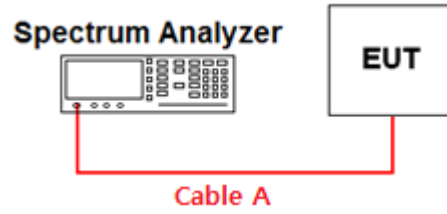


APPENDIX I

Conducted Test set up Diagram

- Conducted Measurement



APPENDIX II

Duty Cycle Information

■ Test Procedure

Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure of **KDB789033 D02v02r01**

1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
2. Set RBW \geq EBW if possible; otherwise, set RBW to the largest available value.
3. Set VBW \geq RBW. Set detector = peak.
4. Note : The zero-span measurement method shall not be used unless both **RBW and VBW are $> 50/T$** , where T is defined in section II.B.1.a), and **the number of sweep points across duration T exceeds 100**. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

T : The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

(T = **On time** of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

■ Test Results:

Duty cycle: Single

| Mode | Data Rate | Tested Frequency [MHz] | Maximum Achievable Duty Cycle (x) = On / (On+Off) | | | Duty Cycle Correction Factor [dB] | 50/T [kHz] |
|------------------|-----------|------------------------|---|--------------------|-------|-----------------------------------|------------|
| | | | On Time [ms] | (On+Off) Time [ms] | x | | |
| 802.11a | 6Mbps | 5180 | 2.03 | 2.13 | 95.31 | 0.21 | 24.63 |
| 802.11ac (VHT20) | MCS0 | 5180 | 1.90 | 2.01 | 94.53 | 0.25 | 26.32 |
| 802.11ac (VHT40) | MCS0 | 5190 | 1.28 | 1.38 | 92.75 | 0.33 | 39.06 |
| 802.11ac (VHT80) | MCS0 | 5210 | 1.17 | 1.28 | 91.41 | 0.40 | 42.74 |

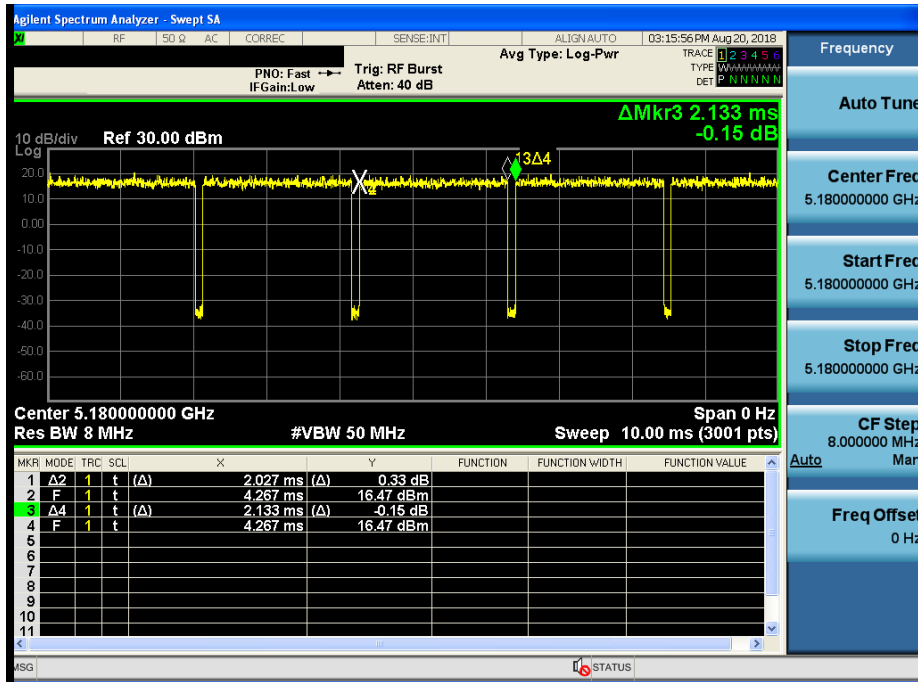
Duty cycle: SDM

| Mode | Data Rate | Tested Frequency [MHz] | Maximum Achievable Duty Cycle (x) = On / (On+Off) | | | Duty Cycle Correction Factor [dB] | 50/T [kHz] |
|------------------|-----------|------------------------|---|--------------------|-------|-----------------------------------|------------|
| | | | On Time [ms] | (On+Off) Time [ms] | x | | |
| 802.11ac (VHT20) | MCS0 | 5180 | 0.98 | 1.07 | 91.59 | 0.39 | 51.02 |
| 802.11n (HT40) | MCS8 | 5190 | 0.66 | 0.76 | 86.84 | 0.62 | 75.76 |
| 802.11ac (VHT80) | MCS0 | 5210 | 0.61 | 0.72 | 84.72 | 0.73 | 81.97 |

Single Transmit

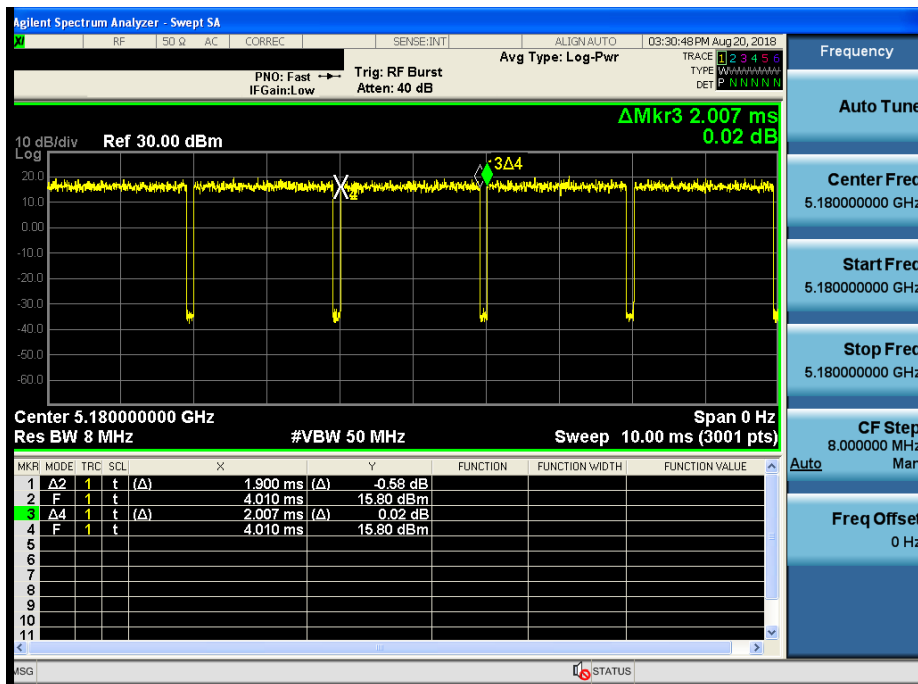
Duty Cycle

Test Mode: 802.11a & Ch.36



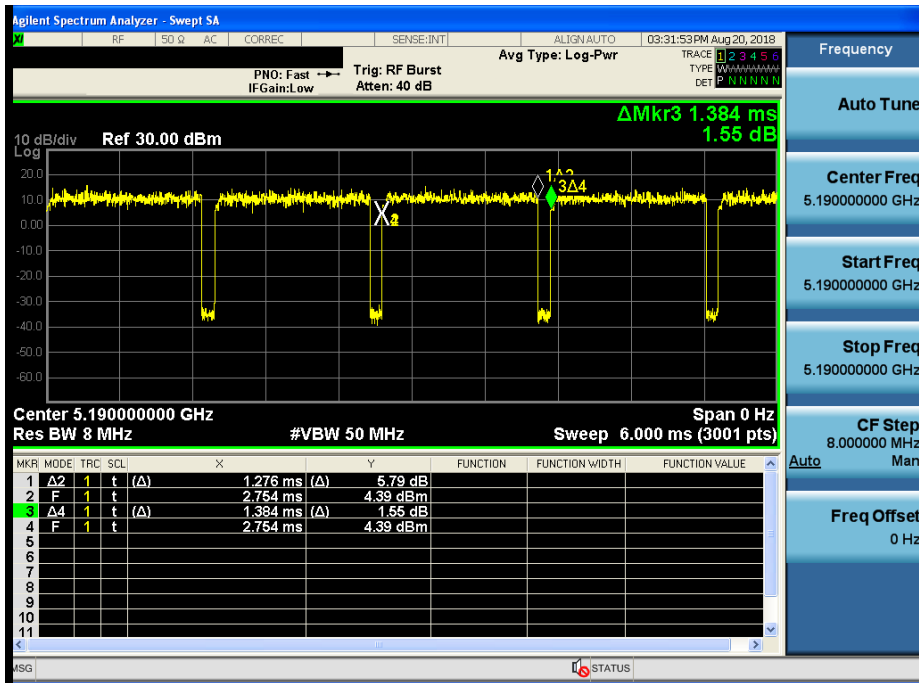
Duty Cycle

Test Mode: 802.11ac VHT20 & Ch.36



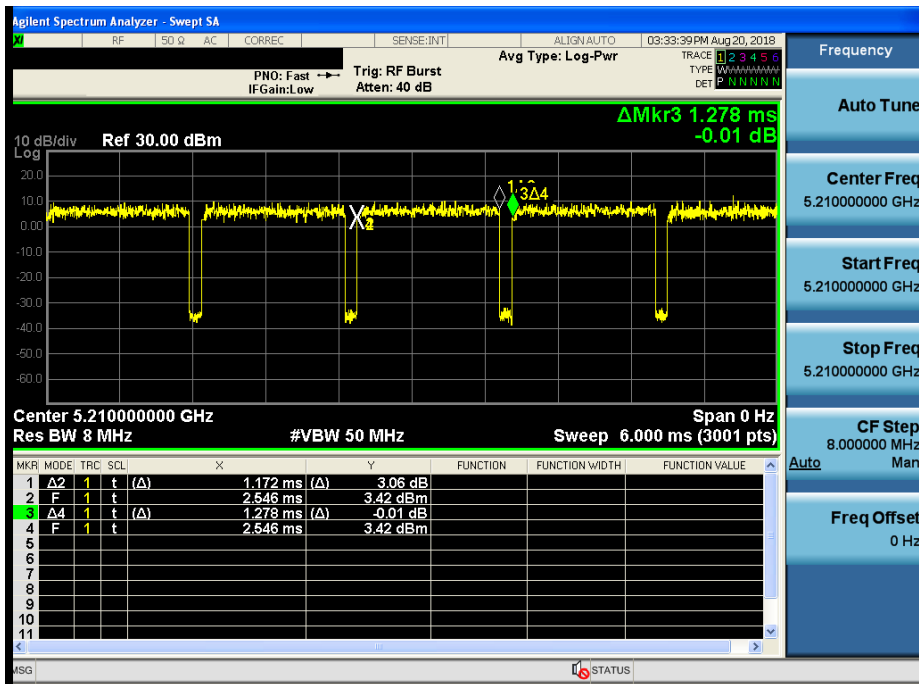
Duty Cycle

Test Mode: 802.11ac VHT40 & Ch.38



Duty Cycle

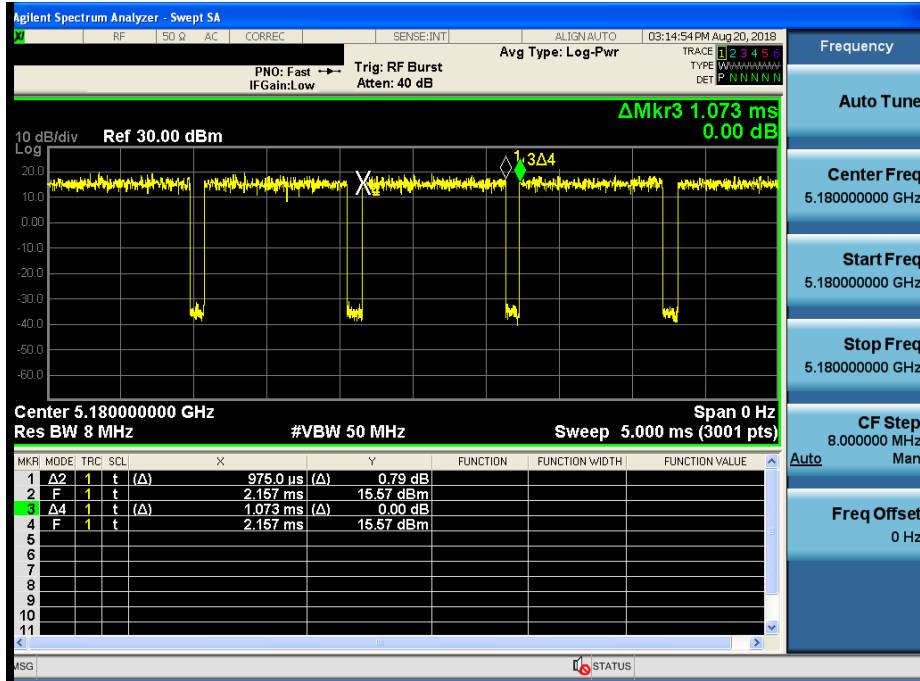
Test Mode: 802.11ac VHT80 & Ch.42



Multiple Transmit _ SDM

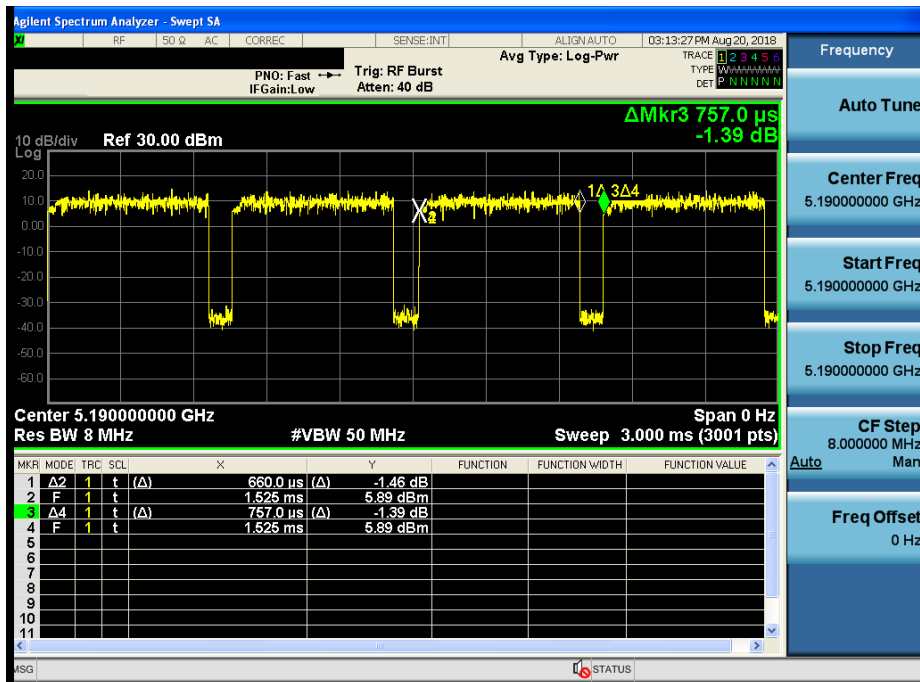
Duty Cycle

Test Mode: 802.11ac VHT20 & Ch.36



Duty Cycle

Test Mode: 802.11n HT40 & Ch.38



AC Line Conducted Emissions (Graph)

Test Mode: U-NII 1 & 802.11ac VHT20 & MIMO(CDD) & 5180 MHz

Results of Conducted Emission

DTNC

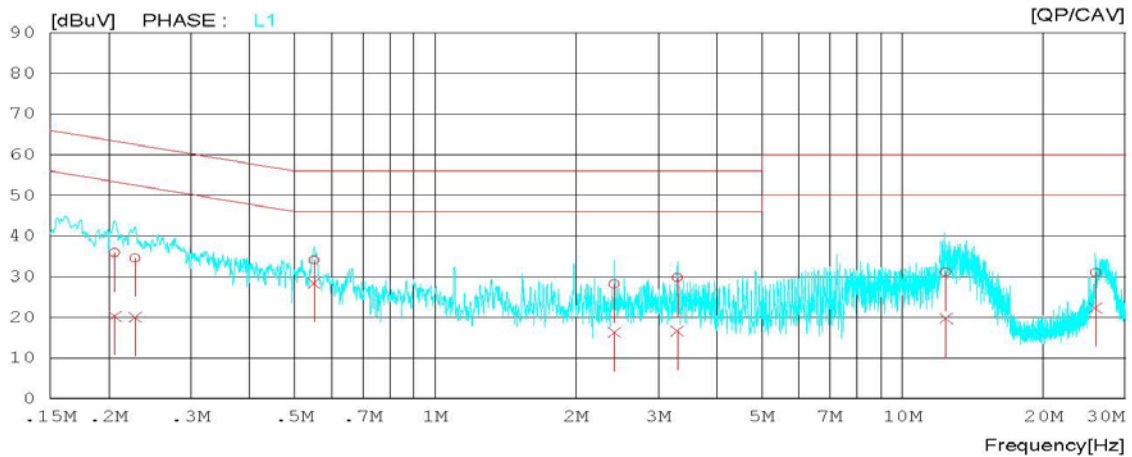
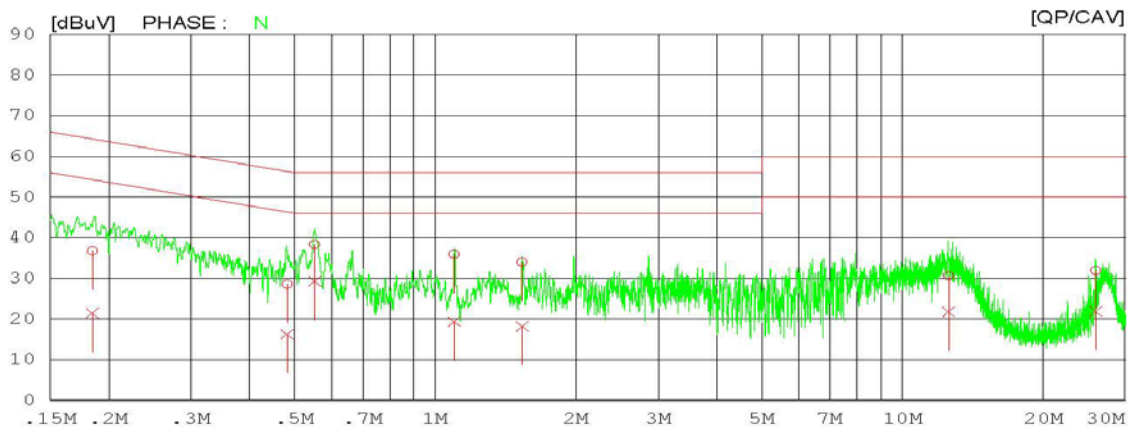
Date 2018-08-17

Order No. LM-Q850FA
 Model No.
 Serial No.
 Test Condition 5.1GHz

Reference No.
 Power Supply 120 V / 60Hz
 Temp/Humi. 23 'C / 44 %
 Operator S.G.LEE

Memo

LIMIT : FCC P15.207 QP
 FCC P15.207 AV



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 1 & 802.11ac VHT20 & MIMO(CDD) & 5180 MHz

Results of Conducted Emission

DTNC

Date 2018-08-17

| | | | |
|----------------|-----------|---------------|--------------|
| Order No. | LM-Q850FA | Reference No. | 120 V / 60Hz |
| Model No. | | Power Supply | 23 'C / 44 % |
| Serial No. | | Temp/Humi. | S.G.LEE |
| Test Condition | 5.1GHz | Operator | |

Memo

 LIMIT : FCC P15.207 QP
 FCC P15.207 AV

| NO | FREQ [MHz] | READING | | C. FACTOR [dB] | RESULT | | LIMIT | | MARGIN | | PHASE |
|----|---------------|--------------|---------------|-------------------|--------------|---------------|--------------|---------------|--------|-------|-------|
| | | QP [dBuV] | CAV [dBuV] | | QP [dBuV] | CAV [dBuV] | QP [dBuV] | CAV [dBuV] | | | |
| 1 | 0.18455 | 26.69 | 11.49 | 9.96 | 36.65 | 21.45 | 64.28 | 54.28 | 27.63 | 32.83 | N |
| 2 | 0.48198 | 18.57 | 6.26 | 9.99 | 28.56 | 16.25 | 56.30 | 46.30 | 27.74 | 30.05 | N |
| 3 | 0.55228 | 28.36 | 19.27 | 9.98 | 38.34 | 29.25 | 56.00 | 46.00 | 17.66 | 16.75 | N |
| 4 | 1.09820 | 25.88 | 9.34 | 9.99 | 35.87 | 19.33 | 56.00 | 46.00 | 20.13 | 26.67 | N |
| 5 | 1.53440 | 23.98 | 8.17 | 10.02 | 34.00 | 18.19 | 56.00 | 46.00 | 22.00 | 27.81 | N |
| 6 | 12.55360 | 20.37 | 11.53 | 10.25 | 30.62 | 21.78 | 60.00 | 50.00 | 29.38 | 28.22 | N |
| 7 | 25.89580 | 21.47 | 11.40 | 10.48 | 31.95 | 21.88 | 60.00 | 50.00 | 28.05 | 28.12 | N |
| 8 | 0.20606 | 25.89 | 10.33 | 9.94 | 35.83 | 20.27 | 63.36 | 53.36 | 27.53 | 33.09 | L1 |
| 9 | 0.22775 | 24.62 | 10.06 | 9.94 | 34.56 | 20.00 | 62.53 | 52.53 | 27.97 | 32.53 | L1 |
| 10 | 0.55013 | 24.11 | 18.35 | 9.98 | 34.09 | 28.33 | 56.00 | 46.00 | 21.91 | 17.67 | L1 |
| 11 | 2.41840 | 18.08 | 6.26 | 10.05 | 28.13 | 16.31 | 56.00 | 46.00 | 27.87 | 29.69 | L1 |
| 12 | 3.29480 | 19.61 | 6.57 | 10.06 | 29.67 | 16.63 | 56.00 | 46.00 | 26.33 | 29.37 | L1 |
| 13 | 12.38340 | 20.84 | 9.46 | 10.24 | 31.08 | 19.70 | 60.00 | 50.00 | 28.92 | 30.30 | L1 |
| 14 | 25.89520 | 20.47 | 11.79 | 10.48 | 30.95 | 22.27 | 60.00 | 50.00 | 29.05 | 27.73 | L1 |

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2A & 802.11ac VHT20 & MIMO(CDD) & 5320 MHz

Results of Conducted Emission

DTNC

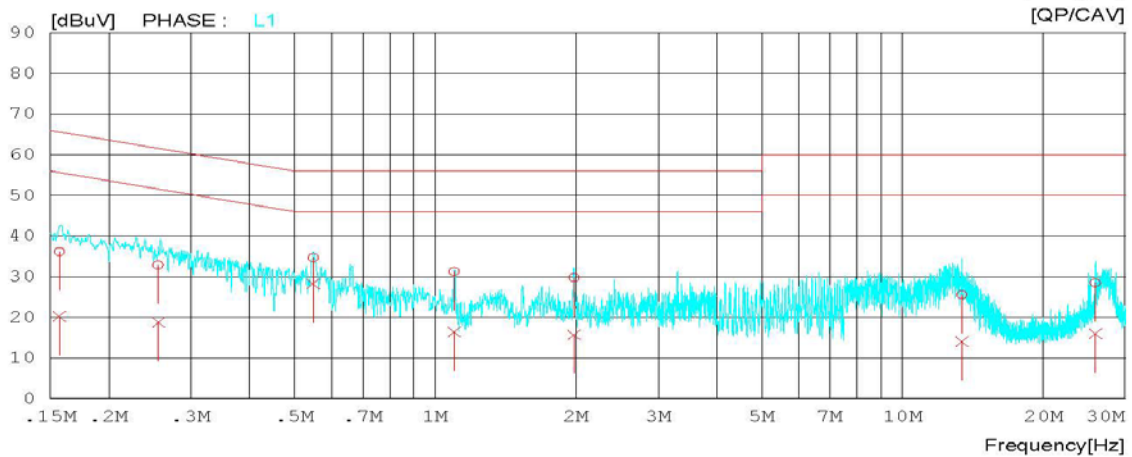
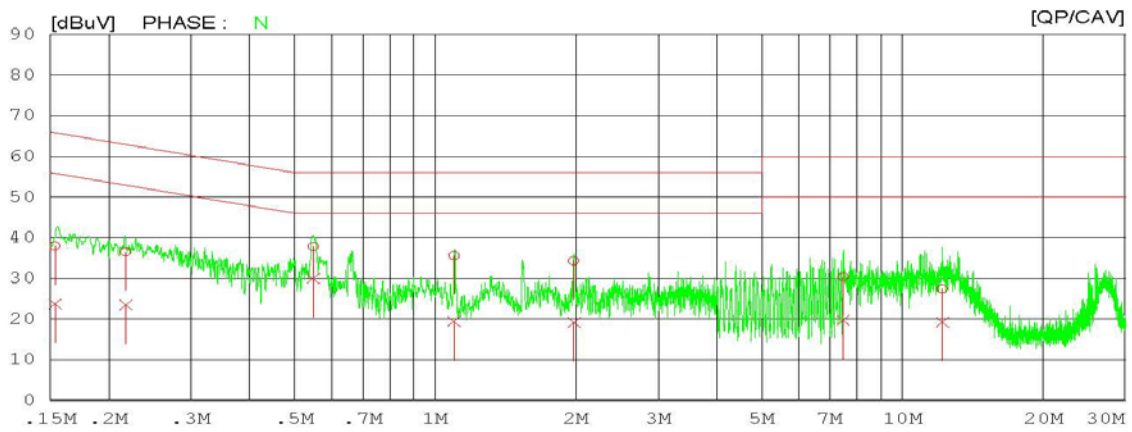
Date 2018-08-17

Order No. LM-Q850FA
 Model No.
 Serial No.
 Test Condition 5.3GHz

Reference No.
 Power Supply 120 V / 60Hz
 Temp/Humi. 23 'C / 44 %
 Operator S.G.LEE

Memo

LIMIT : FCC P15.207 QP
 FCC P15.207 AV



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2A & 802.11ac20 VHT & MIMO(CDD) & 5320 MHz

Results of Conducted Emission

DTNC

Date 2018-08-17

| | | | |
|----------------|-----------|---------------|--------------|
| Order No. | LM-Q850FA | Reference No. | 120 V / 60Hz |
| Model No. | | Power Supply | 23 'C / 44 % |
| Serial No. | | Temp/Humi. | S.G.LEE |
| Test Condition | 5.3GHz | Operator | |

Memo

 LIMIT : FCC P15.207 QP
 FCC P15.207 AV

| NO | FREQ [MHz] | READING | | C. FACTOR [dB] | RESULT | | LIMIT | | MARGIN | | PHASE |
|----|---------------|--------------|---------------|-------------------|--------------|---------------|--------------|---------------|--------|-------|-------|
| | | QP [dBuV] | CAV [dBuV] | | QP [dBuV] | CAV [dBuV] | QP [dBuV] | CAV [dBuV] | | | |
| 1 | 0.15355 | 27.95 | 13.68 | 9.99 | 37.94 | 23.67 | 65.81 | 55.81 | 27.87 | 32.14 | N |
| 2 | 0.21764 | 26.59 | 13.52 | 9.94 | 36.53 | 23.46 | 62.91 | 52.91 | 26.38 | 29.45 | N |
| 3 | 0.54799 | 27.88 | 19.99 | 9.98 | 37.86 | 29.97 | 56.00 | 46.00 | 18.14 | 16.03 | N |
| 4 | 1.09760 | 25.60 | 9.39 | 9.99 | 35.59 | 19.38 | 56.00 | 46.00 | 20.41 | 26.62 | N |
| 5 | 1.97880 | 24.32 | 9.09 | 10.04 | 34.36 | 19.13 | 56.00 | 46.00 | 21.64 | 26.87 | N |
| 6 | 7.46500 | 20.15 | 9.60 | 10.15 | 30.30 | 19.75 | 60.00 | 50.00 | 29.70 | 30.25 | N |
| 7 | 12.18160 | 17.18 | 9.04 | 10.23 | 27.41 | 19.27 | 60.00 | 50.00 | 32.59 | 30.73 | N |
| 8 | 0.15690 | 26.14 | 10.10 | 9.98 | 36.12 | 20.08 | 65.63 | 55.63 | 29.51 | 35.55 | L1 |
| 9 | 0.25556 | 22.87 | 8.81 | 9.95 | 32.82 | 18.76 | 61.57 | 51.57 | 28.75 | 32.81 | L1 |
| 10 | 0.54794 | 24.68 | 18.22 | 9.98 | 34.66 | 28.20 | 56.00 | 46.00 | 21.34 | 17.80 | L1 |
| 11 | 1.09780 | 21.28 | 6.37 | 9.99 | 31.27 | 16.36 | 56.00 | 46.00 | 24.73 | 29.64 | L1 |
| 12 | 1.98100 | 19.63 | 5.60 | 10.04 | 29.67 | 15.64 | 56.00 | 46.00 | 26.33 | 30.36 | L1 |
| 13 | 13.40620 | 15.24 | 3.75 | 10.27 | 25.51 | 14.02 | 60.00 | 50.00 | 34.49 | 35.98 | L1 |
| 14 | 25.87160 | 17.97 | 5.45 | 10.48 | 28.45 | 15.93 | 60.00 | 50.00 | 31.55 | 34.07 | L1 |

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2C & 802.11ac VHT20 & MIMO(CDD) & 5500 MHz

Results of Conducted Emission

DTNC

Date 2018-08-17

Order No.
Model No.
Serial No.
Test Condition

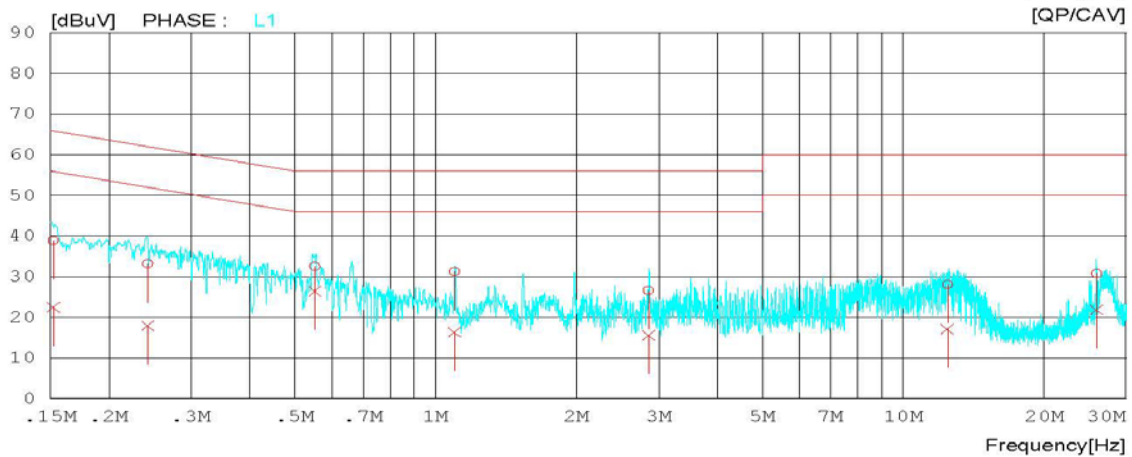
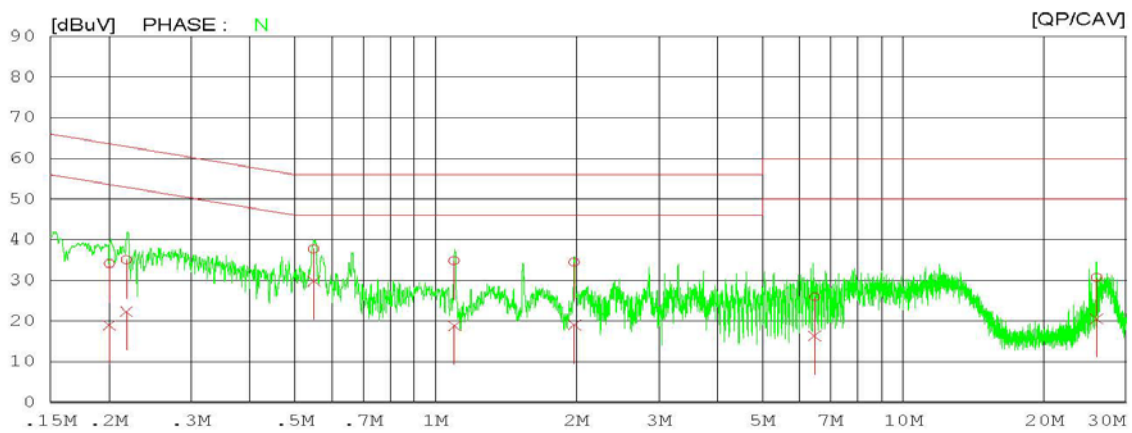
LM-Q850FA
5.5GHz

Reference No.
Power Supply
Temp/Humi.
Operator

120 V / 60Hz
23 'C / 44 %
S.G.LEE

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2C & 802.11ac VHT20 & MIMO(CDD) & 5500 MHz

Results of Conducted Emission

DTNC Date 2018-08-17

| | | | |
|----------------|-----------|---------------|--------------|
| Order No. | | Reference No. | |
| Model No. | LM-Q850FA | Power Supply | 120 V / 60Hz |
| Serial No. | | Temp/Humi. | 23 'C / 44 % |
| Test Condition | 5.5GHz | Operator | S.G.LEE |

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV

| NO | FREQ [MHz] | READING | | C. FACTOR [dB] | RESULT | | LIMIT | | MARGIN | | PHASE |
|----|---------------|--------------|---------------|-------------------|--------------|---------------|--------------|---------------|--------------|---------------|-------|
| | | QP [dBuV] | CAV [dBuV] | | QP [dBuV] | CAV [dBuV] | QP [dBuV] | CAV [dBuV] | QP [dBuV] | CAV [dBuV] | |
| 1 | 0.20071 | 24.18 | 9.03 | 9.94 | 34.12 | 18.97 | 63.58 | 53.58 | 29.46 | 34.61 | N |
| 2 | 0.21812 | 25.09 | 12.42 | 9.94 | 35.03 | 22.36 | 62.89 | 52.89 | 27.86 | 30.53 | N |
| 3 | 0.54900 | 27.74 | 19.88 | 9.98 | 37.72 | 29.86 | 56.00 | 46.00 | 18.28 | 16.14 | N |
| 4 | 1.09600 | 24.76 | 8.80 | 9.99 | 34.75 | 18.79 | 56.00 | 46.00 | 21.25 | 27.21 | N |
| 5 | 1.97880 | 24.35 | 9.04 | 10.04 | 34.39 | 19.08 | 56.00 | 46.00 | 21.61 | 26.92 | N |
| 6 | 6.46540 | 15.74 | 6.20 | 10.12 | 25.86 | 16.32 | 60.00 | 50.00 | 34.14 | 33.68 | N |
| 7 | 25.90180 | 20.27 | 10.07 | 10.48 | 30.75 | 20.55 | 60.00 | 50.00 | 29.25 | 29.45 | N |
| 8 | 0.15237 | 28.87 | 12.39 | 9.99 | 38.86 | 22.38 | 65.87 | 55.87 | 27.01 | 33.49 | L1 |
| 9 | 0.24238 | 23.15 | 7.95 | 9.95 | 33.10 | 17.90 | 62.01 | 52.01 | 28.91 | 34.11 | L1 |
| 10 | 0.55185 | 22.49 | 16.39 | 9.98 | 32.47 | 26.37 | 56.00 | 46.00 | 23.53 | 19.63 | L1 |
| 11 | 1.09760 | 21.24 | 6.33 | 9.99 | 31.23 | 16.32 | 56.00 | 46.00 | 24.77 | 29.68 | L1 |
| 12 | 2.85240 | 16.52 | 5.55 | 10.05 | 26.57 | 15.60 | 56.00 | 46.00 | 29.43 | 30.40 | L1 |
| 13 | 12.44380 | 17.83 | 6.85 | 10.24 | 28.07 | 17.09 | 60.00 | 50.00 | 31.93 | 32.91 | L1 |
| 14 | 25.90560 | 20.26 | 11.28 | 10.48 | 30.74 | 21.76 | 60.00 | 50.00 | 29.27 | 28.24 | L1 |

AC Line Conducted Emissions (Graph)

Test Mode: U-NII 2C & 802.11ac VHT20 & MIMO(CDD) & 5745 MHz

Results of Conducted Emission

DTNC

Date 2018-08-17

Order No.
Model No.
Serial No.
Test Condition

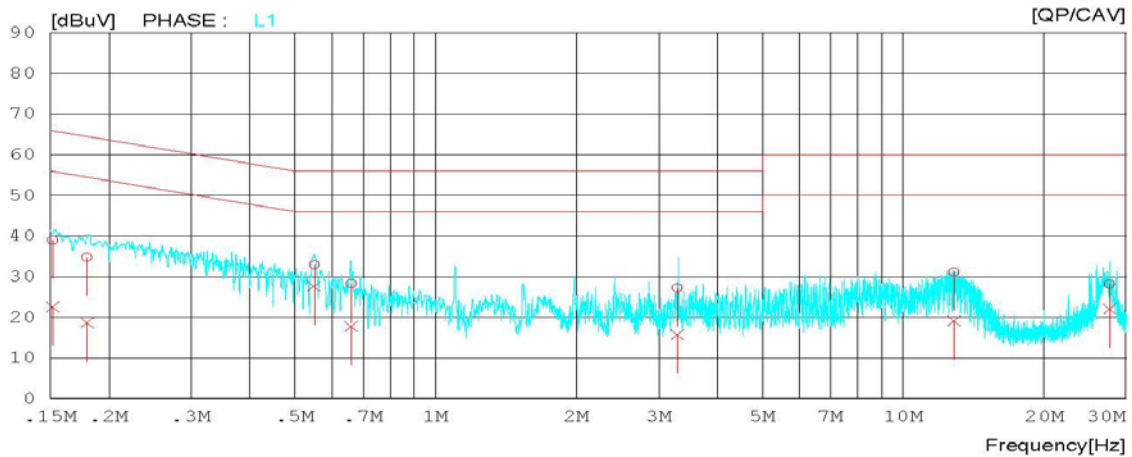
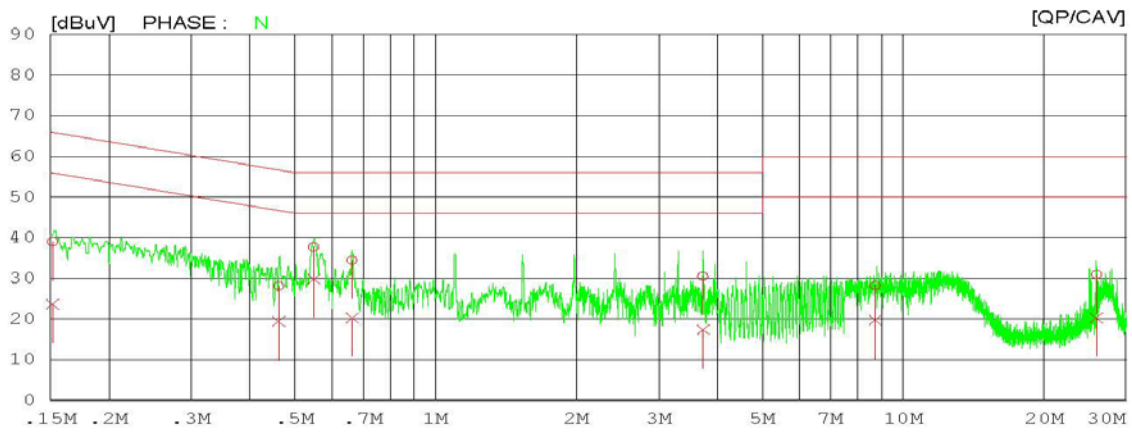
LM-Q850FA
5.7GHz

Reference No.
Power Supply
Temp/Humi.
Operator

120 V / 60Hz
23 'C / 44 %
S.G.LEE

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV



AC Line Conducted Emissions (Data List)

Test Mode: U-NII 2C & 802.11ac VHT20 & MIMO(CDD) & 5745 MHz

Results of Conducted Emission

DTNC

Date 2018-08-17

| | | | |
|----------------|-----------|---------------|--------------|
| Order No. | | Reference No. | |
| Model No. | LM-Q850FA | Power Supply | 120 V / 60Hz |
| Serial No. | | Temp/Humi. | 23 'C / 44 % |
| Test Condition | 5.7GHz | Operator | S.G.LEE |

Memo

LIMIT : FCC P15.207 QP
FCC P15.207 AV

| NO | FREQ [MHz] | READING | | C. FACTOR [dB] | RESULT | | LIMIT | | MARGIN | | PHASE |
|----|---------------|--------------|---------------|-------------------|--------------|---------------|--------------|---------------|--------------|---------------|-------|
| | | QP [dBuV] | CAV [dBuV] | | QP [dBuV] | CAV [dBuV] | QP [dBuV] | CAV [dBuV] | QP [dBuV] | CAV [dBuV] | |
| 1 | 0.15155 | 28.94 | 13.65 | 9.99 | 38.93 | 23.64 | 65.91 | 55.91 | 26.98 | 32.27 | N |
| 2 | 0.46184 | 18.03 | 9.37 | 9.98 | 28.01 | 19.35 | 56.66 | 46.66 | 28.65 | 27.31 | N |
| 3 | 0.54901 | 27.77 | 19.84 | 9.98 | 37.75 | 29.82 | 56.00 | 46.00 | 18.25 | 16.18 | N |
| 4 | 0.66293 | 24.53 | 10.27 | 9.97 | 34.50 | 20.24 | 56.00 | 46.00 | 21.50 | 25.76 | N |
| 5 | 3.73120 | 20.42 | 7.32 | 10.06 | 30.48 | 17.38 | 56.00 | 46.00 | 25.52 | 28.62 | N |
| 6 | 8.71580 | 17.99 | 9.49 | 10.18 | 28.17 | 19.67 | 60.00 | 50.00 | 31.83 | 30.33 | N |
| 7 | 25.90920 | 20.44 | 9.83 | 10.48 | 30.92 | 20.31 | 60.00 | 50.00 | 29.08 | 29.69 | N |
| 8 | 0.15173 | 28.95 | 12.51 | 9.99 | 38.94 | 22.50 | 65.90 | 55.90 | 26.96 | 33.40 | L1 |
| 9 | 0.17972 | 24.81 | 8.67 | 9.96 | 34.77 | 18.63 | 64.50 | 54.50 | 29.73 | 35.87 | L1 |
| 10 | 0.54959 | 22.91 | 17.58 | 9.98 | 32.89 | 27.56 | 56.00 | 46.00 | 23.11 | 18.44 | L1 |
| 11 | 0.66015 | 18.26 | 7.75 | 9.97 | 28.23 | 17.72 | 56.00 | 46.00 | 27.77 | 28.28 | L1 |
| 12 | 3.29320 | 17.21 | 5.64 | 10.06 | 27.27 | 15.70 | 56.00 | 46.00 | 28.73 | 30.30 | L1 |
| 13 | 12.83140 | 20.89 | 8.81 | 10.26 | 31.15 | 19.07 | 60.00 | 50.00 | 28.85 | 30.93 | L1 |
| 14 | 27.64660 | 17.69 | 11.56 | 10.49 | 28.18 | 22.05 | 60.00 | 50.00 | 31.82 | 27.95 | L1 |

9. LIST OF TEST EQUIPMENT

| Type | Manufacturer | Model | Cal.Date (yy/mm/dd) | Next.Cal.Date (yy/mm/dd) | S/N |
|-------------------------------------|------------------------|-----------------------------|------------------------|-----------------------------|-------------|
| Spectrum Analyzer | Agilent Technologies | N9020A | 17/12/28 | 18/12/28 | MY50200816 |
| Spectrum Analyzer | Agilent Technologies | N9020A | 18/01/03 | 19/01/03 | MY48011700 |
| Spectrum Analyzer | Agilent Technologies | N9030A | 18/07/09 | 19/07/09 | MY53310140 |
| Multimeter | FLUKE | 17B | 17/12/26 | 18/12/26 | 26030065WS |
| Signal Generator | Rohde Schwarz | SMBV100A | 17/12/27 | 18/12/27 | 255571 |
| Signal Generator | ANRITSU | MG3695C | 18/02/12 | 19/02/12 | 173501 |
| Thermohygrometer | BODYCOM | BJ5478 | 18/07/09 | 19/07/09 | N/A |
| Thermohygrometer | BODYCOM | BJ5478 | 18/01/03 | 19/01/03 | 120612-1 |
| Temp & Humi | SJ Science | SJ-TH-S50 | 18/07/06 | 19/07/06 | U5542113 |
| Loop Antenna | Schwarzbeck | FMZB1513 | 18/01/30 | 20/01/30 | 1513-128 |
| Bilog Antenna | Schwarzbeck | VULB 9160 | 18/07/13 | 20/07/13 | 3359 |
| Horn Antenna | ETS-Lindgren | 3115 | 17/01/13 | 19/01/13 | 9202-3820 |
| Horn Antenna | Schwarzbeck | BBHA 9120C | 17/12/04 | 19/12/04 | 9120C-561 |
| Horn Antenna | A.H.Systems Inc. | SAS-574 | 17/07/31 | 19/07/31 | 155 |
| PreAmplifier | tsj | MLA-100K01-B01-26 | 18/02/19 | 19/02/19 | 1252741 |
| PreAmplifier | tsj | MLA-0118-J01-45 | 18/02/08 | 19/02/08 | 17138 |
| PreAmplifier | tsj | MLA-1840-J02-45 | 18/07/06 | 19/07/06 | 16966-10728 |
| EMI Test Receiver | ROHDE&SCHWARZ | ESR7 | 18/02/13 | 19/02/13 | 101061 |
| Attenuator | SMAJK | SMAJK-2-3 | 18/07/02 | 19/07/02 | 3 |
| Attenuator | Aeroflex/Weinschel | 56-3 | 17/12/27 | 18/12/27 | Y2370 |
| Attenuator | SRTechnology | F01-B0606-01 | 18/07/02 | 19/07/02 | 13092403 |
| Attenuator | Hefei Shunze | SS5T2.92-10-40 | 17/12/27 | 18/12/27 | 16012202 |
| Attenuator | SMAJK | SMAJK-50-10 | 18/07/04 | 19/07/04 | 15081903 |
| High Pass Filter | Wainwright Instruments | WHKX12-935-1000-15000-40SS | 18/07/02 | 19/07/02 | 8 |
| High Pass Filter | Wainwright Instruments | WHNX8.0/26.5-6SS | 18/07/02 | 19/07/02 | 3 |
| High Pass Filter | Wainwright Instruments | WHKX10-2838-3300-18000-60SS | 18/07/02 | 19/07/02 | 1 |
| Power Meter & Wide Bandwidth Sensor | Anritsu | ML2495A | 18/04/17 | 19/04/17 | 1306007 |
| | | MA2490A | | | 1249001 |
| EMI TEST RECEIVER | Rohde Schwarz | ESC17 | 18/02/12 | 19/02/12 | 100910 |
| PULSE LIMITER | Rohde Schwarz | ESH3-Z2 | 17/09/29 | 18/09/29 | 101333 |
| LISN | SCHWARZBECK | NNLK 8121 | 18/03/20 | 19/03/20 | 06183 |
| Cable | DT&C | CABLE | 18/01/10 | 19/01/10 | RF-55 |
| Cable | DT&C | CABLE | 18/03/26 | 19/03/26 | RF-68 |
| Cable | DT&C | CABLE | 18/03/26 | 19/03/26 | P-IN |
| Cable | DT&C | CABLE | 18/03/26 | 19/03/26 | RF-71 |
| Cable | DT&C | CABLE | 18/06/22 | 19/06/22 | RF-82 |
| Cable | Radiall | TESTPRO3 | 18/06/22 | 19/06/22 | RF-74 |
| Cable | Radiall | TESTPRO3 | 18/06/22 | 19/06/22 | RF-66 |
| Cable | HUBER+SUHNER | SUCOFLEX | 17/12/22 | 18/12/22 | C-1 |
| Cable | HUBER+SUHNER | SUCOFLEX | 17/12/22 | 18/12/22 | C-2 |
| Cable | HUBER+SUHNER | SUCOFLEX | 17/12/22 | 18/12/22 | C-3 |
| Cable | HUBER+SUHNER | SUCOFLEX | 17/12/22 | 18/12/22 | C-4 |

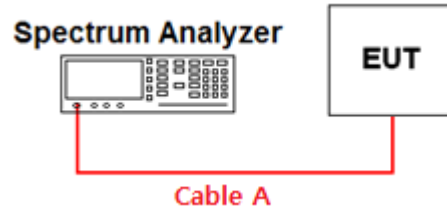
Note 1: The measurement antennas were calibrated in accordance to the requirements of ANSI C63.5-2017

Note 2: The cable is not a regular calibration item, so it has been calibrated by DT & C itself.

APPENDIX I

Conducted Test set up Diagram

- Conducted Measurement



APPENDIX II

Duty Cycle Information

■ Test Procedure

Duty Cycle [X = On Time / (On + Off time)] is measured using Measurement Procedure of **KDB789033 D02v02r01**

1. Set the center frequency of the spectrum analyzer to the center frequency of the transmission.
2. Set RBW \geq EBW if possible; otherwise, set RBW to the largest available value.
3. Set VBW \geq RBW. Set detector = peak.
4. Note : The zero-span measurement method shall not be used unless both **RBW and VBW are $> 50/T$** , where T is defined in section II.B.1.a), and **the number of sweep points across duration T exceeds 100**. (For example, if VBW and/or RBW are limited to 3 MHz, then the zero-span method of measuring duty cycle shall not be used if $T \leq 16.7$ microseconds.)

T : The minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

(T = **On time** of the above table since the EUT operates with above fixed Duty Cycle and it is the minimum On time)

■ Test Results:

Duty cycle: Single

| Mode | Data Rate | Tested Frequency [MHz] | Maximum Achievable Duty Cycle (x) = On / (On+Off) | | | Duty Cycle Correction Factor [dB] | 50/T [kHz] |
|------------------|-----------|------------------------|---|--------------------|-------|-----------------------------------|------------|
| | | | On Time [ms] | (On+Off) Time [ms] | x | | |
| 802.11a | 6Mbps | 5180 | 2.03 | 2.13 | 95.31 | 0.21 | 24.63 |
| 802.11ac (VHT20) | MCS0 | 5180 | 1.90 | 2.01 | 94.53 | 0.25 | 26.32 |
| 802.11ac (VHT40) | MCS0 | 5190 | 1.28 | 1.38 | 92.75 | 0.33 | 39.06 |
| 802.11ac (VHT80) | MCS0 | 5210 | 1.17 | 1.28 | 91.41 | 0.40 | 42.74 |

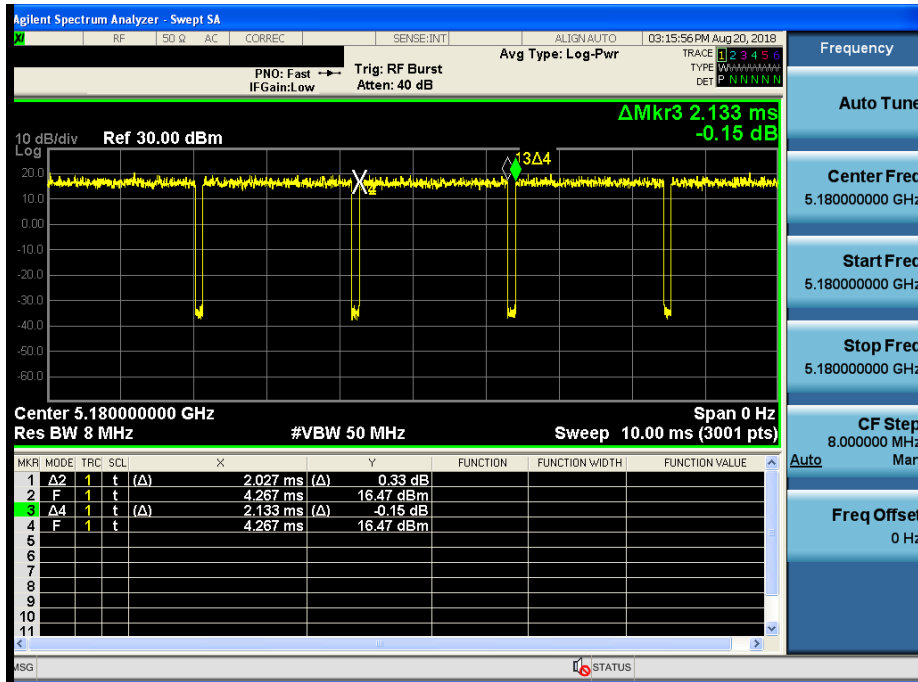
Duty cycle: SDM

| Mode | Data Rate | Tested Frequency [MHz] | Maximum Achievable Duty Cycle (x) = On / (On+Off) | | | Duty Cycle Correction Factor [dB] | 50/T [kHz] |
|------------------|-----------|------------------------|---|--------------------|-------|-----------------------------------|------------|
| | | | On Time [ms] | (On+Off) Time [ms] | x | | |
| 802.11ac (VHT20) | MCS0 | 5180 | 0.98 | 1.07 | 91.59 | 0.39 | 51.02 |
| 802.11n (HT40) | MCS8 | 5190 | 0.66 | 0.76 | 86.84 | 0.62 | 75.76 |
| 802.11ac (VHT80) | MCS0 | 5210 | 0.61 | 0.72 | 84.72 | 0.73 | 81.97 |

Single Transmit

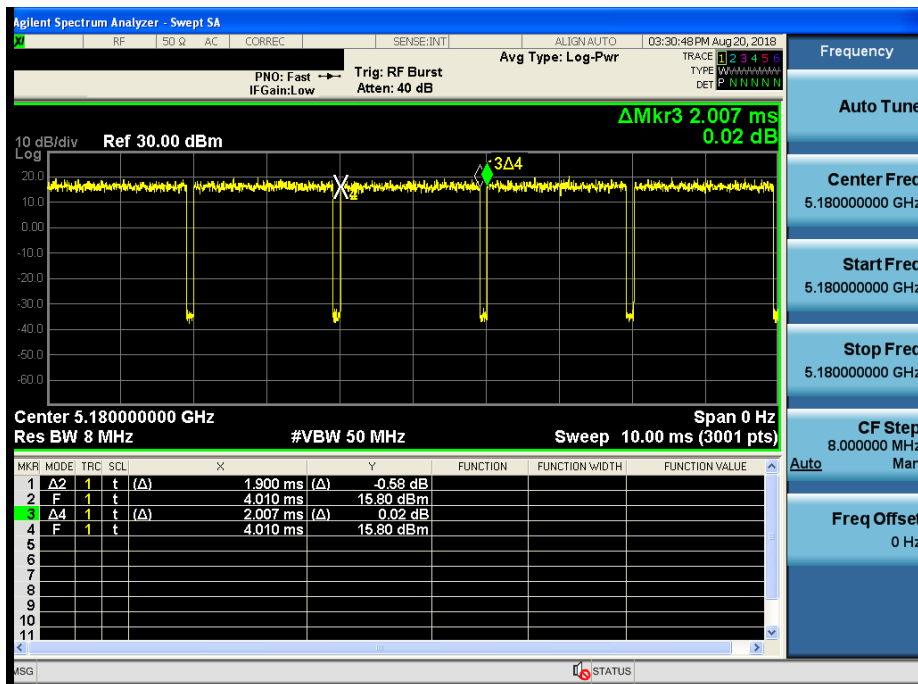
Duty Cycle

Test Mode: 802.11a & Ch.36



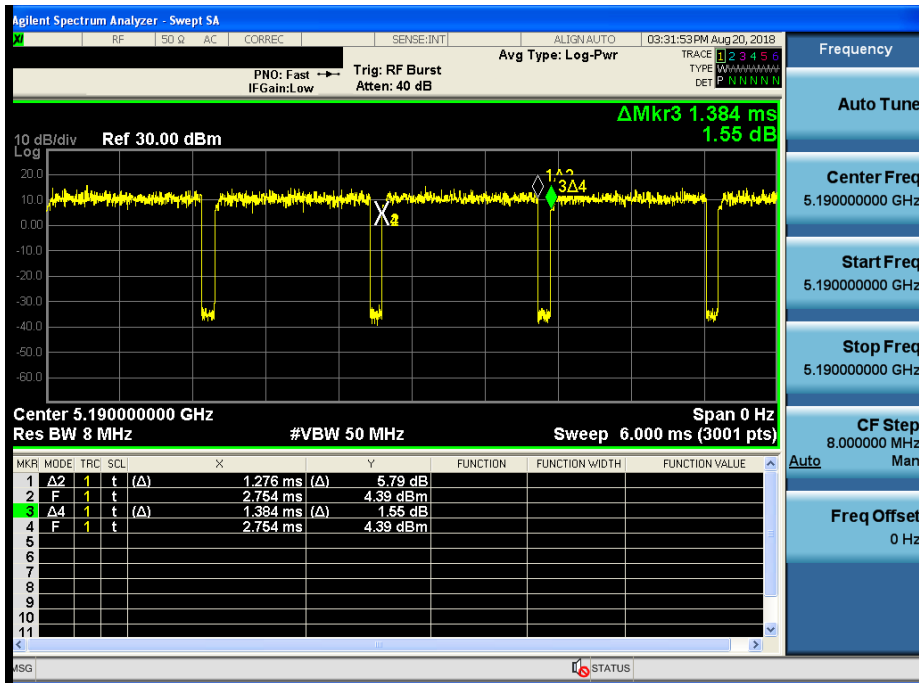
Duty Cycle

Test Mode: 802.11ac VHT20 & Ch.36



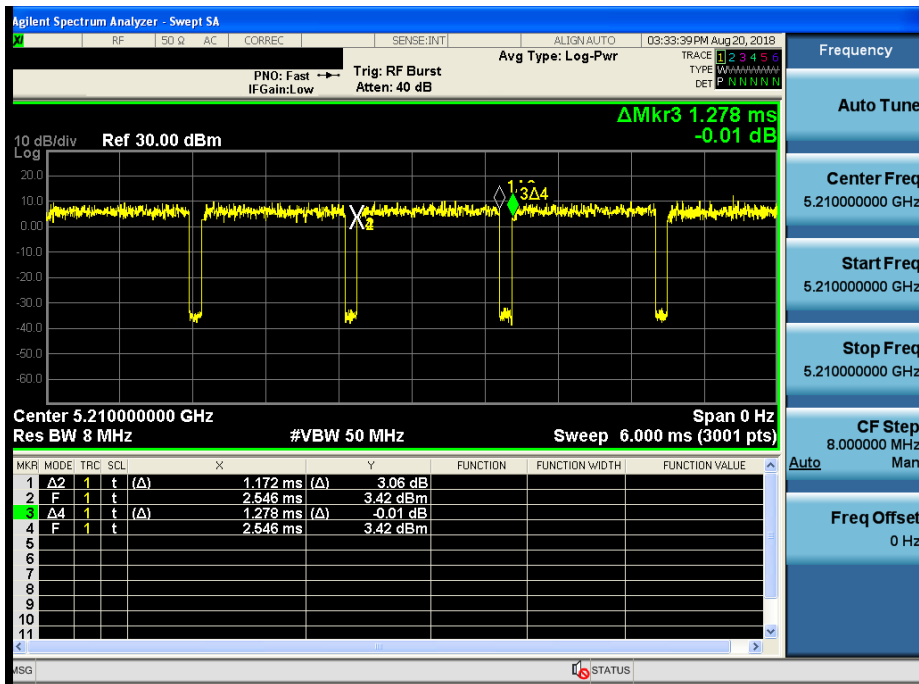
Duty Cycle

Test Mode: 802.11ac VHT40 & Ch.38



Duty Cycle

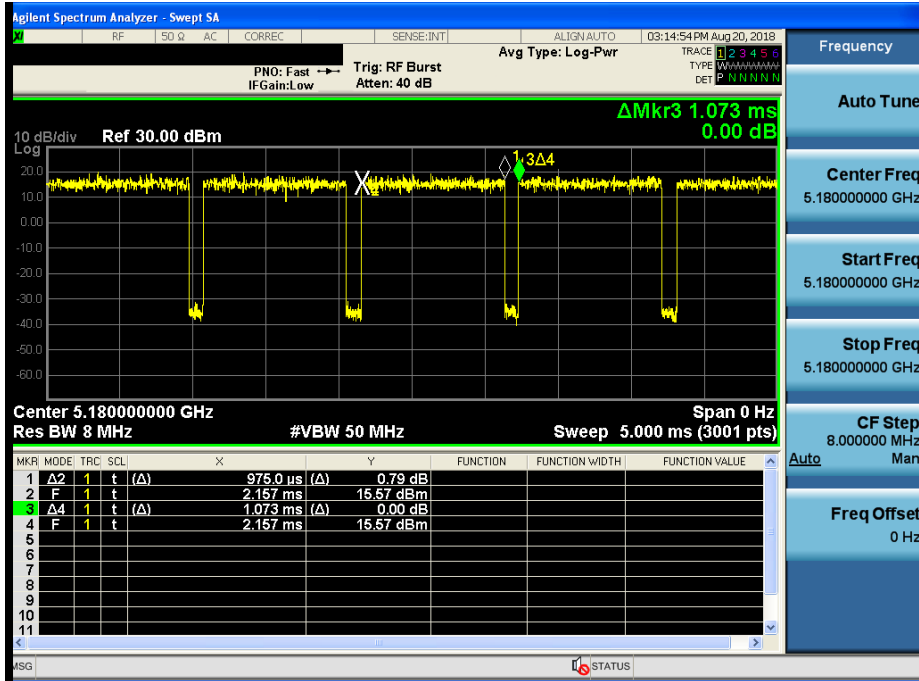
Test Mode: 802.11ac VHT80 & Ch.42



Multiple Transmit _ SDM

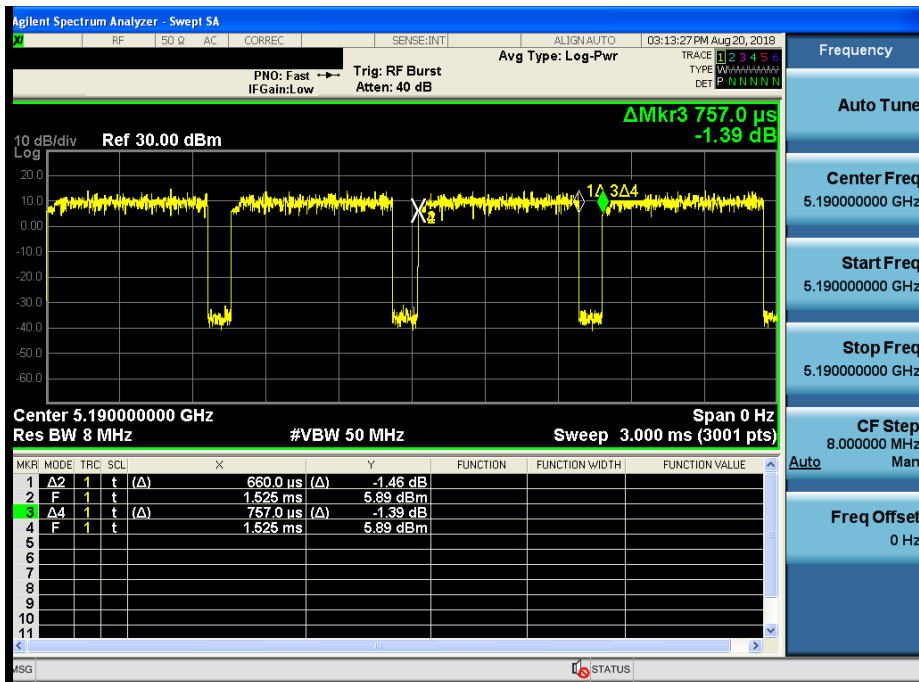
Duty Cycle

Test Mode: 802.11ac VHT20 & Ch.36



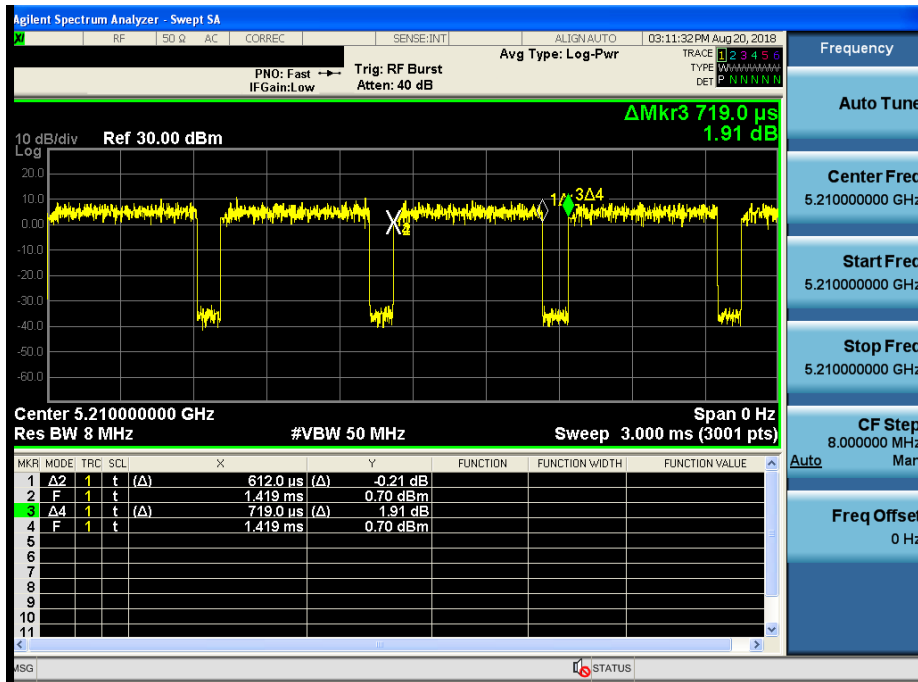
Duty Cycle

Test Mode: 802.11n HT40 & Ch.38



Duty Cycle

Test Mode: 802.11ac VHT80 & Ch.42

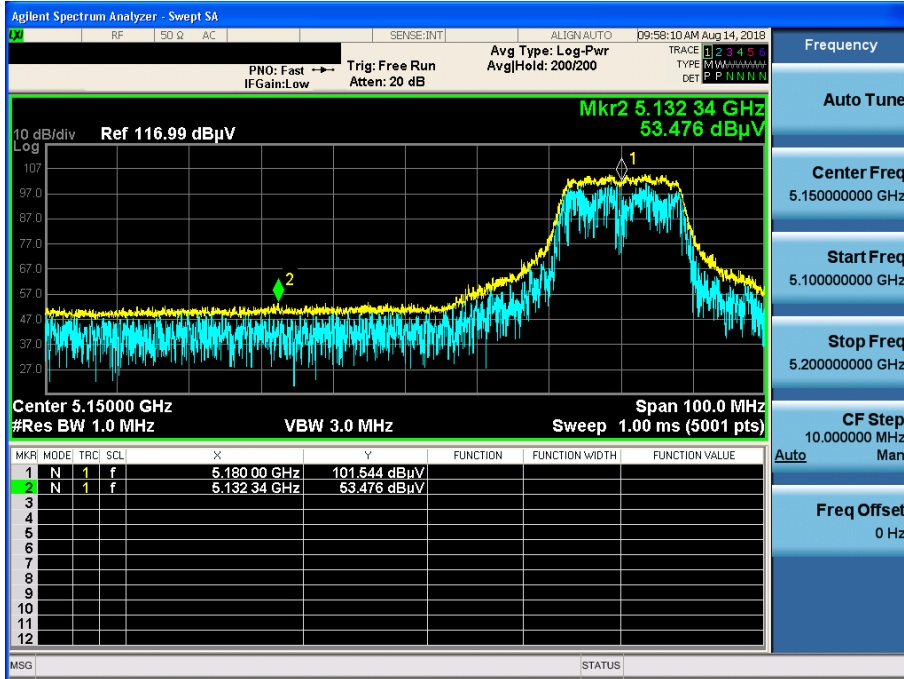


APPENDIX III

Unwanted Emissions (Radiated) Test Plot: MIMO(CDD)

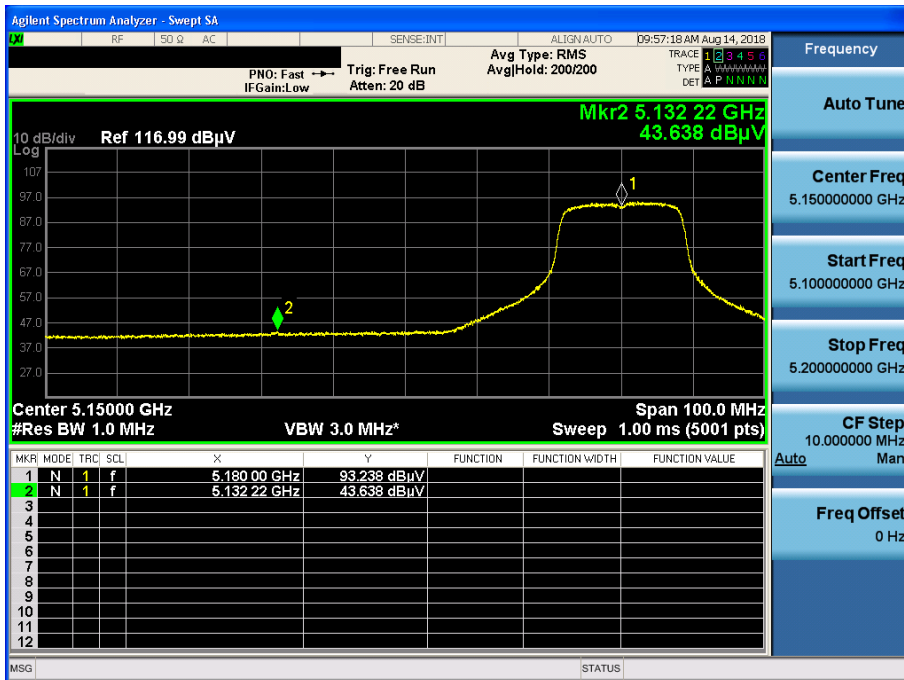
802.11a & U-NII 1 & Ch.36 & Z axis & Hor

Detector Mode : PK



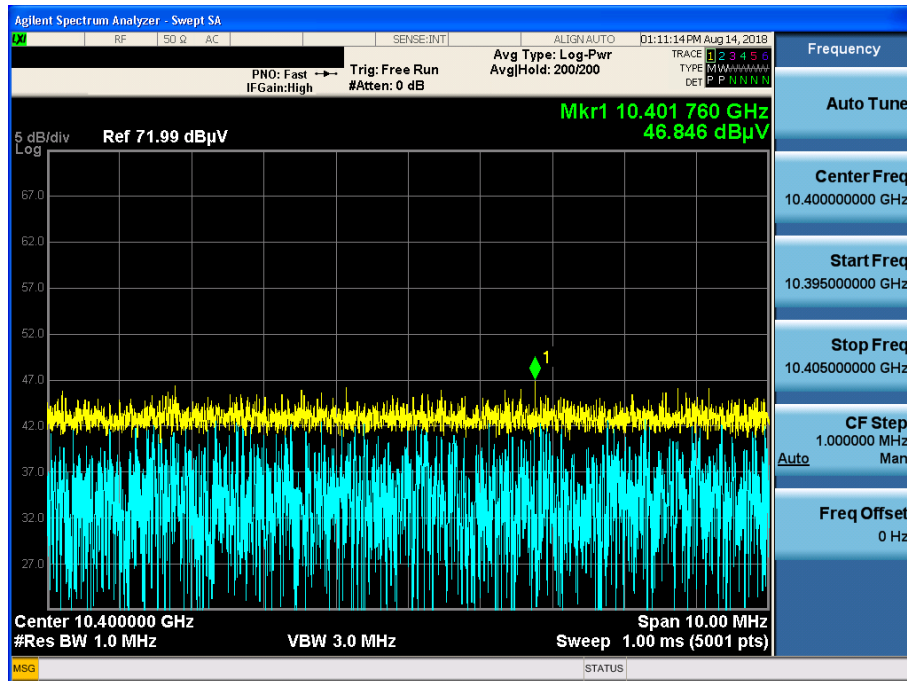
802.11a & U-NII 1 & Ch.36 & Z axis & Hor

Detector Mode : AV



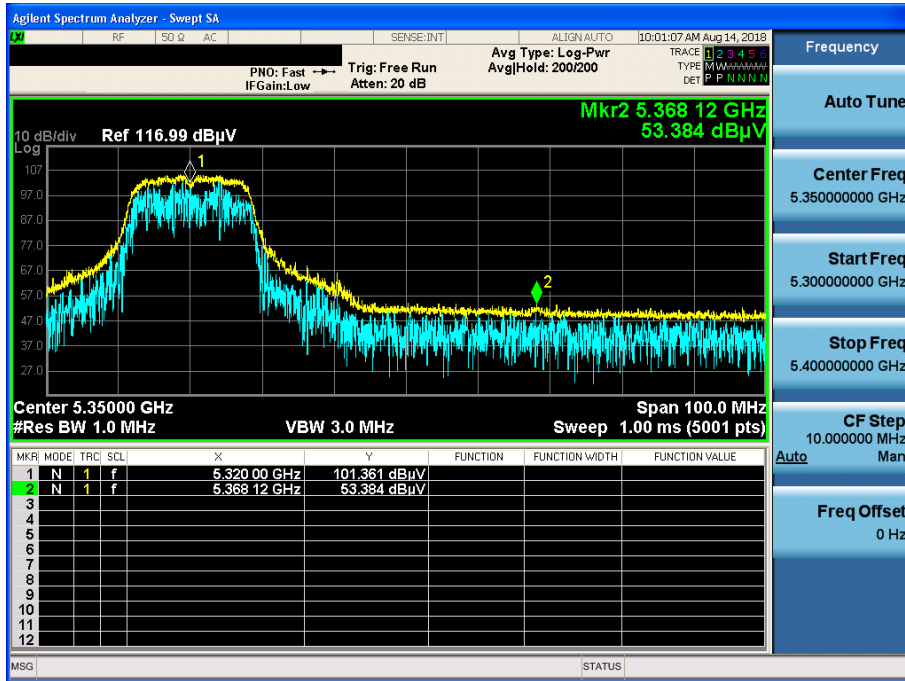
802.11a & U-NII 1 & Ch.40 & Y axis & Ver

Detector Mode : PK



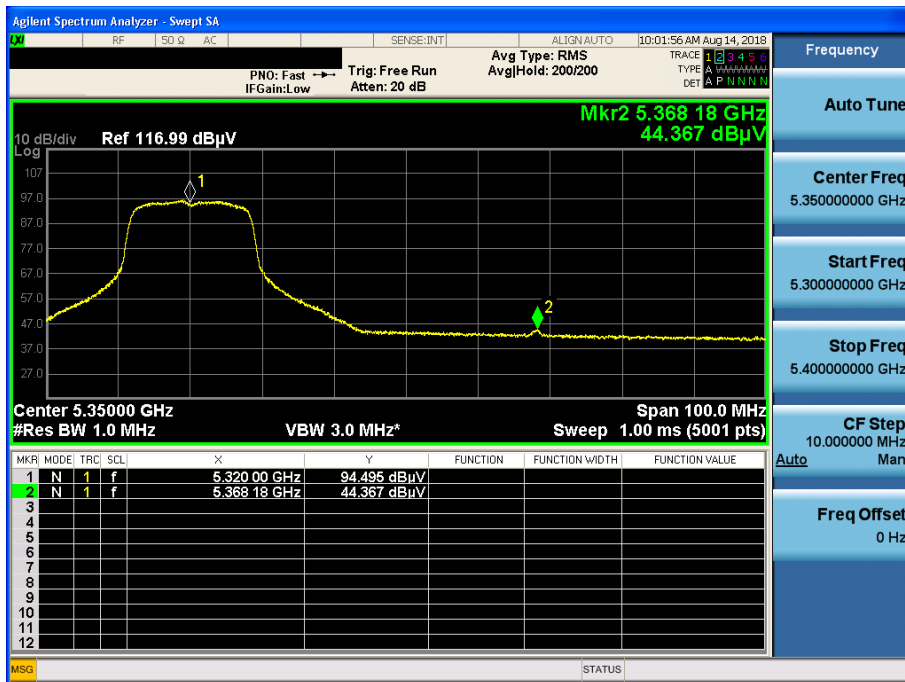
802.11a & U-NII 2A & Ch.64 & Z axis & Hor

Detector Mode : PK



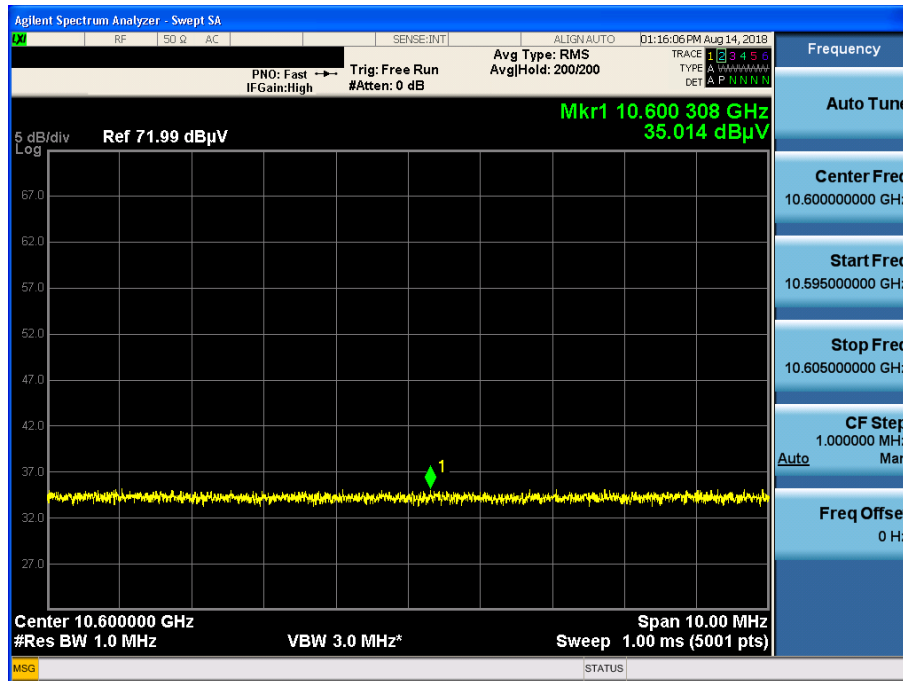
802.11a & U-NII 2A & Ch.64 & Z axis & Hor

Detector Mode : AV



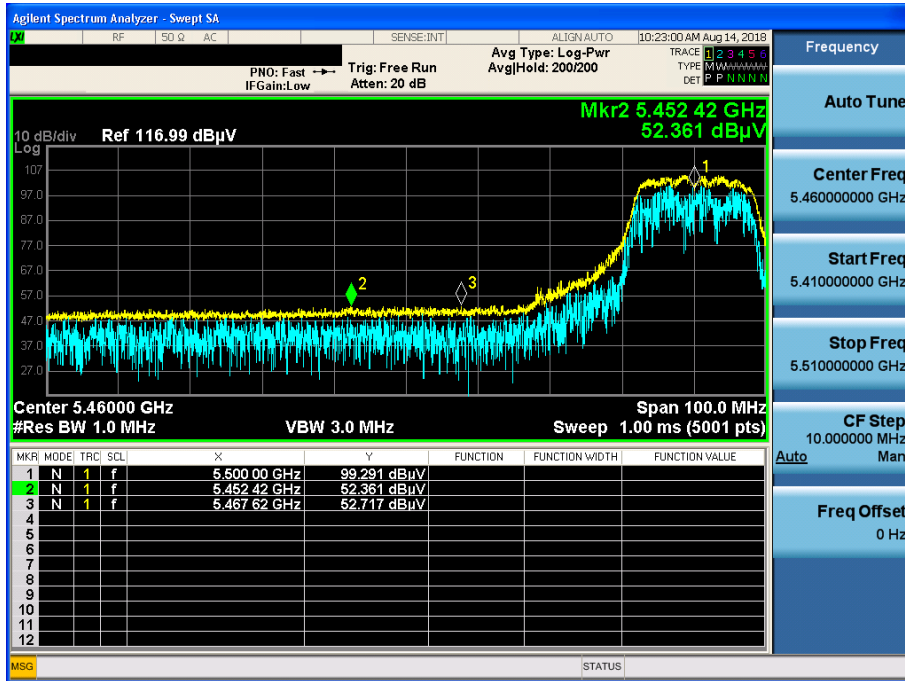
802.11a & U-NII 2A & Ch.60 & Y axis & Ver

Detector Mode : AV



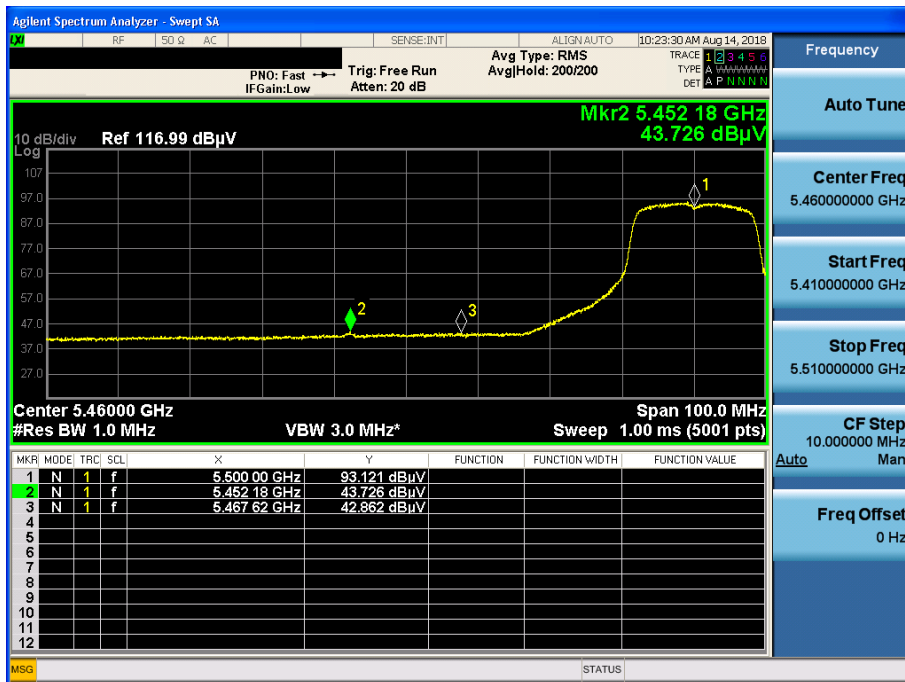
802.11a & U-NII 2C & Ch.100 & Z axis & Hor

Detector Mode : PK



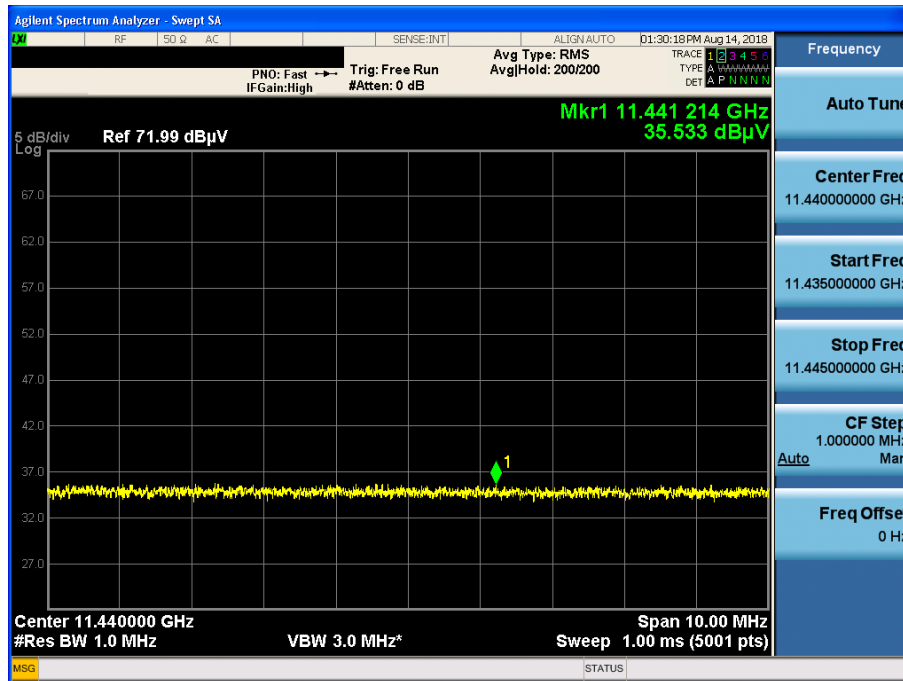
802.11a & U-NII 2C & Ch.100 & Z axis & Hor

Detector Mode : AV



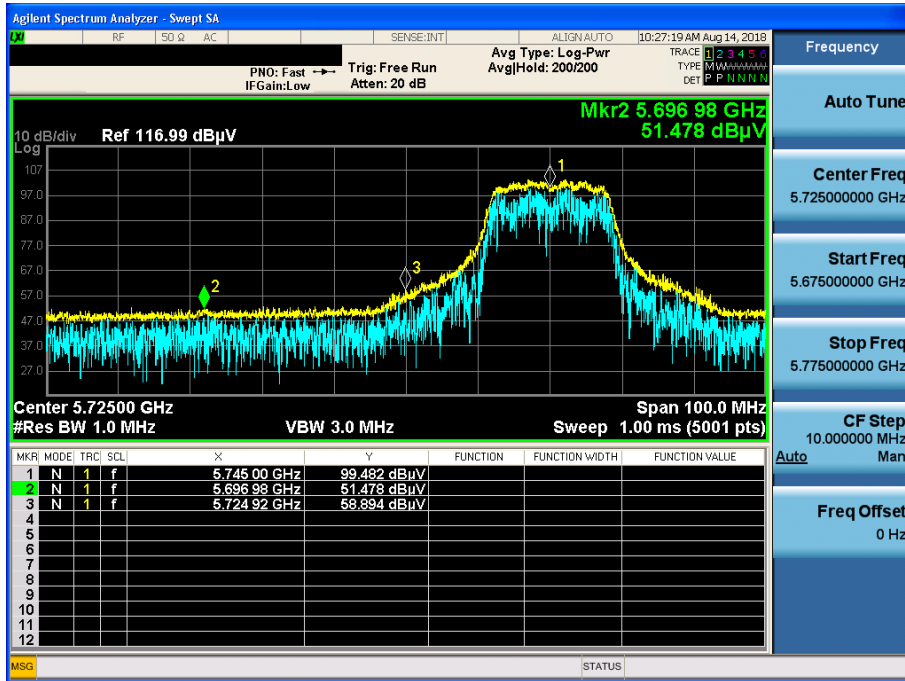
802.11a & U-NII 2C & Ch.144 & Y axis & Ver

Detector Mode : AV



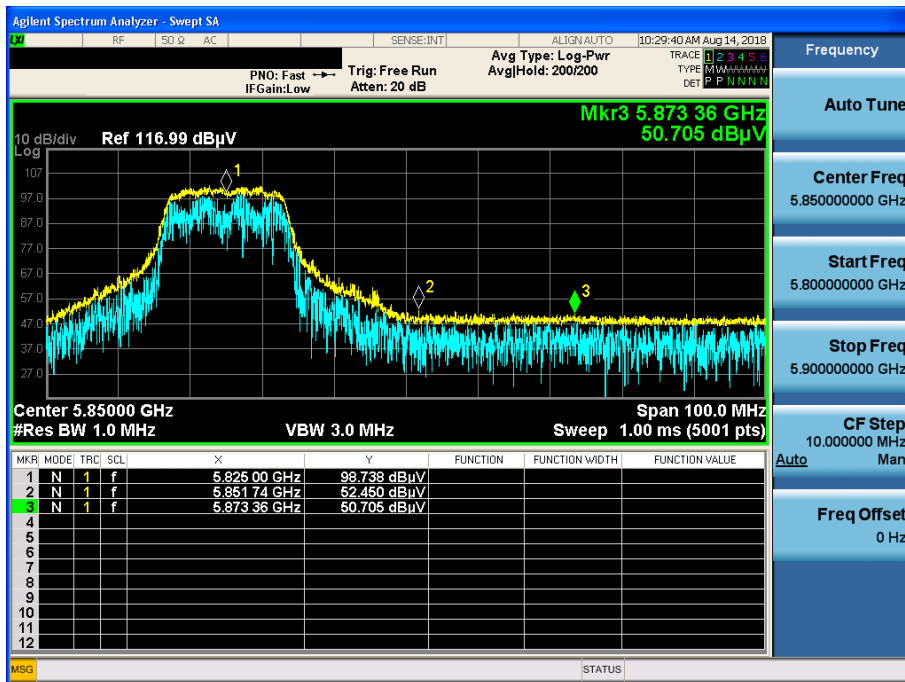
802.11a & U-NII 3 & Ch.149 & Z axis & Hor

Detector Mode : PK



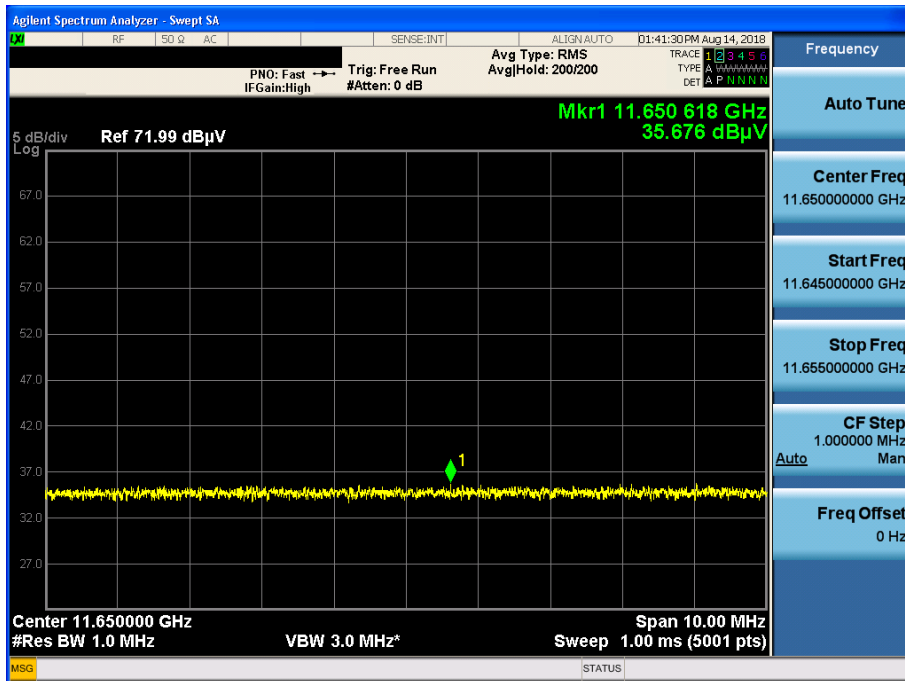
802.11a & U-NII 3 & Ch.165 & Z axis & Hor

Detector Mode : PK



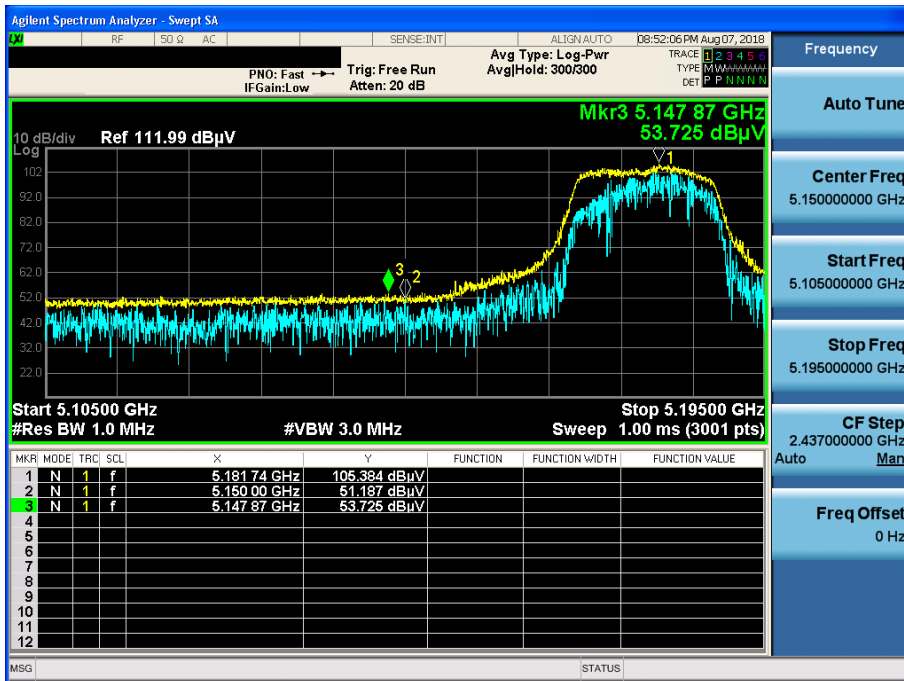
802.11a & U-NII 3 & Ch.165 & Y axis & Ver

Detector Mode : AV



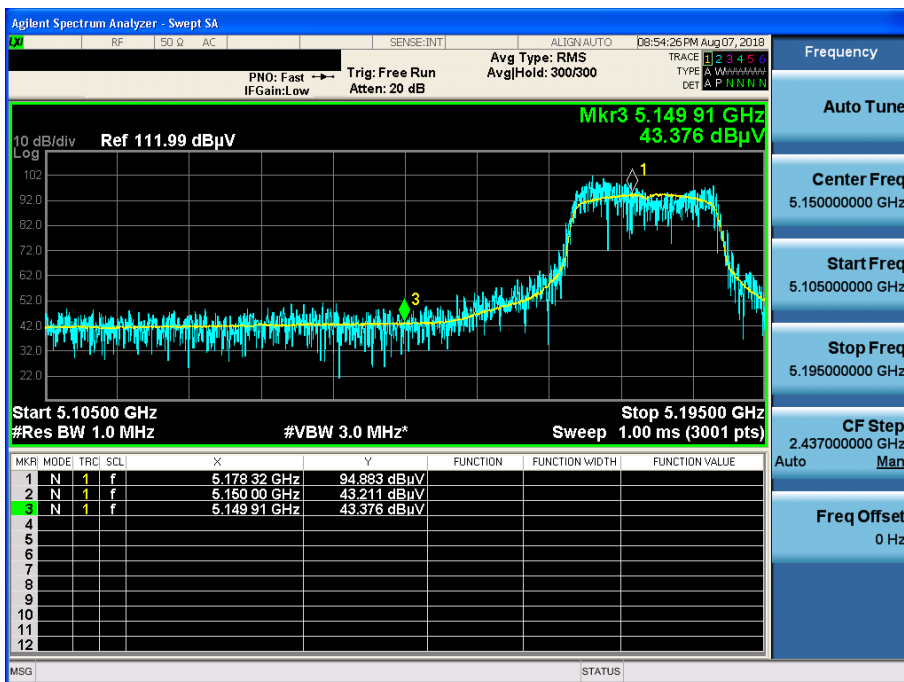
802.11ac(VHT20) & U-NII 1 & Ch.36 & Z axis & Hor

Detector Mode : PK



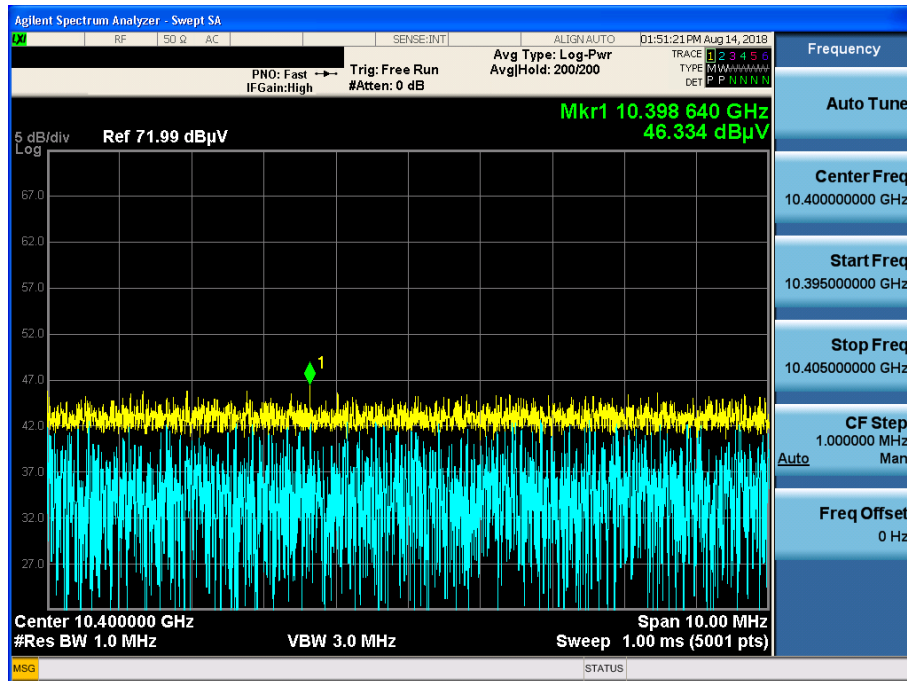
802.11ac(VHT20) & U-NII 1 & Ch.36 & Z axis & Hor

Detector Mode : AV



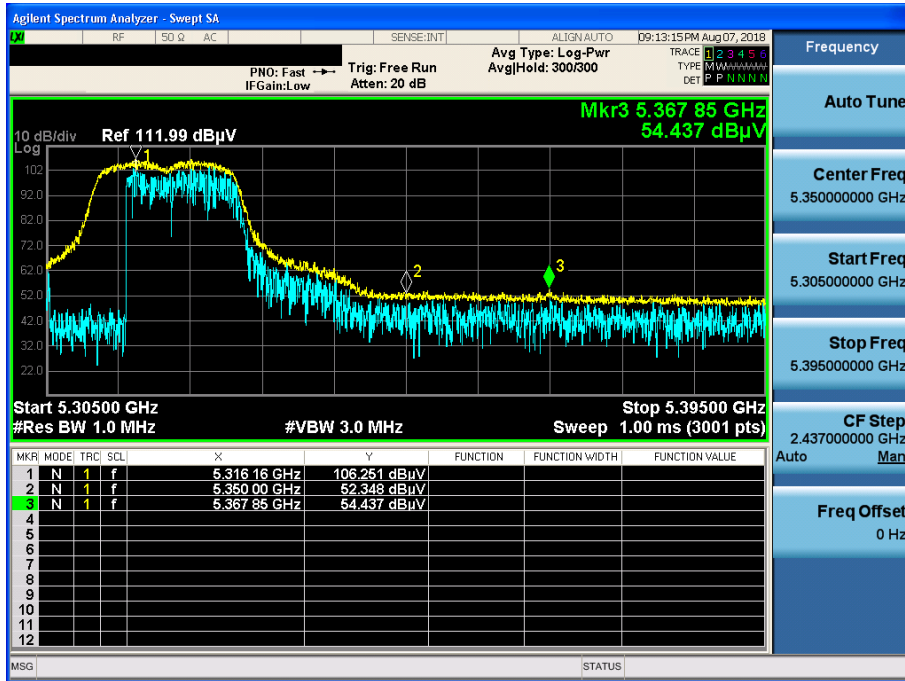
802.11ac(VHT20) & U-NII 1 & Ch.40 & Y axis & Ver

Detector Mode : PK



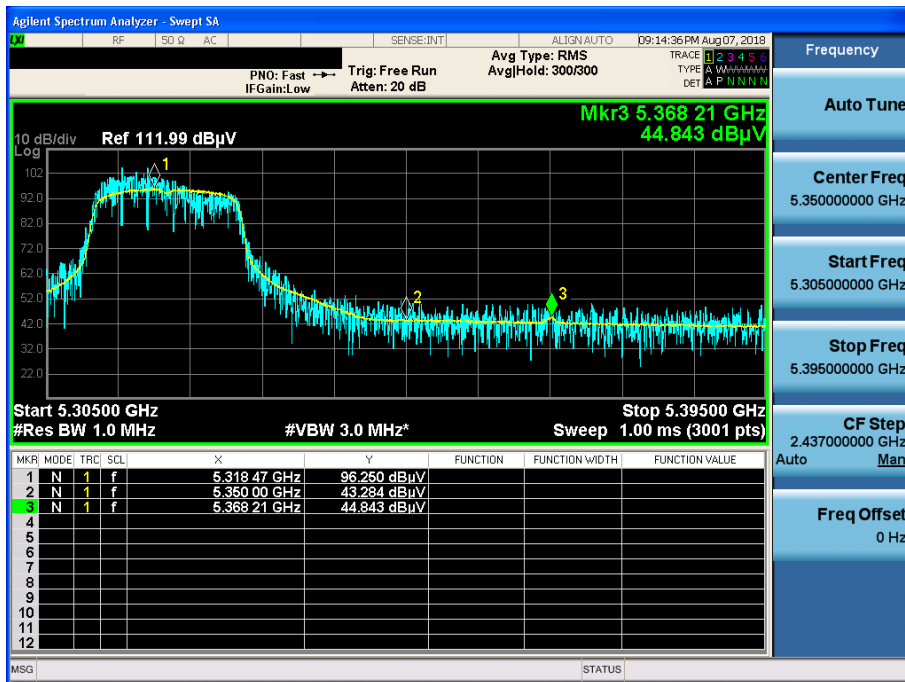
802.11ac(VHT20) & U-NII 2A & Ch.64 & Z axis & Hor

Detector Mode : PK



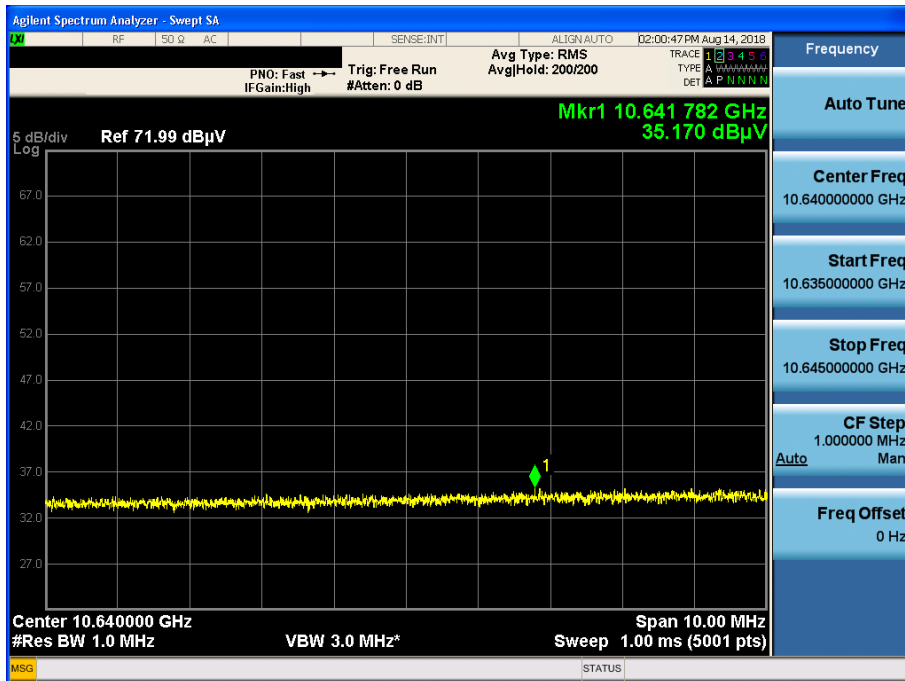
802.11ac(VHT20) & U-NII 2A & Ch.64 & Z axis & Hor

Detector Mode : AV



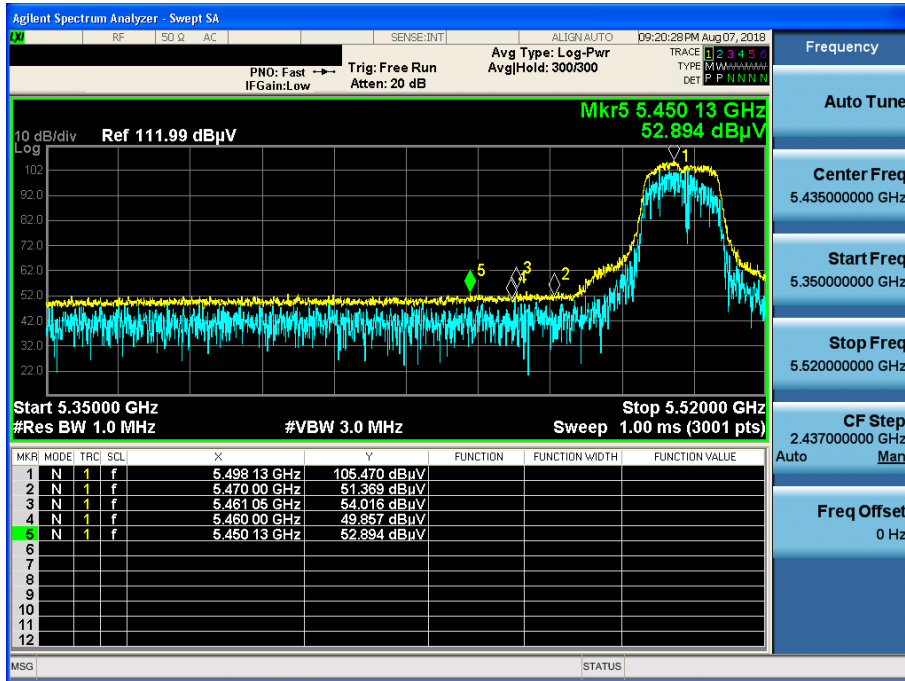
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Detector Mode : AV



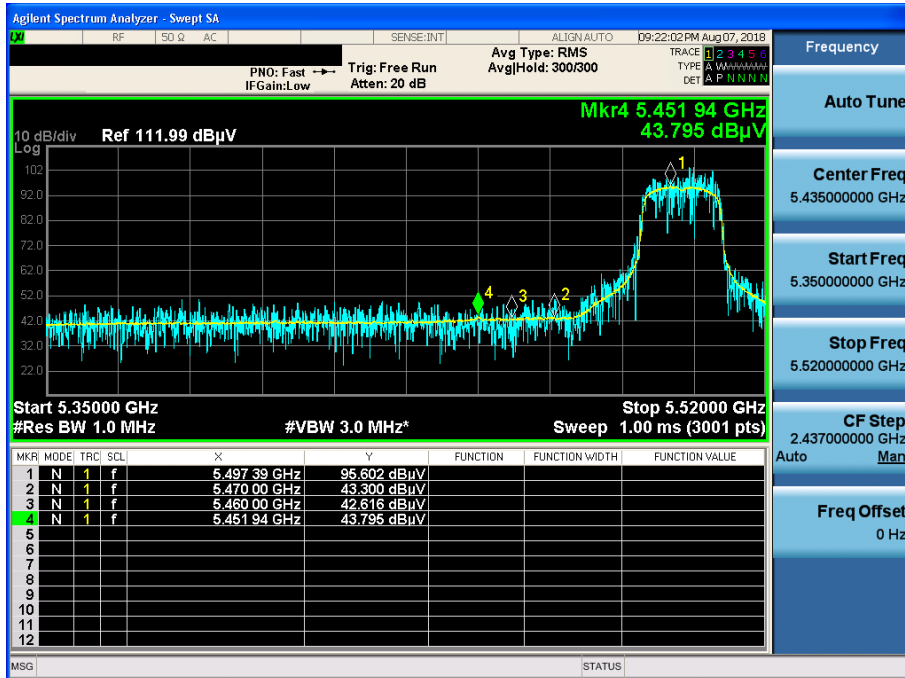
802.11ac(VHT20) & U-NII 2C & Ch.100 & Z axis & Hor

Detector Mode : PK



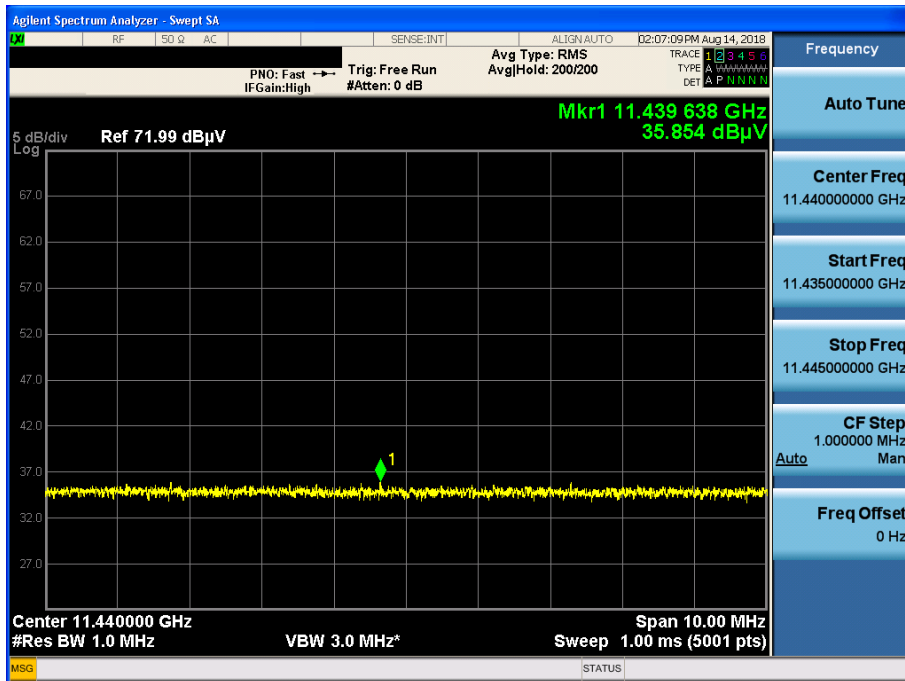
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Detector Mode : AV



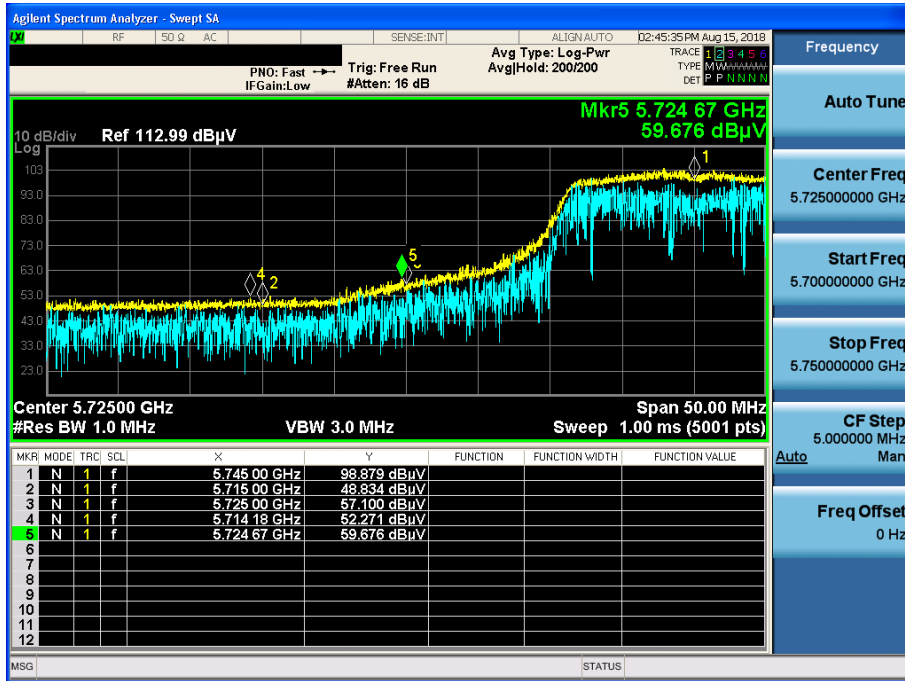
802.11ac(VHT20) & U-NII 2C & Ch.144 & Y axis & Ver

Detector Mode : AV



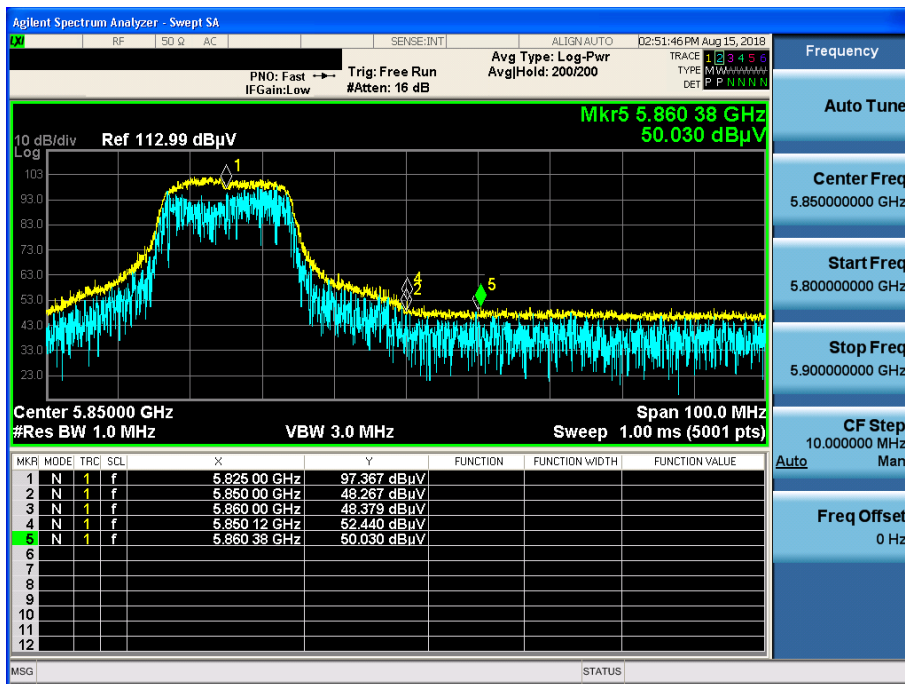
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Detector Mode : PK



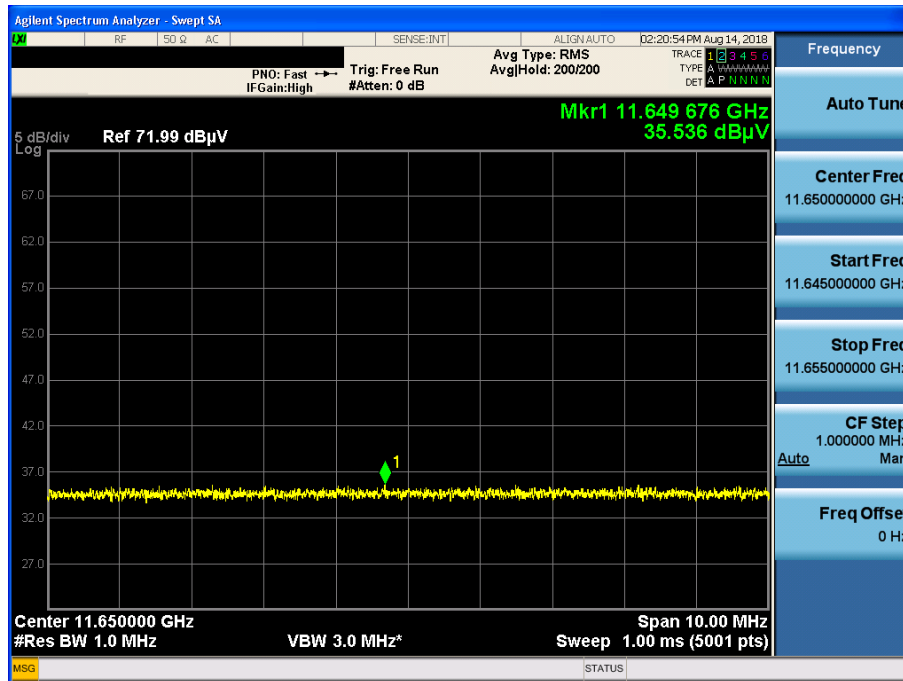
802.11ac(VHT20) & U-NII 3 & Ch.165 & Z axis & Hor

Detector Mode : PK



802.11ac(VHT20) & U-NII 3 & Ch.165 & Y axis & Ver

Detector Mode : AV



802.11ac(VHT40) & U-NII 1 & Ch.46 & Y axis & Ver

Detector Mode : PK

