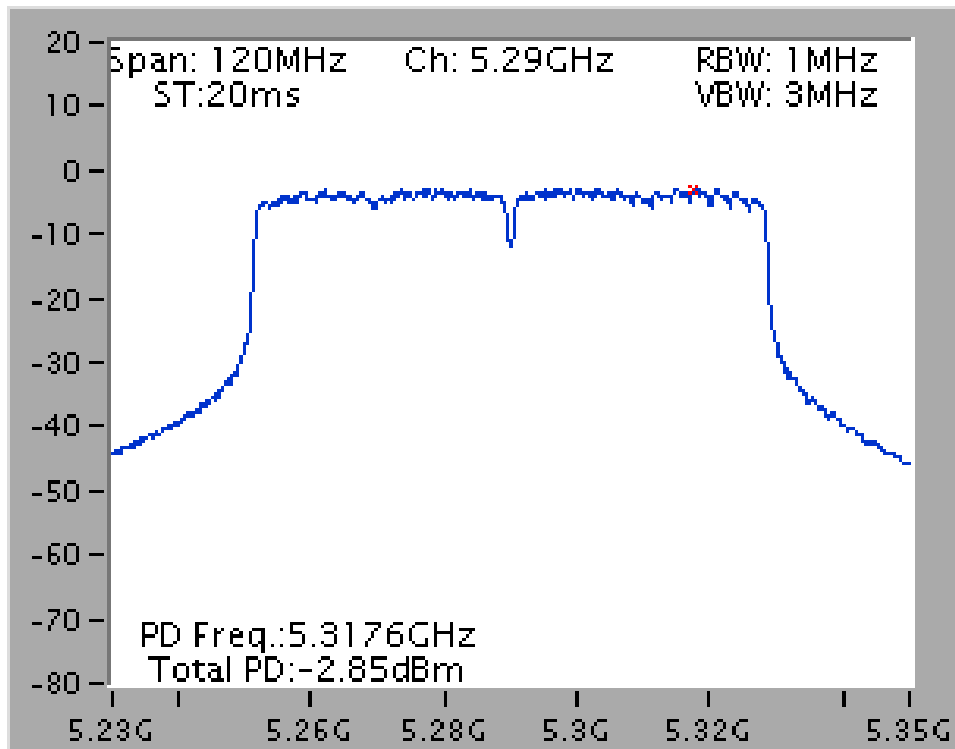
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5270 MHz



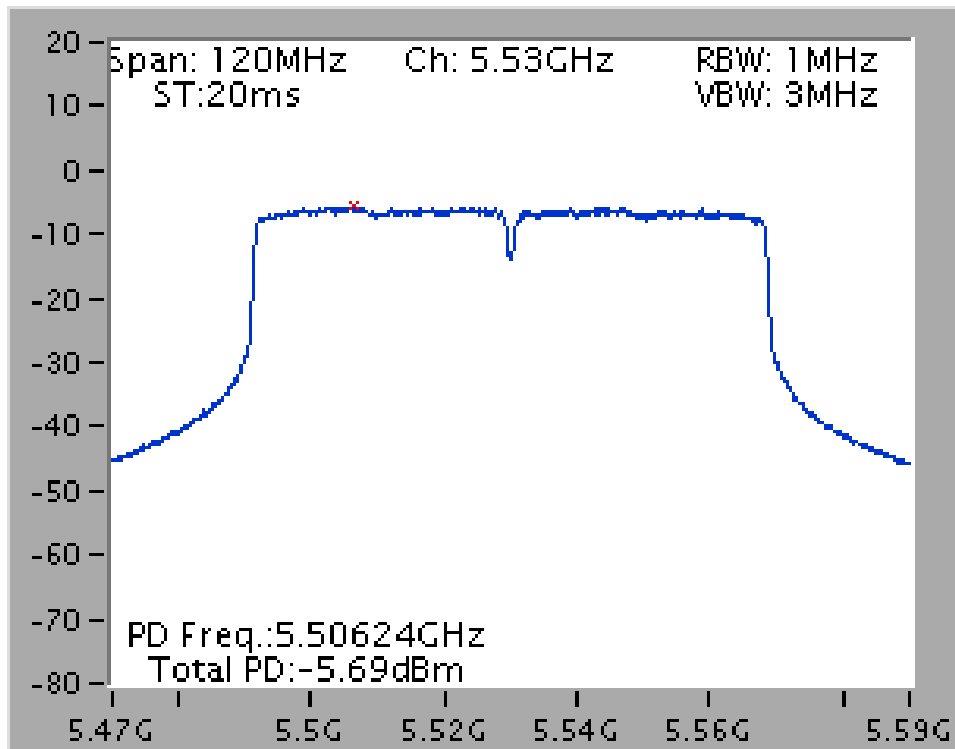
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Ant. 1 + Ant. 2 + Ant. 3 / 5670 MHz



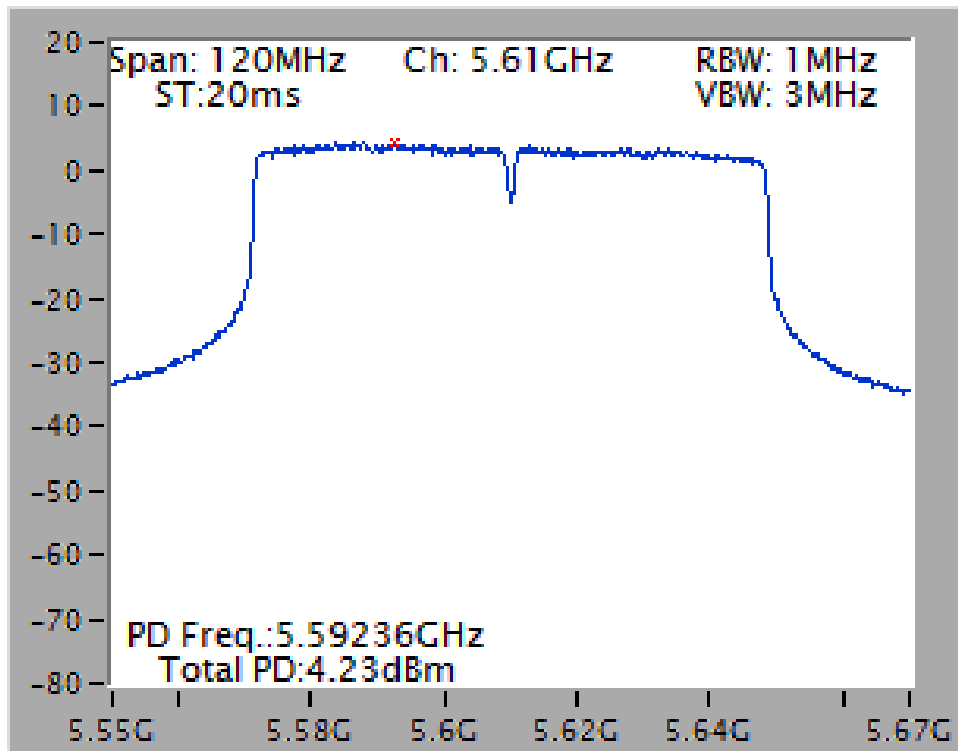
Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5290 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5530 MHz



Power Density Plot on Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Ant. 1 + Ant. 2 + Ant. 3 / 5610 MHz



4.4. Radiated Emissions Measurement

4.4.1. Limit

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

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

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

4.4.2. Measuring Instruments and Setting

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

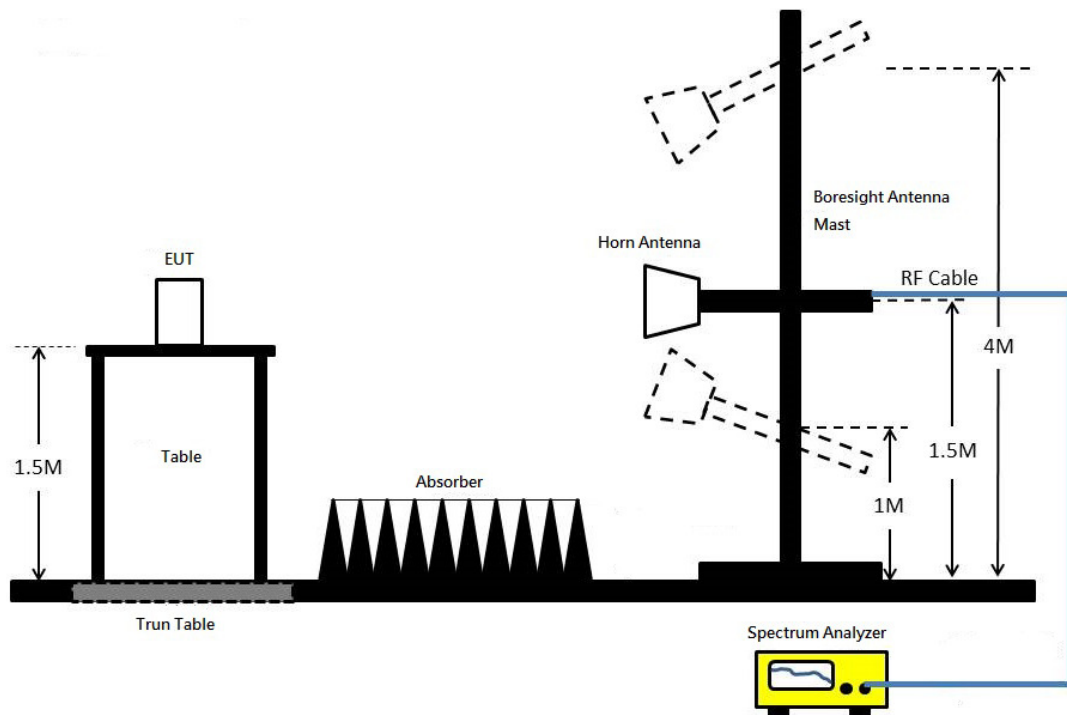
| Spectrum Parameter | Setting |
|---|---|
| Attenuation | Auto |
| Start Frequency | 1000 MHz |
| Stop Frequency | 40 GHz |
| RBW / VBW (Emission in restricted band) | 1 MHz / 3MHz for Peak, 1 MHz / 1/T for Average |
| RBW / VBW (Emission in non-restricted band) | 1 MHz / 3MHz for peak |

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

4.4.3. Test Procedures

1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 1m & 3m far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 1/T VBW for average reading in spectrum analyzer.
7. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
8. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
9. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.4.4. Test Setup Layout



4.4.5. Test Deviation

There is no deviation with the original standard.

4.4.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

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

| | | | |
|---------------|----------------------------|----------------|-----------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 52 / Ant. 1 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15777.24 | 47.26 | 54.00 | -6.74 | 31.31 | 13.37 | 37.97 | 35.39 | 109 | 255 | Average | HORIZONTAL |
| 2 | 15784.94 | 60.10 | 74.00 | -13.90 | 44.18 | 13.39 | 37.92 | 35.39 | 109 | 255 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15776.80 | 60.14 | 74.00 | -13.86 | 44.19 | 13.37 | 37.97 | 35.39 | 127 | 130 | Peak | VERTICAL |
| 2 | 15777.12 | 48.25 | 54.00 | -5.75 | 32.30 | 13.37 | 37.97 | 35.39 | 127 | 130 | Average | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|-----------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 60 / Ant. 1 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10596.80 | 46.96 | 54.00 | -7.04 | 31.08 | 10.96 | 39.88 | 34.96 | 120 | 266 | Average | HORIZONTAL |
| 2 | 10596.82 | 61.17 | 74.00 | -12.83 | 45.29 | 10.96 | 39.88 | 34.96 | 120 | 266 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10595.68 | 48.38 | 54.00 | -5.62 | 32.50 | 10.96 | 39.88 | 34.96 | 120 | 91 | Average | VERTICAL |
| 2 | 10603.36 | 58.32 | 74.00 | -15.68 | 42.44 | 10.96 | 39.88 | 34.96 | 120 | 91 | Peak | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|-----------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 64 / Ant. 1 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10643.72 | 58.21 | 74.00 | -15.79 | 42.32 | 10.98 | 39.90 | 34.99 | 118 | 301 | Peak | HORIZONTAL |
| 2 | 10643.82 | 45.86 | 54.00 | -8.14 | 29.97 | 10.98 | 39.90 | 34.99 | 118 | 301 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10639.16 | 60.01 | 74.00 | -13.99 | 44.12 | 10.98 | 39.90 | 34.99 | 113 | 324 | Peak | VERTICAL |
| 2 | 10641.90 | 45.79 | 54.00 | -8.21 | 29.90 | 10.98 | 39.90 | 34.99 | 113 | 324 | Average | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|------------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 100 / Ant. 1 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11000.32 | 45.54 | 54.00 | -8.46 | 29.26 | 11.25 | 40.20 | 35.17 | 122 | 358 | Average | HORIZONTAL |
| 2 | 11000.62 | 58.15 | 74.00 | -15.85 | 41.87 | 11.25 | 40.20 | 35.17 | 122 | 358 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11003.48 | 45.71 | 54.00 | -8.29 | 29.43 | 11.25 | 40.20 | 35.17 | 111 | 318 | Average | VERTICAL |
| 2 | 11003.72 | 58.38 | 74.00 | -15.62 | 42.10 | 11.25 | 40.20 | 35.17 | 111 | 318 | Peak | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|------------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 116 / Ant. 1 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11157.46 | 46.56 | 54.00 | -7.44 | 30.25 | 11.37 | 40.13 | 35.19 | 119 | 305 | Average | HORIZONTAL |
| 2 | 11160.60 | 59.17 | 74.00 | -14.83 | 42.86 | 11.37 | 40.13 | 35.19 | 119 | 305 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11157.66 | 59.17 | 74.00 | -14.83 | 42.86 | 11.37 | 40.13 | 35.19 | 128 | 224 | Peak | VERTICAL |
| 2 | 11163.22 | 47.67 | 54.00 | -6.33 | 31.36 | 11.37 | 40.13 | 35.19 | 128 | 224 | Average | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|------------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 140 / Ant. 1 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11398.96 | 58.83 | 74.00 | -15.17 | 42.48 | 11.53 | 40.04 | 35.22 | 112 | 137 | Peak | HORIZONTAL |
| 2 | 11402.30 | 45.59 | 54.00 | -8.41 | 29.24 | 11.53 | 40.04 | 35.22 | 112 | 137 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11399.16 | 45.68 | 54.00 | -8.32 | 29.33 | 11.53 | 40.04 | 35.22 | 106 | 202 | Average | VERTICAL |
| 2 | 11402.32 | 58.74 | 74.00 | -15.26 | 42.39 | 11.53 | 40.04 | 35.22 | 106 | 202 | Peak | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 52 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15781.04 | 59.57 | 74.00 | -14.43 | 43.62 | 13.37 | 37.97 | 35.39 | 116 | 2 | Peak | HORIZONTAL |
| 2 | 15782.50 | 46.95 | 54.00 | -7.05 | 31.03 | 13.39 | 37.92 | 35.39 | 116 | 2 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15778.08 | 46.84 | 54.00 | -7.16 | 30.89 | 13.37 | 37.97 | 35.39 | 115 | 93 | Average | VERTICAL |
| 2 | 15779.94 | 59.54 | 74.00 | -14.46 | 43.59 | 13.37 | 37.97 | 35.39 | 115 | 93 | Peak | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 60 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10595.88 | 59.54 | 74.00 | -14.46 | 43.66 | 10.96 | 39.88 | 34.96 | 113 | 183 | Peak | HORIZONTAL |
| 2 | 10596.58 | 46.05 | 54.00 | -7.95 | 30.17 | 10.96 | 39.88 | 34.96 | 113 | 183 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10597.72 | 59.13 | 74.00 | -14.87 | 43.25 | 10.96 | 39.88 | 34.96 | 112 | 110 | Peak | VERTICAL |
| 2 | 10603.22 | 46.17 | 54.00 | -7.83 | 30.29 | 10.96 | 39.88 | 34.96 | 112 | 110 | Average | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 64 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10637.38 | 45.78 | 54.00 | -8.22 | 29.87 | 10.98 | 39.90 | 34.97 | 110 | 197 | Average | HORIZONTAL |
| 2 | 10642.78 | 58.02 | 74.00 | -15.98 | 42.13 | 10.98 | 39.90 | 34.99 | 110 | 197 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10640.44 | 45.71 | 54.00 | -8.29 | 29.82 | 10.98 | 39.90 | 34.99 | 113 | 77 | Average | VERTICAL |
| 2 | 10640.54 | 58.40 | 74.00 | -15.60 | 42.51 | 10.98 | 39.90 | 34.99 | 113 | 77 | Peak | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 100 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10995.52 | 58.35 | 74.00 | -15.65 | 42.12 | 11.23 | 40.17 | 35.17 | 119 | 145 | Peak | HORIZONTAL |
| 2 | 11003.18 | 45.45 | 54.00 | -8.55 | 29.17 | 11.25 | 40.20 | 35.17 | 119 | 145 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 10997.42 | 58.69 | 74.00 | -15.31 | 42.41 | 11.25 | 40.20 | 35.17 | 118 | 89 | Peak | VERTICAL |
| 2 | 11000.52 | 45.52 | 54.00 | -8.48 | 29.24 | 11.25 | 40.20 | 35.17 | 118 | 89 | Average | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 116 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11158.24 | 46.50 | 54.00 | -7.50 | 30.19 | 11.37 | 40.13 | 35.19 | 113 | 141 | Average | HORIZONTAL |
| 2 | 11161.00 | 60.29 | 74.00 | -13.71 | 43.98 | 11.37 | 40.13 | 35.19 | 113 | 141 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11157.48 | 46.57 | 54.00 | -7.43 | 30.26 | 11.37 | 40.13 | 35.19 | 116 | 64 | Average | VERTICAL |
| 2 | 11159.92 | 59.45 | 74.00 | -14.55 | 43.14 | 11.37 | 40.13 | 35.19 | 116 | 64 | Peak | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 140 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11400.42 | 45.36 | 54.00 | -8.64 | 29.01 | 11.53 | 40.04 | 35.22 | 113 | 116 | Average | HORIZONTAL |
| 2 | 11405.00 | 57.83 | 74.00 | -16.17 | 41.48 | 11.53 | 40.04 | 35.22 | 113 | 116 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11399.40 | 57.74 | 74.00 | -16.26 | 41.39 | 11.53 | 40.04 | 35.22 | 112 | 69 | Peak | VERTICAL |
| 2 | 11399.78 | 45.16 | 54.00 | -8.84 | 28.81 | 11.53 | 40.04 | 35.22 | 112 | 69 | Average | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 54 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15805.40 | 46.80 | 54.00 | -7.20 | 30.88 | 13.39 | 37.92 | 35.39 | 120 | 8 | Average | HORIZONTAL |
| 2 | 15808.90 | 59.85 | 74.00 | -14.15 | 43.93 | 13.39 | 37.92 | 35.39 | 120 | 8 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15806.22 | 59.67 | 74.00 | -14.33 | 43.75 | 13.39 | 37.92 | 35.39 | 118 | 90 | Peak | VERTICAL |
| 2 | 15813.42 | 47.02 | 54.00 | -6.98 | 31.10 | 13.39 | 37.92 | 35.39 | 118 | 90 | Average | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 62 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|----------|--------|------------|------------|------------|------------|----------------|---------------|-------|-------|---------|------------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 10616.36 | 45.73 | 54.00 | -8.27 | 29.86 | 10.96 | 39.88 | 34.97 | 120 | 233 | Average | HORIZONTAL |
| 2 | 10618.86 | 58.80 | 74.00 | -15.20 | 42.93 | 10.96 | 39.88 | 34.97 | 120 | 233 | 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 | 10615.08 | 45.84 | 54.00 | -8.16 | 29.97 | 10.96 | 39.88 | 34.97 | 120 | 235 | Average | VERTICAL |
| 2 | 10624.14 | 58.94 | 74.00 | -15.06 | 43.03 | 10.98 | 39.90 | 34.97 | 120 | 235 | Peak | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 102 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11020.24 | 45.13 | 54.00 | -8.87 | 28.85 | 11.25 | 40.20 | 35.17 | 113 | 124 | Average | HORIZONTAL |
| 2 | 11020.30 | 57.55 | 74.00 | -16.45 | 41.27 | 11.25 | 40.20 | 35.17 | 113 | 124 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11017.62 | 45.37 | 54.00 | -8.63 | 29.09 | 11.25 | 40.20 | 35.17 | 114 | 114 | Average | VERTICAL |
| 2 | 11024.16 | 58.21 | 74.00 | -15.79 | 41.93 | 11.25 | 40.20 | 35.17 | 114 | 114 | Peak | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 110 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11095.98 | 46.22 | 54.00 | -7.78 | 29.92 | 11.32 | 40.16 | 35.18 | 111 | 132 | Average | HORIZONTAL |
| 2 | 11104.60 | 59.08 | 74.00 | -14.92 | 42.78 | 11.32 | 40.16 | 35.18 | 111 | 132 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11095.64 | 46.27 | 54.00 | -7.73 | 29.97 | 11.32 | 40.16 | 35.18 | 114 | 174 | Average | VERTICAL |
| 2 | 11097.80 | 58.77 | 74.00 | -15.23 | 42.47 | 11.32 | 40.16 | 35.18 | 114 | 174 | Peak | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 134 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11335.88 | 57.70 | 74.00 | -16.30 | 41.36 | 11.48 | 40.07 | 35.21 | 109 | 188 | Peak | HORIZONTAL |
| 2 | 11343.34 | 45.58 | 54.00 | -8.42 | 29.24 | 11.48 | 40.07 | 35.21 | 109 | 188 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11336.90 | 57.66 | 74.00 | -16.34 | 41.32 | 11.48 | 40.07 | 35.21 | 108 | 197 | Peak | VERTICAL |
| 2 | 11340.20 | 45.42 | 54.00 | -8.58 | 29.08 | 11.48 | 40.07 | 35.21 | 108 | 197 | Average | VERTICAL |



| | | | |
|----------------------|----------------------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT80 CH 58 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15873.84 | 59.93 | 74.00 | -14.07 | 44.08 | 13.44 | 37.81 | 35.40 | 114 | 163 | Peak | HORIZONTAL |
| 2 | 15874.88 | 47.40 | 54.00 | -6.60 | 31.55 | 13.44 | 37.81 | 35.40 | 114 | 163 | Average | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 15873.90 | 59.39 | 74.00 | -14.61 | 43.54 | 13.44 | 37.81 | 35.40 | 116 | 71 | Peak | VERTICAL |
| 2 | 15874.72 | 47.77 | 54.00 | -6.23 | 31.92 | 13.44 | 37.81 | 35.40 | 116 | 71 | Average | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT80 CH 106 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11056.74 | 46.20 | 54.00 | -7.80 | 29.90 | 11.28 | 40.19 | 35.17 | 113 | 253 | Average | HORIZONTAL |
| 2 | 11061.40 | 58.88 | 74.00 | -15.12 | 42.58 | 11.30 | 40.17 | 35.17 | 113 | 253 | Peak | HORIZONTAL |

Vertical

| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 11058.30 | 58.50 | 74.00 | -15.50 | 42.20 | 11.28 | 40.19 | 35.17 | 114 | 195 | Peak | VERTICAL |
| 2 | 11062.58 | 45.99 | 54.00 | -8.01 | 29.69 | 11.30 | 40.17 | 35.17 | 114 | 195 | Average | VERTICAL |

| | | | |
|----------------------|----------------------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT80 CH 122 / Ant. 1 + Ant. 2 + Ant. 3 |
| Test Date | May 20, 2016~Aug. 09, 2016 | | |

Horizontal

| | Freq | Level | Limit Line | Over Limit | Read Level | Cable Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|---|----------|--------|------------|------------|------------|------------|----------------|---------------|-------|-------|---------|------------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 11219.55 | 55.71 | 74.00 | -18.29 | 42.19 | 9.66 | 38.50 | 34.64 | 190 | 145 | Peak | HORIZONTAL |
| 2 | 11219.58 | 42.56 | 54.00 | -11.44 | 29.04 | 9.66 | 38.50 | 34.64 | 190 | 145 | 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 | 11218.68 | 55.55 | 74.00 | -18.45 | 42.03 | 9.66 | 38.50 | 34.64 | 237 | 321 | Peak | VERTICAL |
| 2 | 11219.86 | 42.16 | 54.00 | -11.84 | 28.64 | 9.66 | 38.50 | 34.64 | 237 | 321 | Average | VERTICAL |

Note:

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

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

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

4.5. Band Edge Emissions Measurement

4.5.1. Limit

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

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

In addition, In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

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

4.5.2. Measuring Instruments and Setting

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

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

4.5.3. Test Procedures

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

4.5.4. Test Setup Layout

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

4.5.5. Test Deviation

There is no deviation with the original standard.

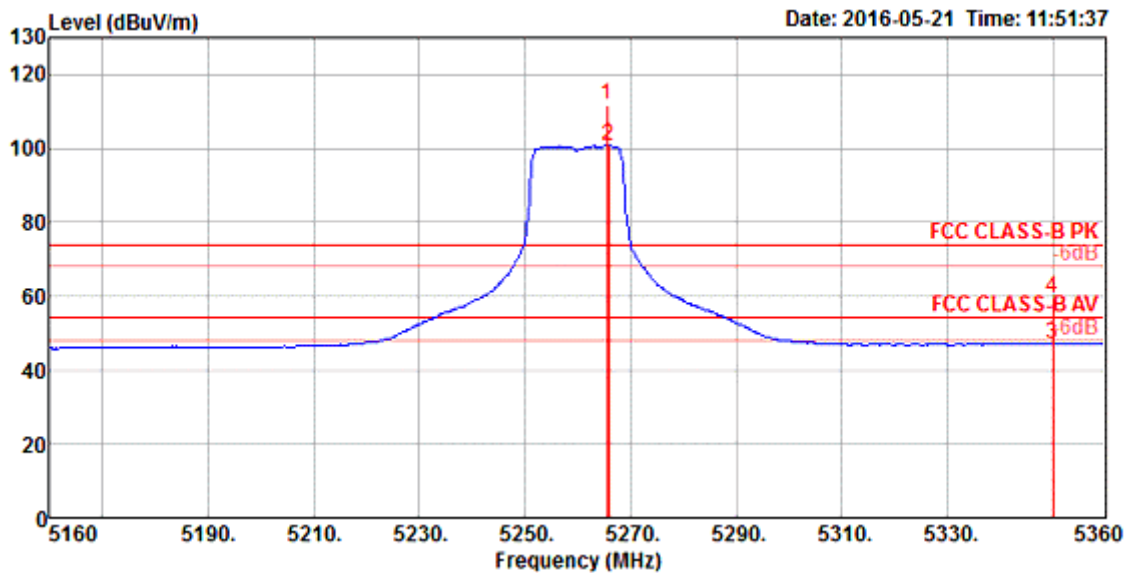
4.5.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.5.7. Test Result of Band Edge and Fundamental Emissions

| | | | |
|---------------|------------|----------------|-------------------------------------|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 52, 60, 64 / Ant. 1 |

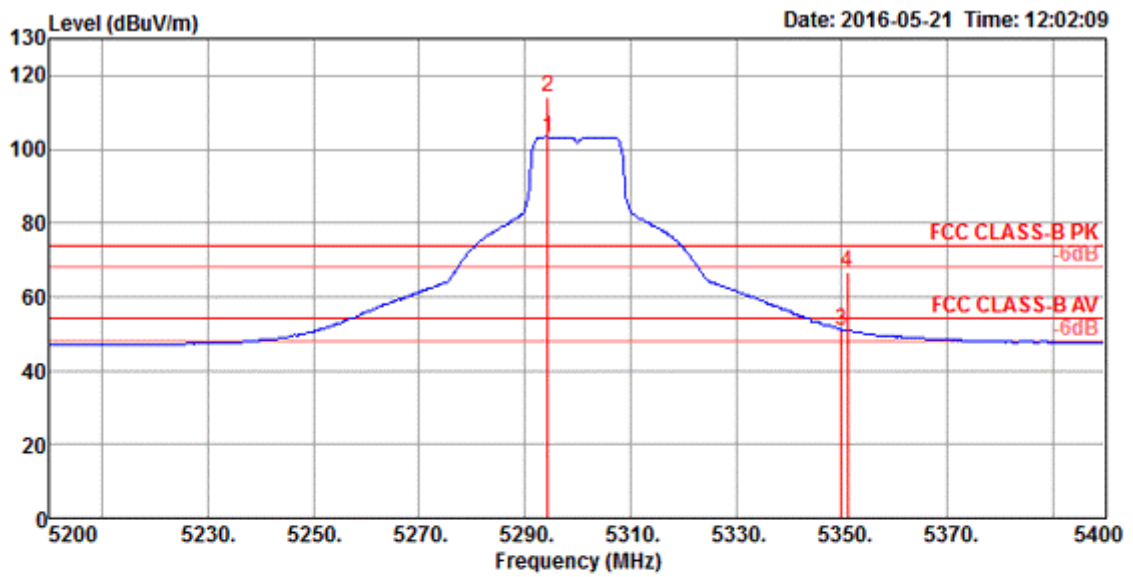
Channel 52



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|-----|---------|--------|--------|--------|--------|--------------|--------|-------|-------|------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 0 | 5265.60 | 111.66 | | | 105.64 | 7.33 | 31.62 | 32.93 | 181 | 48 Peak | VERTICAL |
| 2 0 | 5266.00 | 100.67 | | | 94.65 | 7.33 | 31.62 | 32.93 | 181 | 48 Average | VERTICAL |
| 3 | 5350.00 | 46.88 | 54.00 | -7.12 | 40.76 | 7.37 | 31.68 | 32.93 | 181 | 48 Average | VERTICAL |
| 4 | 5350.00 | 59.25 | 74.00 | -14.75 | 53.13 | 7.37 | 31.68 | 32.93 | 181 | 48 Peak | VERTICAL |

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

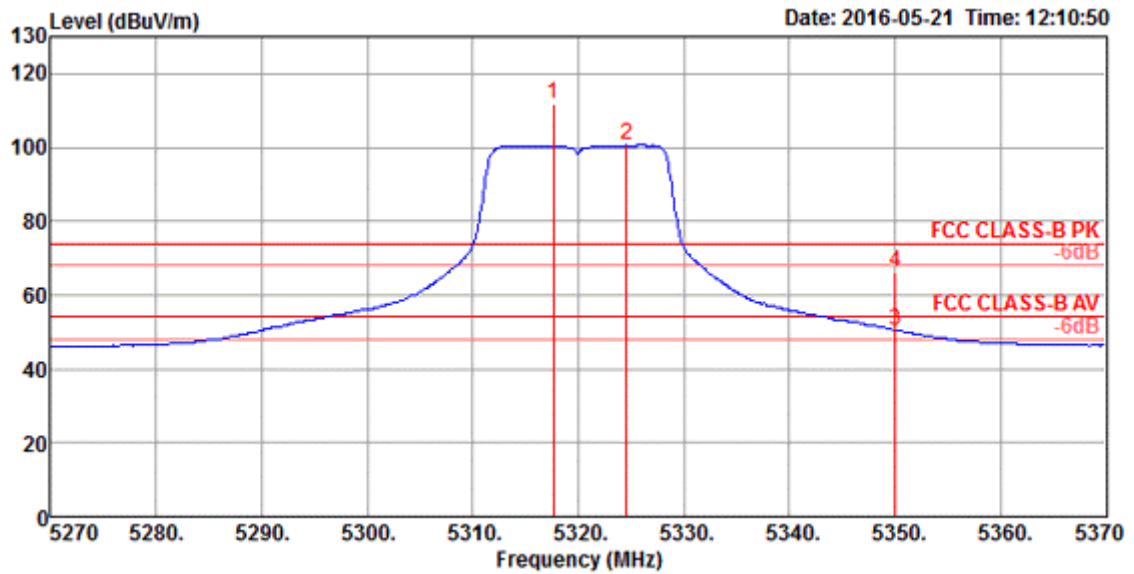
Channel 60



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase | |
|---|------|---------|--------|-------|--------|--------------|--------|-------|-------|------------|------------|----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 0 | 5294.40 | 103.30 | | 97.25 | 7.34 | 31.64 | 32.93 | 189 | 51 Average | VERTICAL | |
| 2 | 0 | 5294.40 | 114.19 | | 108.14 | 7.34 | 31.64 | 32.93 | 189 | 51 Peak | VERTICAL | |
| 3 | | 5350.00 | 51.02 | 54.00 | -2.98 | 44.90 | 7.37 | 31.68 | 32.93 | 189 | 51 Average | VERTICAL |
| 4 | | 5351.20 | 66.66 | 74.00 | -7.34 | 60.54 | 7.37 | 31.68 | 32.93 | 189 | 51 Peak | VERTICAL |

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

Channel 64

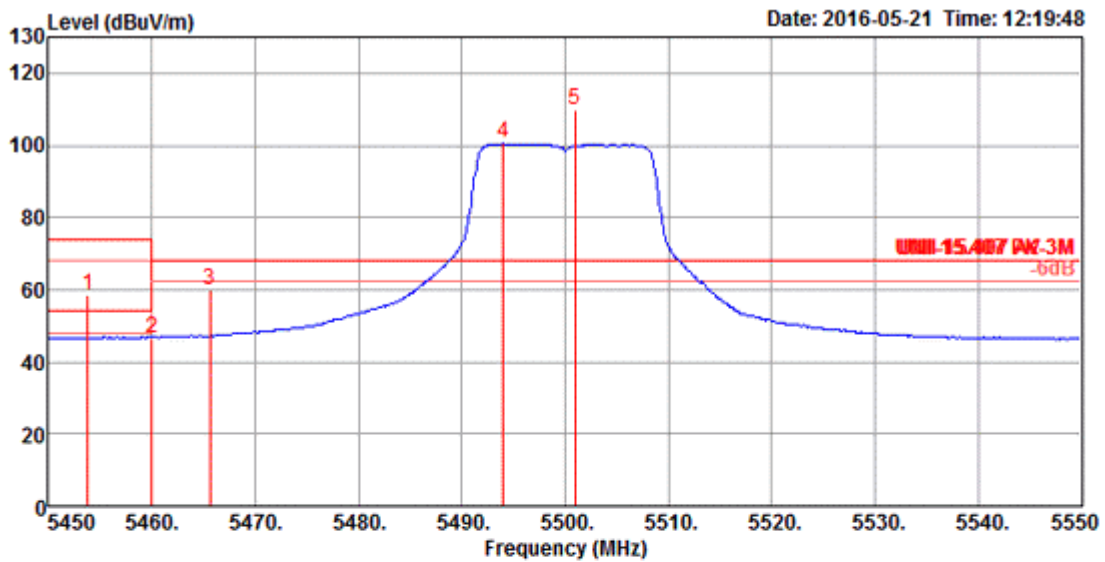


| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna Loss | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase | | |
|---|------|---------|------------|------------|------------|-------------------|---------------|-------|-------|--------|-----------|----------|----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | | |
| 1 | 0 | 5317.60 | 111.65 | | 105.58 | 7.35 | 31.65 | 32.93 | 187 | 40 | Peak | VERTICAL | |
| 2 | 0 | 5324.60 | 100.55 | | 94.45 | 7.36 | 31.67 | 32.93 | 187 | 40 | Average | VERTICAL | |
| 3 | | 5350.00 | 50.39 | 54.00 | -3.61 | 44.27 | 7.37 | 31.68 | 32.93 | 187 | 40 | Average | VERTICAL |
| 4 | | 5350.00 | 66.41 | 74.00 | -7.59 | 60.29 | 7.37 | 31.68 | 32.93 | 187 | 40 | Peak | VERTICAL |

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

| | | | |
|---------------|------------|----------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11a CH 100, 116, 140 / Ant. 1 |

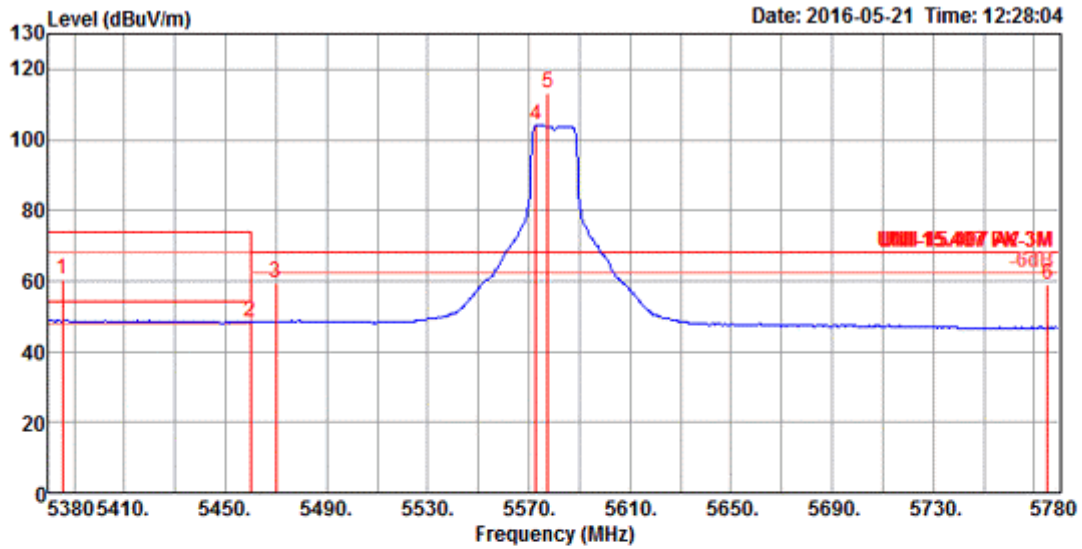
Channel 100



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|--------|--------------|--------|-------|-------|--------|------------------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5453.80 | 58.50 | 74.00 | -15.50 | 52.20 | 7.46 | 31.76 | 32.92 | 160 | 65 | Peak VERTICAL |
| 2 | 5460.00 | 46.74 | 54.00 | -7.26 | 40.44 | 7.46 | 31.76 | 32.92 | 160 | 65 | Average VERTICAL |
| 3 | 5465.60 | 59.81 | 68.20 | -8.39 | 53.47 | 7.48 | 31.78 | 32.92 | 160 | 65 | Peak VERTICAL |
| 4 | 5494.00 | 100.53 | | | 94.17 | 7.49 | 31.79 | 32.92 | 160 | 65 | Average VERTICAL |
| 5 | 5501.00 | 110.04 | | | 103.65 | 7.51 | 31.80 | 32.92 | 160 | 65 | Peak VERTICAL |

Item 4, 5 are the fundamental frequency at 5500 MHz.

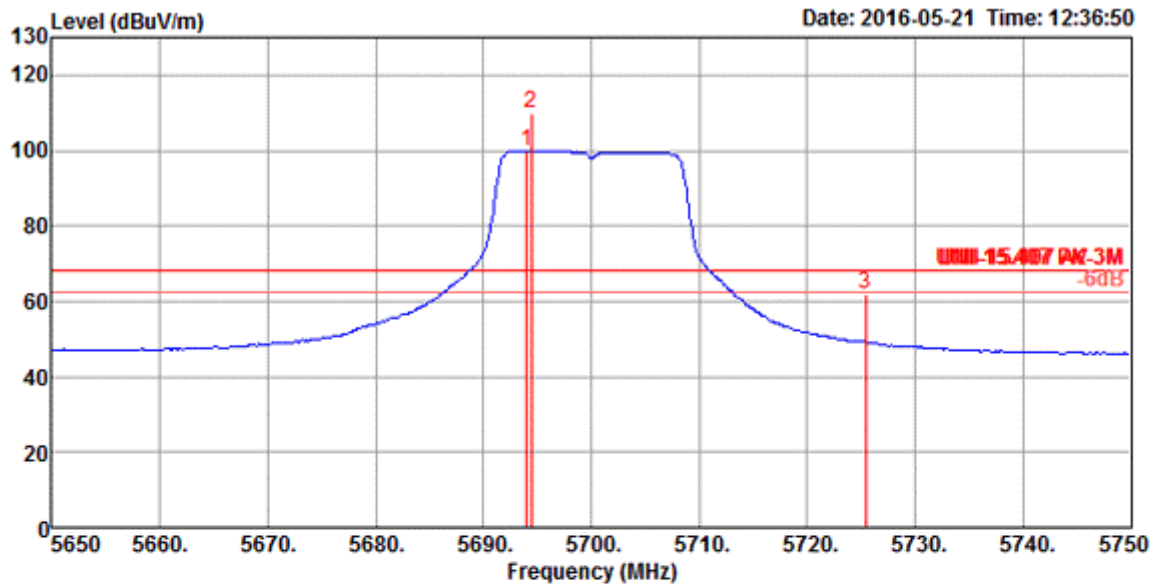
Channel 116



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|-----|---------|--------|--------|--------|--------|--------------|--------|-------|-------|------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5385.60 | 60.61 | 74.00 | -13.39 | 54.42 | 7.40 | 31.72 | 32.93 | 185 | 69 Peak | VERTICAL |
| 2 | 5460.00 | 48.40 | 54.00 | -5.60 | 42.10 | 7.46 | 31.76 | 32.92 | 185 | 69 Average | VERTICAL |
| 3 | 5470.00 | 59.63 | 68.20 | -8.57 | 53.29 | 7.48 | 31.78 | 32.92 | 185 | 69 Peak | VERTICAL |
| 4 0 | 5572.80 | 103.93 | | | 97.43 | 7.57 | 31.88 | 32.95 | 185 | 69 Average | VERTICAL |
| 5 0 | 5577.60 | 113.33 | | | 106.80 | 7.58 | 31.90 | 32.95 | 185 | 69 Peak | VERTICAL |
| 6 | 5775.20 | 58.97 | 68.20 | -9.23 | 52.10 | 7.76 | 32.14 | 33.03 | 185 | 69 Peak | VERTICAL |

Item 4, 5 are the fundamental frequency at 5580 MHz.

Channel 140

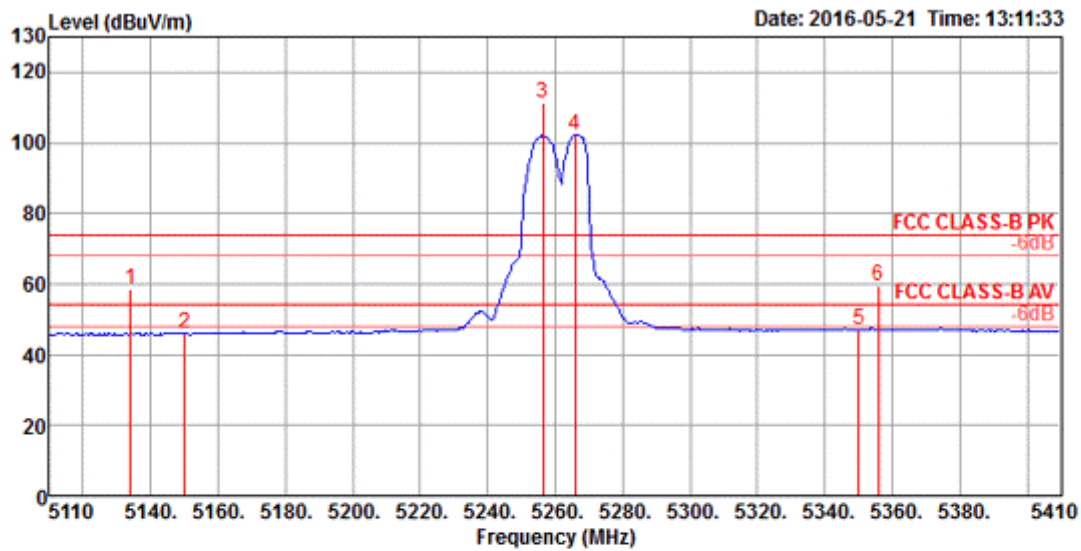


| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna Loss | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase |
|-----|---------|--------|------------|------------|------------|-------------------|---------------|-------|-------|------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 0 | 5694.00 | 99.85 | | | 93.13 | 7.68 | 32.04 | 33.00 | 196 | 67 Average | VERTICAL |
| 2 0 | 5694.40 | 109.80 | | | 103.08 | 7.68 | 32.04 | 33.00 | 196 | 67 Peak | VERTICAL |
| 3 | 5725.40 | 61.73 | 68.20 | -6.47 | 54.94 | 7.71 | 32.08 | 33.00 | 196 | 67 Peak | VERTICAL |

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

| | | | |
|----------------------|------------|-----------------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 52, 60, 64 / Ant. 1 + Ant. 2 + Ant. 3 |

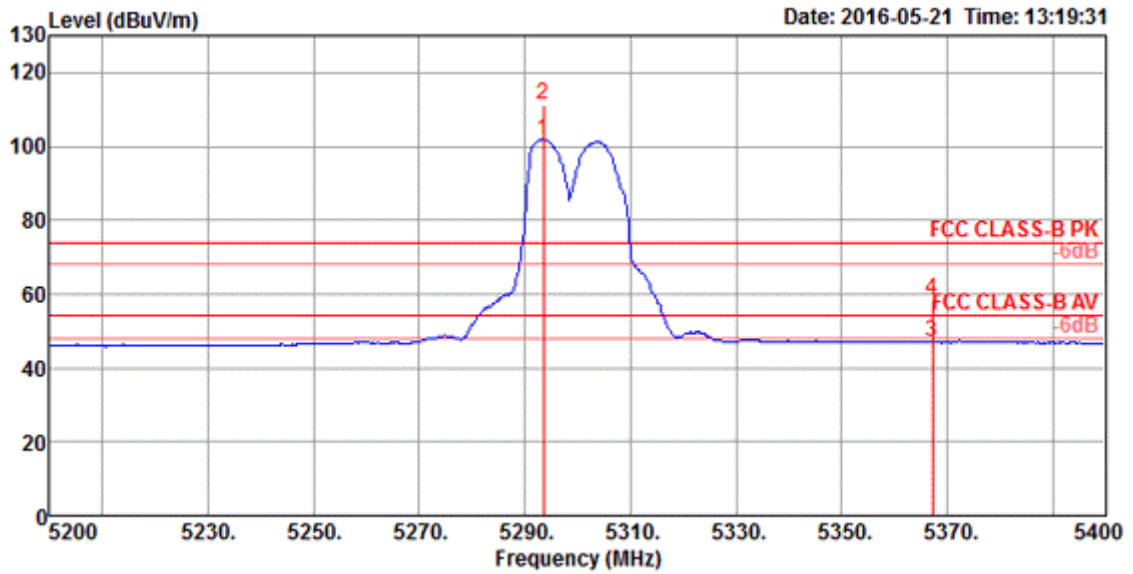
Channel 52



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|--------|--------------|--------|-------|-------|------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5134.00 | 58.54 | 74.00 | -15.46 | 52.75 | 7.22 | 31.51 | 32.94 | 206 | 53 Peak | VERTICAL |
| 2 | 5150.00 | 46.04 | 54.00 | -7.96 | 40.23 | 7.23 | 31.52 | 32.94 | 206 | 53 Average | VERTICAL |
| 3 | 5256.40 | 111.52 | | | 105.52 | 7.32 | 31.61 | 32.93 | 206 | 53 Peak | VERTICAL |
| 4 | 5266.00 | 102.25 | | | 96.23 | 7.33 | 31.62 | 32.93 | 206 | 53 Average | VERTICAL |
| 5 | 5350.00 | 46.96 | 54.00 | -7.04 | 40.84 | 7.37 | 31.68 | 32.93 | 206 | 53 Average | VERTICAL |
| 6 | 5356.00 | 59.65 | 74.00 | -14.35 | 53.51 | 7.38 | 31.69 | 32.93 | 206 | 53 Peak | VERTICAL |

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

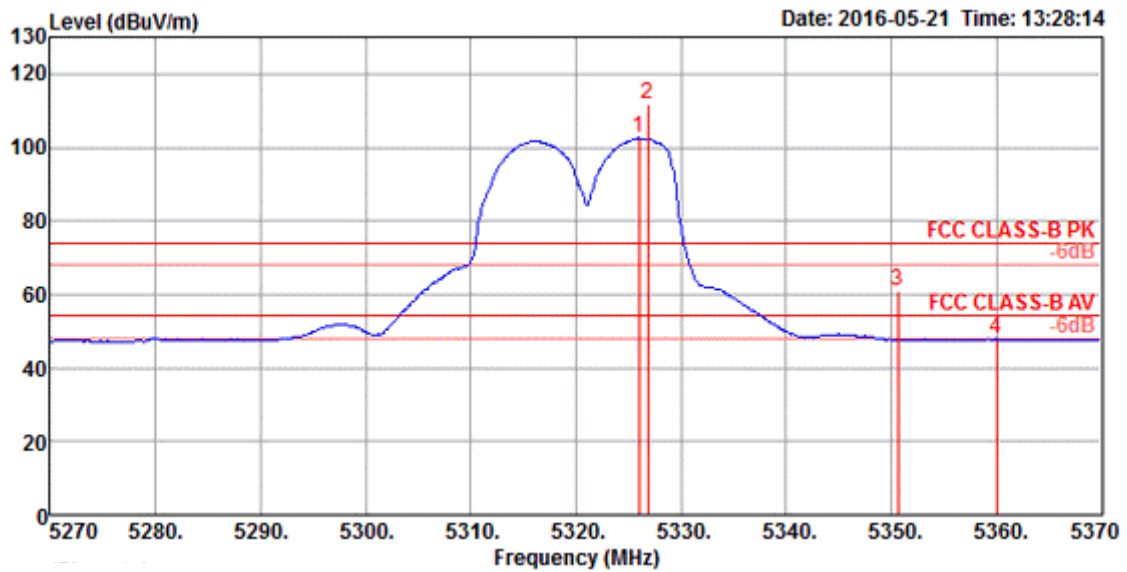
Channel 60



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase | |
|---|------|---------|--------|-------|--------|--------------|--------|-------|-------|------------|------------|----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 0 | 5293.60 | 101.89 | | 95.84 | 7.34 | 31.64 | 32.93 | 192 | 24 Average | VERTICAL | |
| 2 | 0 | 5293.60 | 111.40 | | 105.35 | 7.34 | 31.64 | 32.93 | 192 | 24 Peak | VERTICAL | |
| 3 | | 5367.20 | 47.21 | 54.00 | -6.79 | 41.07 | 7.38 | 31.69 | 32.93 | 192 | 24 Average | VERTICAL |
| 4 | | 5367.20 | 58.73 | 74.00 | -15.27 | 52.59 | 7.38 | 31.69 | 32.93 | 192 | 24 Peak | VERTICAL |

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

Channel 64

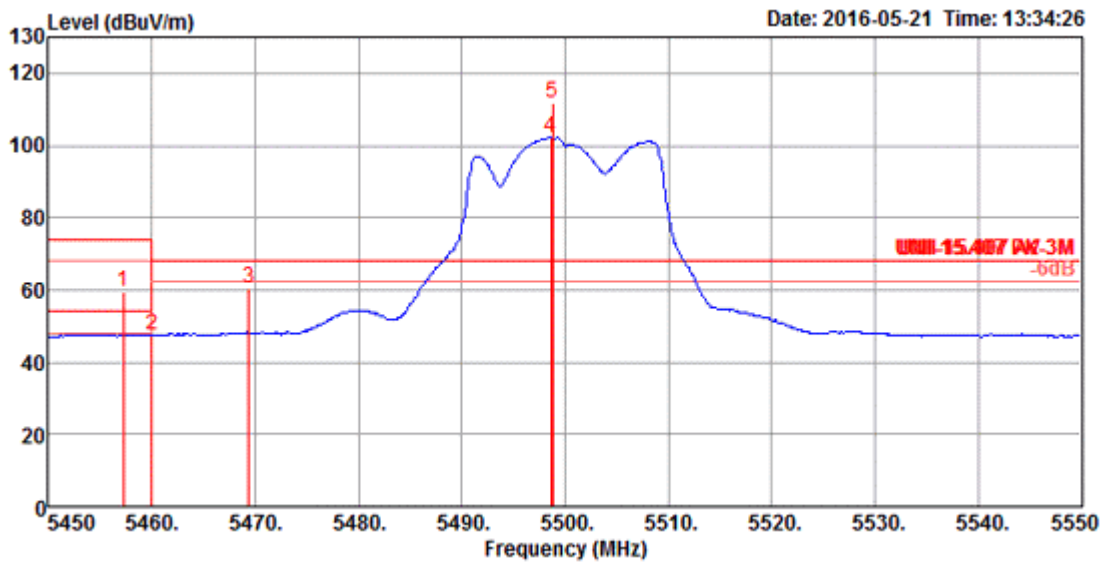


| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna Loss | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase | |
|---|------|---------|------------|------------|------------|-------------------|---------------|-------|-------|------------|------------|----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 0 | 5326.00 | 102.66 | | 96.56 | 7.36 | 31.67 | 32.93 | 207 | 51 Average | VERTICAL | |
| 2 | 0 | 5326.80 | 111.88 | | 105.78 | 7.36 | 31.67 | 32.93 | 207 | 51 Peak | VERTICAL | |
| 3 | | 5350.60 | 60.96 | 74.00 | -13.04 | 54.84 | 7.37 | 31.68 | 32.93 | 207 | 51 Peak | VERTICAL |
| 4 | | 5360.00 | 47.85 | 54.00 | -6.15 | 41.71 | 7.38 | 31.69 | 32.93 | 207 | 51 Average | VERTICAL |

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

| | | | |
|----------------------|------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT20 CH 100, 116, 140 / Ant. 1 + Ant. 2 + Ant. 3 |

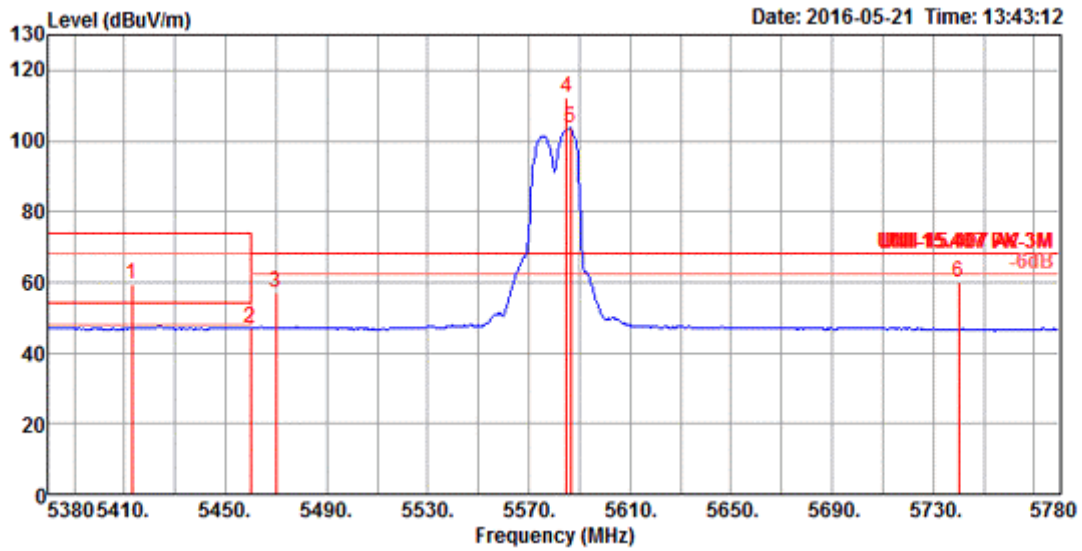
Channel 100



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|--------|--------------|--------|-------|-------|--------|------------------|
| | MHz | dBUV/m | dBUV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5457.20 | 59.41 | 74.00 | -14.59 | 53.11 | 7.46 | 31.76 | 32.92 | 185 | 65 | Peak VERTICAL |
| 2 | 5460.00 | 47.40 | 54.00 | -6.60 | 41.10 | 7.46 | 31.76 | 32.92 | 185 | 65 | Average VERTICAL |
| 3 | 5469.40 | 60.62 | 68.20 | -7.58 | 54.28 | 7.48 | 31.78 | 32.92 | 185 | 65 | Peak VERTICAL |
| 4 | 5498.60 | 102.14 | | | 95.75 | 7.51 | 31.80 | 32.92 | 185 | 65 | Average VERTICAL |
| 5 | 5498.80 | 111.67 | | | 105.28 | 7.51 | 31.80 | 32.92 | 185 | 65 | Peak VERTICAL |

Item 4, 5 are the fundamental frequency at 5500 MHz.

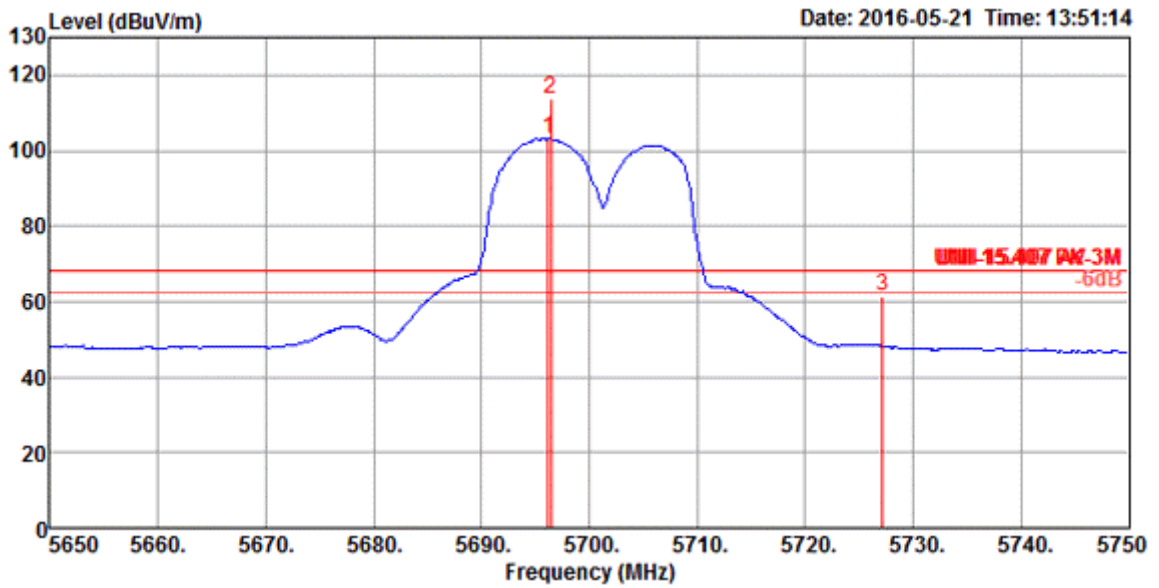
Channel 116



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|-----|---------|--------|--------|--------|--------|--------------|--------|-------|-------|------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5412.80 | 59.65 | 74.00 | -14.35 | 53.43 | 7.42 | 31.73 | 32.93 | 210 | 72 Peak | VERTICAL |
| 2 | 5460.00 | 46.89 | 54.00 | -7.11 | 40.59 | 7.46 | 31.76 | 32.92 | 210 | 72 Average | VERTICAL |
| 3 | 5470.00 | 57.09 | 68.20 | -11.11 | 50.75 | 7.48 | 31.78 | 32.92 | 210 | 72 Peak | VERTICAL |
| 4 0 | 5584.80 | 112.42 | | | 105.90 | 7.58 | 31.90 | 32.96 | 210 | 72 Peak | VERTICAL |
| 5 0 | 5586.40 | 103.42 | | | 96.90 | 7.58 | 31.90 | 32.96 | 210 | 72 Average | VERTICAL |
| 6 | 5740.00 | 59.75 | 68.20 | -8.45 | 52.93 | 7.73 | 32.10 | 33.01 | 210 | 72 Peak | VERTICAL |

Item 4, 5 are the fundamental frequency at 5580 MHz.

Channel 140

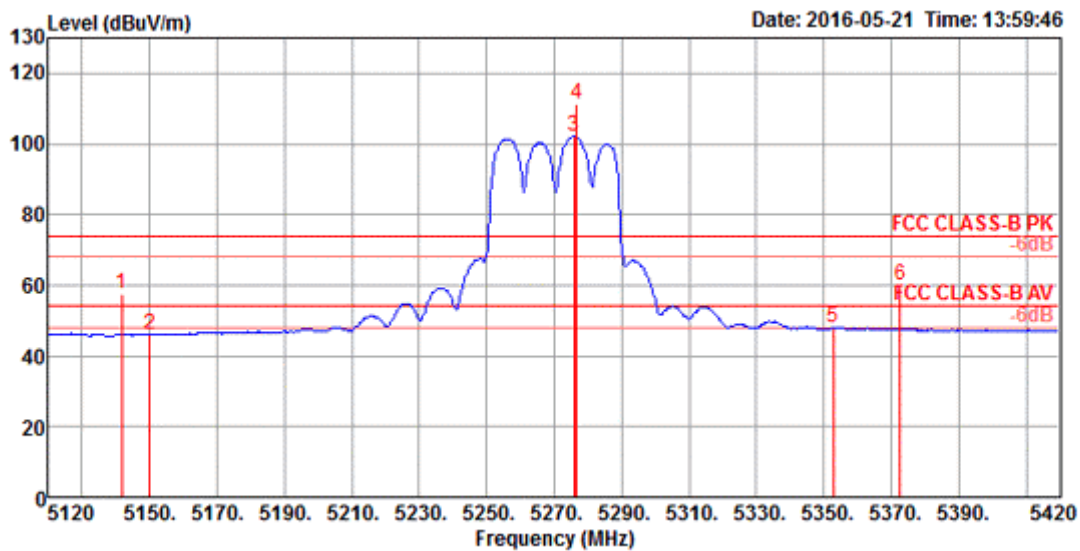


| | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase | | | |
|------|---------|--------|--------|--------------|--------|-------|-------|--------|-----------|----------|------|----------|
| Freq | Line | Limit | Level | Loss | Factor | | | | | | | |
| MHz | dBuV/m | dBuV/m | dBuV | dB | dB/m | dB | cm | deg | | | | |
| 1 0 | 5696.20 | 103.01 | 96.29 | 7.68 | 32.04 | 33.00 | 209 | 69 | Average | VERTICAL | | |
| 2 0 | 5696.40 | 113.59 | 106.87 | 7.68 | 32.04 | 33.00 | 209 | 69 | Peak | VERTICAL | | |
| 3 | 5727.20 | 61.42 | 68.20 | -6.78 | 54.64 | 7.71 | 32.08 | 33.01 | 209 | 69 | Peak | VERTICAL |

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

| | | | |
|---------------|------------|----------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 54, 62 / Ant. 1 + Ant. 2 + Ant. 3 |

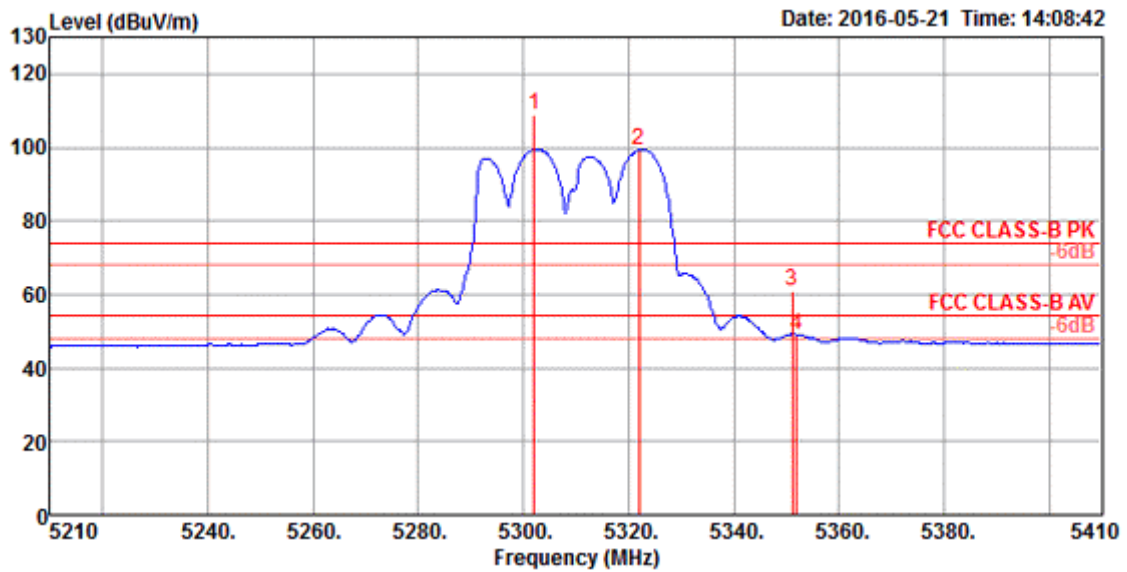
Channel 54



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|--------|--------------|--------|-------|-------|-----------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5141.60 | 57.73 | 74.00 | -16.27 | 51.94 | 7.22 | 31.51 | 32.94 | 194 | 0 Peak | VERTICAL |
| 2 | 5150.00 | 45.90 | 54.00 | -8.10 | 40.09 | 7.23 | 31.52 | 32.94 | 194 | 0 Average | VERTICAL |
| 3 | 5276.00 | 101.94 | | | 95.92 | 7.33 | 31.62 | 32.93 | 194 | 0 Average | VERTICAL |
| 4 | 5276.60 | 111.34 | | | 105.32 | 7.33 | 31.62 | 32.93 | 194 | 0 Peak | VERTICAL |
| 5 | 5352.80 | 48.05 | 54.00 | -5.95 | 41.93 | 7.37 | 31.68 | 32.93 | 194 | 0 Average | VERTICAL |
| 6 | 5372.60 | 59.96 | 74.00 | -14.04 | 53.80 | 7.39 | 31.70 | 32.93 | 194 | 0 Peak | VERTICAL |

Item 3, 4 are the fundamental frequency at 5270 MHz.

Channel 62

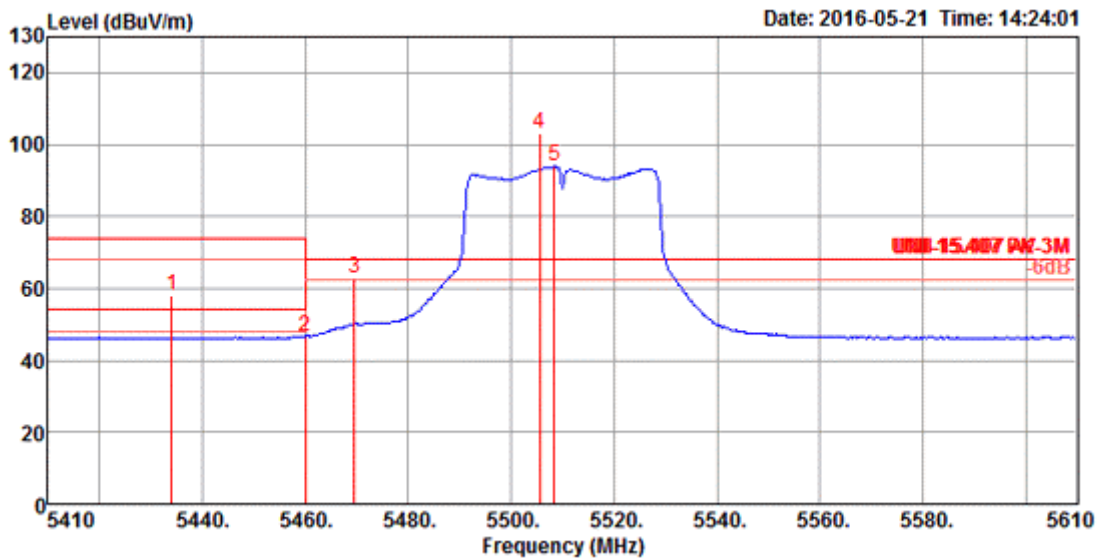


| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna Loss | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase | |
|---|------|---------|------------|------------|------------|-------------------|---------------|-------|-------|------------|------------|----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 0 | 5302.00 | 109.01 | | 102.96 | 7.34 | 31.64 | 32.93 | 208 | 56 Peak | VERTICAL | |
| 2 | 0 | 5322.00 | 99.49 | | 93.42 | 7.35 | 31.65 | 32.93 | 208 | 56 Average | VERTICAL | |
| 3 | | 5351.20 | 60.92 | 74.00 | -13.08 | 54.80 | 7.37 | 31.68 | 32.93 | 208 | 56 Peak | VERTICAL |
| 4 | | 5352.00 | 49.11 | 54.00 | -4.89 | 42.99 | 7.37 | 31.68 | 32.93 | 208 | 56 Average | VERTICAL |

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

| | | | |
|----------------------|------------|-----------------------|---|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT40 CH 102, 110, 134 / Ant. 1 + Ant. 2 + Ant. 3 |

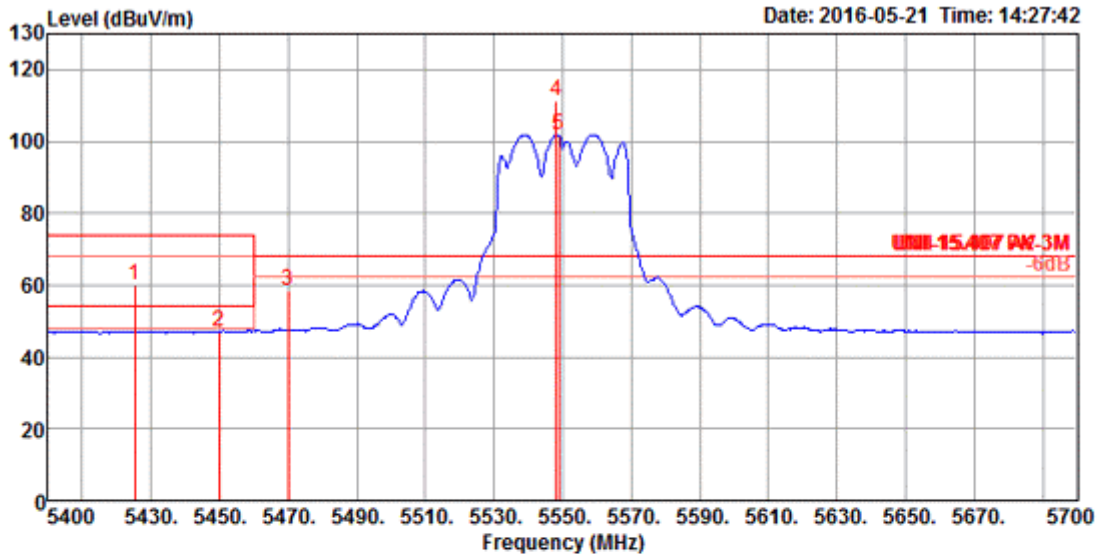
Channel 102



| | Freq | Level | Limit | Over | Read | Cable | Antenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|-------|-------|---------|--------|-------|-------|---------|------------|
| | MHz | dBUV/m | dBUV/m | dB | dBUV | Loss | Factor | Factor | cm | deg | | |
| 1 | 5434.00 | 57.94 | 74.00 | -16.06 | 51.66 | 7.45 | 31.75 | 32.92 | 185 | 350 | Peak | HORIZONTAL |
| 2 | 5460.00 | 46.45 | 54.00 | -7.55 | 40.15 | 7.46 | 31.76 | 32.92 | 185 | 350 | Average | HORIZONTAL |
| 3 | 5469.60 | 62.75 | 68.20 | -5.45 | 56.41 | 7.48 | 31.78 | 32.92 | 185 | 350 | Peak | HORIZONTAL |
| 4 | 5505.60 | 103.24 | | | 96.86 | 7.51 | 31.80 | 32.93 | 185 | 350 | Peak | HORIZONTAL |
| 5 | 5508.40 | 93.82 | | | 87.44 | 7.51 | 31.80 | 32.93 | 185 | 350 | Average | HORIZONTAL |

Item 4, 5 are the fundamental frequency at 5510 MHz.

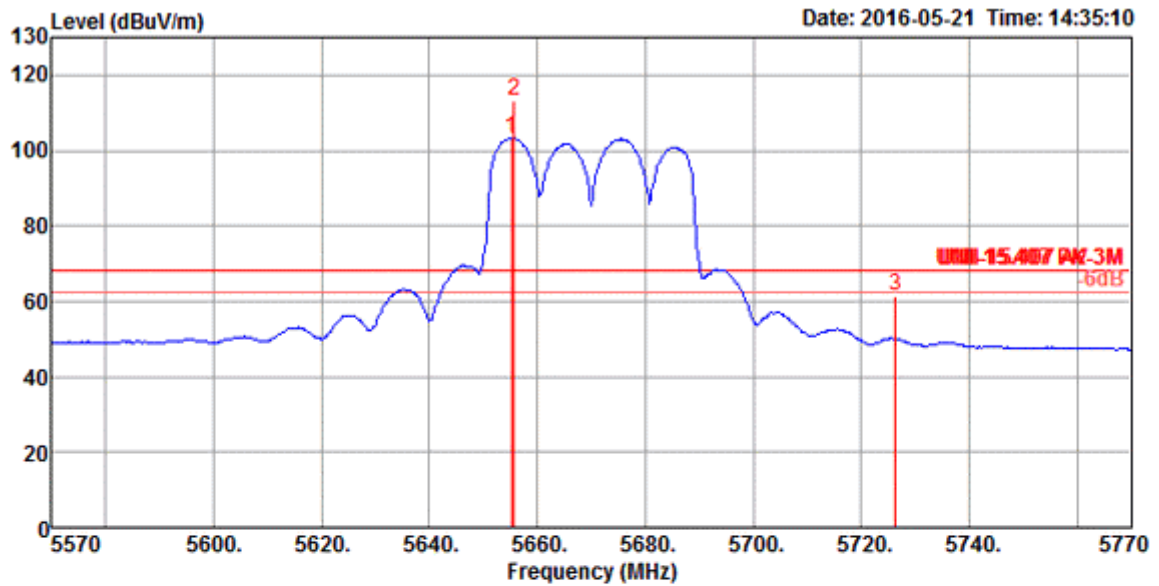
Channel 110



| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna 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 | 5425.20 | 59.80 | 74.00 | -14.20 | 53.55 | 7.43 | 31.74 | 32.92 | 179 | 65 | Peak | VERTICAL |
| 2 | 5449.80 | 47.18 | 54.00 | -6.82 | 40.88 | 7.46 | 31.76 | 32.92 | 179 | 65 | Average | VERTICAL |
| 3 | 5470.00 | 58.30 | 68.20 | -9.90 | 51.96 | 7.48 | 31.78 | 32.92 | 179 | 65 | Peak | VERTICAL |
| 4 | 5548.20 | 111.46 | | | 104.99 | 7.55 | 31.86 | 32.94 | 179 | 65 | Peak | VERTICAL |
| 5 | 5548.80 | 101.83 | | | 95.36 | 7.55 | 31.86 | 32.94 | 179 | 65 | Average | VERTICAL |

Item 4, 5 are the fundamental frequency at 5550 MHz.

Channel 134

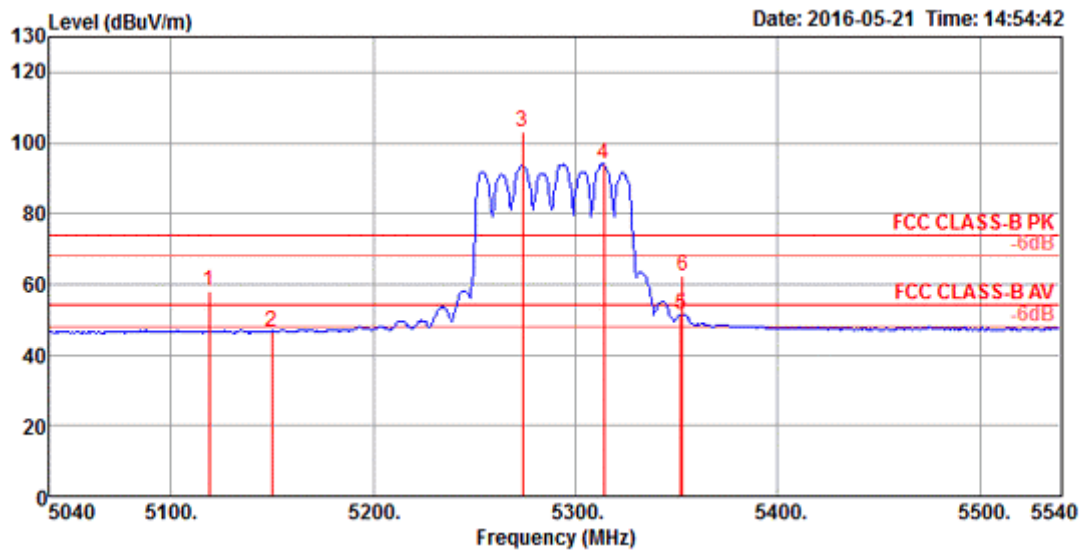


| | Freq | Level | Limit Line | Over Limit | Read Level | CableAntenna Loss | Antenna Factor | Preamp Factor | A/Pos | T/Pos | Remark | Pol/Phase | |
|---|------|---------|------------|------------|------------|-------------------|----------------|---------------|-------|-------|---------|-----------|----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | | |
| 1 | 0 | 5655.20 | 103.06 | | 96.42 | 7.64 | 31.98 | 32.98 | 197 | 68 | Average | VERTICAL | |
| 2 | 0 | 5655.60 | 113.00 | | 106.36 | 7.64 | 31.98 | 32.98 | 197 | 68 | Peak | VERTICAL | |
| 3 | | 5726.40 | 61.60 | 68.20 | -6.60 | 54.82 | 7.71 | 32.08 | 33.01 | 197 | 68 | Peak | VERTICAL |

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

| | | | |
|---------------|------------|----------------|--|
| Temperature | 23°C | Humidity | 63% |
| Test Engineer | Eddie Weng | Configurations | IEEE 802.11ac MCS0/Nss1 VHT80 CH 58, 106, 122 / Ant. 1 + Ant. 2 + Ant. 3 |

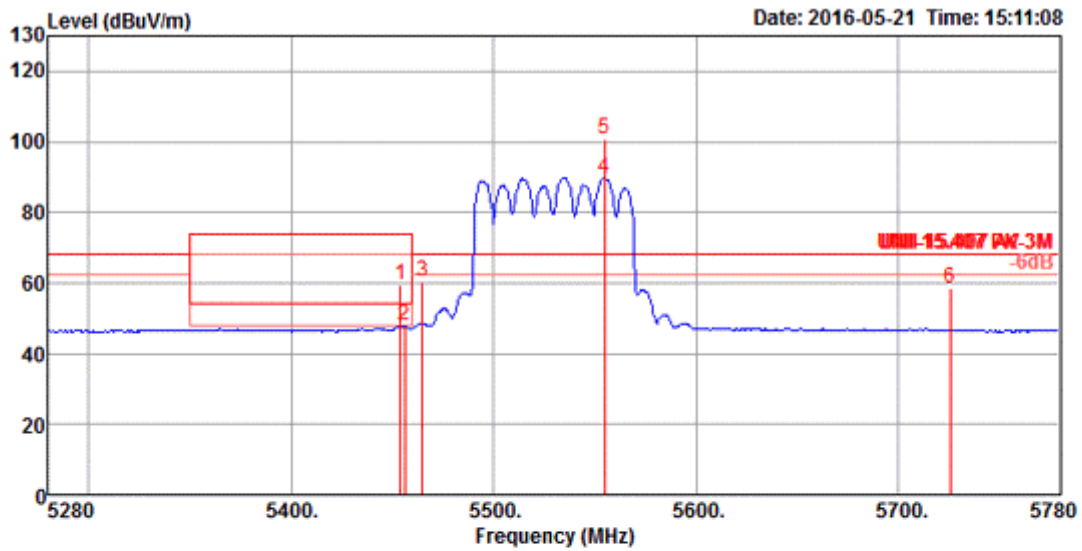
Channel 58



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|-------|--------------|--------|-------|-------|-------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5119.00 | 58.09 | 74.00 | -15.91 | 52.33 | 7.20 | 31.50 | 32.94 | 189 | 353 Peak | VERTICAL |
| 2 | 5150.00 | 46.74 | 54.00 | -7.26 | 40.93 | 7.23 | 31.52 | 32.94 | 189 | 353 Average | VERTICAL |
| 3 | 5274.00 | 103.07 | | | 97.05 | 7.33 | 31.62 | 32.93 | 189 | 353 Peak | VERTICAL |
| 4 | 5314.00 | 94.00 | | | 87.93 | 7.35 | 31.65 | 32.93 | 189 | 353 Average | VERTICAL |
| 5 | 5352.00 | 51.30 | 54.00 | -2.70 | 45.18 | 7.37 | 31.68 | 32.93 | 189 | 353 Average | VERTICAL |
| 6 | 5353.00 | 62.39 | 74.00 | -11.61 | 56.27 | 7.37 | 31.68 | 32.93 | 189 | 353 Peak | VERTICAL |

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

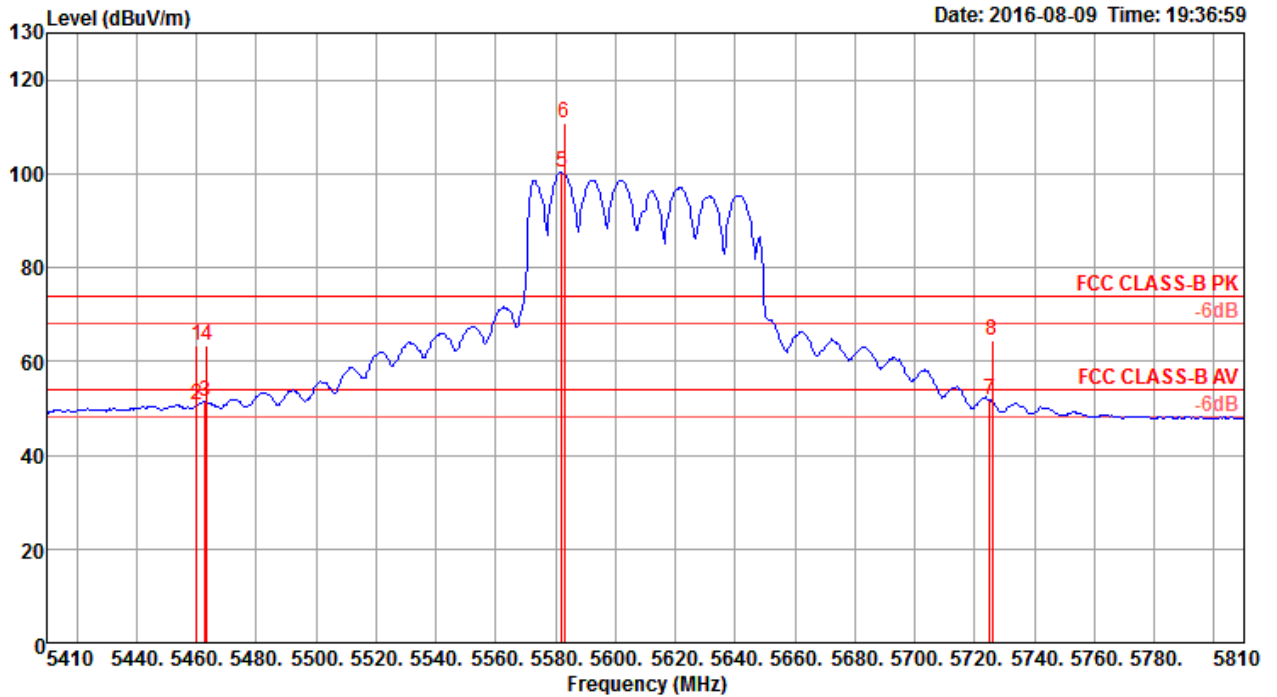
Channel 106



| | Freq | Level | Limit | Over | Read | CableAntenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|-------|--------------|--------|-------|-------|------------|-----------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | |
| 1 | 5454.00 | 59.56 | 74.00 | -14.44 | 53.26 | 7.46 | 31.76 | 32.92 | 204 | 67 Peak | VERTICAL |
| 2 | 5456.00 | 47.76 | 54.00 | -6.24 | 41.46 | 7.46 | 31.76 | 32.92 | 204 | 67 Average | VERTICAL |
| 3 | 5465.00 | 60.24 | 68.20 | -7.96 | 53.90 | 7.48 | 31.78 | 32.92 | 204 | 67 Peak | VERTICAL |
| 4 | 5555.00 | 89.69 | | | 83.22 | 7.55 | 31.86 | 32.94 | 204 | 67 Average | VERTICAL |
| 5 | 5555.00 | 100.55 | | | 94.08 | 7.55 | 31.86 | 32.94 | 204 | 67 Peak | VERTICAL |
| 6 | 5726.00 | 58.34 | 68.20 | -9.86 | 51.55 | 7.71 | 32.08 | 33.00 | 204 | 67 Peak | VERTICAL |

Item 4, 5 are the fundamental frequency at 5530 MHz.

Channel 122



| | Freq | Level | Limit | Over | Read | Cable | Antenna | Preamp | A/Pos | T/Pos | Remark | Pol/Phase |
|---|---------|--------|--------|--------|--------|-------|---------|--------|-------|-------|---------|------------|
| | MHz | dBuV/m | dBuV/m | dB | dBuV | dB | dB/m | dB | cm | deg | | |
| 1 | 5460.00 | 63.42 | 74.00 | -10.58 | 56.26 | 7.89 | 33.74 | 34.47 | 319 | 14 | Peak | HORIZONTAL |
| 2 | 5460.00 | 50.85 | 54.00 | -3.15 | 43.69 | 7.89 | 33.74 | 34.47 | 319 | 14 | Average | HORIZONTAL |
| 3 | 5462.80 | 51.50 | 54.00 | -2.50 | 44.34 | 7.89 | 33.74 | 34.47 | 319 | 14 | Average | HORIZONTAL |
| 4 | 5463.60 | 63.52 | 74.00 | -10.48 | 56.33 | 7.90 | 33.76 | 34.47 | 319 | 14 | Peak | HORIZONTAL |
| 5 | 5582.00 | 100.18 | | | 92.68 | 7.94 | 34.05 | 34.49 | 319 | 14 | Average | HORIZONTAL |
| 6 | 5582.80 | 110.88 | | | 103.38 | 7.94 | 34.05 | 34.49 | 319 | 14 | Peak | HORIZONTAL |
| 7 | 5725.00 | 51.70 | 54.00 | -2.30 | 43.84 | 7.87 | 34.50 | 34.51 | 319 | 14 | Average | HORIZONTAL |
| 8 | 5726.00 | 64.48 | 74.00 | -9.52 | 56.62 | 7.87 | 34.50 | 34.51 | 319 | 14 | Peak | HORIZONTAL |

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

Note:

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

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

4.6. Frequency Stability Measurement

4.6.1. Limit

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

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

4.6.2. Measuring Instruments and Setting

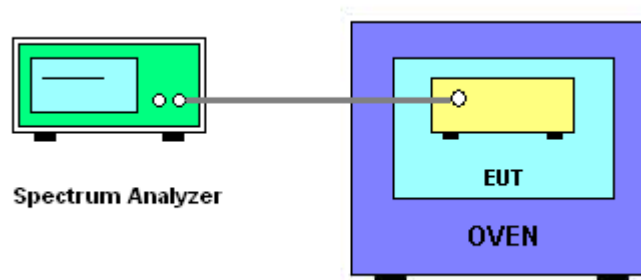
Please refer to section 5 of equipments list in this report. The following table is the setting of the spectrum analyzer.

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

4.6.3. Test Procedures

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

4.6.4. Test Setup Layout



4.6.5. Test Deviation

There is no deviation with the original standard.

4.6.6. EUT Operation during Test

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

4.6.7. Test Result of Frequency Stability

| | | | |
|----------------------|----------|------------------|-----------------------------|
| Temperature | 24°C | Humidity | 60% |
| Test Engineer | Gary Chu | Test Date | May. 31, 2016~Jun. 05, 2016 |

Mode: 20 MHz / Ant. 1

Voltage vs. Frequency Stability

| Voltage (V) | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| | 5300 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 126.50 | 5299.9587 | 5299.9577 | 5299.9570 | 5299.9563 |
| 110.00 | 5299.9583 | 5299.9576 | 5299.9571 | 5299.9563 |
| 93.50 | 5299.9582 | 5299.9576 | 5299.9566 | 5299.9562 |
| Max. Deviation (MHz) | 0.0418 | 0.0424 | 0.0434 | 0.0438 |
| Max. Deviation (ppm) | 7.88 | 8.00 | 8.18 | 8.26 |
| Result | Complies | | | |

Temperature vs. Frequency Stability

| Temperature (°C) | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| | 5300 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 0 | 5299.9606 | 5299.9603 | 5299.9594 | 5299.9592 |
| 10 | 5299.9591 | 5299.9582 | 5299.9578 | 5299.9576 |
| 20 | 5299.9583 | 5299.9575 | 5299.9571 | 5299.9566 |
| 30 | 5299.9576 | 5299.9567 | 5299.9560 | 5299.9559 |
| 40 | 5299.9567 | 5299.9565 | 5299.9555 | 5299.9547 |
| 50 | 5299.9563 | 5299.9558 | 5299.9549 | 5299.9539 |
| Max. Deviation (MHz) | 0.0437 | 0.0442 | 0.0451 | 0.0461 |
| Max. Deviation (ppm) | 8.25 | 8.34 | 8.51 | 8.70 |
| Result | Complies | | | |

Voltage vs. Frequency Stability

| Voltage | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (V) | 5580 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 126.50 | 5579.9591 | 5579.9590 | 5579.9580 | 5579.9578 |
| 110.00 | 5579.9583 | 5579.9576 | 5579.9572 | 5579.9569 |
| 93.50 | 5579.9580 | 5579.9578 | 5579.9568 | 5579.9558 |
| Max. Deviation (MHz) | 0.0420 | 0.0424 | 0.0432 | 0.0442 |
| Max. Deviation (ppm) | 7.52 | 7.59 | 7.74 | 7.92 |
| Result | Complies | | | |

Temperature vs. Frequency Stability

| Temperature | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (°C) | 5580 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 0 | 5579.9593 | 5579.9583 | 5579.9578 | 5579.9569 |
| 10 | 5579.9590 | 5579.9588 | 5579.9582 | 5579.9572 |
| 20 | 5579.9583 | 5579.9576 | 5579.9570 | 5579.9565 |
| 30 | 5579.9576 | 5579.9572 | 5579.9570 | 5579.9562 |
| 40 | 5579.9559 | 5579.9554 | 5579.9545 | 5579.9535 |
| 50 | 5579.9545 | 5579.9536 | 5579.9529 | 5579.9519 |
| Max. Deviation (MHz) | 0.0455 | 0.0464 | 0.0471 | 0.0481 |
| Max. Deviation (ppm) | 8.15 | 8.32 | 8.44 | 8.62 |
| Result | Complies | | | |

Mode: 40 MHz / Ant. 1

Voltage vs. Frequency Stability

| Voltage | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (V) | 5310 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 126.50 | 5309.9590 | 5309.9583 | 5309.9575 | 5309.9571 |
| 110.00 | 5309.9583 | 5309.9579 | 5309.9574 | 5309.9568 |
| 93.50 | 5309.9580 | 5309.9575 | 5309.9567 | 5309.9566 |
| Max. Deviation (MHz) | 0.0420 | 0.0425 | 0.0433 | 0.0434 |
| Max. Deviation (ppm) | 7.91 | 8.00 | 8.15 | 8.17 |
| Result | Complies | | | |

Temperature vs. Frequency Stability

| Temperature | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (°C) | 5310 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 0 | 5309.9602 | 5309.9601 | 5309.9598 | 5309.9591 |
| 10 | 5309.9596 | 5309.9587 | 5309.9586 | 5309.9578 |
| 20 | 5309.9583 | 5309.9577 | 5309.9574 | 5309.9572 |
| 30 | 5309.9576 | 5309.9574 | 5309.9565 | 5309.9564 |
| 40 | 5309.9562 | 5309.9554 | 5309.9549 | 5309.9544 |
| 50 | 5309.9549 | 5309.9548 | 5309.9547 | 5309.9544 |
| Max. Deviation (MHz) | 0.0451 | 0.0452 | 0.0453 | 0.0456 |
| Max. Deviation (ppm) | 8.49 | 8.51 | 8.53 | 8.59 |
| Result | Complies | | | |

Voltage vs. Frequency Stability

| Voltage | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (V) | 5550 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 126.50 | 5549.9593 | 5549.9591 | 5549.9581 | 5549.9572 |
| 110.00 | 5549.9583 | 5549.9582 | 5549.9575 | 5549.9572 |
| 93.50 | 5549.9576 | 5549.9568 | 5549.9561 | 5549.9558 |
| Max. Deviation (MHz) | 0.0424 | 0.0432 | 0.0439 | 0.0442 |
| Max. Deviation (ppm) | 7.64 | 7.78 | 7.91 | 7.96 |
| Result | Complies | | | |

Temperature vs. Frequency Stability

| Temperature | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (°C) | 5550 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 0 | 5549.9598 | 5549.9594 | 5549.9586 | 5549.9585 |
| 10 | 5549.9596 | 5549.9595 | 5549.9589 | 5549.9579 |
| 20 | 5549.9583 | 5549.9582 | 5549.9577 | 5549.9568 |
| 30 | 5549.9576 | 5549.9574 | 5549.9566 | 5549.9561 |
| 40 | 5549.9575 | 5549.9569 | 5549.9567 | 5549.9565 |
| 50 | 5549.9559 | 5549.9549 | 5549.9543 | 5549.9541 |
| Max. Deviation (MHz) | 0.0441 | 0.0451 | 0.0457 | 0.0459 |
| Max. Deviation (ppm) | 7.95 | 8.13 | 8.23 | 8.27 |
| Result | Complies | | | |

Mode: 80 MHz / Ant. 1

Voltage vs. Frequency Stability

| Voltage | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (V) | 5290 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 126.50 | 5289.9588 | 5289.9581 | 5289.9580 | 5289.9574 |
| 110.00 | 5289.9583 | 5289.9580 | 5289.9577 | 5289.9576 |
| 93.50 | 5289.9579 | 5289.9577 | 5289.9571 | 5289.9566 |
| Max. Deviation (MHz) | 0.0421 | 0.0423 | 0.0429 | 0.0434 |
| Max. Deviation (ppm) | 7.95 | 7.99 | 8.11 | 8.20 |
| Result | Complies | | | |

Temperature vs. Frequency Stability

| Temperature | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (°C) | 5290 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 0 | 5289.9603 | 5289.9597 | 5289.9593 | 5289.9584 |
| 10 | 5289.9591 | 5289.9582 | 5289.9580 | 5289.9575 |
| 20 | 5289.9583 | 5289.9581 | 5289.9578 | 5289.9570 |
| 30 | 5289.9576 | 5289.9567 | 5289.9557 | 5289.9553 |
| 40 | 5289.9556 | 5289.9553 | 5289.9547 | 5289.9546 |
| 50 | 5289.9542 | 5289.9539 | 5289.9533 | 5289.9524 |
| Max. Deviation (MHz) | 0.0458 | 0.0461 | 0.0467 | 0.0476 |
| Max. Deviation (ppm) | 8.66 | 8.71 | 8.83 | 9.00 |
| Result | Complies | | | |

Voltage vs. Frequency Stability

| Voltage | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (V) | 5530 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 126.50 | 5529.9584 | 5529.9579 | 5529.9572 | 5529.9569 |
| 110.00 | 5529.9583 | 5529.9576 | 5529.9574 | 5529.9564 |
| 93.50 | 5529.9576 | 5529.9574 | 5529.9569 | 5529.9563 |
| Max. Deviation (MHz) | 0.0424 | 0.0426 | 0.0431 | 0.0437 |
| Max. Deviation (ppm) | 7.66 | 7.70 | 7.79 | 7.90 |
| Result | Complies | | | |

Temperature vs. Frequency Stability

| Temperature | Measurement Frequency (MHz) | | | |
|----------------------|-----------------------------|-----------|-----------|-----------|
| (°C) | 5530 MHz | | | |
| | 0 Minute | 2 Minute | 5 Minute | 10 Minute |
| 0 | 5529.9591 | 5529.9587 | 5529.9577 | 5529.9574 |
| 10 | 5529.9589 | 5529.9583 | 5529.9578 | 5529.9570 |
| 20 | 5529.9583 | 5529.9576 | 5529.9567 | 5529.9566 |
| 30 | 5529.9576 | 5529.9569 | 5529.9568 | 5529.9560 |
| 40 | 5529.9572 | 5529.9562 | 5529.9556 | 5529.9549 |
| 50 | 5529.9554 | 5529.9553 | 5529.9549 | 5529.9547 |
| Max. Deviation (MHz) | 0.0446 | 0.0447 | 0.0451 | 0.0453 |
| Max. Deviation (ppm) | 8.07 | 8.08 | 8.16 | 8.19 |
| Result | Complies | | | |

4.7. Antenna Requirements

4.7.1. Limit

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

4.7.2. Antenna Connector Construction

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

5. LIST OF MEASURING EQUIPMENTS

| Instrument | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark |
|----------------------------|--------------|------------------|---------------|------------------|------------------|-----------------------|
| Horn Antenna | EMCO | 3115 | 00075790 | 750MHz ~ 18GHz | Oct. 22, 2015 | Radiation (03CH01-CB) |
| Horn Antenna | Schwarzbeck | BBHA 9170 | BBHA9170585 | 15GHz ~ 40GHz | Oct. 07, 2015 | Radiation (03CH01-CB) |
| Pre-Amplifier | Agilent | 8449B | 3008A02310 | 1GHz ~ 26.5GHz | Jan. 18, 2016 | Radiation (03CH01-CB) |
| Pre-Amplifier | WM | TF-130N-R1 | 923365 | 26GHz ~ 40GHz | Nov. 13, 2015 | Radiation (03CH01-CB) |
| Spectrum Analyzer | R&S | FSP40 | 100056 | 9kHz ~ 40GHz | Oct. 27, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-16 | N/A | 1 GHz ~ 18 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-17 | N/A | 1 GHz ~ 18 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G-1 | N/A | 18GHz ~ 40 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| RF Cable-high | Woken | High Cable-40G-2 | N/A | 18GHz ~ 40 GHz | Nov. 02, 2015 | Radiation (03CH01-CB) |
| Test Software | Audix | E3 | 6.2009-10-7 | N/A | N/A | Radiation (03CH01-CB) |
| Spectrum analyzer | R&S | FSV40 | 100979 | 9kHz~40GHz | Dec. 09, 2015 | Conducted (TH01-CB) |
| Temp. and Humidity Chamber | Ten Billion | TTH-D3SP | TBN-931011 | -30~100 degree | Jun. 02, 2015 | Conducted (TH01-CB) |
| Temp. and Humidity Chamber | Ten Billion | TTH-D3SP | TBN-931011 | -30~100 degree | Jun. 03, 2016 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-6 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-7 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-8 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-9 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| RF Cable-high | Woken | RG402 | High Cable-10 | 1 GHz – 26.5 GHz | Nov. 02, 2015 | Conducted (TH01-CB) |
| Power Sensor | Agilent | U2021XA | MY53410001 | 50MHz~18GHz | Nov. 02, 2015 | Conducted (TH01-CB) |

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

6. MEASUREMENT UNCERTAINTY

| Test Items | Uncertainty | Remark |
|--------------------------------------|-----------------------|--------------------------|
| Conducted Emission (150kHz ~ 30MHz) | 3.2 dB | Confidence levels of 95% |
| Radiated Emission (30MHz ~ 1,000MHz) | 3.6 dB | Confidence levels of 95% |
| Radiated Emission (1GHz ~ 18GHz) | 3.7 dB | Confidence levels of 95% |
| Radiated Emission (18GHz ~ 40GHz) | 3.5 dB | Confidence levels of 95% |
| Conducted Emission | 1.7 dB | Confidence levels of 95% |
| Output Power Measurement | 1.33 dB | Confidence levels of 95% |
| Power Density Measurement | 1.27 dB | Confidence levels of 95% |
| Bandwidth Measurement | 9.74×10^{-8} | Confidence levels of 95% |
| Frequency Stability | 6.06×10^{-8} | Confidence levels of 95% |